Archive Backup System for OpenVMS

Command Reference Guide

Order Number: AA-R8EVJ-TE

Software Version	Archive Backup System for OpenVMS Version 3.2A
Required Operating System	OpenVMS VAX Version 6.2, 7.1, 7.2 or 7.3 & OpenVMS Alpha Version 6.2, 7.1-2, 7.2-1 or 7.3
Required Software	Media and Device Management Services for OpenVMS Version 3.2A DECnet (Phase IV) or DECnet-Plus (PhaseV) TCP/IP Services for OpenVMS

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Preface

Intended Audience

This document is intended for storage administrators who are experienced OpenVMS system managers. This document should be used in conjunction with the *Introduction to OpenVMS System Management* manual.

Conventions

The following conventions are used in this document:

Convention	Description
{}	In format command descriptions, braces indicate required elements.
[ ]	In format command descriptions, square brackets indicate optional elements of the command syntax. You can omit these elements if you wish to use the default responses.
boldface type	Boldface type in text indicates the first instance of a term defined in the Glossary or defined in text.
italic type	Italic type emphasizes important information, indicates variables, indicates complete titles of manuals, and indicates parameters for system information.
`Starting test ...`	This type font denotes system response, user input, and examples.
Ctrl/*x*	Hold down the key labels Ctrl (Control) and the specified key simultaneously (such as Ctrl/Z).
PF1 *x*	The key sequence PF1 *x* instructs you to press and release the PF1 key, and then press and release another key (indicated here by *x*).
n	A lowercase *n* denotes the generic use of a number. For example, 19*nn* indicates a four-digit number in which the last two digits are unknown.
x	A lowercase *x* denotes the generic use of a letter. For example, *xxx* indicates any combination of three alphabetic characters.

Related Products

The following related products may be mentioned in this document:

Product	Description
HSM	HSM refers to Hierarchical Storage Management for OpenVMS software.
MDMS	MDMS refers to Media and Device Management Services for OpenVMS software.
OpenVMS	OpenVMS refers to OpenVMS operating system.
SMF	SMF refers to Sequential Media Filesystem for OpenVMS software.
SLS	SLS refers to Storage Library System for OpenVMS software.

Associate Documents

The following documents are part of Archive Backup System for OpenVMS documentation set:

- *Archive Backup System for OpenVMS Installation Guide*
- *Archive Backup System for OpenVMS Guide to Operations*
- *Archive Backup System for OpenVMS Command Reference Guide*

Part I

ABS Commands

This part of the document contains the ABS DCL Commands.

1

ABS Commands

The commands in this document are organized alphabetically. ABS DCL command information includes the command format, the command description, the command parameter descriptions, any command restrictions, the command qualifier descriptions, and examples of how to use the command.

A command may contain both positional and nonpositional qualifiers. When applicable, these two types of qualifiers are described in separate sections titled **Positional Qualifiers** and **Non-positional Qualifiers.**

Invoking ABS Prompt

To invoke ABS shell, enter the following command:

```
$ ABS
```

Result:

You are entered into ABS environment and ABS displays ABS shell prompt:

```
ABS>
```

If you choose to work within ABS shell, you do not need to enter ABS prefix for each command.

To exit the ABS shell, enter the following command:

```
ABS> EXIT
```

ABS CREATE ENVIRONMENT

This command creates an execution environment in ABS policy database.

Format

ABS CREATE ENVIROMENT	[/ACCESS_CONTROL] [/ACTION] [/COMPRESSION] [/DATA_SAFETY] [/DRIVE_COUNT] [/EPILOGUE] [/INTERVAL_FOR_RETRY] [/LINKS_ONLY] [/LISTING_OPTION] [/LOCKING_OPTION] [/NOTIFICATION] [/OWNER] [/PROFILE] [/PROLOGUE] [/RETRY_COUNT] [/SPAN_FILESYSTEMS]	{name}

Parameters

name
The name of the environment policy that you want to create.

Restrictions

- The creating process must have ABS_CREATE_EXECUTION_ENV access right identifier enabled to create an execution policy.
- The creating process must be logged into ABS server node.
- To create an execution environment with user profile information (/PROFILE=option[,...]), the requesting process must have the following OpenVMS privileges enabled:
  - SYSPRV
  - CMKRNL
- The default for the username in the profile is <REQUESTER>. This means that the back-ups will run under a user. If you want the backups to run under ABS, then you must set the username field in the profile to ABS.

Qualifiers

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Enables you to set up the access controls by user name or by access right identifier. The following access options are available:

- Read - Users with Read access control can restore data using the environment policy.
- Write - Users with Write access control can save data using the environment policy.

- Delete - Users with Delete access control can delete the environment policy object if the number of catalog references is set to zero (0).
- Set - Users with Set access control can modify any attribute of the environment policy object, including access control.
- Show - Users with Show access control can show the environment policy object.
- Control - Users with Control access control can modify the access control for the environment policy object, but not any of its other attributes.

Requirement:
The access control must be enclosed within quotation marks, and, if you are assigning multiple access controls per user, they must be listed as a comma-separated or plus-separated list enclosed within quotation marks.

/ACTION=option
Specifies the action to take when saving data using this environment policy. Select one of the following supported options:

- RECORD_DATE - Modifies the saved date when the save operation has completed

  Restriction:
  This option is not valid for UNIX or NT client backup operations.
- NO_CHANGE - Does not change any of the original data.
- DELETE_OBJECT - Deletes the data once the save operation has completed. This is typically used for long-term archive operations.

Default:
If you do not specify this qualifier, the RECORD_DATE is used.

/COMPRESSION=option
ABS supports different types of compression for UNIX clients:

- UNIX_COMPRESSION
- GZIP_COMPRESSION
- NONE

Restriction:
This qualifier is valid only for UNIX client operations.

Default:
NONE.

/DATA_SAFETY=(option[,...])
Specifies the list of data safety options to use when saving or restoring data using this environment policy. ABS supports the following data safety options:

- FULL_VERIFY - Rereads all saved data and compares the results with what is on disk.
- CRC - Performs a cyclic redundancy check (CRC) and writes it for each data block on the tape.
- XOR Redundancy Groups – If the CRC check detects a bad block during a restore operation, the XOR mechanism allows recovery of the block by using redundancy groups of blocks (written during the save operation). The OpenVMS Backup Utility is the only backup agent currently provided by ABS that provides an XOR mechanism. It is enabled by default with a redundancy group size of 10 blocks. To disable the XOR mechanism, specify /GROUP_SIZE=0 within the /AGENTS_QUALIFIERS option of the save request.

- None – Deletes all DATA_SAFETY options.

Restriction:
These options are valid only for OpenVMS backup operations.

Default:
If you do not specify this qualifier, ABS uses all data safety options that are supported by the backup agent.

/DRIVE_COUNT=number
Use this qualifier to set the number of drives to use for each save or restore request using this environment policy. If there are same number of drives available set by this qualifier, ABS allocates those drives for save or restore request. If the number of drives set by this qualifier is not available, ABS will use the amount of drives available.

For example, if you create a save request that uses an environment policy where the /DRIVE_COUNT is set to 3, ABS allocates three drives when the save request job begins. This means those three drives are unavailable for other operations during the time save request is executing.

Default:
The default value is 1. This value cannot be 0 (zero).

Recommendation:
Use the default value of 1. Allocating more than one drive per save request will constrain the resources and therefore, those resources (drives or volumes) would not be available for additional operations.

/EPILOGUE="string"
/NOEPILOGUE (default)
Specifies to execute a command string after the entire save or restore request completes.

Restriction:
The string for this qualifier is limited to 80 characters and must be enclosed in quotes.

Default:
If you do not specify this qualifier, or you specify /NOEPILOGUE no epilogue command is executed.

/INTERVAL_FOR_RETRY=number
Specifies the number of minutes between retry attempts.

Default:
If you do not specify this qualifier, ABS retries the save or restore request every 15 minutes.

/LINKS_ONLY (default)
/NOLINKS_ONLY
Provides the ability from ABS to either back up the UNIX symbolic links only, or to follow the UNIX symbolic links and back up the data as well.

Restriction:
This qualifier is valid only for UNIX client operations.

/LISTING_OPTION=option
Specifies the listing file option to use when saving or restoring data using this environment policy.

Choose one of the following options:

- NONE - Does not generate listing file.

- FULL - Generates a full listing file which contains full file names and file information provided by the backup agent.
- BRIEF - Generates a brief listing file.

Default:
If you do not specify this qualifier, ABS uses NONE.

/LOCK_OPTION=option
/NOLOCK_OPTION (default)
Specifies the action to be taken when data usage conflicts occur. Select one of the following supported options:

- HOT_BACKUP - ABS saves data even if other applications are accessing the same data at the same time. Use this qualifier for Rdb Oracle databases or storage area save requests.

  Restriction:
  This option is not valid for UNIX or NT client save requests.

- IGNORE_WRITERS - IGNORE_WRITERS is a synonym for HOT_BACKUP. Use this qualifier for OpenVMS, UNIX, and NT save requests.

  Restriction:
  This option is not valid for Rdb Oracle database save requests.

Default:
If you do not specify this qualifier, the save operation fails if other applications are accessing the same data.

/NOTIFICATION=(option[,...])
/NONOTIFICATION
Specifies the notification options to use when using this environment policy. ABS supports the following options:

- RECEIVER="string"

  A valid device name or username of the person who will receive the notification. This can be one of the standard VMS OPCOM devices (such as TAPES) or a list of valid VMS mail addresses, depending upon which METHOD is specified.

- METHOD=OPCOM,MAIL,NONE

  The form of the notification.

Note

The method and receiver must match. For example, if the METHOD is:

OPCOM - Receiver must be a valid OpenVMS OPCOM device, such as TAPES.

MAIL - Receiver must be a list of valid OpenVMS mail addresses, such as NODE1::USER1.

If the RECEIVER string is illegal for the specified method, the save or restore request fails with the error from the MAIL or OPCOM facility

- WHEN=START, COMPLETE, WARNING, ERROR, FATAL

Determines under what condition during the save or restore request to notify Receiver. You can specify more than one option as a list:

```
$ ABS CREATE ENVIRONMENT MY_ENV/NOTIFICATION=WHEN=(START,FATAL)
```

- TYPE=BRIEF,NORMAL,FULL

  The type of notification message to return.

Restriction:
If you select METHOD=OPCOM, you cannot select TYPE=FULL or TYPE=NORMAL.

Defaults:
ABS uses the following default values: RECEIVER=TAPES, METHOD=OPCOM, WHEN=FATAL, TYPE=BRIEF.

/OWNER=user-name
Specifies the owner of the environment policy object. The owner is always granted SHOW and CONTROL access.

/PROFILE=option[,...]
Specify this qualifier to create a user profile other than the default user profile. Valid options are:

- CLUSTER="string"
- NODE="string"
- PRIVS=(string[,...])
- RIGHTS_LIST=(string[,...])
- USERNAME="string"

Defaults:

- If you do not supply a username, ABS assigns USERNAME=<REQUESTER>.
- ABS uses the current node name unless you specify an OpenVMS Cluster name. If you specify an OpenVMS Cluster name, ABS uses an asterisk (*) for the node name.
- For PRIVS and RIGHTS_LIST, if the combination of USERNAME, NODE, and CLUSTER specifies a legal user name on the local OpenVMS Cluster or node, ABS assigns the user's authorized privileges and rights list.

/PROLOGUE="string"
NOPROLOGUE (default)
Instructs ABS to execute a command string prior to the entire save or restore request.

Restriction:
The string for this qualifier is limited to 80 characters and must be enclosed within quotes.

Default:
If you do not specify this qualifier, or you specify /NOPROLOGUE no prologue command is executed.

/RETRY_COUNT=number
Specifies the number of retries to attempt for the save or restore request using this execution environment. To disable retry specify 0.

Default:
If you do not specify this qualifier, ABS retries the save or restore request three times.

/SPAN_FILESYSTEMS=option

Allows ABS to back up only the root file system (such as the disk the root directory resides on), or an entire file system type if the file system spans physical devices. ABS supports the following options:

- ALL
- NONE

Restriction:
This qualifier is valid only for UNIX client backup operations. It is not valid for NT or OpenVMS client backup operations.

Default:
The default is NONE, or not to span file systems

Example:

```
$ ABS CREATE ENV/SPAN_FILESYSTEM=ALL/NOLINKS_ONLY UNIX_SPAN_ENV
```

Examples

1. To create an environment policy that executes a prologue and an epilogue command, see the following example:

   ```
   ABS> CREATE ENVIRONMENT/PROLOGUE="@SHUTDOWN_DB.COM" -
   _ABS> /EPILOGUE="@STARTUP_DB.COM" MULTIPLE_DRIVES_ENV
   ```

2. To create an execution environment with a user profile, see the following example:

   ```
   ABS> CREATE -
   _ABS> ENVIRONMENT/PROFILE=(USERNAME="USER1",CLUSTER="CLSTR1",-
   _ABS> NODE="NODE01") USER1_BACKUP_ENV
   ```

3. To create an environment policy with notification options, see the following example:

   ```
   $ ABS CREATE ENVIRONMENT MY_ENV/NOTIFICTION=(RECEIVER="TAPES", -
   _$ METHOD=OPCOM,WHEN=(WARNING,COMPLETE),TYPE=BRIEF)
   ```

ABS CREATE STORAGE_CLASS

This command creates a storage policy in ABS database.

Format

ABS CREATE STORAGE_CLASS	[/ACCESS_CONTROL] [/ARCHIVE_TYPE] [/CATALOG] [/CONSOLIDATION] [/DRIVE_LIST] [/EXECUTION_NODE] [/EXPIRATION] [/LOCATION] [/MAXIMUM_SAVES] [/MEDIA_LOCATION] [/OWNER] [/RETAIN] [/TAPE_POOL] [/TYPE_OF_MEDIA] [/VOLUME_SET]	{name}

Parameters

name
The name of the storage policy that you want to create.

Restrictions

- The creating process must be logged into ABS server node.
- The creating process must have the ABS_CREATE_STORAGE_CLASS access rights identifier enabled.

Qualifiers

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Enables you to set up the access controls by user name or by access right identifier. Access controls permit all or specific users to access to the storage policy for save and restore operations. The following access control options are available:

- Read - Users with Read access control can restore data using the storage policy.
- Write - Users with Write access control can save data using the storage policy.
- Delete - Users with Delete access control can delete the storage policy object if the number of catalog references is set to zero (0).
- Set - Users with Set access control can modify any attribute of the storage policy object, including access control.
- Show - Users with Show access control can show the storage policy object.
- Control - Users with Control access control can modify the access control for the storage policy object, but not any of its other attributes.

Requirement:
The access control must be enclosed within quotation marks, and, if you are assigning multiple access controls per user, they must be listed as a comma-separated or plus-separated list enclosed within quotation marks.

/ARCHIVE_TYPE=type
Use this qualifier to specify the type of archive file system to use for the storage policy. ABS supports the following archive file system types:

- MDMS
- FILES_11

Default:
If you do not specify this qualifier, ABS uses MDMS.

/CATALOG=catalog-name
Assigns the catalog to be used to store save request information that uses this storage policy.

Default:
If you do not specify this qualifier, ABS assigns the default catalog named ABS_CATALOG.

/CONSOLIDATION=(option[,...])
Specifies the criteria under which new volume sets are created for a save request that uses this storage policy. The following options are valid:

- INTERVAL=delta_time - The time interval to elapse before a new volume set is created.
- COUNT=number - The number of save sets to be housed on a volume set before a new volume set is created
- SIZE=number - The number of volumes to be added to the current volume set before creating a new volume set

Default:
If you do not specify this qualifier, ABS assigns the following default values:

```
Count=0, Size=0, Interval=  "7 00:00:00"
```

/DRIVE_LIST=(device-name[,...])
/NODRIVE_LIST (default)
Use this qualifier to specify the drive or list of drives to use for the storage policy. To specify a list of drives, enter them in a comma-separated list. You must specify the drive name as the MDMS drive name rather than as the VMS device name.

Example:

```
$ ABS CREATE STORAGE MY_STORAGE /DRIVE_LIST=(DRIVE2,DRIVE3,DRIVE4)
```

Where:

- DRIVE2 = 4MUA892
- DRIVE3 = 4MUA893
- DRIVE4 = 4MUA894

Default:
If you do not specify this qualifier, the MDMS software allocates a drive compatible with the media type used by the storage policy.

/EXECUTION_NODE=node name

Specifies the node name on which the save or restore request will execute. For the save or restore of VMS files or Oracle Rdb databases or storage areas, the execution node is ignored. For UNIX or NT files, the execution node is determined by this node name supplies for this qualifier.

/EXPIRATION=date
/NOEXPIRATION
Specifies the date on which the saved data should expire. Reserved words of TODAY and TOMORROW can be specified for the date value.

The /NOEXPIRATION qualifier specifies that the data will expire 9999 days in future.

Restriction:
If you specify this qualifier, you cannot specify the /RETAIN qualifier in the same CREATE STORAGE_CLASS command.

Default:
If you do not specify this qualifier, ABS uses the number of days assigned to the retention period, or a default retention period of 365 days.

/LOCATION=directory-specification
The directory specification into which ABS save sets will be written.

Default:
If you do not specify this qualifier, the default location is based upon the /ARCHIVE_TYPE qualifier. If the archive type is FILES_11, the default location is ABS$ROOT:[000000].

/MAXIMUM_SAVES=number
This qualifier allows you to specify the maximum number of save requests that can execute simultaneously using the same storage class.

For example, if you create three save requests that are scheduled to start simultaneously, those save requests can run simultaneously provided there are enough media management resources (such as tape drives and free volumes) to support multiple backup operations. Valid values range from 1 to 36. This qualifier also implies that you can use this number of volume sets for the storage class.

Default:
If you do not specify this qualifier, ABS assigns a value of 1.

/MEDIA_LOCATION=name
/NOMEDIA_LOCATION (default)
Specifies the name of the location from which to select media for the save request. The media location is defined in MDMS.

