



1039 AP
Bell Laboratories

subject Reorganization of UNIX
Source Files

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MEMORANDUM FOR FILE

This memorandum details a proposal for the consolidation of UNIX Source files. The primary reason for the reorganization is to facilitate the referencing of header files in the source code. Presently, source code is scattered over several directories which makes referencing of header files inconsistent between programs. Putting all the source files under a single directory `"/source"` would make the referencing of header files simple and consistent. The grouping of the source files within sub-directories of `"/source"` is arbitrary. However, the specific organization that we propose has some special advantages:

(i) These groupings are consistent with the PR (Program Listing) groupings used in producing Bell System Standard (WECo) documentation for the UNIX Operating System Generic Program. Issue 1 of the UNIX Operating System Generic Program containing program listings will be available to UNIX projects on paper and microfiche in the near future.

(ii) Most UNIX installations do not have enough disk space to keep all of UNIX source on-line. (An RK disk pack of 1.2 million words is not large enough for all source files.) Thus, it is necessary for the system programmer to eliminate some source files. The sub-directories we have chosen segment the source into functional groupings so that making the decision of which source to keep is reduced to choosing which groups to keep. Then if a particular directory exists one could be assured that all the source files belonging to that group would also exist.

Diagram 1 is a symbolic representation of the directory structure we propose. The directory `"/source"` contains only directories, which in turn contain only files. When they become available, shell command files that assemble or compile the source files may also reside in the directories along with the source.

Appendix A is a detailed listing of the directories contained in "/source" and the contents of each directory. A descriptive title is given for each directory. An abbreviated version of this title will be used to name the directories.

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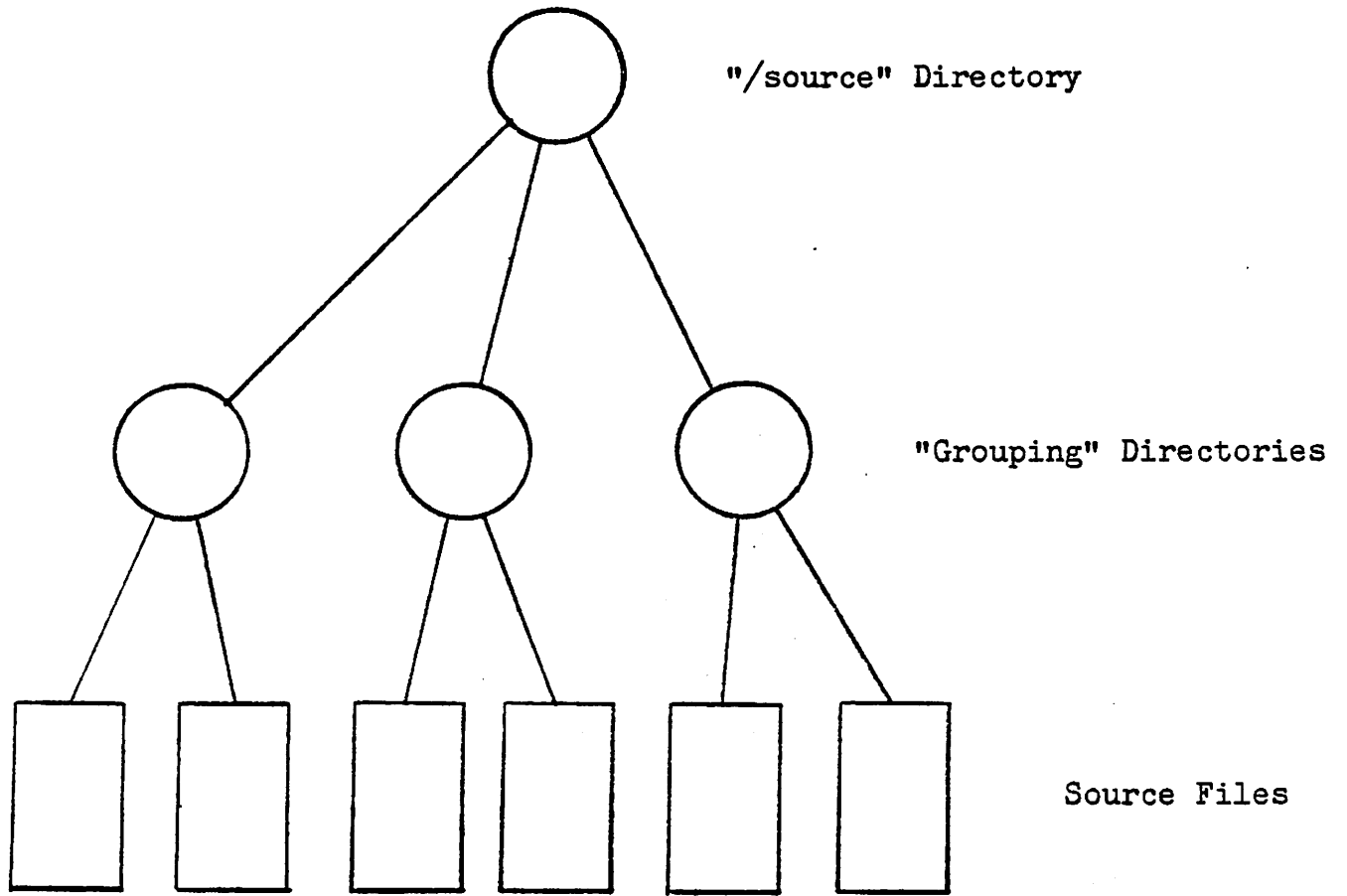
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ISSUE

