

IBM Archive Manager for z/VM



Archive Manager for z/VM Administration Guide

Version 1 Release 1

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Version 1 Release 1

Note:

Before using this information and the product it supports, read the information in "Notices" on page 59.

| **Third Edition (November 2013)**

This edition applies to Version 1 Release 1 of IBM Archive Manager for z/VM (product number 5697-J05) and to all subsequent releases and modifications until otherwise indicated in new editions.

This edition replaces SC18-9345-01.

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About this information

This information is designed to help system administrators administer and operate Archive Manager and assumes a working knowledge of:

- The z/VM[®] operating system
- CMS (including XEDIT)

For information about Archive Manager features and benefits, including information about using Archive Manager, see the Archive Manager for z/VM User's Guide.

Specific changes since the previous edition of this book are indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

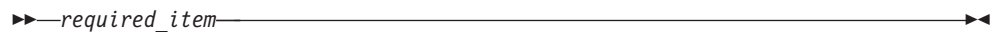
The Archive Manager for z/VM Web page provides current product documentation that you can view, print, and download. To locate publications with the most up-to-date information, refer to the following Web page:

<http://www.ibm.com/software/stormgmt/zvm/archive/library.html>

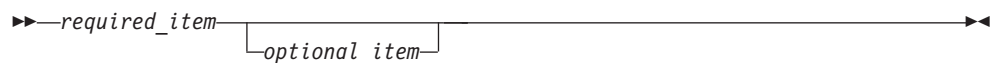
How to read syntax diagrams

The following rules apply to the syntax diagrams that are used in this information:

- Read the syntax diagrams from left to right, from top to bottom, following the path of the line. The following conventions are used:
 - The >>--- symbol indicates the beginning of a syntax diagram.
 - The ---> symbol indicates that the syntax diagram is continued on the next line.
 - The >--- symbol indicates that a syntax diagram is continued from the previous line.
 - The --->< symbol indicates the end of a syntax diagram.
- Required items appear on the horizontal line (the main path).



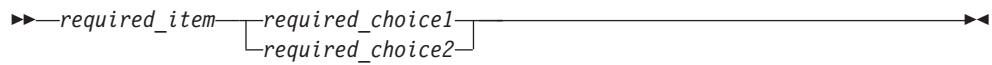
- Optional items appear below the main path.



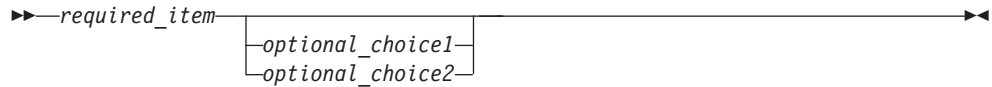
If an optional item appears above the main path, that item has no effect on the execution of the syntax element and is used only for readability.



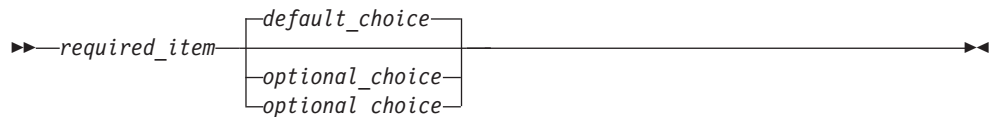
- If you can choose from two or more items, they appear vertically, in a stack. If you *must* choose one of the items, one item of the stack appears on the main path.



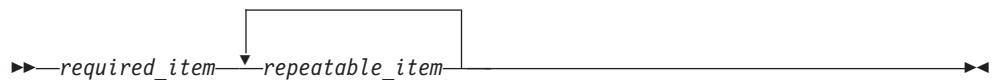
If choosing one of the items is optional, the entire stack appears below the main path.



If one of the items is the default, it appears above the main path, and the remaining choices are shown below.



- An arrow returning to the left, above the main line, indicates an item that can be repeated.



If the repeat arrow contains a comma, you must separate repeated items with a comma.



A repeat arrow above a stack indicates that you can repeat the items in the stack.

- Keywords, and their minimum abbreviations if applicable, appear in uppercase. They must be spelled exactly as shown. Variables appear in all lowercase italic letters (for example, *column-name*). They represent user-supplied names or values.
- Separate keywords and parameters by at least one space if no intervening punctuation is shown in the diagram.
- Enter punctuation marks, parentheses, arithmetic operators, and other symbols exactly as shown in the diagram.
- Footnotes are shown by a number in parentheses; for example, (1).

How to send your comments

Your feedback is important in helping to provide the most accurate and high-quality information. If you have any comments about this book or any other Archive Manager for z/VM documentation, use either of the following options:

- If you have questions or comments regarding z/VM publications and product documentation, please visit: <http://www.vm.ibm.com/forms/>
- Send your comments by email to zvmtools@us.ibm.com. Be sure to include the name of the book, the part number of the book, the version of Archive Manager

for z/VM, and, if applicable, the specific location of the text you are commenting on (for example, a page number or table number).

Chapter 1. Archive Manager overview

Archive Manager for z/VM enables you to archive CMS and non-CMS data and retrieve the data when needed.

Users can archive files, or entire minidisks, on to disk or tape as defined by the product administrator. (By default, users can archive and retrieve only the data that they own.) For more information about Archive Manager features and benefits, including information about using Archive Manager, see the *Archive Manager for z/VM User's Guide*.

Topics:

- “What's new in Archive Manager”
- “The Archive Manager environment” on page 2
- “Archive Manager components” on page 2
- “How Archive Manager manages and stores client data” on page 3
- “Archive Manager processing” on page 5
- “Prerequisites” on page 7

What's new in Archive Manager

This topic summarizes the technical changes for this edition.

New and changed information is indicated by a vertical bar (|) to the left of a change. Editorial changes that have no technical significance are not noted.

SC18-9345-02

- A new command to change ownership of an existing archive parcel was added. For more information, see “TRANSFER” on page 39.
- Information for the AMVUSERS NAMESAMP file was updated. For more information, see “Copying and customizing the AMVUSERS NAMES file” on page 12.
- Information for the AMVSYSTEM CONFSAAMP file was updated. For more information, see “Copying and customizing the AMVSYSTEM CONFIG file” on page 14.

SC18-9345-01

- The steps to configure Archive Manager were updated. For more information, see Chapter 2, “Configuring Archive Manager,” on page 9.
- Archive Manager service virtual machine descriptions were updated. For more information, see “Archive Manager components” on page 2 and “Verifying privileges for the Archive Manager servers” on page 10.
- Information for the example RECALL request was updated. For more information, see “RECALL requests” on page 6.
- The software requirements were updated. For more information, see “Software requirements” on page 7.
- The descriptions for CatalogPool and CatalogSpace were updated. For more information, see “Specifying configuration options to specify the archive catalog SFS filesystem” on page 19.

- The QUERY TAPE command was added and existing command descriptions and examples were updated. For more information, see Chapter 4, “Common commands,” on page 31 and Chapter 5, “Archive server (AMVARKIV) commands,” on page 35.
- New messages were added. For more information, see “Messages and codes,” on page 41.

The Archive Manager environment

In the Archive Manager environment, clients (CMS users) interact with the master archive service virtual machine (AMVARKIV) which processes client requests to archive or retrieve (recall) data.

For example, during an archive request, the master archive service virtual machine performs the following actions:

- Verifies and processes the request
- Packages the client data to be archived
- Archives the data on to disk or tape as requested by the client

Figure 1 shows an overview of the Archive Manager environment.

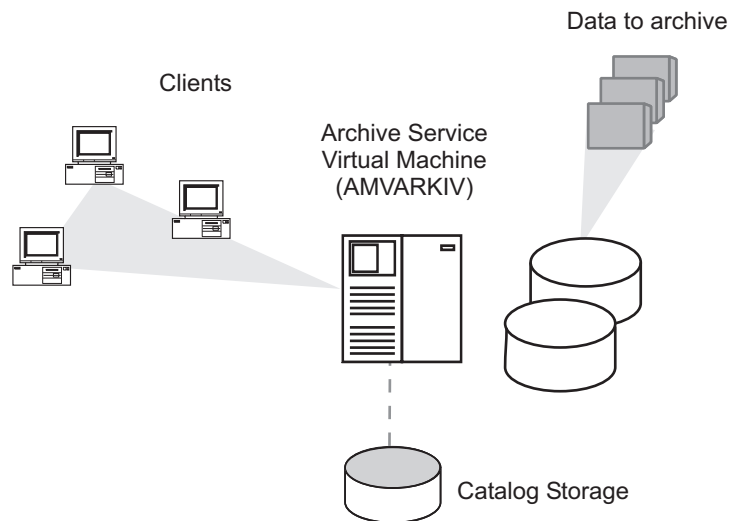


Figure 1. Archive Manager environment

Archive Manager records information for each archive operation.

Archive Manager components

Archive Manager uses a combination of service virtual machines to process and manage archive and retrieval requests.

Archive Manager requires the following service virtual machines:

- A minimum of one archive service virtual machine
- One (or more) worker service virtual machines
- One (or more) client service virtual machines

Archive service virtual machine (AMVARKIV)

The master archive service virtual machine verifies and processes archive requests that are initiated by clients and worker service virtual machines.

The master archive service virtual machine manages client data and Archive Manager storage media called *storage classes*, which are used to store packaged client data.

Archive Manager consolidates catalog management functions into the master archive server. The catalog function records information for archive operations including the following data:

- Transaction data (such as the date and time of the transaction and the owner)
- Data source information
- Media data (such as tape volser and the location on the media)

The catalog function also processes aging and expiration of catalog contents according to your specifications.

Worker service virtual machines (AMVWRKnn)

To perform long-running archive transactions, Archive Manager deploys worker service virtual machines. Workers interface directly with tape and DASD resources and are active only during a particular task. Archive Manager uses workers primarily to handle tape-based archive and recall operations.

Clients

A *client* is a CMS user that requests archive services from the archive server. Interaction between a client and the archive server is asynchronous and is based on transaction requests packaged in spool files. Asynchronous processing frees the client to perform other tasks and enables the archive server to handle operations at the optimal time and circumstances for the request. For example, to restrict archive processing to avoid peak hours and avoid increased processing times and potential data availability issues.

Command line interface

Commands enable authorized users to archive data, query data, or retrieve data from the archive.

Panel interface

To view the contents of the archive catalog, Archive Manager provides a panel interface that is accessible through the AMVLIST command. Users can view the content that is associated with their user ID. Administrators can view all contents in the archive catalog. For more information, see the *Archive Manager for z/VM User's Guide*.

How Archive Manager manages and stores client data

To understand how Archive Manager processes client requests, it is helpful to understand how Archive Manager manages and stores data.

Archive Manager storage objects

Archive Manager uses the following *storage objects* to manage client data.

- A *parcel* is a static image of archived client data and associated metadata.
- A *storage class* represents storage media that is owned by the archive server.
- A *storage group* is a collection of virtual machines that is associated with one or more storage classes.

When a client initiates a request to archive data, the archive server uses the storage objects to manage and store the data to archive.

How Archive Manager packages client data

Archive Manager uses *parcels* to package client data.

Each parcel is a static image of the archived client data and the metadata that is associated with the archive request (such as the date and time of the archive request). Archive Manager manages a parcel as a CMS file.

Archive Manager supports the following parcel types:

- EDF (Files from CMS formatted minidisks)
- SFS (Data from an SFS filesystem)
- CKD (Raw CKD minidisk images)

Note: Each instance of an archive server can manage a maximum of 4,294,967,295 parcels. If demand exceeds this amount, you can implement more instances of the archive server.

Parcels are stored on media associated with a storage class.

How storage media is represented

To identify a storage media resource, such as a set of minidisks, a tape media pool, or SFS filesystems that are owned by the archive server, the administrator defines a *storage class*.

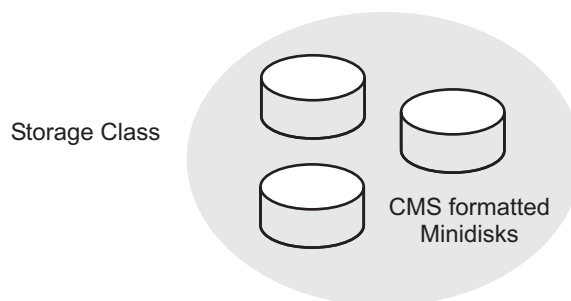


Figure 2. Storage class

Note: Data retention attributes, such as expiration time, are also associated with a storage class.

Archive Manager supports the following types of storage classes:

- EDF (CMS formatted minidisks)
- SFS (SFS filesystem)

- TAPE (Tape media)

You can further define each storage class as *simplex* or *duplex*.

Simplex storage classes

When you define a storage class as a simplex storage class, Archive Manager stores one copy of each parcel.

Duplex storage classes

When you define a storage class as duplex, Archive Manager stores two copies of each parcel. Duplex storage classes create primary and alternate parcel locations, which must be of the same media type. For example, if you define a DUPLEX TAPE storage class, the primary and alternate parcel locations must both be defined as TAPE.

How access to archived client data is determined

A *storage group* is a collection of one or more virtual machines that group, according to access type, how the archived data can be accessed.

Each storage group associates one or more users with a group name.

Archive Manager processing

To understand Archive Manager processing, a description of an archive and a RECALL request are provided.

Example archive request

The following example shows how Archive Manager processes an archive request.

Archive request

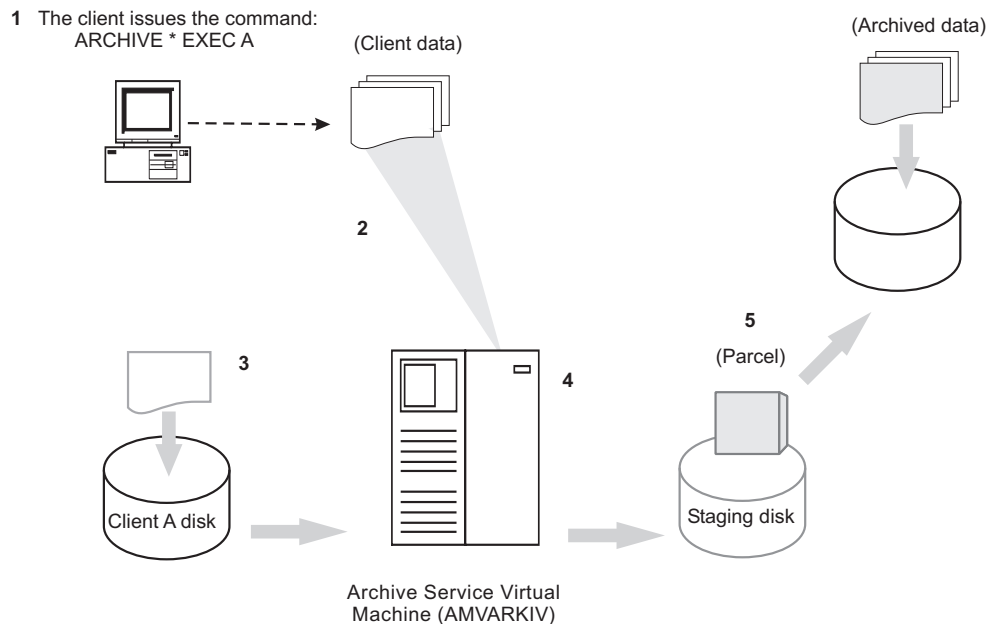


Figure 3. Archive request example

In the example, the client issues a request to archive all EXEC files from filemode A. The following actions occur:

1. The CMS user issues the command: ARCHIVE * EXEC A
2. Archive Manager verifies the following items:
 - At least one file is requested to be archived.
 - The archive server determines ownership information, including the minidisk extent, or the SFS fully qualified path, and whether the client is the owner of the minidisk or SFS directory at filemode A.

