

new/usr/src/Targetdirs

1

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*****
71401 Wed May 20 11:20:00 2015
new/usr/src/Targetdirs
make: add the manual page
*****
1 # CDDL HEADER START
2 #
3 # The contents of this file are subject to the terms of the
4 # Common Development and Distribution License (the "License").
5 # You may not use this file except in compliance with the License.
6 #
7 # You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE
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9 # See the License for the specific language governing permissions
10 # and limitations under the License.
11 #
12 # When distributing Covered Code, include this CDDL HEADER in each
13 # file and include the License file at usr/src/OPENSOLARIS.LICENSE.
14 # If applicable, add the following below this CDDL HEADER, with the
15 # fields enclosed by brackets "[]" replaced with your own identifying
16 # information: Portions Copyright [yyyy] [name of copyright owner]
17 #
18 # CDDL HEADER END
19 #
20 #
21 #
22 # Copyright (c) 1989, 2010, Oracle and/or its affiliates. All rights reserved.
23 # Copyright 2011, Richard Lowe
24 # Copyright (c) 2012 by Delphix. All rights reserved.
25 # Copyright (c) 2012, Igor Kozhukhov <ikozhukhov@gmail.com>
26 # Copyright 2012 OmniTI Computer Consulting, Inc. All rights reserved.
27 # Copyright (c) 2013 RackTop Systems.
28 # Copyright 2013 Nexenta Systems, Inc. All rights reserved.
29 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
30 #
31 #
32 #
33 # It is easier to think in terms of directory names without the ROOT macro
34 # prefix. ROOTDIRS is TARGETDIRS with ROOT prefixes. It is necessary
35 # to work with ROOT prefixes when controlling conditional assignments.
36 #
37 #
38 DIRLINKS=      $(SYM.DIRS)
39 $(BUILD64)    DIRLINKS += $(SYM.DIRS64)
40 #
41 FILELINKS= $(SYM.USRCCSLIB) $(SYM.USRLIB)
42 $(BUILD64)   FILELINKS += $(SYM.USRCCSLIB64) $(SYM.USRLIB64)
43 #
44 TARGETDIRS=   $(DIRS)
45 $(BUILD64)   TARGETDIRS += $(DIRS64)
46 #
47 TARGETDIRS   += $(FILELINKS) $(DIRLINKS)
48 #
49 i386_DIRS=    \
50 /boot/acpi    \
51 /boot/acpi/tables \
52 /boot/grub    \
53 /boot/grub/bin \
54 /platform/i86pc \
55 /lib/libmvec  \
56 /usr/lib/xen  \
57 /usr/lib/xen/bin \
58 #
59 sparc_DIRS=   \
60 /usr/lib/ldoms

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new/usr/src/Targetdirs

2

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62 sparc_64ONLY= $(POUND_SIGN)
63 64ONLY= $(MACH)_64ONLY)
64 #
65 $(64ONLY) MACH32_DIRS=/usr/ucb/$(MACH32)
66 #
67 DIRS= \
68 /boot \
69 /boot/solaris \
70 /boot/solaris/bin \
71 $(MACH_DIRS) \
72 /dev \
73 /dev/dsk \
74 /dev/fd \
75 /dev/ipnet \
76 /dev/net \
77 /dev/rdisk \
78 /dev/rmt \
79 /dev/pts \
80 /dev/sad \
81 /dev/swap \
82 /dev/term \
83 /dev/vt \
84 /dev/zcons \
85 /devices \
86 /devices/pseudo \
87 /etc \
88 /etc/brand \
89 /etc/brand/solaris10 \
90 /etc/cron.d \
91 /etc/crypto \
92 /etc/crypto/certs \
93 /etc/crypto/crls \
94 /etc/dbus-1 \
95 /etc/dbus-1/system.d \
96 /etc/default \
97 /etc/devices \
98 /etc/dev \
99 /etc/dfs \
100 /etc/dladm \
101 /etc/fs \
102 /etc/fs/nfs \
103 /etc/fs/zfs \
104 /etc/ftpd \
105 /etc/hal \
106 /etc/hal/fdi \
107 /etc/hal/fdi/information \
108 /etc/hal/fdi/information/10freedesktop \
109 /etc/hal/fdi/information/20thirdparty \
110 /etc/hal/fdi/information/30user \
111 /etc/hal/fdi/policy \
112 /etc/hal/fdi/policy/10osvendor \
113 /etc/hal/fdi/policy/20thirdparty \
114 /etc/hal/fdi/policy/30user \
115 /etc/hal/fdi/preprobe \
116 /etc/hal/fdi/preprobe/10osvendor \
117 /etc/hal/fdi/preprobe/20thirdparty \
118 /etc/hal/fdi/preprobe/30user \
119 /etc/ipadm \
120 /etc/iscsi \
121 /etc/rpcsec \
122 /etc/security \
123 /etc/security/auth_attr.d \
124 /etc/security/exec_attr.d \
125 /etc/security/prof_attr.d \
126 /etc/security/tsol \
127 /etc/gss

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new/usr/src/Targetdirs

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128 /etc/init.d \
129 /etc/dhcp \
130 /etc/lib \
131 /etc/mail \
132 /etc/mail/cf \
133 /etc/mail/cf/cf \
134 /etc/mail/cf/domain \
135 /etc/mail/cf/feature \
136 /etc/mail/cf/m4 \
137 /etc/mail/cf/mailer \
138 /etc/mail/cf/ostype \
139 /etc/mail/cf/sh \
140 /etc/net-snmp \
141 /etc/net-snmp/snmp \
142 /etc/opt \
143 /etc/rc0.d \
144 /etc/rc1.d \
145 /etc/rc2.d \
146 /etc/rc3.d \
147 /etc/rcS.d \
148 /etc/saf \
149 /etc/sasl \
150 /etc/sfw \
151 /etc/skel \
152 /etc/svc \
153 /etc/svc/profile \
154 /etc/svc/profile/site \
155 /etc/svc/volatile \
156 /etc/tm \
157 /etc/usb \
158 /etc/user_attr.d \
159 /etc/zfs \
160 /etc/zones \
161 /export \
162 /home \
163 /lib \
164 /lib/crypto \
165 /lib/inet \
166 /lib/fm \
167 /lib/secure \
168 /lib/svc \
169 /lib/svc/bin \
170 /lib/svc/capture \
171 /lib/svc/manifest \
172 /lib/svc/manifest/milestone \
173 /lib/svc/manifest/device \
174 /lib/svc/manifest/system \
175 /lib/svc/manifest/system/device \
176 /lib/svc/manifest/system/filesystem \
177 /lib/svc/manifest/system/security \
178 /lib/svc/manifest/system/svc \
179 /lib/svc/manifest/network \
180 /lib/svc/manifest/network/dns \
181 /lib/svc/manifest/network/ipsec \
182 /lib/svc/manifest/network/ldap \
183 /lib/svc/manifest/network/nfs \
184 /lib/svc/manifest/network/nis \
185 /lib/svc/manifest/network/rpc \
186 /lib/svc/manifest/network/security \
187 /lib/svc/manifest/network/shares \
188 /lib/svc/manifest/network/ssl \
189 /lib/svc/manifest/application \
190 /lib/svc/manifest/application/management \
191 /lib/svc/manifest/application/security \
192 /lib/svc/manifest/application/print \
193 /lib/svc/manifest/platform \

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3

new/usr/src/Targetdirs

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194 /lib/svc/manifest/platform/sun4u \
195 /lib/svc/manifest/platform/sun4v \
196 /lib/svc/manifest/site \
197 /lib/svc/method \
198 /lib/svc/monitor \
199 /lib/svc/seed \
200 /lib/svc/share \
201 /kernel \
202 /mnt \
203 /opt \
204 /platform \
205 /proc \
206 /root \
207 /sbin \
208 /system \
209 /system/contract \
210 /system/object \
211 /tmp \
212 /usr \
213 /usr/4lib \
214 /usr/ast \
215 /usr/ast/bin \
216 /usr/bin \
217 /usr/bin/$(MACH32) \
218 /usr/ccs \
219 /usr/ccs/bin \
220 /usr/ccs/lib \
221 /usr/demo \
222 /usr/demo/SOUND \
223 /usr/games \
224 /usr/has \
225 /usr/has/bin \
226 /usr/has/lib \
227 /usr/has/man \
228 /usr/has/man/manlhas \
229 /usr/include \
230 /usr/include/ast \
231 /usr/include/fm \
232 /usr/include/gssapi \
233 /usr/include/hal \
234 /usr/include/kerberosv5 \
235 /usr/include/libmilter \
236 /usr/include/libpolkit \
237 /usr/include/sasl \
238 /usr/include/scsi \
239 /usr/include/security \
240 /usr/include/sys/crypto \
241 /usr/include/tsol \
242 /usr/kernel \
243 /usr/kvm \
244 /usr/lib \
245 /usr/lib/abi \
246 /usr/lib/brand \
247 /usr/lib/brand/ipkg \
248 /usr/lib/brand/labeled \
249 /usr/lib/brand/shared \
250 /usr/lib/brand/sn1 \
251 /usr/lib/brand/solaris10 \
252 /usr/lib/class \
253 /usr/lib/class/FSS \
254 /usr/lib/class/FX \
255 /usr/lib/class/IA \
256 /usr/lib/class/RT \
257 /usr/lib/class/SDC \
258 /usr/lib/class/TS \
259 /usr/lib/crypto \

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4

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260 /usr/lib/drv \
261 /usr/lib/elfedit \
262 /usr/lib/fm \
263 /usr/lib/font \
264 /usr/lib/fs \
265 /usr/lib/fs/nfs \
266 /usr/lib/fs/proc \
267 /usr/lib/fs/smb \
268 /usr/lib/fs/zfs \
269 /usr/lib/gss \
270 /usr/lib/hal \
271 /usr/lib/inet \
272 /usr/lib/inet/ilb \
273 /usr/lib/inet/$(MACH32) \
274 /usr/lib/inet/wanboot \
275 /usr/lib/krb5 \
276 /usr/lib/link_audit \
277 /usr/lib/libp \
278 /usr/lib/lwp \
279 /usr/lib/mdb \
280 /usr/lib/mdb/kvm \
281 /usr/lib/mdb/proc \
282 /usr/lib/nfs \
283 /usr/net \
284 /usr/net/servers \
285 /usr/lib/pool \
286 /usr/lib/python2.6 \
287 /usr/lib/python2.6/vendor-packages \
288 /usr/lib/python2.6/vendor-packages/64 \
289 /usr/lib/python2.6/vendor-packages/solaris \
290 /usr/lib/python2.6/vendor-packages/zfs \
291 /usr/lib/python2.6/vendor-packages/beadm \
292 /usr/lib/rcap \
293 /usr/lib/rcap/$(MACH32) \
294 /usr/lib/sa \
295 /usr/lib/saf \
296 /usr/lib/sasl \
297 /usr/lib/scsi \
298 /usr/lib/secure \
299 /usr/lib/security \
300 /usr/lib/smbdrv \
301 /usr/lib/vscan \
302 /usr/lib/zfs \
303 /usr/lib/zones \
304 /usr/old \
305 /usr/platform \
306 /usr/proc \
307 /usr/proc/bin \
308 /usr/sadm \
309 /usr/sadm/install \
310 /usr/sadm/install/bin \
311 /usr/sadm/install/scripts \
312 /usr/sbin \
313 /usr/sbin/$(MACH32) \
314 /usr/share \
315 /usr/share/applications \
316 /usr/share/audio \
317 /usr/share/audio/samples \
318 /usr/share/audio/samples/au \
319 /usr/share/gnome \
320 /usr/share/gnome/autostart \
321 /usr/share/hwdata \
322 /usr/share/lib \
323 /usr/share/lib/ccs \
324 /usr/share/lib/tmac \
325 /usr/share/lib/ldif \

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326 /usr/share/lib/xml \
327 /usr/share/lib/xml/dtd \
328 /usr/share/man \
329 /usr/share/man/man1 \
330 /usr/share/man/man1b \
331 /usr/share/man/man1c \
332 /usr/share/man/man1m \
333 /usr/share/man/man1s \
334 #endif /* !codereview */
335 /usr/share/man/man2 \
336 /usr/share/man/man3 \
337 /usr/share/man/man3bsm \
338 /usr/share/man/man3c \
339 /usr/share/man/man3c_db \
340 /usr/share/man/man3cfgadm \
341 /usr/share/man/man3commputil \
342 /usr/share/man/man3contract \
343 /usr/share/man/man3cpc \
344 /usr/share/man/man3curses \
345 /usr/share/man/man3dat \
346 /usr/share/man/man3devind \
347 /usr/share/man/man3devinfo \
348 /usr/share/man/man3dlpi \
349 /usr/share/man/man3dns_sd \
350 /usr/share/man/man3elf \
351 /usr/share/man/man3exacct \
352 /usr/share/man/man3ext \
353 /usr/share/man/man3fcioe \
354 /usr/share/man/man3fstyp \
355 /usr/share/man/man3gen \
356 /usr/share/man/man3gss \
357 /usr/share/man/man3head \
358 /usr/share/man/man3iscsit \
359 /usr/share/man/man3kstat \
360 /usr/share/man/man3kvm \
361 /usr/share/man/man3ldap \
362 /usr/share/man/man3lgrp \
363 /usr/share/man/man3lib \
364 /usr/share/man/man3m \
365 /usr/share/man/man3mail \
366 /usr/share/man/man3malloc \
367 /usr/share/man/man3mp \
368 /usr/share/man/man3mpapi \
369 /usr/share/man/man3mvec \
370 /usr/share/man/man3nsl \
371 /usr/share/man/man3nvpair \
372 /usr/share/man/man3pam \
373 /usr/share/man/man3papi \
374 /usr/share/man/man3perl \
375 /usr/share/man/man3picl \
376 /usr/share/man/man3picltree \
377 /usr/share/man/man3pool \
378 /usr/share/man/man3proc \
379 /usr/share/man/man3project \
380 /usr/share/man/man3resolv \
381 /usr/share/man/man3rpc \
382 /usr/share/man/man3rsm \
383 /usr/share/man/man3sas1 \
384 /usr/share/man/man3scf \
385 /usr/share/man/man3sec \
386 /usr/share/man/man3secdb \
387 /usr/share/man/man3sip \
388 /usr/share/man/man3slp \
389 /usr/share/man/man3socket \
390 /usr/share/man/man3stmf \
391 /usr/share/man/man3sysevent \

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392 /usr/share/man/man3tecla \
393 /usr/share/man/man3tnf \
394 /usr/share/man/man3tsol \
395 /usr/share/man/man3uuid \
396 /usr/share/man/man3volmgt \
397 /usr/share/man/man3xcurses \
398 /usr/share/man/man3xnet \
399 /usr/share/man/man4 \
400 /usr/share/man/man5 \
401 /usr/share/man/man7 \
402 /usr/share/man/man7d \
403 /usr/share/man/man7fs \
404 /usr/share/man/man7i \
405 /usr/share/man/man7ipp \
406 /usr/share/man/man7m \
407 /usr/share/man/man7p \
408 /usr/share/man/man9 \
409 /usr/share/man/man9e \
410 /usr/share/man/man9f \
411 /usr/share/man/man9p \
412 /usr/share/man/man9s \
413 /usr/share/src \
414 /usr/snadm \
415 /usr/snadm/lib \
416 /usr/ucb \
417 $(MACH32_DIRS) \
418 /usr/ucb/lib \
419 /usr/xpg4 \
420 /usr/xpg4/bin \
421 /usr/xpg4/include \
422 /usr/xpg4/lib \
423 /usr/xpg6 \
424 /usr/xpg6/bin \
425 /var \
426 /var/adm \
427 /var/adm/exacct \
428 /var/adm/log \
429 /var/adm/pool \
430 /var/adm/sa \
431 /var/adm/sm.bin \
432 /var/adm/streams \
433 /var/cores \
434 /var/cron \
435 /var/db \
436 /var/db/ipf \
437 /var/games \
438 /var/idmap \
439 /var/krb5 \
440 /var/krb5/rcache \
441 /var/krb5/rcache/root \
442 /var/ld \
443 /var/log \
444 /var/log/pool \
445 /var/logadm \
446 /var/mail \
447 /var/news \
448 /var/opt \
449 /var/preserve \
450 /var/run \
451 /var/saf \
452 /var/sadm \
453 /var/sadm/install \
454 /var/sadm/install/admin \
455 /var/sadm/install/logs \
456 /var/sadm/pkg \
457 /var/sadm/security \

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458 /var/smb \
459 /var/smb/cvol \
460 /var/smb/cvol/windows \
461 /var/smb/cvol/windows/system32 \
462 /var/smb/cvol/windows/system32/vss \
463 /var/spool \
464 /var/spool/cron \
465 /var/spool/cron/atjobs \
466 /var/spool/cron/crontabs \
467 /var/spool/lp \
468 /var/spool/pkg \
469 /var/spool/uucp \
470 /var/spool/uucppublic \
471 /var/svc \
472 /var/svc/log \
473 /var/svc/manifest \
474 /var/svc/manifest/milestone \
475 /var/svc/manifest/device \
476 /var/svc/manifest/system \
477 /var/svc/manifest/system/device \
478 /var/svc/manifest/system/filesystem \
479 /var/svc/manifest/system/security \
480 /var/svc/manifest/system/svc \
481 /var/svc/manifest/network \
482 /var/svc/manifest/network/dns \
483 /var/svc/manifest/network/ipsec \
484 /var/svc/manifest/network/ldap \
485 /var/svc/manifest/network/nfs \
486 /var/svc/manifest/network/nis \
487 /var/svc/manifest/network/rpc \
488 /var/svc/manifest/network/routing \
489 /var/svc/manifest/network/security \
490 /var/svc/manifest/network/shares \
491 /var/svc/manifest/network/ssl \
492 /var/svc/manifest/application \
493 /var/svc/manifest/application/management \
494 /var/svc/manifest/application/print \
495 /var/svc/manifest/application/security \
496 /var/svc/manifest/platform \
497 /var/svc/manifest/platform/sun4u \
498 /var/svc/manifest/platform/sun4v \
499 /var/svc/manifest/site \
500 /var/svc/profile \
501 /var/uucp \
502 /var/tmp \
503 /var/tsol \
504 /var/tsol/doors

506 sparcv9_DIRS64= \
507 /platform/sun4u \
508 /platform/sun4u/lib \
509 /platform/sun4u/lib/$(MACH64) \
510 /usr/platform/sun4u \
511 /usr/platform/sun4u/sbin \
512 /usr/platform/sun4u/lib \
513 /platform/sun4v/lib \
514 /platform/sun4v/lib/$(MACH64) \
515 /usr/platform/sun4v/sbin \
516 /usr/platform/sun4v/lib \
517 /usr/platform/sun4u-us3/lib \
518 /usr/platform/sun4u-opl/lib

520 amd64_DIRS64= \
521 /platform/i86pc/amd64

523 DIRS64= \

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524     ${$(MACH64)_DIRS64} \
525     /lib/$(MACH64) \
526     /lib/crypto/$(MACH64) \
527     /lib/fm/$(MACH64) \
528     /lib/secure/$(MACH64) \
529     /usr/bin/$(MACH64) \
530     /usr/ccs/bin/$(MACH64) \
531     /usr/ccs/lib/$(MACH64) \
532     /usr/lib/$(MACH64) \
533     /usr/lib/$(MACH64)/gss \
534     /usr/lib/brand/sn1/$(MACH64) \
535     /usr/lib/brand/solaris10/$(MACH64) \
536     /usr/lib/elfedit/$(MACH64) \
537     /usr/lib/fm/$(MACH64) \
538     /usr/lib/fs/nfs/$(MACH64) \
539     /usr/lib/fs/smb/$(MACH64) \
540     /usr/lib/inet/$(MACH64) \
541     /usr/lib/krb5/$(MACH64) \
542     /usr/lib/libp/$(MACH64) \
543     /usr/lib/link_audit/$(MACH64) \
544     /usr/lib/lwp/$(MACH64) \
545     /usr/lib/ldb/kvm/$(MACH64) \
546     /usr/lib/ldb/proc/$(MACH64) \
547     /usr/lib/rcap/$(MACH64) \
548     /usr/lib/sasl/$(MACH64) \
549     /usr/lib/scsi/$(MACH64) \
550     /usr/lib/secure/$(MACH64) \
551     /usr/lib/security/$(MACH64) \
552     /usr/lib/smbdrv/$(MACH64) \
553     /usr/lib/abi/$(MACH64) \
554     /usr/sbin/$(MACH64) \
555     /usr/ucb/$(MACH64) \
556     /usr/ucblib/$(MACH64) \
557     /usr/xpg4/lib/$(MACH64) \
558     /var/ld/$(MACH64)

560 # /var/mail/:saved is built directly by the rootdirs target in
561 # /usr/src/Makefile because of the colon in its name.

563 # macros for symbolic links
564 SYM.DIRS= \
565     /bin \
566     /dev/stdin \
567     /dev/stdout \
568     /dev/stderr \
569     /etc/lib/ld.so.1 \
570     /etc/lib/libdl.so.1 \
571     /etc/lib/nss_files.so.1 \
572     /etc/log \
573     /lib/32 \
574     /lib/crypto/32 \
575     /lib/secure/32 \
576     /usr/adm \
577     /usr/spool \
578     /usr/lib/tmac \
579     /usr/ccs/lib/link_audit \
580     /usr/news \
581     /usr/preserve \
582     /usr/lib/32 \
583     /usr/lib/cron \
584     /usr/lib/elfedit/32 \
585     /usr/lib/libp/32 \
586     /usr/lib/lwp/32 \
587     /usr/lib/link_audit/32 \
588     /usr/lib/secure/32 \
589     /usr/mail \

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590     /usr/man \
591     /usr/pub \
592     /usr/src \
593     /usr/tmp \
594     /usr/ucblib/32 \
595     /var/ld/32

597 sparc_SYM.DIRS64=

599 SYM.DIRS64= \
600     ${$(MACH)_SYM.DIRS64} \
601     /lib/64 \
602     /lib/crypto/64 \
603     /lib/secure/64 \
604     /usr/lib/64 \
605     /usr/lib/brand/sn1/64 \
606     /usr/lib/brand/solaris10/64 \
607     /usr/lib/elfedit/64 \
608     /usr/lib/libp/64 \
609     /usr/lib/link_audit/64 \
610     /usr/lib/lwp/64 \
611     /usr/lib/secure/64 \
612     /usr/lib/security/64 \
613     /usr/xpg4/lib/64 \
614     /var/ld/64 \
615     /usr/ucblib/64

617 # prepend the ROOT prefix

619 ROOTDIRS=          ${TARGETDIRS:%=${ROOT}%)

621 # conditional assignments
622 #
623 # Target directories with non-default values for owner and group must
624 # be referenced here, using their fully-prefixed names, and the non-
625 # default values assigned. If a directory is mentioned above and not
626 # mentioned below, it has default values for attributes.
627 #
628 # The default value for DIRMODE is specified in usr/src/Makefile.master.
629 #

631 ${ROOT}/var/adm \
632 ${ROOT}/var/adm/sa :=          DIRMODE= 775

634 ${ROOT}/var/spool/lp:=        DIRMODE= 775

636 # file mode
637 #
638 ${ROOT}/tmp \
639 ${ROOT}/var/krb5/rcache \
640 ${ROOT}/var/preserve \
641 ${ROOT}/var/spool/pkg \
642 ${ROOT}/var/spool/uucppublic \
643 ${ROOT}/var/tmp:=            DIRMODE= 1777

645 ${ROOT}/root:=              DIRMODE= 700

647 ${ROOT}/var/krb5/rcache/root:= DIRMODE= 700

650 #
651 # These permissions must match those set
652 # in the package manifests.
653 #
654 ${ROOT}/var/sadm/pkg \
655 ${ROOT}/var/sadm/security \

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656 $(ROOT)/var/sadm/install/logs :=          DIRMODE= 555

659 #
660 # These permissions must match the ones set
661 # internally by fdfs and autofs.
662 #
663 $(ROOT)/dev/fd \
664 $(ROOT)/home:=          DIRMODE= 555

666 $(ROOT)/var/mail:=      DIRMODE=1777

668 $(ROOT)/proc:=          DIRMODE= 555

670 $(ROOT)/system/contract:=      DIRMODE= 555
671 $(ROOT)/system/object:=        DIRMODE= 555

673 # symlink assignments, LINKDEST is the value of the symlink
674 #
675 $(ROOT)/usr/lib/cron:=          LINKDEST=../etc/cron.d
676 $(ROOT)/bin:=                  LINKDEST=usr/bin
677 $(ROOT)/lib/32:=              LINKDEST=.
678 $(ROOT)/lib/crypto/32:=       LINKDEST=.
679 $(ROOT)/lib/secure/32:=       LINKDEST=.
680 $(ROOT)/dev/stdin:=           LINKDEST=fd/0
681 $(ROOT)/dev/stdout:=          LINKDEST=fd/1
682 $(ROOT)/dev/stderr:=         LINKDEST=fd/2
683 $(ROOT)/usr/pub:=             LINKDEST=share/lib/pub
684 $(ROOT)/usr/man:=             LINKDEST=share/man
685 $(ROOT)/usr/src:=             LINKDEST=share/src
686 $(ROOT)/usr/adm:=             LINKDEST=../var/adm
687 $(ROOT)/etc/lib/ld.so.1:=      LINKDEST=../lib/ld.so.1
688 $(ROOT)/etc/lib/libdl.so.1:=  LINKDEST=../lib/libdl.so.1
689 $(ROOT)/etc/lib/nss_files.so.1:= LINKDEST=../lib/nss_files.so.1
690 $(ROOT)/etc/log:=             LINKDEST=../var/adm/log
691 $(ROOT)/usr/mail:=            LINKDEST=../var/mail
692 $(ROOT)/usr/news:=           LINKDEST=../var/news
693 $(ROOT)/usr/preserve:=        LINKDEST=../var/preserve
694 $(ROOT)/usr/spool:=           LINKDEST=../var/spool
695 $(ROOT)/usr/tmp:=             LINKDEST=../var/tmp
696 $(ROOT)/usr/lib/tmac:=        LINKDEST=../share/lib/tmac
697 $(ROOT)/usr/lib/32:=          LINKDEST=.
698 $(ROOT)/usr/lib/elfedit/32:=  LINKDEST=.
699 $(ROOT)/usr/lib/libp/32:=     LINKDEST=.
700 $(ROOT)/usr/lib/lwp/32:=      LINKDEST=.
701 $(ROOT)/usr/lib/link_audit/32:= LINKDEST=.
702 $(ROOT)/usr/lib/secure/32:=   LINKDEST=.
703 $(ROOT)/usr/ccs/lib/link_audit:= LINKDEST=../lib/link_audit
704 $(ROOT)/var/ld/32:=          LINKDEST=.
705 $(ROOT)/usr/ucb/lib/32:=     LINKDEST=.

708 $(BUILD64) $(ROOT)/lib/64:=   LINKDEST=$(MACH64)
709 $(BUILD64) $(ROOT)/lib/crypto/64:= LINKDEST=$(MACH64)
710 $(BUILD64) $(ROOT)/lib/secure/64:= LINKDEST=$(MACH64)
711 $(BUILD64) $(ROOT)/usr/lib/64:= LINKDEST=$(MACH64)
712 $(BUILD64) $(ROOT)/usr/lib/elfedit/64:= LINKDEST=$(MACH64)
713 $(BUILD64) $(ROOT)/usr/lib/brand/sn1/64:= LINKDEST=$(MACH64)
714 $(BUILD64) $(ROOT)/usr/lib/brand/solaris10/64:= LINKDEST=$(MACH64)
715 $(BUILD64) $(ROOT)/usr/lib/libp/64:= LINKDEST=$(MACH64)
716 $(BUILD64) $(ROOT)/usr/lib/lwp/64:= LINKDEST=$(MACH64)
717 $(BUILD64) $(ROOT)/usr/lib/link_audit/64:= LINKDEST=$(MACH64)
718 $(BUILD64) $(ROOT)/usr/lib/secure/64:= LINKDEST=$(MACH64)
719 $(BUILD64) $(ROOT)/usr/lib/security/64:= LINKDEST=$(MACH64)
720 $(BUILD64) $(ROOT)/usr/xpg4/lib/64:= LINKDEST=$(MACH64)
721 $(BUILD64) $(ROOT)/var/ld/64:= LINKDEST=$(MACH64)

```

```

722 $(BUILD64) $(ROOT)/usr/ucb/lib/64:=      LINKDEST=$(MACH64)

724 #
725 # Installing a directory symlink calls for overriding INS.dir to install
726 # a symlink.
727 #
728 $(DIRLINKS:%=$(ROOT)%):= \
729     INS.dir= -$(RM) -r $@; $(SYMLINK) $(LINKDEST) $@

731 # Special symlinks to populate usr/ccs/lib, whose objects
732 # have actually been moved to usr/lib
733 # Rather than adding another set of rules, we add usr/lib/lwp files here
734 $(ROOT)/usr/ccs/lib/libcurses.so:=        REALPATH=../lib/libcurses.so.1
735 $(ROOT)/usr/ccs/lib/libl-lcurses:=        REALPATH=../lib/libl-lcurses
736 $(ROOT)/usr/ccs/lib/libl-lcurses.ln:=     REALPATH=../lib/libl-lcurses.ln
737 $(ROOT)/usr/ccs/lib/libform.so:=          REALPATH=../lib/libform.so.1
738 $(ROOT)/usr/ccs/lib/libl-lform:=          REALPATH=../lib/libl-lform
739 $(ROOT)/usr/ccs/lib/libl-lform.ln:=        REALPATH=../lib/libl-lform.ln
740 $(ROOT)/usr/ccs/lib/libgen.so:=           REALPATH=../lib/libgen.so.1
741 $(ROOT)/usr/ccs/lib/libl-lgen:=           REALPATH=../lib/libl-lgen
742 $(ROOT)/usr/ccs/lib/libl-lgen.ln:=        REALPATH=../lib/libl-lgen.ln
743 $(ROOT)/usr/ccs/lib/libmalloc.so:=        REALPATH=../lib/libmalloc.so.1
744 $(ROOT)/usr/ccs/lib/libmenu.so:=          REALPATH=../lib/libmenu.so.1
745 $(ROOT)/usr/ccs/lib/libl-lmenu:=          REALPATH=../lib/libl-lmenu
746 $(ROOT)/usr/ccs/lib/libl-lmenu.ln:=       REALPATH=../lib/libl-lmenu.ln
747 $(ROOT)/usr/ccs/lib/libpanel.so:=         REALPATH=../lib/libpanel.so.1
748 $(ROOT)/usr/ccs/lib/libl-lpanel:=         REALPATH=../lib/libl-lpanel
749 $(ROOT)/usr/ccs/lib/libl-lpanel.ln:=      REALPATH=../lib/libl-lpanel.ln
750 $(ROOT)/usr/ccs/lib/libtermib.so:=        REALPATH=../lib/libcurses.so.1
751 $(ROOT)/usr/ccs/lib/libl-ltermib:=        REALPATH=../lib/libl-lcurses
752 $(ROOT)/usr/ccs/lib/libl-ltermib.ln:=     REALPATH=../lib/libl-lcurses.ln
753 $(ROOT)/usr/ccs/lib/libtermcap.so:=       REALPATH=../lib/libtermcap.so.1
754 $(ROOT)/usr/ccs/lib/libl-ltermcap:=      REALPATH=../lib/libl-ltermcap
755 $(ROOT)/usr/ccs/lib/libl-ltermcap.ln:=    REALPATH=../lib/libl-ltermcap.ln
756 $(ROOT)/usr/ccs/lib/values-Xa.o:=         REALPATH=../lib/values-Xa.o
757 $(ROOT)/usr/ccs/lib/values-Xc.o:=         REALPATH=../lib/values-Xc.o
758 $(ROOT)/usr/ccs/lib/values-Xs.o:=         REALPATH=../lib/values-Xs.o
759 $(ROOT)/usr/ccs/lib/values-Xt.o:=         REALPATH=../lib/values-Xt.o
760 $(ROOT)/usr/ccs/lib/values-xpg4.o:=       REALPATH=../lib/values-xpg4.o
761 $(ROOT)/usr/ccs/lib/values-xpg6.o:=       REALPATH=../lib/values-xpg6.o
762 $(ROOT)/usr/ccs/lib/libl.so:=             REALPATH=../lib/libl.so.1
763 $(ROOT)/usr/ccs/lib/libl-l1.ln:=          REALPATH=../lib/libl-l1.ln
764 $(ROOT)/usr/ccs/lib/liby.so:=            REALPATH=../lib/liby.so.1
765 $(ROOT)/usr/ccs/lib/libl-ly.ln:=          REALPATH=../lib/libl-ly.ln
766 $(ROOT)/usr/lib/libp/libc.so.1:=         REALPATH=../lib/libc.so.1
767 $(ROOT)/usr/lib/lwp/libthread.so.1:=      REALPATH=../libthread.so.1
768 $(ROOT)/usr/lib/lwp/libthread_db.so.1:=   REALPATH=../libthread_db.so.1

770 # symlinks to populate usr/ccs/lib/$(MACH64)
771 $(ROOT)/usr/ccs/lib/$(MACH64)/libcurses.so:= \
772     REALPATH=../lib/$(MACH64)/libcurses.so.1
773 $(ROOT)/usr/ccs/lib/$(MACH64)/libl-lcurses.ln:= \
774     REALPATH=../lib/$(MACH64)/libl-lcurses.ln
775 $(ROOT)/usr/ccs/lib/$(MACH64)/libform.so:= \
776     REALPATH=../lib/$(MACH64)/libform.so.1
777 $(ROOT)/usr/ccs/lib/$(MACH64)/libl-lform.ln:= \
778     REALPATH=../lib/$(MACH64)/libl-lform.ln
779 $(ROOT)/usr/ccs/lib/$(MACH64)/libgen.so:= \
780     REALPATH=../lib/$(MACH64)/libgen.so.1
781 $(ROOT)/usr/ccs/lib/$(MACH64)/libl-lgen.ln:= \
782     REALPATH=../lib/$(MACH64)/libl-lgen.ln
783 $(ROOT)/usr/ccs/lib/$(MACH64)/libmalloc.so:= \
784     REALPATH=../lib/$(MACH64)/libmalloc.so.1
785 $(ROOT)/usr/ccs/lib/$(MACH64)/libmenu.so:= \
786     REALPATH=../lib/$(MACH64)/libmenu.so.1
787 $(ROOT)/usr/ccs/lib/$(MACH64)/libl-lmenu.ln:= \

```