APPENDIX A

DIRECTORY GROUPINGS FOR UNIX SOURCE CODE REORGANIZATION

DIRECTORY GROUPING:

HEADER Files

Files:

- buf.h
- conf.h
- file.h
- filsys.h
- inode.h
- param.h
- proc.h
- reg.h
- seg.h
- sysm.h
- text.h
- tty.h
- user.h

Directory Grouping:

OPERATING SYSTEM

Files:

- alloc.c
- clock.c
- fio.c
- iget.c
- main.c
- nami.c
- prf.c
- rdwri.c
- sig.c
- slp.c
- subr.c
- sys1.c
- sys2.c
- sys3.c
- sys4.c
- sysent.c
- text.c
- trap.c

Directory Grouping:
DEVICE DRIVERS SEC.1

Files:

- bio.c
- cat.c
- dc.c
- dh.c
- dhdn.c
- dhfdm.c
- dn.c
- dp.c
- draa.c
- kl.c
- lp.c

Directory Grouping:
DEVICE DRIVERS SEC.2

Files:

- malloc.c
- mem.c
- partab.c
- pc.c
- pipe.c
- rf.c
- rk.c
- rp.c
- tc.c
- tiu.c
- tm.c
- tty.c
- vs.c
- vt.c

Directory Grouping:
ASSEMBLER SOURCE

Files:

as11.s
as12.s
as13.s
as14.s
as15.s
as16.s
as17.s
as18.s
as19.s
as21.s
as22.s
as23.s
as24.s
as25.s
as26.s
as27.s
as28.s
as29.s

Directory Grouping:
BASIC SOURCE

Files:

bas0.s
bas1.s
bas2.s
bas3.s
bas4.s
bas5.s
basx.s

Directory Grouping:
DEBUG SOURCE

Files:

db1.s
db2.s
db3.s
db4.s

Directory Grouping:
DESK CALCULATOR AND EDITOR

Files:
dc1.s
dc2.s
dc3.s
dc4.s
dc5.s
ed1.s
ed2.s
ed3.s

Directory Grouping:
FORM LETTER EDITOR

Files:
fed1.s
fed2.s
fed3.s

Directory Grouping:
FORM LETTER GENERATOR

Files:
form1.s
form2.s
form3.s
form4.s
form5.s
form6.s

Directory Grouping:
LOADER SOURCE

Files:
ld1.s
ld2.s
ldx.s

Directory Grouping:
DEC/MAG TAPE MANIPULATION

Files:
tp1.s
tp2.s
tp3.s
tpx.s

Directory Grouping:
FLOATING POINT INTERPRETER

Files:

fp1.s
fp2.s
fp3.s
fpx.s

Directory Grouping:
UNIX COMMANDS SEC. 1

Files:

ac.c
ar.s
cal.c
cat.s
cc.c
cdb.c
check.c
chmod.c
chown.s
clri.s
cmp.c
comm.c
cp.c

Directory Grouping:
UNIX COMMANDS SEC.2

Files:

- date.c
- dd.c
- df.c
- diff1.c
- diff2.s
- dsw.s
- du.s
- dump.c
- echo.c
- exit.c
- factor.s
- fc.c
- file.c
- find.c
- getty.s
- glob.c
- goto.c
- grep.s
- hyphen.c
- if.c
- init.c
- ino.c
- kill.s
- ln.c
- login.c
- lpd.s
- lpr.c
- ls.c

Directory Grouping:
UNIX COMMANDS SEC.3

Files:

- mail.c
- mesg.s
- mkdir.s
- mkfs.c
- mknod.c
- mkpt.c
- mount.c
- msh.s
- mv.c
- nice.c
- nm.c
- nohup.c
- od.c
- ov.s

Directory Grouping:
UNIX COMMANDS SEC.4

Files:

- passwd.s
- pfe.s
- pr.c
- prof.c
- ps.c
- ptx.c
- pwd01c
- reloc.c
- restor.c
- rew.s
- rm.c
- rmdir.s

Directory Grouping:
UNIX COMMANDS SEC.5

Files:

- sa.c
- sh.c
- size.c
- sleep.c
- sort.c
- split.c
- strip.s
- stty.c
- su.c
- sum.s
- sync.c

Directory Grouping:
UNIX COMMANDS SEC.6

Files:

- time.s
- tr.c
- tty.s
- typo.c
- umount.c
- uniq.c
- update.s
- wc.c
- who.c
- write.s

Directory Grouping:

UNIX ASSEMBLER SUBROUTINES SEC.1

Files:

atan.s
atof.s
atoi.s
compar.s
crypt.s
ctime.c
dpadd.s
ecvt.s
exp.s
fakfp.s

Directory Grouping:

