BrightStor™ VM:Archiver®

Operator's Guide

2.2G



Computer Associates™

SP01
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Changes in BrightStor VM:Archiver

BrightStor VM:Archiver Release 2.2G, Gen Level 0212, is released as part of the CA-VM:Manager Release 2.8, Service Pack 01. For a complete listing of all changes in CA-VM:Manager Service Pack 01, see the *Release Summary* document.

Documentation Changes

This section lists the documentation changes specific to BrightStor VM:Archiver.

- References to the product name now contain the Computer Associates brand name. This change is reflected in product initialization messages, the copyright screen, and the initial screens for the end user, system operator, and system administrator. This change is reflected throughout the product documentation set, and in some messages.

- To address Computer Associates License Management Program (LMP) key support, all references to the CPUID have been removed from the product messages, and new messages have been added that pertain to CA LMP keys. Additionally, CPUID references have been removed from the product documentation set.

About This Book

This book was written for operators who are responsible for performing the following tasks using BrightStor VM:Archiver:

- Viewing outstanding requests to copy data to TAPE storage or retrieve data from TAPE storage
- Submitting jobs to have data copied to TAPE storage or retrieve data from TAPE storage
- Managing jobs that have been submitted to Computer Associates BrightStor VM:Backup product
- Starting batch accounting
- Managing BrightStor VM:Archiver tape volumes
- Suspending and resuming BrightStor VM:Archiver
- Ending BrightStor VM:Archiver

The commands used for daily BrightStor VM:Archiver operations and to perform the tasks described above are described in this book.

This book assumes that you know VM/CMS, the conventions for naming CMS files and Shared File System (SFS) directories, and that you are familiar with BrightStor VM:Archiver and BrightStor VM:Backup job processing.

Notational Conventions

Examples are shown throughout the text of this book to illustrate when to use commands, how to use options, or how the system responds to your entries. The examples are illustrations only and may differ slightly from what appears on your screen.

Bold characters represent user entries. If the entry is a command, it appears in lowercase letters even though you can enter commands in either upper or lower case. A command that a user enters looks like this:

vmarch archive file * exec a (quiet

Uppercase, nonbold characters represent system responses or prompts. Responses or prompts are included in examples only when they contribute significantly to the usefulness of the example. A system response looks like this:

FILE PROFILE EXEC ARCHIVED SUCCESSFULLY TO STAGE.

References and Related Documentation

Several books associated with BrightStor VM:Archiver make up the BrightStor VM:Archiver library. Each book addresses a different type of user depending on the tasks the user can perform. The BrightStor VM:Archiver library includes the following:

- *User's Guide.* Presents concepts and procedures for tasks that end users typically perform.
- *Operator's Guide.* Presents concepts and procedures relevant to the day-to-day operation of BrightStor VM:Archiver.
- *System Administrator's Guide.* Provides explanations of BrightStor VM:Archiver and its administration; gives information on customizing BrightStor VM:Archiver to fit site-specific requirements; and describes any special administrative operations that must be performed.
- *Command Reference*. Provides an alphabetic reference to all BrightStor VM:Archiver commands.
- *Messages and Codes.* Lists all numbered messages produced by BrightStor VM:Archiver, the possible cause of the situation that generated the message, and any actions to take in response to the situation. The book also has a cross-reference that lists the first 60 characters of each BrightStor VM:Archiver message in alphabetical order. In addition, this book contains a list of abend codes and what action to take (when an action is possible).

Other Computer Associates product manuals to which you may want to refer include:

- *Automated Implementation and Control Guide*
- *Component Interface Guide*
- *CA-VM:Manager Installation Guide*
- *CA-VM:Manager Upgrade Guide*
- *CA-VM:Manager Reference Guide*

Chapter

1

About BrightStor VM:Archiver

BrightStor VM:Archiver performs archive storage and retrieval of CMS files and minidisks. In this book, to *archive* means to copy files and minidisks to an alternate storage area for a system-, group-, or user-specified period of time. After data has been archived, users can erase it from their minidisks or Shared Files System (SFS) directories, thus freeing up DASD space. When archived files or minidisks are needed again, users can retrieve or *recall* them. Users can recall archived files to minidisks, directories, or virtual readers. Users can recall archived minidisks to minidisks only.

Users can archive individual files from a minidisk or directory or an entire minidisk as a single entity. When a user archives individual files, the files can be archived, queried, and recalled individually. When a user archives an entire minidisk as an entity, the minidisk must be recalled as an entity; individual files cannot be queried or recalled.

BrightStor VM:Archiver Concepts

A user does not need to determine where BrightStor VM:Archiver should store archived data. If the user does not specify where to store the data, BrightStor VM:Archiver determines where to store it, based on how your BrightStor VM:Archiver system has been configured and which storage areas are available. BrightStor VM:Archiver can store files on minidisk (DASD areas), tape (TAPE area), or both. BrightStor VM:Archiver always stores archived minidisks on tape.

DASD Area (STAGE and ONLINE)

BrightStor VM:Archiver can use two types of DASD storage to store files: STAGE and ONLINE.

STAGE storage provides short-term DASD storage for files that BrightStor VM:Archiver will copy to tape volumes later. BrightStor VM:Archiver uses BrightStor VM:Backup, Computer Associates's, backup and restore product, to copy the files from STAGE storage to archive tapes later. BrightStor VM:Archiver erases the files from STAGE storage only after they have been copied to tape.

ONLINE storage provides long-term DASD storage. BrightStor VM:Archiver does not copy these files to tape volumes unless the user specifically asks to have them copied or *migrated* there.

TAPE Area

The TAPE area provides long-term tape storage of archived files and minidisks. BrightStor VM:Archiver copies data to the TAPE area in one of the following ways:

- Indirectly, through STAGE storage

  Files stored in STAGE storage are copied by BrightStor VM:Backup to archive tapes in the TAPE area later.

- Indirectly, through ONLINE storage

  If a user requests it, BrightStor VM:Archiver will migrate the files to tape after a specified period of time.

- Directly, when you request an archive to tape

  When you archive directly to tape, BrightStor VM:Archiver *schedules* a BrightStor VM:Backup request to copy your files directly from your minidisk or SFS directory to tapes in the TAPE area.

- Directly, when you archive a minidisk

  When you archive a minidisk, BrightStor VM:Archiver *schedules* a request to copy the entire minidisk, as an entity, directly to tapes in the TAPE area.

Storage Area Selection

When archiving files, users can request a specific storage area or have BrightStor VM:Archiver select one for them. When a user does not request a specific storage area, BrightStor VM:Archiver tries to archive the files to STAGE storage first, then, if unsuccessful, to the ONLINE area. If these areas are unavailable, BrightStor VM:Archiver schedules an archive to tape. For archives to tape, BrightStor VM:Backup copies the files from the user's minidisk or directory directly to tape. When a user archives a minidisk, BrightStor VM:Archiver *always* schedules it to be copied directly to tape; therefore, the user cannot specify a storage area.

Figure 1 shows the options on the ARCHIVE FILE command and the paths that BrightStor VM:Archiver uses to archive data to the storage areas.

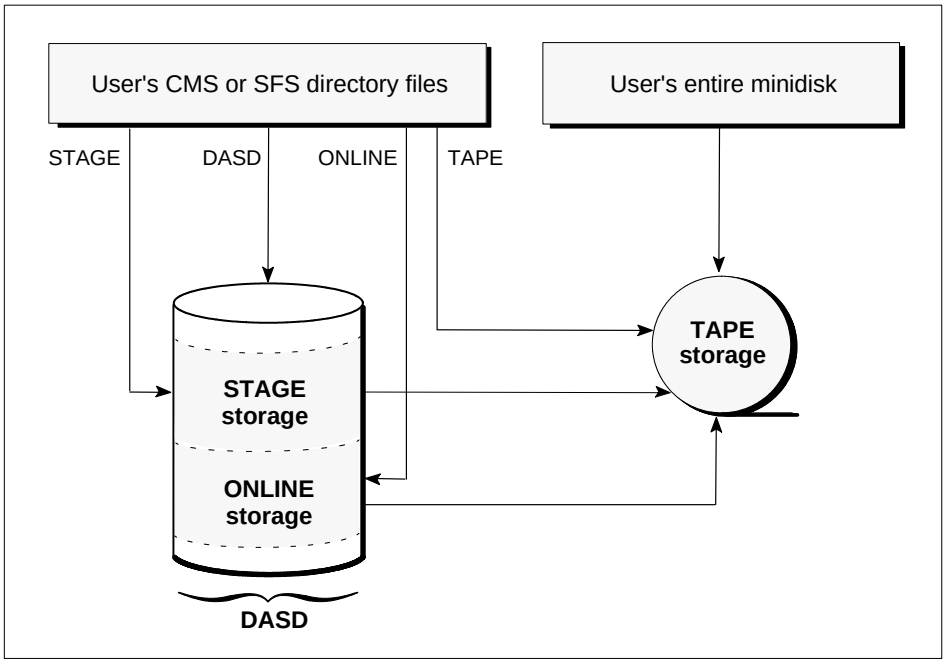


Figure 1. Storage Destination Paths

BrightStor VM:Archiver Components

The main component of BrightStor VM:Archiver is a service virtual machine that typically runs disconnected. The BrightStor VM:Archiver system module, VMASYS, runs on this virtual machine and allows the execution of concurrent tasks. For example, one user can be archiving files while another is recalling a file.