```

788 REALPATH=../../../../lib/$(MACH64)/llib-lmenu.ln
789 $(ROOT)/usr/ccs/lib/$(MACH64)/libpanel.so:= \
790 REALPATH=../../../../lib/$(MACH64)/libpanel.so.1
791 $(ROOT)/usr/ccs/lib/$(MACH64)/llib-lpanel.ln:= \
792 REALPATH=../../../../lib/$(MACH64)/llib-lpanel.ln
793 $(ROOT)/usr/ccs/lib/$(MACH64)/libtermmlib.so:= \
794 REALPATH=../../../../lib/$(MACH64)/libcurses.so.1
795 $(ROOT)/usr/ccs/lib/$(MACH64)/llib-ltermmlib.ln:= \
796 REALPATH=../../../../lib/$(MACH64)/llib-lcurses.ln
797 $(ROOT)/usr/ccs/lib/$(MACH64)/libtermcap.so:= \
798 REALPATH=../../../../lib/$(MACH64)/libtermcap.so.1
799 $(ROOT)/usr/ccs/lib/$(MACH64)/llib-ltermcap.ln:= \
800 REALPATH=../../../../lib/$(MACH64)/llib-ltermcap.ln
801 $(ROOT)/usr/ccs/lib/$(MACH64)/values-Xa.o:= \
802 REALPATH=../../../../lib/$(MACH64)/values-Xa.o
803 $(ROOT)/usr/ccs/lib/$(MACH64)/values-Xc.o:= \
804 REALPATH=../../../../lib/$(MACH64)/values-Xc.o
805 $(ROOT)/usr/ccs/lib/$(MACH64)/values-Xs.o:= \
806 REALPATH=../../../../lib/$(MACH64)/values-Xs.o
807 $(ROOT)/usr/ccs/lib/$(MACH64)/values-Xt.o:= \
808 REALPATH=../../../../lib/$(MACH64)/values-Xt.o
809 $(ROOT)/usr/ccs/lib/$(MACH64)/values-xpg4.o:= \
810 REALPATH=../../../../lib/$(MACH64)/values-xpg4.o
811 $(ROOT)/usr/ccs/lib/$(MACH64)/values-xpg6.o:= \
812 REALPATH=../../../../lib/$(MACH64)/values-xpg6.o
813 $(ROOT)/usr/ccs/lib/$(MACH64)/libl.so:= \
814 REALPATH=../../../../lib/$(MACH64)/libl.so.1
815 $(ROOT)/usr/ccs/lib/$(MACH64)/llib-ll.ln:= \
816 REALPATH=../../../../lib/$(MACH64)/llib-ll.ln
817 $(ROOT)/usr/ccs/lib/$(MACH64)/liby.so:= \
818 REALPATH=../../../../lib/$(MACH64)/liby.so.1
819 $(ROOT)/usr/ccs/lib/$(MACH64)/llib-ly.ln:= \
820 REALPATH=../../../../lib/$(MACH64)/llib-ly.ln
821 $(ROOT)/usr/lib/libp/$(MACH64)/libc.so.1:= \
822 REALPATH=../../../../lib/$(MACH64)/libc.so.1
823 $(ROOT)/usr/lib/lwp/$(MACH64)/libthread.so.1:= \
824 REALPATH=../../../../$(MACH64)/libthread.so.1
825 $(ROOT)/usr/lib/lwp/$(MACH64)/libthread_db.so.1:= \
826 REALPATH=../../../../$(MACH64)/libthread_db.so.1

```

```

828 SYM.USRCCSLIB= \
829 /usr/ccs/lib/libcurses.so \
830 /usr/ccs/lib/llib-lcurses \
831 /usr/ccs/lib/llib-lcurses.ln \
832 /usr/ccs/lib/libform.so \
833 /usr/ccs/lib/llib-lform \
834 /usr/ccs/lib/llib-lform.ln \
835 /usr/ccs/lib/libgen.so \
836 /usr/ccs/lib/llib-lgen \
837 /usr/ccs/lib/llib-lgen.ln \
838 /usr/ccs/lib/libmalloc.so \
839 /usr/ccs/lib/libmenu.so \
840 /usr/ccs/lib/llib-lmenu \
841 /usr/ccs/lib/llib-lmenu.ln \
842 /usr/ccs/lib/libpanel.so \
843 /usr/ccs/lib/llib-lpanel \
844 /usr/ccs/lib/llib-lpanel.ln \
845 /usr/ccs/lib/libtermmlib.so \
846 /usr/ccs/lib/llib-ltermmlib \
847 /usr/ccs/lib/llib-ltermmlib.ln \
848 /usr/ccs/lib/libtermcap.so \
849 /usr/ccs/lib/llib-ltermcap \
850 /usr/ccs/lib/llib-ltermcap.ln \
851 /usr/ccs/lib/values-Xa.o \
852 /usr/ccs/lib/values-Xc.o \
853 /usr/ccs/lib/values-Xs.o \

```

```

854 /usr/ccs/lib/values-Xt.o \
855 /usr/ccs/lib/values-xpg4.o \
856 /usr/ccs/lib/values-xpg6.o \
857 /usr/ccs/lib/libl.so \
858 /usr/ccs/lib/llib-ll.ln \
859 /usr/ccs/lib/liby.so \
860 /usr/ccs/lib/llib-ly.ln \
861 /usr/lib/libp/libc.so.1 \
862 /usr/lib/lwp/libthread.so.1 \
863 /usr/lib/lwp/libthread_db.so.1

```

```

865 SYM.USRCCSLIB64= \
866 /usr/ccs/lib/$(MACH64)/libcurses.so \
867 /usr/ccs/lib/$(MACH64)/llib-lcurses.ln \
868 /usr/ccs/lib/$(MACH64)/libform.so \
869 /usr/ccs/lib/$(MACH64)/llib-lform.ln \
870 /usr/ccs/lib/$(MACH64)/libgen.so \
871 /usr/ccs/lib/$(MACH64)/llib-lgen.ln \
872 /usr/ccs/lib/$(MACH64)/libmalloc.so \
873 /usr/ccs/lib/$(MACH64)/libmenu.so \
874 /usr/ccs/lib/$(MACH64)/llib-lmenu.ln \
875 /usr/ccs/lib/$(MACH64)/libpanel.so \
876 /usr/ccs/lib/$(MACH64)/llib-lpanel.ln \
877 /usr/ccs/lib/$(MACH64)/libtermmlib.so \
878 /usr/ccs/lib/$(MACH64)/llib-ltermmlib.ln \
879 /usr/ccs/lib/$(MACH64)/libtermcap.so \
880 /usr/ccs/lib/$(MACH64)/llib-ltermcap.ln \
881 /usr/ccs/lib/$(MACH64)/values-Xa.o \
882 /usr/ccs/lib/$(MACH64)/values-Xc.o \
883 /usr/ccs/lib/$(MACH64)/values-Xs.o \
884 /usr/ccs/lib/$(MACH64)/values-Xt.o \
885 /usr/ccs/lib/$(MACH64)/values-xpg4.o \
886 /usr/ccs/lib/$(MACH64)/values-xpg6.o \
887 /usr/ccs/lib/$(MACH64)/libl.so \
888 /usr/ccs/lib/$(MACH64)/llib-ll.ln \
889 /usr/ccs/lib/$(MACH64)/liby.so \
890 /usr/ccs/lib/$(MACH64)/llib-ly.ln \
891 /usr/lib/libp/$(MACH64)/libc.so.1 \
892 /usr/lib/lwp/$(MACH64)/libthread.so.1 \
893 /usr/lib/lwp/$(MACH64)/libthread_db.so.1

```

```

895 # Special symlinks to direct libraries that have been moved
896 # from /usr/lib to /lib in order to live in the root filesystem.
897 $(ROOT)/lib/libposix4.so.1:= REALPATH=librt.so.1
898 $(ROOT)/lib/libposix4.so:= REALPATH=libposix4.so.1
899 $(ROOT)/lib/llib-lposix4:= REALPATH=llib-lrt
900 $(ROOT)/lib/llib-lposix4.ln:= REALPATH=llib-lrt.ln
901 $(ROOT)/lib/libthread_db.so.1:= REALPATH=libc_db.so.1
902 $(ROOT)/lib/libthread_db.so:= REALPATH=libc_db.so.1
903 $(ROOT)/usr/lib/ld.so.1:= REALPATH=../../../../lib/ld.so.1
904 $(ROOT)/usr/lib/libadm.so.1:= REALPATH=../../../../lib/libadm.so.1
905 $(ROOT)/usr/lib/libadm.so:= REALPATH=../../../../lib/libadm.so.1
906 $(ROOT)/usr/lib/libaio.so.1:= REALPATH=../../../../lib/libaio.so.1
907 $(ROOT)/usr/lib/libaio.so:= REALPATH=../../../../lib/libaio.so.1
908 $(ROOT)/usr/lib/libavl.so.1:= REALPATH=../../../../lib/libavl.so.1
909 $(ROOT)/usr/lib/libavl.so:= REALPATH=../../../../lib/libavl.so.1
910 $(ROOT)/usr/lib/libbsm.so.1:= REALPATH=../../../../lib/libbsm.so.1
911 $(ROOT)/usr/lib/libbsm.so:= REALPATH=../../../../lib/libbsm.so.1
912 $(ROOT)/usr/lib/libc.so.1:= REALPATH=../../../../lib/libc.so.1
913 $(ROOT)/usr/lib/libc.so:= REALPATH=../../../../lib/libc.so.1
914 $(ROOT)/usr/lib/libc_db.so.1:= REALPATH=../../../../lib/libc_db.so.1
915 $(ROOT)/usr/lib/libc_db.so:= REALPATH=../../../../lib/libc_db.so.1
916 $(ROOT)/usr/lib/libcmdutils.so.1:= REALPATH=../../../../lib/libcmdutils.so.1
917 $(ROOT)/usr/lib/libcmdutils.so:= REALPATH=../../../../lib/libcmdutils.so.1
918 $(ROOT)/usr/lib/libcontract.so.1:= REALPATH=../../../../lib/libcontract.so.1
919 $(ROOT)/usr/lib/libcontract.so:= REALPATH=../../../../lib/libcontract.so.1

```

```

920 $(ROOT)/usr/lib/libcryptoutil.so.1:= REALPATH=.../lib/libcryptoutil.so.1
921 $(ROOT)/usr/lib/libcryptoutil.so:= REALPATH=.../lib/libcryptoutil.so.1
922 $(ROOT)/usr/lib/libctf.so.1:= REALPATH=.../lib/libctf.so.1
923 $(ROOT)/usr/lib/libctf.so:= REALPATH=.../lib/libctf.so.1
924 $(ROOT)/usr/lib/libcurses.so.1:= REALPATH=.../lib/libcurses.so.1
925 $(ROOT)/usr/lib/libcurses.so:= REALPATH=.../lib/libcurses.so.1
926 $(ROOT)/usr/lib/libdevice.so.1:= REALPATH=.../lib/libdevice.so.1
927 $(ROOT)/usr/lib/libdevice.so:= REALPATH=.../lib/libdevice.so.1
928 $(ROOT)/usr/lib/libdevvid.so.1:= REALPATH=.../lib/libdevvid.so.1
929 $(ROOT)/usr/lib/libdevvid.so:= REALPATH=.../lib/libdevvid.so.1
930 $(ROOT)/usr/lib/libdevinfo.so.1:= REALPATH=.../lib/libdevinfo.so.1
931 $(ROOT)/usr/lib/libdevinfo.so:= REALPATH=.../lib/libdevinfo.so.1
932 $(ROOT)/usr/lib/libdhcpagent.so.1:= REALPATH=.../lib/libdhcpagent.so.1
933 $(ROOT)/usr/lib/libdhcpagent.so:= REALPATH=.../lib/libdhcpagent.so.1
934 $(ROOT)/usr/lib/libdhcputil.so.1:= REALPATH=.../lib/libdhcputil.so.1
935 $(ROOT)/usr/lib/libdhcputil.so:= REALPATH=.../lib/libdhcputil.so.1
936 $(ROOT)/usr/lib/libdl.so.1:= REALPATH=.../lib/libdl.so.1
937 $(ROOT)/usr/lib/libdl.so:= REALPATH=.../lib/libdl.so.1
938 $(ROOT)/usr/lib/libldpi.so.1:= REALPATH=.../lib/libldpi.so.1
939 $(ROOT)/usr/lib/libldpi.so:= REALPATH=.../lib/libldpi.so.1
940 $(ROOT)/usr/lib/libldoor.so.1:= REALPATH=.../lib/libldoor.so.1
941 $(ROOT)/usr/lib/libldoor.so:= REALPATH=.../lib/libldoor.so.1
942 $(ROOT)/usr/lib/libefi.so.1:= REALPATH=.../lib/libefi.so.1
943 $(ROOT)/usr/lib/libefi.so:= REALPATH=.../lib/libefi.so.1
944 $(ROOT)/usr/lib/libelf.so.1:= REALPATH=.../lib/libelf.so.1
945 $(ROOT)/usr/lib/libelf.so:= REALPATH=.../lib/libelf.so.1
946 $(ROOT)/usr/lib/libfdisk.so.1:= REALPATH=.../lib/libfdisk.so.1
947 $(ROOT)/usr/lib/libfdisk.so:= REALPATH=.../lib/libfdisk.so.1
948 $(ROOT)/usr/lib/libgen.so.1:= REALPATH=.../lib/libgen.so.1
949 $(ROOT)/usr/lib/libgen.so:= REALPATH=.../lib/libgen.so.1
950 $(ROOT)/usr/lib/libinetutil.so.1:= REALPATH=.../lib/libinetutil.so.1
951 $(ROOT)/usr/lib/libinetutil.so:= REALPATH=.../lib/libinetutil.so.1
952 $(ROOT)/usr/lib/libintl.so.1:= REALPATH=.../lib/libintl.so.1
953 $(ROOT)/usr/lib/libintl.so:= REALPATH=.../lib/libintl.so.1
954 $(ROOT)/usr/lib/libkmf.so.1:= REALPATH=.../lib/libkmf.so.1
955 $(ROOT)/usr/lib/libkmf.so:= REALPATH=.../lib/libkmf.so.1
956 $(ROOT)/usr/lib/libkmfberder.so.1:= REALPATH=.../lib/libkmfberder.so.1
957 $(ROOT)/usr/lib/libkmfberder.so:= REALPATH=.../lib/libkmfberder.so.1
958 $(ROOT)/usr/lib/libkstat.so.1:= REALPATH=.../lib/libkstat.so.1
959 $(ROOT)/usr/lib/libkstat.so:= REALPATH=.../lib/libkstat.so.1
960 $(ROOT)/usr/lib/liblddbg.so.4:= REALPATH=.../lib/liblddbg.so.4
961 $(ROOT)/usr/lib/liblm.so.1:= REALPATH=.../lib/liblm.so.1
962 $(ROOT)/usr/lib/liblm.so.2:= REALPATH=.../lib/liblm.so.2
963 $(ROOT)/usr/lib/liblm.so:= REALPATH=.../lib/liblm.so.2
964 $(ROOT)/usr/lib/liblmd.so.1:= REALPATH=.../lib/liblmd.so.1
965 $(ROOT)/usr/lib/liblmd.so:= REALPATH=.../lib/liblmd.so.1
966 $(ROOT)/usr/lib/liblmd5.so.1:= REALPATH=.../lib/liblmd5.so.1
967 $(ROOT)/usr/lib/liblmd5.so:= REALPATH=.../lib/liblmd5.so.1
968 $(ROOT)/usr/lib/libmeta.so.1:= REALPATH=.../lib/libmeta.so.1
969 $(ROOT)/usr/lib/libmeta.so:= REALPATH=.../lib/libmeta.so.1
970 $(ROOT)/usr/lib/libmp.so.1:= REALPATH=.../lib/libmp.so.1
971 $(ROOT)/usr/lib/libmp.so.2:= REALPATH=.../lib/libmp.so.2
972 $(ROOT)/usr/lib/libmp.so:= REALPATH=.../lib/libmp.so.2
973 $(ROOT)/usr/lib/libmvec.so.1:= REALPATH=.../lib/libmvec.so.1
974 $(ROOT)/usr/lib/libmvec.so:= REALPATH=.../lib/libmvec.so.1
975 $(ROOT)/usr/lib/libnsl.so.1:= REALPATH=.../lib/libnsl.so.1
976 $(ROOT)/usr/lib/libnsl.so:= REALPATH=.../lib/libnsl.so.1
977 $(ROOT)/usr/lib/libnvpair.so.1:= REALPATH=.../lib/libnvpair.so.1
978 $(ROOT)/usr/lib/libnvpair.so:= REALPATH=.../lib/libnvpair.so.1
979 $(ROOT)/usr/lib/libnpam.so.1:= REALPATH=.../lib/libnpam.so.1
980 $(ROOT)/usr/lib/libnpam.so:= REALPATH=.../lib/libnpam.so.1
981 $(ROOT)/usr/lib/libposix4.so.1:= REALPATH=.../lib/librt.so.1
982 $(ROOT)/usr/lib/libposix4.so:= REALPATH=.../lib/librt.so.1
983 $(ROOT)/usr/lib/libproc.so.1:= REALPATH=.../lib/libproc.so.1
984 $(ROOT)/usr/lib/libproc.so:= REALPATH=.../lib/libproc.so.1
985 $(ROOT)/usr/lib/libpthread.so.1:= REALPATH=.../lib/libpthread.so.1

```

```

986 $(ROOT)/usr/lib/libpthread.so:= REALPATH=.../lib/libpthread.so.1
987 $(ROOT)/usr/lib/librcm.so.1:= REALPATH=.../lib/librcm.so.1
988 $(ROOT)/usr/lib/librcm.so:= REALPATH=.../lib/librcm.so.1
989 $(ROOT)/usr/lib/libresolv.so.1:= REALPATH=.../lib/libresolv.so.1
990 $(ROOT)/usr/lib/libresolv.so.2:= REALPATH=.../lib/libresolv.so.2
991 $(ROOT)/usr/lib/libresolv.so:= REALPATH=.../lib/libresolv.so.2
992 $(ROOT)/usr/lib/librestart.so.1:= REALPATH=.../lib/librestart.so.1
993 $(ROOT)/usr/lib/librestart.so:= REALPATH=.../lib/librestart.so.1
994 $(ROOT)/usr/lib/librpcsvc.so.1:= REALPATH=.../lib/librpcsvc.so.1
995 $(ROOT)/usr/lib/librpcsvc.so:= REALPATH=.../lib/librpcsvc.so.1
996 $(ROOT)/usr/lib/librt.so.1:= REALPATH=.../lib/librt.so.1
997 $(ROOT)/usr/lib/librt.so:= REALPATH=.../lib/librt.so.1
998 $(ROOT)/usr/lib/librtld.so.1:= REALPATH=.../lib/librtld.so.1
999 $(ROOT)/usr/lib/librtld_db.so.1:= REALPATH=.../lib/librtld_db.so.1
1000 $(ROOT)/usr/lib/librtld_db.so:= REALPATH=.../lib/librtld_db.so.1
1001 $(ROOT)/usr/lib/libscf.so.1:= REALPATH=.../lib/libscf.so.1
1002 $(ROOT)/usr/lib/libscf.so:= REALPATH=.../lib/libscf.so.1
1003 $(ROOT)/usr/lib/libsec.so.1:= REALPATH=.../lib/libsec.so.1
1004 $(ROOT)/usr/lib/libsec.so:= REALPATH=.../lib/libsec.so.1
1005 $(ROOT)/usr/lib/libsecdb.so.1:= REALPATH=.../lib/libsecdb.so.1
1006 $(ROOT)/usr/lib/libsecdb.so:= REALPATH=.../lib/libsecdb.so.1
1007 $(ROOT)/usr/lib/libsendfile.so.1:= REALPATH=.../lib/libsendfile.so.1
1008 $(ROOT)/usr/lib/libsendfile.so:= REALPATH=.../lib/libsendfile.so.1
1009 $(ROOT)/usr/lib/libsocket.so.1:= REALPATH=.../lib/libsocket.so.1
1010 $(ROOT)/usr/lib/libsocket.so:= REALPATH=.../lib/libsocket.so.1
1011 $(ROOT)/usr/lib/libsysevent.so.1:= REALPATH=.../lib/libsyssevent.so.1
1012 $(ROOT)/usr/lib/libsyssevent.so:= REALPATH=.../lib/libsyssevent.so.1
1013 $(ROOT)/usr/lib/libtermcap.so.1:= REALPATH=.../lib/libtermcap.so.1
1014 $(ROOT)/usr/lib/libtermcap.so:= REALPATH=.../lib/libtermcap.so.1
1015 $(ROOT)/usr/lib/libtermlib.so.1:= REALPATH=.../lib/libcurses.so.1
1016 $(ROOT)/usr/lib/libtermlib.so:= REALPATH=.../lib/libcurses.so.1
1017 $(ROOT)/usr/lib/libthread.so.1:= REALPATH=.../lib/libthread.so.1
1018 $(ROOT)/usr/lib/libthread.so:= REALPATH=.../lib/libthread.so.1
1019 $(ROOT)/usr/lib/libthread_db.so.1:= REALPATH=.../lib/libc_db.so.1
1020 $(ROOT)/usr/lib/libthread_db.so:= REALPATH=.../lib/libc_db.so.1
1021 $(ROOT)/usr/lib/libtsnet.so.1:= REALPATH=.../lib/libtsnet.so.1
1022 $(ROOT)/usr/lib/libtsnet.so:= REALPATH=.../lib/libtsnet.so.1
1023 $(ROOT)/usr/lib/libtsol.so.2:= REALPATH=.../lib/libtsol.so.2
1024 $(ROOT)/usr/lib/libtsol.so:= REALPATH=.../lib/libtsol.so.2
1025 $(ROOT)/usr/lib/libumem.so.1:= REALPATH=.../lib/libumem.so.1
1026 $(ROOT)/usr/lib/libumem.so:= REALPATH=.../lib/libumem.so.1
1027 $(ROOT)/usr/lib/libuuid.so.1:= REALPATH=.../lib/libuuid.so.1
1028 $(ROOT)/usr/lib/libuuid.so:= REALPATH=.../lib/libuuid.so.1
1029 $(ROOT)/usr/lib/libuutil.so.1:= REALPATH=.../lib/libuutil.so.1
1030 $(ROOT)/usr/lib/libuutil.so:= REALPATH=.../lib/libuutil.so.1
1031 $(ROOT)/usr/lib/libw.so.1:= REALPATH=.../lib/libw.so.1
1032 $(ROOT)/usr/lib/libw.so:= REALPATH=.../lib/libw.so.1
1033 $(ROOT)/usr/lib/libxnet.so.1:= REALPATH=.../lib/libxnet.so.1
1034 $(ROOT)/usr/lib/libxnet.so:= REALPATH=.../lib/libxnet.so.1
1035 $(ROOT)/usr/lib/libzfs.so.1:= REALPATH=.../lib/libzfs.so.1
1036 $(ROOT)/usr/lib/libzfs.so:= REALPATH=.../lib/libzfs.so.1
1037 $(ROOT)/usr/lib/libzfs_core.so.1:= REALPATH=.../lib/libzfs_core.so.1
1038 $(ROOT)/usr/lib/libzfs_core.so:= REALPATH=.../lib/libzfs_core.so.1
1039 $(ROOT)/usr/lib/lib-ladm.ln:= REALPATH=.../lib/lib-ladm.ln
1040 $(ROOT)/usr/lib/lib-ladm:= REALPATH=.../lib/lib-ladm
1041 $(ROOT)/usr/lib/lib-lai0.ln:= REALPATH=.../lib/lib-lai0.ln
1042 $(ROOT)/usr/lib/lib-lai0:= REALPATH=.../lib/lib-lai0
1043 $(ROOT)/usr/lib/lib-lavl.ln:= REALPATH=.../lib/lib-lavl.ln
1044 $(ROOT)/usr/lib/lib-lavl:= REALPATH=.../lib/lib-lavl
1045 $(ROOT)/usr/lib/lib-lbms.ln:= REALPATH=.../lib/lib-lbms.ln
1046 $(ROOT)/usr/lib/lib-lbms:= REALPATH=.../lib/lib-lbms
1047 $(ROOT)/usr/lib/lib-lc.ln:= REALPATH=.../lib/lib-lc.ln
1048 $(ROOT)/usr/lib/lib-lc:= REALPATH=.../lib/lib-lc
1049 $(ROOT)/usr/lib/lib-lcmdutils.ln:= REALPATH=.../lib/lib-lcmdutils.ln
1050 $(ROOT)/usr/lib/lib-lcmdutils:= REALPATH=.../lib/lib-lcmdutils
1051 $(ROOT)/usr/lib/lib-lcontract.ln:= REALPATH=.../lib/lib-lcontract.ln

```



```

1052 $(ROOT)/usr/lib/lib-lcontract:= REALPATH=../lib/lib-lcontract
1053 $(ROOT)/usr/lib/lib-lctf.ln:= REALPATH=../lib/lib-lctf.ln
1054 $(ROOT)/usr/lib/lib-lctf:= REALPATH=../lib/lib-lctf
1055 $(ROOT)/usr/lib/lib-lcurses.ln:= REALPATH=../lib/lib-lcurses.ln
1056 $(ROOT)/usr/lib/lib-lcurses:= REALPATH=../lib/lib-lcurses
1057 $(ROOT)/usr/lib/lib-ldevice.ln:= REALPATH=../lib/lib-ldevice.ln
1058 $(ROOT)/usr/lib/lib-ldevice:= REALPATH=../lib/lib-ldevice
1059 $(ROOT)/usr/lib/lib-ldevic.ln:= REALPATH=../lib/lib-ldevic.ln
1060 $(ROOT)/usr/lib/lib-ldevic:= REALPATH=../lib/lib-ldevic
1061 $(ROOT)/usr/lib/lib-ldevinfo.ln:= REALPATH=../lib/lib-ldevinfo.ln
1062 $(ROOT)/usr/lib/lib-ldevinfo:= REALPATH=../lib/lib-ldevinfo
1063 $(ROOT)/usr/lib/lib-ldhcpagent.ln:= REALPATH=../lib/lib-ldhcpagent.ln
1064 $(ROOT)/usr/lib/lib-ldhcpagent:= REALPATH=../lib/lib-ldhcpagent
1065 $(ROOT)/usr/lib/lib-ldhcputil.ln:= REALPATH=../lib/lib-ldhcputil.ln
1066 $(ROOT)/usr/lib/lib-ldhcputil:= REALPATH=../lib/lib-ldhcputil
1067 $(ROOT)/usr/lib/lib-ldl.ln:= REALPATH=../lib/lib-ldl.ln
1068 $(ROOT)/usr/lib/lib-ldl:= REALPATH=../lib/lib-ldl
1069 $(ROOT)/usr/lib/lib-ldoor.ln:= REALPATH=../lib/lib-ldoor.ln
1070 $(ROOT)/usr/lib/lib-ldoor:= REALPATH=../lib/lib-ldoor
1071 $(ROOT)/usr/lib/lib-lefi.ln:= REALPATH=../lib/lib-lefi.ln
1072 $(ROOT)/usr/lib/lib-lefi:= REALPATH=../lib/lib-lefi
1073 $(ROOT)/usr/lib/lib-lelf.ln:= REALPATH=../lib/lib-lelf.ln
1074 $(ROOT)/usr/lib/lib-lelf:= REALPATH=../lib/lib-lelf
1075 $(ROOT)/usr/lib/lib-lfdisk.ln:= REALPATH=../lib/lib-lfdisk.ln
1076 $(ROOT)/usr/lib/lib-lfdisk:= REALPATH=../lib/lib-lfdisk
1077 $(ROOT)/usr/lib/lib-lgen.ln:= REALPATH=../lib/lib-lgen.ln
1078 $(ROOT)/usr/lib/lib-lgen:= REALPATH=../lib/lib-lgen
1079 $(ROOT)/usr/lib/lib-linetutil.ln:= REALPATH=../lib/lib-linetutil.ln
1080 $(ROOT)/usr/lib/lib-linetutil:= REALPATH=../lib/lib-linetutil
1081 $(ROOT)/usr/lib/lib-lintl.ln:= REALPATH=../lib/lib-lintl.ln
1082 $(ROOT)/usr/lib/lib-lintl:= REALPATH=../lib/lib-lintl
1083 $(ROOT)/usr/lib/lib-lkstat.ln:= REALPATH=../lib/lib-lkstat.ln
1084 $(ROOT)/usr/lib/lib-lkstat:= REALPATH=../lib/lib-lkstat
1085 $(ROOT)/usr/lib/lib-lm:= REALPATH=../lib/lib-lm
1086 $(ROOT)/usr/lib/lib-lm.ln:= REALPATH=../lib/lib-lm.ln
1087 $(ROOT)/usr/lib/lib-lmd5.ln:= REALPATH=../lib/lib-lmd5.ln
1088 $(ROOT)/usr/lib/lib-lmd5:= REALPATH=../lib/lib-lmd5
1089 $(ROOT)/usr/lib/lib-lmeta.ln:= REALPATH=../lib/lib-lmeta.ln
1090 $(ROOT)/usr/lib/lib-lmeta:= REALPATH=../lib/lib-lmeta
1091 $(ROOT)/usr/lib/lib-lns1.ln:= REALPATH=../lib/lib-lns1.ln
1092 $(ROOT)/usr/lib/lib-lns1:= REALPATH=../lib/lib-lns1
1093 $(ROOT)/usr/lib/lib-lnvpair.ln:= REALPATH=../lib/lib-lnvpair.ln
1094 $(ROOT)/usr/lib/lib-lnvpair:= REALPATH=../lib/lib-lnvpair
1095 $(ROOT)/usr/lib/lib-lpam.ln:= REALPATH=../lib/lib-lpam.ln
1096 $(ROOT)/usr/lib/lib-lpam:= REALPATH=../lib/lib-lpam
1097 $(ROOT)/usr/lib/lib-lposix4.ln:= REALPATH=../lib/lib-lrt.ln
1098 $(ROOT)/usr/lib/lib-lposix4:= REALPATH=../lib/lib-lrt
1099 $(ROOT)/usr/lib/lib-lpthread.ln:= REALPATH=../lib/lib-lpthread.ln
1100 $(ROOT)/usr/lib/lib-lpthread:= REALPATH=../lib/lib-lpthread
1101 $(ROOT)/usr/lib/lib-lresolv.ln:= REALPATH=../lib/lib-lresolv.ln
1102 $(ROOT)/usr/lib/lib-lresolv:= REALPATH=../lib/lib-lresolv
1103 $(ROOT)/usr/lib/lib-lrpcsvc.ln:= REALPATH=../lib/lib-lrpcsvc.ln
1104 $(ROOT)/usr/lib/lib-lrpcsvc:= REALPATH=../lib/lib-lrpcsvc
1105 $(ROOT)/usr/lib/lib-lrt.ln:= REALPATH=../lib/lib-lrt.ln
1106 $(ROOT)/usr/lib/lib-lrt:= REALPATH=../lib/lib-lrt
1107 $(ROOT)/usr/lib/lib-lrtld_db.ln:= REALPATH=../lib/lib-lrtld_db.ln
1108 $(ROOT)/usr/lib/lib-lrtld_db:= REALPATH=../lib/lib-lrtld_db
1109 $(ROOT)/usr/lib/lib-lscf.ln:= REALPATH=../lib/lib-lscf.ln
1110 $(ROOT)/usr/lib/lib-lscf:= REALPATH=../lib/lib-lscf
1111 $(ROOT)/usr/lib/lib-lsec.ln:= REALPATH=../lib/lib-lsec.ln
1112 $(ROOT)/usr/lib/lib-lsec:= REALPATH=../lib/lib-lsec
1113 $(ROOT)/usr/lib/lib-lsecdb.ln:= REALPATH=../lib/lib-lsecdb.ln
1114 $(ROOT)/usr/lib/lib-lsecdb:= REALPATH=../lib/lib-lsecdb
1115 $(ROOT)/usr/lib/lib-lsendfile.ln:= REALPATH=../lib/lib-lsendfile.ln
1116 $(ROOT)/usr/lib/lib-lsendfile:= REALPATH=../lib/lib-lsendfile
1117 $(ROOT)/usr/lib/lib-lsocket.ln:= REALPATH=../lib/lib-lsocket.ln

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1118 $(ROOT)/usr/lib/lib-lsocket:= REALPATH=../lib/lib-lsocket
1119 $(ROOT)/usr/lib/lib-lsysevent.ln:= REALPATH=../lib/lib-lsysevent.ln
1120 $(ROOT)/usr/lib/lib-lsysevent:= REALPATH=../lib/lib-lsysevent
1121 $(ROOT)/usr/lib/lib-ltermcap.ln:= REALPATH=../lib/lib-ltermcap.ln
1122 $(ROOT)/usr/lib/lib-ltermcap:= REALPATH=../lib/lib-ltermcap
1123 $(ROOT)/usr/lib/lib-ltermli.ln:= REALPATH=../lib/lib-lcurses.ln
1124 $(ROOT)/usr/lib/lib-ltermli:= REALPATH=../lib/lib-lcurses
1125 $(ROOT)/usr/lib/lib-lthread.ln:= REALPATH=../lib/lib-lthread.ln
1126 $(ROOT)/usr/lib/lib-lthread:= REALPATH=../lib/lib-lthread
1127 $(ROOT)/usr/lib/lib-lthread_db.ln:= REALPATH=../lib/lib-lc_db.ln
1128 $(ROOT)/usr/lib/lib-lthread_db:= REALPATH=../lib/lib-lc_db
1129 $(ROOT)/usr/lib/lib-ltsnet.ln:= REALPATH=../lib/lib-ltsnet.ln
1130 $(ROOT)/usr/lib/lib-ltsnet:= REALPATH=../lib/lib-ltsnet
1131 $(ROOT)/usr/lib/lib-ltsol.ln:= REALPATH=../lib/lib-ltsol.ln
1132 $(ROOT)/usr/lib/lib-ltsol:= REALPATH=../lib/lib-ltsol
1133 $(ROOT)/usr/lib/lib-lumem.ln:= REALPATH=../lib/lib-lumem.ln
1134 $(ROOT)/usr/lib/lib-lumem:= REALPATH=../lib/lib-lumem
1135 $(ROOT)/usr/lib/lib-luuid.ln:= REALPATH=../lib/lib-luuid.ln
1136 $(ROOT)/usr/lib/lib-luuid:= REALPATH=../lib/lib-luuid
1137 $(ROOT)/usr/lib/lib-lxnet.ln:= REALPATH=../lib/lib-lxnet.ln
1138 $(ROOT)/usr/lib/lib-lxnet:= REALPATH=../lib/lib-lxnet
1139 $(ROOT)/usr/lib/lib-lzfs.ln:= REALPATH=../lib/lib-lzfs.ln
1140 $(ROOT)/usr/lib/lib-lzfs:= REALPATH=../lib/lib-lzfs
1141 $(ROOT)/usr/lib/lib-lzfs_core.ln:= REALPATH=../lib/lib-lzfs_core.ln
1142 $(ROOT)/usr/lib/lib-lzfs_core:= REALPATH=../lib/lib-lzfs_core
1143 $(ROOT)/usr/lib/nss_compat.so.1:= REALPATH=../lib/nss_compat.so.1
1144 $(ROOT)/usr/lib/nss_dns.so.1:= REALPATH=../lib/nss_dns.so.1
1145 $(ROOT)/usr/lib/nss_files.so.1:= REALPATH=../lib/nss_files.so.1
1146 $(ROOT)/usr/lib/nss_nis.so.1:= REALPATH=../lib/nss_nis.so.1
1147 $(ROOT)/usr/lib/nss_user.so.1:= REALPATH=../lib/nss_user.so.1
1148 $(ROOT)/usr/lib/fm/libfmevent.so.1:= REALPATH=../lib/fm/libfmevent.so.1
1149 $(ROOT)/usr/lib/fm/libfmevent.so:= REALPATH=../lib/fm/libfmevent.so.1
1150 $(ROOT)/usr/lib/fm/lib-lfmevent.ln:= REALPATH=../lib/fm/lib-lfmevent.ln
1151 $(ROOT)/usr/lib/fm/lib-lfmevent:= REALPATH=../lib/fm/lib-lfmevent