Restriction:
You can specify this qualifier only when you assign MDMS to the /ARCHIVE_TYPE qualifier.

Default:
If you do not specify this qualifier, ABS uses the location defined as the default for the MDMS domain.

/OWNER=user-name
Specifies the owner of the storage policy object. The owner is always granted SHOW and CONTROL access.

/RETAIN=number
Specifies the number of days the data will be retained in the storage policy.

Restriction:
If you specify this qualifier, you cannot specify the /EXPIRATION qualifier in the same CREATE STORAGE_CLASS command.

Default:
ABS assigns a value of 365 days for the retention period.

/TAPE_POOL=name
/NOTAPE_POOL (default)
Specifies the name of the tape pool to use for save requests that use this storage class.

Restriction:
You can only specify this qualifier if you specify MDMS as the archive file system (/ARCHIVE_TYPE=MDMS).

Default:
If you do not specify this qualifier, ABS selects volumes that do not belong to a specific tape pool.

/TYPE_OF_MEDIA=name
/NOTYPE_OF_MEDIA (default)
Use this qualifier to specify the media type for the storage policy. The media type is defined in MDMS.

Requirement:
You must specify this qualifier if the archive file system is MDMS (/ ARCHIVE_TYPE=MDMS).

/VOLUME_SET=name
/NOVOLUME_SET (default)
Specifies the name of the volume set to use for save requests using this storage policy.

The volume set name must be one that ABS has previously created. If the values specified for the /CONSOLIDATION qualifier have been exceeded, ABS will create a new volume set anyway.

Default:
If you do not specify this qualifier, ABS attempts to add its save sets to the last volume set used by ABS for this storage policy.

Examples

1. To create a storage policy named PROJ_X and to have the saved data expire on a certain date, see the following example:

   ```
   ABS> CREATE STORAGE PROJ_X/EXPIRATION=01-JAN-1999/
   TYPE_OF_MEDIA=TK85
   ```

2. To create a storage policy to retain data for five years, and to select the volume from a specific pool of volumes, see the following example:

   ```
   ABS> CREATE STORAGE_CLASS 5_YEAR_STORAGE/RETAIN=1825/TAPE_POOL
   _ABS>=5YEAR_POOL/TYPE_OF_MEDIA=TK85
   ```

3. To create a storage policy for UNIX or NT operations that uses a specific node for its save requests, see the following example:

   ```
   $ ABS CREATE STORAGE_CLASS UNIX_STORAGE/EXECUTION_NODE=NODE01
   _$ /MEDIA_TYPE=TK85
   ```

ABS DELETE ENVIRONMENT

This command deletes an existing environment policy. ABS enables you to do this provided that the environment policy meets all the required criteria. See the following section titled Restrictions.

Format

ABS DELETE ENVIRONMENT	[/CONFIRM] [/OVERRIDE] [/VERSION]	{ name }

Parameters

name
The name of the execution environment that you want to delete.

Restrictions

- The user process must have the DELETE access right enabled on the environment policy.
- The requesting process must be logged into ABS server node.
- The environment policy cannot contain any catalog references. This provides an accurate history of save operations of the environment policy used during those operations.

Qualifiers

/CONFIRM
/NOCONFIRM (default)
Specify the /CONFIRM qualifier to prompt the user for confirmation before deleting the environment policy.

/OVERRIDE_REFERENCE_COUNT
This qualifier allows you to delete the environment policy even though there may be references to it. Use with caution.

/VERSION=number
Use this qualifier to specify the version of the environment policy that you want to delete.

Default:
If you do not specify this qualifier, ABS deletes all versions.

Example

To delete the environment policy named USER1_ENV and to confirm the delete operation, see the following example:

```
ABS> DELETE ENVIROMENT USER1_ENV/CONFIRM
```

ABS DELETE RESTORE

This command deletes an existing ABS restore request.

Format

ABS DELETE RESTORE	[/CONFIRM] [/OVERRIDE_REFERENCE_COUNT] [/VERSION	{ name }

Parameters

name
The name of the restore request that you want to delete.

Restrictions

- The user process must have the DELETE access rights identifier enabled on the restore request.

Qualifiers

/CONFIRM
/NOCONFIRM (default)
Specify this qualifier to prompt the user for confirmation before ABS deletes the restore request.

/OVERRIDE_REFERENCE_COUNT
Deletes the restore request even though there is an active archive reference count for the restore request.

Requirement:
You must have the ABS_BYPASS access right identifier enabled to invoke this qualifier.

/VERSION=number
Use this qualifier to specify the version of the restore request that you want to delete.

Default:
If you do not specify this qualifier, ABS deletes all versions.

Example

To delete the restore request named USER1__01-JAN-1994_12_00_00_00 and to confirm the delete operation, see the following example:

```
ABS> DELETE RESTORE/CONFIRM USER1__01-JAN-1994_12_00_00_00
```

ABS DELETE SAVE

This command deletes an existing ABS save request.

Format

ABS DELETE SAVE	[/CONFIRM] [/OVERRIDE_REFERENCE_COUNT] [/VERSION]	{name}

Parameters

name
The name of the save request that you want to delete.

Restrictions

The user process must have the DELETE access right identifier enabled on the save request.

Qualifiers

/CONFIRM
/NOCONFIRM (default)
Specify this qualifier to prompt the user for confirmation before deleting the save request.

/OVERRIDE_REFERENCE_COUNT
Deletes the save request even though there is an active archive reference count for the save request.

Requirement:
You must have ABS_BYPASS access right identifier enabled to invoke this qualifier.

/VERSION=number
Use this qualifier to specify the version of save request that you want to delete.

Default:
If you do not specify this qualifier, ABS deletes all versions.

Example

To delete a save request named USER1__01-JAN-1994_12_00_00_00 and to confirm the delete operation, see the following example:

```
ABS> DELETE SAVE/CONFIRM USER1__01-JAN-1994_12_00_00_00
```

ABS DELETE STORAGE_CLASS

This command deletes an existing ABS storage policy provided that the storage policy meets all the required criteria. See the following section titled Restrictions.

Format

ABS DELETE STORAGE_CLASS	[/CONFIRM] [/OVERRIDE] [/VERSION]	{ name }

Parameters

name
The name of the storage policy that you want to delete.

Restrictions

- The user process must have the DELETE access right enabled on the storage policy.
- The requesting process must be logged into ABS server node.
- The storage policy cannot contain any catalog references. This provides an accurate history of save operations and of the storage policies used during those operations.

Qualifiers

/CONFIRM
/NOCONFIRM (default)
Specify this qualifier to prompt the user for confirmation before deleting the storage policy.

/OVERRIDE_REFERENCE_COUNT
This qualifier allows you to delete the storage policy object even though there may be reference to it. Use this qualifier with extreme caution. If you delete a storage policy that contains references to it, you will not be able to restore any data that was saved using the storage policy.

/VERSION=number
Use this qualifier to specify the version of the storage policy that you want to delete.

Default:
If you do not specify this qualifier, ABS deletes all versions.

Example

To delete the storage policy named USER1 and to confirm the delete operation, see the following example:

```
ABS> DELETE STORAGE_CLASS USER1_STORAGE/CONFIRM
```

ABS EXIT

Use this command to exit the ABS command line interpreter and return control to the DCL command prompt.

Format

```
ABS EXIT
```

Parameters

None.

Restrictions

None.

Qualifiers

None.

ABS HELP

Use this command to access OpenVMS Help for ABS DCL commands.

Format

ABS HELP	{keyword}

Parameters

keyword
ABS command to invoke OpenVMS Online Help for ABS product.

Restrictions

None.

Qualifiers

None.

ABS LOOKUP

Use this command to perform a catalog search for data that was saved using ABS.

Format

ABS LOOKUP	[/ALL] [/BRIEF] [/FULL] [/OUTPUT] [/SUMMARY]	{data object}	[/BEFORE] [/CATALOG] [/DATE_ARCHIVED] [/EXPIRATION] [/OBJECT_TYPE] [/NODE] [/SINCE] [/STORAGE_CLASS]	[...,]

Parameters

data_object
A single or comma-separated list of disk or disk and file names to search for in the catalog.

Entering the Correct Syntax for ABS LOOKUP Command shows how to correctly enter the syntax according to the file type you are looking up.

Table 1–1 Entering the Correct Syntax for the ABS LOOKUP Command

File Type	Syntax
VMS_FILES	Wildcards can be used for any part of the file specification. A missing part of the file specification defaults to ‘all’. For example:: $ ABS LOOKUP LOGIN.COM Lists all versions of LOGIN.COM for all disks and all directories. If you want to look up the highest version of an individual file, enter the exact file name without a specific version number: $ ABS LOOKUP DISK$USER1:[USER]LOGIN.COM;
Oracle Rdb Database	If you want to look up an Oracle Rdb database, select the Oracle Rdb version specific file type and enter the syntax in the following type of format: $ ABS LOOKUP DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB - _$/OBJECT_TYPE=RDB_V6.0_DATABASE

Oracle Rdb Storage Area	If you want to look up an Oracle Rdb storage area, select the Oracle Rdb version specific file type, and enter the syntax in the following format: $ ABS LOOKUP "DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB /AREA=ACCOUNTING" /OBJECT_TYPE=RDB_V6.0_STORAGE_AREA
UNIX_FILES_GTAR	To find a UNIX directory, enter the following syntax: $ ABS LOOKUP "/usr/users/abs" - _$ /OBJECT_TYPE=UNIX_FILES_GTAR Object of type UNIX_FILES_GTAR found /usr/users/abs/12-APR-1996 10:16:59.68 /usr/users/abs/11-APR-1996 18:44:48.8 Result: The lookup operation finds only the entry for the directory /usr/users/abs/. You can use wildcards "*" and "%" to find UNIX files. For example: $ ABS LOOKUP "/usr/users/*"/ OBJECT_TYPE=UNIX_FILES_GTAR Result: This example will find all files and directories saved under the directories /usr/us*. To lookup a specific UNIX file, enter the complete UNIX pathname: $ ABS LOOKUP "/usr/users/smith/login" - _$ /OBJECT_TYPE=UNIX_FILES_GTAR Object of type UNIX_FILES_GTAR found /usr/users/smith/login 12-APR-1996 10:16:59.68 /abs/users/smith/login 11-APR-1996 18:44:48.82 Note: UNIX file names are case-sensitive. You must enter the file name exactly as it was created.
WINDOWS_NT_FILES_GTAR	To find an NT file, use the following syntax: $ ABS LOOKUP "C:\USERS\SMITH\TEMP.TXT" - _$ /OBJECT_TYPE=WINDOWS_NT_FILES_GTAR To find an NT directory, use the following syntax: $ABS LOOKUP - _$ "C:\USERS\SMITH\"/ OBJECT_TYPE=WINDOWS_NT_FILES_GTAR To find NT files you can use wildcard character "*" and "%". For example: $ ABS LOOKUP "C:\USERS*.DAT" - _$ /OBJECT_TYPE=WINDOWS_NT_FILES_GTAR Result: This example will find all files and directories saved under the directory C:\USERS\ with an extension of ".DAT". Note: NT file names are not case-sensitive.

Restrictions

- To view information about archived data that you do not own, your user process must:
  - Have ABS_LOOKUP_ALL access right identifier granted
  - Have SYSPRV privilege enabled

- To view information on a VMS client, you need to have access to the storage class in the save request.
- If you do not specify the storage class while viewing information, ABS defaults to SYSTEM_BACKUPS storage class.
- You cannot specify more than eight data disk or file names per ABS LOOKUP command.
- Each disk or file name cannot exceed 255 characters.
- You cannot mix file types in the same ABS LOOKUP command.

Qualifiers

Nonpositional Qualifiers

The following nonpositional qualifiers are applied to the entire ABS LOOKUP command.

/ALL
Use this qualifier to list all copies of the file(s). When using /ALL with /SINCE all copies of a saved file are listed in chronological order. In all other cases /ALL lists the files in reverse chronological order.

Default:
Only one entry is listed per file.

/BRIEF (default)
Use this qualifier to display only the most important information about the include specification. This information includes the device name, object name, object version, node name, and date archived. For the ABS REPORT SAVE_LOG command, this information is displayed in a bulleted list format.

Default:
This is the default behavior for ABS LOOKUP command.

/FULL
Displays all information about the data and includes the disk name, file names, file version, node name, date archived, file type names, creation date, revision date, save set UID, owner, expiration date, file section number, archive transaction UID, storage policy UID, transaction status, and transaction severity. For the ABS REPORT SAVE_LOG command, this information is displayed in a bulleted list format.

Restriction:
You cannot specify the /FULL qualifier if the catalog type is SLS.

Default:
If you do not specify this qualifier, ABS uses the /BRIEF qualifier.

/OUTPUT=file_spec
/NOOUTPUT
Use this qualifier to specify an output location (file name) for the information about the data.

The /NOOUTPUT qualifier suppresses the information.

Default:
If you do not specify a file name for this qualifier, ABS displays the information to SYS$OUTPUT.

/SUMMARY (default)
/NOSUMMARY
Use the /NOSUMMARY qualifier to suppress the summary information line at the bottom of the output information.

Default:
ABS prints a summary information line at the bottom of the output information.

Positional Qualifiers

The following positional qualifiers can be applied to the disk or file name specified in the include_spec parameter. You can specify up to eight separate include_ spec parameters per ABS LOOKUP command.

/BEFORE[=time]
Selects only those files archived prior to the specified time. You can specify 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 /ALL with the /BEFORE qualifier to list all entries for a file in reverse chronological order.

Restriction:
If you specify this qualifier, you cannot specify the /DATE_ARCHIVED or the /SINCE qualifier.

Default:
If you do not specify any date, the current date and time is used.
If you do not specify any date selection qualifier /SINCE is the default.

/CATALOG=*
Use this qualifier to search all the catalogs

/CATALOG=catalog-name
Use this qualifier to constrain ABS LOOKUP command to a specific catalog.

Restriction:
If you specify this qualifier, you cannot specify the /STORAGE_CLASS qualifier in the same ABS LOOKUP command. Usage of wildcards are not supported.

Default:
If you do not specify this qualifier or the /STORAGE_CLASS qualifier, ABS searches through all catalogs.

/DATE_ARCHIVED[=date]
Selects only those files archived on the day of the specified date. You can specify the date 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 /ALL with the /DATE_ARCHIVED qualifier to list all entries for a file on this day in reverse chronological order.

Restriction:
If you specify this qualifier, you cannot specify the /BEFORE or /SINCE qualifier for the same ABS LOOKUP command.

Default:
If you do not specify any date, the current date and time is used. If you do not specify any date selection qualifier /SINCE is the default.

/EXPIRATION[=date]
Selects only those files archived with an expiration date before the specified time. You can specify 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 /ALL with the /EXPIRATION qualifier to list all entries for an expired file in reverse chronological order.

Default:
If you do not specify a date value, ABS uses the current date.

/OBJECT_TYPE=object-type-name
Specify this qualifier to constrain the ABS LOOKUP command to search only for a specific object type. ABS supports the following file types:

- RDB_Vn.n_DATABASE (n.n = 4.2, 5.1, 6.0, 6.1,7.0)
- RDB_Vn.n_STORAGE_AREA (n.n = 4.2, 5.1, 6.0, 6.1,7.0)
- UNIX_FILES_GTAR
- VMS_FILES
- VMS_SAVESET
- WINDOWS_NT_FILES_GTAR

Storage area restrictions:

- You cannot specify any wildcard characters if the object type is an Oracle Rdb storage area.
- If the file type is an Oracle Rdb storage area, you must specify the device name, the directory name, and the storage area name in the include_spec parameter:

  ```
  $ ABS LOOKUP "DISK$:[DIRECTORY]database_name/AREA=storage_area_name"
  ```

Default:
If you do not specify this qualifier, ABS searches for VMS_FILES archive objects only.

/NODE=node-name
Use this qualifier to constrain the search for a disk or file name by a specific node name.

Default:
If you do not specify a node name or if you use a wildcard character (*), ABS does not use the node name selection criteria.

/SINCE[=time]
Selects only those files archived after the specified time. You can specify 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 /ALL with the /SINCE qualifier to list all entries for an expired file in chronological order.

Restriction:
If you specify this qualifier, you cannot specify the /DATE_ARCHIVED or the /BEFORE qualifier in the same ABS LOOKUP command.

Default:
If you do not specity any date, the current date and time is used. If you do not specify any date selection qualifier /SINCE is the default.

/STORAGE_CLASS=storage-policy-name
The name of storage policy to reference for ABS LOOKUP command. If you specify a storage policy name, the search is constrained to the catalog referenced by the specified storage policy.

Important Note:
You can assign the same catalog name to multiple storage polices. When more than one storage policy contains the same data, and those storage policies reference the same catalog name, ABS reports all the information from the catalogs regardless of which storage policy was used to save data.

Restriction:
If you specify this qualifier, you cannot specify the /CATALOG qualifier in the same ABS LOOKUP command.

Default:
If you do not specify this qualifier or the /CATALOG qualifier, ABS searches through all catalogs.

Example

To look up the file named LOGIN.COM that was saved on or before January 1, 1994, and to constrain the search to the storage policy named SYSTEM_BACKUPS, see the following example:

```
ABS> LOOKUP/BRIEF DEVICE:[DIR]LOGIN.COM/OBJECT_TYPE=VMS_FILES/BEFORE=01-JAN-1994 -
_ABS>/STORAGE_CLASS=SYSTEM_BACKUPS
```

or

```
ABS> LOOKUP/BRIEF DEVICE:[*...]LOGIN.COM/OBJECT_TYPE=VMS_FILES/BEFORE=01-JAN-1994 -
_ABS>/STORAGE_CLASS=SYSTEM_BACKUPS
```

ABS REPORT SAVE_LOG

Use ABS REPORT SAVE_LOG command to search an ABS catalog or all ABS catalogs for information about the transaction log entries for a save request. You can constrain the reported information by specifying the qualifiers associated with this command.