Note: Clients cannot archive data that they do not own unless authorized by a system administrator.

3. Archive Manager constructs a batch transaction in a temporary file on the client A disk. The batch transaction is sent to the archive server using SENDFILE.
4. The archive server parses and validates the transaction. If the transaction is declined, the archive server notifies the client and drops the archive request (otherwise, the transaction is accepted).
5. The archive server accesses the minidisk extent, or fully qualified SFS directory path and creates a parcel on a staging minidisk and archives the data as the client requested.

RECALL requests

The AMVARKIV service virtual machine handles RECALL processing for DASD-based storage classes directly. Archive Manager dispatches worker service virtual machines to handle all tape-based transactions.

If an archive parcel is stored in an EDF or SFS storage class, the AMVARKIV service virtual machine handles the request directly. If an archive parcel is stored in a tape-based storage class, AMVARKIV validates the request and dispatches a worker service virtual machine to process the RECALL operation.

Prerequisites

Ensure that you have the following minimum hardware and software requirements in place before you install and configure Archive Manager.

Hardware requirements

Archive Manager runs on any hardware that supports z/VM and works with any VM supported DASD and tape, as well as the IBM® virtual tape systems (VTS).

Software requirements

Archive Manager runs on all currently supported versions of z/VM.

An SFS server and file pool are required. Create a file pool that is dedicated to Archive Manager. The default file pool name is AMVPOOL.

Chapter 2. Configuring Archive Manager

These topics describe how to configure Archive Manager for your site.

Note: Instructions to install Archive Manager can be found in the *Archive Manager for z/VM Program Directory (GI10-8661)*.

Topics:

- “Configuration overview”
- “Verifying privileges for the Archive Manager servers” on page 10
- “Allocating SFS resources for the catalog” on page 11
- “Copying and customizing the AMVUSERS NAMES file” on page 12
- “Copying and customizing the AMVSYSTEM CONFIG file” on page 14
- “Copying and customizing the AMVSRVR CONFIG file” on page 19
- “Deploying and customizing service virtual machine PROFILE EXEC routines” on page 21

Configuration overview

After you install Archive Manager as described in the *Archive Manager for z/VM Program Directory*, complete the following steps to configure Archive Manager.

Note: Before you configure Archive Manager, ensure that the following VM user IDs were created according to the instructions in the *Archive Manager for z/VM Program Directory*:

- Product administrator
- Archive server
- Worker service virtual machine

To configure Archive Manager, complete the steps that are outlined in Table 1.

Table 1. Summary of configuration steps

| Step | Description | Instructions |
|------|--|--|
| 1 | Verify privileges for the Archive Manager servers | “Verifying privileges for the Archive Manager servers” on page 10 |
| 2 | Allocate SFS resources for the catalog | “Allocating SFS resources for the catalog” on page 11 |
| 3 | Copy and customize the AMVUSERS NAMES file (AMVUSERS NAMESAMP) | “Copying and customizing the AMVUSERS NAMES file” on page 12 |
| 4 | Copy and customize the AMVSYSTEM CONFIG file (AMVSYSTEM CONFSAMP) | “Copying and customizing the AMVSYSTEM CONFIG file” on page 14 |
| 5 | Copy and customize the AMVSRVR CONFIG file (AMVSRVR CONFSAMP) | “Copying and customizing the AMVSRVR CONFIG file” on page 19 |
| 6 | Deploy and customize service virtual machine PROFILE EXEC routines (ARKPROF SAMPEXEC and WRKPROF SAMPEXEC) | “Deploying and customizing service virtual machine PROFILE EXEC routines” on page 21 |

Verifying privileges for the Archive Manager servers

Complete the following steps to verify privileges for the Archive Manager servers.

Ensure that the service virtual machines are provisioned in the CP directory and are available for use.

1. Verify privileges for the product administrator (AMVADMIN).

The product administrator user ID (AMVADMIN) is used by the system programmer or system administrator that is responsible for installing and configuring Archive Manager. The AMVADMIN user ID is designed to function as the default archive administrator user; therefore, give this ID product administrator privileges.

The following privileges are required for AMVADMIN:

- CP privilege class G.
- The RACF[®] OPERATIONS attribute is required if RACF is installed, or equivalent authority for other installed external security managers (ESMs).

The following privileges are recommended for AMVADMIN:

- Privilege class B (Optional). The class B privilege enables use of CP commands and DIAG functions and can be useful in problem determination.
- OPTION LNKNOPAS. If an External Security Manager is installed (such as RACF), then equivalent authority (such as RACF OPERATIONS) is required instead of LNKNOPAS.
- Administrator access to SFS file pools.

2. Verify privileges for the master archive server (AMVARKIV).

The master archive server user ID (AMVARKIV) is responsible for dispatching worker service virtual machines to handle archive tasks and for monitoring the status of the worker service virtual machines. The master archive server also provides catalog management functions.

This user ID is also responsible for archiving data when the target is CMS minidisk or an SFS directory. The workers are invoked only if the target of an archive is tape. Similarly, AMVARKIV handles recall requests when the data to recall is on CMS minidisk or in an SFS directory. If the data to recall is on tape, Archive Manager invokes the workers.

The following privileges are required for AMVARKIV:

- CP privilege classes B and G.
- OPTION LNKNOPAS in the CP directory.
- OPTION DEVMAINT is required to obtain access to minidisk resources if the server is configured to use DEFINE MDISK (instead of CP LINK).
- The RACF OPERATIONS attribute is required if RACF is installed, or equivalent authority for other installed external security managers (ESMs).
- Administrator access to SFS file pools. SFS administrator authority is required for SFS file pools that are used with Archive Manager. AMVARKIV requires authority to access data owned by clients during archive operations (and to re-create data that is owned by clients during recall processing).

3. Verify privileges for the worker service virtual machines (AMVWRKxx).

Archive Manager uses worker service virtual machines to handle tasks that interact with tape resources. AMVARKIV dispatches archive and recall tasks for tape-based storage classes to worker service virtual machines to offload long-running tasks.

During archive operations, worker service virtual machines issue data functions to copy data to tape or disk and generate archive catalog content. (The product administrator can access the catalog structure to gather and display various data on archive activity.)

Note: You must configure at least one worker service virtual machine.

Implement worker service virtual machines based on the following considerations:

- The number of concurrently available archive processes that you want.
- The number of available tape drives (each worker requires use of one tape drive to perform tape-based archive). If you use "twin set" tapes, each worker requires two tape drives.
- The available input/output bandwidth between the CPU, source data, and archive storage destination.

The following privileges are required for AMVWRKnn:

- CP privilege classes B and G.
- OPTION LNKNOPAS. (If an External Security Manager is installed, such as RACF, then equivalent authority, such as RACF OPERATIONS, is required instead of LNKNOPAS.)
- Administrator access to all SFS file pools that are subject to archive operations. SFS administrator authority is required for SFS file pools that are used with Archive Manager. Worker service virtual machines require authority to access data owned by clients during archive operations (and to re-create data that is owned by clients during recall processing).

Allocating SFS resources for the catalog

The Archive Manager catalog contains a record of each minidisk, or collection of files (SFS or CMS minidisk), committed to storage in the archive.

Archive Manager generates catalog entries for each archive transaction. Therefore, the catalog filespace must be able to contain all of the metadata that is generated for every data parcel committed to the archive. Placing the catalog in an SFS filespace provides a convenient means to organize catalog content in a hierarchical manner.

For small or medium size installations, a minimum of 3,000 cylinders of 3390 DASD (540,000 4K DASD blocks) is a reasonable starting allocation for the catalog filespace. Sites with many minidisks, files, and SFS resources to manage need correspondingly greater amounts of catalog storage.

Store the catalog in a dedicated SFS file pool. Isolating the catalog in its own file pool simplifies post-disaster catalog recovery and allows you to better tailor access to the catalog contents according to your requirements. See *CMS File Pool Planning, Administration, and Operation* for instructions on setting up a new SFS file pool server.

If you establish the catalog in a dedicated SFS file pool, the procedures to add more disk space to the file pool can be implemented with minimal disruption to overall system operations.

1. Determine catalog storage requirements.

The amount of SFS storage that is required to contain the catalog varies according to the number of:

- minidisks or filespaces that are recorded in the catalog
- files that are contained on each CMS-format minidisk
- files and directories that are contained in each SFS file space

To estimate the amount of space you need for the catalog file pool, use the following formula:

A minimum of one 4K block for each minidisk and file space

+ one 4K block per every 7.7 files and directories cataloged

* The number of unique jobs and instances maintained in the catalog

For example, the MAINT 19D minidisk requires approximately 1,700 SFS data blocks to record catalog data for the CMS-format minidisk (plus approximately 13,000 files). MAINT 190, the CMS system disk, with approximately 850 files, requires approximately 110 SFS data blocks.

Note: Because catalog storage requirements vary depending on number of users, number of minidisks, filespaces and files, and site catalog retention policy, there is no single "one size fits all" recommendation.

2. Define the backup catalog file pool and file space.

If you use a dedicated SFS file pool for Archive Manager, as recommended, the name of the file pool and file space is up to your site, subject to the guidelines in *CMS File Pool Planning, Administration, and Operation*. The recommended user ID that owns the file space is AMVCATLG. Whether you use VMSYS or VMSYSU supplied by z/VM for the file pool, or create your own, you must define the file pool name, the file space name, and the user ID that owns the file space to Archive Manager in the AMVSYSTEM CONFIG file, using the following parameters:

- Local_Archive_Catalog_ID = *userid*
- CatalogPool = *poolname*
- CatalogSpace = *file space*

For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14. For more information about configuration, resource allocation, and management for SFS services, see the *CMS File Pool Planning, Administration, and Operation*.

Copying and customizing the AMVUSERS NAMES file

The AMVUSERS NAMES file identifies privileged users (archive servers, worker service virtual machines, and users with administrative privileges) to Archive Manager. The Archive Manager service virtual machines require the AMVUSERS NAMES file. The file does not require special security considerations.

Copy the sample AMVUSERS NAMES file (AMVUSERS NAMESAMP) from the SAMPLES minidisk or directory to the production configuration minidisk (or directory) and modify it to suit your local configuration requirements. Customize the file using the installation user 5697J05A.

1. Access the system configuration disk as filemode Z:
ACCESS 198 Z
2. Access the SAMPLES minidisk as filemode E:
ACCESS 2C2 E
3. Copy sample AMVUSERS NAMES:
COPY AMVUSERS NAMESAMP E = NAMES Z
4. Edit AMVUSERS NAMES:

XEDIT AMVUSERS NAMES Z

Figure 4 shows the contents of the sample AMVUSERS NAMES file (AMVUSERS NAMESAMP).

```
|
| :nick.MASTER
|           :list.AMVARKIV
|           :COMMENT.Service virtual machines with "MASTER" authority
|
| :nick.WORKERS
|           :list.AMVWRK01 AMVWRK02 AMVWRK03 AMVWRK04
|           :COMMENT.Worker virtual machines
|
| :nick.ADMIN
|           :list.AMVADMIN MAINT MAINT620 MAINT630
|           :COMMENT.Users with ADMIN privileges
|
```

Figure 4. Sample AMVUSERS NAMES file

5. Modify the following settings in the sample AMVUSERS NAMES file:

MASTER

Specify the user ID of the archive service virtual machine (AMVARKIV). Modify this setting if you want to specify a user name other than the default name of AMVARKIV for the archive server, or if you want to specify extra archive servers. Each specification consists of a 1 - 8 character alphanumeric string that identifies a unique archive server. In the example, one master archive server (AMVARKIV) is specified.

WORKERS

Specify the names of all worker service virtual machines. Modify this setting if you want to use different service virtual machine names, or if you want to deploy extra worker service virtual machines. Each specification consists of a 1 - 8 character alphanumeric string that identifies a worker service virtual machine. In the example, four worker service virtual machines (AMVWRK01 - AMVWRK04) are specified.

ADMIN

Specify the product administrator ID (AMVADMIN) and other local users to whom you want to grant administrative privileges. Modify this setting to add, or remove users with ADMIN privileges. Each specification consists of a 1 - 8 character alphanumeric string that identifies a unique user that has ADMIN privileges. In the example, four users to whom administrative privileges should be granted, are specified (AMVADMIN, MAINT, MAINT620, and MAINT630).

Archive Manager administrators have the authority to:

- issue the ARCHIVE command for any data on any minidisks to which they have access, even if they do not own the disk.
- issue the TRANSFER command to transfer any existing archived parcel to another user.

Notes:

- a. Place the primary copy of the AMVUSERS NAMES file on 5697J05A 198 for use by AMVARKIV and AMVWRKnn. Deploy an extra copy to the CMS system Y-disk (MAINT 19E) to give system users access to the Archive Manager user interface tools.
- b. Grant only the archive server (AMVARKIV) MASTER authority.

- c. Grant only worker service virtual machines WORKERS authority.
- d. The AMVUSERS NAMES file is maintained in the standard CMS NAMES file format.

Copying and customizing the AMVSYSTEM CONFIG file

The AMVSYSTEM CONFIG file contains Archive Manager global settings and site configuration information. To set local configuration options, modify the AMVSYSTEM CONFIG file.

Archive Manager validates the contents of AMVSYSTEM CONFIG during service virtual machine startup. The following checks are applied:

- For required settings, all required variables must be defined.
- Settings are checked for correct data type (numeric, logical, device address, and character string as appropriate).

If a required value is undefined, or Archive Manager encounters an unacceptable value, the service virtual machine startup process stops. Some conditions generate a warning message, followed by an attempt to continue processing.

Copy the sample AMVSYSTEM CONFIG file (AMVSYSTEM CONFSAAMP) from the SAMPLES minidisk (or directory) to the production configuration minidisk (or directory) and modify it to suit your local configuration requirements. Customize the file using the installation user 5697J05A:

1. Access the system configuration disk as filemode Z:
ACCESS 198 Z
2. Access the SAMPLES minidisk as filemode E:
ACCESS 2C2 E
3. Copy sample AMVSYSTEM CONFIG:
COPY AMVSYSTEM CONFSAAMP E = CONFIG Z
4. Edit AMVSYSTEM CONFIG:
XEDIT AMVSYSTEM CONFIG Z
5. Complete the following steps to customize the sample configuration file:
 - a. Specify localization information.
 - b. Identify administrator and worker service virtual machines.
 - c. Specify archive server access to client data.
 - d. Specify the timeout interval.
 - e. Specify worker service virtual machine settings.
 - f. If you use Tape Manager for z/VM for tape media management functions, see “Specifying Tape Manager for z/VM settings” on page 17 for details on configuring Archive Manager to work with Tape Manager for z/VM.
 - g. Identify the archive catalog SFS file space.

Note: Comments are permitted within the AMVSYSTEM CONFIG file. To insert a comment, start the record with an asterisk (*). Null records are allowed.

See the following sections for more information about customizing the sample configuration file.

6. Place the primary copy of the AMVSYSTEM CONFIG file on 5697J05A 198 for use by AMVARKIV and AMVWRKnn. Deploy an additional copy to the CMS system Y-disk (MAINT 19E), or other shared disk, to give system users access to the Archive Manager user interface tools.