Users communicate with the service virtual machine through the VMARCH command. All requests to and replies from the service virtual machine are transmitted using the Inter-User Communication Vehicle (IUCV).

Note: Although BrightStor VM:Archiver can run on any userid with the proper directory entries, this book assumes that BrightStor VM:Archiver resides on the recommended userid VMARCH.

DASD Storage Area

The DASD storage area provides for two kinds of DASD storage: STAGE and ONLINE. BrightStor VM:Archiver manages the DASD area as a single DASD pool on the minidisks you tell it to use. The DASD area contains both STAGE and ONLINE files. Files archived to STAGE and ONLINE storage are not stored on minidisks allocated specifically for either of these storage types. Your system administrator must define DASD area storage on minidisks; it cannot reside on SFS directories.

STAGE Storage

Your system administrator can allocate a percentage of the DASD storage area to be used for STAGE storage. STAGE storage is used as intermediate DASD storage for users' files. Files are later copied from STAGE storage to tape by BrightStor VM:Backup. Once the files have been copied to tape, BrightStor VM:Archiver erases them from STAGE storage when it needs to make room for more archived files.

ONLINE Storage

Your system administrator can allocate a percentage of the DASD storage area to be used for ONLINE storage. ONLINE storage is used as long-term DASD storage for users' files.

TAPE Area

The tape area provides for long-term tape storage of data.

BrightStor VM:Archiver Database

The BrightStor VM:Archiver database is the primary repository for information about the BrightStor VM:Archiver system. The database is a relational database that contains information on:

- Users defined to the system
- Groups defined to the system
- System configuration and system defaults
- User authorizations
- Archived files and minidisks
- Requests to archive data to and recall data from tape
- Outstanding jobs
- Tapes that contain archived data
- User-defined authorizations

The database resides on a minidisk in the BrightStor VM:Archiver service virtual machine. The virtual address of this minidisk is specified on the DATABASE record in the VMARCH CONFIG file. Typically, virtual address 01B0 is used. Only the database file (VMARCH PFMDB) and database work files ($*ddmmmyy* $*nnnnnnn*) can reside on this minidisk.

Hardware Requirements

To access BrightStor VM:Archiver screens, you must use a display or full-screen (3270-type) terminal with a minimum of 24 lines and 80 columns. If you have a line-mode terminal, you must use line-mode commands to access BrightStor VM:Archiver.

Authorizations

You must be authorized as a BrightStor VM:Archiver operator to perform the tasks described in this book.

Chapter

2

Using BrightStor VM:Archiver

Accessing and Leaving BrightStor VM:Archiver

There are two ways to use BrightStor VM:Archiver: through screens and through line-mode commands.

To access the BrightStor VM:Archiver Operator Main Menu, from CMS type **vmarch** and press Enter. BrightStor VM:Archiver displays this screen:

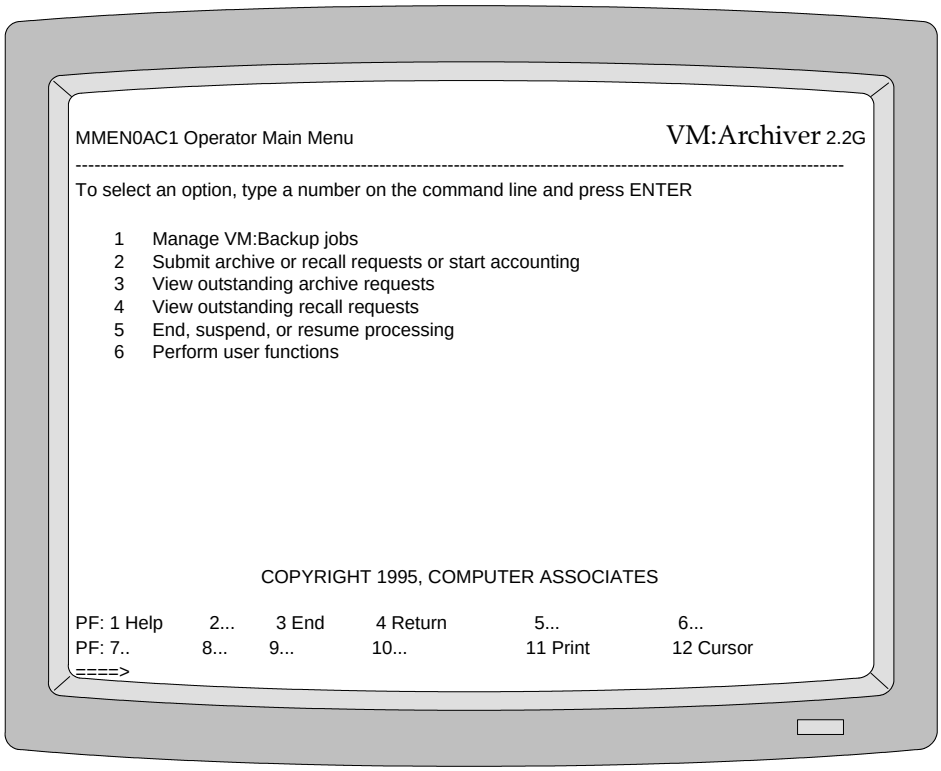


Figure 2. Operator Main Menu

To exit the BrightStor VM:Archiver screens and return to CMS, press PF3 (End) until you reach the main menu, then press PF3 one more time.

To access BrightStor VM:Archiver through a line-mode command, from CMS type **vmarch**, enter a space followed by the command, then press Enter. For example, to ask BrightStor VM:Archiver to recall your PROFILE EXEC file, enter this line-mode command:

vmarch recall file profile exec

For more information on using BrightStor VM:Archiver screens, refer to *Moving Through Screens and Menus* below. Refer to *Using Commands* on page 8 for additional information on using BrightStor VM:Archiver commands.

Note: VMARCH is the default name of the BrightStor VM:Archiver service virtual machine. If your BrightStor VM:Archiver service virtual machine has a different userid, use that name instead.

Moving Through Screens and Menus

To enter information in fields on the screens, begin typing your entries in the space provided. Use the tab key to move between fields. Follow the instructions displayed on the screens.

To perform some tasks from the screens, you must use the program function (PF) keys instead of entering commands or filling in fields. The PF keys available for each screen are listed at the bottom of the specific screen.

To view the PF key help screens, press PF1 (Help) from the main menu. A description of the PF key functions follows the explanations of the main menu options. Use PF7 (Backward) and PF8 (Forward) to move through the help screens. To return to the main menu, press PF3 (End).

Help With Screens and Menus

You can get information about any currently displayed menu or screen by pressing PF1 (Help). This program function key displays a help screen that describes what you can do from the menu or screen.

To get information on a specific field on a BrightStor VM:Archiver screen, position the cursor on the field and press the PF1 key. If field-sensitive help is not available for the selected field, BrightStor VM:Archiver displays the help for the entire screen. To see a help screen for the entire screen from the field help, press PF1 (FullHelp).

When you are finished reading the help screen, press PF3 (End) to return to the original screen.

Using Commands

BrightStor VM:Archiver works through line-mode commands as well as screens. The following sections describe how to enter commands from CMS and from BrightStor VM:Archiver screens.

Entering Commands From CMS

Use the VMARCH command to communicate with BrightStor VM:Archiver. VMARCH is the default name of the BrightStor VM:Archiver service virtual machine. If your BrightStor VM:Archiver machine has a different name, use that name instead. When you use the VMARCH command, all responses are edited according to your virtual machine's current EMSG setting.