1153 $(ROOT)/lib/$(MACH64)/libposix4.so.1:= \
1154 REALPATH=librt.so.1
1155 $(ROOT)/lib/$(MACH64)/libposix4.so:= \
1156 REALPATH=libposix4.so.1
1157 $(ROOT)/lib/$(MACH64)/lib-lposix4.ln:= \
1158 REALPATH=lib-lrt.ln
1159 $(ROOT)/lib/$(MACH64)/libthread_db.so.1:= \
1160 REALPATH=libc_db.so.1
1161 $(ROOT)/lib/$(MACH64)/libthread_db.so:= \
1162 REALPATH=libc_db.so.1
1163 $(ROOT)/usr/lib/$(MACH64)/ld.so.1:= \
1164 REALPATH=../lib/$(MACH64)/ld.so.1
1165 $(ROOT)/usr/lib/$(MACH64)/libadm.so.1:= \
1166 REALPATH=../lib/$(MACH64)/libadm.so.1
1167 $(ROOT)/usr/lib/$(MACH64)/libadm.so:= \
1168 REALPATH=../lib/$(MACH64)/libadm.so.1
1169 $(ROOT)/usr/lib/$(MACH64)/libaio.so.1:= \
1170 REALPATH=../lib/$(MACH64)/libaio.so.1
1171 $(ROOT)/usr/lib/$(MACH64)/libaio.so:= \
1172 REALPATH=../lib/$(MACH64)/libaio.so.1
1173 $(ROOT)/usr/lib/$(MACH64)/libavl.so.1:= \
1174 REALPATH=../lib/$(MACH64)/libavl.so.1
1175 $(ROOT)/usr/lib/$(MACH64)/libavl.so:= \
1176 REALPATH=../lib/$(MACH64)/libavl.so.1
1177 $(ROOT)/usr/lib/$(MACH64)/libbsm.so.1:= \
1178 REALPATH=../lib/$(MACH64)/libbsm.so.1
1179 $(ROOT)/usr/lib/$(MACH64)/libbsm.so:= \
1180 REALPATH=../lib/$(MACH64)/libbsm.so.1
1181 $(ROOT)/usr/lib/$(MACH64)/libc.so.1:= \
1182 REALPATH=../lib/$(MACH64)/libc.so.1
1183 $(ROOT)/usr/lib/$(MACH64)/libc.so:= \

```

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1184 REALPATH=../../../../lib/$(MACH64)/libc.so.1
1185 $(ROOT)/usr/lib/$(MACH64)/libc_db.so.1:= \
1186 REALPATH=../../../../lib/$(MACH64)/libc_db.so.1
1187 $(ROOT)/usr/lib/$(MACH64)/libc_db.so:= \
1188 REALPATH=../../../../lib/$(MACH64)/libc_db.so.1
1189 $(ROOT)/usr/lib/$(MACH64)/libcmdutils.so.1:= \
1190 REALPATH=../../../../lib/$(MACH64)/libcmdutils.so.1
1191 $(ROOT)/usr/lib/$(MACH64)/libcmdutils.so:= \
1192 REALPATH=../../../../lib/$(MACH64)/libcmdutils.so.1
1193 $(ROOT)/usr/lib/$(MACH64)/libcontract.so.1:= \
1194 REALPATH=../../../../lib/$(MACH64)/libcontract.so.1
1195 $(ROOT)/usr/lib/$(MACH64)/libcontract.so:= \
1196 REALPATH=../../../../lib/$(MACH64)/libcontract.so.1
1197 $(ROOT)/usr/lib/$(MACH64)/libctf.so.1:= \
1198 REALPATH=../../../../lib/$(MACH64)/libctf.so.1
1199 $(ROOT)/usr/lib/$(MACH64)/libctf.so:= \
1200 REALPATH=../../../../lib/$(MACH64)/libctf.so.1
1201 $(ROOT)/usr/lib/$(MACH64)/libcurses.so.1:= \
1202 REALPATH=../../../../lib/$(MACH64)/libcurses.so.1
1203 $(ROOT)/usr/lib/$(MACH64)/libcurses.so:= \
1204 REALPATH=../../../../lib/$(MACH64)/libcurses.so.1
1205 $(ROOT)/usr/lib/$(MACH64)/libdevice.so.1:= \
1206 REALPATH=../../../../lib/$(MACH64)/libdevice.so.1
1207 $(ROOT)/usr/lib/$(MACH64)/libdevice.so:= \
1208 REALPATH=../../../../lib/$(MACH64)/libdevice.so.1
1209 $(ROOT)/usr/lib/$(MACH64)/libdevd.so.1:= \
1210 REALPATH=../../../../lib/$(MACH64)/libdevd.so.1
1211 $(ROOT)/usr/lib/$(MACH64)/libdevd.so:= \
1212 REALPATH=../../../../lib/$(MACH64)/libdevd.so.1
1213 $(ROOT)/usr/lib/$(MACH64)/libdevinfo.so.1:= \
1214 REALPATH=../../../../lib/$(MACH64)/libdevinfo.so.1
1215 $(ROOT)/usr/lib/$(MACH64)/libdevinfo.so:= \
1216 REALPATH=../../../../lib/$(MACH64)/libdevinfo.so.1
1217 $(ROOT)/usr/lib/$(MACH64)/libdhcputil.so.1:= \
1218 REALPATH=../../../../lib/$(MACH64)/libdhcputil.so.1
1219 $(ROOT)/usr/lib/$(MACH64)/libdhcputil.so:= \
1220 REALPATH=../../../../lib/$(MACH64)/libdhcputil.so.1
1221 $(ROOT)/usr/lib/$(MACH64)/libdl.so.1:= \
1222 REALPATH=../../../../lib/$(MACH64)/libdl.so.1
1223 $(ROOT)/usr/lib/$(MACH64)/libdl.so:= \
1224 REALPATH=../../../../lib/$(MACH64)/libdl.so.1
1225 $(ROOT)/usr/lib/$(MACH64)/libdmpi.so.1:= \
1226 REALPATH=../../../../lib/$(MACH64)/libdmpi.so.1
1227 $(ROOT)/usr/lib/$(MACH64)/libdmpi.so:= \
1228 REALPATH=../../../../lib/$(MACH64)/libdmpi.so.1
1229 $(ROOT)/usr/lib/$(MACH64)/libdoor.so.1:= \
1230 REALPATH=../../../../lib/$(MACH64)/libdoor.so.1
1231 $(ROOT)/usr/lib/$(MACH64)/libdoor.so:= \
1232 REALPATH=../../../../lib/$(MACH64)/libdoor.so.1
1233 $(ROOT)/usr/lib/$(MACH64)/libefi.so.1:= \
1234 REALPATH=../../../../lib/$(MACH64)/libefi.so.1
1235 $(ROOT)/usr/lib/$(MACH64)/libefi.so:= \
1236 REALPATH=../../../../lib/$(MACH64)/libefi.so.1
1237 $(ROOT)/usr/lib/$(MACH64)/libelf.so.1:= \
1238 REALPATH=../../../../lib/$(MACH64)/libelf.so.1
1239 $(ROOT)/usr/lib/$(MACH64)/libelf.so:= \
1240 REALPATH=../../../../lib/$(MACH64)/libelf.so.1
1241 $(ROOT)/usr/lib/$(MACH64)/libgen.so.1:= \
1242 REALPATH=../../../../lib/$(MACH64)/libgen.so.1
1243 $(ROOT)/usr/lib/$(MACH64)/libgen.so:= \
1244 REALPATH=../../../../lib/$(MACH64)/libgen.so.1
1245 $(ROOT)/usr/lib/$(MACH64)/libinetutil.so.1:= \
1246 REALPATH=../../../../lib/$(MACH64)/libinetutil.so.1
1247 $(ROOT)/usr/lib/$(MACH64)/libinetutil.so:= \
1248 REALPATH=../../../../lib/$(MACH64)/libinetutil.so.1
1249 $(ROOT)/usr/lib/$(MACH64)/libintl.so.1:= \

```

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1250 REALPATH=../../../../lib/$(MACH64)/libintl.so.1
1251 $(ROOT)/usr/lib/$(MACH64)/libintl.so:= \
1252 REALPATH=../../../../lib/$(MACH64)/libintl.so.1
1253 $(ROOT)/usr/lib/$(MACH64)/libkstat.so.1:= \
1254 REALPATH=../../../../lib/$(MACH64)/libkstat.so.1
1255 $(ROOT)/usr/lib/$(MACH64)/libkstat.so:= \
1256 REALPATH=../../../../lib/$(MACH64)/libkstat.so.1
1257 $(ROOT)/usr/lib/$(MACH64)/liblddbg.so.4:= \
1258 REALPATH=../../../../lib/$(MACH64)/liblddbg.so.4
1259 $(ROOT)/usr/lib/$(MACH64)/libm.so.1:= \
1260 REALPATH=../../../../lib/$(MACH64)/libm.so.1
1261 $(ROOT)/usr/lib/$(MACH64)/libm.so.2:= \
1262 REALPATH=../../../../lib/$(MACH64)/libm.so.2
1263 $(ROOT)/usr/lib/$(MACH64)/libm.so:= \
1264 REALPATH=../../../../lib/$(MACH64)/libm.so.2
1265 $(ROOT)/usr/lib/$(MACH64)/libmd.so.1:= \
1266 REALPATH=../../../../lib/$(MACH64)/libmd.so.1
1267 $(ROOT)/usr/lib/$(MACH64)/libmd.so:= \
1268 REALPATH=../../../../lib/$(MACH64)/libmd.so.1
1269 $(ROOT)/usr/lib/$(MACH64)/libmd5.so.1:= \
1270 REALPATH=../../../../lib/$(MACH64)/libmd5.so.1
1271 $(ROOT)/usr/lib/$(MACH64)/libmd5.so:= \
1272 REALPATH=../../../../lib/$(MACH64)/libmd5.so.1
1273 $(ROOT)/usr/lib/$(MACH64)/libmp.so.2:= \
1274 REALPATH=../../../../lib/$(MACH64)/libmp.so.2
1275 $(ROOT)/usr/lib/$(MACH64)/libmp.so:= \
1276 REALPATH=../../../../lib/$(MACH64)/libmp.so.2
1277 $(ROOT)/usr/lib/$(MACH64)/libmvec.so.1:= \
1278 REALPATH=../../../../lib/$(MACH64)/libmvec.so.1
1279 $(ROOT)/usr/lib/$(MACH64)/libmvec.so:= \
1280 REALPATH=../../../../lib/$(MACH64)/libmvec.so.1
1281 $(ROOT)/usr/lib/$(MACH64)/libnsl.so.1:= \
1282 REALPATH=../../../../lib/$(MACH64)/libnsl.so.1
1283 $(ROOT)/usr/lib/$(MACH64)/libnsl.so:= \
1284 REALPATH=../../../../lib/$(MACH64)/libnsl.so.1
1285 $(ROOT)/usr/lib/$(MACH64)/libnvpair.so.1:= \
1286 REALPATH=../../../../lib/$(MACH64)/libnvpair.so.1
1287 $(ROOT)/usr/lib/$(MACH64)/libnvpair.so:= \
1288 REALPATH=../../../../lib/$(MACH64)/libnvpair.so.1
1289 $(ROOT)/usr/lib/$(MACH64)/libpam.so.1:= \
1290 REALPATH=../../../../lib/$(MACH64)/libpam.so.1
1291 $(ROOT)/usr/lib/$(MACH64)/libpam.so:= \
1292 REALPATH=../../../../lib/$(MACH64)/libpam.so.1
1293 $(ROOT)/usr/lib/$(MACH64)/libposix4.so.1:= \
1294 REALPATH=../../../../lib/$(MACH64)/librt.so.1
1295 $(ROOT)/usr/lib/$(MACH64)/libposix4.so:= \
1296 REALPATH=../../../../lib/$(MACH64)/librt.so.1
1297 $(ROOT)/usr/lib/$(MACH64)/libproc.so.1:= \
1298 REALPATH=../../../../lib/$(MACH64)/libproc.so.1
1299 $(ROOT)/usr/lib/$(MACH64)/libproc.so:= \
1300 REALPATH=../../../../lib/$(MACH64)/libproc.so.1
1301 $(ROOT)/usr/lib/$(MACH64)/libpthread.so.1:= \
1302 REALPATH=../../../../lib/$(MACH64)/libpthread.so.1
1303 $(ROOT)/usr/lib/$(MACH64)/libpthread.so:= \
1304 REALPATH=../../../../lib/$(MACH64)/libpthread.so.1
1305 $(ROOT)/usr/lib/$(MACH64)/librcm.so.1:= \
1306 REALPATH=../../../../lib/$(MACH64)/librcm.so.1
1307 $(ROOT)/usr/lib/$(MACH64)/librcm.so:= \
1308 REALPATH=../../../../lib/$(MACH64)/librcm.so.1
1309 $(ROOT)/usr/lib/$(MACH64)/libresolv.so.2:= \
1310 REALPATH=../../../../lib/$(MACH64)/libresolv.so.2
1311 $(ROOT)/usr/lib/$(MACH64)/libresolv.so:= \
1312 REALPATH=../../../../lib/$(MACH64)/libresolv.so.2
1313 $(ROOT)/usr/lib/$(MACH64)/librestart.so.1:= \
1314 REALPATH=../../../../lib/$(MACH64)/librestart.so.1
1315 $(ROOT)/usr/lib/$(MACH64)/librestart.so:= \

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1316 REALPATH=../../../../lib/$(MACH64)/librestart.so.1
1317 $(ROOT)/usr/lib/$(MACH64)/librpcsvc.so.1:= \
1318 REALPATH=../../../../lib/$(MACH64)/librpcsvc.so.1
1319 $(ROOT)/usr/lib/$(MACH64)/librpcsvc.so:= \
1320 REALPATH=../../../../lib/$(MACH64)/librpcsvc.so.1
1321 $(ROOT)/usr/lib/$(MACH64)/librt.so.1:= \
1322 REALPATH=../../../../lib/$(MACH64)/librt.so.1
1323 $(ROOT)/usr/lib/$(MACH64)/librt.so:= \
1324 REALPATH=../../../../lib/$(MACH64)/librt.so.1
1325 $(ROOT)/usr/lib/$(MACH64)/librtld.so.1:= \
1326 REALPATH=../../../../lib/$(MACH64)/librtld.so.1
1327 $(ROOT)/usr/lib/$(MACH64)/librtld_db.so.1:= \
1328 REALPATH=../../../../lib/$(MACH64)/librtld_db.so.1
1329 $(ROOT)/usr/lib/$(MACH64)/librtld_db.so:= \
1330 REALPATH=../../../../lib/$(MACH64)/librtld_db.so.1
1331 $(ROOT)/usr/lib/$(MACH64)/libscf.so.1:= \
1332 REALPATH=../../../../lib/$(MACH64)/libscf.so.1
1333 $(ROOT)/usr/lib/$(MACH64)/libscf.so:= \
1334 REALPATH=../../../../lib/$(MACH64)/libscf.so.1
1335 $(ROOT)/usr/lib/$(MACH64)/libsec.so.1:= \
1336 REALPATH=../../../../lib/$(MACH64)/libsec.so.1
1337 $(ROOT)/usr/lib/$(MACH64)/libsec.so:= \
1338 REALPATH=../../../../lib/$(MACH64)/libsec.so.1
1339 $(ROOT)/usr/lib/$(MACH64)/libsecdb.so.1:= \
1340 REALPATH=../../../../lib/$(MACH64)/libsecdb.so.1
1341 $(ROOT)/usr/lib/$(MACH64)/libsecdb.so:= \
1342 REALPATH=../../../../lib/$(MACH64)/libsecdb.so.1
1343 $(ROOT)/usr/lib/$(MACH64)/libsendfile.so.1:= \
1344 REALPATH=../../../../lib/$(MACH64)/libsendfile.so.1
1345 $(ROOT)/usr/lib/$(MACH64)/libsendfile.so:= \
1346 REALPATH=../../../../lib/$(MACH64)/libsendfile.so.1
1347 $(ROOT)/usr/lib/$(MACH64)/libsocket.so.1:= \
1348 REALPATH=../../../../lib/$(MACH64)/libsocket.so.1
1349 $(ROOT)/usr/lib/$(MACH64)/libsocket.so:= \
1350 REALPATH=../../../../lib/$(MACH64)/libsocket.so.1
1351 $(ROOT)/usr/lib/$(MACH64)/libsysevent.so.1:= \
1352 REALPATH=../../../../lib/$(MACH64)/libsysevent.so.1
1353 $(ROOT)/usr/lib/$(MACH64)/libsysevent.so:= \
1354 REALPATH=../../../../lib/$(MACH64)/libsysevent.so.1
1355 $(ROOT)/usr/lib/$(MACH64)/libtermcap.so.1:= \
1356 REALPATH=../../../../lib/$(MACH64)/libtermcap.so.1
1357 $(ROOT)/usr/lib/$(MACH64)/libtermcap.so:= \
1358 REALPATH=../../../../lib/$(MACH64)/libtermcap.so.1
1359 $(ROOT)/usr/lib/$(MACH64)/libtermmlib.so.1:= \
1360 REALPATH=../../../../lib/$(MACH64)/libcurses.so.1
1361 $(ROOT)/usr/lib/$(MACH64)/libtermmlib.so:= \
1362 REALPATH=../../../../lib/$(MACH64)/libcurses.so.1
1363 $(ROOT)/usr/lib/$(MACH64)/libthread.so.1:= \
1364 REALPATH=../../../../lib/$(MACH64)/libthread.so.1
1365 $(ROOT)/usr/lib/$(MACH64)/libthread.so:= \
1366 REALPATH=../../../../lib/$(MACH64)/libthread.so.1
1367 $(ROOT)/usr/lib/$(MACH64)/libthread_db.so.1:= \
1368 REALPATH=../../../../lib/$(MACH64)/libc_db.so.1
1369 $(ROOT)/usr/lib/$(MACH64)/libthread_db.so:= \
1370 REALPATH=../../../../lib/$(MACH64)/libc_db.so.1
1371 $(ROOT)/usr/lib/$(MACH64)/libtsnet.so.1:= \
1372 REALPATH=../../../../lib/$(MACH64)/libtsnet.so.1
1373 $(ROOT)/usr/lib/$(MACH64)/libtsnet.so:= \
1374 REALPATH=../../../../lib/$(MACH64)/libtsnet.so.1
1375 $(ROOT)/usr/lib/$(MACH64)/libtsol.so.2:= \
1376 REALPATH=../../../../lib/$(MACH64)/libtsol.so.2
1377 $(ROOT)/usr/lib/$(MACH64)/libtsol.so:= \
1378 REALPATH=../../../../lib/$(MACH64)/libtsol.so.2
1379 $(ROOT)/usr/lib/$(MACH64)/libumem.so.1:= \
1380 REALPATH=../../../../lib/$(MACH64)/libumem.so.1
1381 $(ROOT)/usr/lib/$(MACH64)/libumem.so:= \

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1382 REALPATH=../../../../lib/$(MACH64)/libumem.so.1
1383 $(ROOT)/usr/lib/$(MACH64)/libuuid.so.1:= \
1384 REALPATH=../../../../lib/$(MACH64)/libuuid.so.1
1385 $(ROOT)/usr/lib/$(MACH64)/libuuid.so:= \
1386 REALPATH=../../../../lib/$(MACH64)/libuuid.so.1
1387 $(ROOT)/usr/lib/$(MACH64)/libuutil.so.1:= \
1388 REALPATH=../../../../lib/$(MACH64)/libuutil.so.1
1389 $(ROOT)/usr/lib/$(MACH64)/libuutil.so:= \
1390 REALPATH=../../../../lib/$(MACH64)/libuutil.so.1
1391 $(ROOT)/usr/lib/$(MACH64)/libw.so.1:= \
1392 REALPATH=../../../../lib/$(MACH64)/libw.so.1
1393 $(ROOT)/usr/lib/$(MACH64)/libw.so:= \
1394 REALPATH=../../../../lib/$(MACH64)/libw.so.1
1395 $(ROOT)/usr/lib/$(MACH64)/libxnet.so.1:= \
1396 REALPATH=../../../../lib/$(MACH64)/libxnet.so.1
1397 $(ROOT)/usr/lib/$(MACH64)/libxnet.so:= \
1398 REALPATH=../../../../lib/$(MACH64)/libxnet.so.1
1399 $(ROOT)/usr/lib/$(MACH64)/libzfs.so:= \
1400 REALPATH=../../../../lib/$(MACH64)/libzfs.so.1
1401 $(ROOT)/usr/lib/$(MACH64)/libzfs.so.1:= \
1402 REALPATH=../../../../lib/$(MACH64)/libzfs.so.1
1403 $(ROOT)/usr/lib/$(MACH64)/libzfs_core.so:= \
1404 REALPATH=../../../../lib/$(MACH64)/libzfs_core.so.1
1405 $(ROOT)/usr/lib/$(MACH64)/libzfs_core.so.1:= \
1406 REALPATH=../../../../lib/$(MACH64)/libzfs_core.so.1
1407 $(ROOT)/usr/lib/$(MACH64)/libfdisk.so.1:= \
1408 REALPATH=../../../../lib/$(MACH64)/libfdisk.so.1
1409 $(ROOT)/usr/lib/$(MACH64)/libfdisk.so:= \
1410 REALPATH=../../../../lib/$(MACH64)/libfdisk.so.1
1411 $(ROOT)/usr/lib/$(MACH64)/llib-ladm.ln:= \
1412 REALPATH=../../../../lib/$(MACH64)/llib-ladm.ln
1413 $(ROOT)/usr/lib/$(MACH64)/llib-laio.ln:= \
1414 REALPATH=../../../../lib/$(MACH64)/llib-laio.ln
1415 $(ROOT)/usr/lib/$(MACH64)/llib-lavl.ln:= \
1416 REALPATH=../../../../lib/$(MACH64)/llib-lavl.ln
1417 $(ROOT)/usr/lib/$(MACH64)/llib-lbsm.ln:= \
1418 REALPATH=../../../../lib/$(MACH64)/llib-lbsm.ln
1419 $(ROOT)/usr/lib/$(MACH64)/llib-lc.ln:= \
1420 REALPATH=../../../../lib/$(MACH64)/llib-lc.ln
1421 $(ROOT)/usr/lib/$(MACH64)/llib-lcmdutils.ln:= \
1422 REALPATH=../../../../lib/$(MACH64)/llib-lcmdutils.ln
1423 $(ROOT)/usr/lib/$(MACH64)/llib-lcontract.ln:= \
1424 REALPATH=../../../../lib/$(MACH64)/llib-lcontract.ln
1425 $(ROOT)/usr/lib/$(MACH64)/llib-lctf.ln:= \
1426 REALPATH=../../../../lib/$(MACH64)/llib-lctf.ln
1427 $(ROOT)/usr/lib/$(MACH64)/llib-lcurses.ln:= \
1428 REALPATH=../../../../lib/$(MACH64)/llib-lcurses.ln
1429 $(ROOT)/usr/lib/$(MACH64)/llib-ldevice.ln:= \
1430 REALPATH=../../../../lib/$(MACH64)/llib-ldevice.ln
1431 $(ROOT)/usr/lib/$(MACH64)/llib-ldevid.ln:= \
1432 REALPATH=../../../../lib/$(MACH64)/llib-ldevid.ln
1433 $(ROOT)/usr/lib/$(MACH64)/llib-ldevinfo.ln:= \
1434 REALPATH=../../../../lib/$(MACH64)/llib-ldevinfo.ln
1435 $(ROOT)/usr/lib/$(MACH64)/llib-ldhcutil.ln:= \
1436 REALPATH=../../../../lib/$(MACH64)/llib-ldhcutil.ln
1437 $(ROOT)/usr/lib/$(MACH64)/llib-ldl.ln:= \
1438 REALPATH=../../../../lib/$(MACH64)/llib-ldl.ln
1439 $(ROOT)/usr/lib/$(MACH64)/llib-ldoor.ln:= \
1440 REALPATH=../../../../lib/$(MACH64)/llib-ldoor.ln
1441 $(ROOT)/usr/lib/$(MACH64)/llib-lefi.ln:= \
1442 REALPATH=../../../../lib/$(MACH64)/llib-lefi.ln
1443 $(ROOT)/usr/lib/$(MACH64)/llib-lelf.ln:= \
1444 REALPATH=../../../../lib/$(MACH64)/llib-lelf.ln
1445 $(ROOT)/usr/lib/$(MACH64)/llib-lgen.ln:= \
1446 REALPATH=../../../../lib/$(MACH64)/llib-lgen.ln
1447 $(ROOT)/usr/lib/$(MACH64)/llib-linetutil.ln:= \

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1448 REALPATH=../../../../lib/$(MACH64)/llib-linetutil.ln
1449 $(ROOT)/usr/lib/$(MACH64)/llib-lintl.ln:= \
1450 REALPATH=../../../../lib/$(MACH64)/llib-lintl.ln
1451 $(ROOT)/usr/lib/$(MACH64)/llib-lkstat.ln:= \
1452 REALPATH=../../../../lib/$(MACH64)/llib-lkstat.ln
1453 $(ROOT)/usr/lib/$(MACH64)/llib-lm.ln:= \
1454 REALPATH=../../../../lib/$(MACH64)/llib-lm.ln
1455 $(ROOT)/usr/lib/$(MACH64)/llib-lmd5.ln:= \
1456 REALPATH=../../../../lib/$(MACH64)/llib-lmd5.ln
1457 $(ROOT)/usr/lib/$(MACH64)/llib-lnsl.ln:= \
1458 REALPATH=../../../../lib/$(MACH64)/llib-lnsl.ln
1459 $(ROOT)/usr/lib/$(MACH64)/llib-lnvpair.ln:= \
1460 REALPATH=../../../../lib/$(MACH64)/llib-lnvpair.ln
1461 $(ROOT)/usr/lib/$(MACH64)/llib-lpam.ln:= \
1462 REALPATH=../../../../lib/$(MACH64)/llib-lpam.ln
1463 $(ROOT)/usr/lib/$(MACH64)/llib-lposix4.ln:= \
1464 REALPATH=../../../../lib/$(MACH64)/llib-lrt.ln
1465 $(ROOT)/usr/lib/$(MACH64)/llib-lpthread.ln:= \
1466 REALPATH=../../../../lib/$(MACH64)/llib-lpthread.ln
1467 $(ROOT)/usr/lib/$(MACH64)/llib-lresolv.ln:= \
1468 REALPATH=../../../../lib/$(MACH64)/llib-lresolv.ln
1469 $(ROOT)/usr/lib/$(MACH64)/llib-lrpcsvc.ln:= \
1470 REALPATH=../../../../lib/$(MACH64)/llib-lrpcsvc.ln
1471 $(ROOT)/usr/lib/$(MACH64)/llib-lrt.ln:= \
1472 REALPATH=../../../../lib/$(MACH64)/llib-lrt.ln
1473 $(ROOT)/usr/lib/$(MACH64)/llib-lrtld_db.ln:= \
1474 REALPATH=../../../../lib/$(MACH64)/llib-lrtld_db.ln
1475 $(ROOT)/usr/lib/$(MACH64)/llib-lscf.ln:= \
1476 REALPATH=../../../../lib/$(MACH64)/llib-lscf.ln
1477 $(ROOT)/usr/lib/$(MACH64)/llib-lsec.ln:= \
1478 REALPATH=../../../../lib/$(MACH64)/llib-lsec.ln
1479 $(ROOT)/usr/lib/$(MACH64)/llib-lsecdb.ln:= \
1480 REALPATH=../../../../lib/$(MACH64)/llib-lsecdb.ln
1481 $(ROOT)/usr/lib/$(MACH64)/llib-lsendfile.ln:= \
1482 REALPATH=../../../../lib/$(MACH64)/llib-lsendfile.ln
1483 $(ROOT)/usr/lib/$(MACH64)/llib-lsocket.ln:= \
1484 REALPATH=../../../../lib/$(MACH64)/llib-lsocket.ln
1485 $(ROOT)/usr/lib/$(MACH64)/llib-lsysevent.ln:= \
1486 REALPATH=../../../../lib/$(MACH64)/llib-lsysevent.ln
1487 $(ROOT)/usr/lib/$(MACH64)/llib-ltermcap.ln:= \
1488 REALPATH=../../../../lib/$(MACH64)/llib-ltermcap.ln
1489 $(ROOT)/usr/lib/$(MACH64)/llib-ltermplib.ln:= \
1490 REALPATH=../../../../lib/$(MACH64)/llib-lcurses.ln
1491 $(ROOT)/usr/lib/$(MACH64)/llib-lthread.ln:= \
1492 REALPATH=../../../../lib/$(MACH64)/llib-lthread.ln
1493 $(ROOT)/usr/lib/$(MACH64)/llib-lthread_db.ln:= \
1494 REALPATH=../../../../lib/$(MACH64)/llib-lc_db.ln
1495 $(ROOT)/usr/lib/$(MACH64)/llib-ltsnet.ln:= \
1496 REALPATH=../../../../lib/$(MACH64)/llib-ltsnet.ln
1497 $(ROOT)/usr/lib/$(MACH64)/llib-ltsol.ln:= \
1498 REALPATH=../../../../lib/$(MACH64)/llib-ltsol.ln
1499 $(ROOT)/usr/lib/$(MACH64)/llib-lumem.ln:= \
1500 REALPATH=../../../../lib/$(MACH64)/llib-lumem.ln
1501 $(ROOT)/usr/lib/$(MACH64)/llib-luuid.ln:= \
1502 REALPATH=../../../../lib/$(MACH64)/llib-luuid.ln
1503 $(ROOT)/usr/lib/$(MACH64)/llib-lxnet.ln:= \
1504 REALPATH=../../../../lib/$(MACH64)/llib-lxnet.ln
1505 $(ROOT)/usr/lib/$(MACH64)/llib-lzfs.ln:= \
1506 REALPATH=../../../../lib/$(MACH64)/llib-lzfs.ln
1507 $(ROOT)/usr/lib/$(MACH64)/llib-lzfs_core.ln:= \
1508 REALPATH=../../../../lib/$(MACH64)/llib-lzfs_core.ln
1509 $(ROOT)/usr/lib/$(MACH64)/llib-lfdisk.ln:= \
1510 REALPATH=../../../../lib/$(MACH64)/llib-lfdisk.ln
1511 $(ROOT)/usr/lib/$(MACH64)/nss_compat.so.1:= \
1512 REALPATH=../../../../lib/$(MACH64)/nss_compat.so.1
1513 $(ROOT)/usr/lib/$(MACH64)/nss_dns.so.1:= \

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1514 REALPATH=../../../../lib/$(MACH64)/nss_dns.so.1
1515 $(ROOT)/usr/lib/$(MACH64)/nss_files.so.1:= \
1516 REALPATH=../../../../lib/$(MACH64)/nss_files.so.1
1517 $(ROOT)/usr/lib/$(MACH64)/nss_nis.so.1:= \
1518 REALPATH=../../../../lib/$(MACH64)/nss_nis.so.1
1519 $(ROOT)/usr/lib/$(MACH64)/nss_user.so.1:= \
1520 REALPATH=../../../../lib/$(MACH64)/nss_user.so.1
1521 $(ROOT)/usr/lib/fm/$(MACH64)/libfmevent.so.1:= \
1522 REALPATH=../../../../lib/fm/$(MACH64)/libfmevent.so.1
1523 $(ROOT)/usr/lib/fm/$(MACH64)/libfmevent.so:= \
1524 REALPATH=../../../../lib/fm/$(MACH64)/libfmevent.so.1
1525 $(ROOT)/usr/lib/fm/$(MACH64)/llib-lfmevent.ln:= \
1526 REALPATH=../../../../lib/fm/$(MACH64)/llib-lfmevent.ln

1528 i386_SYM.USRLIB= \
1529 /usr/lib/libfdisk.so \
1530 /usr/lib/libfdisk.so.1 \
1531 /usr/lib/llib-lfdisk \
1532 /usr/lib/llib-lfdisk.ln

1534 SYM.USRLIB= \
1535 $(MACH)_SYM.USRLIB \
1536 /lib/libposix4.so \
1537 /lib/libposix4.so.1 \
1538 /lib/llib-lposix4 \
1539 /lib/llib-lposix4.ln \
1540 /lib/libthread_db.so \
1541 /lib/libthread_db.so.1 \
1542 /usr/lib/ld.so.1 \
1543 /usr/lib/libadm.so \
1544 /usr/lib/libadm.so.1 \
1545 /usr/lib/libaio.so \
1546 /usr/lib/libaio.so.1 \
1547 /usr/lib/libavl.so \
1548 /usr/lib/libavl.so.1 \
1549 /usr/lib/libbsm.so \
1550 /usr/lib/libbsm.so.1 \
1551 /usr/lib/libc.so \
1552 /usr/lib/libc.so.1 \
1553 /usr/lib/libc_db.so \
1554 /usr/lib/libc_db.so.1 \
1555 /usr/lib/libcmdutils.so \
1556 /usr/lib/libcmdutils.so.1 \
1557 /usr/lib/libcontract.so \
1558 /usr/lib/libcontract.so.1 \
1559 /usr/lib/libctf.so \
1560 /usr/lib/libctf.so.1 \
1561 /usr/lib/libcurses.so \
1562 /usr/lib/libcurses.so.1 \
1563 /usr/lib/libdevice.so \
1564 /usr/lib/libdevice.so.1 \
1565 /usr/lib/libdevice.so \
1566 /usr/lib/libdevice.so.1 \
1567 /usr/lib/libdevinfo.so \
1568 /usr/lib/libdevinfo.so.1 \
1569 /usr/lib/libdhcpcagent.so \
1570 /usr/lib/libdhcpcagent.so.1 \
1571 /usr/lib/libdhcputil.so \
1572 /usr/lib/libdhcputil.so.1 \
1573 /usr/lib/libdl.so \
1574 /usr/lib/libdl.so.1 \
1575 /usr/lib/libdmpi.so \
1576 /usr/lib/libdmpi.so.1 \
1577 /usr/lib/libdoor.so \
1578 /usr/lib/libdoor.so.1 \
1579 /usr/lib/libefi.so \