Global settings

Global settings identify the product and version level and are not intended for site customization.

Note: Do not modify the following required global variable settings:

AMV_Global_Product_Version

The Archive Manager version and release number.

AMV_Global_Product_Name

The Archive Manager product name.

AMV_Global_Product_ID

The Archive Manager identifier.

Specifying local installation contact information

Specify a text string (for example: the name and e-mail address of the installation-level contact) to identify the local Archive Manager contact.

To identify the local Archive Manager contact, use the `Local_SVM_Contact` variable to specify installation-level contact information reported by the Archive Manager service virtual machines.

For example:

```
Local_SVM_Contact = Archive Administrator - username@example.com
```

Identifying the administrator user and archive service virtual machines

If you do not want to use the default settings that are provided in the `AMVSYSTEM CONFIG` file, modify the following Archive Manager administrator and service virtual machine variables.

Specify the following settings:

Local_Archive_Admin_ID

Specify the user ID of the main Archive Manager administrator. The default setting is `AMVADMIN`.

Local_Archive_Server_ID

Specify the user ID of the master archive service virtual machine. The default setting is `AMVARKIV`.

Local_Archive_Catalog_ID

Specify the user ID of the archive catalog. The default setting is `AMVCATLG`.

For example:

```
Local_Archive_Admin_ID = AMVADMIN  
Local_Archive_Server_ID = AMVARKIV  
Local_Archive_Catalog_ID = AMVCATLG
```

Specifying archive server access to client data

This information describes the method by which the archive server obtains access to client minidisk resident data when an archive is requested.

`Archive_Minidisk_Via` specifies the method by which the archive server obtains access to client minidisk resident data. Specify one of the following options:

LINK When set to LINK, the server accesses client minidisks using the CP LINK command. The LINK setting requires the archive server, AMVARKIV, to have appropriate authorization to be able to LINK to target minidisks. The authorization can be accomplished with OPTION LNKNOPAS in the CP directory entry for AMVARKIV. In addition, the RACF OPERATIONS attribute is required if RACF is installed, or equivalent authority for other installed external security managers (ESMs). Minidisks are linked in read-only mode for archive creation.

DEFMDISK

(Default.) When set to DEFMDISK, the server accesses the client minidisk using the CP DEFINE MDISK command. The DEFMDISK setting requires the archive server, AMVARKIV, to have CP privilege class A and OPTION DEVMAINT in effect in the CP directory (along with corequisite ESM privileges). The archive server accesses client minidisks using the CP DEFINE MDISK command to define an identical DASD extent that overlays the minidisk as defined when the ARCHIVE command was issued.

Note: The installation administrator determines the method to use. LINK mode imposes a slight risk of error if the client minidisk is deleted or redefined in the CP directory between initiation of the archive request and processing of the request. DEFMDISK mode imposes a similar risk if a minidisk extent is relocated and the old extent is cleared between initiation and processing of an archive operation.

Specifying the timeout interval

Worker_Idle_Timeout specifies the amount of time that a worker remains idle before logging off the system.

The format is: hh:mm:ss (hours, minutes, seconds). The default value is 00:01:00 (1 minute).

Specifying worker service virtual machine settings

The following settings apply to all worker service virtual machines that you define for Archive Manager.

This staging space is temporarily used to facilitate CMS file recalls when the recall destination minidisk is not formatted at the same EDF block size as the original archive source minidisk.

Modify the following worker service virtual machine settings, as needed.

Worker_Stage_Type

When you recall files to a CMS minidisk, if the destination minidisk is not formatted with the same EDF block size as the source data (or, if you recall SFS archive data to a minidisk, if the destination minidisk is not formatted with an EDF block size of 4K [4096] byte blocks), a temporary staging minidisk is required to handle the recall operation. This value specifies whether the worker service virtual machine attempts to obtain T3390 (T-disk) or VFB-512 (v-disk) temporary storage. The size of the staging minidisk is calculated dynamically, based on parameters of the recall operation.

Note: For best performance, set this value to VFB-512. You can specify other values that are valid for CP DEFINE T-disk; however, the algorithm only supports VFB-512, T3390, and T3380.

Worker_Stage_Size

Specify an appropriate number of units (blocks or cylinders) for the worker staging area (T-disk or v-disk). This setting is used only in the unlikely event that Archive Manager is not able to dynamically calculate the size of the staging minidisk.

Specifying Tape Manager for z/VM settings

If you use Tape Manager for z/VM for all tape media management functions, configure the following tape handling exit settings.

Parameters

Note: If you do not use Tape Manager for z/VM, keep these variables commented within the file. For more information, see the *Tape Manager for z/VM User's Guide*.

Tape_Handled_Via_EUM

Indicates whether Tape Manager for z/VM is used to manage tape media. Specify one of the following values:

- 0 (Default.) Tape Manager for z/VM is *not* used for all tape media management functions.
- 1 Tape Manager for z/VM is used for all tape media management functions.

EUM_Pool_Owner

The owner of the tape pool from which to obtain all backup tapes for all jobs. The default is AMVADMIN.

Note: If `Tape_Handled_Via_EUM` is set to 1, you must specify a value for `EUM_POOL_Owner`.

EUM_Pool_Name

The name of the tape pool from which to obtain all backup tapes for all jobs. The default is AMVPOOL.

Note: If `Tape_Handled_Via_EUM` is set to 1, you must specify a value for `EUM_POOL_Pool`.

For example:

```
Tape_Handled_Via_EUM = Yes
EUM_Pool_Owner = AMVARKIV
EUM_Pool_Name = AMVPOOL
```

Specifying tape handling exits

If you do not use Tape Manager for z/VM for tape media management functions, specify the following parameters to configure tape handling exits. These settings are required regardless of whether you use Tape Manager for z/VM.

Parameters

Tape_Exit_Context

Low-level data handling routines use `Tape_Exit_Context` during the setup of runtime processing.

Note: The `Tape_Exit_Context` must be set to `AMV`.

Tape_Operator

The user ID to receive tape mount requests and other tape interaction status messages during archive operations. (For more information, see the `Tape_Request_Method` description.)

Tape_Request_Method

The means by which worker service virtual machines communicate with the tape operator user ID that is specified by the `Tape_Operator` variable. Specify one of the following options:

EXEC TELL

(Default.) The recommended setting. `EXEC TELL` uses the `CMS TELL` command. It enables the option of creating a `NAMES` file entry to send messages to multiple users.

Note: If you specify `EXEC TELL`, you can configure worker service virtual machines with an appropriately configured `NAMES` file. `Tape_Operator` can then specify a nickname if you want to send tape interaction requests to more than one user.

CP MSG

Use the `CP MSG` command instead of `TELL`. (No `NAMES` file support.)

CP WARNING

Use the `CP WARN` command. `WARN` is a high-priority message that interrupts full-screen activity (for example, `XEDIT`).

CP MSGNOH

Use `CP MSGNOH` (message; no header).

Tape_Delay_Interval

The amount of time a worker pauses before it checks whether a tape mount occurred. The format is: `hh:mm:ss` (hours, minutes, and seconds). The default value is `00:00:60` (60 seconds).

Tape_Times_To_Poll

The number of times a worker checks whether a tape mount occurred before it fails the request. The default value is 15.

TAP1_Virtual_Address

The address that is used by worker service virtual machines. The default value is 181.

Note: Do not modify the default value.

TAP2_Virtual_Address

Specifies the address that is used by worker service virtual machines when "twin set" tapes are being generated. The default value is 182.

Note: Do not modify the default value.

Tape_Retain_After_EOJ

Controls retention of attached drives after `EOJ`. Specify one of the following values:

0 (Default.) Do not retain drives after `EOJ`. Attached tapes are immediately detached at the end of the job.

- 1 Retain drives after EOJ. Attached drives are retained in anticipation of another job to process or until the Worker_Idle_Timeout interval expires.

Note: This option is effective only if TAPE_Handled_Via_EUM is set to 0.

For example:

```
Tape_Exit_Context = AMV
Tape_Operator = OPERATOR
Tape_Request_Method = EXEC TELL
Tape_Delay_Interval = +00:00:60
Tape_Times_To_Poll = 60
TAP1_Virtual_Address = 181
TAP2_Virtual_Address = 182
Tape_Retain_After_EOJ = 0
```

Specifying configuration options to specify the archive catalog SFS filesystem

Specify the following configuration options to configure the archive catalog.

CatalogPool

The SFS file pool name to use for catalog storage. The default is AMVPOOL. Modify the CatalogPool value to indicate the locally configured SFS file pool.

CatalogSpace

The SFS filesystem allocated within CatalogPool to use for catalog storage. The default is AMVCATLG. Modify the CatalogSpace value to indicate the locally configured SFS filesystem.

For example:

```
CatalogPool = AMVPOOL
CatalogSpace = AMVCATLG
```

Copying and customizing the AMVSRVR CONFIG file

The AMVSRVR CONFIG file contains storage group and storage class definitions for the archive server. This file must be accessible to the archive server (AMVARKIV). No special security measures are required to secure this file.

Copy the sample AMVSRVR CONFIG file (AMVSRVR CONFSAMP) from the SAMPLES minidisk or directory to the production configuration minidisk (or directory) and modify it to suit your local configuration requirements. Customize the file using the installation user 5697J05A.

1. Access the system configuration disk as filemode Z:
ACCESS 198 Z
2. Access the SAMPLES minidisk as filemode E:
ACCESS 2C2 E
3. Copy sample AMVSRVR CONFIG:
COPY AMVSRVR CONFSAMP E = CONFIG Z
4. Edit AMVSRVR CONFIG:
XEDIT AMVSRVR CONFIG Z

Notes:

- Users do not require access to the AMVSRVR CONFIG file. You do not need to place a copy of this file on MAINT 19E.
- The sample configuration file references a single user group (ALLUSERS GROUPLST). A sample ALLUSERS GROUPLST file is provided on the configuration disk (5697J05A 198 minidisk or VMSYS:5697J05A.ARCHMGR.CONFIGURATION SFS directory.) The sample ALLUSERS GROUPLST file references the ALLUSERS ROSTER file, which is also provided on the configuration disk. You do not need to place copies of these files on MAINT 19E.

Specifying storage group definitions

Storage groups associate one or more users with a group name.

Specify one of the following options:

Allow_Public

Specify one of the following options:

Yes Enable the PUBLIC pseudo-group.

No Do not enable the PUBLIC pseudo-group.

Allow_Private

Specify one of the following options:

Yes Enable the PRIVATE pseudo-group.

No Do not enable the PRIVATE pseudo-group.

For more information, see “Configuring and managing storage” on page 23.

Specifying storage class definitions

Storage classes identify storage media resources.

See “Configuring and managing storage classes” on page 25 for information about defining storage classes.

Specifying staging area definitions

Specify a minidisk or an SFS resource for use as a parcel staging area. All archive transactions are initially processed by creating the archive parcel on this minidisk or SFS resource.

Specify the following setting:

Staging_Area

Minidisk staging areas must be pre-formatted with an EDF block size of 4096 bytes (4K). The staging area must be large enough to contain a copy of the largest archive parcel expected to be handled by the archive server, plus capacity for associated metadata files that are generated during the staging process.

Use of an SFS directory is also supported. If you are using SFS for the staging area, specify a fully qualified SFS path in the AMVSRVR CONFIG configuration file for the staging area.

For example: `AMVPOOL:AMVARKIV.STAGINGAREA`

For more information, see “Configuring and managing storage” on page 23.

Deploying and customizing service virtual machine PROFILE EXEC routines

Archive Manager provides sample PROFILE EXEC routines for the administrator and worker service virtual machines. This information describes how to deploy and customize PROFILE EXEC routines for Archive Manager service virtual machines.

Sample PROFILE EXEC routines for service virtual machines are provided as ARKPROF SAMPEXEC (the PROFILE EXEC for AMVARKIV) and WRKPROF SAMPEXEC (the PROFILE EXEC for AMVWRKxx users). Copy the sample PROFILE EXEC routines to the appropriate targets and then customize each EXEC as described in the comments in each EXEC.

- For minidisk-based installation, copy files from: 5697J05A 2C2 to the appropriate target minidisk.
- For SFS-based installation, copy files from: VMSYS:5697J05A.ARCHMGR.SAMPLES to the appropriate target minidisk or SFS directory.

Note: Table 2 shows the default addresses and directories. Modify these targets if you created a local override to the installation specifications.

Table 2. Sample PROFILE EXECs and targets

| Sample PROFILE EXEC | Target minidisk | Target SFS directory |
|---------------------|-----------------|--------------------------------------|
| ARKPROF SAMPEXEC | AMVARKIV 191 | VMSYS:AMVADMIN. |
| WRKPROF SAMPEXEC | AMVWRKnn 191 | VMSYS:AMVWRK01. - VMSYS:AMVWRK04. |

Customizing ARKPROF SAMPEXEC

Complete these steps to customize the ARKPROF SAMPEXEC file.

1. Modify SPOOL CONSOLE to direct the console to the local Archive Manager administrator (the default is AMVADMIN).
2. Make ACCESSM0 MODULE available to the master archive service virtual machine.
3. Access Archive Manager configuration files as filemode B.
4. Access Archive Manager runtime routines as filemode C.
5. Provide a temporary work area at filemode D. The work area must be large enough to contain temporary files that are created during archive transaction processing. If minidisk-based, the minidisk must be formatted using a 4K / 4096-byte block size. The default is SFS directory .WORKAREA.

Customizing WORKPROF SAMPEXEC

Complete these steps to customize the WORKPROF SAMPEXEC file.

1. Modify SPOOL CONSOLE to direct the console to the local Archive Manager administrator (the default is AMVADMIN).
2. Make ACCESSM0 MODULE available to worker processes.
3. Access Archive Manager configuration files as filemode B.
4. Access Archive Manager runtime routines as filemode C.
5. Provide a temporary work area at filemode D. The work area must be large enough to contain scratch files and temporary job images that are created during migration processing.

Chapter 3. Administration

These topics provide information about managing the Archive Manager service virtual machines and configuring and managing storage.

For more information about Archive Manager features and benefits, including information about using Archive Manager, see the *Archive Manager for z/VM User's Guide*.

Topics:

- “Archive server management”
- “Configuring and managing storage”
- “Configuring and managing storage classes” on page 25
- “Managing worker service virtual machines” on page 28

Archive server management

The archive service virtual machine (AMVARKIV) verifies and processes archive requests initiated by clients.

The archive server manages client data and the Archive Manager storage media.

Starting the server

After you provision AMVADMIN and after you install the ARKPROF EXEC on the archive server (AMVARKIV) A disk (or directory) as PROFILE EXEC, start the archive server using the CP AUTOLOG command.

For example: 'CP AUTOLOG', 'CP XAUTOLOG', or by direct login followed by '#CP DISCONN'. When properly installed, the console log is spooled to user AMVADMIN. For more information, see the *z/VM CP Command and Utility Reference*.

Stopping the server

To stop the server, issue the HALT command on the AMVARKIV console or through SMSG.

For example: `cp msg AMVARKIV halt`

Displaying the status of the server

To display the status of the server, issue the STATUS command on the AMVARKIV console or through SMSG.

For example: `cp msg AMVARKIV status`

Configuring and managing storage

Configure and manage Archive Manager storage by defining storage groups and classes within the AMVSRVR CONFIG configuration file.

