

Whitesmiths, Ltd.

IDRIS PROGRAMMERS' MANUAL

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The C language was developed at Bell Laboratories by Dennis Ritchie; Whitesmiths, Ltd. has endeavored to remain as faithful as possible to his language specification. The external specifications of the IDRIS operating system, and of most of its utilities, are based heavily on those of UNIX, which was also developed at Bell Laboratories by Dennis Ritchie and Ken Thompson. Whitesmiths, Ltd. gratefully acknowledges the parentage of many of the concepts we have commercialized, and we thank Western Electric Co. for waiving patent licensing fees for use of the UNIX protection mechanism.

The successful implementation of Whitesmiths' compilers, operating systems, and utilities, however, is entirely the work of our programming staff and allied consultants.

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SECTIONS

- I. Whitesmithing
- II. IDRIS System Interface
- III. Programming File Formats
- IV. IDRIS Support Library

SCOPE

This manual is meant to familiarize the more technically sophisticated user with the IDRIS program development environment. Section I provides tutorial descriptions introducing the environment and tools used to build new programs. Section II contains descriptions of the system calls and other routines that constitute the IDRIS system interface across various machines. Section III details the formats of numerous files used by the IDRIS resident or utilities that are of particular note to programmers, while Section IV documents library routines developed for use with the IDRIS utilities.

Tutorials and detailed descriptions of standard utilities, as well as the System Administration Guide, may be found in the IDRIS Users' Manual. More succinct documentation for the programming utilities, may be found in the C Interface Manual for the appropriate target machine; and the machine dependent aspects of each IDRIS implementation are discussed in the IDRIS Interface Manual for each target machine.

TABLE OF CONTENTS

I. Whitesmithing

Process	rules for an IDRIS program.....	I - 1
Link	using link and related tools.....	I - 5
Compile	using the multi-pass compiler driver.....	I - 8
Debug	using the binary editor db.....	I - 14
Headers	standard include files.....	I - 21

II. IDRIS System Interface

Interface	IDRIS system interface.....	II - 1
Conventions	IDRIS system subroutines.....	II - 4
_pname	program name.....	II - 6
bkr	set system break to address.....	II - 7
chdir	change working directory.....	II - 8
chmod	change mode of file.....	II - 9
chown	change owner of file.....	II - 10
close	close file.....	II - 11
creat	make new file.....	II - 12
create	open an empty instance of file.....	II - 13
dup	duplicate file descriptor.....	II - 14
execl	execute file with argument list.....	II - 15
execv	execute file with argument vector.....	II - 17
exit	terminate program execution.....	II - 18
fork	create new process.....	II - 19
fstat	get status of open file.....	II - 20
getcsw	get console switches.....	II - 21
getegid	get effective groupid.....	II - 22
geteuid	get effective userid.....	II - 23
getgid	get real groupid.....	II - 24
getmod	get mode of file.....	II - 25
getpid	get processid.....	II - 26
getuid	get real userid.....	II - 27
gtty	get tty status.....	II - 28
kill	send signal to process.....	II - 31
link	create link to file.....	II - 32
lseek	set file read/write pointer.....	II - 33
mkexec	make file executable.....	II - 34
mknod	make special inode.....	II - 35
mount	mount filesystem.....	II - 36
nice	set priority.....	II - 37
onexit	call function on program exit.....	II - 38

onintr	capture interrupts.....	II - 39
open	open file.....	II - 40
pipe	set up data pipe.....	II - 41
profil	set profiler parameters.....	II - 42
read	read from file.....	II - 43
remove	remove file.....	II - 44
sbreak	set system break.....	II - 45
seek	set file read/write pointer.....	II - 46
setgid	set groupid.....	II - 47
setuid	set userid.....	II - 48
signal	capture signals.....	II - 49
sleep	delay for awhile.....	II - 50
stat	get status of named file.....	II - 51
stime	set system time.....	II - 52
stty	set tty status.....	II - 53
sync	synchronize disks with memory.....	II - 54
time	get system time.....	II - 55
times	get process times.....	II - 56
umount	unmount filesystem.....	II - 57
uname	create unique file name.....	II - 58
unlink	erase link to file.....	II - 59
wait	wait for child to terminate.....	II - 60
write	write to file.....	II - 61
xecl	execute file with argument list.....	II - 62
xecv	execute file with argument vector.....	II - 63

III. Programming File Formats

Files	special file formats.....	III - 1
bnames	block device names pseudo file.....	III - 2
cnames	character device names pseudo file.....	III - 3
core	core dump format.....	III - 4
inodes	resident inode list pseudo file.....	III - 5
kmem	kernel memory pseudo file.....	III - 6
library	standard library format.....	III - 7
mem	user memory pseudo file.....	III - 8
mount	resident mount list pseudo file.....	III - 9
myps	current user process status pseudo file.....	III - 10
object	relocatable object file format.....	III - 11
profile	profile dump format.....	III - 13
ps	process status psuedo file.....	III - 14

IV. IDRIS Support Library

Conventions	the IDRIS support library.....	IV - 1
_penable	control function entry counts in profiling.....	IV - 2
_proend	end profiling.....	IV - 3
_profil	start profiling.....	IV - 4
askpw	ask for password.....	IV - 5
asure	get user response to question.....	IV - 6
atime	convert time vector to ASCII string.....	IV - 7
baudcode	return code given speed text.....	IV - 8
baudlist	list of speeds supported by IDRIS drivers.....	IV - 9
baudtext	return text speed given speed code.....	IV - 10
clrbuf	clear standard sized buffer.....	IV - 11
codepw	encode password.....	IV - 12
cpyi	copy inode converting between native and filesystem.....	IV - 13
cwd	get current working directory.....	IV - 14
devname	get device name.....	IV - 15
ename	get pathname of entry in directory.....	IV - 16
flushi	flush out any pending inode writes.....	IV - 17
ftime	find modified or accessed time of file.....	IV - 18
getblk	get filesystem block.....	IV - 19
getdn	get device name.....	IV - 20
geti	get inode from filesystem.....	IV - 21
getlinks	read and sort directory.....	IV - 22
getpw	retrieve field from password file.....	IV - 23
inblk	find home block of inode.....	IV - 24
ioff	get inode offset within block.....	IV - 25
lsize	get size of file.....	IV - 26
lslin	convert inode information to readable form.....	IV - 27
ltime	convert system time to local time.....	IV - 29
mapblk	map logical block to physical.....	IV - 30
mesg	turn on or off messages to current terminal.....	IV - 31
mkdir	make directory.....	IV - 32
mv	move file.....	IV - 33
parent	get parent name of file.....	IV - 34
perm	test permissions of file.....	IV - 35
putblk	put filesystem block.....	IV - 36
puti	put inode to filesystem.....	IV - 37
rdir	read directory on unmounted filesystem.....	IV - 38
rmdir	remove directory.....	IV - 39
shell	execute shell command escape.....	IV - 40
vtime	convert system time to Greenwich Mean Time.....	IV - 41
wdir	write directory to unmount filesystem.....	IV - 42
who	read and sort who file.....	IV - 43