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1580 /usr/lib/libefi.so.1 \
1581 /usr/lib/libelf.so \
1582 /usr/lib/libelf.so.1 \
1583 /usr/lib/libgen.so \
1584 /usr/lib/libgen.so.1 \
1585 /usr/lib/libinetutil.so \
1586 /usr/lib/libinetutil.so.1 \
1587 /usr/lib/libintl.so \
1588 /usr/lib/libintl.so.1 \
1589 /usr/lib/libkstat.so \
1590 /usr/lib/libkstat.so.1 \
1591 /usr/lib/liblddbg.so.4 \
1592 /usr/lib/libm.so.1 \
1593 /usr/lib/libm.so.2 \
1594 /usr/lib/libm.so \
1595 /usr/lib/libmd.so \
1596 /usr/lib/libmd.so.1 \
1597 /usr/lib/libmd5.so \
1598 /usr/lib/libmd5.so.1 \
1599 /usr/lib/libmeta.so \
1600 /usr/lib/libmeta.so.1 \
1601 /usr/lib/libmp.so \
1602 /usr/lib/libmp.so.1 \
1603 /usr/lib/libmp.so.2 \
1604 /usr/lib/libmvec.so.1 \
1605 /usr/lib/libmvec.so \
1606 /usr/lib/libnsl.so \
1607 /usr/lib/libnsl.so.1 \
1608 /usr/lib/libnvpair.so \
1609 /usr/lib/libnvpair.so.1 \
1610 /usr/lib/libpam.so \
1611 /usr/lib/libpam.so.1 \
1612 /usr/lib/libposix4.so \
1613 /usr/lib/libposix4.so.1 \
1614 /usr/lib/libproc.so \
1615 /usr/lib/libproc.so.1 \
1616 /usr/lib/libpthread.so \
1617 /usr/lib/libpthread.so.1 \
1618 /usr/lib/librcm.so \
1619 /usr/lib/librcm.so.1 \
1620 /usr/lib/libresolv.so \
1621 /usr/lib/libresolv.so.1 \
1622 /usr/lib/libresolv.so.2 \
1623 /usr/lib/librestart.so \
1624 /usr/lib/librestart.so.1 \
1625 /usr/lib/librpcsvc.so \
1626 /usr/lib/librpcsvc.so.1 \
1627 /usr/lib/librt.so \
1628 /usr/lib/librt.so.1 \
1629 /usr/lib/librtld.so.1 \
1630 /usr/lib/librtld_db.so \
1631 /usr/lib/librtld_db.so.1 \
1632 /usr/lib/libscf.so \
1633 /usr/lib/libscf.so.1 \
1634 /usr/lib/libsec.so \
1635 /usr/lib/libsec.so.1 \
1636 /usr/lib/libsecdb.so \
1637 /usr/lib/libsecdb.so.1 \
1638 /usr/lib/libsendfile.so \
1639 /usr/lib/libsendfile.so.1 \
1640 /usr/lib/libsocket.so \
1641 /usr/lib/libsocket.so.1 \
1642 /usr/lib/libsysevent.so \
1643 /usr/lib/libsysevent.so.1 \
1644 /usr/lib/libtermcap.so \
1645 /usr/lib/libtermcap.so.1 \

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1646 /usr/lib/libtermmlib.so \
1647 /usr/lib/libtermmlib.so.1 \
1648 /usr/lib/libthread.so \
1649 /usr/lib/libthread.so.1 \
1650 /usr/lib/libthread_db.so \
1651 /usr/lib/libthread_db.so.1 \
1652 /usr/lib/libtsnet.so \
1653 /usr/lib/libtsnet.so.1 \
1654 /usr/lib/libtsol.so \
1655 /usr/lib/libtsol.so.2 \
1656 /usr/lib/libumem.so \
1657 /usr/lib/libumem.so.1 \
1658 /usr/lib/libuuid.so \
1659 /usr/lib/libuuid.so.1 \
1660 /usr/lib/libuutil.so \
1661 /usr/lib/libuutil.so.1 \
1662 /usr/lib/libw.so \
1663 /usr/lib/libw.so.1 \
1664 /usr/lib/libxnet.so \
1665 /usr/lib/libxnet.so.1 \
1666 /usr/lib/libzfs.so \
1667 /usr/lib/libzfs.so.1 \
1668 /usr/lib/libzfs_core.so \
1669 /usr/lib/libzfs_core.so.1 \
1670 /usr/lib/lib-ladm \
1671 /usr/lib/lib-ladm.ln \
1672 /usr/lib/lib-laiio \
1673 /usr/lib/lib-laiio.ln \
1674 /usr/lib/lib-lavl \
1675 /usr/lib/lib-lavl.ln \
1676 /usr/lib/lib-lbsm \
1677 /usr/lib/lib-lbsm.ln \
1678 /usr/lib/lib-lc \
1679 /usr/lib/lib-lc.ln \
1680 /usr/lib/lib-lcmdutils \
1681 /usr/lib/lib-lcmdutils.ln \
1682 /usr/lib/lib-lcontract \
1683 /usr/lib/lib-lcontract.ln \
1684 /usr/lib/lib-lctf \
1685 /usr/lib/lib-lctf.ln \
1686 /usr/lib/lib-lcurses \
1687 /usr/lib/lib-lcurses.ln \
1688 /usr/lib/lib-ldevice \
1689 /usr/lib/lib-ldevice.ln \
1690 /usr/lib/lib-ldevid \
1691 /usr/lib/lib-ldevid.ln \
1692 /usr/lib/lib-ldevinfo \
1693 /usr/lib/lib-ldevinfo.ln \
1694 /usr/lib/lib-ldhcpagent \
1695 /usr/lib/lib-ldhcpagent.ln \
1696 /usr/lib/lib-ldhcputil \
1697 /usr/lib/lib-ldhcputil.ln \
1698 /usr/lib/lib-ldl \
1699 /usr/lib/lib-ldl.ln \
1700 /usr/lib/lib-ldoor \
1701 /usr/lib/lib-ldoor.ln \
1702 /usr/lib/lib-lefi \
1703 /usr/lib/lib-lefi.ln \
1704 /usr/lib/lib-lelf \
1705 /usr/lib/lib-lelf.ln \
1706 /usr/lib/lib-lgen \
1707 /usr/lib/lib-lgen.ln \
1708 /usr/lib/lib-linetutil \
1709 /usr/lib/lib-linetutil.ln \
1710 /usr/lib/lib-lintl \
1711 /usr/lib/lib-lintl.ln \

```

```

1712 /usr/lib/libl1kstat \
1713 /usr/lib/libl1kstat.ln \
1714 /usr/lib/libl1m \
1715 /usr/lib/libl1m.ln \
1716 /usr/lib/libl1md5 \
1717 /usr/lib/libl1md5.ln \
1718 /usr/lib/libl1meta \
1719 /usr/lib/libl1meta.ln \
1720 /usr/lib/libl1nsl \
1721 /usr/lib/libl1nsl.ln \
1722 /usr/lib/libl1nvpair \
1723 /usr/lib/libl1nvpair.ln \
1724 /usr/lib/libl1pam \
1725 /usr/lib/libl1pam.ln \
1726 /usr/lib/libl1posix4 \
1727 /usr/lib/libl1posix4.ln \
1728 /usr/lib/libl1pthread \
1729 /usr/lib/libl1pthread.ln \
1730 /usr/lib/libl1resolv \
1731 /usr/lib/libl1resolv.ln \
1732 /usr/lib/libl1rpcsvc \
1733 /usr/lib/libl1rpcsvc.ln \
1734 /usr/lib/libl1lrt \
1735 /usr/lib/libl1lrt.ln \
1736 /usr/lib/libl1rtld_db \
1737 /usr/lib/libl1rtld_db.ln \
1738 /usr/lib/libl1lscf \
1739 /usr/lib/libl1lscf.ln \
1740 /usr/lib/libl1lsec \
1741 /usr/lib/libl1lsec.ln \
1742 /usr/lib/libl1lsecdb \
1743 /usr/lib/libl1lsecdb.ln \
1744 /usr/lib/libl1sendfile \
1745 /usr/lib/libl1sendfile.ln \
1746 /usr/lib/libl1socket \
1747 /usr/lib/libl1socket.ln \
1748 /usr/lib/libl1sysevent \
1749 /usr/lib/libl1sysevent.ln \
1750 /usr/lib/libl1termcap \
1751 /usr/lib/libl1termcap.ln \
1752 /usr/lib/libl1termlib \
1753 /usr/lib/libl1termlib.ln \
1754 /usr/lib/libl1lthread \
1755 /usr/lib/libl1lthread.ln \
1756 /usr/lib/libl1lthread_db \
1757 /usr/lib/libl1lthread_db.ln \
1758 /usr/lib/libl1ltsnet \
1759 /usr/lib/libl1ltsnet.ln \
1760 /usr/lib/libl1ltsol \
1761 /usr/lib/libl1ltsol.ln \
1762 /usr/lib/libl1lumem \
1763 /usr/lib/libl1lumem.ln \
1764 /usr/lib/libl1luuid \
1765 /usr/lib/libl1luuid.ln \
1766 /usr/lib/libl1lxnet \
1767 /usr/lib/libl1lxnet.ln \
1768 /usr/lib/libl1lzfs \
1769 /usr/lib/libl1lzfs.ln \
1770 /usr/lib/libl1lzfs_core \
1771 /usr/lib/libl1lzfs_core.ln \
1772 /usr/lib/nss_compat.so.1 \
1773 /usr/lib/nss_dns.so.1 \
1774 /usr/lib/nss_files.so.1 \
1775 /usr/lib/nss_nis.so.1 \
1776 /usr/lib/nss_user.so.1 \
1777 /usr/lib/fm/libfmevent.so \

```

```

1778 /usr/lib/fm/libfmevent.so.1 \
1779 /usr/lib/fm/libl1fmevent \
1780 /usr/lib/fm/libl1fmevent.ln

```

1782 sparcv9_SYM.USRLIB64=

```

1784 amd64_SYM.USRLIB64= \
1785 /usr/lib/amd64/libfdisk.so \
1786 /usr/lib/amd64/libfdisk.so.1 \
1787 /usr/lib/amd64/libl1fdisk.ln

```

```

1790 SYM.USRLIB64= \
1791 $(MACH64)_SYM.USRLIB64 \
1792 /lib/$(MACH64)/libposix4.so \
1793 /lib/$(MACH64)/libposix4.so.1 \
1794 /lib/$(MACH64)/libl1posix4.ln \
1795 /lib/$(MACH64)/libthread_db.so \
1796 /lib/$(MACH64)/libthread_db.so.1 \
1797 /usr/lib/$(MACH64)/ld.so.1 \
1798 /usr/lib/$(MACH64)/libadm.so \
1799 /usr/lib/$(MACH64)/libadm.so.1 \
1800 /usr/lib/$(MACH64)/libaio.so \
1801 /usr/lib/$(MACH64)/libaio.so.1 \
1802 /usr/lib/$(MACH64)/libavl.so \
1803 /usr/lib/$(MACH64)/libavl.so.1 \
1804 /usr/lib/$(MACH64)/libbsm.so \
1805 /usr/lib/$(MACH64)/libbsm.so.1 \
1806 /usr/lib/$(MACH64)/libc.so \
1807 /usr/lib/$(MACH64)/libc.so.1 \
1808 /usr/lib/$(MACH64)/libc_db.so \
1809 /usr/lib/$(MACH64)/libc_db.so.1 \
1810 /usr/lib/$(MACH64)/libcmdutils.so \
1811 /usr/lib/$(MACH64)/libcmdutils.so.1 \
1812 /usr/lib/$(MACH64)/libcontract.so \
1813 /usr/lib/$(MACH64)/libcontract.so.1 \
1814 /usr/lib/$(MACH64)/libctf.so \
1815 /usr/lib/$(MACH64)/libctf.so.1 \
1816 /usr/lib/$(MACH64)/libcurses.so \
1817 /usr/lib/$(MACH64)/libcurses.so.1 \
1818 /usr/lib/$(MACH64)/libdevice.so \
1819 /usr/lib/$(MACH64)/libdevice.so.1 \
1820 /usr/lib/$(MACH64)/libdevvid.so \
1821 /usr/lib/$(MACH64)/libdevvid.so.1 \
1822 /usr/lib/$(MACH64)/libdevinfo.so \
1823 /usr/lib/$(MACH64)/libdevinfo.so.1 \
1824 /usr/lib/$(MACH64)/libdhcputil.so \
1825 /usr/lib/$(MACH64)/libdhcputil.so.1 \
1826 /usr/lib/$(MACH64)/libdl.so \
1827 /usr/lib/$(MACH64)/libdl.so.1 \
1828 /usr/lib/$(MACH64)/libdmpi.so \
1829 /usr/lib/$(MACH64)/libdmpi.so.1 \
1830 /usr/lib/$(MACH64)/libdoor.so \
1831 /usr/lib/$(MACH64)/libdoor.so.1 \
1832 /usr/lib/$(MACH64)/libefi.so \
1833 /usr/lib/$(MACH64)/libefi.so.1 \
1834 /usr/lib/$(MACH64)/libelf.so \
1835 /usr/lib/$(MACH64)/libelf.so.1 \
1836 /usr/lib/$(MACH64)/libgen.so \
1837 /usr/lib/$(MACH64)/libgen.so.1 \
1838 /usr/lib/$(MACH64)/libinetutil.so \
1839 /usr/lib/$(MACH64)/libinetutil.so.1 \
1840 /usr/lib/$(MACH64)/libintl.so \
1841 /usr/lib/$(MACH64)/libintl.so.1 \
1842 /usr/lib/$(MACH64)/libkstat.so \
1843 /usr/lib/$(MACH64)/libkstat.so.1 \

```

```

1844 /usr/lib/$(MACH64)/liblddbg.so.4 \
1845 /usr/lib/$(MACH64)/libm.so.1 \
1846 /usr/lib/$(MACH64)/libm.so.2 \
1847 /usr/lib/$(MACH64)/libm.so \
1848 /usr/lib/$(MACH64)/libmd.so \
1849 /usr/lib/$(MACH64)/libmd.so.1 \
1850 /usr/lib/$(MACH64)/libmd5.so \
1851 /usr/lib/$(MACH64)/libmd5.so.1 \
1852 /usr/lib/$(MACH64)/libmp.so \
1853 /usr/lib/$(MACH64)/libmp.so.2 \
1854 /usr/lib/$(MACH64)/libmvec.so.1 \
1855 /usr/lib/$(MACH64)/libmvec.so \
1856 /usr/lib/$(MACH64)/libnsl.so \
1857 /usr/lib/$(MACH64)/libnsl.so.1 \
1858 /usr/lib/$(MACH64)/libnvpair.so \
1859 /usr/lib/$(MACH64)/libnvpair.so.1 \
1860 /usr/lib/$(MACH64)/libpam.so \
1861 /usr/lib/$(MACH64)/libpam.so.1 \
1862 /usr/lib/$(MACH64)/libposix4.so \
1863 /usr/lib/$(MACH64)/libposix4.so.1 \
1864 /usr/lib/$(MACH64)/libproc.so \
1865 /usr/lib/$(MACH64)/libproc.so.1 \
1866 /usr/lib/$(MACH64)/libpthread.so \
1867 /usr/lib/$(MACH64)/libpthread.so.1 \
1868 /usr/lib/$(MACH64)/librcm.so \
1869 /usr/lib/$(MACH64)/librcm.so.1 \
1870 /usr/lib/$(MACH64)/libresolv.so \
1871 /usr/lib/$(MACH64)/libresolv.so.2 \
1872 /usr/lib/$(MACH64)/librestart.so \
1873 /usr/lib/$(MACH64)/librestart.so.1 \
1874 /usr/lib/$(MACH64)/librpcsvc.so \
1875 /usr/lib/$(MACH64)/librpcsvc.so.1 \
1876 /usr/lib/$(MACH64)/librt.so \
1877 /usr/lib/$(MACH64)/librt.so.1 \
1878 /usr/lib/$(MACH64)/librtld.so.1 \
1879 /usr/lib/$(MACH64)/librtld_db.so \
1880 /usr/lib/$(MACH64)/librtld_db.so.1 \
1881 /usr/lib/$(MACH64)/libscf.so \
1882 /usr/lib/$(MACH64)/libscf.so.1 \
1883 /usr/lib/$(MACH64)/libsec.so \
1884 /usr/lib/$(MACH64)/libsec.so.1 \
1885 /usr/lib/$(MACH64)/libsecdb.so \
1886 /usr/lib/$(MACH64)/libsecdb.so.1 \
1887 /usr/lib/$(MACH64)/libsendfile.so \
1888 /usr/lib/$(MACH64)/libsendfile.so.1 \
1889 /usr/lib/$(MACH64)/libsocket.so \
1890 /usr/lib/$(MACH64)/libsocket.so.1 \
1891 /usr/lib/$(MACH64)/libsysevent.so \
1892 /usr/lib/$(MACH64)/libsysevent.so.1 \
1893 /usr/lib/$(MACH64)/libtermcap.so \
1894 /usr/lib/$(MACH64)/libtermcap.so.1 \
1895 /usr/lib/$(MACH64)/libtermplib.so \
1896 /usr/lib/$(MACH64)/libtermplib.so.1 \
1897 /usr/lib/$(MACH64)/libthread.so \
1898 /usr/lib/$(MACH64)/libthread.so.1 \
1899 /usr/lib/$(MACH64)/libthread_db.so \
1900 /usr/lib/$(MACH64)/libthread_db.so.1 \
1901 /usr/lib/$(MACH64)/libtsnet.so \
1902 /usr/lib/$(MACH64)/libtsnet.so.1 \
1903 /usr/lib/$(MACH64)/libtsol.so \
1904 /usr/lib/$(MACH64)/libtsol.so.2 \
1905 /usr/lib/$(MACH64)/libumem.so \
1906 /usr/lib/$(MACH64)/libumem.so.1 \
1907 /usr/lib/$(MACH64)/libuuid.so \
1908 /usr/lib/$(MACH64)/libuuid.so.1 \
1909 /usr/lib/$(MACH64)/libutil.so \

```

```

1910 /usr/lib/$(MACH64)/libutil.so.1 \
1911 /usr/lib/$(MACH64)/libw.so \
1912 /usr/lib/$(MACH64)/libw.so.1 \
1913 /usr/lib/$(MACH64)/libxnet.so \
1914 /usr/lib/$(MACH64)/libxnet.so.1 \
1915 /usr/lib/$(MACH64)/libzfs.so \
1916 /usr/lib/$(MACH64)/libzfs.so.1 \
1917 /usr/lib/$(MACH64)/libzfs_core.so \
1918 /usr/lib/$(MACH64)/libzfs_core.so.1 \
1919 /usr/lib/$(MACH64)/llib-ladm.ln \
1920 /usr/lib/$(MACH64)/llib-laio.ln \
1921 /usr/lib/$(MACH64)/llib-lavl.ln \
1922 /usr/lib/$(MACH64)/llib-lbsm.ln \
1923 /usr/lib/$(MACH64)/llib-lc.ln \
1924 /usr/lib/$(MACH64)/llib-lcmdutils.ln \
1925 /usr/lib/$(MACH64)/llib-lcontract.ln \
1926 /usr/lib/$(MACH64)/llib-lctf.ln \
1927 /usr/lib/$(MACH64)/llib-lcurses.ln \
1928 /usr/lib/$(MACH64)/llib-ldevice.ln \
1929 /usr/lib/$(MACH64)/llib-ldevvid.ln \
1930 /usr/lib/$(MACH64)/llib-ldevinfo.ln \
1931 /usr/lib/$(MACH64)/llib-ldhcputil.ln \
1932 /usr/lib/$(MACH64)/llib-ldl.ln \
1933 /usr/lib/$(MACH64)/llib-ldoor.ln \
1934 /usr/lib/$(MACH64)/llib-lefi.ln \
1935 /usr/lib/$(MACH64)/llib-lelf.ln \
1936 /usr/lib/$(MACH64)/llib-lgen.ln \
1937 /usr/lib/$(MACH64)/llib-linetutil.ln \
1938 /usr/lib/$(MACH64)/llib-lintl.ln \
1939 /usr/lib/$(MACH64)/llib-lkstat.ln \
1940 /usr/lib/$(MACH64)/llib-lm.ln \
1941 /usr/lib/$(MACH64)/llib-lmd5.ln \
1942 /usr/lib/$(MACH64)/llib-lnsl.ln \
1943 /usr/lib/$(MACH64)/llib-lnvpair.ln \
1944 /usr/lib/$(MACH64)/llib-lpam.ln \
1945 /usr/lib/$(MACH64)/llib-lposix4.ln \
1946 /usr/lib/$(MACH64)/llib-lpthread.ln \
1947 /usr/lib/$(MACH64)/llib-lresolv.ln \
1948 /usr/lib/$(MACH64)/llib-lrpcsvc.ln \
1949 /usr/lib/$(MACH64)/llib-lrt.ln \
1950 /usr/lib/$(MACH64)/llib-lrtld_db.ln \
1951 /usr/lib/$(MACH64)/llib-lscf.ln \
1952 /usr/lib/$(MACH64)/llib-lsec.ln \
1953 /usr/lib/$(MACH64)/llib-lsecdb.ln \
1954 /usr/lib/$(MACH64)/llib-lsendfile.ln \
1955 /usr/lib/$(MACH64)/llib-lsocket.ln \
1956 /usr/lib/$(MACH64)/llib-lsysevent.ln \
1957 /usr/lib/$(MACH64)/llib-ltermcap.ln \
1958 /usr/lib/$(MACH64)/llib-ltermplib.ln \
1959 /usr/lib/$(MACH64)/llib-lthread.ln \
1960 /usr/lib/$(MACH64)/llib-lthread_db.ln \
1961 /usr/lib/$(MACH64)/llib-ltsnet.ln \
1962 /usr/lib/$(MACH64)/llib-ltsol.ln \
1963 /usr/lib/$(MACH64)/llib-lumem.ln \
1964 /usr/lib/$(MACH64)/llib-luuid.ln \
1965 /usr/lib/$(MACH64)/llib-lxnet.ln \
1966 /usr/lib/$(MACH64)/llib-lzfs.ln \
1967 /usr/lib/$(MACH64)/llib-lzfs_core.ln \
1968 /usr/lib/$(MACH64)/nss_compat.so.1 \
1969 /usr/lib/$(MACH64)/nss_dns.so.1 \
1970 /usr/lib/$(MACH64)/nss_files.so.1 \
1971 /usr/lib/$(MACH64)/nss_nis.so.1 \
1972 /usr/lib/$(MACH64)/nss_user.so.1 \
1973 /usr/lib/fm/$(MACH64)/libfmevent.so \
1974 /usr/lib/fm/$(MACH64)/libfmevent.so.1 \
1975 /usr/lib/fm/$(MACH64)/llib-lfmevent.ln \

```

```
1977 #
1978 # usr/src/Makefile uses INS.dir for any member of ROOTDIRS, the fact
1979 # these are symlinks to files has no bearing on this.
1980 #
1981 $(FILELINKS:%=$(ROOT)%):= \
1982     INS.dir= -$(RM) $@; $(SYMLINK) $(REALPATH) $@
```



```

*****
1910 Wed May 20 11:20:01 2015
new/usr/src/man/Makefile
make: add the manual page
*****
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet
9 # at http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright 2011, Richard Lowe
14 # Copyright (c) 2012, Igor Kozhukhov <ikozhukhov@gmail.com>
15 # Copyright 2014 Nexenta Systems, Inc. All rights reserved.
16 #
17 #
18 SUBDIRS=      man1          \
19               man1b        \
20               man1c        \
21               man1has      \
22               man1m        \
23               man1s        \
24 #endif /* ! codereview */
25               man2          \
26               man3          \
27               man3bsm      \
28               man3c        \
29               man3c_db     \
30               man3cfgadm   \
31               man3computil \
32               man3contract \
33               man3cpc      \
34               man3curses   \
35               man3dat      \
36               man3devid    \
37               man3devinfo  \
38               man3dlpi     \
39               man3dns_sd   \
40               man3elf      \
41               man3exacct   \
42               man3ext      \
43               man3fcoe     \
44               man3fstyp    \
45               man3gen      \
46               man3gss      \
47               man3head     \
48               man3iscsit   \
49               man3kstat    \
50               man3kvm      \
51               man3ldap     \
52               man3lgrp     \
53               man3lib      \
54               man3m        \
55               man3mail     \
56               man3malloc   \
57               man3mp       \
58               man3mpapi    \
59               man3mvec     \
60               man3nsl      \
61               man3nvpair   \

```

```

62               man3pam      \
63               man3papi     \
64               man3perl     \
65               man3picl     \
66               man3picltree \
67               man3pool     \
68               man3proc     \
69               man3project  \
70               man3resolv   \
71               man3rpc      \
72               man3rsm      \
73               man3sas1     \
74               man3scf      \
75               man3sec      \
76               man3secdb   \
77               man3sip      \
78               man3slp      \
79               man3socket   \
80               man3stmf     \
81               man3sysevent \
82               man3tecla    \
83               man3tnf      \
84               man3tsol     \
85               man3uuid     \
86               man3volmgt   \
87               man3xcurses  \
88               man3xnet     \
89               man4         \
90               man5         \
91               man7         \
92               man7d        \
93               man7fs       \
94               man7i        \
95               man7ipp      \
96               man7m        \
97               man7p        \
98               man9         \
99               man9e        \
100              man9f        \
101              man9p        \
102              man9s        \
103
104 .PARALLEL: $(SUBDIRS)
105
106 all          := TARGET = all
107 clean       := TARGET = clean
108 clobber     := TARGET = clobber
109 install     := TARGET = install
110 check       := TARGET = check
111
112 all check clean clobber install: $(SUBDIRS)
113
114 $(SUBDIRS): FRC
115     @cd $@; pwd; $(MAKE) $(TARGET)
116
117 FRC:

```

```

*****
12562 Wed May 20 11:20:01 2015
new/usr/src/man/man1/Makefile
make: add the manual page
*****
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet
9 # at http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright 2011, Richard Lowe
14 # Copyright 2015 Nexenta Systems, Inc. All rights reserved.
15 # Copyright 2014 Garrett D'Amore <garrett@damore.org>
16 #
17 #
18 include      $(SRC)/Makefile.master
19 #
20 MANSECT=     1
21 #
22 MANFILES=    acctcom.1      \|
23              adb.1         \|
24              addbib.1      \|
25              alias.1      \|
26              allocate.1   \|
27              amt.1        \|
28              appcert.1    \|
29              apptrace.1   \|
30              apropos.1    \|
31              ar.1         \|
32              arch.1       \|
33              asa.1        \|
34              at.1         \|
35              atq.1        \|
36              atrm.1       \|
37              audioconvert.1 \|
38              audiocvt.1   \|
39              audioplay.1  \|
40              audiorecord.1 \|
41              audiotest.1  \|
42              auths.1      \|
43              awk.1        \|
44              banner.1     \|
45              basename.1  \|
46              bc.1        \|
47              bdiff.1     \|
48              break.1     \|
49              builtin.1   \|
50              cal.1        \|
51              calendar.1  \|
52              cancel.1    \|
53              cat.1        \|
54              cd.1         \|
55              cdrw.1       \|
56              checknr.1   \|
57              chgrp.1     \|
58              chkey.1     \|
59              chmod.1     \|
60              chown.1     \|
61              ckdate.1    \|

```

```

62              ckgid.1     \|
63              ckint.1     \|
64              ckitem.1    \|
65              ckkeywd.1  \|
66              ckpath.1   \|
67              ckrange.1  \|
68              ckstr.1     \|
69              cksum.1     \|
70              cktime.1   \|
71              ckuid.1    \|
72              ckyorn.1   \|
73              clear.1    \|
74              cmp.1      \|
75              col.1      \|
76              comm.1     \|
77              command.1  \|
78              compress.1 \|
79              cp.1       \|
80              cpio.1     \|
81              cputrack.1 \|
82              crle.1     \|
83              crontab.1  \|
84              crypt.1    \|
85              csh.1      \|
86              csplit.1   \|
87              ctags.1    \|
88              ctrun.1    \|
89              ctstat.1   \|
90              ctwatch.1  \|
91              cut.1      \|
92              date.1     \|
93              dc.1       \|
94              deallocate.1 \|
95              deroff.1   \|
96              dhcpinfo.1 \|
97              diff.1     \|
98              diff3.1    \|
99              diffmk.1   \|
100             digest.1   \|
101             dircmp.1   \|
102             dis.1      \|
103             disown.1   \|
104             dispgid.1  \|
105             dispuid.1  \|
106             dos2unix.1 \|
107             download.1 \|
108             dpost.1    \|
109             du.1       \|
110             dump.1     \|
111             dumpcs.1   \|
112             echo.1     \|
113             ed.1       \|
114             egrep.1    \|
115             eject.1    \|
116             elfdump.1  \|
117             elfedit.1  \|
118             elfsign.1  \|
119             elfwrap.1  \|
120             enable.1   \|
121             encrypt.1  \|
122             enhance.1  \|
123             env.1      \|
124             eqn.1      \|
125             exec.1     \|
126             exit.1     \|
127             expand.1   \|

```

```

128      expr.1
129      exstr.1
130      factor.1
131      fdformat.1
132      fgrep.1
133      file.1
134      filesync.1
135      find.1
136      finger.1
137      fmt.1
138      fntmsg.1
139      fold.1
140      ftp.1
141      gcore.1
142      gencat.1
143      genmsg.1
144      getconf.1
145      getfacl.1
146      getlabel.1
147      getopt.1
148      getoptcv.1
149      getopts.1
150      gettext.1
151      gettxt.1
152      getzonepath.1
153      glob.1
154      gprof.1
155      grep.1
156      groups.1
157      hash.1
158      head.1
159      history.1
160      hostid.1
161      hostname.1
162      iconv.1
163      indxbib.1
164      Intro.1
165      ipcrm.1
166      ipcs.1
167      isainfo.1
168      isalist.1
169      jobs.1
170      join.1
171      kbd.1
172      kdestroy.1
173      keylogin.1
174      keylogout.1
175      kill.1
176      kinit.1
177      klist.1
178      kmdb.1
179      kmfcfg.1
180      kpasswd.1
181      krb5-config.1
182      ksh93.1
183      ktutil.1
184      kvmstat.1
185      lari.1
186      last.1
187      lastcomm.1
188      ld.1
189      ldap.1
190      ldapdelete.1
191      ldaplist.1
192      ldapmodify.1
193      ldapmodr.1

```

```

194      ldapsearch.1
195      ldd.1
196      ld.so.1.1
197      let.1
198      lex.1
199      lgrpinfo.1
200      limit.1
201      line.1
202      list_devices.1
203      listusers.1
204      ln.1
205      loadkeys.1
206      locale.1
207      localedef.1
208      logger.1
209      login.1
210      logname.1
211      logout.1
212      look.1
213      lookbib.1
214      lorder.1
215      lp.1
216      lpstat.1
217      ls.1
218      m4.1
219      mac.1
220      mach.1
221      madv.so.1.1
222      mail.1
223      mailcompat.1
224      mailq.1
225      mailstats.1
226      mailx.1
227      makekey.1
228      man.1
229      mandoc.1
230      mconnect.1
231      mcs.1
232      mdb.1
233      msg.1
234      mkdir.1
235      mkmsgs.1
236      mktemp.1
237      moe.1
238      more.1
239      mpss.so.1.1
240      msgcc.1
241      msgcpp.1
242      msgcvt.1
243      msgfmt.1
244      msggen.1
245      msgget.1
246      mt.1
247      mv.1
248      nawk.1
249      nc.1
250      nca.1
251      ncab2clf.1
252      ncakmod.1
253      newform.1
254      newgrp.1
255      news.1
256      newtask.1
257      nice.1
258      nl.1
259      nm.1

```

```

260      nohup.1
261      nroff.1
262      od.1
263      on.1
264      optisa.1
265      pack.1
266      pagesize.1
267      pargs.1
268      passwd.1
269      paste.1
270      pathchk.1
271      pax.1
272      pfexec.1
273      pg.1
274      pgrep.1
275      pkginfo.1
276      pkgmk.1
277      pkgparam.1
278      pkgproto.1
279      pkgtrans.1
280      pkttool.1
281      plabel.1
282      plgrp.1
283      plimit.1
284      pmadvise.1
285      pmap.1
286      postio.1
287      postprint.1
288      postreverse.1
289      ppgsz.1
290      ppriv.1
291      pr.1
292      praliases.1
293      prctl.1
294      preap.1
295      prex.1
296      print.1
297      printf.1
298      pricntl.1
299      proc.1
300      prof.1
301      profiles.1
302      projects.1
303      ps.1
304      ptree.1
305      pvs.1
306      pwd.1
307      ranlib.1
308      rcapstat.1
309      rcp.1
310      rdist.1
311      read.1
312      readonly.1
313      refer.1
314      regcmp.1
315      renice.1
316      rev.1
317      rlogin.1
318      rm.1
319      rmformat.1
320      rmmount.1
321      roffbib.1
322      roles.1
323      rpcgen.1
324      rsh.1
325      runat.1

```

```

326      rup.1
327      ruptime.1
328      rusers.1
329      rwho.1
330      sar.1
331      scp.1
332      script.1
333      sdiff.1
334      sed.1
335      set.1
336      setfacl.1
337      setlabel.1
338      setpgrp.1
339      sftp.1
340      shcomp.1
341      shell_builtins.1
342      shift.1
343      size.1
344      sleep.1
345      smbutil.1
346      soelim.1
347      sort.1
348      sortbib.1
349      sotruss.1
350      spell.1
351      split.1
352      srchtxt.1
353      ssh.1
354      ssh-add.1
355      ssh-agent.1
356      ssh-http-proxy-connect.1
357      ssh-keygen.1
358      ssh-keyscan.1
359      ssh-socks5-proxy-connect.1
360      strchg.1
361      strings.1
362      strip.1
363      stty.1
364      sum.1
365      suspend.1
366      svcprop.1
367      svcs.1
368      symorder.1
369      sysV-make.1
370      #endif /* ! codereview */
371      sys-suspend.1
372      tabs.1
373      tail.1
374      talk.1
375      tar.1
376      tbl.1
377      tcopy.1
378      tee.1
379      telnet.1
380      test.1
381      tftp.1
382      time.1
383      times.1
384      timex.1
385      tip.1
386      tnfdump.1
387      tnfxtract.1
388      touch.1
389      tput.1
390      tr.1
391      trap.1

```

```

392 troff.1 \
393 true.1 \
394 truss.1 \
395 tsort.1 \
396 tty.1 \
397 type.1 \
398 typeset.1 \
399 ul.1 \
400 umask.1 \
401 uname.1 \
402 unifdef.1 \
403 uniq.1 \
404 units.1 \
405 unix2dos.1 \
406 uptime.1 \
407 vacation.1 \
408 vgrind.1 \
409 volcheck.1 \
410 volrmmount.1 \
411 w.1 \
412 wait.1 \
413 wc.1 \
414 which.1 \
415 who.1 \
416 whocalls.1 \
417 whois.1 \
418 write.1 \
419 xargs.1 \
420 xgettext.1 \
421 xstr.1 \
422 yacc.1 \
423 yes.1 \
424 ypcat.1 \
425 ypmatch.1 \
426 yppasswd.1 \
427 ypwhich.1 \
428 zlogin.1 \
429 zonenname.1 \

431 MANLINKS= batch.1 \
432 bg.1 \
433 case.1 \
434 chdir.1 \
435 checkeq.1 \
436 continue.1 \
437 decrypt.1 \
438 dirname.1 \
439 dirs.1 \
440 disable.1 \
441 dumpkeys.1 \
442 edit.1 \
443 errange.1 \
444 errdate.1 \
445 errgid.1 \
446 errint.1 \
447 erritem.1 \
448 errpath.1 \
449 errstr.1 \
450 errtime.1 \
451 erruid.1 \
452 erryorn.1 \
453 eval.1 \
454 export.1 \
455 false.1 \
456 fc.1 \
457 fg.1 \

```