The AMVSRVR CONFIG configuration file is divided into sections. In the first section, denoted by the BEGIN_GROUPS and END_GROUPS parameters, specify

user-defined storage groups. Specify storage classes in the second section (denoted by the BEGIN_CLASSES and END_CLASSES parameters).

See “Copying and customizing the AMVSRVR CONFIG file” on page 19 for an example of an AMVSRVR CONFIG file (AMVSRVR.CONFSAMP).

Note: If you modify the configuration files (AMVSYSTEM CONFIG, AMVSRVR CONFIG, and AMVUSERS NAMES) you must restart the AMVARKIV service virtual machine to implement the changes.

Defining storage groups

A storage group is a user-defined file that points to lists of users (ROSTERS) that require access to a storage class.

To implement this type of storage group, complete the following steps:

1. Specify a *groupname* in the AMVSRVR CONFIG file.
2. Create a corresponding *groupname* GROUPLST file.
3. Create a *rostername* ROSTER file to be referenced by the *groupname* GROUPLST file.

Note: Archive Manager provides sample storage group definition files (ALLUSERS ROSTER and ALLUSERS GROUPLST). The files are available on 5697J05A 198 or VMSYS:5697J05A.ARCHMGR.CONFIGURATION as appropriate. You do not need to copy these files to MAINT 19E.

Figure 5 shows the relationship between the ROSTER storage group *groupname*, GROUPLST file, and ROSTER file.

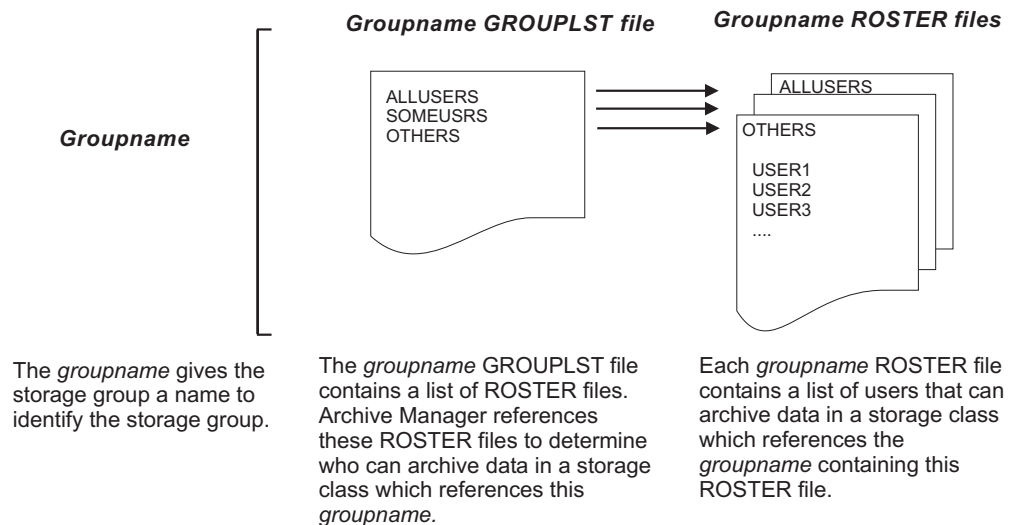


Figure 5. ROSTER (user-defined) storage group definition

Defining groupnames

Specifying a *groupname* identifies a storage group that you want to implement. Specify one or more group names.

Specify group names between the BEGIN_GROUPS keyword and the END_GROUPS keyword. The name that you specify can be any user-defined name, 1-8 characters in length, that defines a particular group of users such as: ALLUSERS or SOMEUSRS.

For example:

```
BEGIN_GROUPS  
ALLUSERS  
SOMEUSRS  
*OTHERS  
END_GROUPS
```

Three groups are specified in the example (ALLUSERS, SOMEUSRS, and OTHERS).

Note: Because the *groupname* OTHERS is denoted with an asterisk (*), it is not used.

Defining a GROUPLST file

After you specify the group names, define a corresponding GROUPLST file for each group.

Each GROUPLST file contains a list of one or more ROSTER files.

For example, for the storage group ALLUSERS, define an ALLUSERS GROUPLST file to contain a list of one or more ROSTER filenames that the storage group references. In the example, ALLUSERS is listed within the ALLUSERS GROUPLST file. Thus, Archive Manager uses the contents of the ALLUSERS ROSTER file to determine user access to archive data in any storage class that references the ALLUSERS storage group.

Defining a ROSTER file

After you define the GROUPLST file, define a *rostername* ROSTER file to contain the user IDs that are permitted to archive data in any storage class which references the *groupname* storage group.

Entries in a ROSTER file can be an explicit virtual machine name or a wildcard expression. (CMS LISTFILE command wildcard conventions apply.)

For example:

```
AUSER  
USER123  
ABCUSER
```

In the example, only users AUSER, USER123, and ABCUSER are permitted access to parcels that belong to the *groupname* storage group.

Configuring and managing storage classes

A *storage class* identifies a storage media resource, such as a set of minidisks, a tape media pool, or SFS filespaces that are owned by the archive server, which uses them to store parcel files. Each storage class can be used only by the *groupname* that is specified on the storage class definition. Therefore, you may have multiple storage classes with the same media type (tape, minidisk, or SFS).

Defining simplex storage classes

When you define a storage class as simplex, Archive Manager stores one copy of each parcel.

Defining duplex storage classes

When you define a storage class as duplex, Archive Manager stores two copies of each parcel.

Duplex storage classes create primary and alternate parcel locations that must be of the same media type. For example, if you define a DUPLEX TAPE storage class, the primary and alternate parcel locations must both be defined as TAPE.

You can define the following types of duplex storage classes:

DUPLEX TAPE

The primary and alternate parcel copies are written to separate pieces of media.

DUPLEX EDF

It is recommended that the primary and alternate minidisks reside on different volumes. If the primary and alternate minidisks reside on the same real volume, a warning is issued. Duplex minidisk classes where both minidisks reside on the same real DASD volume are permitted, though not recommended.

DUPLEX SFS

It is recommended that the primary and alternate copies reside in different file pools. Configure the SFS servers in such a manner that all data is maintained on separate real DASD volumes. If the primary and alternate filespace are maintained in the same file pool, a warning is issued. Duplex SFS classes where both filespace are maintained in the same file pool are permitted, though not recommended.

Note: For DUPLEX SFS classes, Archive Manager does not attempt to detect the case where different file pools have minidisks on the same real DASD volumes, or the case where a file pool has multiple minidisks on the same real volume.

Determining your storage needs

When you configure storage class definitions, first determine how much data you want the storage class to contain.

- For minidisk-based storage, the minidisk should be large enough to contain the amount of data the administrator decides to commit to the class. If the class is defined as a DUPLEX class (two minidisks, one copy of archived data to each minidisk) multiply the requirements by 2.
- SFS-based classes are less strict because SFS does not impose the same hard limits as a minidisk. The administrator assigns a maximum quota when filespace are created, but the quota can be altered dynamically if more storage is needed. If the SFS server requires more storage, add more DASD space to the SFS server.
- Tape classes have more relaxed limits. Provide the server with another tape volume (or pair of volumes if the class is a duplex class).

Note: Capacity of a storage class is determined according to the size of minidisks, or available storage in SFS resources. If media capacity is exceeded, increase the minidisk sizes or raise SFS storage limit quotas.

Configuring storage class definitions

Specify the following parameters for each storage class definition.

Specify the following storage class definition parameters:

CLASSNAME

The 1-8 character name of the storage class.

MEDIATYPE

The type of media. Specify one of the following options: EDF, SFS, TAPE.

PLEXTYPE

The plex type (SIMPLEX or DUPLEX).

Mindays

The minimum retention period, in days (integer).

Defdays

The default retention period, in days (integer).

Maxdays

The maximum retention period, in days (integer).

PrimaryLoc

The minidisk address, filesystem, or tape pool for primary copy.

GroupList

The filename of the fn GROUPLST file. The file contains a list of the ROSTERS that are allowed access to the storage class.

SecondaryLoc

The minidisk address, filesystem, or tape pool for secondary copy. Specify a dash "-" if you set the PLEXTYPE to SIMPLEX.

Flags Specify Y or N for each of the following flags:

RENEW

Controls whether clients can use the renew function to extend expiration of a parcel.

REMOVE

Controls whether clients can use the remove function to delete a parcel from the archive.

TRANSFER

Controls whether clients can use the transfer function to pass ownership of a parcel to another user.

MIGRATE

Controls whether clients can use the migrate function to relocate parcels to another storage class.

IMAGE

Controls whether clients can use the ARCHIVE command IMAGE keyword when creating parcels for this class.

COMPRESSION

(Reserved.)

ENCRYPTION (Reserved.)

Figure 6 shows an example of storage class definitions.

```
*      name      type plex  min/def/max  pri_media      groups  alt_media  flags
*
* Class DEFAULT: A minidisk-based single-copy storage class, using AMVARKIV minidisk E00 for storage
*
Define_Class DEFAULT  EDF  SIMPLEX 1 365 365      E00              ALLUSERS  -      Y Y Y Y N N N
*
* Class CUSTOM: An example of a minidisk-based DUPLEX media resource, using AMVARKIV minidisks E10 and E11
*
Define_Class CUSTOM  EDF  DUPLEX 1 365 99999999 E10              ALLUSERS  E11    Y Y Y Y N N N
*
* Class TAPE1: A simplex storage class that pulls SCRATCH tapes for new media
*
Define_Class TAPE1   TAPE SIMPLEX 1 365 365      SCRATCH          ALLUSERS  SCRATCH Y Y Y Y N N
*
* Class TAPE2: A duplex storage class that pulls SCRATCH tapes for new media
*
Define_Class TAPE2   TAPE DUPLEX 1 365 365      SCRATCH          ALLUSERS  SCRATCH Y Y Y Y N N
*
* Class SFSSIMPL: A single-copy class based on SFS-provided media. Change "filepool" to an appropriate SFS file pool name.
*
Define_Class SFSSIMPL SFS  SIMPLEX 1 365 365      filepool:AMVARKIV.SIMPLEX ALLUSERS  -      y y y y n n
*
* Class SFSDUPL: A dual-copy class based on SFS-provided media. Change "filepool" to an appropriate SFS file pool name.
*
Define_Class SFSDUPL SFS  Duplex 1 365 99999999 filepool:AMVARKIV.DUPLEX.PRIMARY ALLUSERS  filepool:AMVARKIV.DUPLEX.SECONDARY Y Y Y Y N N
*
END_CLASSES
```

Figure 6. Example storage class definitions

Managing worker service virtual machines

Worker service virtual machines process archive and retrieval requests that involve tape. Workers interface directly with tape and minidisk resources and are logged on to the system during processing only.

Note: Worker service virtual machines are started automatically by the archive server. When a worker service virtual machine starts running, it automatically registers with the archive server.

Stopping a worker service virtual machine

To stop a worker service virtual machine, issue the HALT command.

Issue the HALT command on the worker console or through SMSG. For example:
CP SMSG amvwrk04 HALT

Displaying the status

Issue the STATUS command to display the status of an Archive Manager service virtual machine.

Note:

- Under most circumstances, direct status requests to the archive service virtual machine, AMVARKIV.
- Worker service virtual machines respond to a status inquiry only when they are idle.

To display the status of a worker service virtual machine, issue the STATUS command. For example: cp smsg amvwrk04 status

Adding worker service virtual machines

To add a worker service virtual machine, complete these steps:

1. Create the new AMVWRKxx user in the CP directory (use an existing user as a model).
2. Set up the PROFILE EXEC for the new AMVWRKxx user (to do so, copy an EXEC from another worker).
3. Add the new worker service virtual machine to the list of workers in the AMVUSERS NAMES file.
4. Restart AMVARKIV.

Removing worker service virtual machines

To remove a worker service virtual machine, modify the AMVUSERS NAMES configuration file to remove the additional worker service virtual machines and then restart AMVARKIV.

Chapter 4. Common commands

These commands are valid for the Archive Manager archive and worker service virtual machines.

The Archive Manager administrator interacts with the archive servers by logging onto them and typing commands directly on the console, or by issuing the CP SMSG command from an administrator user ID. (For example: CP SMSG AMVARKIV CMS QUERY CMSLEVEL.) Users with administrative privileges can employ this facility to issue commands to the Archive Manager servers.

Note: Identify users with administrative privileges in the AMVUSERS NAMES configuration file.

CMS

Use the CMS command to issue a CMS command within the archive server.

Authorization

System administrator.

▶▶—CMS—*cms_command*—▶▶

Figure 7. CMS command syntax

Operands

cms_command

A valid CMS command.

Example

Figure 8 shows an example of the CMS command QUERY CMSLEVEL.

```
cp msg amvarkiv cms query cmslevel
Ready;

  CMS Level 23, Service Level 902
Return code: 0
```

Figure 8. CMS command example

CP

Use the CP command to issue a CP command within the archive server.

Authorization

System administrator.

▶▶—CP—*cp_command*—▶▶

Operands

cp_command

A valid CP command.

Example

Figure 9 shows an example of the CP command QUERY CPLEVEL.

```
cp smsg amvarkiv cp query cplevel
Ready;

z/VM Version 5 Release 3.0, service level 0902 (64-bit)
Generated at 12/01/09 16:39:30 CDT
IPL at 06/03/10 08:18:22 CDT
Return code: 0
```

Figure 9. CP command example

HALT

The HALT command stops the archive service virtual machine process for either AMVARKIV or AMVWRKnn.

- For AMVARKIV, the ARKSRVR EXEC exits and control is returned to CMS.
- For AMVWRKnn, the WRKSRVR EXEC exits and control is returned to CMS.

▶▶—HALT—▶▶

Figure 10. HALT command syntax

Authorization

System administrator.

Operands

The HALT command has no operands.

Example

Figure 11 shows an example of the HALT command issued to halt the archive server.

```
cp smsg amvarkiv halt
Ready;

ARKSRVR ended by HALT command at 06/20/05 14:18:36.
```

Figure 11. HALT command example

STATUS

The STATUS command obtains the runtime status of a server.

Authorization

System administrator.

►►—STATUS—server—◄◄

Figure 12. STATUS command syntax

Operands

server The name of the server whose runtime status you want to obtain.

Example

Figure 13 shows an example of the STATUS command issued to obtain runtime status for the archive server (AMVARKIV).

```
cp smsg amvarkiv status

SVM Name   : ARKSRVR - 5697-J05 IBM Archive Manager for z/VM - Master Archive SVM - Version 1.1.0
Compiled on: 20 Jun 2005 - 11:49:01
SVM Owner  : A User - a.user@example.com
SVM Started: Monday, 20 Jun 2005 11:49:22
Catalog SVM: AMVCATLG
Minidisk Processing via: DEFMDISK
Worker info as of 14:13:39:
    No workers have been activated yet
```

Figure 13. STATUS command example

Chapter 5. Archive server (AMVARKIV) commands

Administrators use these commands to manage archive parcels, determine archive quota and expiration information, and retrieve content from the archive.

Note: These archive commands can be issued only on the AMVARKIV service virtual machine. Issue the commands directly on the console of AMVARKIV (unless otherwise noted) or from an authorized user ID by issuing the CP `SMSG AMVARKIV` command.