Format

ABS REPORT SAVE_LOG	[/BEFORE] [/BRIEF] [/CATALOG] [/DATE_ARCHIVED] [/FULL] [/INCLUDE] [/OUTPUT] [/REQUEST] [/SINCE] [/STORAGE_CLASS] [/SUMMARY] [/VOLUME]

Parameters

None

Restrictions

- To view information about transactions that you do not own, you must have the ABS_LOOKUP_ALL, ABS_SHOW_ALL, or ABS_BYPASS access right identifier enabled.
- You cannot specify an SLS catalog for this command.

Qualifiers

/BEFORE[=time]
Reports only those save operations executed prior to the specified time. You can specify time as an absolute time, as a combination of absolute and delta times, or as one of the following key-words: TODAY (default), TOMORROW, or YESTERDAY.

Restriction:
If you specify this qualifier, you cannot specify the /DATE_ARCHIVED or /SINCE qualifier.

Default:
If you do not specify any date, the current date and time is used. If you do not specify any date selection qualifier /SINCE is the default.

/BRIEF (default)
This qualifier displays only the brief information about the log entries. This information includes the date and time the save request was executed, the name of the disk or file that ABS attempted to save, and the current status of the save operation.

Default:
This is the default behavior for the REPORT SAVE_LOG command.

/CATALOG=(catalog_name[,…])
Use this qualifier to search only the specified catalog(s). Use '*' for the catalog name to search all catalogs.

Restriction:
If you specify this qualifier, you cannot specify the /STORAGE_CLASS qualifier in the same ABS REPORT SAVE_LOG command.

Default:
If you do not specify this qualifier or the /STORAGE_CLASS qualifier, ABS searches through all catalogs.

/DATE_ARCHIVED[=date]
Reports only those save operations executed on the day of the specified date. You can specify the date as an absolute time, as a combination of absolute and delta times, or as one of the following keywords: TODAY (default), TOMORROW, or YESTERDAY.

Restriction:
If you specify this qualifier, you cannot specify either the /BEFORE or /SINCE qualifiers in the same ABS REPORT SAVE_LOG command.

Default:
If you do not specify any date, the current date and time is used. If you do not specify any date selection qualifier /SINCE is the default.

/FULL
Displays all the information about the log entries. This is displayed in a bulleted list format and includes the following information:

- The date and time save request was executed
- The storage policy and environment policy used for save request
- The disk or file name
- The status of the save request
- The number of files or disks saved
- A detailed description of the name and location of the save set file produced as a result of the save operation

Default:
If you do not specify this qualifier, ABS uses the /BRIEF qualifier.

/INCLUDE=(include_spec[,...])
Constrains the reported information to the file name or disk name specified for the include_spec parameter on the original save request.

Restriction:
You must specify this string exactly as it was specified in the include_spec parameter on the original save request.

Default:
If you do not specify this qualifier, ABS reports on all data saved using ABS.

/OUTPUT=file-spec
/NOOUTPUT
Specifies the output file specification for the report. Error and informational messages are still displayed to SYS$OUTPUT.

The /NOOUTPUT qualifier displays the report to SYS$OUTPUT.

Default:
If you do not specify a file name for this qualifier, ABS displays the information to SYS$OUTPUT.

/REQUEST=(name[,...])
Constrains the reported information to the transactions that were initiated by the specified save request name or list of save request names. Wildcard characters are allowed.

/SINCE[=time]
Reports only those save operations executed after the specified time. You can specify 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.

Restriction:
If you specify this qualifier, you cannot specify either the /DATE_ARCHIVED or the /BEFORE qualifier in the same REPORT SAVE_LOG command.

Default:
If you do not specify any date, the current date and time is used. If you do not specify this qualifier or any other date selection qualifier /SINCE is the default.

/STORAGE_CLASS=(storage-policy-name[,...])
Constrains the reported information to the catalog used by the specified storage policy name or list of storage policy names. Wildcard characters are permitted.

Important Note:
You can assign the same catalog name to multiple storage polices. When more than one storage policy contains the same data, and those storage policies reference the same catalog name, ABS reports all the information from the catalogs regardless of which storage policy was used to save data.

Example:

```
ABS> REPORT SAVE_LOG/STORAGE_CLASS=(ABS*,*USER1*)
```

Restriction:
If you specify this qualifier, you cannot specify the /CATALOG qualifier in the same ABS REPORT SAVE_LOG command.

Default:
If you do not specify this qualifier, or the /CATALOG qualifier, ABS searches through all catalogs.

/SUMMARY (default)
/NOSUMMARY
Specifies to print the summary information at the bottom of the output information.

Default:
If you do not specify this qualifier, summary information is printed at the bottom of the output

/VOLUME=(volume_name[,...])
Constrains the reported information to the specified volume name or list of volume names.

Example:

```
$ ABS REPORT SAVE_LOG/VOLUME=(ABS000,ABS001)
```

Example

To report information about a specific save request that was executed before January 1, 1994, and to constrain the reported information to the catalog used by the SYSTEM_BACKUPS storage policy, and to suppress summary information, see the following example:

```
ABS> REPORT SAVE_LOG/REQUEST=MY_SAVE -
_ABS> /BEFORE=01-JAN-1994/STORAGE_CLASS=SYSTEM_BACKUPS/NOSUMMARY
```

ABS RESTORE

This command creates a ABS restore request. A restore request restores data from offline storage back to online storage.

Format

ABS RESTORE	[/ACCESS_CONTROL] [/BEFORE] [/CATALOG] [/DATE_ARCHIVED] [/DESTINATION] [/ENVIRONMENT [/EPILOGUE] [/FULL] [/INCREMENTAL] [/LATEST_COPY] [/NAME] [/OWNER] [/PROLOGUE] [/SELECTIVE] [/SEQUENCE_OPTION] [/SINCE] [/START_TIME] [/STORAGE_CLASS]	{include_spec}	[/AGENT_QUALIFIERS] [/CONFLICT_OPTIONS] [/OBJECT_TYPE] [/TARGET_NODE]	[...,]

Parameters

include_spec
The disk or disk and file that you want to restore. The following wildcard characters are permitted in the include_spec parameter for VMS files:

- Asterisk (*)
- Percent sign (%)

Table 1-2 shows how to enter the syntax correctly for the file type you are restoring.

Table 1–2 Entering the Correct Syntax for ABS RESTORE Command

File Type	Syntax
VMS_FILES	If you want to restore an entire OpenVMS disk, enter the disk name exactly as it was entered on the original save request: $ ABS RESTORE/NAME=VMS_RESTORE - _$ DISK$USER1:/OBJECT_TYPE=VMS_FILES/FULL or $ ABS RESTORE/NAME=VMS_RESTORE DISK$USER1: _$ /OBJECT_TYPE=VMS_FILES/INCREMENTAL If you want to restore an individual file, enter the file name using the following syntax: $ ABS RESTORE/NAME=REST_MY_FILE DISK$USER1:LOGIN.COM - _$ /OBJECT_TYPE=VMS_FILES
Oracle Rdb Database	If you want to restore an Oracle Rdb database, select the Oracle Rdb version-specific file type and use the following syntax: $ ABS RESTORE/NAME=RDB_RESTORE - _$ DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB - _$ /OBJECT_TYPE=RDB_V6.0_DATABASE
Oracle Rdb Storage Area	If you want to restore an Oracle Rdb storage area, specify the Oracle Rdb version specific file type and use the following syntax: $ ABS RESTORE/NAME=RDB_RESTORE - _$ "DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB/ AREA=ACCOUNT- _$ING"/OBJECT_TYPE=RDB_V6.0_STORAGE_AREA
UNIX_FILES_GTAR	To restore all directory structures and file under the directory ABS, use the following syntax: $ ABS RESTORE/NAME=UX_RESTORE "/usr/users/abs/" - _$ /OBJECT_TYPE=UNIX_FILES_GTAR/TARGET_NODE=unix1 Result: The example restores files on ../abs/ and below. To restore a specific file, enter the complete UNIX pathname: $ ABS RESTORE/NAME=REST_UNIX_FILE "/usr/users/smith/login" - _$ /OBJECT_TYPE=UNIX_FILES_GTAR/TARGET_NODE=unix1 Note: UNIX file names are case-sensitive. You must enter the file name exactly as it was created on the system.
WINDOWS_NT_ FILES_GTAR	To restore an NT directory and all the files it contains, enter the following syntax: $ ABS RESTORE/NAME=NT_REST "C:\USERS\SMITH\" - _$ /OBJECT_TYPE=WINDOWS_NT_FILES_GTAR/ TARGET_NODE=nt1 Result: The example restores the file on and below ..\SMITH\. To restore an individual NT file, use the following syntax: $ ABS RESTORE/NAME=NT_REST "C:\USERS\SMITH\TEMP.TXT" - _$ /OBJECT_TYPE=WINDOWS_NT_FILES_GTAR/ TARGET_NODE=nt1 Note: NT file names are not case-sensitive.

Restrictions

- You must have WRITE access to the storage policy where the data is located.
- You must have WRITE access to the environment policy used to restore the data.
- You cannot mix file types in the same restore request.
- You cannot specify more than eight disk or file names per ABS RESTORE command.
- Each disk or file name cannot exceed 255 characters.
- If you are creating a FULL or INCREMENTAL restore operation, you must enter the file or disk name exactly the same as you entered it for the save request.
- If you are restoring a bound volume set, you must enter the disk or file name exactly as you entered it on the save request, and you must enter the /DESTINATION qualifier that specifies the list of the disk devices in the bound volume set (a comma-separated list of disk names enclosed within quotation marks).

Example:

```
ABS> RESTORE/NAME=BOUND_RESTORE DISK$USER1:/OBJECT_TYPE=VMS_FILES -
_ABS>/DESTINATION="DISK$USER1:,DISK$USER2:,DISK$USER3:"
```

Qualifiers

Nonpositional Qualifiers

The following nonpositional qualifiers are applied to the entire restore operation.

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Enables you to set up the access controls by user name or by access right identifier. The following access control options are available:

- Read - Users with Read access control can show the restore request.
- Write - Users with Write access control can modify the restore request.
- Delete - Users with Delete access control can delete the restore request.
- Set - Users with Set access control can modify any attribute of the restore request, including access control.
- Show - Users with Show access control can show the restore request
- Control - Users with Control access control can modify the access control for the restore request, but not any of its other attributes.

Requirement:
The access control must be enclosed within quotation marks, and, if you are assigning multiple access controls per user, they must be listed as a comma-separated or plus-separated list enclosed within quotation marks.

/BEFORE
/BEFORE[=time]
Restores only those files archived prior to the specified time. You can specify 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.

Restrictions:
If you specify this qualifier, you cannot specify the /DATE_ARCHIVED, or the /LATEST_COPY, or the /SINCE qualifier.

Default:
If you do not specify any date, the current date and time is used. If you do not specify any date selection qualifier /LATEST_COPY is the default.

/CATALOG=catalog-name
Constrains restoring the data from the specified catalog name. This overrides the catalog name in the STORAGE_CLASS.

Restrictions:

- If you specify this qualifier, you cannot specify the /STORAGE_CLASS qualifier in the same ABS RESTORE command.
- You cannot specify the /FULL qualifier if the catalog is an SLS type catalog.

Default:
If you do not specify this qualifier, ABS searches the catalog referenced by the storage class specified in /STORAGE_CLASS.

/DATE_ARCHIVED
/DATE_ARCHIVED[=date]
Restores only those files archived on the day of the specified date. You can specify the date as an absolute time, as a combination of absolute and delta times, or as one of the following keywords: TODAY (default), TOMORROW, or YESTERDAY.

Restriction:
If you specify this qualifier, you cannot specify the /BEFORE, or the /LATEST_COPY, or the /SINCE qualifier.

Default:
If you do not specify any date, the current date and time is used. If you do not specify any date selection qualifier /LATEST_COPY is the default.

/DESTINATION=disk-directory-specification
Use this qualifier to specify where you want to restore the data to. Specify the disk and directory name, but not the file name. ABS will assign the original file name. This qualifier is valid for OpenVMS files, Oracle Rdb files, and UNIX files.

Restrictions:

- Do not specify a file name. ABS assigns the original file name to the restored data.
- Do not specify this qualifier for NT restore operations. NT files can only be restored to their original location.

Default:
If you do not specify this qualifier, ABS restores the data to its original location.

/ENVIRONMENT=environment-policy-name
Specifies the name of the environment policy to use for the restore operation.

Default:
If you do not specify this qualifier, ABS uses the storage policy name (determined by the disk name or file name specified in the include_spec parameter) appended with _ENV. If that environment is not found, ABS uses the default execution environment named DEFAULT_ENV.

/EPILOGUE="string"
/NOEPILOGUE (default)
Specifies executing a DCL command after restoring each disk or file name specified in the include_spec parameter.

Restriction:
The string for this qualifier is limited to 80 characters and must be enclosed within quotation marks.

Default:
If you do not specify this qualifier, no epilogue command is executed.

/FULL
Defines the type of restore operation. A full restore operation restores the FULL backup for an entire volume or Oracle Rdb database.

Requirement:
If you specify a full restore operation, you must specify the disk or file name(s) in the include_spec parameter exactly as it was specified in the save request include_spec parameter. See Table 1-3 for an example of creating a full restore request.

/INCREMENTAL
Defines the type of restore operation. An incremental restore operation restores the FULL backup and includes any necessary INCREMENTAL backups.

Restriction:
If you specify an incremental restore operation, you must enter the file or disk names in the include_spec parameter exactly as they were entered on the save request include_spec parameter. See Table 1-3 for an example of creating an incremental restore request.

/LATEST_COPY (default)
Restores only the most recently archived copy of files.

Restriction:
If you specify this qualifier, you cannot specify the /BEFORE, or the /DATE_ARCHIVED, or the /SINCE qualifier.

You may not get the latest saveset if you are doing selective restores. See the restriction under the /SELECTIVE qualifier for more information.

Default:
If you do not specify any date selection qualifier /LATEST_COPY is the default.

/NAME=restore-request-name
Specify this qualifier to assign a unique name to the restore request.

Restriction:
You can use any supported characters for the restore request name. However, the restore request name cannot exceed 40 characters.

Default:
If you do not specify this qualifier, the default restore request name is the user name and current time of the creating process. For example, if the user name is SMITH, and the current day and time is 15-FEB-1994 11:22:21, the default restore request name would be SMITH_15-FEB-1994_11_ 22_21.

/OWNER=user-name
Specifies the owner of the restore request. The owner is always granted SHOW and CONTROL access.

/PROLOGUE="string"
/NOPROLOGUE
Specifies executing a DCL command before restoring each disk or file name specified in the include_spec parameter.

Restriction:
This qualifier is limited to a 80 character string and must be enclosed within quotation marks.

Default:
If you do not specify this qualifer, no prologue command is executed.

/SELECTIVE (default)
Defines the type of restore request for ABS to perform. A selective restore request restores only the data specified in the include_spec parameter, such as DISK$USER1:[USER01]*.DAT;*. See Table 1-3 for an example of creating a selective restore request.

Restriction:
When you are restoring selective data using a wildcard character, you may not get the saveset you desire. This is because ABS will locate the first saveset that matches the wildcard file specification and use that saveset in the restore. Multiple savesets will not be used, and some of the data you require may not be restored. To be sure that you will get the files you require, use ABS LOOKUP to find the files and the save dates. Then use the /BEFORE or /AFTER qualifiers to specify a date for the restore. You may need to do multiple restores to restore the required data. Another alternative is to use an INCREMENTAL restore if you have full and incremental savesets to restore.

Default:
By default, ABS performs a selective restore operation if you do not specify either the /FULL or /INCREMENTAL qualifier.

/SEQUENCE_OPTION=option
Defines the type of sequencing to use during the restore operation. ABS supports the following options:

- SEQUENTIAL–Performs the restore operation sequentially. The first restore operation must complete before the next one begins.
- OVERLAPPED–Starts the next restore operation as soon as the backup device is available for use.

Default:
If you do not specify this qualifier, ABS performs a sequential restore operation.

/SINCE
/SINCE[=time]
Restores only those files archived after the specified time. You can specify 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.

Restriction:
If you specify this qualifier, you cannot specify the /BEFORE, or /DATE_ARCHIVED, or the /BEFORE qualifier.

Default:
If you do not specify any date selection, the default is /LATEST_COPY. If you do not specify any date, the current date and time is used.

/START_TIME=time
/NOSTART_TIME
The time that you want to start the restore request. You can specify time as an absolute time, as a combination of absolute and delta times, or as one of the standard OpenVMS keywords such as TODAY or TOMORROW. If the specified time is earlier than current time, the request is scheduled for current time. If you specify /NOSTART_TIME, the request will not be started until you modify the start time using the SET RESTORE command.

Examples:

1. /START_TIME=01-JAN-1997
2. /START_TIME=12:00:00
3. /START_TIME="01-JAN-1997 12:00:00"

Default:
If you do not specify this qualifier or if you specify the qualifier with no time value, ABS uses the current date and time.

/STORAGE_CLASS=storage-policy-name
The name of storage policy to reference for the restore operation. If you specify a storage policy name, the restore operation is constrained to the catalog referenced by the storage policy, unless you have specified /CATALOG. In that case, the catalog specified will be used.

Important Note:
You can assign the same catalog name to multiple storage polices. When more than one storage policy contains the same data, and those storage policies reference the same catalog name, ABS restores the most recent data regardless of which storage policy the data is located in.

Restriction:
If you specify the /STORAGE_CLASS qualifier, you cannot specify the /CATALOG qualifier in the same ABS RESTORE command.

Default:
If you do not specify this qualifier or the /CATALOG qualifier ABS searches the catalog referenced by the SYSTEM_BACKUPS storage class.

Positional Qualifiers

The following positional qualifiers are applied to each file or disk name that you specify in the include_spec parameter. You can specify up to eight separate file or disk names for each restore request you create.

/AGENT_QUALIFIERS="string"
This qualifier enables you to specify a backup agent-specific qualifier or set of qualifiers. This qualifier is valid for all file types: VMS_FILES, RDB_n_DATABASE, RDB_n_STORAGE_AREA, UNIX_FILES_GTAR, or WINDOWS_NT_FILES_ GTAR.