For example, to use a line-mode command to query the files archived for your userid, from CMS enter **vmarch query files** and press **Enter.**

Entering CP and CMS Commands From BrightStor VM:Archiver Screens

BrightStor VM:ArchiverYou can enter CP and CMS commands from the command line on all BrightStor VM:Archiver screens. BrightStor VM:Archiver processes commands entered in the **Cmd** column, if present, before reading the command line. If BrightStor VM:Archiver does not recognize the command entered on the command line as valid for that screen, BrightStor VM:Archiver passes the command to CMS for execution. Standard CMS search order rules apply. You do not have to prefix CP and CMS commands with **cp** and **cms** respectively.

Entering Commands From CP

If you enter BrightStor VM:Archiver operator commands from an operator userid running in CP mode, prefix the VMARCH command with the CP SMSG command. Use the format **cp smsg vmarch *command,*** where *command* is the BrightStor VM:Archiver command. For example, to issue the SUBMIT ARCHIVES command from an operator userid running in CP mode, enter **cp smsg vmarch submit archives**.

Entering Commands From the BrightStor VM:Archiver Service Virtual Machine

You can enter commands on the BrightStor VM:Archiver service virtual machine if your BrightStor VM:Archiver service virtual machine is running in connected mode. When entering a command on a BrightStor VM:Archiver console, specify the command only; do not prefix it with **vmarch** or the name of the BrightStor VM:Archiver service virtual machine.

From 3270-type Terminals

If the BrightStor VM:Archiver service virtual machine is connected to a 3270-type terminal, enter the command only. For example, to enter the SUBMIT ARCHIVES command from a BrightStor VM:Archiver console at a 3270-type terminal, enter **submit archives**.

From Line-mode Terminals

If the BrightStor VM:Archiver console is connected to a line-mode terminal, follow these steps:

1. Press ATTN or BREAK. BrightStor VM:Archiver displays the message:

   hh:mm:ss nnn VMACON1110I Enter:

   BrightStor VM:Archiver replaces *hh:mm:ss* with the current time and *nnn* with the reply number.

2. Enter the command only. For example, to issue the SUBMIT ARCHIVES command, enter **submit archives**.

Help With Commands

You can get help on BrightStor VM:Archiver commands through the CMS HELP facility. To see the help for a particular BrightStor VM:Archiver command, enter the following from CMS or on the command line on a BrightStor VM:Archiver screen:

help vmarch

BrightStor VM:Archiver displays an overview of BrightStor VM:Archiver help and a list of commands for which help is available.

An asterisk (*) preceding a command, for example *ARCHIVE, means that there are multiple forms of the command. For example, the ARCHIVE command has two forms one for files (ARCHIVE FILE) and one for minidisks (ARCHIVE MDISK).

To get help on a command, move the cursor to the command for which you want help and press PF1 or Enter.

For commands with multiple versions, BrightStor VM:Archiver displays another menu that lists the different forms of the command. For example, the menu for ARCHIVE shows **FILE** and **MDISK**. Move the cursor to the form of the command you want to see and press PF1 or Enter.

BrightStor VM:Archiver displays the help for that command.

When you are finished reading the help, press PF3 until you return to the help overview screen, and then press PF3 again to exit the CMS HELP facility or to return to the original BrightStor VM:Archiver screen.

For more information on using the CMS HELP facility, refer to the CMS user's guide appropriate for your system.

Pattern Matching

You can enter pattern-matching characters in the userid, virtual address, filename and filetype, and SFS directory path fields of many BrightStor VM:Archiver screens and commands. These characters make it easy to specify multiple userids, virtual addresses, and files having similar filenames and filetypes. Valid pattern-matching characters are listed in Table 1.

Table 1. Pattern-Matching Characters

Character	Meaning
*	Matches any number of characters from zero on up
%	Matches *one* character only

Examples

- To specify all files with a filename ending in SALES and any filetype, enter:

  ***sales ***

- To specify any file with a 5-character filename ending in DEC and a filetype containing the character string REP, enter:

  %%dec *rep*

BrightStor VM:Archiver Messages

While using BrightStor VM:Archiver, you will receive messages that do one of the following:

- Inform you of the status and progress of the function or task
- Prompt you for information about your system
- Indicate if an error occurred
- Provide instructions for resolving errors

All messages are in the format displayed in Figure 3.

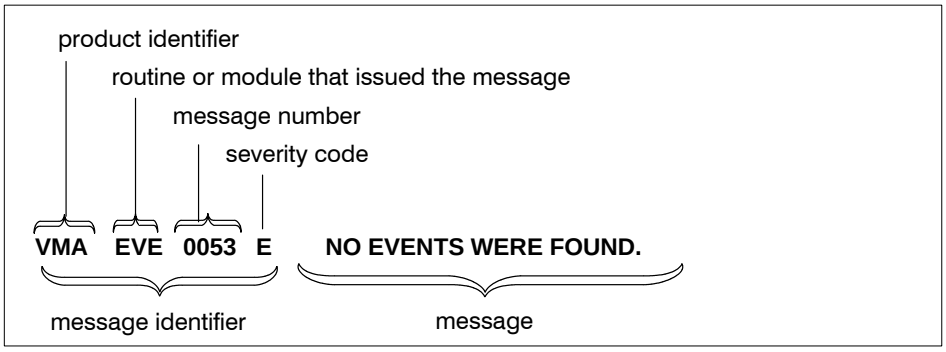


Figure 3. BrightStor VM:Archiver Message Format

You can tell the type of message by its last letter, which is its *severity code*. The severity code can be one of the following:

E Error message. The function or task can continue normally if you correct the error. The function or task may end.

I Informational message. BrightStor VM:Archiver initialization has completed or a task that BrightStor VM:Archiver is performing has completed. When an informational message appears immediately after a severe error message (severity code S), it tells you how to correct the problem the severe error message identified.

R Response message. Requests information. You need to respond to a BrightStor VM:Archiver message.

S Severe error message. An error preventing the function or task from continuing has occurred. You are returned to CMS and must restart the procedure after correcting the error.

W Warning message. A potentially serious condition has occurred that may require immediate attention.

Help With Messages

For more information on a numbered system message you receive when using BrightStor VM:Archiver in line mode, refer to *BrightStor VM:Archiver Messages and Codes* or use the CMS HELP facility on that message.

BrightStor VM:Archiver Messages and Codes lists all numbered messages BrightStor VM:Archiver can generate, explains the possible causes of each message, and tells you how to respond to that message.

To use the CMS HELP facility for a BrightStor VM:Archiver message, type **help**, a space, the 3-character product identifier **vma**, the message number, and the severity code. Do not type the 3-letter code displayed after the product identifier; this code is the routine or module that issued the message.

For example, to get help on message VMACOM1091E, enter the following from CMS:

```
help vma1091e
```

When you have finished reading the message help, press PF3 to exit the CMS HELP facility.

For more information on using the CMS HELP facility, refer to the CMS user's guide appropriate for your system.

Chapter

3

Using the Operator Screens

Operator Main Menu

To select an option from the Operator Main Menu, type the number of the option you want and press Enter. BrightStor VM:Archiver displays the appropriate screen.

Table 2. Operator Main Menu

Main Menu Option	Use It To ...	Refer To ...
1 Manage VM:Backup Jobs	View the status of BrightStor VM:Backup jobs, resubmit jobs, cancel jobs, or display a list of tapes to be used in a recall, tape reinitialization, or merge/purge/copy job	Chapter 4, *Managing Active Jobs*
2 Submit jobs or start accounting	Build and submit archive, recall, merge/purge/copy, or tape reinitialization jobs to BrightStor VM:Backup, or start batch accounting	Chapter 5, *Submitting Requests and Starting Accounting*
3 View outstanding archive requests	View archive requests that have not yet been processed	Chapter 6, *Viewing Outstanding Requests*
4 View outstanding recall requests	View recall requests that have not yet been processed	Chapter 6, *Viewing Outstanding Requests*
5 End, suspend, or resume processing	End processing immediately or when commands are complete, or suspend or resume system activity	Chapter 7, *Ending and Suspending BrightStor VM:Archiver Operation*
6 Perform user functions	Perform end-user functions such as archiving files and minidisks, displaying and changing your archived data, and purging and reclaiming data	*Performing User Functions* on page 16

Performing User Functions

Select Option 6, **Perform user functions**, if you want to archive or recall files or minidisks, or manage your authorizations. BrightStor VM:Archiver displays the User Main Menu. As an operator you are authorized to perform end-user functions. Refer to the *BrightStor VM:Archiver User's Guide* for detailed information on using the end-user screens.