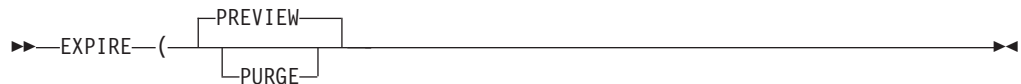
These commands can be used only by Archive Manager administrators, as defined in the `AMVUSERS NAMES` file. Commands that are available to both administrators and general users are described in the *Archive Manager for z/VM User's Guide*.

EXPIRE

Issue the EXPIRE command to display expiration information for all parcels and optionally delete content from the archive.

Authorization

System administrator.



Options

PURGE

Display parcel expiration information and delete the expired content from the archive.

PREVIEW

(Default.) Display parcel expiration information but do not delete the expired content from the archive.

Example

Figure 14 on page 36 shows an example of the EXPIRE command. In the example, parcel expiration information is displayed and expired content is deleted from the archive.

```

cp smsg amvarkiv expire (purge
Ready;
AMVARK9281I Parcel 000000EC expires after 6 Mar 2011.
AMVARK9281I Parcel 000000E0 expires after 24 Feb 2011.
AMVARK9281I Parcel 000000E1 expires after 24 Feb 2011.
AMVARK9281I Parcel 000000E2 expires after 24 Feb 2011.
AMVARK9281I Parcel 000000E3 expires after 2 Mar 2011.
AMVARK9281I Parcel 000000E4 expires after 2 Mar 2011.
AMVARK9281I Parcel 000000E5 expires after 2 Mar 2011.
AMVARK9281I Parcel 000000E6 expires after 2 Mar 2011.
AMVARK9281I Parcel 000000E7 expires after 2 Mar 2011.
AMVARK9281I Parcel 000000E8 expires after 3 Mar 2011.
AMVARK9281I Parcel 000000E9 expires after 3 Mar 2011.
AMVARK9281I Parcel 000000FF expires after 7 Apr 2011.
AMVARK9281I Parcel 000000F6 expires after 6 Apr 2011.
AMVARK9281I Parcel 000000F8 expires after 6 Apr 2011.
AMVARK9281I Parcel 000000F9 expires after 6 Apr 2011.
AMVARK9281I Parcel 00000100 expires after 7 Apr 2011.
AMVARK9281I Parcel 00000101 expires after 7 Apr 2011.
AMVARK9281I Parcel 00000102 expires after 7 Apr 2011.
AMVARK9281I Parcel 00000104 expires after 7 Apr 2011.
AMVARK9281I Parcel 0000011E expires after 12 Aug 2011.
AMVARK9281I Parcel 0000011F expires after 12 Aug 2011.
AMVARK9281I Parcel 00000110 expires after 11 Aug 2011.
AMVARK9281I Parcel 00000111 expires after 11 Aug 2011.
AMVARK9281I Parcel 00000112 expires after 11 Aug 2011.
AMVARK9281I Parcel 00000113 expires after 11 Aug 2011.
AMVARK9281I Parcel 00000120 expires after 12 Aug 2011.
AMVARK9281I Parcel 00000121 expires after 13 Aug 2011.
AMVARK9281I Parcel 00000122 expires after 13 Aug 2011.
AMVARK9281I Parcel 00000123 expires after 13 Aug 2011.
AMVARK9281I Parcel 00000124 expires after 13 Aug 2011.
AMVARK9281I Parcel 00000125 expires after 13 Aug 2011.
AMVARK9281I Parcel 00000126 expires after 20 Aug 2011.
AMVARK9281I Parcel 00000127 expires after 20 Aug 2011.
AMVARK9281I Parcel 00000132 expires after 26 Aug 2011.
Return code: 0

```

Figure 14. EXPIRE example

QUERY TAPE

The QUERY TAPE command displays information for any tape that is listed in the archive catalog.

Syntax diagram

►►—QUERY TAPE—*tapespec*—◄◄

Figure 15. QUERY TAPE command syntax

Authorization

System administrator.

Operands

tapespec

tapespec can be null, a specific tape volume label, or a wildcard expression. Null is interpreted as a "*" (all volumes).

Note: The wildcard expression is limited to the range of expressions that are supported by the CMS LISTFILE command.

Example (command issued by a general user)

Figure 16 shows a response to a QUERY TAPE command that was issued by a general user.

```
cp msg amvarkiv query tape
Ready;
Return code: 4 Insufficient privileges.
```

Figure 16. QUERY TAPE example (command issued by a general user)

Example (active volumes)

Figure 17 shows a response with a null value for *tapespec*, with three volumes active in the archive catalog.

```
cp msg amvarkiv query tape
Ready;
3 volumes selected by spec *.
P20095 contains 8 active parcels.
P20096 contains 5 active parcels.
P20098 contains 11 active parcels.
Return code: 0 Command complete.
```

Figure 17. QUERY TAPE example (active volumes)

Example (single volume)

Figure 18 shows a response to a QUERY TAPE command for a specific volume.

```
cp msg amvarkiv query tape p20098
Ready;
1 volumes selected by spec P20098.
P20098 contains 11 active parcels.
Return code: 0 Command complete.
```

Figure 18. QUERY TAPE example (single volume)

Example (inquiry for a volume that is not present in the tape catalog)

Figure 19 shows a response to a QUERY TAPE command for an inquiry for a volume that is not present in the tape catalog.

```
cp msg amvarkiv query tape p20099
Ready;
Return code: 4 No tapes selected by spec P20099.
```

Figure 19. QUERY TAPE example (inquiry for a volume that is not present in the tape catalog)

SET QUOTA

The SET QUOTA command establishes or modifies quota limits.

Syntax diagram

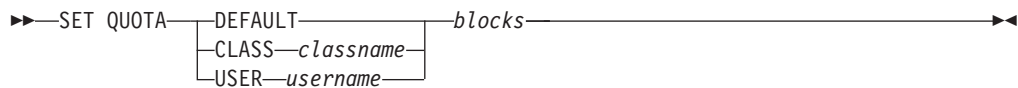


Figure 20. SET QUOTA command syntax

Authorization

System administrator.

Note: The SET QUOTA command is not enabled for use through the service machine console.

Options

DEFAULT

Use the SET QUOTA DEFAULT command to set a system-wide default quota. Doing so limits the number of 4K data blocks an individual user is allowed to consume from archive storage resources.

Note: The DEFAULT quota is applied only if there is no user-specific or storage class-specific quota in effect. If you do not specify a DEFAULT quota, the system-wide default quota is unlimited. (User-specific or storage class-specific quotas are still applicable.)

CLASS *classname*

Sets the default quota for the specified storage class (*classname*). Storage class quotas override the system default and user-specific quotas. Wildcard characters are not permitted.

USER *username*

Sets the user-specific quota that is established for the specified user (*username*). This quota is applied instead of the default system-wide quota. Storage class-specific quotas supersede this limit for the particular storage class if class-specific quotas are defined. Wildcard characters are not permitted.

Operands

blocks Where *blocks* can be:

- An integer. A value of 99999999 is interpreted as "no limit."
- An integer that is prefixed with a + or - to indicate a delta value. *+blocks* increases a previously defined quota by the specified number of blocks. *-blocks* reduces a previously defined quota.

Note:

- Quota values are calculated as a number of 4K (4096 byte) blocks.
- All quota settings are persistent across restarts and system IPLs.

Example

Figure 21 on page 39 shows an example where the default system-wide quota limit is set (99999999 4K blocks).


```
cp smsg amvarkiv set quota default 99999999
Ready;
Return code: 0
```

Figure 21. SET QUOTA example

TRANSFER

The TRANSFER command changes the ownership of an existing archive parcel.

Authorization

System administrator.

In addition, the storage class in which the parcel is located must be enabled for TRANSFER operations. See “Configuring and managing storage” on page 23 for information about defining storage classes.

```
►►—TRANSFER—parcel_id—TO—new_owner—◄◄
```

Options

parcel_id

A valid parcel.

TO Required delimiter.

new_owner

A valid virtual machine, which is defined on the system. *new_owner* must be authorized to use the storage class, which contains *parcel_id*, as defined by GROUPLST and ROSTER file resolution. See “Configuring and managing storage” on page 23 for more information. Archive Manager ignores arguments that are specified after *new_owner*.

Example

Figure 22 shows an example of the TRANSFER command.

```
smsg amvarkiv transfer 2 to maint
Ready;
Transferring parcel 00000002 from USER1 to MAINT
Catalog revisions complete. Updating quotas...
Quota revisions complete.
Donor catalog entries deleted.
Transfer complete.
```

Figure 22. TRANSFER example

Appendix. Messages and codes

All messages generated by Archive Manager have a severity code (E, I, R, S, T, or W) as the last character of the message ID.

Severity codes are described in Table 3.

Table 3. Severity codes

| Code | Description |
|------|--|
| E | Error message. Some errors might be correctable. Read the User Response to determine the appropriate course of action. |
| I | Information message. No action required. |
| R | Response message. |
| S | Severe. |
| T | T (Terminating error or abend.) |
| W | Warning message. Results might not be as expected. |

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Explanation: Product copyright notice.

System action: None.

User response: No action is required.

AMV8001E DMSEXIST return code *rc*, reason code *reason_code* while attempting to locate input file.

Explanation: The DMSEXIST CSL routine could not locate the specified input file.

System action: The operation ends.

User response: Try the operation again with a valid file name, file type, and file mode.

AMV8002T Return code *rc* from subroutine *subroutine*; abend code is *abend_code* return code.

Explanation: The specified subroutine responded with an unhandled result. An abend was triggered.

System action: The issuing routine abends.

User response: Record the accompanying diagnostic information and contact IBM Software Support.

AMV8003S Insufficient free storage available to satisfy CMSSTOR OBTAIN operation (DMSEXIST).

Explanation: There was insufficient CMS free storage available during processing of a CMSSTOR OBTAIN request.

System action: Processing ends.

User response: Define a larger virtual machine storage size, and try the operation again.

AMV8004S Insufficient free storage available to satisfy CMSSTOR OBTAIN operation (DMSREAD).

Explanation: There was insufficient CMS free storage available during processing of a CMSSTOR OBTAIN request.

System action: Processing ends.

User response: Define a larger virtual machine storage size, and try the operation again.

AMV8005E DMSOPEN return code *rc*, reason code *reason_code* during attempt to open target input file.

Explanation: The DMSOPEN CSL routine returned a non-zero return code while attempting to access a CMS file.

System action: The operation ends with a non-zero return code.

User response: Try the operation again with a valid filename, filetype, and filemode. If a valid file was

AMV8006E • AMV8013T

specified, and the condition persists, contact IBM Software Support.

AMV8006E DMSREAD return code *rc*, reason code *reason_code* while reading *input file*.

Explanation: The DMSREAD CSL routine encountered an abnormal condition while processing a CMS file.

System action: The operation ends with a non-zero return code.

User response: Review the DMSREAD return code and reason and if possible, pursue corrective action. For more information, see *z/VM: CMS Callable Services Reference*. If the condition persists, contact IBM Software Support.)

AMV8007E Syntax: *command filename filetype filemode (options. Valid options are TYPE, STACK, and COUNT.*

Explanation: This message is issued by several Archive Manager internal utility functions if a command is invoked with incorrect syntax.

command is the command or function name that was invoked with incorrect parameters.

filename filetype filemode is a valid CMS file ID.

options represents one or more supported options. (For this set of functions, the valid options are: TYPE, STACK, and COUNT.)

System action: The operation ends with a non-zero return code.

User response: Try the operation again with the correct syntax and options. See Chapter 4, "Common commands," on page 31 and Chapter 5, "Archive server (AMVARKIV) commands," on page 35 for descriptions of the commands that are restricted to users with administrator privileges. See the *Archive Manager for z/VM User's Guide* for Archive Manager user and administrator commands.

AMV8008I routine read *n* records from *input file*.

Explanation: The identified routine (*routine*) is exiting with a normal status. *n* identifies the number of records that are processed from the input file.

System action: Normal exit.

User response: No action is required.

AMV8009E Target virtual device address must be a valid hexadecimal number.

Explanation: An operand that specifies a valid hexadecimal virtual device address contained an incorrect hexadecimal character.

System action: The operation ends with a non-zero return code.

User response: Try the operation again with a valid virtual device address.

AMV8010E Function code must be either LINK or DRCT.

Explanation: AMVDIAE4 was invoked with an incorrect operand. AMVDIAE4 is an internal utility function that is invoked by the ARCHIVE command.

System action: The operation ends with a non-zero return code.

User response: Try the operation again with valid syntax and operands. For more information, see the *Archive Manager for z/VM User's Guide*.

AMV8011E Unable to extract minidisk description; CP DIAG x'00E4' return code was *rc*.

Explanation: AMVDIAE4 was unable to obtain minidisk extent description information through DIAG E4.

System action: The operation ends.

User response: Consult your system programmer to determine if CP DIAG E4 is unavailable to your virtual machine because of local privilege restrictions.

AMV8012T Input stream is out of sequence; unable to continue processing.

Explanation: An archive parcel data file contains out of sequence information. This message is typically followed by DMSABN 013.

System action: The operation ends.

User response: Contact IBM Software Support.

AMV8013T Record length discrepancy in *recordtype*.

Explanation: This message is issued if the contents of an archive parcel are corrupted. In this situation, a specific record type was encountered, but the record length was inconsistent with the type. *recordtype* identifies the archive parcel record type that is affected by the inconsistency. This message is typically followed by DMSABN 014.

System action: The operation ends through an abend.

User response: Retain all console and job logs that are associated with the error. Contact your system programmer or IBM Software Support.

AMV8014T Return code *rc* from output handler routine.

Explanation: An input/output handler encountered an error. *rc* is the output handler return code. *routine* is the output handler routine.

System action: The calling routine exits with a non-zero return code.

User response: This message might be accompanied by supporting messages to the virtual machine console. If the problem persists, contact your system programmer or IBM Software Support.

AMV8015S Metadata record length inconsistency; unable to continue.

Explanation: This message is related to message AMV8013T. It is issued for non-abend scenarios.

System action: The operation ends with a non-zero return code (but without an abend).

User response: Contact IBM Software Support.

AMV8016E Error: Command-line parsing failed.

Explanation: The issuing routine was unable to parse the ARCHIVE command line parameters correctly.

System action: The issuing routine exits with a non-zero return code.

User response: Review the ARCHIVE command syntax and operands. See the *Archive Manager for z/VM User's Guide* for the ARCHIVE command syntax. If you cannot resolve the error, contact IBM Software Support.

AMV8017E Error: *filemode_letter* is not a valid access mode letter.

Explanation: An incorrect CMS filemode letter was specified.

System action: The operation ends with a non-zero return code.

User response: Try the operation again with a valid CMS filemode letter.

AMV8018E Return code *rc* from LISTFILE *filename filetype fn*.

Explanation: The CMS LISTFILE command ended with a non-zero return code.

System action: The operation ends with a non-zero return code.

User response: Review the configuration or command syntax. For more information, see the *z/VM: CMS Commands and Utilities Reference*. If no corrective action is available, contact IBM Software Support.

AMV8019E You are not the owner of *filespace filespace*; archive is not permitted.

Explanation: The ARCHIVE command restricts archive operations to media that are owned by the invoking virtual machine. In this case, it was not possible to determine if the user that issued the ARCHIVE command was the owner of the minidisk or SFS directory that was targeted for archive operations.

System action: The command exits with a non-zero return code.

User response: Issue the ARCHIVE command from a user ID that owns the targeted minidisk or SFS directory.

AMV8020E You are not the owner of *minidisk minidisk*; archive is not permitted.

