

Moving from VAX/VMS to SunOS

(1a) May 1991

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If you are a new computer user, or have only a rudimentary knowledge of VAX/VMS, then you should not read this User Note since it will only confuse matters. You should proceed instead straight to the *SunOS User's Guide: Getting Started*.

This User Note aims to help you if you are currently using VAX/VMS and need to move your work to SunOS. The best way to start to learn about SunOS is to read the *SunOS User's Guide: Getting Started* and try things out at your workstation or terminal as you go along. There are plenty of copies of this manual in the villages and personal copies can be bought from the computer operators. As you become more experienced, you can go on to the other manuals in this series (see the section on **Documentation**). You may often say to yourself "I know how to do what I want using VAX/VMS. How can I do the same in SunOS?" and it is this situation that is addressed by this User Note.

- **Some pitfalls for the unwary**
- **SunOS filenames**
- **Documentation**
- **Common VAX/VMS commands and their SunOS equivalents**

In this note the following conventions are used:

- *this light type* is used for references to system prompts, filenames etc
- **this bold type** is used for anything you type yourself
- *italic type* stands for variables which you have to replace by a specific name
- **<CTRL-x>** means hold down the **<CONTROL>** or **<CTRL>** key and type **x**

Some pitfalls for the unwary

- **SunOS is sensitive to the case of letters**
Thus the filenames `test.f` and `TEST.F` refer to *different* files.
- **You cannot abbreviate the names of SunOS commands**
If you wish to define your own set of abbreviations, then use the `alias` command.
- **If you type ahead, then what you type appears immediately on the screen**
- **<CTRL-D>** is used to signal the end of input from the keyboard
<CTRL-Z> suspends your current process
For example, if you try to terminate a mail message by typing **<CTRL-Z>**, the mail command itself will be suspended and your message will not be sent.
You can recover from this situation by typing the command `fg`
- **If you edit a file using the standard vi editor, then the original copy is overwritten**
VAX/VMS creates a higher version of the file and the original file is unchanged.

UNIX file names

These have the form **host:directory/file** where

host	name of host computer on which the file resides
directory	pathname of directory in which file resides
file	name of file

Normally you will not need to concern yourself with the host (for the interested, a symbolic link is used so that all files start at the same root). Your home directory will take the form `/home/village/username` so that user `sid` whose files are kept in the Purdie village will have the home directory `/home/purds/sid`

You should note that

- SunOS does not use version numbers and after any file operation, such as editing, will save only the most recent version of the file
- SunOS does not use default file types. You can specify a VMS-like file name by using a full stop

The null file `NL:` of VAX/VMS has the counterpart `/dev/null` in SunOS.

In VAX/VMS, you have a default directory at login; at St Andrews, for user `DPSID` this would be `USER1:[DPSID]` where `USER1:` is the file storage device. For user `sid` attached to the `maths` village, the full SunOS pathname would be `/home/math/sid`

Documentation

The following are referred to in the text of this User Note, with abbreviations used in the table of commands, as follows:

<i>SunOS User's Guides:</i>	
<i>Getting Started</i>	GS
<i>Doing More</i>	DM
<i>Customizing Your Environment</i>	CYE
<i>Editing Text Files</i>	ETF
<i>Sun FORTRAN User's Guide</i>	FUG
<i>SunOS Reference Manual</i>	RM

The book *UNIX for VMS Users* by Philip E. Bourne, available through DEC, is useful background reading for experienced VAX/VMS users.

Common VAX/VMS commands and their SunOS equivalents

The following table lists, in their order of appearance in DEC's *DCL Command Language Reference Manual*, a few of the more common VAX/VMS commands together with the *closest* equivalent SunOS command and its function. If you are not already familiar with the VAX/VMS command, you should ignore that entry in the table.

Before attempting to use any of the SunOS commands, you should first make sure that you fully understand what the command does by reading about it in the SunOS documentation. To help you, references to the appropriate pages in the manuals are given against each SunOS command; in each reference, the letters are abbreviations of the manual name as given in the previous section on **Documentation**. All commands are described in the *SunOS Reference Manual* but, since this gives formal descriptions suitable for an experienced SunOS user, references to this manual are only given if the command is not described elsewhere. The SunOS **man** command can also be used to get on-line descriptions of the SunOS commands as appearing in the *SunOS Reference Manual*.

Note that some commands are specific to the C shell, which is the shell that Sun recommend for interactive usage. See Chapter 7 of the *SunOS User's Guide: Getting Started* for a definition of the C shell.

VAX/VMS Command	SunOS Command	SunOS Function
:= and = (local string and symbol assignments)	alias set	Define alias for C shell GS(85-88) Set C shell variable DM (31,35), CYE(7)
:= = and = = (global string and symbol assignments)	setenv	Define an environment variable DM (35), CYE (21)
@ (execute a command procedure)	source	Invoke a shell script GS(74) A shell script can also be invoked simply by typing the filename, provided that the file has been made executable by <code>chmod u+x</code>
APPEND	>>	Append output <code>cp file1 >> file2</code> GS(75)
ASSIGN	ln ln -s	Hard link to file GS(43) Symbolic (soft) link to file GS(43)
BACKUP	tar	Backup files into a tar file DM(25)