Restriction:

- The string supplied for this qualifier must be enclosed within quotation marks.
- The AGENT_QUALIFIER string is limited to 80 characters.

Note

Using this qualifier may supersede qualifiers set by ABS. Use this qualifier with extreme caution.

/CONFLICT_OPTIONS=option
Specifies the manner in which to restore data that already exists on line. This qualifier is positional and is paired with a disk or file name specified in the include_spec parameter. ABS supports the following options:

- OVERLAY_VERSION–Overwrites the online version with the restored version of the data
- RETAIN_VERSION–Retains the online version and does not restore the conflicting version of the data
- NEW_VERSION–Restores the data and creates a new version

/OBJECT_TYPE=object-type-name
Specifies the type of data to restore. This positional qualifier is paired with a file or disk name specified in the include_spec parameter. ABS supports the following object types:

- RDB_Vn.n_DATABASE (n.n = 4.2, 5.1, 6.0, 6.1, 7.0)
- RDB_Vn.n_STORAGE_AREA (n.n = 4.2, 5.1, 6.0, 6.1, 7.0)
- UNIX_FILES_GTAR
- VMS_FILES
- VMS_SAVESET
- WINDOWS_NT_FILES_GTAR

Restrictions:

- If you specify the /OBJECT_TYPE=RDB_Vn.n_DATABASE, you cannot use wildcard characters. You must fully specify the disk name, directory specification, and the Oracle Rdb database file name:

  ```
  $ ABS RESTORE/NAME=DATABASE_RESTORE DISK$USER1:[USER1_RDB] -
  _$ SITE_PERSONNEL.RDB/OBJECT_TYPE=RDB_V6.1_DATABASE
  ```

- If you specify /OBJECT_TYPE=RDB_Vn.n_STORAGE_AREA, you must enclose the disk name, the directory specification, and the storage area name within quotation marks:

  ```
  $ ABS RESTORE/NAME=STORAGE_AREA_RESTORE "DISK$:[DIRECTORY] -
  -$ database_name/AREA=area_name" /OBJECT_TYPE=RDB_V6.1_STORAGE_AREA
  ```

Default:
If you do not specify this qualifier, ABS uses /OBJECT_TYPE=VMS_FILES.

/TARGET_NODE=node-name
For OpenVMS files and Oracle Rdb databases or storage areas, use this qualifier to specify the node where the restore request will execute. For NT and UNIX files, use this qualifier to specify the node name where you want to restore the data. This positional qualifier is paired with a disk or file name in the include_spec parameter.

Restrictions:

- You can specify only one target node per restore request. ABS applies the first target node to the entire restore request. If you include other nodes, ABS ignores them.
- For NT files, you cannot specify a different node than the node specified on the save request.

Default:
If you do not specify this qualifier, ABS uses the current node of the requesting process.

Examples

1. To perform a full restore operation for DISK$USER1, see the following example:

   ```
   ABS> RESTORE/NAME=FULL_RESTORE/FULL DISK$USER1:/OBJECT_TYPE=VMS_FILES
   ```

2. To perform a selective restore operation of the file LOGIN.COM on DISK$USER1:[USER1], to overwrite any existing versions, and to reference the SYSTEM_BACKUPS storage policy, see the following example:

   ```
   ABS> RESTORE/NAME=SELECTIVE_RESTORE/SELECTIVE -
   _ABS> DISK$USER1:[USER1]LOGIN.COM/OBJECT_TYPE=VMS_FILES -
   _ABS> /CONFLICT_OPTIONS=OVERLAY/STORAGE_CLASS=SYSTEM_BACKUPS
   ```

3. If you are using a DCL command procedure file and you need to know when the restore operation has completed, use the ABS SYNCHRONIZE command and the restore request name

```
$ ABS RESTORE/NAME=MY_RESTORE TEST_DAT.*
$ ABS SYNCHRONIZE MY_RESTORE
```

See Table 1-3 to determine how to create a selective, incremental, or full restore operation.

Table 1–3 Type of Restore Request Options

Type of Option	OpenVMS Restore Operations	Oracle RMU Restore Operations	UNIX or NT Restore Operations
Selective	Restores only selective data. **Note:** ABS restores only the first saveset that it finds that contains the selected data. Only one saveset is restored, no incremental savesets will be restored during a selective restore. Use caution when using wildcards in a selective restore as you may not get all the files you desire. Use ABS LOOKUP to find the dates of the files you wish to restore and use /BEFORE or /SINCE to ensure that you get the correct savesets.	Use this option to restore an Rdb storage area. Specify only the disk and storage area name in the include_spec parameter: $ ABS RESTORE / - _$NAME=STG_RESTOR E - _$DISK$USER1:ACCOU -_$NTING/ OBJECT_TYPE- _$=RDB_V6.1_STOR - _$AGE_AREA	A selective restore operation is determined by the path name entered for the include_spec parameter. To restore the directory /usr and all of the subdirectoires and files underneath it, use one of the syntaxes described in Table 1-2.

Full	Performs a restore operation of the disk or file name entered in the include_spec parameter. For example, if you specify only an OpenVMS disk name, ABS restores both the full and incremental save sets of that disk: $ ABS RESTORE /NAME=FULL_RESTORE _$ DISK$USER1:_$/ OBJECT_TYPE= - _$ VMS_FILES Result: ABS restores the most recent full backup and the required incremental backups to restore the most recent version of DISK$USER1:. Restriction: ABS does not allow you to specify a full restore operation for a SLS file.	Performs a restore operation for a full Rdb database including the most recent incremental backups.	The type of restore operation for UNIX and NT files is determined by the pathname entered for the include_spec paremeter. ABS automatically turns a full restore operation into a selective restore operation for UNIX and NT files.
Incremental	Not recommended. Incremental restore operations are accomplished as part of a full restore operation. See Table 1-5 for more information.	Not recommended. Incremental restore operations are accomplished as part of a full restore operation. See Table 1-5 for more information.	Not recommended. Incremental restore operations are accomplished as part of a full restore operation.See Table 1-5 for more information.

ABS SAVE

This command creates an ABS save request that saves data from online storage to offline storage.

Format

ABS SAVE	[/ACCESS_CONTROL] [/ENVIRONMENT] [/EPILOGUE] [/FULL] [/INCREMENTAL] [/NAME] [/OWNER] [/PROLOGUE] [/SCHEDULE_OPTION] [/SELECTIVE] [/SEQUENCE_OPTION] [/START_TIME] [/STORAGE_CLASS]	{include_spec}	[/AGENT_QUALIFIERS] [/BEFORE] [/EXCLUDE] [/OBJECT_TYPE] [/SINCE] [/SOURCE_NODE]	[...,]

Parameters

include_spec
The disk or file name that you want to save. The following wildcard characters are permitted in the include_spec parameter for VMS files:

- Asterisk (*)
- Percent sign (%)

Table 1-4 shows how to correctly enter the syntax for the file type you are saving.

Table 1–4 Entering the Correct Syntax for ABS SAVE Command

File Type	Include_spec Syntax
VMS_FILES	If you want to save an entire OpenVMS disk, enter the disk name and include the trailing colon: $ ABS SAVE/NAME=VMS_SAVE DISK$USER1:/ OBJECT_TYPE=VMS_FILES If you want to save an individual file or set of files, use the following type of syntax: $ ABS SAVE/NAME=MY_FILE DISK$USER1:LOGIN.COM - _$ /OBJECT_TYPE=VMS_FILES

Oracle Rdb Database	If you want to save an Oracle Rdb database, specify the Oracle Rdb version-specific file type and use the following syntaxes: $ ABS SAVE/NAME=RDB_SAVE - _$ DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB - _$ /OBJECT_TYPE=RDB_V6.0_DATABASE
Oracle Rdb Storage Area	If you want to save an Oracle Rdb storage area, specify the Oracle Rdb version specific file type and use the following syntax: $ ABS SAVE/NAME=STORAGE_SAVE "DISK$USER1:[USER1_RDB]SITE- _$_PERSONNEL.RDB/INCLUDE=ACCOUNTING" - _$ /OBJECT_TYPE=RDB_V6.0_STORAGE_AREA
UNIX_FILES_GTAR	To save all directory structures and files under the directory ABS, use the following syntax: $ ABS SAVE/NAME=UX_SAVE "/abs/" /OBJECT_TYPE= - _$ UNIX_FILES_GTAR/SOURCE=unix1 Result: The example save files on and below ../abs/. To save an individual file, enter the complete UNIX pathname: $ ABS SAVE/NAME=SAVE_UNIX_FILE"/usr/users/smith/ _$ login.com"/OBJECT_TYPE=UNIX_FILES_GTAR/SOURCE=unix1 If you want to save multiple files, use the following syntax: $ ABS SAVE/NAME/MY_UNIX_FILE "/usr/users/smith/login.com" - _$ /OBJECT_TYPE=UNIX_FILES_GTAR/SOURCE=unix1 - _$ "/usr/users/jones/login.com" - _$ /OBJECT_TYPE=UNIX_FILES_GTAR/SOURCE=unix1 Note: UNIX file names are case-sensitive. You must enter the file name exactly as it was created on the system.
WINDOWS_NT_FILES_GTAR	To save the NT directory named \usr and all of the subdirectories and files underneath it, enter the following syntax: $ ABS SAVE/NAME=NT_SAVE "C:\USR\SMITH\" - _$/OBJECT_TYPE=WINDOWS_NT_FILES_GTAR/SOURCE=nt1 Result: This example saves all files on and below ..\SMITH\. Note: NT file names are not case-sensitive.

Restrictions

- You must have ABS_CREATE_STORAGE_CLASS access right identifier enabled on your process.
- You must have WRITE access to the storage policy to create a save request.
- You must have WRITE access to the environment policy used to save the data.
- Do not mix VMS_FILES or RDB object types with NT or UNIX file types in the same save request. It is recommended that you create a separate save request for each file type.
- All UNIX backup operations must be performed as a system backup operation. The environment policies used for UNIX backup operations must specify the user on the user profile as ABS. UNIX backup operations cannot be performed as a user backup operation. This means

the environment policy cannot have a user profile that specifies the user as <REQUESTER>.

- Do not specify more than twenty four disk or file names per ABS SAVE command.
- A disk name or file name cannot exceed 255 characters.
- Do not specify more than one OpenVMS client nodename in a single save request.

  For example, do not create a save request that specifies NODEA::DISK$USER and NODEB::DISK1. In this example, ABS starts the save operation on NODEA and then attempts to save the disk named DISK1 (not located on NODEA), and the save request fails.
- Include the colon as part of the OpenVMS disk name specified for a full save request in the include_spec parameter.

Example:

```
DISK$USER1:
```

- If you are creating a save request for a bound volume set, enter only the volume set name or the first disk device name in the bound volume set. ABS will recognize each disk name assigned to the bound volume set.

Note

If you are restoring a bound volume set, you must enter each disk name in the bound volume set. See ABS RESTORE command for details about restoring a bound volume set.

- Wildcard characters–Wildcard characters are only valid for backup agents that support them, such as the VMS BACKUP Utility or gtar for UNIX or NT files.
- Wildcard characters are not valid for an Oracle Rdb database or storage area specification:
  - Oracle Rdb database–An Oracle Rdb database requires the disk name, the directory specification, and the Oracle Rdb database file name.

Example:

```
$ ABS SAVE/NAME=DB_SAVE DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB -
_$ /OBJECT_TYPE=RDB_V6.0_DATABASE
```

– Oracle Rdb storage area–An Oracle Rdb storage area requires you to specify the / INCLUDE qualifier that includes the disk name, the directory specification, the Oracle Rdb database file name, and the storage area name.

Example:

```
$ ABS SAVE/NAME=SA_SAVE -
_$“DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB/INCLUDE=ACCOUNTING” -
_$/OBJECT_TYPE=RDB_V6.0_STORAGE_AREA
```

Recommendation:
Unless you are creating a full save or restore request, specify the full path name for the data you are going to save. Include the device name, directory name, and file name.

Example:

```
$ ABS SAVE/NAME=MY_SAVE DISK$USER1:[USER1]LOGIN.COM/OBJECT_TYPE=VMS_FILES
```

- Full disk–If you are doing a full backup operation on an OpenVMS disk, you must include the trailing colon as part of the include_spec parameter:

```
$ ABS SAVE/NAME=FULL_SAVE DISK$USER1:/OBJECT_TYPE=VMS_FILES
```

- Concealed logical names–If the include specification contains a concealed logical name, the concealed logical name must be a system-wide logical name or physical device name. Save and restore requests translate the logical names to the first concealed logical name found. However, if this concealed logical name is in the process table, access to the logical name is not available to ABS, and the save or restore operation will fail.
- Bound volume sets–When specifying a bound volume set, only specify the volume set name or the first disk name assigned to the bound volume set. ABS recognizes each disk assigned to the bound volume set.

  However, if you perform a restore operation on a bound volume set, you must specify each disk in the bound volume set in either the Restore To option (using the ABS GUI) or using the /DESTINATION qualifier (using the DCL command ABS RESTORE). See Table 1-3 for instructions about restoring a bound volume set.

Qualifiers

Nonpositional Qualifiers

The following nonpositional qualifiers are applied to the entire save request.

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Enables you to set up the access controls by user name or by access right identifier. The following access control options are available:

- Read - Users with Read access control can show a save request.
- Write - Users with Write access control can show a save request.
- Delete - Users with Delete access control can delete the save request.
- Set - Users with Set access control can modify any attribute of the save request, including access control.
- Show - Users with Show access control can show the save request.
- Control - Users with Control access control can modify the access control for the save request, but not any of its other attributes.

Requirement:
The access control must be enclosed within quotation marks and, if you are assigning multiple access controls per user, they must be listed as a comma-separated or plus-separated list enclosed within quotation marks.

/ENVIRONMENT=environment-policy-name
Specifies the name of the environment policy to use for the save operation.

Default:
ABS uses the storage policy name appended with _ENV. If that environment policy is not found, ABS uses the default environment policy named DEFAULT_ENV.

/EPILOGUE="string"
/NOEPILOGUE
Use this qualifier to execute a DCL command after saving each file or disk specified in the include_spec parameter.

Restriction:
This qualifier is limited to 80 character string and must be enclosed within quotation marks.

Default:
If you do not specify this qualifier, no epilogue command is executed.

/EXPLICIT=interval
Use this qualifier to specify an explicit interval valid for the current scheduler interface option.

Requirement:
The /EXPLICIT qualifier is only valid when used with the /SCHEDULE_ OPTION=EXPLICIT qualifier.

/FULL
Defines the type of save request. A full save request saves an entire disk, or for an Oracle Rdb database, performs a full and complete save operation of the database.

Default:
If you do not specify a type of save request, ABS creates a selective save request. However, if you specify only a disk name in the include_spec parameter, such as DISK$USER1:, by default ABS creates a full save request. This ensures that you can perform a full restore operation on the disk.

See Table 1-5 for an example of creating a full save request.

/INCREMENTAL
Defines the type of backup operation. An save request saves any data modified since the last full or incremental save operation.

However, if you specify only a disk name in the include_ spec parameter, for example DISK$USER1:, and there has not been a full save of the disk, ABS performs a full save operation the first time the save request executes. After that, it performs incremental save operations. This ensures that you can perform a full restore operation on the disk.

Default:
If you do not specify a type of save request, ABS creates a selective save request. However, if you specify only a disk name in the include_spec parameter, such as DISK$USER1:, ABS creates a full save request. This ensures that you can perform a full restore operation on the disk.

See Table 1-5 for an example of creating an incremental save request.

/NAME=save-request-name
Use this qualifier to assign the name of the save request.

Restriction:
You can use any supported characters for the save request name. However, the save request name cannot exceed 40 characters.

Default:
If you do not specify this qualifier, the default save request name is the user name and current time of the creating process. For example, if the user name is SMITH, and the current day and time is 15-FEB-1194 11:22:21, the default save request name would be SMITH_15_FEB_1994_11_22_ 21.

/OWNER=user-name
Specifies the owner of the save request. The owner is always granted SHOW and CONTROL access.

/PROLOGUE="string"
/NOPROLOGUE
Use this qualifier to execute a DCL command or command procedure before saving each disk or file name specified in the include_spec parameter.

Restriction:
This qualifier is limited to 80 character string and must be enclosed within quotation marks.

Default:
If you do not specify this qualifier, no prologue command is executed.

/SCHEDULE_OPTION=option
Use this qualifier to select the scheduling option for the save request.

Choose one of the following options:

- ONE_TIME_ONLY–Executes the save request once, at the time specified for the /START_TIME qualifier.
- After a successful operation and 72 hours have passed, the job is deleted from ABS database and the scheduler database by the Database Cleanup Utility. See *Archive/Backup System for OpenVMS Guide to Operations* for details about ABS Cleanup Utilities.
- ON_DEMAND–For scheduler interface options INT_QUEUE_MANAGER and EXT_QUEUE_MANAGER the request will be submitted as an OpenVMS batch job at the time specified for the /START_TIME qualifier. To resubmit this save request, you must set a new start time.
- For scheduler interface options DECSCHEDULER and EXT_SCHEDULER the save request is submitted to the scheduler. The save request executes once at the time specified for the /START_TIME qualifier. However, the save request is not deleted and remains as a job in the scheduler. To resubmit the save request, you must release it using the appropriate scheduler command.
- DAILY–Executes a save request once per day, at the time specified for the /START_TIME qualifier.
- DAILY_FULL_WEEKLY–This scheduling option enables you to create a single save request that executes a full backup operation once per week on the day specified, and an incremental backup operation for each subsequent day after the full backup operation is successful. ABS performs the full backup operation on a fixed day of the week during the 7-day cycle.

  The DAILY FULL WEEKLY Process

  If the save request specifies to start the full backup operation on Monday, ABS will always perform the full backup operation on Monday for that particular save request. This happens even if some of the subsequent incremental backup operations (levels) fail. See Example A.