Chapter

4

Managing Active Jobs

Managing Jobs

To manage existing jobs, select Option 1, **Manage BrightStor VM:Backup jobs**, from the Operator Main Menu. BrightStor VM:Archiver displays the Manage BrightStor VM:Backup Jobs screen. This screen displays a list of jobs that have been or are waiting to be processed by BrightStor VM:Backup. This list includes information about a job's status and its submit and end times. From this screen you can resubmit jobs, cancel jobs, or display a list of tapes required for a recall, merge/purge/copy, or tape reinitialization job. Figure 4 shows a sample Manage BrightStor VM:Backup jobs screen.

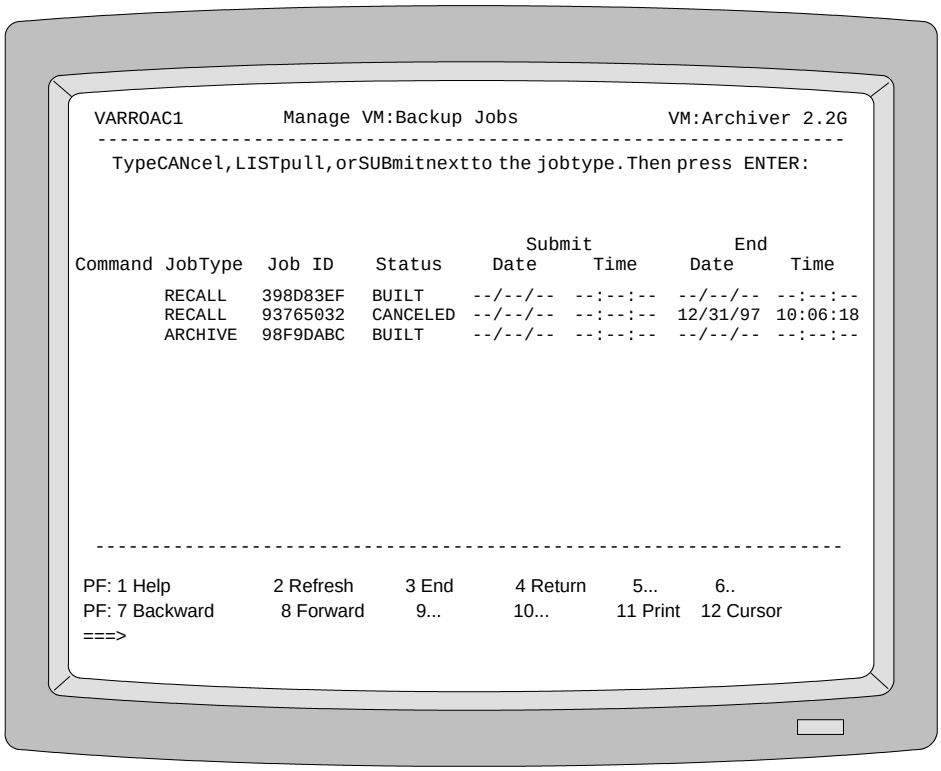


Figure 4. Manage BrightStor VM:Backup Jobs Screen

Entering Commands

To issue a command on the Manage BrightStor VM:Backup Jobs screen, type the command in the **Command** column next to the appropriate job name and press Enter.

Dynamic Screen Updating

BrightStor VM:Archiver automatically updates the information on the Manage BrightStor VM:Backup Jobs screen every 10 seconds. To display the most current information on the screen, press PF2 (Refresh).

Job Information

The Manage BrightStor VM:Backup Jobs screen displays the following information about jobs:

Job Type

The **Job Type** field contains one of the following for each job:

Table 3. Job Types

Job Type	Definition
ARCHIVE	Contains one or more archive requests
MPC	Is a merge/purge/copy job
RECALL	Contains one or more recall requests
REINIT	Is a job to recycle tapes that have been processed as input to merge/purge/copy. This job relabels tapes, updates the BrightStor VM:Archiver database, and updates the BrightStor VM:Tape Tape Management Catalog (TMC), making the tapes available for use again.

Job ID

The job ID is assigned by BrightStor VM:Archiver when it builds the job. The job ID contains eight hexadecimal characters, A-F and 0-9.

Status

The **Status** field contains one of the following for each job:

Table 4. Job Statuses

Status	Definition
BUILT	BrightStor VM:Archiver has created control files from which BrightStor VM:Backup can create a job template file and an exception file. The job has not yet been submitted to BrightStor VM:Backup.
CANCELED	The job has been canceled.
COMPLETED	The job has completed.

(continued)

Table 4. Job Statuses (continued)

Status	Definition
DB_UPDATE	BrightStor VM:Archiver is processing the job output information it received from BrightStor VM:Backup. This processing includes updates to the database.
IMPORTED	BrightStor VM:Archiver has issued the BrightStor VM:Backup IMPORT command. BrightStor VM:Backup has successfully created a template file and an exception file on the BrightStor VM:Backup service virtual machine.
INFO_ERR	The BrightStor VM:Archiver Job Output Analyzer encountered errors processing job completion information sent by BrightStor VM:Backup.
NO_VMBJOB	BrightStor VM:Archiver requested information for this job, but BrightStor VM:Backup has no information on the job.
RPT_AVAIL	BrightStor VM:Archiver has requested job output information from BrightStor VM:Backup, but has not yet processed it.
VMBCANCEL	The job is in the BrightStor VM:Backup job queue waiting to be canceled by BrightStor VM:Backup. BrightStor VM:Archiver assigns a job this status when a job in VMBSUBMIT status is canceled using the BrightStor VM:Archiver CANCEL JOB command.
VMBSUBMIT	The job has been successfully submitted to the BrightStor VM:Backup service virtual machine.

Submit Date and Time

The **Submit Date and Time** field indicates the date and time the job was successfully submitted to BrightStor VM:Backup.

End Date and Time

The **End Date and Time** field indicates the date and time the job ended. End dates and times are shown for jobs that have completed, for jobs that were canceled, or for jobs for which the BrightStor VM:Archiver Job Output Analyzer encountered errors.

Resubmitting Jobs

Command: SUBmit

To resubmit a job, type **submit** in the **Command** column next to the job you want to resubmit and press Enter. Only jobs with the status BUILT, IMPORTED, or VMBSUBMIT can be submitted.

You can submit only one archive job at a time. You can type **submit** next to more than one recall job. BrightStor VM:Archiver will process the jobs in the order in which they appear on the screen.

Displaying a List of Tapes To Use in a Job

Command: LISTpull

You can display a list of tapes that are required for a recall, merge/purge/copy, or tape reinitialization job by typing **listpull** in the **Command** column next to the name of the job. You can display a list of tapes only for jobs that have the status BUILT, IMPORTED, or VMBSUBMIT. When you enter the LISTPULL command, BrightStor VM:Archiver displays the Tape Pull List screen. Figure 5 shows a sample screen:

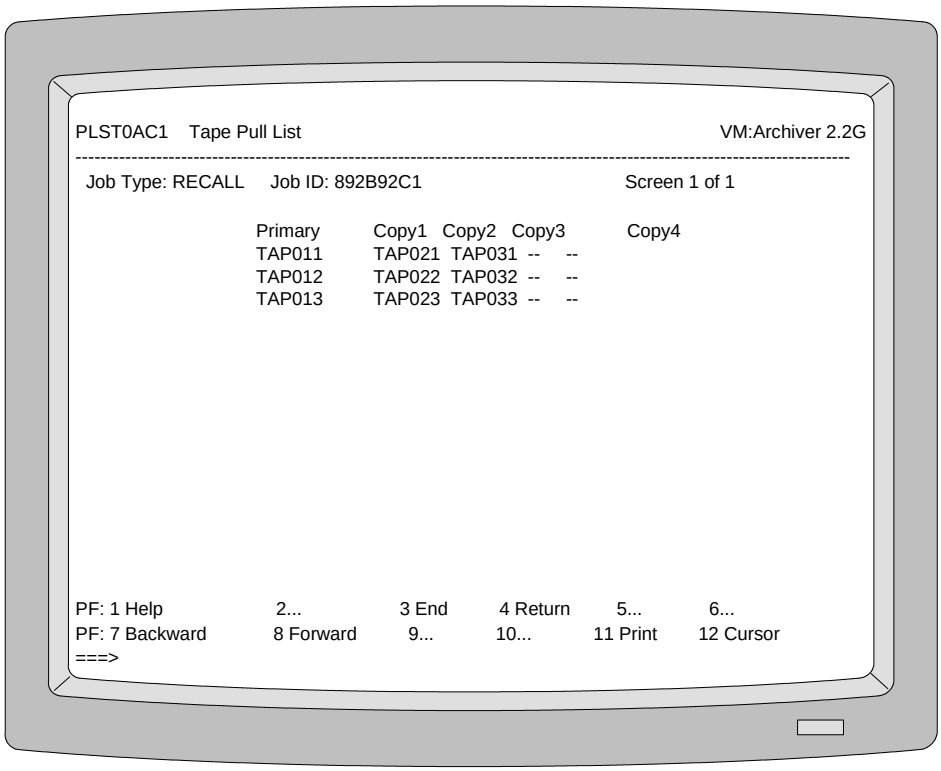


Figure 5. Tape Pull List Screen

This screen displays a list of tapes required for the job. You can print the screen if you like by pressing PF11 (Print). The list includes the primary tapes and any copies they may

have. Only tapes with the status AVAIL or OPEN are displayed. Tapes are not necessarily listed in the order in which BrightStor VM:Backup calls for them.