```

458 for.1 \
459 foreach.1 \
460 function.1 \
461 goto.1 \
462 hashcheck.1 \
463 hashmake.1 \
464 hashstat.1 \
465 helpdate.1 \
466 helpgid.1 \
467 helpint.1 \
468 helpitem.1 \
469 helppath.1 \
470 helprange.1 \
471 helpstr.1 \
472 helptime.1 \
473 helpuid.1 \
474 helpyorn.1 \
475 hist.1 \
476 if.1 \
477 intro.1 \
478 jsh.1 \
479 ksh.1 \
480 ldapadd.1 \
481 neqn.1 \
482 notify.1 \
483 onintr.1 \
484 page.1 \
485 pcat.1 \
486 pcred.1 \
487 pfcsh.1 \
488 pfiles.1 \
489 pfksh.1 \
490 pflags.1 \
491 pfsh.1 \
492 pkill.1 \
493 pldd.1 \
494 popd.1 \
495 prun.1 \
496 psig.1 \
497 pstack.1 \
498 pstop.1 \
499 ptime.1 \
500 pushd.1 \
501 pwait.1 \
502 pwdx.1 \
503 red.1 \
504 rehash.1 \
505 remote_shell.1 \
506 remsh.1 \
507 repeat.1 \
508 return.1 \
509 rksh.1 \
510 rksh93.1 \
511 rmail.1 \
512 rmdir.1 \
513 rmumount.1 \
514 select.1 \
515 setenv.1 \
516 settime.1 \
517 sh.1 \
518 snca.1 \
519 source.1 \
520 spellin.1 \
521 stop.1 \
522 strconf.1 \
523 switch.1 \

```

```

524          ulimit.1          \
525          unalias.1        \
526          uncompress.1     \
527          unexpand.1      \
528          unhash.1         \
529          unlimit.1        \
530          unpack.1         \
531          unset.1          \
532          unsetenv.1       \
533          until.1          \
534          valdate.1        \
535          valgid.1         \
536          valint.1         \
537          valpath.1        \
538          valrange.1       \
539          valstr.1         \
540          valtime.1        \
541          valuid.1         \
542          valyorn.1        \
543          vedit.1          \
544          whatis.1         \
545          whence.1         \
546          while.1         \
547          zcat.1

549 intro.1          := LINKSRC = Intro.1

551 whatis.1         := LINKSRC = apropos.1

553 unalias.1        := LINKSRC = alias.1

555 batch.1          := LINKSRC = at.1

557 dirname.1       := LINKSRC = basename.1

559 continue.1      := LINKSRC = break.1

561 chdir.1          := LINKSRC = cd.1
562 dirs.1           := LINKSRC = cd.1
563 popd.1           := LINKSRC = cd.1
564 pushd.1          := LINKSRC = cd.1

566 errdate.1        := LINKSRC = ckdate.1
567 helpdate.1       := LINKSRC = ckdate.1
568 valdate.1        := LINKSRC = ckdate.1

570 errgid.1         := LINKSRC = ckgid.1
571 helpgid.1        := LINKSRC = ckgid.1
572 valgid.1         := LINKSRC = ckgid.1

574 errint.1         := LINKSRC = ckint.1
575 helpint.1        := LINKSRC = ckint.1
576 valint.1         := LINKSRC = ckint.1

578 erritem.1        := LINKSRC = ckitem.1
579 helpitem.1       := LINKSRC = ckitem.1

581 errpath.1        := LINKSRC = ckpath.1
582 helppath.1       := LINKSRC = ckpath.1
583 valpath.1        := LINKSRC = ckpath.1

585 errrange.1       := LINKSRC = ckrange.1
586 helprange.1      := LINKSRC = ckrange.1
587 valrange.1       := LINKSRC = ckrange.1

589 errstr.1         := LINKSRC = ckstr.1

```

```

590 helpstr.1        := LINKSRC = ckstr.1
591 valstr.1         := LINKSRC = ckstr.1

593 errtime.1        := LINKSRC = cktime.1
594 helptime.1       := LINKSRC = cktime.1
595 valtime.1        := LINKSRC = cktime.1

597 erruid.1         := LINKSRC = ckuid.1
598 helpuid.1        := LINKSRC = ckuid.1
599 valuid.1         := LINKSRC = ckuid.1

601 erryorn.1        := LINKSRC = ckyorn.1
602 helpyorn.1       := LINKSRC = ckyorn.1
603 valyorn.1        := LINKSRC = ckyorn.1

605 uncompress.1    := LINKSRC = compress.1
606 zcat.1           := LINKSRC = compress.1

608 red.1            := LINKSRC = ed.1

610 disable.1       := LINKSRC = enable.1

612 decrypt.1      := LINKSRC = encrypt.1

614 checkeq.1       := LINKSRC = eqn.1
615 neqn.1          := LINKSRC = eqn.1

617 eval.1          := LINKSRC = exec.1
618 source.1        := LINKSRC = exec.1

620 goto.1          := LINKSRC = exit.1
621 return.1        := LINKSRC = exit.1

623 unexpand.1     := LINKSRC = expand.1

625 hashstat.1     := LINKSRC = hash.1
626 rehash.1        := LINKSRC = hash.1
627 unhash.1        := LINKSRC = hash.1

629 fc.1            := LINKSRC = history.1
630 hist.1          := LINKSRC = history.1

632 bg.1            := LINKSRC = jobs.1
633 fg.1            := LINKSRC = jobs.1
634 notify.1        := LINKSRC = jobs.1
635 stop.1          := LINKSRC = jobs.1

637 jsh.1           := LINKSRC = ksh93.1
638 ksh.1           := LINKSRC = ksh93.1
639 rksh.1          := LINKSRC = ksh93.1
640 rksh93.1        := LINKSRC = ksh93.1
641 sh.1            := LINKSRC = ksh93.1

643 ldapadd.1       := LINKSRC = ldapmodify.1

645 ulimit.1        := LINKSRC = limit.1
646 unlimit.1       := LINKSRC = limit.1

648 dumpkeys.1      := LINKSRC = loadkeys.1

650 rmail.1          := LINKSRC = mail.1

652 page.1          := LINKSRC = more.1

654 snca.1          := LINKSRC = nca.1

```

```

656 pcat.1      := LINKSRC = pack.1
657 unpack.1   := LINKSRC = pack.1

659 pfcsh.1    := LINKSRC = pfexec.1
660 pfksh.1    := LINKSRC = pfexec.1
661 pfsh.1     := LINKSRC = pfexec.1

663 pkill.1    := LINKSRC = pgrep.1

665 pcred.1    := LINKSRC = proc.1
666 pfiles.1   := LINKSRC = proc.1
667 pflags.1   := LINKSRC = proc.1
668 pldd.1     := LINKSRC = proc.1
669 prun.1    := LINKSRC = proc.1
670 psig.1     := LINKSRC = proc.1
671 pstack.1   := LINKSRC = proc.1
672 pstop.1    := LINKSRC = proc.1
673 ptime.1    := LINKSRC = proc.1
674 pwait.1   := LINKSRC = proc.1
675 pwdx.1    := LINKSRC = proc.1

677 rmdir.1   := LINKSRC = rm.1

679 rmumount.1 := LINKSRC = rmmount.1

681 remote_shell.1 := LINKSRC = rsh.1
682 remsh.1       := LINKSRC = rsh.1

684 export.1     := LINKSRC = set.1
685 setenv.1     := LINKSRC = set.1
686 unset.1     := LINKSRC = set.1
687 unsetenv.1  := LINKSRC = set.1

689 case.1      := LINKSRC = shell_builtins.1
690 for.1       := LINKSRC = shell_builtins.1
691 foreach.1   := LINKSRC = shell_builtins.1
692 function.1  := LINKSRC = shell_builtins.1
693 if.1       := LINKSRC = shell_builtins.1
694 repeat.1   := LINKSRC = shell_builtins.1
695 select.1   := LINKSRC = shell_builtins.1
696 switch.1   := LINKSRC = shell_builtins.1
697 until.1    := LINKSRC = shell_builtins.1
698 while.1    := LINKSRC = shell_builtins.1

700 hashcheck.1 := LINKSRC = spell.1
701 hashmake.1  := LINKSRC = spell.1
702 spellin.1   := LINKSRC = spell.1

704 strconf.1  := LINKSRC = strchg.1

706 settime.1  := LINKSRC = touch.1

708 onintr.1   := LINKSRC = trap.1

710 false.1   := LINKSRC = true.1

712 whence.1  := LINKSRC = typeset.1

714 # Links to usr/has/man

716 edit.1     := LINKSRC = ../../../has/man/man1has/edit.1has
718 vedit.1    := LINKSRC = ../../../has/man/man1has/vi.1has

720 .KEEP_STATE:

```

```

722 include      $(SRC)/man/Makefile.man

724 install:    $(ROOTMANFILES) $(ROOTMANLINKS)

```

18865 Wed May 20 11:20:02 2015

new/usr/src/man/man1/sysV-make.1

make: add the manual page

```

1  \" te
2  \" Copyright 1989 AT&T Copyright (c) 2009, Sun Microsystems, Inc. All Rights
3  \" The contents of this file are subject to the terms of the Common Development
4  \" See the License for the specific language governing permissions and limitat
5  \" the fields enclosed by brackets \"[]\" replaced with your own identifying info
6  .TH SYSV-MAKE 1 \"Aug 24, 2009\"
7  .SH NAME
8  sysV-make \- maintain, update, and regenerate groups of programs
9  .SH SYNOPSIS
10 .LP
11 .nf
12 \fB/usr/lib/svr4.make\fR [\fB-f\fR \fImakefile\fR] [\fB-eiknpqrst\fR] [\fInames\
13 .fi

15 .SH DESCRIPTION
16 .LP
17 This is the \fBvanilla\fR System V version of \fBmake\fR. If the environment
18 variable \fBUSE_SVR4_MAKE\fR is set, then the command \fBmake\fR will invoke
19 this version of \fBmake\fR. (See also the \fBENVIRONMENT\fR section.)
20 .sp
21 .LP
22 \fBmake\fR allows the programmer to maintain, update, and regenerate groups of
23 computer programs. \fBmake\fR executes commands in \fImakefile\fR to update one
24 or more target \fInames\fR (\fInames\fR are typically programs). If the
25 \fB-f\fR option is not present, then \fBmakefile\fR, \fBMakefile\fR, and the
26 Source Code Control System (SCCS) files \fBmakefile\fR and \fBMakefile\fR
27 are tried in order. If \fImakefile\fR is '\fB(mi\fR&' the standard input is
28 taken. More than one \fB-f\fR \fImakefile\fR argument pair may appear.
29 .sp
30 .LP
31 \fBmake\fR updates a target only if its dependents are newer than the target.
32 All prerequisite files of a target are added recursively to the list of
33 targets. Missing files are deemed to be outdated.
34 .sp
35 .LP
36 The following list of four directives can be included in \fImakefile\fR to
37 extend the options provided by \fBmake\fR. They are used in \fImakefile\fR as
38 if they were targets:
39 .sp
40 .ne 2
41 .na
42 \fB\b\&.DEFAULT:\fR\fR
43 .ad
44 .RS 16n
45 If a file must be made but there are no explicit commands or relevant built-in
46 rules, the commands associated with the name \fB\b\&.DEFAULT\fR are used if it
47 exists.
48 .RE

50 .sp
51 .ne 2
52 .na
53 \fB\b\&.IGNORE:\fR\fR
54 .ad
55 .RS 16n
56 Same effect as the \fB-i\fR option.
57 .RE

59 .sp
60 .ne 2
61 .na

```

```

62 \fB\b\&.PRECIOUS:\fR\fR
63 .ad
64 .RS 16n
65 Dependents of the \fB\b\&.PRECIOUS\fR entry will not be removed when quit or
66 interrupt are hit.
67 .RE

69 .sp
70 .ne 2
71 .na
72 \fB\b\&.SILENT:\fR\fR
73 .ad
74 .RS 16n
75 Same effect as the \fB-s\fR option.
76 .RE

78 .SS "Options"
79 .LP
80 The options for \fBmake\fR are listed below:
81 .sp
82 .ne 2
83 .na
84 \fB\b-e\fR\fR
85 .ad
86 .RS 15n
87 Environment variables override assignments within makefiles.
88 .RE

90 .sp
91 .ne 2
92 .na
93 \fB\b-f\fR \fImakefile\fR\fR
94 .ad
95 .RS 15n
96 Description filename (\fImakefile\fR is assumed to be the name of a description
97 file).
98 .RE

100 .sp
101 .ne 2
102 .na
103 \fB\b-i\fR\fR
104 .ad
105 .RS 15n
106 Ignore error codes returned by invoked commands.
107 .RE

109 .sp
110 .ne 2
111 .na
112 \fB\b-k\fR\fR
113 .ad
114 .RS 15n
115 Abandon work on the current entry if it fails, but continue on other branches
116 that do not depend on that entry.
117 .RE

119 .sp
120 .ne 2
121 .na
122 \fB\b-n\fR\fR
123 .ad
124 .RS 15n
125 No execute mode. Print commands, but do not execute them. Even command lines
126 beginning with an '\fB@\fR' are printed.
127 .RE

```



```

129 .sp
130 .ne 2
131 .na
132 \fB\fB-p\fR\fR
133 .ad
134 .RS 15n
135 Print out the complete set of macro definitions and target descriptions.
136 .RE

138 .sp
139 .ne 2
140 .na
141 \fB\fB-q\fR\fR
142 .ad
143 .RS 15n
144 Question. \fBmake\fR returns a zero or non-zero status code depending on
145 whether or not the target file has been updated.
146 .RE

148 .sp
149 .ne 2
150 .na
151 \fB\fB-r\fR\fR
152 .ad
153 .RS 15n
154 Do not use the built-in rules.
155 .RE

157 .sp
158 .ne 2
159 .na
160 \fB\fB-s\fR\fR
161 .ad
162 .RS 15n
163 Silent mode. Do not print command lines before executing.
164 .RE

166 .sp
167 .ne 2
168 .na
169 \fB\fB-t\fR\fR
170 .ad
171 .RS 15n
172 Touch the target files (causing them to be updated) rather than issue the usual
173 commands.
174 .RE

176 .SS "Creating the makefile"
177 .LP
178 The makefile invoked with the \fB-f\fR option is a carefully structured file of
179 explicit instructions for updating and regenerating programs, and contains a
180 sequence of entries that specify dependencies. The first line of an entry is a
181 blank-separated, non-null list of targets, then a '\fB:\fR', then a (possibly
182 null) list of prerequisite files or dependencies. Text following a '\fB;\fR'
183 and all following lines that begin with a tab are shell commands to be executed
184 to update the target. The first non-empty line that does not begin with a tab
185 or '\fB#\fR' begins a new dependency or macro definition. Shell commands may be
186 continued across lines with a backslash-new-line (\fB\e\fR-NEWLINE) sequence.
187 Everything printed by make (except the initial TAB) is passed directly to the
188 shell as is. Thus,
189 .sp
190 .in +2
191 .nf
192 echo a\
193 b

```

```

194 .fi
195 .in -2
196 .sp

198 .sp
199 .LP
200 will produce
201 .sp
202 .LP
203 \fBab\fR
204 .sp
205 .LP
206 exactly the same as the shell would.
207 .sp
208 .LP
209 Number-sign (\fB#\fR) and \fBNEWLINE\fR surround comments including contained
210 '\fB\e\fR\(\miNEWLINE' sequences.
211 .sp
212 .LP
213 The following makefile says that \fBpgm\fR depends on two files \fBa.o\fR and
214 \fBb.o\fR, and that they in turn depend on their corresponding source files
215 (\fBa.c\fR and \fBb.c\fR) and a common file \fBincl.h\fR:
216 .sp
217 .in +2
218 .nf
219 pgm: a.o b.o
220         cc a.o b.o -o pgm
221 a.o: incl.h a.c
222         cc -c a.c
223 b.o: incl.h b.c
224         cc -c b.c
225 .fi
226 .in -2
227 .sp

229 .sp
230 .LP
231 Command lines are executed one at a time, each by its own shell. The
232 \fBSHELL\fR environment variable can be used to specify which shell \fBmake\fR
233 should use to execute commands. The default is \fB/usr/bin/sh\fR. The first one
234 or two characters in a command can be the following: '\fB@\fR', '\fB(mi\fR\&',
235 '\fB@(mi\fR', or '\fB(mi@\fR\&'. If '\fB@\fR' is present, printing of the
236 command is suppressed. If '\fB(mi\fR\&' is present, \fBmake\fR ignores an
237 error. A line is printed when it is executed unless the \fB-s\fR option is
238 present, or the entry \fB&.SILENT:\fR is included in the \fBmakefile\fR, or unless
239 the initial character sequence contains a \fB@\fR. The \fB-n\fR option
240 specifies printing without execution; however, if the command line has the
241 string \fB$(MAKE)\fR in it, the line is always executed (see the discussion of
242 the \fBMAKEFLAGS\fR macro in the \fBmake\fR \fBenvironment\fR sub-section
243 below). The \fB-t\fR (touch) option updates the modified date of a file without
244 executing any commands.
245 .sp
246 .LP
247 Commands returning non-zero status normally terminate \fBmake\fR. If the
248 \fB-i\fR option is present, if the entry \fB&.IGNORE:\fR is included in
249 the \fBmakefile\fR, or if the initial character sequence of the command contains
250 '\fB(mi\fR\&', the error is ignored. If the \fB-k\fR option is present, work
251 is abandoned on the current entry, but continues on other branches that do not
252 depend on that entry.
253 .sp
254 .LP
255 Interrupt and quit cause the target to be deleted unless the target is a
256 dependent of the directive \fB&.PRECIOUS\fR.
257 .SS "make Environment"
258 .LP
259 The environment is read by \fBmake\fR. All variables are assumed to be macro

```

```

260 definitions and are processed as such. The environment variables are processed
261 before any makefile and after the internal rules; thus, macro assignments in a
262 makefile override environment variables. The \fB-e\fR option causes the
263 environment to override the macro assignments in a makefile. Suffixes and their
264 associated rules in the makefile will override any identical suffixes in the
265 built-in rules.
266 .sp
267 .LP
268 The \fBMAKEFLAGS\fR environment variable is processed by \fBmake\fR as
269 containing any legal input option (except \fB-f\fR and \fB-p\fR) defined for
270 the command line. Further, upon invocation, \fBmake\fR "invents" the variable
271 if it is not in the environment, puts the current options into it, and passes
272 it on to invocations of commands. Thus, \fBMAKEFLAGS\fR always contains the
273 current input options. This feature proves very useful for "super-makes". In
274 fact, as noted above, when the \fB-n\fR option is used, the command
275 \fB$(MAKE)\fR is executed anyway; hence, one can perform a \fBmake\fR \fB-n\fR
276 recursively on a whole software system to see what would have been executed.
277 This result is possible because the \fB-n\fR is put in \fBMAKEFLAGS\fR and
278 passed to further invocations of \fB$(MAKE)\fR. This usage is one way of
279 debugging all of the makefiles for a software project without actually doing
280 anything.
281 .SS "Include Files"
282 .LP
283 If the string \fIinclude\fR appears as the first seven letters of a line in a
284 \fImakefile\fR, and is followed by a blank or a tab, the rest of the line is
285 assumed to be a filename and will be read by the current invocation, after
286 substituting for any macros.
287 .SS "Macros"
288 .LP
289 Entries of the form \fIstring1\fR \fB=\fR \fIstring2\fR are macro definitions.
290 \fIstring2\fR is defined as all characters up to a comment character or an
291 unescaped NEWLINE. Subsequent appearances of
292 \fB$\fR(\fIstring1\fR[\fB:\fR\fIsubst1\fR\fB=\fR[\fIsubst2\fR]]) are replaced
293 by \fIstring2\fR. The parentheses are optional if a single-character macro name
294 is used and there is no substitute sequence. The optional
295 :\fIsubst1\fR=\fIsubst2\fR is a substitute sequence. If it is specified, all
296 non-overlapping occurrences of \fIsubst1\fR in the named macro are replaced by
297 \fIsubst2\fR. Strings (for the purposes of this type of substitution) are
298 delimited by BLANKS, TABS, NEWLINE characters, and beginnings of lines. An
299 example of the use of the substitute sequence is shown in the \fBLibraries\fR
300 sub-section below.
301 .SS "Internal Macros"
302 .LP
303 There are five internally maintained macros that are useful for writing rules
304 for building targets.
305 .sp
306 .ne 2
307 .na
308 \fB\FB$\fR\fR
309 .ad
310 .RS 6n
311 The macro \fB$\fR stands for the filename part of the current dependent with
312 the suffix deleted. It is evaluated only for inference rules.
313 .RE
314
315 .sp
316 .ne 2
317 .na
318 \fB\FB$@\fR\fR
319 .ad
320 .RS 6n
321 The \fB$@\fR macro stands for the full target name of the current target. It is
322 evaluated only for explicitly named dependencies.
323 .RE
324
325 .sp

```

```

326 .ne 2
327 .na
328 \fB\FB$<\fR\fR
329 .ad
330 .RS 6n
331 The \fB$<\fR macro is only evaluated for inference rules or the
332 \fB\&.DEFAULT\fR rule. It is the module that is outdated with respect to the
333 target (the "manufactured" dependent file name). Thus, in the \fB\&.c.o\fR
334 rule, the \fB$<\fR macro would evaluate to the \fB\&.c\fR file. An example for
335 making optimized \fB\&.o\fR files from \fB\&.c\fR files is:
336 .sp
337 .in +2
338 .nf
339 \&.c.o:
340     cc c o $*.c
341 .fi
342 .in -2
343 .sp
344
345 or:
346 .sp
347 .in +2
348 .nf
349 \&.c.o:
350     cc c o $<
351 .fi
352 .in -2
353 .sp
354
355 .RE
356
357 .sp
358 .ne 2
359 .na
360 \fB\FBFB$?\fR\fR
361 .ad
362 .RS 6n
363 The \fBFB$?\fR macro is evaluated when explicit rules from the makefile are
364 evaluated. It is the list of prerequisites that are outdated with respect to
365 the target, and essentially those modules that must be rebuilt.
366 .RE
367
368 .sp
369 .ne 2
370 .na
371 \fB\FBFB$%\fR\fR
372 .ad
373 .RS 6n
374 The \fBFB$%\fR macro is only evaluated when the target is an archive library
375 member of the form \fBfBlib(file.o)\fR. In this case, \fBFB$@\fR evaluates to
376 \fBfBlib\fR and \fBFB$%\fR evaluates to the library member, \fBfBfile.o\fR.
377 .RE
378
379 .sp
380 .LP
381 Four of the five macros can have alternative forms. When an upper case \fBDB\fR
382 or \fBFB\fR is appended to any of the four macros, the meaning is changed to
383 "directory part" for \fBDB\fR and "file part" for \fBFB\fR. Thus, \fBFB$(D)\fR
384 refers to the directory part of the string \fBFB$@\fR. If there is no directory
385 part, \fBFB\&.\fR is generated. The only macro excluded from this alternative
386 form is \fBFB$?\fR.
387 .SS "Suffixes"
388 .LP
389 Certain names (for instance, those ending with \fB\&.o\fR) have inferable
390 prerequisites such as \fB\&.c\fR, \fB\&.s\fR, etc. If no update commands for
391 such a file appear in \fImakefile\fR, and if an inferable prerequisite exists,

```

```

392 that prerequisite is compiled to make the target. In this case, \fBmake\fR has
393 inference rules that allow building files from other files by examining the
394 suffixes and determining an appropriate inference rule to use. The current
395 default inference rules are:
396 .sp
397
398 .sp
399 .TS
400 tab(      );
401 lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i)
402 lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i) lw(.55i)
403 \&.c   \&.c~  \&.f   \&.f~  \&.s   \&.s~  \&.sh  \&.sh~  \&.C   \&.C~
404 \&.c.a \&.c.o \&.c~.a \&.c~.c \&.c~.o \&.f.a \&.f.o \&.f~.a \&.f~.f \&.f~.o
405 \&.h~.h \&.l.c \&.l.o \&.l~.c \&.l~.l \&.l~.o \&.s.a \&.s.o \&.s~.a \&.s~.o
406 \&.s~.s \&.sh~.sh \&.y.c \&.y.o \&.y~.c \&.y~.o \&.y~.y \&.C.a \&.C.o
407 \&.C~.C \&.C~.o \&.L.C \&.L.o \&.L~.C \&.L~.L \&.L~.o \&.Y.C \&.Y.o \&.Y~.C
408 \&.Y~.o \&.Y~.Y
409 .TE
410
411 .sp
412 .LP
413 The internal rules for \fBmake\fR are contained in the source file
414 \fBmake.rules\fR for the \fBmake\fR program. These rules can be locally
415 modified. To print out the rules compiled into the \fBmake\fR on any machine in
416 a form suitable for re-compilation, the following command is used:
417 .sp
418 .in +2
419 .nf
420 make -pf \(\mi2>/dev/null < /dev/null
421 .fi
422 .in -2
423 .sp
424
425 .sp
426 .LP
427 A tilde in the above rules refers to an SCCS file (see \fBsccsfile\fR(4)).
428 Thus, the rule \fB\&.c~.o\fR would transform an SCCS C source file into an
429 object file (\fB\&.o\fR). Because the \fBs.\fR of the SCCS files is a prefix,
430 it is incompatible with the \fBmake\fR suffix point of view. Hence, the tilde
431 is a way of changing any file reference into an SCCS file reference.
432 .sp
433 .LP
434 A rule with only one suffix (for example, \fB\&.c:\fR) is the definition of how
435 to build \fB\&.o\fR from \fB\&.c:\fR. In effect, the other suffix is null.
436 This feature is useful for building targets from only one source file, for
437 example, shell procedures and simple C programs.
438 .sp
439 .LP
440 Additional suffixes are given as the dependency list for \fB\&.SUFFIXES\fR.
441 Order is significant: the first possible name for which both a file and a rule
442 exist is inferred as a prerequisite. The default list is:
443 .sp
444 .LP
445 \fB\&.SUFFIXES: .o .c .c~ .y .y~ .l .l~ .s .s~ .sh .sh~ .h .h~ .f .f~\fR
446 \fB\&.C .C~ .Y .Y~ .L .L~\fR
447 .sp
448 .LP
449 Here again, the above command for printing the internal rules will display the
450 list of suffixes implemented on the current machine. Multiple suffix lists
451 accumulate; \fB\&.SUFFIXES:\fR with no dependencies clears the list of
452 suffixes.
453 .SS "Inference Rules"
454 .LP
455 The first example can be done more briefly.
456 .sp
457 .in +2

```

```

458 .nf
459 pgm: a.o b.o
460 cc a.o b.o o pgm
461 a.o b.o: incl.h
462 .fi
463 .in -2
464 .sp
465
466 .sp
467 .LP
468 This abbreviation is possible because \fBmake\fR has a set of internal rules
469 for building files. The user may add rules to this list by simply putting them
470 in the \fBmakefile\fR.
471 .sp
472 .LP
473 Certain macros are used by the default inference rules to permit the inclusion
474 of optional matter in any resulting commands. Again, the previous method for
475 examining the current rules is recommended.
476 .sp
477 .LP
478 The inference of prerequisites can be controlled. The rule to create a file
479 with suffix \fB\&.o\fR from a file with suffix \fB\&.c\fR is specified as an
480 entry with \fB\&.c.o:\fR as the target and no dependents. Shell commands
481 associated with the target define the rule for making a \fB\&.o\fR file from a
482 \fB\&.c:\fR file. Any target that has no slashes in it and starts with a dot is
483 identified as a rule and not a true target.
484 .SS "Libraries"
485 .LP
486 If a target or dependency name contains parentheses, it is assumed to be an
487 archive library, the string within parentheses referring to a member within the
488 library. Thus, \fB\&.o:\fR and \fB$(LIB)(file.o)\fR both refer to an
489 archive library that contains \fBfile.o\fR. (This example assumes the \fBLIB\fR
490 macro has been previously defined.) The expression \fB$(LIB)(file1.o
491 file2.o)\fR is not legal. Rules pertaining to archive libraries have the form
492 \fB\&.\fR\&.o:\fR\&.a:\fR where the \fB\&.o:\fR\&.a:\fR is the suffix from
493 which the archive member is to be made. An unfortunate by-product of the
494 current implementation requires the \fB\&.o:\fR\&.a:\fR to be different from
495 the suffix of the archive member. Thus, one cannot have \fB\&.o:\fR\&.o:\fR
496 depend upon \fBfile.o:\fR explicitly. The most common use of the archive
497 interface follows. Here, we assume the source files are all C type source:
498 .sp
499 .in +2
500 .nf
501 lib: lib(file1.o) lib(file2.o) lib(file3.o)
502 @echo lib is now up-to-date
503 \&.c.a:
504 $(CC) -c $(CFLAGS) $<
505 $(AR) $(ARFLAGS) $@ $*.o
506 rm -f $*.o
507 .fi
508 .in -2
509 .sp
510
511 .sp
512 .LP
513 In fact, the \fB\&.c.a:\fR rule listed above is built into \fBmake\fR and is
514 unnecessary in this example. A more interesting, but more limited example of an
515 archive library maintenance construction follows:
516 .sp
517 .in +2
518 .nf
519 lib: lib(file1.o) lib(file2.o) lib(file3.o)
520 $(CC) -c $(CFLAGS) $(?:.o=.c)
521 $(AR) $(ARFLAGS) lib $?
522 rm $?
523 @echo lib is now up-to-date

```

```

524 \&.c.a:;
525 .fi
526 .in -2
527 .sp

529 .sp
530 .LP
531 Here the substitution mode of the macro expansions is used. The \fB$?\fR list
532 is defined to be the set of object filenames (inside \fBlib\fR) whose C source
533 files are outdated. The substitution mode translates the \fB&.o\fR to
534 \fB&.c\fR. (Unfortunately, one cannot as yet transform to \fB&.c~\fR;
535 however, this transformation may become possible in the future.) Also note the
536 disabling of the \fB&.c.a:\fR rule, which would have created each object file,
537 one by one. This particular construct speeds up archive library maintenance
538 considerably. This type of construct becomes very cumbersome if the archive
539 library contains a mix of assembly programs and C programs.
540 .SH ENVIRONMENT VARIABLES
541 .ne 2
542 .na
543 \fB\fBUSE_SVR4_MAKE\fR\fR
544 .ad
545 .RS 17n
546 If this environment variable is set, then the \fBmake\fR command will invoke
547 this System V version of \fBmake\fR. If this variable is not set, then the
548 default version of \fBmake\fR(1S) is invoked.
549 .sp
550 \fB\fBUSE_SVR4_MAKE\fR can be set as follows (Bourne shell):
551 .sp
552 \fB$ USE_SVR4_MAKE=''; export USE_SVR4_MAKE\fR
553 .sp
554 or (C shell):
555 .sp
556 \fB% setenv USE_SVR4_MAKE\fR
557 .RE

559 .SH FILES
560 .ne 2
561 .na
562 \fB\fB[Mm]akefile\fR\fR
563 .ad
564 .br
565 .na
566 \fB\fBs.[Mm]akefile\fR\fR
567 .ad
568 .sp .6
569 .RS 4n
570 default makefiles
571 .RE

573 .sp
574 .ne 2
575 .na
576 \fB\fB/usr/bin/sh\fR\fR
577 .ad
578 .sp .6
579 .RS 4n
580 default shell for \fBmake\fR
581 .RE

583 .sp
584 .ne 2
585 .na
586 \fB\fB/usr/share/lib/make/make.rules\fR\fR
587 .ad
588 .sp .6
589 .RS 4n

```

```

590 default rules for \fBmake\fR
591 .RE

593 .SH SEE ALSO
594 .LP
595 \fBbcd\fR(1), \fBmake\fR(1S), \fBsh\fR(1), \fBprintf\fR(3C), \fBscsfile\fR(4),
596 \fBattributes\fR(5)
597 .SH NOTES
598 .LP
599 Some commands return non-zero status inappropriately; use \fB-i\fR or the
600 '\fB-\fR' command line prefix to overcome the difficulty.
601 .sp
602 .LP
603 Filenames containing the characters \fB=\fR, \fB:\fR, and \fB@\fR do not work.
604 Commands that are directly executed by the shell, notably \fBbcd\fR(1), are
605 ineffectual across \fBNEWLINES\fR in \fBmake\fR. The syntax \fBlib(file1.o)\fR
606 \fBfile2.o\fR \fBfile3.o)\fR is illegal. You cannot build \fBlib(file.o)\fR
607 from \fBfile.o\fR.
608 #endif /* !codereview */

```

new/usr/src/man/man1s/Makefile

1

639 Wed May 20 11:20:03 2015

new/usr/src/man/man1s/Makefile

make: add the manual page

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet
9 # at http://www.illumos.org/license/CDDL.
10 #
11 #
12 #
13 # Copyright 2011, Richard Lowe
14 # Copyright 2013 Nexenta Systems, Inc. All rights reserved.
15 #
16 #
17 include      $(SRC)/Makefile.master
18 #
19 MANSECT=     1s
20 #
21 MANFILES=    make.1s
22 #
23 .KEEP_STATE:
24 #
25 include      $(SRC)/man/Makefile.man
26 #
27 install:     $(ROOTMANFILES)
28 #endif /* ! codereview */
```

