Chapter 14

Backing Up the SDA

This chapter describes how to back up files stored in an SDA's Scalable File System (SFS), and how to restore them later. The backup medium can be either a DataVault's CMFS file system or a tape.

NOTE

This chapter does not discuss how to use the Integrated Tape System (ITS) to back up an SDA; CMOST now provides ITS-specific versions of the CMOST commands discussed below. For information about these commands, please see the *ITS User's Guide*.

14.1 Making a Backup Using a DataVault

If the CM-5 is connected to a DataVault in addition to the SDA, you can use the **dvcp** command to back up one or more SDA directories to the DataVault's CMFS file system. To ensure expected behavior, set the **CMFS_PATHTYPE** environment variable to **mixed** (see the **CMFS_PATHTYPE** manual page in Appendix J for more information):

```
syscon# setenv CMFS_PATHTYPE mixed
syscon# dvcp -R -p original_directory DV_hostname:backup_directory
```


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The directory specified by the first argument is relative to the current SDA file system's current working directory. The directory specified by the second argument is relative to the named DataVault's current working directory (for more information, see the manual pages for **DVWD** and **DVHOSTNAME** in Appendix J).

dvcp's **-R** switch indicates that the first argument is a directory, and that it and its entire subtree should be copied into the directory named by the second argument. The **-p** switch indicates that the directory's and files' modification time, access time, file mode, user ID, and group ID should be preserved, as allowed by permissions. For details about these two switches and other **dvcp** switches, please see **dvcp**'s manual page in Appendix J.

Likewise, you can use the **dvcp** command to restore an SDA backup residing on a DataVault:

```
syscon# setenv CMFS_PATHTYPE mixed
syscon# dvcp -R -p DV_hostname:backed-up_directory  restored_dir
```

14.2 Making a Backup Using Tape

If the CM-5 is not connected to a DataVault in addition to an SDA, or if you would prefer to have a backup on tape, use the **cmtar** command to make a back-up copy of an SDA directory:

```
syscon# setenv CMFS_PATHTYPE unix
syscon# cmtar cvfM /dev/archive_device_name  {original_directory}*
```

cmtar's **c** switch indicates that a new archive must be created. The **v** switch indicates that the name of each file archived must be written to **stdout**. The **f** switch indicates the name of the archive device. The **M** switch enables the archive to span more than one tape. A list of all directories to be backed up must be placed at the end of the command line; if no list is given, nothing is archived. **cmtar** archives the named directories, their files, and the directories' subtrees.

tar works similarly, although it does not support the functionality of **cmtar**'s **M** switch:

```
syscon# tar cvf /dev/archive_device_name  {original_directory}*
```


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NOTE: **tar** cannot handle files bigger than 2 Gbytes; **cmtar** can.

To extract one or more archived files from tape, use a variation on the same syntax as above:

```
syscon# setenv CMFS_PATHTYPE unix
syscon# cmtar xvfM /dev/archive_device_name {backed-up_dir}*
```

or

```
syscon# tar xvf /dev/archive_device_name {backed-up_directory}*
```

cmtar's **x** switch indicates that files are to be extracted from the archive, and in the context of an extract operation, the **M** switch enables **cmtar** to continue reading an archive (or a single file in that archive) that spans more than one tape. If a list of files or directories is not included on the end of the command line, all the directories and files in the archive are extracted. The extracted directories and files are placed in the current working directory of the current SDA file system.

cmtar and **tar** have many more switches than those discussed here; see their manual pages in Appendix J for more information.

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