CONTINUE	fg	Resumes execution of a process suspended by <CTRL-Z>. It is not possible to resume a process in this way if it has been interrupted by <CTRL-C>. GS(89)
COPY	cp	Copy files GS(30-31)
COPY [directory...]	cp -r	Copy directory and contents GS(31)
COPY/CONFIRM	cp -i	... confirm before each copy RM(87)
CREATE	touch	Create an empty file RM(600)
CREATE/DIRECTORY	mkdir	Create a subdirectory GS(23)
DELETE	rm	Remove a file GS(34)
DELTREE (local addition)	rmdir	Remove an empty subdirectory GS(24)
	rm -r	Remove a directory and contents GS(24)
DELETE/CONFIRM	rm -i	... confirm before removing GS(34)
DIFFERENCE	diff	Display all differences in files or contents of two directories DM(12)
	cmp	Report first difference in two files ETF(169)
DIRECTORY	ls	Display list of files in directory GS(25-28)
	ls -a	... include hidden files GS(25)
DIRECTORY/FULL	ls -l	... long listing GS(27,37,38,42)
DIRECTORY/OWNER	ls -lg	... long listing including group GS(42)
DIRECTORY/SIZE	ls -s	... include size RM(297)
DIRECTORY/SIZE/TOTAL	du	Summarise total disk usage by all files in a directory and its subdirectories DM(24)
	du -a	... give usage for each file RM(167)
	du -s	... total usage by all files only RM(167)
DIRECTORY [...]fname	find . -name fname -print	... display all files named fname starting at current directory CYE(29), DM(10)

DUMP	od od -a od -o od -h	Dump a file RM(368) ... in ASCII RM(368) ... in octal RM(368) ... in hexadecimal RM(368)
EDTC EDTC/RECOVER	vi vi -r	Screen editor GS(45–63), ETF(5–54) Recover edits following a crash GS(61)
EDT EDT/RECOVER	ex ex -r	Line editor ETF(57–79) Recover line editing session ETF(60)
EXIT	exit	Terminate a script or shell DM(51)
FORTRAN	f77 f77 -c f77 -o file f77 -lF77 f77 -g	Compile, link and load FORTRAN FUG(7–20) ... compile only FUG(9) ... executable file to be in file FUG(15) ... search (for example) library libF77.a FUG(14) ... include debug information FUG(12)
HELP	man whatis apropos	On-line display of Reference Manual pages (only suitable for experienced users) RM(339) Displays what command does DM(9) Locate manual page references relevant to a specified keyword RM(24)
LIBRARY LIBRARY/CREATE LIBRARY/EXTRACT LIBRARY/INSERT LIBRARY/LIST LIBRARY/REPLACE	ar ar -cr ar -x ar -q ar -t ar -r ranlib	Library maintainer RM(25) ... create ... extract modules ... insert modules ... list contents ... replace modules Randomize library RM(427)
LINK	ld	Link editor (implicitly called by compiler commands) RM(258)
LOGOUT	logout	Terminate a terminal session GS(8)
MAIL	mail	Send or receive electronic mail GS(139–153)
ON CONTROL_Y	onintr	On interrupt DM(51)
PAD	cpad	Software PAD (non-standard SunOS command not described in Sun documentation; for details, type man cpad)

PRINT	lpr lpr -f	Print a file on the default printer GS(35) ... assume records in file each start with a FORTRAN carriage control character RM(291)
PURGE		There is no SunOS equivalent since version numbers are not used for files
RECALL/ALL	history	Recall command lines GS(81)
RECALL n	!n	Recall command number n
RENAME	mv mv -i	Move a file GS(33) ... confirm before moving RM(350)
RUN		SunOS executable files are executed simply by typing the name of the file
SEARCH	grep grep -i	Search for string in file(s) GS(77,78,85,91-95) ... ignore case when searching RM(223)
SET BROADCAST SET BROADCAST=NOMAIL	mesg n biff n	Prevent broadcast interruptions GS(114,115) Prevent on-line notification of new mail when it arrives RM(46)
SET DEFAULT	cd	Change directory GS(18), CYE(12), DM(35)
SET HOST	rlogin rlogin -l user	Network login from trusted host GS(101) ... use username user GS(102)
SET PASSWORD	passwd	Change password (locally, also changes NIS password) GS(7), DM(1,2)
SET PROTECTION SET PROT/DEFAULT	chmod umask	Change permissions on files GS(40), DM(2) Change default file permissions GS(41), DM(2)
SET TERMINAL	tset, stty	Change the terminal characteristics CYE(3, 24)
SET VERIFY	csch -v	Execute C shell script and echo command lines before execution RM(98)
SHOW DEFAULT	pwd	Display current directory GS(19)
SHOW LOGICAL	printenv	Display environment variables DM(36), CYE(21)
SHOW PROCESS	whoami ps jobs	Display login name DM(7) Display processes GS(33), DM(6) Display active jobs and processes GS(88)

SHOW QUEUE	lpq	Display default printer queue GS(36)
SHOW QUOTA	quota -v	Display disk quotas and usage for mounted file systems RM(426)
SHOW SYSTEM	ps -aux	Display all processes DM(6), RM(420)
SHOW TIME	date	Display date and time GS(76)
SHOW UIC	id groups	Display user and group ids, groups RM(237) Display group membership GS(42)
SHOW USERS	who w users rusers	Display usernames of users of current workstation GS(105,107), DM(6) ... longer form of output GS(105,107), DM(6) ... alternative, short form GS(105,107) Display usernames of users of all other workstations on your network GS(107)
SORT	sort	Sort and merge GS(78)
SORT/KEY	sort n	... specify key positions GS(78)
SORT/OUTPUT	sort -o file	... output to go to file RM(518)
SPAWN	csch	Create a subshell GS(72)
STOP/ID	kill	Remove a process GS(85)
SUBMIT	at bg	Start a process at a later time RM(30) Move a process to the background GS(89)
TYPE TYPE/PAGE	cat more head tail	Display a file GS(29,34) ... pause after each page GS(29, 77) ... display beginning of file GS(77) ... display end of file GS(77)
WRITE	echo	Write to standard output DM(46)

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