71486 Wed May 20 11:20:03 2015

new/usr/src/man/man1s/make.1s

make: add the manual page

```

1  \" te
2  .\" Copyright 1989 AT&T
3  .\" Portions Copyright (c) 1992, X/Open Company Limited All Rights Reserved
4  .\" Copyright (c) 2008, Sun Microsystems, Inc. All Rights Reserved
5  .\" Sun Microsystems, Inc. gratefully acknowledges The Open Group for permission
6  .\" http://www.opengroup.org/bookstore/.
7  .\" The Institute of Electrical and Electronics Engineers and The Open Group, ha
8  .\" This notice shall appear on any product containing this material.
9  .\" The contents of this file are subject to the terms of the Common Development
10 .\" You can obtain a copy of the license at usr/src/OPENSOLARIS.LICENSE or http:
11 .\" When distributing Covered Code, include this CDDL HEADER in each file and in
12 .TH MAKE 1S \"Apr 23, 2008\"
13 .SH NAME
14 make \- maintain, update, and regenerate related programs and files
15 .SH SYNOPSIS
16 .LP
17 .nf
18 \fB/usr/bin/make\fR [\fB-d\fR] [\fB-dd\fR] [\fB-D\fR] [\fB-DD\fR] [\fB-e\fR] [\f
19 [\fB-p\fR] [\fB-P\fR] [\fB-q\fR] [\fB-r\fR] [\fB-s\fR] [\fB-S\fR] [\fB-t\fR
20 [\fB-f\fR \fImakefile\fR]... [\fB-K\fR \fIstatefile\fR]... [\fItarget\fR]..
21 [\fImacro\fR = \fIvalue\fR...]
22 .fi

24 .LP
25 .nf
26 \fB/usr/xpg4/bin/make\fR [\fB-d\fR] [\fB-dd\fR] [\fB-D\fR] [\fB-DD\fR] [\fB-e\fR
27 [\fB-n\fR] [\fB-p\fR] [\fB-P\fR] [\fB-q\fR] [\fB-r\fR] [\fB-s\fR] [\fB-S\fR
28 [\fB-f\fR \fImakefile\fR]... [\fItarget\fR]... [\fImacro\fR = \fIvalue\fR..
29 .fi

31 .SH DESCRIPTION
32 .LP
33 The \fBmake\fR utility executes a list of shell commands associated with each
34 \fItarget\fR, typically to create or update a file of the same name.
35 \fImakefile\fR contains entries that describe how to bring a target up to date
36 with respect to those on which it depends, which are called \fIdependencies\fR.
37 Since each dependency is a target, it can have dependencies of its own.
38 Targets, dependencies, and sub-dependencies comprise a tree structure that
39 \fBmake\fR traces when deciding whether or not to rebuild a \fItarget\fR.
40 .sp
41 .LP
42 The \fBmake\fR utility recursively checks each \fItarget\fR against its
43 dependencies, beginning with the first target entry in \fImakefile\fR if no
44 \fItarget\fR argument is supplied on the command line. If, after processing all
45 of its dependencies, a target file is found either to be missing, or to be
46 older than any of its dependencies, \fBmake\fR rebuilds it. Optionally with
47 this version of \fBmake\fR, a target can be treated as out-of-date when the
48 commands used to generate it have changed since the last time the target was
49 built.
50 .sp
51 .LP
52 To build a given target, \fBmake\fR executes the list of commands, called a
53 \fIrule\fR. This rule can be listed explicitly in the target's makefile entry,
54 or it can be supplied implicitly by \fBmake\fR.
55 .sp
56 .LP
57 If no \fItarget\fR is specified on the command line, \fBmake\fR uses the first
58 target defined in \fImakefile\fR.
59 .sp
60 .LP
61 If a \fItarget\fR has no makefile entry, or if its entry has no rule,

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62 \fBmake\fR attempts to derive a rule by each of the following methods, in turn,
63 until a suitable rule is found. Each method is described under Usage below.
64 .RS +4
65 .TP
66 .ie t \(\bu
67 .el o
68 Pattern matching rules.
69 .RE
70 .RS +4
71 .TP
72 .ie t \(\bu
73 .el o
74 Implicit rules, read in from a user-supplied makefile.
75 .RE
76 .RS +4
77 .TP
78 .ie t \(\bu
79 .el o
80 Standard implicit rules (also known as suffix rules), typically read in from
81 the file \fB/usr/share/lib/make/make.rules\fR.
82 .RE
83 .RS +4
84 .TP
85 .ie t \(\bu
86 .el o
87 \fBSCCS\fR retrieval. \fBmake\fR retrieves the most recent version from the
88 \fBSCCS\fR history file (if any). See the description of the
89 \fB&.SCCS_GET\fR special-function target for details.
90 .RE
91 .RS +4
92 .TP
93 .ie t \(\bu
94 .el o
95 The rule from the \fB&.DEFAULT\fR target entry, if there is such an entry in
96 the makefile.
97 .RE
98 .sp
99 .LP
100 If there is no makefile entry for a \fItarget\fR, if no rule can be derived for
101 building it, and if no file by that name is present, \fBmake\fR issues an error
102 message and halts.
103 .SH OPTIONS
104 .LP
105 The following options are supported:
106 .sp
107 .ne 2
108 .na
109 \fB-d\fR
110 .ad
111 .RS 16n
112 Displays the reasons why \fBmake\fR chooses to rebuild a target. \fBmake\fR
113 displays any and all dependencies that are newer. In addition, \fBmake\fR
114 displays options read in from the \fBMAKEFLAGS\fR environment variable.
115 .RE

117 .sp
118 .ne 2
119 .na
120 \fB-dd\fR
121 .ad
122 .RS 16n
123 Displays the dependency check and processing in vast detail.
124 .RE

126 .sp
127 .ne 2

```

```

128 .na
129 \fB\fB-D\fR\fR
130 .ad
131 .RS 16n
132 Displays the text of the makefiles read in.
133 .RE

135 .sp
136 .ne 2
137 .na
138 \fB\fB-DD\fR\fR
139 .ad
140 .RS 16n
141 Displays the text of the makefiles, \fBmake.rules\fR file, the state file, and
142 all hidden-dependency reports.
143 .RE

145 .sp
146 .ne 2
147 .na
148 \fB\fB-e\fR\fR
149 .ad
150 .RS 16n
151 Environment variables override assignments within makefiles.
152 .RE

154 .sp
155 .ne 2
156 .na
157 \fB\fB-f\fR \fImakefile\fR
158 .ad
159 .RS 16n
160 Uses the description file \fImakefile\fR. A \fB(mi\fR as the \fImakefile\fR
161 argument denotes the standard input. The contents of \fImakefile\fR, when
162 present, override the standard set of implicit rules and predefined macros.
163 When more than one \fB-f\fR \fImakefile\fR argument pair appears, \fBmake\fR
164 uses the concatenation of those files, in order of appearance.
165 .sp
166 When no \fImakefile\fR is specified, \fB/usr/bin/make\fR tries the following in
167 sequence, except when in POSIX mode (see \fB&.POSIX\fR in Usage):
168 .RS +4
169 .TP
170 .ie t \(\bu
171 .el o
172 If there is a file named \fBmakefile\fR in the working directory, \fBmake\fR
173 uses that file. If, however, there is an \fBSCCS\fR history file
174 (\fBSCCS/s.makefile\fR) which is newer, \fBmake\fR attempts to retrieve and use
175 the most recent version.
176 .RE
177 .RS +4
178 .TP
179 .ie t \(\bu
180 .el o
181 In the absence of the above file(s), if a file named \fBMakefile\fR is present
182 in the working directory, \fBmake\fR attempts to use it. If there is an
183 \fBSCCS\fR history file (\fBSCCS/s.Makefile\fR) that is newer, \fBmake\fR
184 attempts to retrieve and use the most recent version.
185 .RE
186 When no \fImakefile\fR is specified, \fB/usr/bin/make\fR in POSIX mode and
187 \fB/usr/xpg4/bin/make\fR try the following files in sequence:
188 .RS +4
189 .TP
190 .ie t \(\bu
191 .el o
192 \fB\&./makefile\fR, \fB\&./Makefile\fR
193 .RE

```

```

194 .RS +4
195 .TP
196 .ie t \(\bu
197 .el o
198 \fBBS.makefile\fR, \fBSCCS/s.makefile\fR
199 .RE
200 .RS +4
201 .TP
202 .ie t \(\bu
203 .el o
204 \fBBS.Makefile\fR, \fBSCCS/s.Makefile\fR
205 .RE
206 .RE

208 .sp
209 .ne 2
210 .na
211 \fB\fB-i\fR\fR
212 .ad
213 .RS 16n
214 Ignores error codes returned by commands. Equivalent to the special-function
215 target \fB\&.IGNORE\fR.
216 .RE

218 .sp
219 .ne 2
220 .na
221 \fB\fB-k\fR\fR
222 .ad
223 .RS 16n
224 When a nonzero error status is returned by a rule, or when \fBmake\fR cannot
225 find a rule, abandons work on the current target, but continues with other
226 dependency branches that do not depend on it.
227 .RE

229 .sp
230 .ne 2
231 .na
232 \fB\fB-K\fR \fIstatefile\fR
233 .ad
234 .RS 16n
235 Uses the state file \fIstatefile\fR. A \fB(mi\fR as the \fIstatefile\fR
236 argument denotes the standard input. The contents of \fIstatefile\fR, when
237 present, override the standard set of implicit rules and predefined macros.
238 When more than one \fB-K\fR \fIstatefile\fR argument pair appears, \fBmake\fR
239 uses the concatenation of those files, in order of appearance. (See also
240 \fB\&.KEEP_STATE\fR and \fB\&.KEEP_STATE_FILE\fR in the Special-Function
241 Targets section).
242 .RE

244 .sp
245 .ne 2
246 .na
247 \fB\fB-n\fR\fR
248 .ad
249 .RS 16n
250 No execution mode. Prints commands, but does not execute them. Even lines
251 beginning with an \fB@\fR are printed. However, if a command line contains a
252 reference to the \fB$(MAKE)\fR macro, that line is always executed (see the
253 discussion of \fBMAKEFLAGS\fR in Reading Makefiles and the Environment). When
254 in POSIX mode, lines beginning with a "\fB+\fR" are executed.
255 .RE

257 .sp
258 .ne 2
259 .na

```

```

260 \fB\fB-p\fR\fR
261 .ad
262 .RS 16n
263 Prints out the complete set of macro definitions and target descriptions.
264 .RE

266 .sp
267 .ne 2
268 .na
269 \fB\fB-P\fR\fR
270 .ad
271 .RS 16n
272 Merely reports dependencies, rather than building them.
273 .RE

275 .sp
276 .ne 2
277 .na
278 \fB\fB-q\fR\fR
279 .ad
280 .RS 16n
281 Question mode. \fBmake\fR returns a zero or nonzero status code depending on
282 whether or not the target file is up to date. When in POSIX mode, lines
283 beginning with a "\fB+\fR" are executed.
284 .RE

286 .sp
287 .ne 2
288 .na
289 \fB\fB-r\fR\fR
290 .ad
291 .RS 16n
292 Does not read in the default makefile \fB/usr/share/lib/make/make.rules\fR.
293 .RE

295 .sp
296 .ne 2
297 .na
298 \fB\fB-s\fR\fR
299 .ad
300 .RS 16n
301 Silent mode. Does not print command lines before executing them. Equivalent to
302 the special-function target \fB&.SILENT:\fR.
303 .RE

305 .sp
306 .ne 2
307 .na
308 \fB\fB-S\fR\fR
309 .ad
310 .RS 16n
311 Undoes the effect of the \fB-k\fR option. Stops processing when a non-zero exit
312 status is returned by a command.
313 .RE

315 .sp
316 .ne 2
317 .na
318 \fB\fB-t\fR\fR
319 .ad
320 .RS 16n
321 Touches the target files (bringing them up to date) rather than performing
322 their rules. \fBWarning:\fR This can be \fBdangerous\fR when files are
323 maintained by more than one person. When the \fB&.KEEP_STATE:\fR target
324 appears in the makefile, this option updates the state file just as if the
325 rules had been performed. When in POSIX mode, lines beginning with a "\fB+\fR"

```

```

326 are executed.
327 .RE

329 .sp
330 .ne 2
331 .na
332 \fB\fB-V\fR\fR
333 .ad
334 .RS 16n
335 Puts \fBmake\fR into SysV mode. Refer to \fBsysv-make\fR(1) for respective
336 details.
337 .RE

339 .SH OPERANDS
340 .LP
341 The following operands are supported:
342 .sp
343 .ne 2
344 .na
345 \fB\fItarget\fR\fR
346 .ad
347 .RS 15n
348 Target names, as defined in Usage.
349 .RE

351 .sp
352 .ne 2
353 .na
354 \fB\fImacro\fR\fB=\fR\fIvalue\fR\fR
355 .ad
356 .RS 15n
357 Macro definition. This definition overrides any regular definition for the
358 specified macro within the makefile itself, or in the environment. However,
359 this definition can still be overridden by conditional macro assignments.
360 .RE

362 .SH USAGE
363 .LP
364 The usage of \fBmake\fR is described below:
365 .SS "Reading Makefiles and the Environment"
366 .LP
367 When \fBmake\fR first starts, it reads the \fBMAKEFLAGS\fR environment variable
368 to obtain any of the following options specified present in its value:
369 \fB-d\fR, \fB-D\fR, \fB-e\fR, \fB-i\fR, \fB-k\fR, \fB-n\fR, \fB-p\fR, \fB-q\fR,
370 \fB-r\fR, \fB-s\fR, \fB-S\fR, or \fB-t\fR. Due to the implementation of POSIX.2
371 (see \fBPOSIX.2\fR(5), the \fBMAKEFLAGS\fR values contains a leading \fB(mi\fR
372 character. The \fBmake\fR utility then reads the command line for additional
373 options, which also take effect.
374 .sp
375 .LP
376 Next, \fBmake\fR reads in a default makefile that typically contains predefined
377 macro definitions, target entries for implicit rules, and additional rules,
378 such as the rule for retrieving \fBSCCS\fR files. If present, \fBmake\fR uses
379 the file \fBmake.rules\fR in the current directory; otherwise it reads the file
380 \fB/usr/share/lib/make/make.rules\fR, which contains the standard definitions
381 and rules. Use the directive:
382 .sp
383 .in +2
384 .nf
385 \fB#include /usr/share/lib/make/make.rules\fR
386 .fi
387 .in -2
388 .sp

390 .sp
391 .LP

```



```

392 in your local \fBmake.rules\fR file to include them.
393 .sp
394 .LP
395 Next, \fBmake\fR imports variables from the environment (unless the \fB-e\fR
396 option is in effect), and treats them as defined macros. Because \fBmake\fR
397 uses the most recent definition it encounters, a macro definition in the
398 makefile normally overrides an environment variable of the same name. When
399 \fB-e\fR is in effect, however, environment variables are read in \fBafter\fR
400 all makefiles have been read. In that case, the environment variables take
401 precedence over definitions in the makefile.
402 .sp
403 .LP
404 Next, \fBmake\fR reads any makefiles you specify with \fB-f\fR, or one of
405 \fBmakefile\fR or \fBMakefile\fR as described above and then the state file, in
406 the local directory if it exists. If the makefile contains a
407 \fB&.KEEP_STATE_FILE\fR target, then it reads the state file that follows the
408 target. Refer to special target \fB&.KEEP_STATE_FILE\fR for details.
409 .sp
410 .LP
411 Next (after reading the environment if \fB-e\fR is in effect), \fBmake\fR reads
412 in any macro definitions supplied as command line arguments. These override
413 macro definitions in the makefile and the environment both, but only for the
414 \fBmake\fR command itself.
415 .sp
416 .LP
417 \fBmake\fR exports environment variables, using the most recently defined
418 value. Macro definitions supplied on the command line are not normally
419 exported, unless the macro is also an environment variable.
420 .sp
421 .LP
422 \fBmake\fR does not export macros defined in the makefile. If an environment
423 variable is set, and a macro with the same name is defined on the command line,
424 \fBmake\fR exports its value as defined on the command line. Unless \fB-e\fR is
425 in effect, macro definitions within the makefile take precedence over those
426 imported from the environment.
427 .sp
428 .LP
429 The macros \fBMAKEFLAGS\fR, \fBMAKE\fR, \fBBSHELL\fR, \fBHOST_ARCH\fR,
430 \fBHOST_MACH\fR, and \fBTARGET_MACH\fR are special cases. See Special-Purpose
431 Macros below for details.
432 .SS "Makefile Target Entries"
433 .LP
434 A target entry has the following format:
435 .sp
436 .in +2
437 .nf
438     \fItarget\fR [\fB:\fR|\fB::\fR] [\fIdependency\fR] ... [\fB;\fR \fBcommand
439         [\fBcommand\fR]
440         ...
441     .fi
442 .in -2
443
444 .sp
445 .LP
446 The first line contains the name of a target, or a space-separated list of
447 target names, terminated with a colon or double colon. If a list of targets is
448 given, this is equivalent to having a separate entry of the same form for each
449 target. The colon(s) can be followed by a \fIdependency\fR, or a dependency
450 list. \fBmake\fR checks this list before building the target. The dependency
451 list can be terminated with a semicolon (\fB;\fR), which in turn can be
452 followed by a single Bourne shell command. Subsequent lines in the target entry
453 begin with a \fBTAB\fR and contain Bourne shell commands. These commands
454 comprise the rule for building the target.
455 .sp
456 .LP
457 Shell commands can be continued across input lines by escaping the

```

```

458 \fBNEWLINE\fR with a backslash (\fB\e\fR). The continuing line must also start
459 with a \fBTAB\fR.
460 .sp
461 .LP
462 To rebuild a target, \fBmake\fR expands macros, strips off initial \fBTAB\fR
463 characters and either executes the command directly (if it contains no shell
464 metacharacters), or passes each command line to a Bourne shell for execution.
465 .sp
466 .LP
467 The first \fInon-empty\fR line that does not begin with a \fBTAB\fR or \fB#\fR
468 begins another target or macro definition.
469 .SS "Special Characters"
470 .LP
471 Special characters are defined below.
472 .SS "\fIGlobal\fR"
473 .ne 2
474 .na
475 \fB#\fR
476 .ad
477 .RS 20n
478 Start a comment. The comment ends at the next \fBNEWLINE\fR. If the \fB#\fR
479 follows the \fBTAB\fR in a command line, that line is passed to the shell
480 (which also treats \fB#\fR as the start of a comment).
481 .RE
482
483 .sp
484 .ne 2
485 .na
486 \fB\binclude\fR \fIfilename\fR
487 .ad
488 .RS 20n
489 If the word \fBinclude\fR appears as the first seven letters of a line and is
490 followed by a \fBSPACE\fR or \fBTAB\fR, the string that follows is taken as a
491 filename to interpolate at that line. \fBinclude\fR files can be nested to a
492 depth of no more than 38 nested makefiles. If \fIfilename\fR is a macro
493 reference, it is expanded.
494 .RE
495
496 .SS "\fITargets and Dependencies\fR"
497 .ne 2
498 .na
499 \fB\fb:\fR
500 .ad
501 .sp .6
502 .RS 4n
503 Target list terminator. Words following the colon are added to the dependency
504 list for the target or targets. If a target is named in more than one
505 colon-terminated target entry, the dependencies for all its entries are added
506 to form that target's complete dependency list.
507 .RE
508
509 .sp
510 .ne 2
511 .na
512 \fB\fb::\fR
513 .ad
514 .sp .6
515 .RS 4n
516 Target terminator for alternate dependencies. When used in place of a \fB:\fR
517 the double-colon allows a target to be checked and updated with respect to
518 alternate dependency lists. When the target is out-of-date with respect to
519 dependencies listed in the first alternate, it is built according to the rule
520 for that entry. When out-of-date with respect to dependencies in another
521 alternate, it is built according to the rule in that other entry. Implicit rules
522 do not apply to double-colon targets; you must supply a rule for each entry. If
523 no dependencies are specified, the rule is always performed.

```

```

524 .RE
526 .sp
527 .ne 2
528 .na
529 \fB\fItarget\fR [\fB+\fR \fItarget\fR.\|.|\.|] \fB:\fR\fR
530 .ad
531 .sp .6
532 .RS 4n
533 Target group. The rule in the target entry builds all the indicated targets as
534 a group. It is normally performed only once per \fBmake\fR run, but is checked
535 for command dependencies every time a target in the group is encountered in the
536 dependency scan.
537 .RE

539 .sp
540 .ne 2
541 .na
542 \fB\fB%\fR\fR
543 .ad
544 .sp .6
545 .RS 4n
546 Pattern matching wild card metacharacter. Like the \fB*\fR shell wild card,
547 \fB%\fR matches any string of zero or more characters in a target name or
548 dependency, in the target portion of a conditional macro definition, or within
549 a pattern replacement macro reference. Notice that only one \fB%\fR can appear
550 in a target, dependency-name, or pattern-replacement macro reference.
551 .RE

553 .sp
554 .ne 2
555 .na
556 \fB\fB\&.\fR\fR\fIpathname\fR\fR
557 .ad
558 .sp .6
559 .RS 4n
560 \fBmake\fR ignores the leading \fB\&.\fR characters from targets with names
561 given as pathnames relative to "dot," the working directory.
562 .RE

564 .SS "\fIMacros\fR"
565 .ne 2
566 .na
567 \fB\fB=\fR\fR
568 .ad
569 .RS 9n
570 Macro definition. The word to the left of this character is the macro name;
571 words to the right comprise its value. Leading and trailing white space
572 characters are stripped from the value. A word break following the \fB=\fR is
573 implied.
574 .RE

576 .sp
577 .ne 2
578 .na
579 \fB\fB$\fR\fR
580 .ad
581 .RS 9n
582 Macro reference. The following character, or the parenthesized or bracketed
583 string, is interpreted as a macro reference: \fBmake\fR expands the reference
584 (including the \fB$\fR) by replacing it with the macro's value.
585 .RE

587 .sp
588 .ne 2
589 .na

```

```

590 \fB\fB( )\fR\fR
591 .ad
592 .br
593 .na
594 \fB\fB{ }\fR\fR
595 .ad
596 .RS 9n
597 Macro-reference name delimiters. A parenthesized or bracketed word appended to
598 a \fB$\fR is taken as the name of the macro being referred to. Without the
599 delimiters, \fBmake\fR recognizes only the first character as the macro name.
600 .RE

602 .sp
603 .ne 2
604 .na
605 \fB\fB$$\fR\fR
606 .ad
607 .RS 9n
608 A reference to the dollar-sign macro, the value of which is the character
609 \fB$\fR. Used to pass variable expressions beginning with \fB$\fR to the shell,
610 to refer to environment variables which are expanded by the shell, or to delay
611 processing of dynamic macros within the dependency list of a target, until that
612 target is actually processed.
613 .RE

615 .sp
616 .ne 2
617 .na
618 \fB\fB\e$\fR\fR
619 .ad
620 .RS 9n
621 Escaped dollar-sign character. Interpreted as a literal dollar sign within a
622 rule.
623 .RE

625 .sp
626 .ne 2
627 .na
628 \fB\fB+=\fR\fR
629 .ad
630 .RS 9n
631 When used in place of \fB=\fR, appends a string to a macro definition (must be
632 surrounded by white space, unlike \fB=\fR).
633 .RE

635 .sp
636 .ne 2
637 .na
638 \fB\fB:=\fR\fR
639 .ad
640 .RS 9n
641 Conditional macro assignment. When preceded by a list of targets with explicit
642 target entries, the macro definition that follows takes effect when processing
643 only those targets, and their dependencies.
644 .RE

646 .sp
647 .ne 2
648 .na
649 \fB\fB:sh\fR \fB=\fR\fR
650 .ad
651 .RS 9n
652 Define the value of a macro to be the output of a command (see Command
653 Substitutions below).
654 .RE

```

```

656 .sp
657 .ne 2
658 .na
659 \fB\fB:sh\fR\fR
660 .ad
661 .RS 9n
662 In a macro reference, execute the command stored in the macro, and replace the
663 reference with the output of that command (see \fBCommand Substitutions\fR
664 below).
665 .RE

667 .SS "\fIRules\fR"
668 .ne 2
669 .na
670 \fB\fB+\fR\fR
671 .ad
672 .RS 8n
673 \fBmake\fR always executes the commands preceded by a "\fB+\fR", even when
674 \fB-n\fR is specified.
675 .RE

677 .sp
678 .ne 2
679 .na
680 \fB\fB(mi\fR\fR
681 .ad
682 .RS 8n
683 \fBmake\fR ignores any nonzero error code returned by a command line for which
684 the first non-\fBTAB\fR character is a \fB(mi\fR&. This character is not
685 passed to the shell as part of the command line. \fBmake\fR normally terminates
686 when a command returns nonzero status, unless the \fB-i\fR or \fB-k\fR options,
687 or the \fB&.IGNORE:\fR special-function target is in effect.
688 .RE

690 .sp
691 .ne 2
692 .na
693 \fB\fB@\fR\fR
694 .ad
695 .RS 8n
696 If the first non-\fBTAB\fR character is a \fB@\fR, \fBmake\fR does not print
697 the command line before executing it. This character is not passed to the
698 shell.
699 .RE

701 .sp
702 .ne 2
703 .na
704 \fB\fB?\fR\fR
705 .ad
706 .RS 8n
707 Escape command-dependency checking. Command lines starting with this character
708 are not subject to command dependency checking.
709 .RE

711 .sp
712 .ne 2
713 .na
714 \fB\fB!\fR\fR
715 .ad
716 .RS 8n
717 Force command-dependency checking. Command-dependency checking is applied to
718 command lines for which it would otherwise be suppressed. This checking is
719 normally suppressed for lines that contain references to the \fB?\fR dynamic
720 macro (for example, \fB$?\fR).
721 .sp

```

```

722 When any combination of \fB+\fR, \fB(mi\fR, \fB@\fR, \fB?\fR, or \fB!\fR
723 appear as the first characters after the \fBTAB\fR, all that are present apply.
724 None are passed to the shell.
725 .RE

727 .SS "Special-Function Targets"
728 .LP
729 When incorporated in a makefile, the following target names perform
730 special-functions:
731 .sp
732 .ne 2
733 .na
734 \fB\fB&.DEFAULT:\fR\fR
735 .ad
736 .RS 23n
737 If it has an entry in the makefile, the rule for this target is used to process
738 a target when there is no other entry for it, no rule for building it, and no
739 \fBSCCS\fR history file from which to retrieve a current version. \fBmake\fR
740 ignores any dependencies for this target.
741 .RE

743 .sp
744 .ne 2
745 .na
746 \fB\fB&.DONE:\fR\fR
747 .ad
748 .RS 23n
749 If defined in the makefile, \fBmake\fR processes this target and its
750 dependencies after all other targets are built. This target is also performed
751 when \fBmake\fR halts with an error, unless the \fB&.FAILED\fR target is
752 defined.
753 .RE

755 .sp
756 .ne 2
757 .na
758 \fB\fB&.FAILED:\fR\fR
759 .ad
760 .RS 23n
761 This target, along with its dependencies, is performed instead of \fB&.DONE\fR
762 when defined in the makefile and \fBmake\fR halts with an error.
763 .RE

765 .sp
766 .ne 2
767 .na
768 \fB\fB&.GET_POSIX:\fR\fR
769 .ad
770 .RS 23n
771 This target contains the rule for retrieving the current version of an
772 \fBSCCS\fR file from its history file in the current working directory.
773 \fBmake\fR uses this rule when it is running in POSIX mode.
774 .RE

776 .sp
777 .ne 2
778 .na
779 \fB\fB&.IGNORE:\fR\fR
780 .ad
781 .RS 23n
782 Ignore errors. When this target appears in the makefile, \fBmake\fR ignores
783 non-zero error codes returned from commands. When used in POSIX mode,
784 \fB&.IGNORE\fR could be followed by target names only, for which the errors is
785 ignored.
786 .RE

```

```

788 .sp
789 .ne 2
790 .na
791 \fb\fb\&.INIT:\fr\fr
792 .ad
793 .RS 23n
794 If defined in the makefile, this target and its dependencies are built before
795 any other targets are processed.
796 .RE

798 .sp
799 .ne 2
800 .na
801 \fb\fb\&.KEEP_STATE:\fr\fr
802 .ad
803 .RS 23n
804 If this target is in effect, \fbmake\fr updates the state file,
805 \fb\&.make.state\fr, in the current directory. This target also activates
806 command dependencies, and hidden dependency checks. If either the
807 \fb\&.KEEP_STATE:\fr target appears in the makefile, or the environment
808 variable \fbKEEP_STATE\fr is set (\fbsetenv KEEP_STATE\fr), \fbmake\fr rebuilds
809 everything in order to collect dependency information, even if all the targets
810 were up to date due to previous \fbmake\fr runs. See also the Environment
811 Variables section. This target has no effect if used in POSIX mode.
812 .RE

814 .sp
815 .ne 2
816 .na
817 \fb\fb\&.KEEP_STATE_FILE:\fr\fr
818 .ad
819 .RS 23n
820 This target has no effect if used in POSIX mode. This target implies
821 \fb\&.KEEP_STATE\fr. If the target is followed by a filename, \fbmake\fr uses
822 it as the state file. If the target is followed by a directory name, \fbmake\fr
823 looks for a \fb\&.make.state\fr file in that directory. If the target is not
824 followed by any name, \fbmake\fr looks for \fb\&.make.state\fr file in the
825 current working directory.
826 .RE

828 .sp
829 .ne 2
830 .na
831 \fb\fb\&.MAKE_VERSION:\fr\fr
832 .ad
833 .RS 23n
834 A target-entry of the form:
835 .sp
836 .in +2
837 .nf
838 \&.MAKE_VERSION: VERSION\mi\fi\inumber\fr
839 .fi
840 .in -2

842 enables version checking. If the version of \fbmake\fr differs from the version
843 indicated by a string like \fbVERSION-1.0\fr, \fbmake\fr issues a warning
844 message.
845 .RE

847 .sp
848 .ne 2
849 .na
850 \fb\fb\&.NO_PARALLEL:\fr\fr
851 .ad
852 .RS 23n
853 Currently, this target has no effect, it is, however, reserved for future use.

```

```

854 .RE

856 .sp
857 .ne 2
858 .na
859 \fb\fb\&.PARALLEL:\fr\fr
860 .ad
861 .RS 23n
862 Currently of no effect, but reserved for future use.
863 .RE

865 .sp
866 .ne 2
867 .na
868 \fb\fb\&.POSIX:\fr\fr
869 .ad
870 .RS 23n
871 This target enables POSIX mode.
872 .RE

874 .sp
875 .ne 2
876 .na
877 \fb\fb\&.PRECIOUS:\fr\fr
878 .ad
879 .RS 23n
880 List of files not to delete. \fbmake\fr does not remove any of the files listed
881 as dependencies for this target when interrupted. \fbmake\fr normally removes
882 the current target when it receives an interrupt. When used in POSIX mode, if
883 the target is not followed by a list of files, all the file are assumed
884 precious.
885 .RE

887 .sp
888 .ne 2
889 .na
890 \fb\fb\&.SCCS_GET:\fr\fr
891 .ad
892 .RS 23n
893 This target contains the rule for retrieving the current version of an
894 \fbSCCS\fr file from its history file. To suppress automatic retrieval, add an
895 entry for this target with an empty rule to your makefile.
896 .RE

898 .sp
899 .ne 2
900 .na
901 \fb\fb\&.SCCS_GET_POSIX:\fr\fr
902 .ad
903 .RS 23n
904 This target contains the rule for retrieving the current version of an
905 \fbSCCS\fr file from its history file. \fbmake\fr uses this rule when it is
906 running in POSIX mode.
907 .RE

909 .sp
910 .ne 2
911 .na
912 \fb\fb\&.SILENT:\fr\fr
913 .ad
914 .RS 23n
915 Run silently. When this target appears in the makefile, \fbmake\fr does not
916 echo commands before executing them. When used in POSIX mode, it could be
917 followed by target names, and only those are executed silently.
918 .RE

```

```

920 .sp
921 .ne 2
922 .na
923 \fB\fB&.SUFFIXES:\fR\fR
924 .ad
925 .RS 23n
926 The suffixes list for selecting implicit rules (see The Suffixes List).
927 .RE

929 .sp
930 .ne 2
931 .na
932 \fB\fB&.WAIT:\fR\fR
933 .ad
934 .RS 23n
935 Currently of no effect, but reserved for future use.
936 .RE

938 .SS "\fIClearing Special Targets\fR"
939 .LP
940 In this version of \fBmake\fR, you can clear the definition of the following
941 special targets by supplying entries for them with no dependencies and no rule:
942 .sp
943 .LP
944 \fB\fB&.DEFAULT, .SCCS_GET, and .SUFFIXES\fR
945 .SS "Command Dependencies"
946 .LP
947 When the \fB\fB&.KEEP_STATE:\fR target is effective, \fBmake\fR checks the
948 command for building a target against the state file. If the command has
949 changed since the last \fBmake\fR run, \fBmake\fR rebuilds the target.
950 .SS "Hidden Dependencies"
951 .LP
952 When the \fB\fB&.KEEP_STATE:\fR target is effective, \fBmake\fR reads reports
953 from \fBccp\fR(1) and other compilation processors for any "hidden" files, such
954 as \fB#include\fR files. If the target is out of date with respect to any of
955 these files, \fBmake\fR rebuilds it.
956 .SS "Macros"
957 .LP
958 Entries of the form
959 .sp
960 .in +2
961 .nf
962 \fImacro\fR\fB=\fR\fIvalue\fR
963 .fi
964 .in -2

966 .sp
967 .LP
968 define macros. \fImacro\fR is the name of the macro, and \fIvalue\fR, which
969 consists of all characters up to a comment character or unescaped
970 \fBNEWLINE\fR, is the value. \fBmake\fR strips both leading and trailing white
971 space in accepting the value.
972 .sp
973 .LP
974 Subsequent references to the macro, of the forms: \fB${\fR\fIname\fR\fB}\fR or
975 \fB${\fR\fIname\fR\fB}\fR are replaced by \fIvalue\fR. The parentheses or
976 brackets can be omitted in a reference to a macro with a single-character name.
977 .sp
978 .LP
979 Macro references can contain references to other macros, in which case nested
980 references are expanded first.
981 .SS "\fISuffix Replacement Macro References\fR"
982 .LP
983 Substitutions within macros can be made as follows:
984 .sp
985 .in +2

```

```

986 .nf
987 \fB${\fR\fIname\fR\fB:\fR\fIstring1\fR\fB=\fR\fIstring2\fR\fB}\fR
988 .fi
989 .in -2

991 .sp
992 .LP
993 where \fIstring1\fR is either a suffix, or a word to be replaced in the macro
994 definition, and \fIstring2\fR is the replacement suffix or word. Words in a
995 macro value are separated by \fBSPACE\fR, \fBTAB\fR, and escaped \fBNEWLINE\fR
996 characters.
997 .SS "\fIPattern Replacement Macro References\fR"
998 .LP
999 Pattern matching replacements can also be applied to macros, with a reference
1000 of the form:
1001 .sp
1002 .in +2
1003 .nf
1004 \fB${\fR\fIname\fR\fB:\fR \fIop\fR\fB%\fR\fIos\fR\fB=\fR \fIinp\fR\fB%\fR\fI
1005 .fi
1006 .in -2

1008 .sp
1009 .LP
1010 where \fIop\fR is the existing (old) prefix and \fIos\fR is the existing (old)
1011 suffix, \fIinp\fR and \fIins\fR are the new prefix and new suffix, respectively,
1012 and the pattern matched by \fB%\fR (a string of zero or more characters), is
1013 carried forward from the value being replaced. For example:
1014 .sp
1015 .in +2
1016 .nf
1017 \fBPROGRAM=fabricate
1018 DEBUG= $(PROGRAM:=%/tmp/%)\fR
1019 .fi
1020 .in -2
1021 .sp

1023 .sp
1024 .LP
1025 sets the value of \fBDEBUG\fR to \fBtmp/fabricate\fR.
1026 .sp
1027 .LP
1028 Notice that pattern replacement macro references cannot be used in the
1029 dependency list of a pattern matching rule; the \fB%\fR characters are not
1030 evaluated independently. Also, any number of \fB%\fR metacharacters can appear
1031 after the equal-sign.
1032 .SS "\fIAppending to a Macro\fR"
1033 .LP
1034 Words can be appended to macro values as follows:
1035 .sp
1036 .in +2
1037 .nf
1038 \fImacro\fR \fB+=\fR \fIword .\|.|\fR
1039 .fi
1040 .in -2

1042 .SS "Special-Purpose Macros"
1043 .LP
1044 When the \fBMAKEFLAGS\fR variable is present in the environment, \fBmake\fR
1045 takes options from it, in combination with options entered on the command line.
1046 \fBmake\fR retains this combined value as the \fBMAKEFLAGS\fR macro, and
1047 exports it automatically to each command or shell it invokes.
1048 .sp
1049 .LP
1050 Notice that flags passed by way of \fBMAKEFLAGS\fR are only displayed when the
1051 \fB-d\fR, or \fB-dd\fR options are in effect.