For recalls, the list of primary tapes may include tapes that BrightStor VM:Backup does not call for during the job. This situation can occur because the LISTPULL command lists all the tapes containing the data set that holds the file or minidisk to be recalled, even though not all the tapes may be required to perform the recall. For example, if the file to be recalled resides on the first tape of a 5-tape data set, the output from the LISTPULL command shows all five tapes, but BrightStor VM:Backup uses just the first tape in the data set.

Canceling Jobs

Command: CANcel

You can cancel a job at any time except when it has already completed or has already been canceled. To cancel a job, type **cancel** next to the job name in the **Command** column on the Manage BrightStor VM:Backup Jobs screen and press Enter. Table 5 shows the various job statuses and whether you can cancel a job with that status.

Table 5. Job Statuses and the CANCEL Command

Job Status	Can You Cancel the Job?	Explanation
BUILT INFO_ERR NO_VMBJOB	Yes	BrightStor VM:Archiver cancels the job. The requests included in the job will be included in subsequent jobs.
IMPORTED	Yes	BrightStor VM:Backup erases the TEMPLATE and XCEPT files for the job. BrightStor VM:Archiver then cancels the job. The requests included in the job will be included in subsequent jobs.
VMBSUBMIT	Yes	BrightStor VM:Archiver checks the BrightStor VM:Backup job queue. If the job is in the BrightStor VM:Backup job queue, BrightStor VM:Archiver issues the BrightStor VM:Backup CANCEL command and changes the job status to VMBCANCEL. BrightStor VM:Archiver waits for the keyword data report from BrightStor VM:Backup, then cancels the job. Requests in the canceled job are included in subsequent jobs. If the job is not in the BrightStor VM:Backup job queue, see the explanation for the IMPORTED status.
VMBCANCEL	No	The job is already being canceled.

(continued)

Table 5. Job Statuses and the CANCEL Command (continued)

Job Status	Can You Cancel the Job?	Explanation
CANCELED COMPLETED	No	The job has already completed.
DB_UPDATE RPT_AVAIL	No	BrightStor VM:Backup has completed the job. BrightStor VM:Archiver only needs to update the database.

Chapter

5

Submitting Requests and Starting Accounting

Submitting Jobs and Starting Accounting

To submit archive, recall, merge/purge/copy, and tape reinitialization jobs or to start batch accounting, select Option 2, **Submit jobs or start accounting**, from the Operator Main Menu. BrightStor VM:Archiver displays the Submit Jobs or Start Accounting screen. This screen is shown in Figure 6.

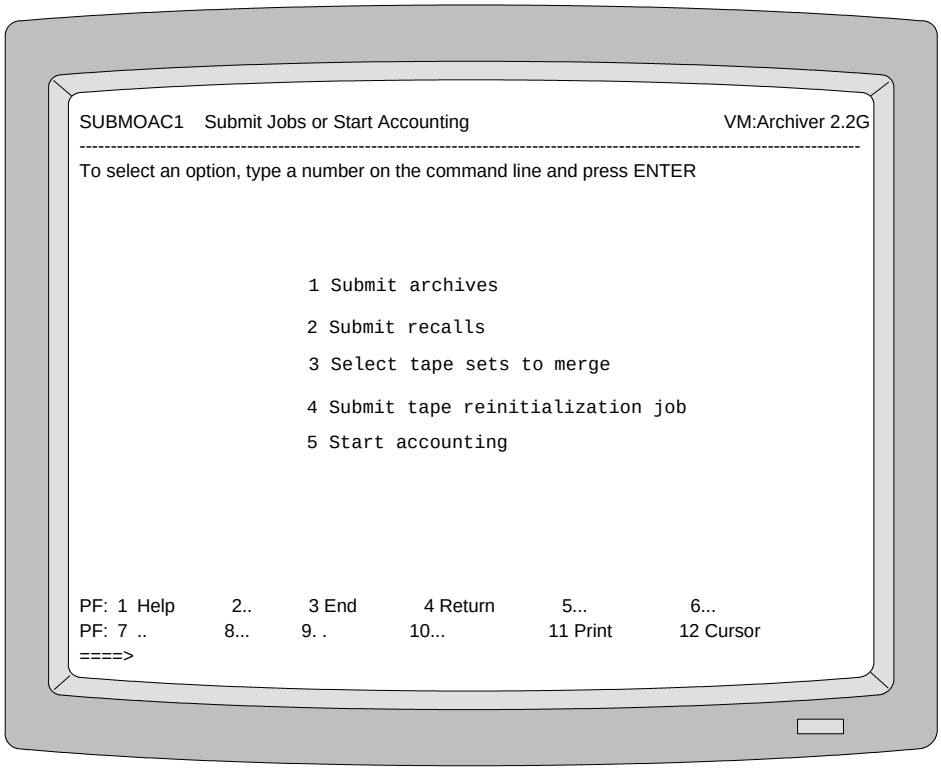


Figure 6. Submit Jobs or Start Accounting Screen

Submitting Archives

To submit archives, select Option 1, **Submit archives**.

BrightStor VM:Archiver builds and submits an archive job.

Submitting Recalls

To submit recalls, select Option 2, **Submit recalls**.

BrightStor VM:Archiver builds and submits one or more recall jobs.

Selecting Tape Sets To Merge

To select tape sets for merge/purge/copy processing, select Option 3, **Select tape sets to merge**, from the Operator Main Menu. BrightStor VM:Archiver displays the Select Tape Sets To Merge screen. This screen is shown in Figure 7.

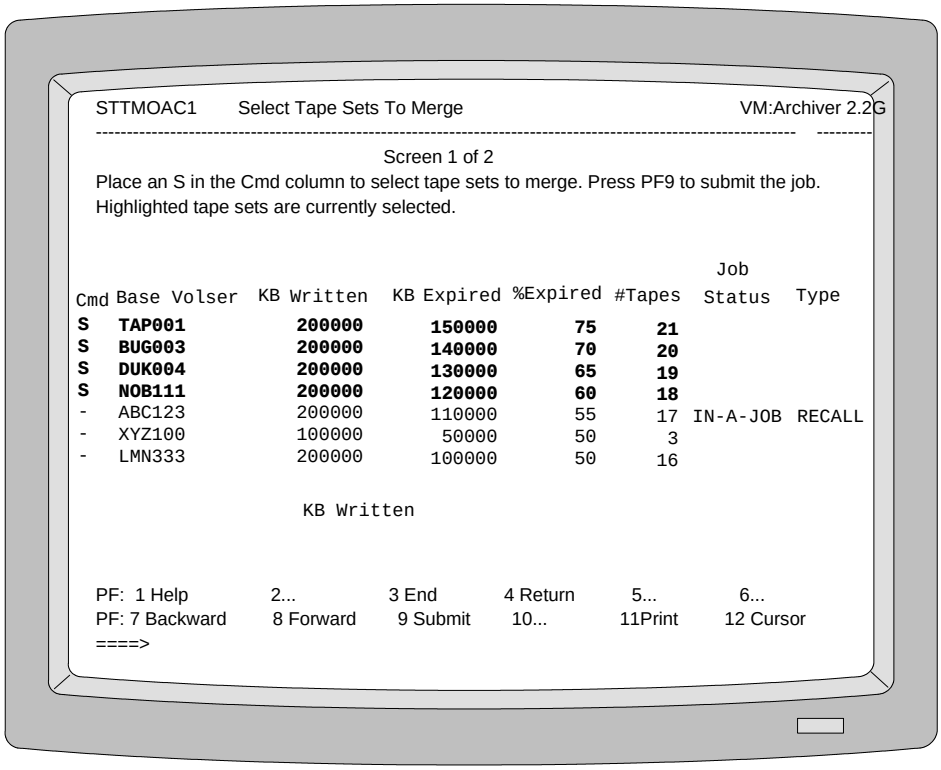


Figure 7. Select Tapes Sets To Merge Screen

This screen shows tape sets in the BrightStor VM:Archiver system, sorted in descending order by percent of expired and purged data contained in the tape set. The tape sets are sorted in this order so that the tape sets that contain the greatest percentage of purged and expired data (the tape sets that you are most likely to want to merge) are at the top of the list.