  Example A:

Day	Type
Monday	Full
Tuesday	Level 1
Wednesday	Level 2
Thursday	Level 3
Friday	Level 4

Saturday	Level 5
Sunday	Level 6
Monday	Full

If the full backup operation fails, ABS retries the full backup operation on the next day. If that full backup operation fails, the cycle is repeated until a successful, full backup operation is achieved. ABS considers success and qualified success as a successful completed operation. ABS considers all other status as a failed operation.

Example B:

Day	Date and Time Run	Type	Result
Monday	31-MAR-1997 02:00	Full	Failure
Tuesday	01-APR-1997 02:00	Full	Failure
Wednesday	02-APR-1997 02:00	Full	Success
Thursday	03-APR-1997 02:00	Level 3	Success
Friday	04-APR-1997 02:00	Level 4	Failure
Saturday	05-APR-1997 02:00	Level 5	Success
Sunday	06-APR-1997 02:00	(Assume skipping this day using special setting in the scheduler being used.)	
Monday	07-APR-1997 02:00	Full	Success

Note

If you are manually setting up the scheduler being used to skip special days, ABS skips the next level of an incremental backup operation. In Example B, ABS skips Sunday and does not perform the Level 6 incremental backup operation. ABS resumes the full backup operation again on Monday, and the schedule once again repeats itself.

Notice also in Example B that ABS repeats the full backup operation until a successful full backup operation is achieved on Wednesday. If one of the incremental backup operations fail, ABS skips to the next level of the incremental backup operations. Unlike repeating the full backup operation, ABS does not repeat the same level of incremental backup operations during the 7-day cycle.

In Example B, the Level 4 incremental backup operation failed on Friday. On Saturday, ABS resumes with a Level 5 incremental backup operation. However, the contents of the incremental backup operations are correct because ABS will back up all new or modified files since the last successful full backup operation or the last successful lower level incremental backup operation.

The save log file will contain the following backup command issued by ABS for Saturday, 05-APR-1997:

```
$ BACKUP/.../SINCE="03-APR-1997 02:00:00.00"
```

Because the last successful lower level incremental backup operation was performed on 03-APR-1997, all changes to any file since the date and time specified in the BACKUP command are included in the backup operation.

- WEEKLY–Executes the save request once per week, at the time specified for the /START_TIME qualifier.
- BIWEEKLY–Executes the save request once every two weeks at the time specified for the /START_TIME qualifier.
- MONTHLY–Executes the save request once per month, at the time specified for the /START_TIME qualifier.
- QUARTERLY–Executes the save request once every three months, at the time specified for the /START_TIME qualifier.
- SEMI_ANNUALLY–Executes the save request two times per year, at the time specified for the /START_TIMEqualifier.
- ANNUALLY–Executes the save request once per year, at the time specified for the /START_TIME qualifier.
- LOG_2–Executes a full backup operation on day 1, and an incremental backup operation on day 2. On day 3, an extended incremental backup operation is executed.

  An extended incremental backup operation saves any data modified since the last full or extended incremental backup operation.
- LOG_3–Executes a full backup operation on day 1, and an incremental backup operation on days 2 and 3. Executes an extended incremental backup operation on day 4.

  An extended incremental backup operation saves any data modified since the last full or extended incremental backup operation.

More Information:
See *Archive/Backup System for OpenVMS Guide to Operations* for an illustrated view of the LOG_n descriptions.

- NEVER–Never submits the save request for execution and no job is created for the request. You may need to create one or more save requests before you determine their schedule. To submit the save request, modify the save request and change the /SCHEDULE_OPTION qualifier.
- EXPLICIT–Executes the save request per the time value assigned to the /EXPLICIT qualifier.

  Default:
  If you do not specify a scheduling options, ABS uses ONE_TIME_ONLY.

/SELECTIVE
Defines the type of save operation. A selective save request saves only the data specified in the include_spec parameter, such as DISK$USER1:[USER01]*.DAT;*. See Table 1-5 for an example of creating a selective save request.

Default:
If you do not specify a type of save request, by default, ABS creates a selective save request. However, if you specify only a disk name in the include_spec parameter, such as DISK$USER1:, ABS creates a full save request. This ensures that you can perform a full restore operation on the disk.

/SEQUENCE_OPTION=option

Defines the type of sequencing option to use during the save operation. Choose one of the following options:

- SEQUENTIAL–Performs the backup operation sequentially. The first backup operation must complete before the next one can begin.
- OVERLAPPED–Starts the next backup operation as soon as the backup device is available for use. ABS begins the next backup operation during the recording pass.

Default:
If you do not specify this qualifier, ABS performs a sequential backup operation.

/START_TIME=time
/NOSTART_TIME
The time that you want to start the save request. You can specify time as an absolute time, as a combination of absolute and delta times, or as one of the standard OpenVMS keywords such as TODAY or TOMORROW. If the specified time is earlier than current time, the request is scheduled for current time. If you specify /NOSTART_TIME, the request will not be started until you modify the start time using the SET SAVE command.

Examples:

1. /START_TIME=01-JAN-1997
2. /START_TIME="TOMORROW+02:00"
3. /START_TIME="01-JAN-2000 12:00:00"

Default:
If you do not specify this qualifier or if you specify the qualifier with no time value, ABS uses the current date and time.

/STORAGE_CLASS=storage-policy-name
The name of storage policy to use for the save operation. If you specify a storage policy name, all disk names or file names entered in the include_spec parameter will reside in this storage policy.

Default:
If you do not specify this qualifier, ABS uses the default storage policy named SYSTEM_BACKUPS.

Positional Qualifiers

The following positional qualifiers are applied to each file or disk name entered in the include_spec parameter. You can specify up to eight separate file or disk names per save request.

/AGENT_QUALIFIERS="string"
This qualifier enables you to specify a backup agent-specific qualifier or set of qualifiers. This qualifier is valid for all file types: VMS_FILES, RDB_n_DATABASE, RDB_n_STORAGE_AREA, UNIX_FILES_GTAR, and WINDOWS_NT_FILES_ GTAR.

Restriction:

- The string supplied for this qualifier must be enclosed within quotation marks.
- The AGENT_QUALIFIER string is limited to 80 characters.

Note

Using /AGENT_QUALIFIERS qualifier may supersede the qualifiers set by ABS. Use this qualifier with extreme caution.

/BEFORE=date
/NOBEFORE
Constrains the save request to select data (disk name or file name) with a date before the entered date. This positional qualifier is paired with a disk or file name entered in the include_spec parameter. Reserved words of TODAY (default), TOMORROW, or YESTERDAY can be specified for the date value.

If you specify the /NOBEFORE qualifier, ABS does not use any before date selection criteria.

Restriction:
This qualifier is not valid for UNIX or NT save requests.

Default:
If you do not specify any date selection, files are not selected based on a date. If you do not specify a date, the current date and time will be used.

/EXCLUDE=(file_spec[,...])
Use this qualifier to exclude specific data from the save request. This positional qualifier is paired with a file name entered in the include_spec parameter.

Restriction:
This qualifier is not valid for UNIX or NT save requests. This qualifier should not be used in a FULL backup. Do not include the device name in the file_spec.

Default:
If you do not specify this qualifier, ABS saves all data entered in the include_spec parameter.

/OBJECT_TYPE=object-type-name
Specifies the type of data to save. This positional qualifier is paired with a disk or file name entered in the include_spec parameter. ABS supports the following file type names:

- RDB_Vn.n_DATABASE (n.n = 4.2, 5.1, 6.0, 6.1, 7.0)
- RDB_Vn.n_STORAGE_AREA (n.n = 4.2, 5.1, 6.0, 6.1, 7.0)
- UNIX_FILES_GTAR
- VMS_FILES
- VMS_SAVESET
- WINDOWS_NT_FILES_GTAR

Restrictions:

- If you specify /OBJECT_TYPE=RDB_Vn.n_DATABSE, you cannot use wildcard characters. You must fully specify the disk name, directory specification, and the Oracle Rdb database file name:

```
$ ABS SAVE/NAME=RDB_SAVE DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB-
    _$ /OBJECT_TYPE=RDB_V7.0_DATABASE
```

- If you specify /OBJECT_TYPE=RDB_Vn.n_STORAGE_AREA, you cannot use any wildcard characters. You must specify the /INCLUDE qualifier that encloses the disk name, the directory specification, the Oracle Rdb database filename, and the storage area name within quotation marks:

```
$ ABS SAVE/NAME=AREA_SAVE -
_$"DISK$USER1:[USER1_RDB]SITE_PERSONNEL.RDB/INCLUDE=ACCOUNTING" -
_$/OBJECT_TYPE=RBD_V6.0_STORAGE_AREA
```

- /OBJECT_TYPE=VMS_SAVESET is only to be used to catalog savesets created outside of ABS (from VMS Backup or Saveset Manager). When you use this object, you should follow the instructions in the ABS Guide to Operations.

Default:
The default object type is VMS_FILES.

/SINCE=date
/NOSINCE
Use this qualifier to save data that was created or modified after a specific date. This positional qualifier is paired with a disk or file name entered in the include_spec parameter. Reserved words of TODAY (default), TOMORROW, or YESTERDAY can be specified for the date value.

Restriction:
This qualifier is not valid for UNIX or NT save requests.

Default:
If you do not specify any date selection, files are not selected based on a date. If you do not specify any date, the current date and time is used.

/SOURCE_NODE=node name
For NT and UNIX files, this positional qualifier defines the node name where the data to save resides. For VMS Files and Oracle Rdb databases or storage areas, the source node is the node where the save request will execute.

Restriction:
For OpenVMS clients, you can specify only one source node per save request. ABS recognizes the source node specified for the first disk or file name, and applies it to the entire save request.

Default:
The default source node is the node on which ABS SAVE command is issued.

Examples

1. To save any file with an extension of .DAT in your current default directory, see the following example:

   ```
   ABS> SAVE/SELECTIVE/NAME=MY_SAVE *.DAT;*
   ```

2. To specify the node on which to execute the save request for VMS files, see the following example:

3. $ ABS SAVE/NAME=user1_SAVE USER01:[USER1]:*.*;*/SOURCE_NODE=NODE01

4. To create a save request with a scheduling interval of DAILY_FULL_WEEKLY for DISK$USER1, DISK$USER1, and DISK$USER3, and to start the operation today at 10:00p.m., see the following example:

5. ABS> SAVE/SCHEDULE_OPTION=DAILY_FULL_WEEKLY/
   START_TIME="TODAY+22:00"
   _ABS>/NAME=DISK123_WFULL_DINCR
   DISK$USER1:,DISK$USER2:,DISK$USER3:

6. To create a save request that spans a UNIX file system, see the following example:

   ```
   ABS> SAVE/NAME=UNIX_SPAN "/dir/file"/OBJECT_TYPE=UNIX_FILES_GTAR -
   _ABS> /SPAN_FILESYSTEM=ALL/SOURCE=unix1
   ```

7. If you are using a DCL command procedure file and you need to know when the save request has completed, use ABS SYNCHRONIZE command and reference the save request name:

   ```
   $ ABS SAVE/NAME=MY_BACKUP TEST_DAT.*
   $ ABS SYNCHRONIZE MY_BACKUP
   ```

8. To demonstrate using both positional and nonpositional qualifiers, see the following example:

```
$ ABS SAVE/NAME=MIDNIGHT_SAVE_REQUEST/FULL/START=00:00 -
_$ DISK$USER1:/OBJECT_TYPE=VMS_FILES/EXCLUDE=*.COM
```

9. See Table 1-5 to determine how to create a selective, incremental, or full save request.

Table 1–5 Type of Save Request Options

Type of Option	OpenVMS Save Operations	Oracle RMU Save Operations	UNIX or NT Save Operations
Selective	Saves only selective data.	Use this option to save a storage area. If you use the /INCLUDE qualifier, only the specified storage areas are saved.	A selective save operation is determined by the path name entered for the include_spec parameter. To save a directory and all of the subdirectoires and files underneath it, use one of the syntaxes described in Table 1-4.
Full	Performs a full save operation on an entire OpenVMS disk. This is equivalent to using the /IMAGE qualifier using the VMS BACKUP Utility. For this type of save request, enter only the OpenVMS disk name and include the trailing colon (a): $ ABS SAVE - _$/ NAME=FULL_DAILY- _$ DISK$USER1: - _$/ OBJECT_TYPE=VMS_ _$FILES	Performs a full and complete backup operation of an Oracle Rdb database. Enter the Rdb Oracle database file name for the include_spec parameter: $ ABS SAVE - _$/NAME=DB_SAVE - _$DISK$USER:[RDB]- _$PER.RDB - _$OBJECT_TYPE=RDB_ V6.0_DATABASE	The type of save operation for UNIX and NT files is determined by the pathname entered for the include_spec parameter. ABS automatically turns a full save operation into a selective save operation for UNIX and NT files.
Incremental	Not recommended because of the amount of effort required to restore individual incremental backup operations. Instead, one of the combined scheduling options such as DAILY_INCREMENTAL_WEEKLY_FULL, LOG- 2, or LOG-3 as previously described.	Not recommended because of the amount of effort required to restore individual incremental backup operations. Instead, use one of the combined scheduling options such as DAILY_INCREMENTAL_ WEEKLY_FULL, LOG-2, or LOG-3 as previously described.	Not recommended because of the amount of effort required to restore individual incremental backup operations. Instead, use one of the combined scheduling options such as DAILY_INCREMENTAL_WEEKLY_FULL, LOG- 2, or LOG-3 as previously described.

a.) If you specify the /FULL qualifier and enter a disk name plus a file name, ABS strips off the file name and performs a full backup operation on the OpenVMS disk.

ABS SET ENVIRONMENT

This command modifies an existing environment policy in ABS policy database.

Format

ABS SET ENVIROMENT	[/ACCESS_CONTROL] [/ACTION] [/COMPRESSION] [/CONFIRM] [/DATA_SAFETY] [/DRIVE_COUNT] [/EPILOGUE] [/INTERVAL_FOR_RETRY] [/LINKS_ONLY] [/LISTING_OPTION] [/LOCKING_OPTION] [/NOTIFICATION] [/OWNER] [/PROFILE] [/PROLOGUE] [/RETRY_COUNT] [/SPAN_FILESYSTEMS]	{name}

Parameters

name
The name of the environment policy that you want to modify.

Restrictions

- The requesting process must have the following privileges enabled:
  - SYSPRV
  - CMKRNL
- The requesting process must be logged into ABS server node.
- The requesting process must have the SET access control enabled on the environment policy.

Qualifiers

The qualifiers for ABS SET ENVIRONMENT command are exactly the same as for ABS CREATE ENVIRONMENT command with the exception of the following qualifiers:

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Adds an access control entry in the policy's access control list. If the user_id matches any of the existing user_ids in the access control entries, the access rights are replaced for the user.

The /REMOVE in conjuction with this qualifier will remove the access control entry for the user.

/CONFIRM
NOCONFIRM (default)

Specify the /CONFIRM qualifier to prompt the user for confirmation before ABS modifies the environment policy.

/REMOVE
This qualifier works in conjunction with /ACCESS_CONTROL qualifier that accepts a user name to remove the Access Control Entries for the specified user. If this operation results in no Access Control Entries being associated with the object, ABS will grant all the Access Rights to the owner of the object.

Examples:

To remove Access Control Entry for the user NODE1::USER1 from an existing EXECUTION ENVIRONMENT named ENVIR1, see the following example:

```
$ ABS SET ENVIRONMENT ENVIR1/ACCESS_CONTROL= -
_$(USER=NODE1::USER1)/REMOVE
```

More Information:
See ABS CREATE ENVIRONMENT command for the remaining qualifier descriptions.

Example

1. To remove the prologue and epilogue commands from an existing environment policy named SITE_BACKUP_ENV, see the following example:

```
$ ABS SET ENVIRONMENT/NOPROLOGUE/NOEPILOGUE SITE_BACKUP_ENV
```

ABS SET RESTORE

This command modifies an existing restore request in ABS policy database.

Format

ABS SET RESTORE	{name}	[/ACCESS_CONTROL] [/BEFORE] [/CONFIRM] [/DATE_ARCHIVED] [/DESTINATION] [/ENVIRONMENT] [/EPILOGUE] [/INCREMENTAL] [/LATEST_COPY] [/OWNER] [/PROLOGUE] [/SELECTIVE] [/SEQUENCE_OPTION] [/SINCE] [/START_TIME]	{include_spec}	[/ADD] [/AGENT_QUALIFIERS] [/CATALOG] [/CONFLICT_OPTIONS [/OBJECT_TYPE] [/REMOVE] [/STORAGE_CLASS] [/TARGET_NODE]	[...,]

Parameters

name
The name of the restore request that you want to modify.

include_spec
This optional parameter enables you to modify the include specification on an existing restore request. You can add or remove a disk or file name using the /ADD or /REMOVE qualifiers.

Restrictions

- The requesting process must have the SET access control enabled on the restore request.
- You cannot modify the name of the restore request.

Qualifiers

The qualifiers for ABS SET RESTORE command are exactly the same as for the ABS RESTORE command with the exception of the following qualifiers:

Nonpositional Qualifiers

The following nonpositional qualifiers are applied to the entire ABS SET RESTORE command.

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Adds an access control entry in the policy's access control list. If the user_id matches any of the existing user_ids in the access control entries, the access rights are replaced for the user.

The /REMOVE in conjunction with this qualifier will remove the access control entry for the user.

/CONFIRM
/NOCONFIRM (default)

Specify the /CONFIRM qualifier to prompt for confirmation before modifying the restore request.

Positional Qualifiers

The following positional qualifiers are applied to each file or disk name entered in the include_spec parameter.

/ADD
Use this qualifier to add a disk or file name to the include_spec parameter for the existing restore request.

Restriction:
You cannot specify more than eight disk or file names per restore request. If you attempt to add more than eight disk or file names, ABS generates an error.

/REMOVE
Use this qualifier to remove a disk or file name from the include_spec on an existing restore request.

This qualifier also works in conjunction with /ACCESS_CONTROL qualifier that accepts a user name to remove the Access Control Entries being associated with the object, ABS will grant all the Access Rights to the owner of the object.