```

```

1052 .sp
1053 .LP
1054 The \fBMAKE\fR macro is another special case. It has the value \fBmake\fR by
1055 default, and temporarily overrides the \fB-n\fR option for any line in which it
1056 is referred to. This allows nested invocations of \fBmake\fR written as:
1057 .sp
1058 .in +2
1059 .nf
1060     \fB$(MAKE)\fR .\|.\.|.
1061 .fi
1062 .in -2

1064 .sp
1065 .LP
1066 to run recursively, with the \fB-n\fR flag in effect for all commands but
1067 \fBmake\fR. This lets you use \fBmake\fR \fB-n\fR to test an entire hierarchy
1068 of makefiles.
1069 .sp
1070 .LP
1071 For compatibility with the 4.2 \fBBSD\fR \fBmake\fR, the \fBMAKEFLAGS\fR macro is
1072 set from the \fBMAKEFLAGS\fR variable by prepending a \fB-\fR&. \fBMAKEFLAGS\fR
1073 is not exported automatically.
1074 .sp
1075 .LP
1076 The \fBSHELL\fR macro, when set to a single-word value such as
1077 \fB/usr/bin/csh\fR, indicates the name of an alternate shell to use. The
1078 default is \fB/bin/sh\fR. Notice that \fBmake\fR executes commands that contain
1079 no shell metacharacters itself. Built-in commands, such as \fBdirs\fR in the C
1080 shell, are not recognized unless the command line includes a metacharacter (for
1081 instance, a semicolon). This macro is neither imported from, nor exported to
1082 the environment, regardless of \fB-e\fR. To be sure it is set properly, you
1083 must define this macro within every makefile that requires it.
1084 .sp
1085 .LP
1086 The syntax of the \fBVPPATH\fR macro is:
1087 .sp
1088 .in +2
1089 .nf
1090     \fBVPPATH\fR = [ \fIpathname\fR [ : \fIpathname\fR ] ... ]
1091 .fi
1092 .in -2

1094 .sp
1095 .LP
1096 \fBVPPATH\fR specifies a list of directories to search for the files, which are
1097 targets or dependencies, when \fBmake\fR is executed. \fBVPPATH\fR is also used
1098 in order to search for the \fBinclude\fR files mentioned in the particular
1099 makefile.
1100 .sp
1101 .LP
1102 When processing a target or a dependency or an include directive, \fBmake\fR
1103 checks the existence of the file with the same name in the current directory.
1104 If the file is found to be missing, \fBmake\fR searches for this file in the
1105 list of directories presented in \fBVPPATH\fR (like the \fBPATH\fR variable in
1106 the shell). Unlike the \fBPATH\fR variable, \fBVPPATH\fR is used in order to
1107 search for the files with relative pathnames. When \fBmake\fR attempts to apply
1108 implicit rules to the target, it also searches for the dependency files using
1109 \fBVPPATH\fR.
1110 .sp
1111 .LP
1112 When the file is found using \fBVPPATH\fR, internal macros \fB$@\fR, \fB$<\fR,
1113 \fB$?\fR, \fB$*\fR, and their alternative forms (with \fBBD\fR or \fBBF\fR
1114 appended) are set in accordance with the name derived from \fBVPPATH\fR. For
1115 instance, if the target \fBsubdir/foo.o\fR is found in the directory
1116 \fB/aaa/bbb\fR using \fBVPPATH\fR, then the value of the internal macro \fB$@\fR
1117 for this target is \fB/aaa/bbb/subdir/foo.o\fR.

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1118 .sp
1119 .LP
1120 If a target or a dependency file is found using \fBVPPATH\fR, then any
1121 occurrences of the word that is the same as the target name in the subsequent
1122 rules are replaced with the actual name of the target derived from \fBVPPATH\fR.
1123 .sp
1124 .LP
1125 For example:
1126 .sp
1127 .in +2
1128 .nf
1129 \fBVPPATH=./subdir
1130 file.o : file.c
1131     cc -c file.c -o file.o\fR
1132 .fi
1133 .in -2
1134 .sp

1136 .sp
1137 .LP
1138 If \fBfile.c\fR is found in \fB&./subdir\fR, then the command
1139 .sp
1140 .in +2
1141 .nf
1142 \fBcc -c ./subdir/file.c -o file.o\fR
1143 .fi
1144 .in -2
1145 .sp

1147 .sp
1148 .LP
1149 are executed.
1150 .sp
1151 .LP
1152 The following macros are provided for use with cross-compilation:
1153 .sp
1154 .ne 2
1155 .na
1156 \fBFBHOST_ARCH\fR
1157 .ad
1158 .RS 15n
1159 The processor type of the host system. By default, this is the output of the
1160 \fBmach\fR(1) command, prepended with \fB-\fR&. Under normal circumstances,
1161 this value should never be altered by the user.
1162 .RE

1164 .sp
1165 .ne 2
1166 .na
1167 \fBFBHOST_MACH\fR
1168 .ad
1169 .RS 15n
1170 The machine architecture of the host system. By default, this is the output of
1171 the \fBbarch\fR(1) command, prepended with \fB(mi)\fR&. Under normal
1172 circumstances, this value should never be altered by the user.
1173 .RE

1175 .sp
1176 .ne 2
1177 .na
1178 \fBFBTARGET_ARCH\fR
1179 .ad
1180 .RS 15n
1181 The processor type of the target system. By default, the output of \fBmach\fR,
1182 prepended with \fB(mi)\fR&.
1183 .RE

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```

1185 .SS "Dynamic Macros"
1186 .LP
1187 There are several dynamically maintained macros that are useful as
1188 abbreviations within rules. They are shown here as references; if you were to
1189 define them, \fbmake\fr would simply override the definition.
1190 .sp
1191 .ne 2
1192 .na
1193 \fb\fb$*\fr\fr
1194 .ad
1195 .RS 6n
1196 The basename of the current target, derived as if selected for use with an
1197 implicit rule.
1198 .RE

1200 .sp
1201 .ne 2
1202 .na
1203 \fb\fb$<\fr\fr
1204 .ad
1205 .RS 6n
1206 The name of a dependency file, derived as if selected for use with an implicit
1207 rule.
1208 .RE

1210 .sp
1211 .ne 2
1212 .na
1213 \fb\fb$@\fr\fr
1214 .ad
1215 .RS 6n
1216 The name of the current target. This is the only dynamic macro whose value is
1217 strictly determined when used in a dependency list. (In which case it takes the
1218 form \fb$$@\fr.)
1219 .RE

1221 .sp
1222 .ne 2
1223 .na
1224 \fb\fb$?\fr\fr
1225 .ad
1226 .RS 6n
1227 The list of dependencies that are newer than the target. Command-dependency
1228 checking is automatically suppressed for lines that contain this macro, just as
1229 if the command had been prefixed with a \fb?\fr. See the description of
1230 \fb?\fr, under \fbSpecial-Character\fr Rules above. You can force this check
1231 with the \fb!\fr command-line prefix.
1232 .RE

1234 .sp
1235 .ne 2
1236 .na
1237 \fb\fb$%\fr\fr
1238 .ad
1239 .RS 6n
1240 The name of the library member being processed. (See Library Maintenance
1241 below.)
1242 .RE

1244 .sp
1245 .LP
1246 To refer to the \fb$@\fr dynamic macro within a dependency list, precede the
1247 reference with an additional \fb$\fr character (as in, \fb$$@\fr). Because
1248 \fbmake\fr assigns \fb$<\fr and \fb$*\fr as it would for implicit rules
1249 (according to the suffixes list and the directory contents), they can be

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```

1250 unreliable when used within explicit target entries.
1251 .sp
1252 .LP
1253 These macros can be modified to apply either to the filename part, or the
1254 directory part of the strings they stand for, by adding an upper case \fbF\fr
1255 or \fbD\fr, respectively (and enclosing the resulting name in parentheses or
1256 braces). Thus, \fb$(@)\fr refers to the directory part of the string \fb$@\fr;
1257 if there is no directory part, \fb&.\fr is assigned. \fb$(@F)\fr refers to the
1258 filename part.
1259 .SS "Conditional Macro Definitions"
1260 .LP
1261 A macro definition of the form:
1262 .sp
1263 .in +2
1264 .nf
1265 \fitarget-list\fr \fb:=\fr \fImacro\fr \fb=\fr \fIvalue\fr
1266 .fi
1267 .in -2

1269 .sp
1270 .LP
1271 indicates that when processing any of the targets listed \fIand their
1272 dependencies\fr, \fImacro\fr is to be set to the \fIvalue\fr supplied. Notice
1273 that if a conditional macro is referred to in a dependency list, the \fb$\fr
1274 must be delayed (use \fb$$\fr instead). Also, \fitarget-list\fr can contain a
1275 \fb%\fr pattern, in which case the macro is conditionally defined for all
1276 targets encountered that match the pattern. A pattern replacement reference can
1277 be used within the \fIvalue\fr.
1278 .sp
1279 .LP
1280 You can temporarily append to a macros value with a conditional definition of
1281 the form:
1282 .sp
1283 .in +2
1284 .nf
1285 \fitarget-list\fr \fb:=\fr \fImacro\fr \fb+=\fr \fIvalue\fr
1286 .fi
1287 .in -2

1289 .SS "Predefined Macros"
1290 .LP
1291 \fbmake\fr supplies the macros shown in the table that follows for compilers
1292 and their options, host architectures, and other commands. Unless these macros
1293 are read in as environment variables, their values are not exported by
1294 \fbmake\fr. If you run \fbmake\fr with any of these set in the environment, it
1295 is a good idea to add commentary to the makefile to indicate what value each is
1296 expected to take. If \fb-r\fr is in effect, \fbmake\fr does not read the
1297 default makefile (\fb&./make.rules\fr or \fb/usr/share/lib/make/make.rules\fr)
1298 in which these macro definitions are supplied.
1299 .sp

1301 .sp
1302 .TS
1303 box;
1304 cw(1i) | cw(1.17i) | cw(3.33i)
1305 cw(1i) | cw(1.17i) | cw(3.33i) .
1306 \fITable of Predefined Macros\fr
1307 _
1308 \fIUse\fr          \fIMacro\fr          \fIDefault Value\fr
1309 _
1310 Library \fBAR\fr          \fBar\fr
1311 Archives \fBARFLAGS\fr    \fBrv\fr
1312 _
1313 _
1314 Assembler \fBAS\fr          \fBas\fr
1315 Commands \fBASFLAGS\fr

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1316      \FB_COMPILE.s\fr \FB$(AS) $(ASFLAGS)\fr
1317      \FB_COMPILE.S\fr \FB$(CC) $(ASFLAGS)\fr \fb-c\fr
1318  -
1319
1320 C      \fbcc\fr          \fbcc\fr
1321 Compiler \fbccflags\fr
1322 Commands \fbcppflags\fr
1323      \FB_COMPILE.c\fr \FB$(CC) $(CFLAGS) $(CPPFLAGS)\fr \fb-c\fr
1324      \fblink.c\fr     \FB$(CC) $(CFLAGS) $(CPPFLAGS) $(LD_FLAGS)\fr
1325  -
1326
1327 C++    \fbccc\fr        \fbcc\fr
1328 Compiler \fbccflags\fr \fbccflags\fr
1329 Commands \fbcppflags\fr
1330      \FB_COMPILE.cc\fr \FB$(CCC) $(CFLAGS) $(CPPFLAGS)\fr \fb-c\fr
1331      \fblink.cc\fr     \FB$(CCC) $(CFLAGS) $(CPPFLAGS) $(LD_FLAGS)\fr
1332      \FB_COMPILE.C\fr  \FB$(CCC) $(CFLAGS) $(CPPFLAGS)\fr \fb-c\fr
1333      \fblink.C\fr     \FB$(CCC) $(CFLAGS) $(CPPFLAGS) $(LD_FLAGS)\fr
1334  -
1335
1336 FORTRAN 77 \fbfc\fr      \fbf77\fr
1337 Compiler \fbfflags\fr
1338 Commands \fbcompile.f\fr \FB$(FC) $(FFLAGS)\fr \fb-c\fr
1339      \fblink.f\fr     \FB$(FC) $(FFLAGS) $(LD_FLAGS)\fr
1340      \FB_COMPILE.F\fr  \FB$(FC) $(FFLAGS) $(CPPFLAGS)\fr \fb-c\fr
1341      \fblink.F\fr     \FB$(FC) $(FFLAGS) $(CPPFLAGS) $(LD_FLAGS)\fr
1342  -
1343
1344 FORTRAN 90 \fbfc\fr      \fbf90\fr
1345 Compiler \fbf90flags\fr
1346 Commands \fbcompile.f90\fr \FB$(F90C) $(F90FLAGS)\fr \fb-c\fr
1347      \fblink.f90\fr   \FB$(F90C) $(F90FLAGS) $(LD_FLAGS)\fr
1348      \FB_COMPILE.ftn\fr \FB$(F90C) $(F90FLAGS) $(CPPFLAGS)\fr \fb-c\fr
1349      \fblink.ftn\fr   T{
1350 \FB$(F90C) $(F90FLAGS) $(CPPFLAGS) $(LD_FLAGS)\fr
1351 T}
1352  -
1353
1354 Link Editor \fblld\fr    \fbld\fr
1355 Command \fblldflags\fr
1356  -
1357
1358 lex      \fblex\fr      \fblex\fr
1359 Command \fblflags\fr
1360      \fblex.l\fr      \FB$(LEX) $(LFLAGS)\fr \fb-t\fr
1361  -
1362
1363 lint     \fblint\fr    \fblint\fr
1364 Command \fblintflags\fr
1365      \fblint.c\fr    \FB$(LINT) $(LINTFLAGS) $(CPPFLAGS)\fr
1366  -
1367
1368 Modula 2 \fbm2c\fr     \fbm2c\fr
1369 Commands \fbm2flags\fr
1370      \fbmodflags\fr
1371      \fbdeflflags\fr
1372      \FB_COMPILE.def\fr \FB$(M2C) $(M2FLAGS) $(DEF_FLAGS)\fr
1373      \FB_COMPILE.mod\fr \FB$(M2C) $(M2FLAGS) $(MOD_FLAGS)\fr
1374  -
1375
1376 Pascal  \fbpc\fr       \fbpc\fr
1377 Compiler \fbpflags\fr
1378 Commands \fbcompile.p\fr \FB$(PC) $(PFLAGS) $(CPPFLAGS)\fr \fb-c\fr
1379      \fblink.p\fr     \FB$(PC) $(PFLAGS) $(CPPFLAGS) $(LD_FLAGS)\fr
1380  -
1381

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```

1382 Ratfor  \fbrflags\fr
1383 Compilation \fbcompile.r\fr \FB$(FC) $(FFLAGS) $(RFLAGS)\fr \fb-c\fr
1384 Commands \fblink.r\fr     \FB$(FC) $(FFLAGS) $(RFLAGS) $(LD_FLAGS)\fr
1385  -
1386
1387 rm Command \fbrm\fr       \fbrm\fr \fb-f\fr
1388  -
1389
1390 sccs    \fbccsflags\fr
1391 Command \fbccsgetflags\fr \fb-s\fr
1392  -
1393
1394 yacc    \fbyacc\fr      \fbyacc\fr
1395 Command \fbyflags\fr
1396      \fbyacc.y\fr      \FB$(YACC) $(YFLAGS)\fr
1397  -
1398
1399 Suffixes List \fbsuffixes\fr T{
1400 \fb&.o .c .c~ .cc .cc~ .y .y~ .l .l~ .s .s~ .sh .sh~ .S .S~ .ln .h .h~ .f .f~ .
1401 T}
1402 .TE
1403  -
1404 .SS "Implicit Rules"
1405 .LP
1406 When a target has no entry in the makefile, \fbmake\fr attempts to determine
1407 its class (if any) and apply the rule for that class. An implicit rule
1408 describes how to build any target of a given class, from an associated
1409 dependency file. The class of a target can be determined either by a pattern,
1410 or by a suffix; the corresponding dependency file (with the same basename) from
1411 which such a target might be built. In addition to a predefined set of implicit
1412 rules, \fbmake\fr allows you to define your own, either by pattern, or by
1413 suffix.
1414 .SS "\fipattern Matching Rules\fr"
1415 .LP
1416 A target entry of the form:
1417 .sp
1418 .in +2
1419 .nf
1420 \fIt\fr\fb%\fr\fi\fr:\|\fId\fr\fb%\fr\fi\fr
1421 \fIrule\fr
1422 .fi
1423 .in -2
1424 .sp
1425  -
1426 .sp
1427 .LP
1428 is a pattern matching rule, in which \fIt\fr is a target prefix, \fi\fr is a
1429 target suffix, \fId\fr is a dependency prefix, and \fi\fr is a dependency
1430 suffix (any of which can be null). The \fb%\fr stands for a basename of zero or
1431 more characters that is matched in the target, and is used to construct the
1432 name of a dependency. When \fbmake\fr encounters a match in its search for an
1433 implicit rule, it uses the rule in that target entry to build the target from
1434 the dependency file. Pattern-matching implicit rules typically make use of the
1435 \fb$@\fr and \fb$<\fr dynamic macros as placeholders for the target and
1436 dependency names. Other, regular dependencies can occur in the dependency list;
1437 however, none of the regular dependencies can contain \fb%\fr. An entry of the
1438 form:
1439 .sp
1440 .in +2
1441 .nf
1442 \fIt\fr\fb%\fi\fr:\|[\fIdependency .\|\.\|\fr\|\] \fId\fr\fb%\fi\fr\|[\fIdependen
1443 \fIrule\fr
1444 .fi
1445 .in -2
1446 .sp

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1448 .sp
1449 .LP
1450 is a valid pattern matching rule.
1451 .SS "\fISuffix Rules\fR"
1452 .LP
1453 When no pattern matching rule applies, \fBmake\fR checks the target name to see
1454 if it ends with a suffix in the known suffixes list. If so, \fBmake\fR checks
1455 for any suffix rules, as well as a dependency file with same root and another
1456 recognized suffix, from which to build it.
1457 .sp
1458 .LP
1459 The target entry for a suffix rule takes the form:
1460 .sp
1461 .in +2
1462 .nf
1463 \fIDsTs\fR: \fIrule\fR
1464 .fi
1465 .in -2
1466 .sp

1468 .sp
1469 .LP
1470 where \fITs\fR is the suffix of the target, \fIDs\fR is the suffix of the
1471 dependency file, and \fIrule\fR is the rule for building a target in the class.
1472 Both \fIDs\fR and \fITs\fR must appear in the suffixes list. (A suffix need not
1473 begin with a \fB&.\fR to be recognized.)
1474 .sp
1475 .LP
1476 A suffix rule with only one suffix describes how to build a target having a
1477 null (or no) suffix from a dependency file with the indicated suffix. For
1478 instance, the \fB&.c\fR rule could be used to build an executable program
1479 named \fBfile\fR from a C source file named \fBfile.c\fR. If a target with a
1480 null suffix has an explicit dependency, \fBmake\fR omits the search for a
1481 suffix rule.
1482 .sp

1484 .sp
1485 .TS
1486 box;
1487 cw(1.57i) |cw(3.93i)
1488 cw(1.57i) |cw(3.93i) .
1489 T{
1490 \fITable of Standard Implicit (Suffix) Rules for Assembly Files\fR
1491 T}
1492 -
1493 \fIImplicit Rule Name\fR          \fICommand Line\fR
1494 -
1495 \fB&.s.o\fR          \fB$(COMPILE.s)\fR \fB-o\fR \fB$@ $<\fR
1496 -
1497 \fB&.s.a\fR          \fB$(COMPILE.s)\fR \fB-o\fR \fB$% $<\fR
1498          \fB$(AR) $(ARFLAGS) $@ $%\fR
1499          \fB$(RM) $%\fR
1500 -
1501 \fB&.s~.o\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.s\fR
1502          \fB$(COMPILE.s)\fR \fB-o\fR \fB$@ $*.s\fR
1503 -
1504 \fB&.S.o\fR          \fB$(COMPILE.S)\fR \fB-o\fR \fB$@ $<\fR
1505 -
1506 \fB&.S.a\fR          \fB$(COMPILE.S)\fR \fB-o\fR \fB$% $<\fR
1507          \fB$(AR) $(ARFLAGS) $@ $%\fR
1508          \fB$(RM) $%\fR
1509 -
1510 \fB&.S~.a\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.s\fR
1511          \fB$(COMPILE.S)\fR \fB-o\fR \fB$% $*.s\fR
1512          \fB$(AR) $(ARFLAGS) $@ $%\fR
1513          \fB$(RM) $%\fR
1513 -

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1514
1515 \fB&.S~.o\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.s\fR
1516          \fB$(COMPILE.S)\fR \fB-o\fR \fB$@ $*.s\fR
1517 -
1518 \fB&.S~.a\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.s\fR
1519          \fB$(COMPILE.S)\fR \fB-o\fR \fB$% $*.s\fR
1520          \fB$(AR) $(ARFLAGS) $@ $%\fR
1521          \fB$(RM) $%\fR
1522          \fB$(RM) $%\fR
1523 .TE

1525 .sp

1527 .sp
1528 .TS
1529 box;
1530 cw(1.57i) |cw(3.93i)
1531 cw(1.57i) |cw(3.93i) .
1532 T{
1533 \fITable of Standard Implicit (Suffix) Rules for C Files\fR
1534 T}
1535 -
1536 \fIImplicit Rule Name\fR          \fICommand Line\fR
1537 -
1538 \fB&.c\fR          \fB$(LINK.c)\fR \fB-o\fR \fB$@ $< $(LDLIBS)\fR
1539 -
1540 \fB&.c.ln\fR          \fB$(LINT.c) $(OUTPUT_OPTION)\fR \fB-i\fR \fB$<\fR
1541 -
1542 \fB&.c.o\fR          \fB$(COMPILE.c) $(OUTPUT_OPTION) $<\fR
1543 -
1544 \fB&.c.a\fR          \fB$(COMPILE.c)\fR \fB-o\fR \fB$% $<\fR
1545          \fB$(AR) $(ARFLAGS) $@ $%\fR
1546          \fB$(RM) $%\fR
1547 -
1548 \fB&.c~\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.c\fR
1549          \fB$(CC) $(CFLAGS) $(LDFLAGS)\fR \fB-o\fR \fB$@ $*.c\fR
1550 -
1551 \fB&.c~.o\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.c\fR
1552          \fB$(CC) $(CFLAGS)\fR \fB-c\fR \fB$*.*\fR
1553 -
1554 \fB&.c~.ln\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.c\fR
1555          \fB$(LINT.c) $(OUTPUT_OPTION)\fR \fB-c\fR \fB$*.*\fR
1556 -
1557 \fB&.c~.a\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.c\fR
1558          \fB$(COMPILE.c)\fR \fB-o\fR \fB$% $*.c\fR
1559          \fB$(AR) $(ARFLAGS) $@ $%\fR
1560          \fB$(RM) $%\fR
1561          \fB$(RM) $%\fR
1562 .TE

1563 \fB&.c~.a\fR          \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.c\fR
1564          \fB$(COMPILE.c)\fR \fB-o\fR \fB$% $*.c\fR
1565          \fB$(AR) $(ARFLAGS) $@ $%\fR
1566          \fB$(RM) $%\fR
1567          \fB$(RM) $%\fR
1568 .TE

1570 .sp

1572 .sp
1573 .TS
1574 box;
1575 cw(1.57i) |cw(3.93i)
1576 cw(1.57i) |cw(3.93i) .
1577 T{
1578 \fITable of Standard Implicit (Suffix) Rules for C++ Files\fR
1579 T}

```

```

1580 _
1581 \fIImplicit Rule Name\fR          \fICommand Line\fR
1582 _
1583 \fb\&.cc\fR          \fb$(LINK.cc)\fR \fb-o\fR \fb$@ $< $(LDLIBS)\fR
1584 _
1585
1586 \fb\&.cc.o\fR        \fb$(COMPILE.cc) $(OUTPUT_OPTION) $<\fR
1587 _
1588
1589 \fb\&.cc.a\fR        \fb$(COMPILE.cc)\fR \fb-o\fR \fb$% $<\fR
1590          \fb$(AR) $(ARFLAGS) $@ %%\fR
1591          \fb$(RM) %%\fR
1592 _
1593
1594 \fb\&.cc~\fR         \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.cc\fR
1595          \fb$(LINK.cc)\fR \fb-o\fR \fb$@ $*.cc $(LDLIBS)\fR
1596 _
1597
1598 \fb\&.cc.o\fR        \fb$(COMPILE.cc) $(OUTPUT_OPTION) $<\fR
1599 _
1600
1601 \fb\&.cc~.o\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.cc\fR
1602          \fb$(COMPILE.cc) $(OUTPUT_OPTION) $*.cc\fR
1603 _
1604
1605 \fb\&.cc.a\fR        \fb$(COMPILE.cc)\fR \fb-o\fR \fb$% $<\fR
1606          \fb$(AR) $(ARFLAGS) $@ %%\fR
1607          \fb$(RM) %%\fR
1608 _
1609
1610 \fb\&.cc~.a\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.cc\fR
1611          \fb$(COMPILE.cc)\fR \fb-o\fR \fb$% $*.cc\fR
1612          \fb$(AR) $(ARFLAGS) $@ %%\fR
1613          \fb$(RM) %%\fR
1614 _
1615
1616 \fb\&.C\fR           \fb$(LINK.C)\fR \fb-o\fR \fb$@ $< $(LDLIBS)\fR
1617 _
1618
1619 \fb\&.C~\fR          \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.C\fR
1620          \fb$(LINK.C)\fR \fb-o\fR \fb$@ $*.C $(LDLIBS)\fR
1621 _
1622
1623 \fb\&.C.o\fR         \fb$(COMPILE.C) $(OUTPUT_OPTION) $<\fR
1624 _
1625
1626 \fb\&.C~.o\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.C\fR
1627          \fb$(COMPILE.C) $(OUTPUT_OPTION) $*.C\fR
1628 _
1629
1630 \fb\&.C.a\fR         \fb$(COMPILE.C)\fR \fb-o\fR \fb$% $<\fR
1631          \fb$(AR) $(ARFLAGS) $@ %%\fR
1632          \fb$(RM) %%\fR
1633 _
1634
1635 \fb\&.C~.a\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.C\fR
1636          \fb$(COMPILE.C)\fR \fb-o\fR \fb$% $*.C\fR
1637          \fb$(AR) $(ARFLAGS) $@ %%\fR
1638          \fb$(RM) %%\fR
1639 .TE

```

```

1641 .sp
1643 .sp
1644 .TS
1645 box;

```

```

1646 cw(1.57i) |cw(3.93i)
1647 cw(1.57i) |cw(3.93i) .
1648 T{
1649 \fITable of Standard Implicit (Suffix) Rules for FORTRAN 77 Files\fR
1650 T}
1651 _
1652 \fIImplicit Rule Name\fR          \fICommand Line\fR
1653 _
1654 \fb\&.f\fR          \fb$(LINK.f)\fR \fb-o\fR \fb$@ $< $(LDLIBS)\fR
1655 _
1656
1657 \fb\&.f.o\fR        \fb$(COMPILE.f) $(OUTPUT_OPTION) $<\fR
1658 _
1659
1660 \fb\&.f.a\fR        \fb$(COMPILE.f)\fR \fb-o\fR \fb$% $<\fR
1661          \fb$(AR) $(ARFLAGS) $@ %%\fR
1662          \fb$(RM) %%\fR
1663 _
1664
1665 \fb\&.f~\fR         \fb$(LINK.f)\fR \fb-o\fR \fb$@ $< $(LDLIBS)\fR
1666 _
1667
1668 \fb\&.f~\fR         \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.f\fR
1669          \fb$(FC) $(FFLAGS) $(LDFFLAGS)\fR \fb-o\fR \fb$@ $*.f\fR
1670 _
1671
1672 \fb\&.f~.o\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.f\fR
1673          \fb$(FC) $(FFLAGS)\fR \fb-c\fR \fb$*.f\fR
1674 _
1675
1676 \fb\&.f~.a\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.f\fR
1677          \fb$(COMPILE.f)\fR \fb-o\fR \fb$% $*.f\fR
1678          \fb$(AR) $(ARFLAGS) $@ %%\fR
1679          \fb$(RM) %%\fR
1680 _
1681
1682 \fb\&.F\fR           \fb$(LINK.F)\fR \fb-o\fR \fb$@ $< $(LDLIBS)\fR
1683 _
1684
1685 \fb\&.F.o\fR        \fb$(COMPILE.F) $(OUTPUT_OPTION) $<\fR
1686 _
1687
1688 \fb\&.F.a\fR        \fb$(COMPILE.F)\fR \fb-o\fR \fb$% $<\fR
1689          \fb$(AR) $(ARFLAGS) $@ %%\fR
1690          \fb$(RM) %%\fR
1691 _
1692
1693 \fb\&.F~\fR          \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.F\fR
1694          \fb$(FC) $(FFLAGS) $(LDFFLAGS)\fR \fb-o\fR \fb$@ $*.F\fR
1695 _
1696
1697 \fb\&.F~.o\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.F\fR
1698          \fb$(FC) $(FFLAGS)\fR \fb-c\fR \fb$*.F\fR
1699 _
1700
1701 \fb\&.F~.a\fR       \fb$(GET) $(GFLAGS)\fR \fb-p\fR \fb$< > $*.F\fR
1702          \fb$(COMPILE.F)\fR \fb-o\fR \fb$% $*.F\fR
1703          \fb$(AR) $(ARFLAGS) $@ %%\fR
1704          \fb$(RM) %%\fR
1705 .TE

```

```

1707 .sp
1709 .sp
1710 .TS
1711 box;

```

```

1712 cw(1.57i) |cw(3.93i)
1713 cw(1.57i) |cw(3.93i) .
1714 T{
1715 \fITable of Standard Implicit (Suffix) Rules for FORTRAN 90 Files\fr
1716 T}
1717 -
1718 \fIImplicit Rule Name\fr          \fICommand Line\fr
1719 -
1720 \fb\&.f90\fr          \fb$(LINK.f90)\fr \fb-o\fr \fb$@ $< $(LDLIBS)\fr
1721 -
1722 -
1723 \fb\&.f90-\fr          \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.f90\fr
1724          \fb$(LINK.f90)\fr \fb-o\fr \fb$@ $*.f90 $(LDLIBS)\fr
1725 -
1726 -
1727 \fb\&.f90.o\fr          \fb$(COMPILE.f90) $(OUTPUT_OPTION) $<\fr
1728 -
1729 -
1730 \fb\&.f90~.o\fr \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.f90\fr
1731          \fb$(COMPILE.f90) $(OUTPUT_OPTION) $*.f90\fr
1732 -
1733 -
1734 \fb\&.f90.a\fr          \fb$(COMPILE.f90)\fr \fb-o\fr \fb$% $<\fr
1735          \fb$(AR) $(ARFLAGS) @$ %\fr
1736          \fb$(RM) %%\fr
1737 -
1738 -
1739 \fb\&.f90~.a\fr \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.f90\fr
1740          \fb$(COMPILE.f90)\fr \fb-o\fr \fb$% $*.f90\fr
1741          \fb$(AR) $(ARFLAGS) @$ %\fr
1742          \fb$(RM) %%\fr
1743 -
1744 -
1745 \fb\&.ftn\fr          \fb$(LINK.ftn)\fr \fb-o\fr \fb$@ $< $(LDLIBS)\fr
1746 -
1747 -
1748 \fb\&.ftn-\fr          \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.ftn\fr
1749          \fb$(LINK.ftn)\fr \fb-o\fr \fb$@ $*.ftn $(LDLIBS)\fr
1750 -
1751 -
1752 \fb\&.ftn.o\fr          \fb$(COMPILE.ftn) $(OUTPUT_OPTION) $<\fr
1753 -
1754 -
1755 \fb\&.ftn~.o\fr \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.ftn\fr
1756          \fb$(COMPILE.ftn) $(OUTPUT_OPTION) $*.ftn\fr
1757 -
1758 -
1759 \fb\&.ftn.a\fr          \fb$(COMPILE.ftn)\fr \fb-o\fr \fb$% $<\fr
1760          \fb$(AR) $(ARFLAGS) @$ %\fr
1761          \fb$(RM) %%\fr
1762 -
1763 -
1764 \fb\&.ftn~.a\fr \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.ftn\fr
1765          \fb$(COMPILE.ftn)\fr \fb-o\fr \fb$% $*.ftn\fr
1766          \fb$(AR) $(ARFLAGS) @$ %\fr
1767          \fb$(RM) %%\fr
1768 .TE
1770 .sp
1772 .sp
1773 .TS
1774 box;
1775 cw(1.57i) |cw(3.93i)
1776 cw(1.57i) |cw(3.93i) .
1777 T{

```

```

1778 \fITable of Standard Implicit (Suffix) Rules for lex Files\fr
1779 T}
1780 -
1781 \fIImplicit Rule Name\fr          \fICommand Line\fr
1782 -
1783 \fb\&.l\fr          \fb$(RM) $*.c\fr
1784          \fb$(LEX.l) $< > $*.c\fr
1785          \fb$(LINK.c)\fr \fb-o\fr \fb$@ $*.c $(LDLIBS)\fr
1786          \fb$(RM) $*.c\fr
1787 -
1788 -
1789 \fb\&.l.c\fr          \fb$(RM) $@\fr
1790          \fb$(LEX.l) $< > $@\fr
1791 -
1792 -
1793 \fb\&.l.ln\fr          \fb$(RM) $*.c\fr
1794          \fb$(LEX.l) $< > $*.c\fr
1795          \fb$(LINT.c)\fr \fb-o\fr \fb$@\fr \fb-i\fr \fb$*.c\fr
1796          \fb$(RM) $*.c\fr
1797 -
1798 -
1799 \fb\&.l.o\fr          \fb$(RM) $*.c\fr
1800          \fb$(LEX.l) $< > $*.c\fr
1801          \fb$(COMPILE.c)\fr \fb-o\fr \fb$@ $*.c\fr
1802          \fb$(RM) $*.c\fr
1803 -
1804 -
1805 \fb\&.l~\fr          \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.l\fr
1806          \fb$(LEX) $(LFLAGS) $*.l\fr
1807          \fb$(CC) $(CFLAGS)\fr \fb-c\fr \fblex.yy.c\fr
1808          \fbrm\fr \fb-f\fr \fblex.yy.c\fr
1809          \fbmv lex.yy.c $@\fr
1810 -
1811 -
1812 \fb\&.l~.c\fr          \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.l\fr
1813          \fb$(LEX) $(LFLAGS) $*.l\fr
1814          \fbmv lex.yy.c $@\fr
1815 -
1816 -
1817 \fb\&.l~.ln\fr          \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.l\fr
1818          \fb$(RM) $*.c\fr
1819          \fb$(LEX.l) $*.l > $*.c\fr
1820          \fb$(LINT.c)\fr \fb-o\fr \fb$@\fr \fb-i\fr \fb$*.c\fr
1821          \fb$(RM) $*.c\fr
1822 -
1823 -
1824 \fb\&.l~.o\fr          \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.l\fr
1825          \fb$(LEX) $(LFLAGS) $*.l\fr
1826          \fb$(CC) $(CFLAGS)\fr \fb-c\fr \fblex.yy.c\fr
1827          \fbrm\fr \fb-f\fr \fblex.yy.c\fr
1828          \fbmv lex.yy.c $@\fr
1829 .TE
1831 .sp
1833 .sp
1834 .TS
1835 box;
1836 cw(1.57i) |cw(3.93i)
1837 cw(1.57i) |cw(3.93i) .
1838 T{
1839 \fITable of Standard Implicit (Suffix) Rules for Modula 2 Files\fr
1840 T}
1841 -
1842 \fIImplicit Rule Name\fr          \fICommand Line\fr
1843 -