Highlighted tape sets have been pre-selected by BrightStor VM:Archiver for merging because they exceed the threshold for percent of purged and expired files configured for your system.

When a tape set meets the threshold for merge/purge/copy processing, but for some reason cannot be used in the job, BrightStor VM:Archiver does not select the tape. Instead, it uses the **Job Status** and **Type** fields to show why the tape set cannot be processed. For example, in Figure 7 above, the tape set with base volser ABC123 was not automatically selected because one or more of the tapes in the tape set are required for a recall job.

Table 6 explains the fields shown on this screen.

Table 6. Fields on the Select Tape Sets To Merge screen

Field	Definition
Base Volser	The first tape in the original copy of the tape set
KB Written	The number of kilobytes of data contained in the tape set
KB Expired	The number of kilobytes of purged or expired data contained in the tape set. This number does not include purged or expired data that is still within its grace period.
%Expired	The percentage of data in the tape set that is purged or expired
#Tapes	The number of tapes in the tape set. This number does not include copies of tapes.
Status	The status of the tape. Possible values for this field are: OPENTAPE - The tape set contains an open tape. merge/purge/copy cannot process a tape set that contains an open tape. IN-A-JOB - One or more tapes in the tape set are in use in another job. UNAVAIL - One or more tapes in the tape set have the status UNAVAIL
Job Type	The type of job the tape is being used by

For more information on merge/purge/copy processing, refer to the *BrightStor VM:Archiver System Administrator's Guide*.

Procedure

To select tape sets to merge, follow these steps:

1. Select Option 3, **Select tape sets to merge**.

   BrightStor VM:Archiver displays the Select Tape Sets to Merge screen.

2. To select tape sets, enter **S** in the **Cmd** column to the left of the tape set you want to select. You can deselect tape sets by removing the S from the **Cmd** column.

3. Once you have selected all the tape sets you want to merge, press PF9 (Submit).

   BrightStor VM:Archiver builds and submits a merge/purge/copy job.

Submitting Tape Reinitialization Jobs

To submit tape reinitialization jobs, select Option 4, **Submit tape reinitialization jobs**.

BrightStor VM:Archiver builds and submits a tape reinitialization job.

Starting Accounting

To start batch accounting, select Option 5, **Start accounting**.

BrightStor VM:Archiver issues the ACCOUNT command, which generates accounting records for data archived since the last batch accounting run.

Chapter

6

Viewing Outstanding Requests

Viewing Archive Requests

To view outstanding archive requests, select Option 3, **View outstanding archive requests**, from the Operator Main Menu. BrightStor VM:Archiver displays the View Archive Requests screen, which is shown in Figure 8. This screen displays a list of files and minidisks waiting to be copied directly to BrightStor VM:Archiver TAPE storage. This list includes the userid that requested the archive, whether the request is for files or an entire minidisk, the source (either the userid and virtual address or the SFS directory from which the data was archived), the archive ID, and the request's status.

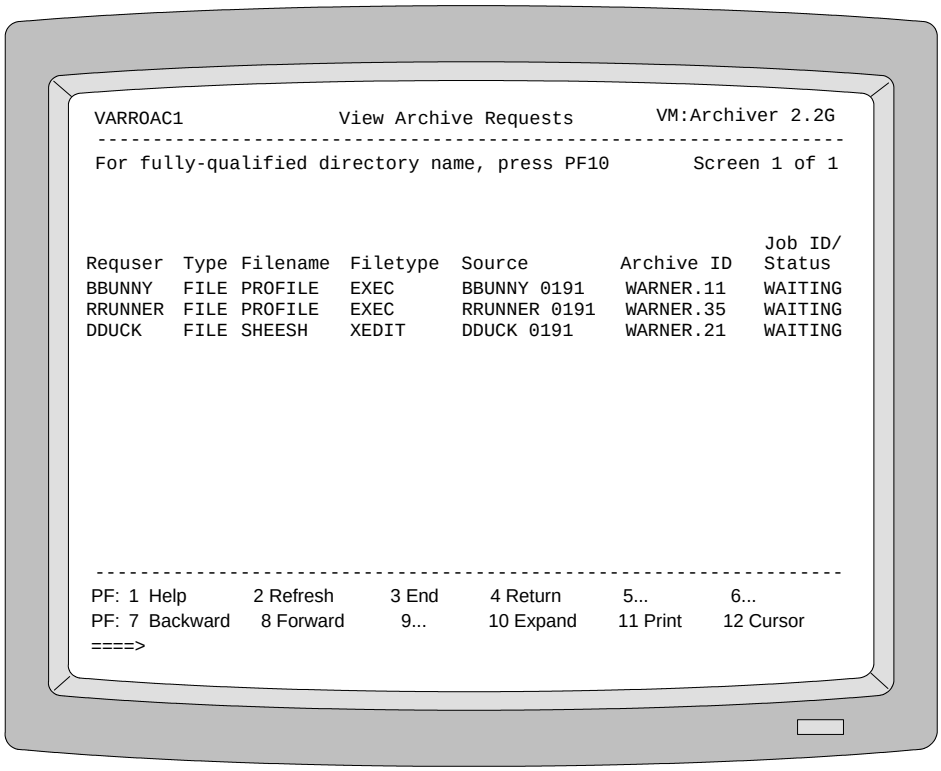


Figure 8. View Archive Requests Screen

Request Information

Table 7 describes the fields shown on the View Archive Requests screen.

Table 7. Fields on the View Archive Requests screen

Field	Definition
Requser	The userid that requested the archive.
Type	FILE if the request is to archive files, or DISK if the request is to archive an entire minidisk as an entity.
Filename and Filetype	The filename and filetype of the file to be archived, or -- if the request is for a minidisk.
Source	The location from which the archived data was archived. If the source is a minidisk, the screen shows the userid and virtual address. If the source was a top-level directory, the screen shows that name, for example, SFS:BBUNNY. If the source was a subdirectory, the screen shows the last directory name, for example, CATALOG. To view the fully-qualified directory name, move the cursor to the request and press PF10 (Expand). BrightStor VM:Archiver displays the fully-qualified name, for example, SFS:BBUNNY.ACME.ORDERLIST.CATALOG.
Archive ID	A unique identifier that BrightStor VM:Archiver assigned to the file when the user requested that it be archived.
Jobid/Status	For requests that have already been included in a job, this field displays the job ID. For requests that have not yet been included in a job, this field contains WAITING.

Viewing Recall Requests

To view outstanding recall requests, select Option 4, **View outstanding recall requests**, from the Operator Main Menu. BrightStor VM:Archiver displays the View Recall Requests screen. This screen displays a list of files and minidisks waiting to be recalled from BrightStor VM:Archiver TAPE storage.

When BrightStor VM:Archiver first displays the View Recall Requests screen, the rightmost column contains information about the request's status. To view information about tapes associated with the request, press PF6 (Right). BrightStor VM:Archiver shifts your view of the screen to the right so that you can see the **Volser** and **Data Set** fields. To view the original screen again, press PF5 (Left) to shift your view of the screen back to the left.