Examples:

To remove Access Control Entry for the user NODE1::USER1 from an existing RESTORE request named REST1, see the following example:

```
$ ABS SET RESTORE REST1 /ACCESS_CONTROL = -
_$(USER=NODE1::USER1)/REMOVE
```

Restriction:
You must have at least one disk or file name remaining in the include_spec parameter. If you attempt to remove all the disk or file names, ABS generates an error.

More Information:
See ABS RESTORE for the remaining qualifier descriptions.

Examples

1. To remove the prologue and epilogue commands from an existing restore request named USER1_RESTORE, see the following example:

   ```
   $ ABS SET RESTORE USER1_RESTORE/NOPROLOGUE/NOEPILOGUE
   ```

2. To add an OpenVMS disk to the restore request, see the following example of the original ABS RESTORE and the ABS SET RESTORE commands:

   Original restore request:

   ```
   $ ABS RESTORE/NAME=DISK_RESTORE DISK$USER2:/OBJECT_TYPE=VMS_FILES
   ```

   Modified restore request:

   ```
   $ ABS SET RESTORE DISK_RESTORE DISK$USER1:/ADD
   ```

ABS SET SAVE

This command modifies an existing save request in ABS policy database.

Format

ABS SET SAVE	{name}	[/ACCESS_CONTROL] [/CONFIRM] [/ENVIRONMENT] [/EPILOGUE] [/EXPLICIT] [/INCREMENTAL] [/OWNER] [/PROLOGUE] [/SCHEDULE_OPTION] [/SELECTIVE] [/SEQUENCE_OPTION] [/START_TIME]	{include_spec}	[/ADD] [/AGENT_QUALIFIERS] [/BEFORE] [/EXCLUDE] [/OBJECT_TYPE] [/REMOVE] [/SINCE] [/SOURCE_NODE] [/STORAGE_CLASS]	[...,]

Parameters

name
The name of the save request that you want to modify.

include_spec
This optional parameter enables you to modify the include_spec on an existing save request. You can add or remove a disk or file name using /ADD or /REMOVE qualifiers.

Restrictions

- The requesting process must have the SET access control enabled on the save request.
- You cannot modify the name of a save request.

Qualifiers

The qualifiers for ABS SET SAVE command are exactly the same as for ABS SAVE command with the exception of the following qualifiers:

Nonpositional Qualifiers

The following nonpositional qualifiers are applied to the entire ABS SET SAVE command.

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Adds an access control entry in the policy's access control list. If the user_id matches any of the existing user_ids in the access control entries, the access rights are replaced for the user.

The /REMOVE in conjunction with this qualifier will remove the access control entry for the user.

/CONFIRM
/NOCONFIRM (default)
Specify the /CONFIRM qualifier to prompt the user for confirmation before modifying the save request.

Positional Qualifiers

The following positional qualifiers are applied to each disk or file name in the include_spec parameter

/ADD
Use this qualifier to add a disk or file name to the include_spec parameter for an existing save request.

Restriction:
You cannot specify more than twenty four disk or file names per save request. If you attempt to add more than twenty four disk or file names, ABS generates an error.

/REMOVE
Removes a disk for file name from the include_spec parameter on an existing save request.

This qualifier also works in conjunction with /ACCESS_CONTROL qualifier that accepts a user name to remove the Access Control Entries for the specified user. If this operation results in no Access Control Entries being associated with the object, ABS will grant all the Access Rights to the owner of the object.

Examples:

To remove Access Control Entry for the user NODE1::USER1 from an existing SAVE request named SAVE1, see the following example:

```
$ ABS SET SAVE SAVE1 /ACCESS_CONTROL=(USER=NODE1::USER1)/REMOVE
```

Restriction:
You must have at least one disk or file name remaining in the include_spec parameter. If you attempt to remove all the disk or file names, ABS generates an error.

More Information:
See ABS SAVE for the remaining qualifier descriptions.

Examples

1. To remove the prologue and epilogue commands from an existing save request named USER1_SAVE, see the following example:

   ```
   $ ABS SET SAVE USER1_SAVE/NOPROLOGUE/NOEPILOGUE
   ```

2. To change the object type, see the following example of the original ABS SAVE and the ABS SET SAVE commands:

   Original Save Request:

   ```
   $ ABS SAVE/NAME=USER1_SAVE DISK$USER1:[USER1]ACCOUNTING.RDB -
    /OBJECT_TYPE=RDB_V6.0_DATBASE
   ```

   Modified Save Request:

   ```
   $ ABS SET SAVE USER1_SAVE DISK$USER1:[USER1]ACCOUNTING.RDB -
    /OBJECT_TYPE=RDB_V6.1_DATABASE
   ```

3. To add a file name to an existing save request, see the following example:

   ```
   $ ABS SET SAVE MY_SAVE LOGIN.COM/ADD
   ```

4. To remove a file name froman existing save request, see the following example:

   ```
   $ ABS SET SAVE MY_SAVE LOGIN.COM/REMOVE
   ```

ABS SET STORAGE_CLASS

This command modifies an existing storage policy in ABS policy database.

Format

ABS SET STORAGE_CLASS	[/ACCESS_CONTROL] [/ARCHIVE_TYPE] [/CATALOG] [/CONFIRM] [/CONSOLIDATION] [/DRIVE_LIST] [/EXECUTION_NODE] [/EXPIRATION] [/LOCATION] [/MAXIMUM_SAVES] [/MEDIA_LOCATION] [/OWNER] [/REMOVE] [/RETAIN] [/TAPE_POOL] [/TYPE_OF_MEDIA] [/VOLUME_SET]	{name}

Parameters

name
The name of the storage policy that you want to modify.

Restrictions

- The requesting process must have the SET access control enabled on the storage policy.
- The requesting process must be logged into ABS server node.

Qualifiers

The qualifiers for ABS SET STORAGE_CLASS command are exactly the same as for ABS CREATE STORAGE_CLASS command with the exception of the following qualifiers:

/ACCESS_CONTROL=(user_id=user-name,access="option[,...]")
Adds an access control entry in the policy's access control list. If the user_id matches any of the existing user_ids in the access control entries, the access rights are replaced for the user.

The /REMOVE in conjuction with this qualifier will remove the access control entry for the user.

/CONFIRM
/NOCONFIRM (default)
Specify the /CONFIRM qualifier to prompt the user for confirmation before modifying the storage policy.

/REMOVE
This qualifier works in conjunction with /ACCESS_CONTROL qualifier that accepts a user name to remove the Access Control Entries for the specified user. If this operation results in no

Access Control Entries being associated with the object, ABS will grant all the Access Rights to the owner of the object.

Examples:

To remove Access Control Entry for the user NODE1::USER1 from an existing EXECUTION ENVIRONMENT named ENVIR1, see the following example:

```
$ ABS SET ENVIRONMENT ENVIR1/ACCESS_CONTROL= -
_$(USER=NODE1::USER1)/REMOVE
```

More Information:

See ABS CREATE S TORAGE_CLASS for the remaining qualifier descriptions.

Example

1. To change the retention period and to remove the drive list from an existing storage policy named 3_YEAR, see the following example:

```
$ ABS SET STORAGE_CLASS 3_YEAR/RETENTION=1095/NODRIVE_LIST
```

ABS SHOW ENVIRONMENT

This command displays either a particular ABS environment policy or, if you use wildcard characters, displays all of the ABS environment policies. Each environment policy display shows some or all of the characteristics associated with the environment policy, depending upon the command's associated qualifiers.

Format

ABS SHOW ENVIROMENT	[/BRIEF] [/FULL] [/OUTPUT] [/VERSION]	{name}

Parameters

name
The name of the environment policy that you want to show. The following wildcard characters are permitted:

- Asterisk (*)
- Percent sign (%)

Restrictions

- You must have the SHOW access right identifier enabled on the environment policy that you want to show, or you must enable the access rights identifier ABS_SHOW_ALL or ABS_BYPASS on your user process.

Qualifiers

/BRIEF (default)
Displays only the most important information about the environment policy.

Default:
This is the default behavior for ABS.

/FULL
Displays all the information about the environment policy.

Default:
If you do not specify this qualifier, ABS uses the /BRIEF qualifier.

/OUTPUT=file-spec
Specifies the name of the file to output the information to instead of to SYS$OUTPUT.

Default:
If you do not specify a file name for this qualifier, ABS displays the information to SYS$OUTPUT.

/VERSION=number
Use this qualifier to specify the version of the environment policy that you want to show.

Default:
If you do not specify this qualifier, ABS displays the most recent version.

ABS SHOW REQUEST_STATUS

This command allows you to show the status of a save request. The information displayed for this command consists of the time stamp, the file count, and the current status of the save request.

Format

ABS SHOW REQUEST_STATUS	{request_name}

Parameter

request_name
The name of the save request.

Restrictions

None.

Qualifiers

None.

Example

To use this command, you must define the following logical name:

```
$ DEFINE/SYSTEM ABS$MONITOR_UPDATE_INTERVAL 30
```

Where:

30 is the number of seconds that you desire between updates.

1. To show the status of a save request, enter the following command at the system prompt:

```
$ ABS SHOW REQUEST_STATUS MY_SAVE

TimeStamp: 21-AUG-1998 10:08:37.37
FileSaved: Information Currently Not Available
Status of request: Getting tape drives and volumes.

$ ABS SHOW REQUEST_STATUS MY_SAVE

TimeStamp: 21-AUG-1998 10:11:39.23
Files Saved: 2
Last file saved: DISK$USER:[TEST]FILE1.DAT
```

ABS SHOW RESTORE

This command displays either a specified ABS restore request or, if wildcard characters are used, displays all ABS restore requests owned by the requesting process. Each displayed restore request shows all or some of the characteristics associated with that restore request, depending upon the qualifiers associated with the command.

Format

ABS SHOW RESTORE	[/BRIEF] [/FULL] [/OUTPUT] [/SYMBOLS] [/VERSION]	{name}

Parameters

name
The name of the restore request that you want to show. The following wildcard characters are permitted:

- Asterisk (*)
- Percent sign (%)

Restrictions

You must have the SHOW access right identifier enabled on the restore request that you want to show, or you must enable the access rights identifier ABS_SHOW_ALL or ABS_BYPASS on your user process.

Qualifiers

/BRIEF (default)
Displays only the most important information about the restore request.

Default:
This is the ABS default behavior.

/FULL
Displays all the information about the restore request.

Default:
If you do not specify this qualifier. ABS uses the /BRIEF qualifier.

/OUTPUT=file-spec
Specifies the name of the file to output the information to instead of the SYS$OUTPUT.

Default:
If you do not specify a file name for this qualifier, ABS displays the information to SYS$OUTPUT.

/SYMBOLS

Stores selected RESTORE set information in process symbols. The following table contains the symbols that are created:

Table 1–6 Symbols

Symbols	Description
ABS_EXCUTION_NODE	Execution node that will run the job
ABS_NAME	Name of the restore request. See /NAME
ABS_OBJECT_TYPE	Specifies the type of data to restore. See /OBJECT_TYPE
ABS_START_TIME	Time the restore requested was set to start. See /START_TIME
ABS_STORAGE_CLASS	Name of the storage class used for this restore operation.
ABS_TARGET_NODE	Target node for the restore. See /TARGET_NODE
ABS_UID	Unique id used by ABS to identify the specific restore request
ABS_USER_NAME	Currently set as "ABS"
ABS_VMS_COMMAND	ABS command to execute the restore, uses the UID

Restrictions:

The wild card character "*" is not allowed as the object name. The qualifiers /BRIEF or /FULL are not allowed when specifying /SYMBOLS.

Default:
If you do not specify the qualifier, no process symbols are created.

/VERSION=number
Use this qualifier to specify the version of the restore request that you want to show.

Default:
If you do not specify this qualifier, ABS displays the most recent version.

ABS SHOW SAVE

This command displays either a specified ABS save request, or if wildcard characters are used, displays all ABS save requests owned by the requesting process. Each displayed save request shows some or all of the characteristics associated with that save request, depending upon the qualifiers associated with the SHOW SAVE command.

Format

ABS SHOW SAVE	[/BRIEF] [/FULL] [/OUTPUT] [/SYMBOLS] [/VERSION]	{name}

Parameters

name
The name of the save request that you want to show. The following wildcard characters are permitted:

- Asterisk (*)
- Percent sign (%)

Restrictions

You must have the SHOW access right identifier enabled on the save request that you want to show, or you must enable the access rights identifier ABS_SHOW_ALL or ABS_BYPASS on your process.

Qualifiers

/BRIEF (default)
Displays only the most important information about the save request.

Default:
This is ABS default behavior.

/FULL
Displays all the information about the save request.

Default:
If you do not specify this qualifier. ABS uses the /BRIEF qualifier.

/OUTPUT=file-name
Specifies the name of the file to output the information to instead of to SYS$OUTPUT.

Default:
If you do not specify a file name for this qualifier, ABS displays the information to SYS$OUTPUT.

/SYMBOLS

Stores selected SAVE information in process symbols. The following table contains the symbols that are created:

Table 1–7 Symbols

Symbols	Description
ABS_EXECUTION_NODE	Execution node that will run the job
ABS_EXPLICIT	Contains a time formatted explicit scheduler interval. See /EXPLICIT
ABS_NAME	Name of the save request. See /NAME
ABS_OBJECT_TYPE	Specifies the type of data to save. See /OBJECT_TYPE
ABS_SCHEDULE_OPTION	Displays the scheduling option for the save request. See /SCHEDULE_OPTION
ABS_SOURCE_NODE	Source node for the save. See /SOURCE_NODE
ABS_START_TIME	Time the save requested was set to start. See /START_TIME
ABS_STORAGE_CLASS	Name of the storage class used for this save operation. See /STORAGE_CLASS
ABS_UID	Unique id used by ABS to identify the specific save request
ABS_USER_NAME	Currently set as "ABS"
ABS_VMS_COMMAND	ABS command to execute the save, uses the UID

Restrictions:

The wild card character "*" is not allowed as the object name. The qualifiers /BRIEF or /FULL are not allowed when specifying /SYMBOLS.

Default:
If you do not specify the qualifier, no process symbols are created.

/VERSION=number
Use this qualifier to specify the version of the save request that you want to show.

Default:
If you do not specify this qualifier, ABS displays the most recent version.

ABS SHOW STORAGE_CLASS

This command displays either a specified ABS storage policy, or if wildcard characters are used, displays all ABS storage policies. Each displayed storage policy shows some or all of the characteristics associated with that storage policy, depending upon the qualifiers used with the command.

Format

ABS SHOW STORAGE_CLASS	[/BRIEF] [/FULL] [/OUTPUT] [/VERSION]	{name}

Parameters

name
Specifies the name of the storage policy to show. The following wildcard characters are supported:

- Asterisk (*)
- Percent sign (%)

Restrictions

You must have the SHOW access right identifier enabled on the storage policy that you want to show, or you must enable the access rights identifier ABS_SHOW_ALL or ABS_BYPASS on your user process.

Qualifiers

/BRIEF (default)
Displays only the most important information about the storage policy.

Default:
This is default behavior for ABS.

/FULL
Displays all the information about the storage policy.

Default:
If you do not specify this qualifier. ABS uses the /BRIEF qualifier.

/OUTPUT=file-name
Specifies the output file name for the information about the SHOW STORAGE_CLASS command.

Default:
If you do not specify a file name for this qualifier, ABS displays the information to SYS$OUTPUT.

/VERSION=number
Use this qualifier to specify the version of the storage policy that you want to show.

Default:
If you do not specify this qualifier, ABS displays the most recent version.

ABS SHOW VERSION

This command allows you to show the version of ABS software and its related component versions.

Format

```
ABS SHOW VERSION
```

Parameter

None.

Restrictions

The version of ABS$SYSTEM:ABSPOLICY_ENGINE.EXE is not displayed on ABS client system as this file is not supplied on ABS clients.

Qualifiers

None.

ABS SPAWN

This command enables you to spawn out of ABS process and provides a DCL prompt. To resume ABS process, log out at the DCL prompt.

Format

```
ABS SPAWN [DCL Command]
```

Parameters

DCL Command
Enter any valid DCL command.

Restrictions

None.

Qualifiers

None.

Examples

To spawn out of ABS process and enter a DCL command, use the following format:

```
ABS> SPAWN DIRECTORY A.*
```

Result:

ABS returns you to the system prompt and executes the DIRECTORY DCL command.

```
ABS> SPAWN DIRECTORY A.*

Directory DISK$USER:[USER]
A.COM;1                 A.EXE;1

Total of 2 files
```

After the DCL command has completed, you are automatically reattached to ABS process.

```
ABS>
```

ABS SYNCHRONIZE

This command allows a DCL command procedure to synchronize with the completion of a save or restore operation.

Format

ABS SYNCHRONIZE	[/SERVERITY] [/STATUS]	{name}

Parameters

name
Specifies the name of the save or restore request to synchronize with. This name must match the save or restore request name returned when the save or restore request was created.

In a user-written command procedure, the save or restore request name returned through a process symbol named ABS$REQUEST_NAME by ABS SAVE, ABS RESTORE, ABS SET SAVE, ABS SET RESTORE commands can be used. However, if you know the name of the save or restore request, use the request name to synchronize with.

Restrictions

None.

Qualifiers

/SEVERITY=symbol
Specifies the name of the symbol to use to return the severity of the completing save or restore request.

Default:
If you do not specify this qualifier, ABS does not create a severity symbol.

/STATUS=symbol
Specifies the name of the symbol to use to return the status of the completing save or restore request.

Default:
If you do not specify this qualifier, ABS does not create a status symbol.

Examples

1. To enable the command procedure to wait for the completion of a save request, enter the following commands:

```
ABS> SAVE TEST.DAT/NAME=MY_BACKUP
ABS> SYNCHRONIZE MY_BACKUP
```

2. To enable the command procedure to wait for the completion of a restore request, enter the following commands:

```
ABS> RESTORE TEST.DAT/NAME=MY_REQUEST
ABS> SYNCHRONIZE MY_REQUEST
```

3. If you have more than one drive available to perform simultaneous save operations, you can synchronize with each of those save requests.