Explanation: The ARCHIVE command restricts archive operations to media that are owned by the invoking virtual machine. In this case, it was not possible to determine if the user that issued the ARCHIVE command was the owner of the minidisk or SFS directory that was targeted for archive operations.

System action: The command exits with a non-zero return code.

User response: Issue the ARCHIVE command from a user ID that owns the targeted minidisk or SFS directory.

AMV8021E Return code *rc* from AMVDIAE4 (CP Diag E4 interface); processing cannot continue.

Explanation: AMVDIAE4 encountered an error while attempting to extract minidisk extent information.

System action: The operation ends with a non-zero return code.

User response: Try the operation again. If the problem persists, contact IBM Software Support.

AMV8022E Error - *operand* contains invalid hexadecimal data.

Explanation: An operand that represents a valid virtual device address contains incorrect hexadecimal digits.

System action: The routine exits with a non-zero return code.

User response: Try the operation again specifying a valid virtual device address.

AMV8023E Error - Null value for AccessVDEV.

Explanation: A null value was encountered where a valid virtual device address was expected.

System action: The routine exits with a non-zero return code.

User response: Try the operation again with a valid virtual device address.

AMV8024E Error - ARCHIVE operations are not supported for VFB-512 virtual devices.

Explanation: An ARCHIVE operation was requested for a temporary VFB-512 virtual device.

System action: The routine exits with a non-zero return code.

User response: Copy the files to an SFS directory, a permanent minidisk, or a T3380 / T3390 temporary disk and try the operation again.

AMV8025E Error - LISTFILE *filename filetype fm* returned 0 files.

Explanation: The CMS LISTFILE command could not identify any files that meet the criteria that are specified on the ARCHIVE command.

System action: The operation ends with a non-zero return code.

User response: Try the operation again with a valid file name or file type wildcard expression. If you are attempting to perform an IMAGE archive, use the VDEV *ccuu* syntax of the ARCHIVE command. For more information, see the *Archive Manager for z/VM User's Guide*.

AMV8026E Error: CLASS requires an alternate storage class name; a null value is not permitted.

Explanation: The ARCHIVE command was invoked with an incorrect storage class identified on the CLASS parameter.

System action: The operation ends with a non-zero return code.

User response: Issue the ARCHIVE command specifying a valid storage class. For more information, see the *Archive Manager for z/VM User's Guide*.

AMV8027E Invalid option *option*.

Explanation: The issuing routine encountered an incorrect parameter.

System action: The operation ends with a non-zero return code.

User response: Review the syntax for the affected

command, and try the operation again with valid operands.

AMV8028E Error - Required site configuration variable Local_Archive_Server_ID is not defined in AMVSYSTEM CONFIG.

Explanation: No value was specified for the Local_Archive_Server_ID variable in the AMVSYSTEM CONFIG file.

System action: The operation ends with a non-zero return code.

User response: See "Identifying the administrator user and archive service virtual machines" on page 15 for information about the Local_Archive_Server_ID variable. Contact your local support staff for the correct product configuration, if needed.

AMV8029E Error - Return code *rc* trying to write ARCHIVE CMSUT1 A.

Explanation: The ARCHIVE command requires access to a read/write A disk for creation of an archive transaction. Either a non-R/W A disk was accessed, or insufficient free space is available on the current A disk.

System action: The operation ends with a non-zero return code. No archive transaction was submitted.

User response: Try the operation again with an R/W A-disk (if no R/W A disk was available) or with more free space at filemode A.

AMV8030E Error - SENDFILE return code *rc* while attempting to transmit request to archive server.

Explanation: This message is issued when the ARCHIVE command is unable to deliver an archive transaction to the archive server. (The ARCHIVE command delivers archive transaction requests to the archive server through the SENDFILE command. The SENDFILE command responded with a non-zero return code.)

System action: The operation ends with a non-zero return code.

User response: Consult your local system administrator. Verify that the AMVSYSTEM CONFIG file specifies a correct value for the Local_Archive_Server_ID variable. For more information, see "Identifying the administrator user and archive service virtual machines" on page 15. If you are unable to resolve the error, contact IBM Software Support.

AMV8031I The archive transaction has been submitted for processing. Important: Do not alter or delete objects selected for archive until you receive confirmation that the archive transaction has been successfully processed.

Explanation: An ARCHIVE operation created a transaction request and delivered it to the archive server for processing. Do not alter or delete content from the archive source until you receive confirmation that the transaction was successfully processed.

System action: A transaction is passed to the archive server for processing.

User response: No action is required.

AMV8032E AMV_Global_Product_Version is not defined in AMVSYSTEM CONFIG.

Explanation: A valid value was not specified for the AMV_Global_Product_Version variable in the AMVSYSTEM CONFIG file.

System action: None.

User response: Set AMV_Global_Product_Version to 1.1.0. Do not modify this setting.

AMV8033E AMV_Global_Product_ID is not defined in AMVSYSTEM CONFIG.

Explanation: A valid value was not specified for the AMV_Global_Product_ID variable in the AMVSYSTEM CONFIG file.

System action: None.

User response: Set AMV_Global_Product_ID to 5697-J05. Do not modify this setting. For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14.

AMV8034E AMV_Global_Product_ID is not defined in AMVSYSTEM CONFIG.

Explanation: A valid value was not specified for the AMV_Global_Product_ID variable in the AMVSYSTEM CONFIG file.

System action: None.

User response: Set AMV_Global_Product_ID to 5697-J05. Do not modify this setting. For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14.

AMV8035E Local_SVM_Contact is not defined in AMVSYSTEM CONFIG.

Explanation: A valid value was not specified for the Local_SVM_Contact variable in the AMVSYSTEM CONFIG file.

System action: None.

User response: Specify a valid value for Local_SVM_Contact (for example: username@example.com). For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14.

AMV8036E Local_Archive_Admin_ID is not defined in AMVSYSTEM CONFIG.

Explanation: A valid value was not specified for Local_Archive_Admin_ID in the AMVSYSTEM CONFIG file.

System action: None.

User response: Specify the user ID of the primary Archive Manager administrator. The default setting is AMVADMIN. For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14.

AMV8037E Local_Archive_Catalog_ID is not defined in AMVSYSTEM CONFIG.

Explanation: A valid value was not specified for the Local_Archive_Catalog_ID variable in the AMVSYSTEM CONFIG file.

System action: None.

User response: Specify the user ID of the archive catalog. The default setting is AMVCATLG. For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14.

AMV8038E This routine should only be executed on the master archive server SVM. The configuration in AMVSYSTEM CONFIG identifies user *user_id* as the archive server.

Explanation: A service virtual machine process was invoked by a user other than the one for which the service virtual machine process is appropriate.

System action: The routine exits with a non-zero return code.

User response: If this message is received on a valid Archive Manager service virtual machine, check the content of the AMVSYSTEM CONFIG and AMVUSERS NAMES files for proper identification of service virtual machines. For more information, see "Copying and customizing the AMVSYSTEM CONFIG file" on page 14 and "Copying and customizing the AMVUSERS NAMES file" on page 12.

AMV8039I Minidisk archive processing will use CP LINK.

Explanation: This message indicates that minidisk archive processing will use CP LINK.

System action: Archive transactions for minidisk

sources are processed using CP LINK.

User response: No action is required.

AMV8040I Minidisk archive processing will use CP DEFINE MDISK.

Explanation: This message indicates that minidisk archive processing will use CP DEFINE MDISK.

System action: Archive transactions for minidisk sources are processed using CP DEFINE MDISK.

User response: No action is required.

AMV8041E Invalid value *value* for AMVSYSTEM CONFIG setting of Archive_Minidisk_Via. Valid settings are LINK or DEFMDISK.

Explanation: An incorrect value was specified for the Archive_Minidisk_Via variable in the AMVSYSTEM CONFIG file.

System action: The configuration fails. The archive server is not started.

User response: Specify a valid value for the Archive_Minidisk_Via variable in the AMVSYSTEM CONFIG file. For more information, see “Specifying archive server access to client data” on page 15.

AMV8042E Server configuration failed with *n* errors and *n* warnings.

Explanation: Processing of the AMVSRVR CONFIG file resulted in one or more errors.

System action: The startup of the server is stopped.

User response: Review the server startup output for error messages and correct the underlying problem as indicated. Correct the resource definitions for the archive server or revise the AMVSRVR CONFIG file. For more information, see Chapter 2, “Configuring Archive Manager,” on page 9.

AMV8043E ERROR: No storage groups defined in AMVSRVR CONFIG. At least one storage group must be defined.

Explanation: No storage groups have been defined within the AMVSRVR CONFIG file. You must define at least one storage group.

System action: The startup of the server stops.

User response: Define at least one storage group. For more information, see “Copying and customizing the AMVSRVR CONFIG file” on page 19.

AMV8044E ERROR: No storage classes defined in AMVSRVR CONFIG. At least one storage group must be defined.

Explanation: No storage classes have been defined within the AMVSRVR CONFIG file. You must define at least one storage class.

System action: The startup of the server stops.

User response: Define at least one storage class. For more information, see “Copying and customizing the AMVSRVR CONFIG file” on page 19.

AMV8045E ERROR: AMVSRVR CONFIG parameter Staging_Area is undefined. A valid minidisk or SFS directory must be supplied for use as an archive parcel staging area.

Explanation: You must provide a valid minidisk or SFS directory for use as an archive parcel staging area.

System action: The startup of the server stops.

User response: Provide a valid minidisk or SFS directory for use as an archive parcel staging area. For more information, see “Copying and customizing the AMVSRVR CONFIG file” on page 19.

AMV8202E DMSQFMOD return code *rc*, reason code *reason_code*.

Explanation: A non-zero return code from the CMS CSL (CMS Callable Services Library) routine DMSQFMOD was encountered. Archive Manager uses this routine to extract information associated with a CMS minidisk or SFS directory.

System action: This message is issued during Archive Manager service virtual machine initialization, if DMSQFMOD issues an error response during inspection of the archive staging area. It can also be issued during other archive operations. Archive Manager attempts to continue processing around this situation. This message can be issued with other diagnostic information.

User response: For more information, see *z/VM: CMS Callable Services Reference*. If the issue cannot be resolved based on the return and reason codes, contact your system programmer or IBM Software Support for assistance.

AMV9172W Unsupported value *value* specified for variable *variable* in file *file_id*.

Explanation: This message is issued during service virtual machine initialization when an unsupported value is specified for a configuration setting in one of the Archive Manager configuration files.

System action: Service virtual machine initialization continues. After the configuration files are processed,

the affected service virtual machine might attempt to continue initialization if it is possible to assume a reasonable default for the affected setting. In some cases, it might not be possible to assume a default value. When this occurs, the affected service virtual machine stops after the configuration files are processed.

User response: For more information, see Chapter 2, “Configuring Archive Manager,” on page 9. Modify the setting to specify a supported value.

AMV9173E Variable *variable* in file *file_id* must be defined as *datatype*. The specified value, *value*, cannot be used.

Explanation: This message is issued during service virtual machine initialization when an incorrect data type is specified for a configuration setting in one of the Archive Manager configuration files. (For example, a character string was specified where a numeric value is required.)

System action: Service virtual machine initialization continues. After the configuration files are processed, the affected service virtual machine might attempt to continue initialization if it is possible to assume a reasonable default for the affected setting. In some cases, it might not be possible to assume a default value. When this occurs, the affected service virtual machine stops initialization after the configuration files are processed.

User response: For more information, see Chapter 2, “Configuring Archive Manager,” on page 9. Modify the setting to specify a supported value.

AMV9174E No value has been specified for variable *variable* in file *file_id*.

Explanation: This message is issued during service virtual machine initialization when an incorrect data type is specified for a configuration setting in one of the Archive Manager configuration files. (For example, a character string was specified where a numeric value is required.)

System action: Service virtual machine initialization continues. After the configuration files are processed, the affected service virtual machine might attempt to continue initialization if it is possible to assume a reasonable default for the affected setting. In some cases, it might not be possible to assume a default value. When this occurs, the affected service virtual machine stops initialization after the configuration files are processed.

User response: For more information, see Chapter 2, “Configuring Archive Manager,” on page 9. Modify the setting to specify a supported value.

AMV9218E Unable to continue service virtual machine start-up.

Explanation: This message is issued during service virtual machine initialization when an unrecoverable error is encountered during configuration file processing.

System action: Service virtual machine initialization stops.

User response: This message is issued with other diagnostic information. Review the console log for the affected service virtual machine and modify the parameters specified in AMVSYSTEM CONFIG, AMVUSERS NAMES, or AMVSRVR CONFIG as indicated.

AMV9219E Unable to locate AMVSYSTEM CONFIG; LISTFILE return code *rc*.

Explanation: This message is issued during service virtual machine initialization if the required configuration file AMVSYSTEM CONFIG cannot be located on any active CMS file mode.

System action: Service virtual machine initialization stops.

User response: Inspect the affected service virtual machine configuration and product installation to verify if the service virtual machine has access to Archive Manager configuration files.

AMV9220W Attempting to continue service virtual machine start-up.

Explanation: This message is issued during service virtual machine initialization when a recoverable error has been detected during processing of Archive Manager configuration files. The severity of the associated errors or warnings is low enough to allow the affected service virtual machine to proceed with initialization.

System action: Service virtual machine operations continue past the initialization stage and the affected service virtual machine attempts to enter normal operating mode.

User response: Review the service virtual machine console log for other diagnostic messages associated with initialization processing. If possible, resolve any issues with the settings defined in the Archive Manager configuration files to eliminate this message. The affected service virtual machine attempts to continue operations, but this message indicates a possible exposure to later issues. For more information, see Chapter 2, “Configuring Archive Manager,” on page 9.

AMV9221W Multiple copies (*count total*) of AMVSYSM CONFIG were found.

Explanation: This message is issued when multiple copies of AMVSYSM CONFIG are encountered in the service virtual machine environment.

System action: Service virtual machine initialization continues. The copy of AMVSYSM CONFIG that is used to establish runtime configuration is determined according to normal CMS file system search order. The effective copy of AMVSYSM CONFIG is identified in message AMV9222I.

User response: In some cases, it might be appropriate to have multiple copies of AMVSYSM CONFIG. For example, one copy on the product installation virtual machine “config files” minidisk and an additional copy on the CMS system Y-disk (MAINT 19E). If multiple copies are deployed, ensure they contain identical or compatible settings.

AMV9222I Service virtual machine configuration derived from AMVSYSM CONFIG located *locationspec* accessed as file mode *fm*.

Explanation: This message is issued during service virtual machine initialization. *locationspec* identifies the SFS directory or CMS minidisk that contains the copy of AMVSYSM CONFIG that is used to configure the Archive Manager service virtual machine. This value is reported as one of the following items:

- on minidisk userid vdev
- in SFS directory filepool:filepace.directory

fm identifies the CMS file mode at which the minidisk or directory is accessed.

System action: Initialization processing continues.

User response: No action is required.

AMV9223E Tape Manager interface TAPCMD MODULE is not available.

Explanation: The master archive service virtual machine (AMVARKIV) issues this message when *Tape_Handled_Via_EUM* = 1 was specified in the AMVSYSM CONFIG file and the client interface TAPCMD MODULE is not present on a currently accessed minidisk or SFS directory.

System action: Service virtual machine initialization ends. If the TAPCMD MODULE interface to Tape Manager for z/VM is not available, Archive Manager cannot request tape management services.