UNIX ASSEMBLER SUBROUTINES SEC.2

Files:

get.s
hypot.s
ldiv.s
log.s
mesg.s
nlist.s
pow.s
put.s
qsort.s
rand.s
sin.s
sqrt.s
switch.s
ttyn.s

Directory Grouping:

UNIX C SUBROUTINES SEC.1

Files:

abort.s
alloc.c
atan.s
atan2.s
atof.s
chdir.s
chmod.s
close.s
cos.s
crand.s
creat.s
crt0.s
crypt.s

Directory Grouping:
UNIX C SUBROUTINES SEC.2

Files:
dup.s
ecvt.s
errlst.c
execl.s
execv.s
exit.s
exp.s
fltpr.s
ffltpr.s
fltime.s
fork.s
fstat.s

Directory Grouping:
UNIX C SUBROUTINES SEC.3

Files:
getc.s
getchr.s
getcsw.s
getgid.s
getpw.c
getuid.s
gtty.s
hmul.s
hsw.s
kill.s
link.s
locv.s
log.s

Directory Grouping:
UNIX C SUBROUTINES SEC.4

Files:
mkdir.s
mdate.s
mcrto.s
mknod.s
mon.c
mount.s
nargs.s
nice.s
nlist.s
open.s

Directory Grouping:

UNIX C SUBROUTINES SEC.5

Files:

perror.c
pipe.s
pow.s
printf.s
prof.s
putc.s
putchr.s
qsort.c
read.s
reset.s
retrn.s
rin.c
rsave.s

Directory Grouping:

UNIX C SUBROUTINES SEC.6

Files:

sbrk.s
seek.s
setgid.s
setuid.s
signal.s
sin.s
sleep.s
snstat.s
sqrt.s
ssw.s
stat.s
stime.s
stty.s
switch.s
sync.s

Directory Grouping:

UNIX C SUBROUTINES SEC.7

Files:

time.s
times.s
umount.s
unlink.s
wait.s
write.s

Directory Grouping:

C COMPILER

Files:

c00.c
c01.c
c02.c
c03.c
c04.c
c0h.c
c0t.s
c10.c
c11.c
c12.c
c1h.c
c1t.s
cctab.s
cvopt.c
efftab.s
regtab.s
sptab.s

Directory Grouping:

FORTRAN COMPILER PASS 1

Files:

f11.s
f12.s
f13.s
f14.s
f15.s
f16.s
f17.s

Directory Grouping:

FORTRAN COMPILER PASS 2

Files:

f21.s
f22.s
f23.s
f24.s

Directory Grouping:
FORTRAN COMPILER PASS 3

Files:

f31.s
f32.s
f33.s
f34.s
f35.s
f36.s
f37.s
f38.s
f39.s

Directory Grouping:
FORTRAN COMPILER PASS 4

Files:

f41.s
f42.s
f43.s
f44.s
f45.s
f46.s
f47.s

Directory Grouping:
FORTRAN COMPILER SUBROUTINES

Files:

fhd.s
fx1.s
fx2.s
fx3.s
fx4.s
fx5.s
fx6.s
fx7.s
fx8.s
fx9.s
fxa.s
fxb.s
fxc.s
fxd.s
fxe.s
fxf.s
fxg.s
fxh.s
fxx.s

Directory Grouping:
FORTRAN INPUT OUTPUT

Files:

io1.s
io2.s
io3.s
io4.s
io5.s
io6.s
io7.s
iox.s

Directory Grouping:
FORTRAN RUNTIME PARTS

Files:

r0.s
r1.s
r2.s
r3.s
r4.s
r5.s
r6.s
r7.s
r8.s
r9.s
ra.s
rb.s
rc.s
rd.s
re.s
rf.s
rg.s
rh.s
rx.s

Directory Grouping:
FORTRAN ARITHMETIC FUNCTIONS

Files:

abs.s
aimag.s
aint.s
alog.s
alog10.s
amax0.s
amax1.s
amin0.s
amin1.s
amod.s
atan.s
atan2.s

Directory Grouping:
FORTRAN RUNTIME FUNCTIONS

Files:

- cabs.s
- ccos.f
- cexp.s
- clog.f
- cmplx.s
- conjg.s
- cos.s
- csin.f
- csqrt.f
- dbls.s
- dccos.f
- dclog.f
- dcsin.f
- dcsqrt.f
- dim.s
- dimag.s
- exp.s

Directory Grouping:
FORTRAN FUNCTIONS INTEGER

Files:

- float.s
- iabs.s
- idim.s
- idint.s
- ierr.s
- ifix.s
- isign.s
- mod.s
- real.s
- sign.s
- sin.s
- sngl.s
- sqrts
- tanh.f

Directory Grouping:

FORTRAN RUNTIME PASS 2 FUNCTIONS

Files:

ctime.s
getarg.s
nice.s
openrw.s
plot.s
rio.s
setfil.s
sum.s

Directory Grouping:

MACHINE DEC CODE

Files:

dldr.s
dli.s
dtf.s
list.s
mcopy.s
rkf.s
tboot.s
uboot.s