Appendix C

Glossary

This glossary presents brief explanations of UNIX and CM-5 terms used in this manual. For a more comprehensive discussion of the UNIX system, consult *The UNIX Programming Environment*, by Brian W. Kernighan and Rob Pike (Prentice-Hall, 1984), or one of the many other books written about UNIX.

C*	A data parallel extension of the C programming language.
CM/AVS	A graphical user interface that adapts and extends the Application Visualization System to the CM-5.
CMAX	A software tool that translates FORTRAN 77 programs into CM Fortran.
CM Fortran	An implementation of the FORTRAN 77 programming language, extended with array-processing facilities from Fortran 90.
CMFS	Connection Machine File System. A UNIX-like file system that can reside on CMIO bus data-storage devices, such as a DataVault.
CMIO bus	An I/O bus that connects CM-2 and CM-200 I/O devices to the CM-5's Data Network.

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CMMD — A communication library used in creating node-level message-passing programs on the CM-5.

CMOST — The CM-5's operating system, an enhanced version of UNIX.

CMSSL — CM Scientific Software Library. A library of routines that perform data parallel versions of standard mathematical operations.

CMX11 — A library of routines that manage the transfer of parallel data between the CM-5 and any X11 terminal or workstation.

control processor — A CM-5 processor that manages partitions or I/O.

Control Network — A communication network on the CM-5, used for operations that involve all the nodes at once, such as synchronization operations and broadcasting.

.cshrc — In the C shell, a script file run after login to set up the characteristics of the shell.

C shell — See *shell*.

current directory — See *directory*.

Data Network — A communication network on the CM-5, used for bulk data transfers where each item has a single source and destination.

DataVault — A high-performance, disk-based mass storage system for use in CM systems.

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directory — A node in the UNIX file system. A directory can contain files and other directories. The *current* or *working* directory is the directory to which relative pathnames refer.

environment variables — Variables whose settings are available both to a shell and to programs called from within the shell. You can change the settings of these variables to provide information about your environment to programs. Compare *shell variables*.

filename — The name of a UNIX file. See also *pathname*.

group ID — The name of a class of users to which a user is assigned.

hostname — The name assigned to a computer running the UNIX system.

login ID — The name by which a user is known to the system.

make utility — A utility that provides a mechanism for maintaining programs by ensuring that the files constituting a program all exist and are up-to-date.

node — On the CM-5, the unit containing a microprocessor, a bus, memory, a network interface, and optionally vector units.

partition — A group of CM-5 processing nodes, under the control of a control processor, used for executing user tasks.

partition manager — A CM-5 control processor that supervises the nodes in a single partition.

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pathname — A name that includes all the directories that have to be traversed to reach a given file or directory. An *absolute* pathname starts with root — that is, at the beginning of the file system hierarchy: for example, **`/usr/bin`**. A *relative* pathname starts with the working directory: for example, **`my_subdirectory/file_name`**.

Prism — The CM-5's programming environment.

process — An instance of a running program. Each process in a system has a unique process ID.

prompt — A symbol that indicates that the system is ready to accept commands. You can use a shell variable to set what your prompt will be. In this guide, the prompt is displayed as a percent sign (`%`).

relative pathname — See *pathname*.

remote operations — Commands that involve interaction with UNIX systems other than the local system to which you are logged in. The **`rlogin`** command allows you to log in to a remote UNIX system; the **`rsh`** command allows you to execute a UNIX command on a remote system without logging in; and the **`rcp`** command allows you to copy a file to or from a remote system.

`rlogin` — See *remote operations.*

root — The beginning directory in the hierarchy of the UNIX file system — specified as **`/`**.

`rsh` — See *remote operations*.

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script file — A file that contains commands or programs to be executed. You can submit a script file for execution by DJM or NQS. Also called *shell script*.

SDA — Scalable Disk Array. A high-performance, highly expandable disk storage system packaged within CM-5 cabinetry.

SFS — Scalable File System. A file system that manages the files stored on a Scalable Disk Array or Integrated Tape System.

`setenv` — The C shell command for setting an environment variable.

shell — A command interpreter that lets you issue commands to be executed by the kernel. There are different shells that provide slightly different features. The C shell, the Bourne shell, and the Korn shell are popular UNIX shells.

shell script — See *script file*.

shell variables — A set of predefined variables whose values you can change to customize your shell. For example, you can set the **`prompt`** variable to change your UNIX prompt. Compare *environment variables*.

standard input, output, and error — *Standard input* is the input device for commands. *Standard output* is the device to which commands send their results. *Standard error* is the device to which commands send error messages. Typically, all three are defined to be your terminal. You can change this — for example, by using redirection to send output to a file instead of to your terminal.

subshell — See *shell*.

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superuser — A special user on a UNIX system who can read or modify any file in the system.

symbolic link — An entry in a directory that points to an already existing file with a different path. This allows a user to gain access to a file without specifying an absolute pathname.

user ID — A number associated by the system with a login ID.

vector units — On the CM-5, optional high-performance arithmetic hardware. Each node has four vector units, if they are present in the system.

working directory — See *directory*.

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