   For example, if you have three drives and you want to use them simultaneously, enter the following lines in your command procedure:

```
$ ABS SAVE DISK$USER1/NAME=DISK$USER1_BACKUP
$ ABS SAVE DISK$USER2/NAME=DISK$USER2_BACKUP
$ ABS SAVE DISK$USER3/NAME=DISK$USER3_BACKUP
$ ABS SYNCHRONIZE DISK$USER1_BACKUP
$ ABS SYNCHRONIZE DISK$USER2_BACKUP
$ ABS SYNCHRONIZE DISK$USER3_BACKUP
```

4. If you want to synchronize save/restore requests in your scheduling product, you can utilize a command procedure which executes the request, followed by a synchronize, followed by the execution of the next request.

   In this command procedure, Job2 will be executed when job1 completes:

```
$ <Execute> job1
$ ABS SYNCHRONIZE job1
$ <Execute> job2
```

Note

"Execute" should be replaced with the appropriate command for your scheduling product.

Part II

MDMS Commands

This part of the document contains MDMS DCL 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 OpenVMS local device name and the drive name.

MDMS supports allocation of both local drives and remote drives (using the RDF software). However, allocation of remote drives through RDF is not available if you are running with the ABS-OMT license.

MDMS attempts to allocate a drive local to the node performing the allocation, if one matches the selection criteria. Failing that, a TMSCP-accessible drive is chosen next. If that fails, an RDF-accessible remote drive is chosen.

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 allocated VMS device name and drive 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 to be allocated 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 to be allocated. This media type must match one defined for a drive in the media type attribute (for read/write allocation), or in the read only media type attribute (for read-only allocation).

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. 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.

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 device name and 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, a Free 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.
- /MEDIA_TYPE is required when either /JUKEBOX or /LOCATION are specified.

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. 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

When specified with /MEDIA_TYPE, 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
When specified with /MEDIA_TYPE, specifies the location from which to allocate volume(s). If not specified, 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 acquires the default transition time from the domain object. 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 volume’s 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. 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

- Access to drives is restricted on allocate requests – for example, it is not possible to allocate a drive designated as local access remotely using RDF. However, with the proper rights, it is possible to issue other MDMS commands (such as LOAD) both locally and remotely.

/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 device 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 is specified, 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. If the drive is set to the default /NOSHARED, the MDMS server allocates the drive at all times it is not used by an application or user. Setting the drive to /SHARED clears this allocation.

/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.

/STATE=state
This is a protected field that should be modified only to recover on error. Use the LOAD and UNLOAD commands to manipulate the state field under normal operation. The /STATE qualifier sets the current drive state. The valid keywords 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 current 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 /JUKEBOX=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 might 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)

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. This option is not available when running with the ABS-OMT license: control is hard-coded to MRD.

/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 /SLOT_COUNT 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
This is a protected field that should be modified only to recover on error. Use the LOAD, UNLOAD or MOVE commands to manipulate the state field under normal operation. The /STATE qualifier specifies the usage state of the jukebox. 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 7 slots 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 140 slots range and controlled by robot 1DUA600 in group COOKIE. The control type is MRD by default and magazines are not supported.

```
$ 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 parent location, thus creating a location hierarchy. If there is no parent location, specify /NOLOCATION. Use parent locations to allow selection of volumes or drives in compatible locations. One location is compatible with another if it has a common parent location in the hierarchy. If you do not wish to utilize the compatible location feature, do not specify parent locations. Locations with common parents are most useful where the parents and siblings are in close proximity to one another (e.g. rooms 101 and 102, with parent location floor 1), and selection of volumes or drives from any of the locations is desired. Do not use parent locations across larger distances.

/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.

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
This is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the jukebox name under normal operations. This qualifier specifies the name of the jukebox in which the magazine resides. 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 is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the placement under normal operations. This qualifier defines the current placement of the magazine. The following options are available:

- JUKEBOX
- OFFSITE
- ONSITE
- MOVING

This qualifier requires the right MDMS_SET_PROTECTED.

/POSITION=(tower,face,level)
This is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the position under normal operations. The /POSITION qualifier specifies the position in the jukebox where the magazine resides.
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 is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the start slot under normal operations. This qualifier specifies the starting jukebox slot when the magazine is placed in a jukebox.

This qualifier requires the right MDMS_SET_PROTECTED.

Examples

```
$ 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=10-JUL-2001) -
/OFFSITE=(LOCATION=DPS, DATE=10-JUL-2000)
```

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 `10-Jul`-2001 to location DPS, and back onsite on `10-Jul`-2001.

```
$ 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. 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 dataase 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 when the DECnet transport has been enabled if the node is running DECnet-Plus. 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 when 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 should 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)
```

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 and ranges must be numerically increasing.

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
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. The default cleaned date is the date/time the volume was created.

/CREATION_DATE=date
/NOCREATION_DATE
The date the volume is created. This attribute is set by MDMS, but may be overridden if necessary. The default creation date is the date/time the volume was created.

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
This is a protected field that should only be modified to recover on error. Use the LOAD and UNLOAD commands to set up the drive under normal operations. This qualifier 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 (i.e. put 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.

/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 date
- 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 is a protected field that should only be modified to recover on error. Use the MOVE VOLUME command to set up the jukebox name under normal operations. 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. 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 loaded by MDMS. 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
This is a protected field that should only be modified to recover on error. Use the MOVE VOLUME command to set up the magazine name under normal operations. This qualifier specifies the magazine name if the volume resides in a magazine. 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 by MDMS. 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 is a protected field that should only be modified to recover on error. Use the MOVE VOLUME command to set up the placement under normal operations. This qualifier defines the current placement of the volume. 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 to which the volume belongs. The maximum length of the pool name is 31 characters. Spaces are not allowed in the pool name. If no pool is specified, the volume is considered to be part of a scratch pool and can be allocated by any user.

/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. This protection is written to volumes when initialized by MDMS. If not specified, the default protection from the domain record is used.

/PURCHASED_DATE=date
/NOPURCHASED_DATE
The date when the volume was purchased. The date should be specified as an OpenVMS absolute time. Specify /NOPURCHASED_DATE to clear the purchased date. The default purchased date is the date/time that the volume was created.

/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. If the volume was in a volume set, the volume set relationships are retained.

/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
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
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 modifying 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 is a protected field that should only be modified to recover on error. Use the ALLOCATE VOLUME and DEALLOCATE VOLUME commands to set up the state under normal operations. 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 acquires the default transition time from the domain object.

/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 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 juke-box JUKE_1, and the volume labels are generated using the vision system, and other attributes are inherited from 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 deallocated date plus transition time has expired, or if you issue a DEALLOCATE VOLUME/STATE=FREE command. If you deallocate a volume set, the volume set relationships are invalidated, but can be recovered on a SET VOLUME/RETAIN. The volume set relationships are deleted on the next allocation of the volume.

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. If the state is not specified and no transition time is specified, the deallocation state in the domain record is used.

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.
If /NOTRANSITION_TIME is specified, the volume goes directly into the free state on deallocate. If not specified, the existing transition time in the volume record is used, and if none, the default transition time in the domain 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 username 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 deallocates all volumes in the volume set. If /NOVOLSET is specified, the specified volume is deallocated. This qualifier is ignored if the volume is not in a set. You cannot deallocate the first volume in a volume set using /NOVOLSET.

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

Example

```
$ 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

Example

```
$ 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

Example

```
$ 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

Example

```
$ 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

Example

```
$ MDMS DELETE VOLUME ABC001-ABC099
```

This command deletes the records for volumes ABC001 to ABC099.

MDMS EXIT

The EXIT command exits from the MDMS prompt and returns to the DCL command line. An exit can also be accomplished by typing Ctrl/Z.

Equivalent STORAGE Command: STORAGE EXIT

Format

MDMS> EXIT

Parameters

None

Description

The EXIT command exits from the MDMS prompt and returns to the DCL command line. An exit can also be accomplished by typing Ctrl/Z.

Privileges

None

Restrictions

None

Qualifiers

None

Example

```
MDMS> EXIT

$
```

This command exits from the MDMS prompt.

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.

Each initialize volume command utilizes a single tape drive for all volumes. To utilize multiple drives, issue multiple *initialize volume* commands specifying a different volume or slot range, and use the /NOWAIT qualifier.

By default, volumes that have a different label than expected and have data written on them are not initialized. However, you can override this check and allow the initialization with the /OVERRIDE qualifier. Note that volumes with labels that are flagged as allocated or in the transition state cannot be initialized under any circumstances.

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

/DRIVE=drive_name
This qualifier indicates the volume to be initialized is already in the specified drive and should not be loaded or unloaded. This supports an initialize in place. Only one volume may be specified with this option.

/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 record 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 unexpected labels and 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 INITIALIZE VOLUME TLZ001/DRIVE=DRIVE_1
```

This command initializes volume TLZ001, which is already loaded in drive DRIVE_1, and does not unload the drive afterwards. The drive must either be allocated to the calling user or not allocated at all.

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. Following the inventory, all volumes previously marked as in the jukebox but not found in the jukebox will have their placement adjusted according to the /MISSING qualifier (or placed in the onsite location by default).
- If a volume range is specified, all volumes in the range will be inventoried and their slot positions verified and updated as needed. The volume range option is only available on jukeboxes supporting a VISION system, and /VISION is specified or defaulted in the command.
- For systems with vision systems, the inventory is performed by querying the jukebox firmware as to slot/drive/port contents. A physical inventory is not performed unless the /NOVISION qualifier is specified 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. Inventorying 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 – Leave in jukebox (slot position is set to NONE to avoid duplicate volumes in slots)
- 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. An example slot specification is (0,1,5-10), which would inventory slots 0, 1, 5, 6, 7, 8, 9 and 10.

/VISION (D)
/NOVISION
Specifies whether the inventory should be performed with the vision system on jukeboxes so equipped. A vision inventory reads the internal memory of the jukebox to perform the inventory; a physical inventory is not performed. 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) /MISS-
ING=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 onsite 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
If /CREATE is specified, 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)
/NOMOVE
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 previously-allocated drive and mounts the volume with
"/NOUNLOAD" qualifier and verifies the volume label. The quotes are required.

```
$ MDMS LOAD VOLUME ABC020 /NOCHECK /DRIVE=$1$MUA1:
```

This command loads volume ABC020 into drive 1MUA1: 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 /START_SLOT=11
```

This command moves magazine MAG002 from its current location into jukebox JUKE_1 at start slot of 11.

```
$ MDMS MOVE MAGAZINE * /SCHEDULE=OFFSITE
```

This command moves all magazines whose offsite date has expired to the magazine's offsite location.

$ MDMS MOVE MAGAZINE * /SCHEDULE

This command moves all magazines whose offsite and onsite dates have expired to the magazine's offsite and onsite locations respectively.

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, STORAGE UNBIND

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. For /SCHEDULE, 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.

When moving volumes into a jukebox or magazine, the specification of slots is optional. If not supplied, MDMS will apply default values and move the volumes into empty slots.

This command is not used to load volumes into or out of drives.

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 at slots (0–6). Note that this replaces the old STORAGE BIND command.

```
$ MDMS MOVE VOLUME * /SCHEDULE=OFFSITE
```

This command moves all volumes whose offsite date has expired to the volumes' offsite location.

```
$ MDMS MOVE VOLUME ABC001-ABC100 ARGUS_VAULT /SCHEDULE=OFFSITE
```

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 respectively.

```
$ MDMS MOVE VOLUME ALS100-ALS150 WOLFCREEK /CAP=1
```

This command moves volumes ALS100-ALS150 into DCSC jukebox WOLFCREEK 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. lists the fields that can be specified.

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.

Note

At least one field must be defined for a report to be generated, except when /FORECAST or /SUMMARY is entered.

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
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 loaded by MDMS	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 OpenVMS 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 OpenVMS 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
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

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 types of report 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
```

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 default /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.

/APPLICATION_RIGHTS[=(right[,...])
/NOAPPLICATION_RIGHTS
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. This state is applied to volumes that are deallocated when no specific state is specified on the deallocate request and the volume record does not have a transition time defined.

/DEFAULT_RIGHTS[=(right[,...])]
/NODEFAULT_RIGHTS
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 (i.e. no rights) are 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 default rights.

This qualifier requires the right MDMS_SET_RIGHTS.

Refer to the Appendix - MDMS Rights and Privileges for details.

/MAIL_USERS=(user[,...])
/NOMAIL_USERS (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. 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	

/OPERATOR_RIGHTS[=(right[,...])]
/NOOPERATOR_RIGHTS
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 OpenVMS 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.

/USER_RIGHTS[=(right[,...])]
/NOUSER_RIGHTS
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=(NORTON,CRANDLE) /REPLACE
```

This command specifies that OpenVMS Cluster users Norton and Crandle are to be the only users notified on 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 /OPERATOR_RIGHTS=(MDMS_SET_ALL, MDMS_SET_PROTECTED)
```

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
- Access to drives is restricted on allocate requests – for example, it is not possible to allocate a drive designated as local access remotely using RDF. However, with the proper rights, it is possible to issue other MDMS commands (such as LOAD) both locally and remotely.

/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. Use this qualifier to specify the OpenVMS device name if it is different from the drive name. Do not include a node specification (NODE::drive) in the device 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. A drive number value must be specified for multi-drive MRD-controlled juke-boxes.

/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.

/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 is specified, 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. If the drive is set to the default /NOSHARED, the MDMS server allocates the drive at all times it is not used by an application or user. Setting the drive to /SHARED clears this allocation.

/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.

/STATE=state
This is a protected field that should be modified only to recover on error. Use the LOAD and UNLOAD commands to manipulate the state field under normal operation. The /STATE qualifier sets the current drive state. The valid keywords are:

- Empty:
- Full
- Loading
- Unloading

This qualifier requires the right MDMS_SET_PROTECTED.

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 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. This option is not available when running with the ABS-OMT license: control is hard-coded to MRD.

/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.

/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.

/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 MRD jukebox, either the slot count or topology must be specified. Valid for MRD-controlled jukeboxes only.

/STATE=keyword
This is a protected field that should be modified only to recover on error. Use the LOAD, UNLOAD or MOVE commands to manipulate the state field under normal operation. The /STATE qualifier specifies the usage state of the jukebox. 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 with magazines. 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 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 parent location, thus creating a location hierarchy. If there is no parent location, specify /NOLOCATION. Use parent locations to allow selection of volumes or drives in compatible locations. One location is compatible with another if it has a common parent location in the hierarchy. If you do not wish to utilize the compatible location feature, do not specify parent locations. Locations with common parents are most useful where the parents and siblings are in close proximity to one another (e.g. rooms 101 and 102, with parent location floor 1), and selection of volumes or drives from any of the locations is desired. Do not use parent locations across larger distances.

/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
This is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the jukebox name under normal operations. This qualifier specifies the name of the jukebox in which the magazine resides. 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 is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the placement under normal operations. This qualifier defines the current placement of the magazine. The following options are available:

- JUKEBOX
- OFFSITE
- ONSITE
- MOVING

This qualifier requires the right MDMS_SET_PROTECTED.

/POSITION=(tower,face,level)
This is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the position under normal operations. The /POSITION qualifier specifies the position in the jukebox where the magazine resides.
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 is a protected field that should only be modified to recover on error. Use the MOVE MAGAZINE command to set up the start slot under normal operations. This qualifier specifies the starting jukebox slot when the magazine is placed in a jukebox.

This qualifier requires the right MDMS_SET_PROTECTED.

Example

```
$ MDMS SET MAGAZINE MYMAG01 /ONSITE=(LOCATION=SHELF_20) /SPACES=S4
```

This command modifies the onsite 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 capaccity, 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. 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.

/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 - 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 fullnames should be stored as attributes of the node. Do not use the node name to specify fullnames.

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.

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.

/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

Example

```
$ MDMS SET NODE COOKIE /OPCOM=(TAPES, OPER1)
```

This command modifies a node COOKIE by adding OPCOM classes TAPES and OPER1 go 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 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_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 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.

/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.

Example

```
$ MDMS SET POOL TEST_POOL/AUTHORIZE=(COOKIE::ABS, COOKIE::HSM)
```

This command adds authorized users COOKIE::ABS and COOKIE::HSM to a pool called TEST_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 attribute 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. 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.

/DRIVE=drive_name
/NODRIVE
This is a protected field that should only be modified to recover on error. Use the LOAD and UNLOAD commands to set up the drive under normal operations. This qualifier 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 (i.e. put 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.

/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 is a protected field that should only be modified to recover on error. Use the MOVE VOLUME command to set up the jukebox name under normal operations. 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. 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
This is a protected field that should only be modified to recover on error. Use the MOVE VOLUME command to set up the magazine name under normal operations. This qualifier specifies the magazine name if the volume resides in a magazine. 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 by MDMS. 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 is a protected field that should only be modified to recover on error. Use the MOVE VOLUME command to set up the placement under normal operations. This qualifier defines the current placement of the volume. 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. This qualifier always operates on volume sets.

/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. If the volume was in a volume set, the volume set relationships are retained. This qualifier always operates on volume sets.

/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
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
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 is a protected field that should only be modified to recover on error. Use the ALLOCATE VOLUME and DEALLOCATE VOLUME commands to set up the state under normal operations. 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 acquires the default transition time from the domain object when the volume is deallocated.

/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.

/VOLSET
/NOVOLSET (D)
This qualifier specifies that all changes apply to the entire volume set. By default, attributes apply to a single volume or volume range specified. Exceptions to this are SET VOLUME/RETAIN and SET VOLUME/RELEASE, which always act on a volume set.

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 /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 wildcard, 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
```

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
      Load 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
```

The "Volume" field represents the magnetic volume label read from the drive, and will show as BLANK if there is no ANSI label on the volume. The "Load Volume" field represents the volume label as indicated on the barcode label on the volume, or the requested volume name in a load volume command.

These fields should always be the same for correct ABS/HSM operation. If they are different, you should use the "Load Volume" name for unload operations, or issue an UNLOAD DRIVE command.