User response: Correct the Archive Manager service virtual machine configuration to make Tape Manager for z/VM runtime components available to the affected service virtual machine. For more information, see Chapter 2, “Configuring Archive Manager,” on page 9.

AMV9224W Return code *rc* from operation.

Explanation: A CMS command or function (*operation*) invoked by Archive Manager resulted in a non-zero return code.

System action: If possible, Archive Manager attempts to recover from the situation and continue processing.

User response: This message might be issued with additional diagnostic information provided by either Archive Manager or the affected CMS command. If the issue cannot be resolved, contact your system programmer or IBM Software Support.

AMV9232E Tape manager interface TAPCMD MODULE was not found on any accessed minidisk or directory.

Explanation: Archive Manager worker service virtual machines (AMVWRKnn) issue this message when *Tape_Handled_Via_EUM* = 1 is specified in the AMVSYSM CONFIG file and the client interface TAPCMD MODULE is not present on a currently accessed minidisk or SFS directory.

System action: Service virtual machine initialization ends. If the TAPCMD MODULE interface to Tape Manager for z/VM is not available, Archive Manager cannot request tape management services.

User response: Correct the Archive Manager service virtual machine configuration to make Tape Manager for z/VM runtime components available to the affected service virtual machine. For more information, see Chapter 2, “Configuring Archive Manager,” on page 9.

AMV9233E Required file *filename filetype* was not found on any accessed minidisk or directory.

Explanation: This message is issued during service virtual machine initialization if a required component or configuration file is not found in the current CMS environment. The message can be issued for executable files that are installed with the product or for essential configuration files (AMVSYSM CONFIG, AMVSRVR CONFIG, and AMVUSERS NAMES) that must be customized and deployed by the installation.

System action: Service virtual machine processing ends after any remaining initialization processing completes.

User response: Review the Archive Manager installation and configuration procedures that are described in Chapter 2, “Configuring Archive Manager,” on page 9 to ensure that the indicated file is correctly installed.

AMV9234I A new required components state tracking file, *filename filetype*, is being created.

Explanation: Archive Manager service virtual machines record file name, file type, time stamp and checksum data for essential program components and configuration files. Program component version information is recorded in the tracking file \$AMV\$ SVMFILES A on each service virtual machine. Configuration file information is recorded in \$AMV\$ CFGFILES A. This message is issued during service virtual machine initialization when no pre-existing tracking information is found, and a new tracking file is created.

System action: Service virtual machine initialization continues.

User response: No action is required.

AMV9235E EXECIO return code *rc* during update to required components state tracking file.

Explanation: The CMS EXECIO function ended with a non-zero return code when initialization processing attempted to modify one of the required components state tracking files on the A-disk of the affected service virtual machine.

System action: Service virtual machine initialization ends.

User response: Ensure that the affected service virtual machine is provisioned with a read/write minidisk or SFS directory that is accessed as file mode A.

AMV9236E Required component *component* not found; LISTFILE *rc rc*.

Explanation: Archive Manager service virtual machines use the CMS LISTFILE command to search for required component files during initialization. This message is issued if LISTFILE responds with a non-zero return code, and usually indicates that the required file is missing.

System action: Service virtual machine initialization stops.

User response: Review the Archive Manager installation and configuration procedures that are described in Chapter 2, "Configuring Archive Manager," on page 9 to ensure that the indicated file is correctly installed.

AMV9237E AMVMD5 *rc rc* for component *filename filetype*; unable to continue. AMVMD5 output: *text_string*.

Explanation: Archive Manager service virtual machines employ the AMVMD5 utility to generate checksum values for each required component or configuration file. This message is issued if AMVMD5

ends with a non-zero return code.

System action: Initialization processing ends.

User response: Examine the service virtual machine console log for additional messages that could help identify the cause of this problem. If the issue cannot be resolved, contact your system programmer or IBM Software Support.

AMV9238W Required component *filename filetype* was found on file mode *fm*. The expected filemode for this component is *fm*.

Explanation: During service virtual machine initialization, a required component or configuration file was detected on an unexpected CMS file mode letter.

System action: Initialization processing continues.

User response: This message can indicate a product installation that varies from documented requirements. Review the recommended installation and configuration processes for Archive Manager and ensure that the indicated file is installed correctly. For more information, see Chapter 2, "Configuring Archive Manager," on page 9.

This message can also be issued when files related to the user client interface are installed to the CMS system Y-disk (MAINT 19E) in addition to the service virtual machine runtime components minidisk. (In this case, the message can be ignored.)

AMV9239W Server startup will continue, but this installation is inconsistent with documented configuration requirements.

Explanation: During service virtual machine initialization, a warning severity condition was detected. This message is displayed with other diagnostic information.

System action: Service virtual machine initialization continues.

User response: This message can indicate a product installation that varies from documented requirements. The service virtual machine is allowed to complete initialization and attempts to run, but with possible exposure to later problems. For more information, see Chapter 2, "Configuring Archive Manager," on page 9.

AMV9240W *n* copies of required component *filename filetype* were found. The expected filemode for this component is *fm*.

Explanation: During service virtual machine initialization, multiple copies of a required component or configuration file were detected on multiple CMS minidisks or SFS directories.

System action: Initialization processing continues.

User response: This message can indicate a product installation that varies from documented requirements. Review the recommended installation and configuration processes for Archive Manager and ensure that the indicated file is installed correctly. For more information, see Chapter 2, “Configuring Archive Manager,” on page 9.

This message can also be issued when files that are related to the user client interface are installed to the CMS system Y-disk (MAINT 19E) in addition to the service virtual machine runtime components minidisk. In this case, the message can be ignored.

AMV9241E PIPE rc rc during state tracking file search.

Explanation: Archive Manager uses the CMS PIPE function to maintain information that is stored in files that are used for component and configuration file version tracking. This message is issued when the PIPE function exits with an unexpected return code.

System action: Service virtual machine initialization ends.

User response: Archive Manager relies on the CMS PIPE facility for various internal operations. If the PIPE command fails during initialization, the affected service virtual machine stops. Examine the service virtual machine console log for more messages that are issued by the PIPE facility. If the problem cannot be resolved, contact your system programmer or IBM Software Support for assistance.

AMV9242I A new required component file has been found. New component: filename filetype fm mm/dd/yy hh:mn:ss checksum.

Explanation: Archive Manager issues this message during service virtual machine initialization when a new required component or configuration file is added to the version tracking information recorded in \$AMV\$ SVMFILES A or \$AMV\$ CFGFILES A.

System action: A new record is added to the appropriate version tracking information file.

User response: No action is required.

AMV9243I An update to a required component file has been detected. Changed component: filename filetype fm mm/dd/yy hh:mn:ss checksum.

Explanation: Archive Manager issues this message during service virtual machine initialization when a change to timestamp information or contents of a required component or configuration file is detected.

Expect this message to be displayed when Archive Manager components are updated during the service process, or when configuration files are modified. If files are modified while Archive Manager is running,

the condition is not detected and reported until Archive Manager service virtual machines are restarted.

System action: The metadata for the indicated file is updated in the appropriate version tracking information file.

User response: No action is required.

AMV9244I Privileged virtual machine settings are based on filename filetype located location_description accessed as file mode fm.

Explanation: This message is issued during Archive Manager service virtual machine initialization. The message verifies which users are granted additional privileges for Archive Manager services.

filename filetype is AMVUSERS NAMES.

location_description is one of the following items:

- minidisk userid vdev
- SFS directory filepool:filespace.directory

fm is the CMS file mode letter at which the minidisk or SFS directory is accessed.

System action: Initialization processing continues.

User response: No action is required.

AMV9245E NAMEFIND return code rc during attempt to enumerate privilege_type. Service virtual machine start-up cannot continue.

Explanation: Archive Manager relies on the CMS NAMEFIND function to extract information from the AMVUSERS NAMES configuration file. This message is issued when NAMEFIND ends with an unexpected return code.

rc is the NAMEFIND return code.

privilege_type is worker, administrators, or master archive servers.

System action: Service virtual machine initialization ends.

User response: Examine the affected service virtual machine configuration to verify that the required configuration file AMVUSERS NAMES is available and correctly formatted. For more information, see “Copying and customizing the AMVUSERS NAMES file” on page 12. The NAMEFIND return code can also provide guidance to help resolve the error. For more information, see *CMS Commands and Utilities Reference*. If the problem cannot be resolved, contact your system programmer or IBM Software Support for assistance.

AMV9246I *count* virtual machine(s) are granted *privilege_type* authority.

Explanation: This message is issued during Archive Manager service virtual machine initialization. It documents the number of users that were granted additional *privilege_type* privileges in the AMVUSERS NAMES file. *count* is the number of users that were granted additional privileges. *privilege_type* is worker, archive administrator, or master archive server.

System action: Initialization processing continues.

User response: No action is required.

AMV9247I Temporary work area at file mode D is a *devtype* minidisk with *count* cylinders/blocks formatted at block size of *nnnnK*. Work area contains *count* files. *count* blocks in use; *nn%* utilized.

Explanation: This message is issued during Archive Manager service virtual machine initialization when a CMS minidisk was provisioned as the required temporary data work area. It documents the device type, capacity, format, and utilization of the minidisk.

devtype is the virtual device type (for example: 3390).

count is the number of cylinders or FB-512 blocks allocated for the minidisk, the number of files present on the minidisk at initialization, or the number of EDF data blocks in use on the minidisk.

nnnnK is the EDF block size at which the minidisk is formatted. *nn%* is the percentage of space in use on the minidisk.

Archive Manager service virtual machines rely on this space during normal operation. Requirements for both the master archive service virtual machine (AMVARKIV) and archive worker service virtual machines (AMVWRKnn) are described in the *Archive Manager for z/VM Program Directory* and in Chapter 2, "Configuring Archive Manager," on page 9.

System action: Initialization continues.

User response: No action is required.

AMV9248I Temporary work area at file mode D is an SFS directory: *filepool:filespace.directory*. This filesystem is limited to *count* 4K blocks. *count* blocks are in use; *nn.nn%* of capacity is utilized.

Explanation: This message is issued during Archive Manager service virtual machine initialization when a CMS SFS directory was provisioned as the required temporary data work area. It documents the SFS filepool, filesystem, and directory being used, the capacity limit of the file space, the number of blocks currently in use by the filesystem, and the percentage of total filesystem capacity currently in use.

filepool:filespace.directory is the fully qualified SFS directory path used for temporary files.

count is the maximum number of 4K SFS data blocks that are allowed to be committed to use in the filesystem, or the number of SFS data blocks that are currently committed.

nn.nn% is the percentage utilization of the filesystem.

Archive Manager service virtual machines rely on this space during normal operation. Requirements for both the master archive service virtual machine (AMVARKIV) and archive worker service virtual machines (AMVWRKnn) are documented in the *Archive Manager for z/VM Program Directory* and in Chapter 2, "Configuring Archive Manager," on page 9.

System action: Initialization continues.

User response: No action is required.

AMV9249E File mode *fm* is read-only, but is required to be read-write.

Explanation: This message is issued when a read-only minidisk or SFS directory was provisioned for use by an Archive Manager service virtual machine and read/write access is required for proper operation. *fm* is the CMS file mode letter (which can represent a CMS minidisk or SFS resource).

System action: Processing ends.

User response: Correct the service virtual machine configuration to provide read/write access to the affected minidisk or SFS directory.

AMV9279E Validation of AMVSYSTEM CONFIG * completed with result code *rc*. The service virtual machine cannot start until these errors are corrected.

Explanation: Errors were encountered during service virtual machine initialization. *rc* is the result code that is generated during service virtual machine initialization processing.

System action: Service virtual machine operation ends.

User response: Evaluate messages that were generated before this message and address the issues cited by those messages. The required changes are typically confined to one of the Archive Manager configuration files (AMVSYSTEM CONFIG, AMVSRVR CONFIG, or AMVUSERS NAMES). For more information, see Chapter 2, "Configuring Archive Manager," on page 9.

AMV9280E Environment configuration checks completed with result code *rc*. The service virtual machine cannot start until these issues are resolved.

Explanation: Errors were encountered during service

virtual machine initialization. *rc* is the result code that is generated during service virtual machine initialization processing.

System action: Service virtual machine operation ends.

User response: Evaluate messages that were generated before this message and address the issues cited by those messages. The required changes typically involve modification of the service virtual machine runtime configuration. For more information, see Chapter 2, "Configuring Archive Manager," on page 9.

AMV9281I Parcel *parcel_id* expires after *dd mmm yyyy*.

Explanation: This message is issued in response to an operation that causes the expiration date of an unexpired archive parcel to be displayed. *parcel_id* is an archive parcel ID. *dd mmm yyyy* is the day, month, and year after which the parcel expires from Archive Manager storage.

System action: Processing continues.

User response: No action is required.

AMV9282W Parcel *parcel_id* has expired, and will be deleted at the next EXPIRE (PURGE operation).

Explanation: This message is issued in response to an operation that causes the expiration date of an expired archive parcel to be displayed. *parcel_id* is an archive parcel ID and *dd mmm yyyy* is the day, month, and year after which the parcel expired.

If this message is displayed in response to an EXPIRE command that was issued with no other operands, it indicates that the associated parcel is expired and eligible for deletion from the archive catalog and associated storage class media. If this message is displayed in response to an EXPIRE (PURGE) command, the associated parcel is removed from the archive catalog and storage class media.

System action: Processing continues.

User response: No action is required.

AMV9283I Purging all elements of expired parcel *parcel_id*.

Explanation: This message is issued with message AMV9282W for each expired parcel when the EXPIRE command is invoked with the PURGE option. It indicates that the process for removing an expired archive parcel from the archive catalog and associated storage class media was initiated. *parcel_id* is the archive parcel ID of an expired archive parcel.

System action: Archive Manager proceeds with deletion of parcel information from the archive catalog,

and removal of parcel contents from minidisk or SFS media that is associated with the related storage class. Catalog information for the affected parcel is removed from the archive catalog, and archive parcel data is deleted from minidisk or SFS-based storage class media at the time this message is displayed. Parcel data that is stored on tape media is not deleted from associated tape volumes, but all information is erased from the archive catalog effectively rendering data from expired tape-resident parcels inaccessible.

User response: No action is required.

AMV9284E Invalid mode *mode* specified for EXPIRE processing.

Explanation: The EXPIRE command was invoked with an incorrect operating mode. Valid modes are PREVIEW, PURGE, and a null string. (The null string is equivalent to PREVIEW.)

System action: The EXPIRE command is rejected.

User response: Issue the EXPIRE command with a valid expiration mode.

AMV9285E Invalid / non-numeric number of days: *ndays*.

Explanation: This message is issued when an attempt is made to set or modify the expiration date of an archive parcel, but the supplied number of days (*ndays*) contains incorrect data.

System action: The operation is rejected.

User response: Try the operation again with valid syntax.

AMV9286E Command rejected; requestor is not parcel owner.

Explanation: A non-privileged user attempted to perform an operation that involves an archive parcel they do not own.

System action: The command is rejected.

User response: If the affected user should have archive administrator privileges, modify the AMVUSERS NAMES file to grant this privilege.

For general users who are not granted archive administrator privileges, try the operation again specifying an archive parcel ID that is owned by the user ID issuing the command.

AMV9287E AMV_Get_Class *rc rc, response response* for parcel *parcel_id*.