```

```

1844 \fb\&.mod\fr      \fb$(COMPILE.mod)\fr \fb-o\fr \fb$\fr \fb-e\fr \fb$@ $<\fr
1845 -
1846
1847 \fb\&.mod.o\fr     \fb$(COMPILE.mod)\fr \fb-o\fr \fb$@ $<\fr
1848 -
1849
1850 \fb\&.def.sym\fr   \fb$(COMPILE.def)\fr \fb-o\fr \fb$@ $<\fr
1851 -
1852
1853 \fb\&.def-.sym\fr  \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.def\fr
1854 \fb$(COMPILE.def)\fr \fb-o\fr\fb$@ $*.def\fr
1855 -
1856
1857 \fb\&.mod-\fr      \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.mod\fr
1858 \fb$(COMPILE.mod)\fr \fb-o\fr \fb$@\fr \fb-e\fr \fb$@ $*.mod\fr
1859 -
1860
1861 \fb\&.mod-.o\fr    \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.mod\fr
1862 \fb$(COMPILE.mod)\fr \fb-o\fr \fb$@ $*.mod\fr
1863 -
1864
1865 \fb\&.mod-.a\fr    \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.mod\fr
1866 \fb$(COMPILE.mod)\fr \fb-o\fr \fb$% $*.mod\fr
1867 \fb$(AR) $(ARFLAGS) @$ %%\fr
1868 \fb$(RM) %%\fr
1869 .TE

1871 .sp

1873 .sp
1874 .TS
1875 box;
1876 cw(1.57i) |cw(3.93i)
1877 cw(1.57i) |cw(3.93i) .
1878 T{
1879 \fiTable of Standard Implicit (Suffix) Rules for NeWS Files\fr
1880 T}
1881 -
1882 \fiImplicit Rule Name\fr      \fiCommand Line\fr
1883 -
1884 \fb\&.cps.h\fr   \fbcps $*.cps\fr
1885 -
1886 \fb\&.cps~.h\fr  \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.cps\fr
1887 \fb$(CPS) $(CPSFLAGS) $*.cps\fr
1888 .TE

1890 .sp

1892 .sp
1893 .TS
1894 box;
1895 cw(1.57i) |cw(3.93i)
1896 cw(1.57i) |cw(3.93i) .
1897 T{
1898 \fiTable of Standard Implicit (Suffix) Rules for Pascal Files\fr
1899 T}
1900 -
1901 \fiImplicit Rule Name\fr      \fiCommand Line\fr
1902 -
1903 \fb\&.p\fr       \fb$(LINK.p)\fr \fb-o\fr \fb$@ $< $(LDLIBS)\fr
1904 -
1905
1906 \fb\&.p.o\fr     \fb$(COMPILE.p) $(OUTPUT_OPTION) $<\fr
1907 -
1908
1909 \fb\&.p-\fr      \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.p\fr

```

```

1910 \fb$(LINK.p)\fr \fb-o\fr \fb$@ $*.p $(LDLIBS)\fr
1911 -
1912
1913 \fb\&.p~.o\fr     \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.p\fr
1914 \fb$(COMPILE.p) $(OUTPUT_OPTION) $*.p\fr
1915 -
1916
1917 \fb\&.p~.a\fr     \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.p\fr
1918 \fb$(COMPILE.p)\fr \fb-o\fr \fb$% $*.p\fr
1919 \fb$(AR) $(ARFLAGS) @$ %%\fr
1920 \fb$(RM) %%\fr
1921 .TE

1923 .sp

1925 .sp
1926 .TS
1927 box;
1928 cw(1.57i) |cw(3.93i)
1929 cw(1.57i) |cw(3.93i) .
1930 T{
1931 \fiTable of Standard Implicit (Suffix) Rules for Ratfor Files\fr
1932 T}
1933 -
1934 \fiImplicit Rule Name\fr      \fiCommand Line\fr
1935 -
1936 \fb\&.r\fr       \fb$(LINK.r)\fr \fb-o\fr \fb$@ $< $(LDLIBS)\fr
1937 -
1938
1939 \fb\&.r.o\fr     \fb$(COMPILE.r) $(OUTPUT_OPTION) $<\fr
1940 -
1941
1942 \fb\&.r.a\fr     \fb$(COMPILE.r)\fr \fb-o\fr \fb$% $<\fr
1943 \fb$(AR) $(ARFLAGS) @$ %%\fr
1944 \fb$(RM) %%\fr
1945 -
1946
1947 \fb\&.r-\fr      \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.r\fr
1948 \fb$(LINK.r)\fr \fb-o\fr \fb$@ $*.r $(LDLIBS)\fr
1949 -
1950
1951 \fb\&.r~.o\fr    \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.r\fr
1952 \fb$(COMPILE.r) $(OUTPUT_OPTION) $*.r\fr
1953 -
1954
1955 \fb\&.r~.a\fr    \fb$(GET) $(GFLAGS)\fr \fb-p\fr \fb$< > $*.r\fr
1956 \fb$(COMPILE.r)\fr \fb-o\fr \fb$% $*.r\fr
1957 \fb$(AR) $(ARFLAGS) @$ %%\fr
1958 \fb$(RM) %%\fr
1959 .TE

1961 .sp

1963 .sp
1964 .TS
1965 box;
1966 cw(1.57i) |cw(3.93i)
1967 cw(1.57i) |cw(3.93i) .
1968 T{
1969 \fiTable of Standard Implicit (Suffix) Rules for SCCS Files\fr
1970 T}
1971 -
1972 \fiImplicit Rule Name\fr      \fiCommand Line\fr
1973 -
1974 \fb\&.SCCS_GET\fr      T{
1975 \fb$ccs $(SCCSFLAGS) get $(SCCSGETFLAGS) @$\fr \fb-g\fr\fb$@\fr

```

```

1976 T}
1977
1978 -
1979
1980 \fB\&.SCCS_GET_POSIX\fR \fBscs $(SCCSFLAGS) get $(SCCSGETFLAGS) $@\fR
1981 -
1982
1983 \fB\&.GET_POSIX\fR \fB$(GET) $(GFLAGS) s.$@\fR
1984 .TE

1986 .sp

1988 .sp
1989 .TS
1990 box;
1991 cw(1.57i) |cw(3.93i)
1992 cw(1.57i) |cw(3.93i) .
1993 T{
1994 \fITable of Standard Implicit (Suffix) Rules for Shell Scripts\fR
1995 T}
1996 -
1997 \fIImplicit Rule Name\fR \fICommand Line\fR
1998
1999 \fB\&.sh\fR \fBcat $< >.$@\fR
2000 \fBchmod +x $.$@\fR
2001 -
2002
2003 \fB\&.sh~\fR \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.sh\fR
2004 \fBcp $*.sh $.$@\fR
2005 \fBchmod a+x $.$@\fR
2006 .TE

2008 .sp

2010 .sp
2011 .TS
2012 box;
2013 cw(1.57i) |cw(3.93i)
2014 cw(1.57i) |cw(3.93i) .
2015 T{
2016 \fITable of Standard Implicit (Suffix) Rules for yacc Files\fR
2017 T}
2018 -
2019 \fIImplicit Rule Name\fR \fICommand Line\fR
2020
2021 \fB\&.y\fR \fB$(YACC.y) $<\fR
2022 \fB$(LINK.c)\fR \fB-o\fR \fB$@ y.tab.c $(LDLIBS)\fR
2023 \fB$(RM) y.tab.c\fR
2024 -
2025
2026 \fB\&.y.c\fR \fB$(YACC.y) $<\fR
2027 \fBmv y.tab.c $.$@\fR
2028 -
2029
2030 \fB\&.y.ln\fR \fB$(YACC.y) $<\fR
2031 \fB$(LINT.c)\fR \fB-o\fR \fB$@\fR \fB-i\fR \fBBy.tab.c\fR
2032 \fB$(RM) y.tab.c\fR
2033 -
2034
2035 \fB\&.y.o\fR \fB$(YACC.y) $<\fR
2036 \fB$(COMPILE.c)\fR \fB-o\fR \fB$@ y.tab.c\fR
2037 \fB$(RM) y.tab.c\fR
2038 -
2039
2040 \fB\&.y~\fR \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.y\fR
2041 \fB$(YACC) $(YFLAGS) $*.y\fR

```

```

2042 \fB$(COMPILE.c)\fR \fB-o\fR \fB$@ y.tab.c\fR
2043 \fB$(RM) y.tab.c\fR
2044 -
2045
2046 \fB\&.y~.c\fR \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.y\fR
2047 \fB$(YACC) $(YFLAGS) $*.y\fR
2048 \fBmv y.tab.c $.$@\fR
2049 -
2050
2051 \fB\&.y~.ln\fR \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.y\fR
2052 \fB$(YACC.y) $*.y\fR
2053 \fB$(LINT.c)\fR \fB-o\fR \fB$@\fR \fB-i\fR \fBBy.tab.c\fR
2054 \fB$(RM) y.tab.c\fR
2055 -
2056
2057 \fB\&.y~.o\fR \fB$(GET) $(GFLAGS)\fR \fB-p\fR \fB$< > $*.y\fR
2058 \fB$(YACC) $(YFLAGS) $*.y\fR
2059 \fB$(CC) $(CFLAGS)\fR \fB-c\fR \fBBy.tab.c\fR
2060 \fBBrm\fR \fB-f\fR \fBBy.tab.c\fR
2061 \fBmv y.tab.o $.$@\fR
2062 .TE

2064 .sp
2065 .LP
2066 \fBmake\fR reads in the standard set of implicit rules from the file
2067 \fB/usr/share/lib/make/make.rules\fR, unless \fB-r\fR is in effect, or there is
2068 a \fBmake.rules\fR file in the local directory that does not \fB#include\fR that
2069 file.
2070 .SS "The Suffixes List"
2071 .LP
2072 The suffixes list is given as the list of dependencies for the
2073 \fB\&.SUFFIXES:\fR special-function target. The default list is contained in
2074 the \fBSUFFIXES\fR macro (See \fITable of Predefined Macros\fR for the standard
2075 list of suffixes). You can define additional \fB\&.SUFFIXES:\fR targets; a
2076 \fB\&.SUFFIXES\fR target with no dependencies clears the list of suffixes.
2077 Order is significant within the list; \fBmake\fR selects a rule that
2078 corresponds to the target's suffix and the first dependency-file suffix found
2079 in the list. To place suffixes at the head of the list, clear the list and
2080 replace it with the new suffixes, followed by the default list:
2081 .sp
2082 .in +2
2083 .nf
2084 .SUFFIXES:
2085 .SUFFIXES: \fIsuffixes\fR $(SUFFIXES)
2086 .fi
2087 .in -2

2089 .sp
2090 .LP
2091 A tilde (\fB~\fR) indicates that if a dependency file with the indicated suffix
2092 (minus the ~) is under \fBSCCS\fR its most recent version should be retrieved,
2093 if necessary, before the target is processed.
2094 .SS "Library Maintenance"
2095 .LP
2096 A target name of the form:
2097 .sp
2098 .in +2
2099 .nf
2100 \fIlib\fR(\fImember ... \fR)
2101 .fi
2102 .in -2

2104 .sp
2105 .LP
2106 refers to a member, or a space-separated list of members, in an \fBBar\fR(1)
2107 library.

```

```

2108 .sp
2109 .LP
2110 The dependency of the library member on the corresponding file must be given as
2111 an explicit entry in the makefile. This can be handled by a pattern matching
2112 rule of the form:
2113 .sp
2114 .in +2
2115 .nf
2116     \fIlib\fR(%\fI&.s\fR): %\fI&.s\fR
2117 .fi
2118 .in -2

2120 .sp
2121 .LP
2122 where \fI&.s\fR is the suffix of the member; this suffix is typically
2123 \fB\&.o\fR for object libraries.
2124 .sp
2125 .LP
2126 A target name of the form:
2127 .sp
2128 .in +2
2129 .nf
2130     \fIlib\fR((\fIsymbol\fR))
2131 .fi
2132 .in -2

2134 .sp
2135 .LP
2136 refers to the member of a randomized object library that defines the entry
2137 point named \fIsymbol\fR.
2138 .SS "Command Execution"
2139 .LP
2140 Command lines are executed one at a time, \fIeach by its own process or
2141 shell\fR. Shell commands, notably \fBcd\fR, are ineffectual across an unescaped
2142 \fBNEWLINE\fR in the makefile. A line is printed (after macro expansion) just
2143 before being executed. This is suppressed if it starts with a \fB@\fR, if there
2144 is a \fB&.SILENT:\fR entry in the makefile, or if \fBmake\fR is run with the
2145 \fB-s\fR option. Although the \fB-n\fR option specifies printing without
2146 execution, lines containing the macro \fB$(MAKE)\fR are executed regardless,
2147 and lines containing the \fB@\fR special character are printed. The \fB-t\fR
2148 (touch) option updates the modification date of a file without executing any
2149 rules. This can be dangerous when sources are maintained by more than one
2150 person.
2151 .sp
2152 .LP
2153 \fBmake\fR invokes the shell with the \fB-e\fR (exit-on-errors) argument. Thus,
2154 with semicolon-separated command sequences, execution of the later commands
2155 depends on the success of the former. This behavior can be overridden by
2156 starting the command line with a \fB\|- \fR, or by writing a shell script that
2157 returns a non-zero status only as it finds appropriate.
2158 .SS "Bourne Shell Constructs"
2159 .LP
2160 To use the Bourne shell \fBif\fR control structure for branching, use a command
2161 line of the form:
2162 .sp
2163 .in +2
2164 .nf
2165 if \fIexpression\fR ; \e
2166 then \fIcommand\fR ; \e
2167     ... ; \e
2168 else \fIcommand\fR ; \e
2169     ... ; \e
2170 fi
2171 .fi
2172 .in -2

```

```

2174 .sp
2175 .LP
2176 Although composed of several input lines, the escaped \fBNEWLINE\fR characters
2177 insure that \fBmake\fR treats them all as one (shell) command line.
2178 .sp
2179 .LP
2180 To use the Bourne shell \fBfor\fR control structure for loops, use a command
2181 line of the form:
2182 .sp
2183 .in +2
2184 .nf
2185 for \fIvar\fR in \fIlist\fR ; \e
2186 do \fIcommand\fR ; \e
2187     ... \fB; \e\fdone
2188 .fi
2189 .in -2

2191 .sp
2192 .LP
2193 To refer to a shell variable, use a double-dollar-sign (\fB$$\fR). This
2194 prevents expansion of the dollar-sign by \fBmake\fR.
2195 .SS "Command Substitutions"
2196 .LP
2197 To incorporate the standard output of a shell command in a macro, use a
2198 definition of the form:
2199 .sp
2200 .in +2
2201 .nf
2202     \fIMACRO|\fR:sh =\fIcommand\fR
2203 .fi
2204 .in -2

2206 .sp
2207 .LP
2208 The command is executed only once, standard error output is discarded, and
2209 \fBNEWLINE\fR characters are replaced with \fBSPACE\fRs. If the command has a
2210 non-zero exit status, \fBmake\fR halts with an error.
2211 .sp
2212 .LP
2213 To capture the output of a shell command in a macro reference, use a reference
2214 of the form:
2215 .sp
2216 .in +2
2217 .nf
2218     $(\fIMACRO|\fR:sh)
2219 .fi
2220 .in -2

2222 .sp
2223 .LP
2224 where \fIMACRO\fR is the name of a macro containing a valid Bourne shell
2225 command line. In this case, the command is executed whenever the reference is
2226 evaluated. As with shell command substitutions, the reference is replaced with
2227 the standard output of the command. If the command has a non-zero exit status,
2228 \fBmake\fR halts with an error.
2229 .sp
2230 .LP
2231 In contrast to commands in rules, the command is not subject for macro
2232 substitution; therefore, a dollar sign (\fB$\fR) need not be replaced with a
2233 double dollar sign (\fB$$\fR).
2234 .SS "\fISignals\fR"
2235 .LP
2236 \fBINT\fR, \fBSIGTERM\fR, and \fBQUIT\fR signals received from the keyboard
2237 halt \fBmake\fR and remove the target file being processed unless that target
2238 is in the dependency list for \fB&.PRECIOUS:\fR.
2239 .SH EXAMPLES

```

```

2240 .LP
2241 \fBExample 1 \fRDefining dependencies
2242 .sp
2243 .LP
2244 This makefile says that \fBpgm\fR depends on two files \fBa.o\fR and \fBb.o\fR,
2245 and that they in turn depend on their corresponding source files (\fBa.c\fR and
2246 \fBb.c\fR) along with a common file \fBincl.h\fR:

2248 .sp
2249 .in +2
2250 .nf
2251 pgm: a.o b.o
2252      $(LINK.c) -o $@a.o b.o
2253 a.o: incl.h a.c
2254      cc -c a.c
2255 b.o: incl.h b.c
2256      cc -c b.c
2257 .fi
2258 .in -2

2260 .LP
2261 \fBExample 2 \fRUsing implicit rules
2262 .sp
2263 .LP
2264 The following makefile uses implicit rules to express the same dependencies:

2266 .sp
2267 .in +2
2268 .nf
2269 pgm: a.o b.o
2270      cc a.o b.o -o pgm
2271 a.o b.o: incl.h
2272 .fi
2273 .in -2

2275 .SH ENVIRONMENT VARIABLES
2276 .LP
2277 See \fBenviron\fR(5) for descriptions of the following environment variables
2278 that affect the execution of \fBmake\fR: \fBBLANG\fR, \fBBLC_ALL\fR,
2279 \fBBLC_CTYPE\fR, \fBBLC_MESSAGES\fR, and \fBNLSPATH\fR.
2280 .sp
2281 .ne 2
2282 .na
2283 \fB\FBKEEP_STATE\fR\
2284 .ad
2285 .RS 17n
2286 This environment variable has the same effect as the .KEEP_STATE:
2287 special-function target. It enables command dependencies, hidden dependencies
2288 and writing of the state file.
2289 .RE

2291 .sp
2292 .ne 2
2293 .na
2294 \fB\FBUSE_SVR4_MAKE\fR\
2295 .ad
2296 .RS 17n
2297 This environment variable causes \fBmake\fR to invoke the generic System V
2298 version of \fBmake\fR (\fB/usr/lib/svr4.make\fR). See \fBsysv-make\fR(1).
2299 .RE

2301 .sp
2302 .ne 2
2303 .na
2304 \fB\FBMAKEFLAGS\fR\
2305 .ad

```

```

2306 .RS 17n
2307 This variable is interpreted as a character string representing a series of
2308 option characters to be used as the default options. The implementation accepts
2309 both of the following formats (but need not accept them when intermixed):
2310 .RS +4
2311 .TP
2312 1.
2313 The characters are option letters without the leading hyphens or blank
2314 character separation used on a command line.
2315 .RE
2316 .RS +4
2317 .TP
2318 2.
2319 The characters are formatted in a manner similar to a portion of the
2320 \fBmake\fR command line: options are preceded by hyphens and
2321 blank-character-separated. The \fBmacro=name\fR macro definition operands can
2322 also be included. The difference between the contents of \fBMAKEFLAGS\fR and
2323 the command line is that the contents of the variable is not subjected to the
2324 word expansions associated with parsing the command line values. See
2325 \fBwordexp\fR(3C).
2326 .sp
2327 When the command-line options \fB-f\fR or \fB-p\fR are used, they take effect
2328 regardless of whether they also appear in \fBMAKEFLAGS\fR. If they otherwise
2329 appear in \fBMAKEFLAGS\fR, the result is undefined.
2330 .RE
2331 The \fBMAKEFLAGS\fR variable is accessed from the environment before the
2332 makefile is read. At that time, all of the options (except \fB-f\fR and
2333 \fB-p\fR) and command-line macros not already included in \fBMAKEFLAGS\fR are
2334 added to the \fBMAKEFLAGS\fR macro. The \fBMAKEFLAGS\fR macro is passed into
2335 the environment as an environment variable for all child processes. If the
2336 \fBMAKEFLAGS\fR macro is subsequently set by the makefile, it replaces the
2337 \fBMAKEFLAGS\fR variable currently found in the environment.
2338 .RE

2340 .sp
2341 .ne 2
2342 .na
2343 \fB\FBPROJECTDIR\fR\
2344 .ad
2345 .RS 17n
2346 Provides a directory to be used to search for SCCS files not found in the
2347 current directory. In all of the following cases, the search for SCCS files is
2348 made in the directory SCCS in the identified directory. If the value of
2349 \fBPROJECTDIR\fR begins with a slash, it shall be considered an absolute
2350 pathname. Otherwise, the value of \fBPROJECTDIR\fR is treated as a user name
2351 and that user's initial working directory shall be examined for a subdirectory
2352 \fBsrc\fR or \fBsource\fR. If such a directory is found, it shall be used.
2353 Otherwise, the value is used as a relative pathname.
2354 .sp
2355 If \fBPROJECTDIR\fR is not set or has a null value, the search for SCCS files
2356 shall be made in the directory SCCS in the current directory. The setting of
2357 \fBPROJECTDIR\fR affects all files listed in the remainder of this utility
2358 description for files with a component named SCCS.
2359 .RE

2361 .SH EXIT STATUS
2362 .LP
2363 When the \fB-q\fR option is specified, the \fBmake\fR utility exits with one of
2364 the following values:
2365 .sp
2366 .ne 2
2367 .na
2368 \fB\FB0\fR\
2369 .ad
2370 .RS 6n
2371 Successful completion.

```

```

2372 .RE
2374 .sp
2375 .ne 2
2376 .na
2377 \fB\fB1\fR\fR
2378 .ad
2379 .RS 6n
2380 The target was not up-to-date.
2381 .RE
2383 .sp
2384 .ne 2
2385 .na
2386 \fB\fB>1\fR\fR
2387 .ad
2388 .RS 6n
2389 An error occurred.
2390 .RE
2392 .sp
2393 .LP
2394 When the \fB-q\fR option is not specified, the \fBmake\fR utility exits with
2395 one of the following values:
2396 .sp
2397 .ne 2
2398 .na
2399 \fB\fB0\fR\fR
2400 .ad
2401 .RS 6n
2402 Successful completion
2403 .RE
2405 .sp
2406 .ne 2
2407 .na
2408 \fB\fB>0\fR\fR
2409 .ad
2410 .RS 6n
2411 An error occurred
2412 .RE
2414 .SH FILES
2415 .ne 2
2416 .na
2417 \fB\fBmakefile\fR\fR
2418 .ad
2419 .br
2420 .na
2421 \fB\fBMakefile\fR\fR
2422 .ad
2423 .sp .6
2424 .RS 4n
2425 current version(s) of \fBmake\fR description file
2426 .RE
2428 .sp
2429 .ne 2
2430 .na
2431 \fB\fBs.makefile\fR\fR
2432 .ad
2433 .br
2434 .na
2435 \fB\fBs.Makefile\fR\fR
2436 .ad
2437 .sp .6

```

```

2438 .RS 4n
2439 \fBSCCS\fR history files for the above makefile(s) in the current directory
2440 .RE
2442 .sp
2443 .ne 2
2444 .na
2445 \fB\fBSCCS/s.makefile\fR\fR
2446 .ad
2447 .br
2448 .na
2449 \fB\fBSCCS/s.Makefile\fR\fR
2450 .ad
2451 .sp .6
2452 .RS 4n
2453 \fBSCCS\fR history files for the above makefile(s)
2454 .RE
2456 .sp
2457 .ne 2
2458 .na
2459 \fB\fBmake.rules\fR\fR
2460 .ad
2461 .sp .6
2462 .RS 4n
2463 default file for user-defined targets, macros, and implicit rules
2464 .RE
2466 .sp
2467 .ne 2
2468 .na
2469 \fB\fB/usr/share/lib/make/make.rules\fR\fR
2470 .ad
2471 .sp .6
2472 .RS 4n
2473 makefile for standard implicit rules and macros (not read if \fBmake.rules\fR
2474 is)
2475 .RE
2477 .sp
2478 .ne 2
2479 .na
2480 \fB\fB&.make.state\fR\fR
2481 .ad
2482 .sp .6
2483 .RS 4n
2484 state file in the local directory
2485 .RE
2487 .SH ATTRIBUTES
2488 .LP
2489 See \fBattributes\fR(5) for descriptions of the following attributes:
2490 .SS "/usr/xpg4/bin/make"
2491 .TS
2492 box;
2493 cw(2.75i) | cw(2.75i)
2494 lw(2.75i) | lw(2.75i) .
2495 ATTRIBUTE TYPE ATTRIBUTE VALUE
2496 -
2497 Interface Stability Committed
2498 -
2499 Standard See \fBstandards\fR(5).
2500 .TE
2502 .SH SEE ALSO
2503 .LP

```



```

2504 \fBar\fR(1), \fBarch\fR(1), \fBcd\fR(1), \fBc++\fR(1), \fBflex\fR(1),
2505 \fBmach\fR(1), \fBccs-get\fR(1), \fBsh\fR(1), \fBsysV-make\fR(1),
2506 \fByacc\fR(1), \fBwordexp\fR(3C), \fBpasswd\fR(4), \fBattributes\fR(5),
2507 \fBenviron\fR(5), \fBPOSIX.2\fR(5), \fBstandards\fR(5)
2508 .sp
2509 .LP
2510 \fISolaris Advanced User\&'s Guide\fR
2511 .SH DIAGNOSTICS
2512 .ne 2
2513 .na
2514 \fB\fRDon't know how to make target \fItarget\fR\fR
2515 .ad
2516 .sp .6
2517 .RS 4n
2518 There is no makefile entry for \fItarget\fR, and none of \fBmake\fR's implicit
2519 rules apply (there is no dependency file with a suffix in the suffixes list, or
2520 the target's suffix is not in the list).
2521 .RE

2523 .sp
2524 .ne 2
2525 .na
2526 \fB\fR***\fR \fItarget\fR \fBremoved.\fR
2527 .ad
2528 .sp .6
2529 .RS 4n
2530 \fBmake\fR was interrupted while building \fItarget\fR. Rather than leaving a
2531 partially-completed version that is newer than its dependencies, \fBmake\fR
2532 removes the file named \fItarget\fR.
2533 .RE

2535 .sp
2536 .ne 2
2537 .na
2538 \fB\fR***\fR \fItarget\fR \fBnot removed.\fR
2539 .ad
2540 .sp .6
2541 .RS 4n
2542 \fBmake\fR was interrupted while building \fItarget\fR and \fItarget\fR was not
2543 present in the directory.
2544 .RE

2546 .sp
2547 .ne 2
2548 .na
2549 \fB\fR***\fR \fItarget\fR \fBcould not be removed,\fR \fBreason\fR
2550 .ad
2551 .sp .6
2552 .RS 4n
2553 \fBmake\fR was interrupted while building \fItarget\fR, which was not removed
2554 for the indicated reason.
2555 .RE

2557 .sp
2558 .ne 2
2559 .na
2560 \fB\fRRead of include file\fR \fBfile\fR \fBfailed\fR
2561 .ad
2562 .sp .6
2563 .RS 4n
2564 The makefile indicated in an \fBinclude\fR directive was not found, or was
2565 inaccessible.
2566 .RE

2568 .sp
2569 .ne 2

```

```

2570 .na
2571 \fB\fRLoop detected when expanding macro value\fR \fImacro\fR\fB\&'&\fR
2572 .ad
2573 .sp .6
2574 .RS 4n
2575 A reference to the macro being defined was found in the definition.
2576 .RE

2578 .sp
2579 .ne 2
2580 .na
2581 \fB\fRCould not write state file\fR \fBfile\fR\fB\fR
2582 .ad
2583 .sp .6
2584 .RS 4n
2585 You used the \fB\&.KEEP_STATE:\fR target, but do not have write permission on
2586 the state file.
2587 .RE

2589 .sp
2590 .ne 2
2591 .na
2592 \fB\fR***Error code\fR \fBIn\fR
2593 .ad
2594 .sp .6
2595 .RS 4n
2596 The previous shell command returned a nonzero error code.
2597 .RE

2599 .sp
2600 .ne 2
2601 .na
2602 \fB\fR***\fR \fBsignal message\fR
2603 .ad
2604 .sp .6
2605 .RS 4n
2606 The previous shell command was aborted due to a signal. If \fB- core dumped\fR
2607 appears after the message, a \fBcore\fR file was created.
2608 .RE

2610 .sp
2611 .ne 2
2612 .na
2613 \fB\fRConditional macro conflict encountered\fR
2614 .ad
2615 .sp .6
2616 .RS 4n
2617 Displayed only when \fB-d\fR is in effect, this message indicates that two or
2618 more parallel targets currently being processed depend on a target which is
2619 built differently for each by virtue of conditional macros. Since the target
2620 cannot simultaneously satisfy both dependency relationships, it is conflicted.
2621 .RE

2623 .SH BUGS
2624 .LP
2625 Some commands return nonzero status inappropriately; to overcome this
2626 difficulty, prefix the offending command line in the rule with a \fB(mi)\fR
2627 .sp
2628 .LP
2629 Filenames with the characters \fB=\fR, \fB:\fR, or \fB@\fR, do not work.
2630 .sp
2631 .LP
2632 You cannot build \fBfile.o\fR from \fBlib(file.o)\fR.
2633 .sp
2634 .LP
2635 Options supplied by \fBMAKEFLAGS\fR should be reported for nested \fBmake\fR

```

```

2636 commands. Use the \fB-d\fR option to find out what options the nested command
2637 picks up from \fBMAKEFLAGS\fR.
2638 .sp
2639 .LP
2640 This version of \fBmake\fR is incompatible in certain respects with previous
2641 versions:
2642 .RS +4
2643 .TP
2644 .ie t \(\bu
2645 .el o
2646 The \fB-d\fR option output is much briefer in this version. \fB-dd\fR now
2647 produces the equivalent voluminous output.
2648 .RE
2649 .RS +4
2650 .TP
2651 .ie t \(\bu
2652 .el o
2653 \fBmake\fR attempts to derive values for the dynamic macros \fB$*\fR, \fB$<\fR,
2654 and \fB$?\fR, while processing explicit targets. It uses the same method as for
2655 implicit rules; in some cases this can lead either to unexpected values, or to
2656 an empty value being assigned. (Actually, this was true for earlier versions as
2657 well, even though the documentation stated otherwise.)
2658 .RE
2659 .RS +4
2660 .TP
2661 .ie t \(\bu
2662 .el o
2663 \fBmake\fR no longer searches for \fBSCCS\fR history (\fBs\fR.) files.
2664 .RE
2665 .RS +4
2666 .TP
2667 .ie t \(\bu
2668 .el o
2669 Suffix replacement in macro references are now applied after the macro is
2670 expanded.
2671 .RE
2672 .sp
2673 .LP
2674 There is no guarantee that makefiles created for this version of \fBmake\fR
2675 work with earlier versions.
2676 .sp
2677 .LP
2678 If there is no \fBmake.rules\fR file in the current directory, and the file
2679 \fB/usr/share/lib/make/make.rules\fR is missing, \fBmake\fR stops before
2680 processing any targets. To force \fBmake\fR to run anyway, create an empty
2681 \fBmake.rules\fR file in the current directory.
2682 .sp
2683 .LP
2684 Once a dependency is made, \fBmake\fR assumes the dependency file is present
2685 for the remainder of the run. If a rule subsequently removes that file and
2686 future targets depend on its existence, unexpected errors can result.
2687 .sp
2688 .LP
2689 When hidden dependency checking is in effect, the \fB$?\fR macro's value
2690 includes the names of hidden dependencies. This can lead to improper filename
2691 arguments to commands when \fB$?\fR is used in a rule.
2692 .sp
2693 .LP
2694 Pattern replacement macro references cannot be used in the dependency list of a
2695 pattern matching rule.
2696 .sp
2697 .LP
2698 Unlike previous versions, this version of \fBmake\fR strips a leading
2699 \fB\&.\fR from the value of the \fB$@\fR dynamic macro.
2700 .sp
2701 .LP

```

```

2702 With automatic \fBSCCS\fR retrieval, this version of \fBmake\fR does not
2703 support tilde suffix rules.
2704 .sp
2705 .LP
2706 The only dynamic macro whose value is strictly determined when used in a
2707 dependency list is \fB$@\fR (takes the form \fB$$@\fR).
2708 .sp
2709 .LP
2710 \fBmake\fR invokes the shell with the \fB-e\fR argument. This cannot be
2711 inferred from the syntax of the rule alone.
2712 #endif /* !codereview */

```

new/usr/src/pkg/manifests/developer-build-make.mf

1

1359 Wed May 20 11:20:04 2015

new/usr/src/pkg/manifests/developer-build-make.mf

make: add the manual page

```
1 #
2 # This file and its contents are supplied under the terms of the
3 # Common Development and Distribution License ("CDDL"), version 1.0.
4 # You may only use this file in accordance with the terms of version
5 # 1.0 of the CDDL.
6 #
7 # A full copy of the text of the CDDL should have accompanied this
8 # source. A copy of the CDDL is also available via the Internet at
9 # http://www.illumos.org/license/CDDL.
10 #
11 #
12 # Copyright 2015, Richard Lowe.
13 #
14 set name=pkg.fmri value=pkg:/developer/build/make@$(PKGVERS)
15 set name=pkg.description value="Parallel make(1) build tool"
16 set name=pkg.summary value="Parallel make(1) build tool"
17 set name=info.classification \
18     value="org.opensolaris.category.2008:Development/Source Code Management"
19 set name=variant.arch value=$(ARCH)
20 dir path=usr/share/lib/make
21 dir path=usr/share/man/man1
22 dir path=usr/share/man/man1s
23 #endif /* ! codereview */
24 file path=usr/bin/make mode=0555
25 file path=usr/lib/$(ARCH64)/libmakestate.so.1
26 file path=usr/lib/libmakestate.so.1
27 file path=usr/share/lib/make/make.rules
28 file path=usr/share/lib/make/svr4.make.rules
29 file path=usr/share/man/man1/sysV-make.1
30 file path=usr/share/man/man1s/make.1s
31 #endif /* ! codereview */
32 link path=usr/bin/dmake target=make
33 link path=usr/ccs/bin/make target=../bin/make
34 link path=usr/ccs/lib/svr4.make target=../bin/make
35 link path=usr/lib/svr4.make target=../bin/make
36 link path=usr/xpg4/bin/make target=../bin/make
```