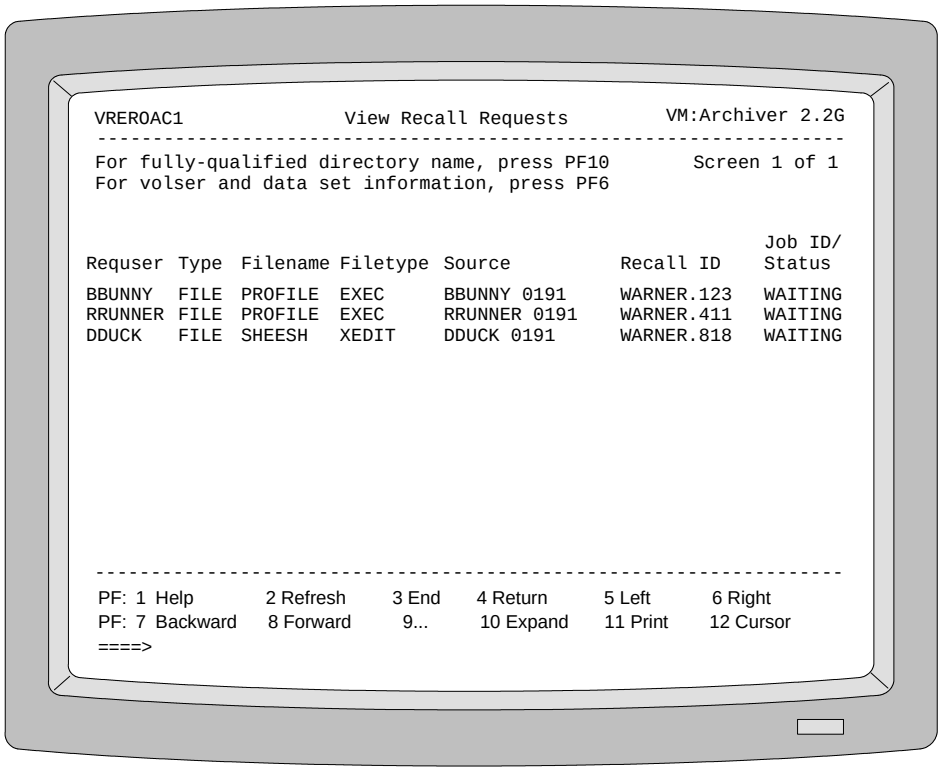


Figure 9. View Recall Requests Screen

Request Information

The View Recall Requests screen displays the following information about requests.

Requesting Userid

The **Requser** field shows the userid that requested the recall. This is the leftmost column. If it is not on your screen, press PF5 (Left). BrightStor VM:Archiver shifts the information on the screen so that the **Requser** and **Type** fields are displayed and the **Volser** and **Data Set** fields are removed.

Type

The **Type** field contains FILE if the request is to recall files, or DISK if the request is to recall an entire minidisk as an entity. If the **Type** field is not on your screen, press PF5 (Left). BrightStor VM:Archiver shifts the information on the screen so that the **Requser** and **Type** fields are displayed and the **Volser** and **Data Set** fields are removed.

Filename and Filetype

These fields display the filename and filetype of the file to be archived, or -- if the request is for a minidisk.

Source

The **Source** field displays the location from which the archived data was archived.

If the source is a minidisk, the screen shows the userid and virtual address.

If the source was a top-level directory, the screen shows that name, for example, SFS:BBUNNY.

If the source was a subdirectory, the screen shows the last directory name, for example CATALOG. To view the fully-qualified directory name, move the cursor to the request and press PF10 (Expand). BrightStor VM:Archiver displays the fully-qualified name, for example, SFS:BBUNNY.ACME.ORDERLIST.CATALOG.

Recall ID

The recall ID is a unique identifier that was assigned to the file when the user requested that it be recalled.

Jobid/Status

The request has one of the following statuses:

Status	Definition
jobid	Recall requests that have already been included in a job
WAITING	Delayed recall requests that have not yet been included in a job
IMMED	Requests with the IMMED status can be one of the following: - Immediate recall requests that a user issued after entering the BATCH ON command and before entering the BATCH OFF command. When the user enters the BATCH OFF command, BrightStor VM:Archiver submits a recall job to BrightStor VM:Backup. - Requests that were part of a recall job that failed or was canceled. You can either cancel these requests or resubmit recalls to submit the request again.

Volser and Data Set

The **Volser** field displays the volume serial number (volser) of the primary tape on which the file or minidisk to be recalled resides. The **Data Set** field displays the data set number that contains the archived copy of the file or minidisk.

These fields are displayed in the rightmost column of the View Recall Requests screen. If the screen you are looking at contains the **Requser** and **Type** fields instead, press PF6 (Right). BrightStor VM:Archiver will shift your view of the screen to the right so that you can see the **Volser** and **Data Set** fields.

Chapter

7

Ending and Suspending BrightStor VM:Archiver Operation

Ending and Suspending BrightStor VM:Archiver

Select Option 5, **End, suspend, or resume processing**, on the BrightStor VM:Archiver Main Menu if you need to end BrightStor VM:Archiver or to temporarily suspend processing.

Option 1: End Processing When Currently Running Commands Are Complete

Select this option when you want all currently running commands and processes to complete before ending operation.

Option 2: End Processing IMMEDIATELY

Select this option when you want BrightStor VM:Archiver to shut down *immediately*. When you select this option, BrightStor VM:Archiver ends all commands or processes in progress, and releases associated resources.

WARNING:	Do not use this option under normal circumstances.

Option 3: Suspend System Activity

Select this option when you want to temporarily suspend BrightStor VM:Archiver processing. Any commands in progress will continue to completion; queued requests remain in the queue. Archive or recall jobs that were already submitted to BrightStor VM:Backup will continue to run. While the system is suspended, the only commands BrightStor VM:Archiver can accept are the CMS, QUERY, RESUME, and END commands.

Option 4: Resume Suspended System Activity

Select this option when you want to resume BrightStor VM:Archiver activity after it has been temporarily suspended.

Chapter

8

Displaying and Updating Tapes

This chapter contains task-oriented information on displaying and updating information about BrightStor VM:Archiver tapes. To perform these tasks, you must use the TAPE and QUERY TAPES commands; there is no screen interface.

Only the options and parameters that are likely to be used by a BrightStor VM:Archiver operator are covered in this chapter. For more information on the TAPE and QUERY TAPES commands, refer to the *BrightStor VM:Archiver Command Reference*.

As a BrightStor VM:Archiver operator, you may need to perform the following tasks:

- Obtain information about archive tapes

  You might need to obtain a list of tapes that have a particular status, for example, all offsite tapes or all damaged tapes.

- Tell BrightStor VM:Archiver that a tape is available or unavailable for use

  When a tape is lost or damaged, you can tell BrightStor VM:Archiver that the tape is unavailable for use. This prevents BrightStor VM:Archiver from requesting the tape in jobs. In addition, you might want to mark tapes as unavailable when you send them offsite.

  Conversely, when you find a tape or it is returned from its offsite location and you want to tell BrightStor VM:Archiver that the tape is again available, you can mark the tape as available for use.

- Associate a comment with a tape

  You can enter descriptive information about a tape into the BrightStor VM:Archiver system. You do this by associating a comment with the tape.

- Close an open tape

  Before you can send a tape offsite, you must close it. Usually BrightStor VM:Archiver closes tapes automatically, but there might be times when you want to do it manually. When you close a tape, BrightStor VM:Archiver can no longer write data to the tape or any of its copies. BrightStor VM:Archiver can still recall data from closed tapes.

About Tape Sets

To change and display information about VM:Archiver tapes, you must use the TAPE and QUERY TAPES commands. Depending on the options you specify, these commands can have an effect on one or more tapes. To understand which tapes will be affected, you must be familiar with the concept of a *tape set*.

What Is a Tape Set?

A tape set is a logical unit of tape storage. A tape set can consist of one or more tapes. Your system administrator decides how large tape sets will be at your site.

During an archive job, BrightStor VM:Archiver writes the data to tape in a data set. Because a data set does not usually take up an entire tape, BrightStor VM:Archiver mounts the same tape in the next archive job and appends another data set immediately following the first one. During subsequent jobs, BrightStor VM:Archiver continues appending data sets until the tape becomes full.

BrightStor VM:Archiver keeps track of the last tape used in an archive job. This tape is referred to as the *open tape*. When the open tape in the tape set becomes full during a job, BrightStor VM:Archiver automatically *closes* the tape and its copies. When a tape is closed, BrightStor VM:Archiver can no longer write data to that tape or any of its copies.

When the last tape in a tape set becomes full, BrightStor VM:Archiver closes the tape and its copies. Data does not continue onto any other tapes.

What Tapes Are Affected?

Figure 10 and Table 8 on page 35 give you an idea of what makes up a tape set and how the various options of the TAPE and QUERY TAPES commands affect these tapes.

Sample Tape Set

Figure 10 shows a sample tape set and its copies. This tape set consists of three tapes: TAP011, TAP012, and TAP013. There are two additional copies of the tape set.