Explanation: The internal Archive Manager service AMV_Get_Class exited with an unexpected response during an attempt to extract information that is associated with archive parcel *parcel_id*.

rc is the AMV_Get_Class return code. *response* is a numeric reason code or a text string that provides more details about the failed operations.

System action: The affected operation ends.

User response: Contact your system programmer or IBM Software Support.

AMV9288E AMV_Get_Class_Dates *rc rc*, **response**
response for parcel parcel_id.

Explanation: The internal Archive Manager service AMV_Get_Class_Dates exited with an unexpected response during an attempt to extract information that is associated with archive parcel *parcel_id*. *rc* is the AMV_Get_Class_Dates return code. *response* is a numeric reason code or a text string that provides more details about the failed operation.

System action: The affected operation ends.

User response: Contact your system programmer or IBM Software Support.

AMV9289E Expiration date *ndays (dd mmm yyyy)*
exceeds class *class_id* limits.

Explanation: The expiration date or retention period that is specified on an ARCHIVE operation or on a SET EXPIRE command is outside the minimum and maximum expiration periods that are allowed by the specific storage class.

ndays is the number of days that are specified for a retention period. *dd mmm yyyy* is the effective date for the specified retention period. *class_id* is the name of the storage class that contains the associated archive parcel.

System action: The affected operation ends.

User response: Contact your system programmer or IBM Software Support.

AMV9290I Parcel *parcel_id* is set to expire after *dd*
mmm yyyy.

Explanation: This message is issued when the expiration date for an archive parcel is updated. *parcel_id* is the affected archive parcel. *dd mmm yyyy* is the day, month, and year after which the parcel expires.

System action: Processing continues.

User response: No action is required.

AMV9291E Return code *rc* updating expiration date;
abending.

Explanation: Archive Manager encountered an unexpected return code while updating the archive catalog with a new expiration date stamp. This situation reflects the potential for loss of data integrity in the archive catalog.

System action: The operation is interrupted. Diagnostic information that is related to the active REXX environment and virtual machine configuration is displayed at the console, followed by an abend.

User response: This error is triggered when a file system input/output error occurs during an attempt to create or modify information in the archive catalog SFS filesystem. Check the service virtual machine console log, or in the associated SFS file pool server virtual machine console log for more information. If the archive catalog SFS filesystem is at, or near its capacity threshold, it might be possible to correct the problem by increasing the SFS filesystem limits for the catalog filesystem.

AMV9292E SET EXPIRE denied due to storage class
configuration.

Explanation: This message is issued in response to a SET EXPIRE command when the storage class configuration for the associated parcel does not post-archive modification of parcel expiration dates.

System action: The SET EXPIRE command is rejected.

User response: No action is required. If it is necessary to modify the expiration date for the associated archive parcel, the archive administrator can modify the configuration settings of the storage class to enable use of SET EXPIRE.

AMV9293I Modifying expiration date for parcel
parcel_id.

Explanation: This message is displayed in the Archive Manager console log at the beginning of internal processing for a SET EXPIRE command. *parcel_id* is the archive parcel ID of the parcel that is being modified.

System action: SET EXPIRE processing is initiated.

User response: No action is required.

AMV9294I Original expiration date is *dd mmm yyyy.*

Explanation: This message is displayed in the Archive Manager console log as part of SET EXPIRE processing. It documents the current expiration date for the archive parcel whose retention date is being modified. *dd mmm yyyy* is the day, month, and year of the original archive parcel expiration date.

System action: SET EXPIRE processing continues.

User response: No action is required.

AMV9295E No archive catalog entry for parcel
parcel_id.

Explanation: This message is issued when a command that affects archive parcel status specifies an archive parcel ID that is not present in the archive catalog. *parcel_id* is the archive parcel ID of the parcel that is being modified.

System action: The command is rejected.

User response: Try the operation again specifying a valid archive parcel ID. For more information, see the *Archive Manager for z/VM User's Guide*.

AMV9296W No expiration date is set for parcel *parcel_id*.

Explanation: This message is issued during EXPIRE processing for any parcel in the archive catalog that does not have an expiration date. This situation can occur as a side effect of an incomplete archive operation, or as a result of a deliberate removal of the expiration data for the parcel by a privileged user. *parcel_id* is the archive parcel ID of the affected parcel.

System action: Processing continues.

User response: No action is required. However, be aware that the associated archive parcel will never expire from the archive catalog. (To assign an expiration date, archive administrators can use the SET EXPIRE command as described in the *Archive Manager for z/VM User's Guide*.)

AMV9297E Return code *rc* reading expiration date; abending.

Explanation: This message is issued when a file system error is encountered during an attempt to read the expiration time stamp for an archive parcel. This situation indicates a possible exposure to loss of archive catalog integrity.

System action: The affected Archive Manager service virtual machine displays diagnostic information about the active REXX environment and virtual machine configuration and then ends processing through an abend.

User response: Review the console log for the affected Archive Manager service virtual machine and for the associated SFS file pool server. If the problem persists, contact your system programmer or IBM Software Support for assistance.

AMV9298E Return code *rc* from *system* command *command_string*.

Explanation: Archive Manager issues this message when a CP or CMS command function ends with an unexpected return code. *rc* is a CP or CMS command return code. *system* is CP or CMS. *command_string* is the CP or CMS command that produced the unexpected return code.

System action: Actions vary, depending on the nature and severity of the error. If the error can be tolerated or is susceptible to recovery, processing continues. More severe or unrecoverable errors will cause the associated processes to stop. This message might be accompanied by extra messages from CMS or Archive Manager.

User response: If the problem cannot be resolved, contact your system programmer or IBM Software Support for assistance.

AMV9299W Storage class media content is inconsistent with catalog info. Catalog deletion for parcel will continue.

Explanation: This message is issued during EXPIRE (PURGE processing when an expired archive parcel associated with a CMS minidisk or SFS-based storage class is being removed from the archive catalog, and the files that contain the actual parcel data is not present on storage class media. This situation can arise if archive parcel files are deleted from DASD resources that are managed by Archive Manager by processes external to Archive Manager.

System action: Because the archive parcel is expired and is in the process of being removed from the system, processing continues.

User response: No action is required.

AMV9300E EXECIO *rc rc* writing file *fileid*; unable to continue.

Explanation: Archive Manager issues this message if a CMS file system input/output error occurs during an attempt to update the contents of a user quota management file in the archive catalog. *rc* is the EXECIO return code, and *fileid* identifies the CMS file that is associated with the error. The file is one of the following:

filename filetype fm (for minidisk-based files)

or

filepool:filespace.directory filename filetype (for SFS files)

System action: The operation is aborted.

User response: If this message is associated with an update to a CMS minidisk-based file, ensure that the minidisk has sufficient free space to operate to succeed. If this message is associated with updates to an SFS-based file, verify that the SFS filepool server is available, that the Archive Manager service virtual machine has sufficient privileges to modify the file, and that the SFS filespace did not exceed its storage threshold. If the problem cannot be resolved, contact your system programmer or IBM Software Support.

AMV9301I Removing parcel *parcel_id* data from *structure*.

Explanation: This message is issued during EXPIRE (PURGE processing, during deletion of archive catalog information for an expired archive parcel. *parcel_id* is the archive parcel ID being processed. *structure* is the portion of the archive catalog hierarchy that is being updated and is one of the following:

primary mediacaat
 secondary mediacaat
 Classcat structures
 Ownercat structures
 Groupcat structures
 Parcelcat structures

System action: Processing continues.

User response: No action is required.

AMV9302I Job parsing completed. Owner: *ownerid*;
 archive from *datasource* Destination class:
storageclass; *ndays* days retention.
Verbosity: *level* Notifications to
destination via *method*.

Explanation: This message is issued by the master archive service virtual machine (AMVARKIV) when an archive transaction is accepted for processing.

ownerid is the user ID that owns the data that is being archived.

datasource is the source media from which information is being archived. It is a text string that describes the source minidisk or SFS directory (and for CMS file-level archive transactions, the CMS file selection mask that is being used).

storageclass is the Archive Manager storage class that is selected as a destination for the resulting archive parcel.

ndays is the number of days that are specified for a retention period.

level is the verbosity level in effect for the current operation.

destination is the user ID to which messages about the archive transaction are sent.

method is the means by which status messages about the archive transaction are sent to destination. (This value is normally MSG, which indicates that information is transferred using the CP MSG command.)

System action: Processing continues.

User response: No action is required.

AMV9303I Class *storageclass*, attribute: *state*.

Explanation: This message is issued during Archive Manager service virtual machine initialization. It documents the configuration settings in effect for each storage class. *storageclass* is the name of the storage class that is being processed. *attribute* is a storage class attribute name. *state* indicates whether *attribute* was enabled.

System action: Processing continues.

User response: No action is required.

AMV9304I The *sourcetype* media type for class *storageclass* is defined as TAPE. Ensure archive has access to tape pool *poolname* within the tape management system.

Explanation: This message is issued during Archive Manager service virtual machine initialization. It is displayed for any tape-based storage class, and serves as a reminder that both the master archive service virtual machine (AMVARKIV) and any archive worker virtual machines (AMVWRKnn) must be granted sufficient access to tape resources.

System action: Processing continues.

User response: Verify that Archive Manager service virtual machines have access to tape media controlled by local procedures, or that Tape_Handled_Via_EUM = 1 is specified in the AMVSYSM CONFIG file within the associated Tape Manager for z/VM configuration.

AMV9305I *mm/dd/yy hh:mn:ss* processing archive configuration file *filename filetype*.

Explanation: This message is issued during Archive Manager service virtual machine initialization, at the start of processing for a configuration file. *mm/dd/yy hh:mn:ss* is the date and time at which processing occurs. *filename filetype* identifies the CMS *filename* and *filetype* of the configuration file that is being processed.

System action: Processing continues.

User response: No action is required.

AMV9306I Archive server configuration summary:
Configuration derived from file: *filename filetype* **Errors encountered:** *errorcount*
Warnings generated: *warningcount* **Parcel staging area:** *stagingarea* **Allow_Public:** *state*; **Allow_Private:** *state* **Defined groupcount storage groups, classcount storage classes.**

Explanation: This message is issued upon completion of Archive Manager service virtual machine initialization. It summarizes portions of service virtual machine configuration that is obtained from the AMVSYSM CONFIG and AMVSRVR CONFIG files.

filename filetype identifies the CMS file from which archive storage class and group information are derived. This value is typically AMVSRVR CONFIG.

errorcount is the number of errors that are detected in the configuration file.

warningcount is the number of warning conditions that are detected in the configuration file.

stagingarea identifies the master archive service virtual machine (AMVARKIV) temporary staging area. This

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value identifies either a fully-qualified SFS directory path (*filepool:filespace.directory*) or a CMS minidisk (*userid vdev*).

state is a binary value, that declares whether a configuration attribute is enabled. (1 indicates enabled; 0 indicates disabled.)

groupcount and *classcount* are the number of storage groups and classes that were defined.

System action: Processing continues.

User response: No action is required.

AMV9307I Storage group list:

Explanation: This message is issued upon completion of Archive Manager service virtual machine initialization, with message AMV9306I. It is followed by a list of one or more storage groups.

System action: Processing continues.

User response: No actions is required.

AMV9308I Storage class list:

Explanation: This message is issued upon completion of Archive Manager service virtual machine initialization, with message 9306I. The message is followed by a list of defined storage classes.

System action: Processing continues.

User response: No action is required.

AMV9309I Archiving parcel *parcel_id* in class *storageclass* for owner *ownerid*.

Explanation: This message is issued during archive processing, as an archive parcel is relocated from temporary staging storage to media that is associated with the destination storage class. *parcel_id* is an archive parcel ID. *storageclass* is the name of the destination storage class. *ownerid* is the user ID that owns the parcel that is being processed.

System action: Processing continues.

User response: No action is required.

AMV9310I Associated storage group is *storagegroup*.

Explanation: This message is issued with message AMV9309I during archive processing, as an archive parcel is relocated from temporary staging storage to media associated with the destination storage class. *storagegroup* is the name of the associated storage group.

System action: Processing continues.

User response: No action is required.

AMV9311I Destination media type is *mediatype*; migration will be processed by *servertype*.

Explanation: This message is issued during archive processing, as an archive parcel is relocated from temporary staging storage to media associated with the destination storage class.

mediatype is the destination media type (Tape, SFS, or EDF Minidisk).

servertype indicates whether the migration from staging storage is performed by the master archive service virtual machine, or by a worker service virtual machine. SFS and EDF minidisk migrations are handled by the master archive service virtual machine (AMVARKIV). Migrations to tape-based storage are processed by archive worker service virtual machines (AMVWRKnn).

System action: Processing continues. (For worker-processed migrations, AMVARKIV deploys an AMVWRKnn worker to process the migration asynchronously.)

User response: No action is required.

AMV9312I *loctype* copy of parcel will be stored in *mediatype media_id*.

Explanation: This message is issued during archive processing for each newly created archive parcel. It documents the disposition of each copy of an archive parcel.

loctype indicates which copy (primary or secondary) of an archive parcel is currently being handled by migration from staging to long-term retention storage.

mediatype indicates whether the parcel is being stored on a minidisk or in an SFS directory.

media_id identifies the SFS directory (*filepool:filespace.directory*) or minidisk (*vdev*) used to store the archive parcel.

System action: Processing continues.

User response: No action is required.

AMV9313I Archive parcel committed to catalog; archive complete.

Explanation: Archive Manager issues this message when archive parcel migration processing is complete and updates are committed to the archive catalog. If the archive parcel is being migrated to a tape-based storage class, this message might be issued upon completion of the initial staging operation. Catalog information for archive parcels that are involved in migration to tape will be further updated by the archive worker virtual machine (AMVWRKnn) that is responsible for handling the migration once the migration operation is completed.

System action: Processing continues.

User response: No action is required.

AMV9314W Tag text not set; rc rc, reason reason.

Explanation: An attempt to create or modify archive parcel tag information using SET TAG or the TAG option of the ARCHIVE command exited with a non-zero return code. *rc* is the return code that is associated with the failed tag update. *reason* is the supplemental reason code or string that is associated with the failed tag update.

System action: Processing continues. The tag information for the associated archive parcel is not modified.

User response: Try the operation again. For more information, see the *Archive Manager for z/VM User's Guide*. If the problem persists, contact your system programmer or IBM Software Support.

AMV9315I Tag text set to tagtext.

Explanation: This message is issued in response to a SET TAG command or the TAG option of the ARCHIVE command. *tagtext* is the archive tag text string established for the parcel.

System action: Processing continues.

User response: No action is required.

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Bibliography

You might need to refer to other sources of information when you are using Archive Manager.

This section lists the documentation that supports Archive Manager. Use the appropriate library for the version of z/VM that you are using.

Tip: To quickly locate a specific book, use the IBM Publications Center, which is located at www.elink.ibm.link.ibm.com/public/applications/publications/cgibin/pbi.cgi. After you enter your country information, click **Search for publications**, and enter the publication number (xxxx-xxxx) of the book that you want.

z/VM titles cited in this book

- *z/VM REXX/VM Reference*, SC24-6221
- *z/VM REXX/VM User's Guide*, SC24-6222
- *z/VM CMS User's Guide*, SC24-6173
- *z/VM CMS Commands and Utilities Reference*, SC24-6166
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- *CMS File Pool Planning, Administration, and Operation*, SC24-6167
- *Archive Manager for z/VM User's Guide*, SC18-9348
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Product Number: 5697-J05

Printed in USA

SC18-9345-02