MDMS SHOW GROUP

The MDMS SHOW GROUP command displays information about specified 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 group_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.

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 jukebox_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.

/CONTENTS
Display information about the contents of the jukebox - drives, slots, volumes and magazines.

/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 /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 location, 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.

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
```

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
```

In Location: CXN

MDMS SHOW MAGAZINE

The MDMS SHOW MAGAZINE command displays information about specified magazine(s) 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, subject to the /SCHEDULE qualifier. Wildcard characters are allowed in the magazine_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.

/CONTENTS
Display information about the contents of the magazine - slots and volumes.

/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. Do not specify a magazine name with this qualifier.

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 media_type, where * represents a variable-length wildcard, and % represents a single character wildcard.

Description

The MDMS SHOW MEDIA_TYPE command displays information about specified media type(s) or all media types defined in the MDMS configuration database.

Privileges

The request requires MDMS_SHOW_ALL.

Restrictions

None.

Qualifiers

/BRIEF
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 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 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) 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 node_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
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 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) 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 pool_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 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 REQUESTS command displays information about requests currently active in the domain. Certain recently-completed requests may also be shown. If no request_id is specified, all requests are shown subject to privilege. In addition, requests from 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 request 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=(node_name[,...])
Displays information about the server on the specified node(s). 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 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, DECnet-Plus (Phase V) node PARANOID and TCP/IP node DISORDERS.

```
$ MDMS SHOW SERVER /NODE=SYS001

           Server node name:  SYS001
            TCP/IP Fullname:  SYS001.DOM.CORP.COM:2501-2510
       DECnet-Plus Fullname:
                 Transports:  TCPIP,DECNET
             Server Version:  V3.2A(388)
```

```
                     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: V3.2A(388)
  Shareable Image Version: V3.2A(388)
          Server Version: V3.2A(388)
```

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 volume_id, 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 and /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. Do not specify a volume_id with this qualifier.

/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 (D)
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. If there is a discrepancy between the “Load Volume” and “Volume” fields in a SHOW DRIVE display, try the “Load Volume” field first for unload. If this does not work, try the “Volume” field next. Finally, try UNLOAD DRIVE.

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.

A

MDMS V3 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.

A.1 MDMS Rights - Types

MDMS has the following rights:

- High-level rights
- Low level rights
- ABS rights

A.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 A-1:

Table A–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.

High Level Rights

You can disable the mapping of SYSPRV to MDMS_ALL_RIGHTS using a SET DOMAIN command

A.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 command. 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 A–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
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

A.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 A–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
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

A.2 Default High-Level to Low-Level Mapping

This section defines the default high to low-level mapping for each high-level right.

A.2.1 MDMS_USER:

Table A–4MDMS_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

A.2.2 MDMS_OPERATOR Rights:

Table A–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

A.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 A–1

```
SET DOMAIN /OPERATOR_RIGHTS=MDMS_SET_PROTECTED /ADD
```

This command adds the MDMS_SET_PROTECTED right to the operator rights list.

B

MDMS Files and Logical Names

The 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 B.1 lists names of the files installed and Section B.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.

B.1 MDMS File Names

Table B–1 contains the names of all MDMS files created on the system after MDMS V3.2A is successfully installed.

Note

Some files may not be installed depending on the options you select.

Table B–1 MDMS Installed Files

File Name	File Name
SYS$HELP	
MDMS.HLP	MDMSA032.RELEASE_NOTES
MDMSA032.RELEASE_NOTES.PS	
SYS$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
SYS$STARTUP	

Table B–1 MDMS Installed Files

File Name	File Name
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 B–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

B.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 B–2describes the logical names in the system table

Table B–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.NODE3` 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 V3.2A server. If you do not have any SLS/MDMS V2.9x clients, define this logical as FALSE.

Table B–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 or HSM should use MDMS V3.x. If ABS or HSM is not supposed to use MDMS V3.x this logical will not be defined. The MDMS server should not be running if ABS or HSM is not supposed to use MDMS V3.x

Glossary

This glossary contains terms defined for the Archive Backup System for OpenVMS (ABS). It also contains terms associated with the following products when related to ABS:

- Media and Device Management Services for OpenVMS (MDMS)
- Storage Library System for OpenVMS (SLS)

absolute time

A data-entry format for specifying the date or time of day. The format for absolute time is [dd-mmm-yyyy[:]][hh:mm:ss.cc]. You can specify a date and time, or use the keywords TODAY, TOMORROW, or YESTERDAY.

access port

The port on a DCSC-controlled silo where volumes can be inserted into the silo.

active server process

The MDMS server process that is currently active. The active server process responds to requests issued from an MDMS client process.

allocate

To reserve something for private use. In MDMS software, a user is able to allocate volumes or drives.

allocated

The state of a drive or volume when a process is granted exclusive use of that drive or volume. The drive or volume remains allocated until the process gives up the allocation.

allocated state

One of four volume states. Volumes that are reserved for exclusive use by a user (such as ABS) are placed in the allocated state. Allocated volumes are available only to the user name (such as ABS) assigned to that volume.

ANSI

The abbreviation for the American National Standards Institute, an organization that publishes computer industry standards.

ANSI-labeled

A magnetic tape that complies with the ANSI standards for label, data, and record formats. The format of VMS ANSI-labeled magnetic tape volumes is based on Level 3 of the ANSI standard for magnetic tape labels and file structure.

archive

A repository of data that consists of

- Volumes that contains zero or more archive files.
- One or more catalogs that contain information about archived data that is stored on volumes.
- A set of services used to define the storage environment configuration and site policy. These services are also used to move data between the ABS client and the MDMS volume.

archive file system

The file system that contains the archived data.

archive object

The data object that resides in offline storage.

archiving

Saving data for the purpose of long-term storage.

ASCII

The abbreviation for the American Standard Code for Information Interchange.

This code is a set of 8-bit binary numbers representing the alpha- bet, punctuation, numerals, and other special symbols used in text representation and communications protocols.

back up

To make duplicate copies of one or more files, usually onto different media than the original media. This provides the availability to restore the original data if it is lost or corrupted.

backup agent

The client or utility that performs the actual save or restore operation. Examples are the VMS BACKUP Utility and the RMU Backup Utility.

backup engine

The backup engine moves data to and from the storage policy. Examples of backup engines: VMS BACKUP, RMU BACKUP, and UBS.

BACKUP format

Standard OpenVMS BACKUP format. The BACKUP format is the recording format used by the VMS Backup utility to back up data to save sets.

backup management domain

A node or OpenVMS Cluster system that has control over creating save requests. A backup management domain is usually controlled by a single storage administrator.

bind

The act of logically binding volumes into a magazine. This makes the volumes a logical unit that cannot be separated unless an UN- BIND operation is done on the volumes.

blocking factor

The number of records in a physical tape block. The length of a physical block written to magnetic tape is determined by multiplying the record length by the blocking factor. For example, if a record length of 132 and a blocking factor of 20 are specified, the length of each physical block written to tape will be 2640 bytes (or characters).

The blocking factor is only used when MDMS software is writing an EBCDIC tape.

catalog

Contains records of data movement operations. Each time a save request is initiated, the history of the data movement operation is recorded in an associated ABS central security domain: The node or OpenVMS Cluster system where ABS policy server is installed. This domain controls all ABS pol- icy objects, particularly storage and environment policies.

client node

Client nodes send database requests to the server node.

combination time:

A data-entry format for specifying date and time. Combination time consists of an absolute time value plus or minus a delta time value.

Examples:

"TODAY+7-"	Indicates current date plus seven days
"TODAY+7"	Indicates current date plus seven hours
"TOMORROW-1"	Indicates current date at 23:00 hours

command

An instruction, generally an English word, entered by the user at a terminal. The command requests the software to perform a pre- defined function.

CRC

The acronym for cyclic redundancy check. It is a verification process used to ensure data is correct.

consolidation count

The criteria under which ABS creates new volume sets.

consolidation interval

The number of days (in VMS time format) between the creation of new volume sets.

consolidation size

The desired maximum number of volumes allowed in a volume set.

data object

A data object specification, such as an OpenVMS file name or an Rdb/VMS database file name.

data movement request

Either a save or restore request initiated through either the DCL command interface or ABS graphical user interface.

deallocate

To relinquish ownership of a drive, volume, or volume set.

- When a drive is deallocated, it is then available for allocation by other processes.
- When a volume set is deallocated, it is either immediately available for allocation by other users or moved into a transition state.

deassign date

The day on which an allocated volume is scheduled to go into the transition state or the free state.

default

A value or operation automatically included in a command or field unless the user specifies differently.

density

The number of bits per inch (bpi) on magnetic tape. Typical values are 6250 bpi and 1600 bpi.

device

A physical device, such as a tape drive or disk device.

down state

One of four volume states. Volumes that are either damaged, lost, or temporarily removed from the MDMS volume database for cleaning are placed in the down state.

EBCDIC

Extended Binary Coded Decimal Interchange Code. EBCDIC is an unlabeled IBM recording format. Volumes in EBCDIC format do not have records in the MDMS volume database.

environment policy

ABS policy object that defines the environment in which data ABS save and restore requests occur.

expiration

The date and time at which an archived data is no longer considered useful. The archived data can be deleted and its space removed.

format

See recording format.

free state

The volume state that allows volumes to be selected by users or other software applications.

GUI

Graphical User Interface

in port

The physical opening in a jukebox where volumes can be imported.

interface

A shared physical or logical boundary between computing system components. Interfaces are used for sending and/or accepting information and control between programs, machines, and people.

inventory

The act of automatically updating the MDMS database. MDMS can mount each volume located in a magazine and update the MDMS volume database through this process.

I/O station

A jukebox component that enables an operator to manually insert and retrieve volumes. The I/O station consists of an I/O station door on the outside of the jukebox and an I/O station slot on the inside. See also I/O station door and I/O station slot.

I/O station door

An actual door on the outside of the jukebox that can be opened and closed. Behind the I/O station door is the I/O station slot.

I/O station slot

An I/O slot that holds a volume when it is entering or leaving the jukebox.

label

- Information recorded at a fixed location on the volume that identifies the volume to software.
- The physical printed label attached to the outside of the volume to identify it.

labeled

A recording format that includes a volume label.

LEBCDIC

Labeled EBCDIC format. See also EBCDIC.

load

The process which makes a volume physically available to the computer system, such as for read or write operations.

local symbol

A symbol meaningful only to the module or DCL command procedure that defines it.

log file

Any file into which status and error messages are written to reflect the progress of a process.

MDMS server node

The active server node to which all MDMS database requests are sent to be serviced. In a high-availability configuration, when the active server node fails, another node (see MDMS standby server process) in the OpenVMS Cluster system becomes the active server node.

MDMS software

The MDMS software is an OpenVMS software service that enables you to implement media and device management for your storage management operations. MDMS provides services to SLS, ABS, and HSM.

MDMS standby server process

Any MDMS server process that is not currently active. The standby server process waits and becomes active if the active server process fails.

magazine

A physical container that holds from 5 to 11 volumes. The magazine contains a set of logically bound volumes that reside in the MDMS database.

magazine database

The MDMS database that contains the magazine name and the volume names associated with that magazine.

media

A mass storage unit. Media is referred to in this document as a volume. Volumes provide a physical surface on which data is stored. Examples of physical volumes are magnetic tape, tape cartridge, and optical cartridge.

media type

A set of site-specific names associated with volume densities and drives.

nearline storage

Storage in which file headers are accessible through the operating system, but accessing data requires extra intervention.

Nearline storage employs a robotic device to move volumes between drives and volume storage locations. Nearline storage is less costly for each megabyte of data stored. Access times for data in nearline storage may vary. Access to data may be nearly instantaneous when a volume containing the data is already loaded in a drive. The time required for a robotic device to move to the most distant storage location, retrieve a volume, load it into a drive, and position the volume determines the maximum access time.

The devices of nearline storage technology include, but are not limited to, automated tape libraries and optical jukeboxes.

offline storage

Storage in which neither the file headers nor the data is accessible by the operating system and requires extra intervention.

Offline storage requires some type of intervention to move volumes between drives and the volumes' storage location. Offline storage is the least costly for each megabyte of data stored. Access times for data in offline storage vary for the same reasons as described for nearline storage. For archive data stored in a remote vault, access time can take more than a day.

The devices of offline storage technology include, but are not limited to, standalone tape drives, optical disk drives, and sequential stack loader tape drives.

online storage

Storage in which file headers and data can be accessed through the operating system. Online storage is the most costly for each megabyte of data stored.

As a trade off, online storage also offers the highest access performance. Online storage devices offer continuous service. The devices of online storage technology include disk storage and electronic (RAM) storage that uses disk I/O channels.

OPCOM

OpenVMS Operator Communication Manager. An online communication tool that provides a method for users or batch jobs to request assistance from the operator, and allows the operator to send messages to interactive users.

OPER privilege

The level of privilege required by a system operator to suspend an MDMS operation and to perform a variety of maintenance procedures on volumes, as well as archive files and saved system files.

out port

The physical opening in a jukebox where volumes can be exported from the jukebox.

policy

The decisions and methods in which you implement your ABS policy. This includes when and how often you back up or archive data from online to nearline or offline storage.

policy engine

The component in ABS that makes intelligent decisions based upon the implementation of your ABS policy.

policy objects

The method in which ABS enables you to implement your ABS policy. ABS provides the following policy objects:

- Storage policy
- Environment policy
- Save request
- Restore request

policy server

ABS server component. Placement of this component determines the central security domain (CSD).

pool

A set of volumes in the free state. Those volumes can be allocated by users who have access to the volume pool. The storage administrator creates and authorizes user access to pools.

record

A set of related data treated as a unit of information. For example, each volume that is added to the MDMS volume database has a record created that contains information about the volume.

record length

The length of a record in bytes. See also blocking factor.

recorded label

The label recorded on the volume.

recording format

The unique arrangement of data on a volume according to a predetermined standard. Examples of recording format are BACKUP, EBCDIC, and ANSI.

restore process

The method by which the contents of a file or disk are recovered from a volume or volumes that contain the saved data. ABS software will restore data by querying ABS catalog for the file or disk name specified in the restore request, and then locate the BACKUP save sets from one or more volumes, extract the data from those save sets, and place the information onto a Files-11 structured disk where the restored data can be accessed by a user.

restore request

A request to restore data from the archives to either its original location or an alternate location. Restore re- quests are initiated either through the DCL command interface or ABS graphical user interface.

requester

The user who creates a save or restore request.

requester profile

The requester profile is the profile of the user who is creating the save or restore request. This profile is captured at the time the request is created.

restore request

ABS policy object that defines the request for the restoration of data.

robot device

A tape or optical drive that provides automatic loading of volumes, such as a TF867 or a TL820.

save process

The method by which copies of files are made on magnetic or optical volumes for later recovery or for transfer to another site.

For BACKUP formatted volumes, an ABS save operation creates BACKUP save sets on mag- netic tape volume, a system disk, or optical volume.

save request

ABS policy object that defines the request for saving data.

save set

A file created by the VMS Backup Utility on a volume. When the VMS Backup Utility saves data, it creates a file in BACKUP format called a save set on the specified output volume. A sin- gle BACKUP save set can contain numerous files. Only BACKUP can interpret save sets and restore the data stored in the save set.

slot

A vertical storage space for storing a volume. The storage racks and cabinets used in data centers contain multi-row slots that are labeled to easily locate stored volumes.

storage administrator

One or more privileged users responsible for installing, configuring, and maintaining ABS soft- ware. This user has enhanced ABS authorization rights and privileges and controls the central security domain (CSD) by creating and maintaining ABS storage and environment policies.

storage policy

ABS policy object that defines where to store data saved using ABS.

SYSPRV privilege

The level of privilege required to install the software and add user names to the system.

system backup

An ABS system typically saves the system disk, also known as a full disk backup. The system backup can direct ABS software to perform automotive save operations on a predetermined schedule.

tape

See volume.

transition state

Volumes in the transition state are in the process of being deallocated, but are not yet fully deallocated. The transition state provides a grace period during which a volume can be reallocated to the original owner if necessary.

UASCII

Unlabeled ASCII format. See also ASCII.

UIC

User identification code. The pair of numbers assigned to users, files, pools, global sections, common event flag clusters, and mailboxes. The UIC determines the owner of a file or ABS policy object. UIC-based protection determines the type of access available to the object for its owner, members of the same UIC group, system accounts, and other (world) users.

UID

A globally unique identifier for this instance of an object.

unbind

The act of unbinding a volume or volumes from a magazine.

unlabeled

A recording format that does not include a recorded label.

user backup

A save request created by an individual user (not the system) when they would like to make copies of a file or set of files for later recovery or for transfer to another site.

user profile

The set of information about a user that defines the user's right to access data or the user's right to access an ABS policy object. For ABS on OpenVMS, this includes the following information:

- User name
- UIC
- Privileges
- Access right identifiers

vault

An offsite storage location to where volumes are transferred for safekeeping.

VMS Backup Utility

An OpenVMS Operating System utility that performs save and restore operations on files, directories, and disks using the BACKUP recording format.

volume

A *physical* piece of media (volume) that is known *logically* to the MDMS volume database. A volume can be a single magnetic tape or disk, or as in the case of an optical cartridge, can refer to one side of double-sided media. A volume is assigned a logical name, known as the volume label.

volume ID

The volume's internal identification used to verify that the correct volume has been selected. The volume label should be the same as the volume ID.

volume name

Same as volume ID.

volume set

One or more volumes logically connected in a sequence to form a single volume set. A volume set can contain one or more save sets. ABS adds volumes to a volume set until the storage policy's consolidation criteria has been met or exceeded.

volume state

A volume status flag. In MDMS software, volumes are placed in one of the following states:

- Free
- Allocated
- Transition
- Down

wildcard character

A nonnumeric or nonalphanumeric character such as an asterisk (*) or percent sign (%) that is used in a file specification to indicate "ALL" for a given field or portion of a field. Wildcard characters can replace all or part of the file name, file type, directory name, or version number.

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