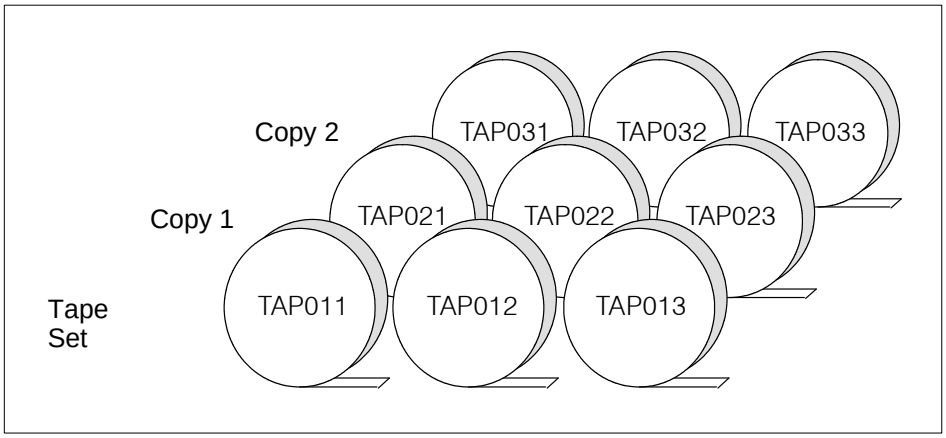
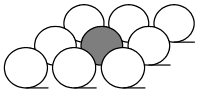
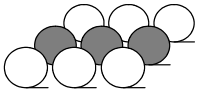
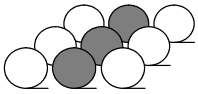
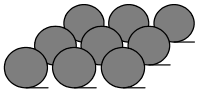


Figure 10. Sample Tape Set

How the Different Options Affect the Tapes

Table 8 shows the effects of the TAPESET and COPIES options of the TAPE and QUERY TAPES commands.

Table 8. Effects of the TAPESET and COPIES Options

To View or Change:	Specify These Options:	Tapes Affected (shaded)
Specific volser only	none	
Tape set	TAPESET	
All copies of a tape	COPIES	
Tape set and all its copies	COPIES TAPESET	

Using the QUERY TAPES command, you can display information about BrightStor VM:Archiver tapes. The options of the QUERY TAPES command give you the flexibility to display as much or as little information about BrightStor VM:Archiver tapes as you like.

Using the TAPE command, you can update information about tapes or close a tape set.

This section shows how to use several of the options and parameters from the TAPE and QUERY TAPES commands to perform some common operator tasks. For more information on these commands, refer to the *BrightStor VM:Archiver Command Reference*.

Displaying Information About Tapes That Have a Particular Status

You can display a list of tapes based on their statuses. To display tapes with a particular status, specify that status as an option on the QUERY TAPES command.

For example, suppose you want to determine which tapes are offsite. On your system you mark offsite tapes as unavailable (UNAVAIL). Because you also mark damaged and missing tapes unavailable, the display must also include the comment you associated with each tape. Enter the following command:

vmarch query tapes (unavail comment

BrightStor VM:Archiver responds:

Volser	Status	Comment
---	---	---
TAP022	UNAVAIL	DAMAGED
TAP031	UNAVAIL	OFFSITE
TAP032	UNAVAIL	OFFSITE
TAP033	UNAVAIL	OFFSITE

The QUERY TAPES command shows that tape TAP022 is damaged and that tapes TAP031, TAP032, and TAP033 are offsite.

Displaying Information About a Particular Tape and its Copies

You can display information about a tape and all its copies. For example, suppose you accidentally damaged tape TAP022 and marked it unavailable. To see if there are any copies of it onsite and available for use, enter the following command:

vmarch query tapes tap022 (copies

BrightStor VM:Archiver responds:

Volser	Copy	Volseq	FrstVol	PreVol	NextVol	FrstDS	LastDS	Status
TAP022	- -	2	TAP011	TAPE11	TAP013	11	11	UNAVAIL
- -	TAP012	2	TAPE21	TAPE21	TAP023	11	11	AVAIL
- -	TAP032	2	TAPE31	TAPE31	TAP033	11	11	AVAIL

The QUERY TAPES command shows that there are two copies of TAP022: TAP012 and TAP032.

Displaying All the Tapes in a Tape Set

You can determine which tapes are in a tape set by specifying one tape from the tape set and the TAPESET option. For example, to determine the other tapes in the tape set with tape TAP022, enter the following command:

vmarch query tapes tap022 (tapeset

BrightStor VM:Archiver responds:

Volser	Volseq	FrstVol	PreVol	NextVol	FrstDS	LastDS	Status
TAP021	1	TAP021	- -	TAP022	1	10	AVAIL
TAP022	2	TAP021	TAP021	TAP023	11	11	AVAIL
TAP023	3	TAP021	TAP022	- -	12	13	OPEN

The QUERY TAPES command shows that there are three tapes in the tape set: TAP021, TAP022, and TAP023.

Updating Information About Tapes

As an operator, there are several tasks that you can perform to update information about tapes. These tasks are discussed in the following sections.

Indicating Whether Tapes Are Available

When a tape becomes lost or damaged or when you send tapes offsite, you can tell BrightStor VM:Archiver that the tapes are unavailable for use. This prevents the tapes from being requested for use in jobs. When you mark a tape unavailable, BrightStor VM:Archiver assigns it the status UNAVAIL. A tape with this status cannot be used in any job.

Conversely, when you find a missing tape or when offsite tapes are returned to your data center, you can tell BrightStor VM:Archiver that the tapes are available for use again. When you mark a tape as available for use, BrightStor VM:Archiver assigns it the status AVAIL.

The following sections show how to mark tapes unavailable or available for use.

Indicating That a Tape Is Unavailable for Use

To mark a tape as unavailable for use, you must use the TAPE command with the UNAVAIL parameter.

For example, suppose tape TAP011 is damaged. To mark the tape as unavailable and associate the descriptive comment 'damaged' with the tape, enter the following command:

vmarch tape tap011 unavail comment damaged

BrightStor VM:Archiver responds:

582I VOLSER TAP011 HAS BEEN MARKED UNAVAILABLE; COMMENT FOR VOLSER TAP011 HAS BEEN UPDATED.

Note: Because BrightStor VM:Archiver interprets all text following the COMMENT parameter as comment text, be sure to specify the COMMENT parameter last on the command line.

Indicating That a Tape Is Available for Use

To mark a tape as available for use, you must use the TAPE command with the AVAIL parameter. In addition, if you want to mark the entire tape set as available, you can use the TAPESET option instead of entering the TAPE command multiple times.

For example, suppose tapes TAP031, TAP032, and TAPE033, which comprise one copy of a tape set, have been returned from their offsite location. To mark the tapes available for use again and remove any comments associated with the tapes, enter the following command:

vmarch tape tap031 avail nocomm (tapeset

BrightStor VM:Archiver responds:

582I VOLSER TAP031 HAS BEEN MARKED AVAILABLE; COMMENT FOR VOLSER TAP031 HAS BEEN UPDATED.

582I VOLSER TAP032 HAS BEEN MARKED AVAILABLE; COMMENT FOR VOLSER TAP031 HAS BEEN UPDATED.

582I VOLSER TAP033 HAS BEEN MARKED AVAILABLE; COMMENT FOR VOLSER TAP031 HAS BEEN UPDATED.

Closing an Open Tape

During an archive job, when a tape becomes full, BrightStor VM:Archiver automatically closes the tape. There may be times, however, when you want to manually close a tape before BrightStor VM:Archiver automatically closes it. For example, if you want to send a tape offsite before it is full, you must manually close the tape.

To manually close a tape, you must use the TAPE command with the CLOSE parameter. Because there can be only one open tape (and its copies) in the BrightStor VM:Archiver system at a time, the syntax for this command is always the same.

To close the open tape and its copies, enter the following command:

vmarch tape close

BrightStor VM:Archiver responds:

565I THE FOLLOWING TAPES HAVE BEEN CLOSED: TAP013 TAP023 TAP033.

Associating a Comment With a Tape

There may be times when you want to enter descriptive information about a tape into the BrightStor VM:Archiver system. You do this by using the TAPE command with the COMMENT parameter.

For example, suppose tape TAP011 is available, but temporarily out of the tape library. To add a comment stating this fact, enter the following command:

vmarch tape tap011 comment this tape temporarily in bbunny's office

BrightStor VM:Archiver responds:

581I COMMENT FOR TAP011 HAS BEEN UPDATED.

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