

BSD! " # \$%

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\$ % & ' () * + , - & . / 0 1 / " 2345" . / 016 7' 8' 19: ; . <=> , -&>? @AB # \$ % & UNIX " 2345C DE FG: ; . [Internet Operating System Counter](#)* HIJ, 1999K 4LMNOPQ RSTU* VWX Y() ' Z[\] ^ 31.3%_ , -&` a8bcd: ; . 14.6%/ BSD UNIX " ` a8bcd: ; . [Yahoo!](#)6 eE () fg hi' j k , ^ A1/ BSD` mn ?o1p: ; . 1999KMNOPQ ()*+ _q rsB FTP +t(=uE ^0vwd: ;)xy [ftp.cdrom.com](#)/ <o 1.4 TB' z? \ ` Y{<N |n BSD` }~wd: ; . ?D? €• bq? F, DE f, ,...: ; : BSD/ † @=v1 ‡ ^%0: ; .

Š<? ^%0. / @A•Ž? • BSD/ † • ' " = "M•Ž? ? •-+ / ?-B ' ~™; š >>' æ~* gB D9: ; .

? •-+ Y•* zÿ, BSD6 , -&' ?jE ! "# çN£ D9: ; .

hi

- 1. BSD/ Š<A•Ž? 1
- 2. @ UNIX " . -Ž? 2
- 3. • BSD/ † • ' = "4M•Ž? 2
- 4. BSD6 , -&' gæ 3

1. BSD& ' () * +?

BSD/ "Berkeley Software Distribution" M•Y|: ; . ? / AT&T' Research UNIX " 2345' \$q" ?wy, University of California, Berkeley' %& ©ª «-"" ?-9: ; . >> # \$ % & 2345]E 4.BSD-Lite. - • ' ® ? %& ©ª -, °* N•M±- "d: ; . ²; _ , ³ 2345]E GNU `QµS` ^¶B ; š # \$ % & `QµS]QI \ _ ' † • E , ¹ =] ° -»...: ; . Y4¼C 2345/ ; ¼PQ a¾v1 "d: ; :

¥ `Q(& & j ÅÁ, Âi , k , , gÄÄ ; ^ Å , (SMP), qEª . ?t ÇM51</ BSD ÈÉ.

\$%&' () * + , # , - . + / 012 34 556 BSD ' (7! 89: ; +.

¥ b&Ê' N• APIC C . ?Ë-, .

BSD C <! => \$* GNU ? . @A3 B; < Berkeley6 CDE OFG. : ; +.

¥ Ì, ÍA @Î, Î, ZÍA-, ÁÈ6 eE @Î, Î].

! 7 H I J * GNU ? . @A. JK 3LMN, + / I J * O " P QR; +.

¥ ³DÑ ò&óô?` 51</ X Window b&Ê.

g; Õ' BSD*+ }~</ X Window b&ÊE [X.Org project](#)* ' n k, Õ: ; . FreeBSD/ }~x_ GNOME, KDE, Ø/ Xfce6 eE z&UÙ ÚÛ Ü Openbox, Fluxbox, Ø/ Awesome™ eE _Ý2 window manager` Þßn+ }~</ DMà~...: ; .

¥ á- ; š `Q³â™@Î, Î].

2. , - UNIX . /+?

BSD 2345/ ää? F:., AT&T' Research UNIX'' 2345(?/ ág' UNIX'' System V' æç?N° ...:;) ' # \$ % & Íëé9:;. á-fE ? } ê* èi=° íí:;. AT&T/ ° @^ # \$ % & Q î ï B ¼? ð/z 1ñ² ° ð A? A1ó Õ "wM•Ž?

AT&T UNIX'' _ # \$ % & _ F:./ D™, ççô' k j *+ BSD_ ð%ö/ UNIX'' _ B; <* DE }ê9:;. <=> B=PQ/, AT&T/ ø, -: F* "/ University of California, Berkeley* ùB Computer Sciences Research Group (CSRG) Ç' ; š ' QµSQI \ % & ` _ ' 6 } ~•d:;. 1976Kl\, CSRG/ *Berkeley Software Distribution 0/ BSD.* - úú ° } ' % ' Sü1 ý? ^ ` «-<N bþ•d:;.

f!' BSD ^, °/ g4Q }~x ' Q³â]Q a³¼1 "w=>, ° a³E Defense Advanced Research Projects Agency(DARPA)_ ° } ' RSTUC ARPANET*+ }~</ mý ' Q!"M ïP<N |n CSRG6)#M SE ?% &¼PQ ' (•d:;. •Q2 ' Q!"]E *Internet Protocols.* - •')P*, _q ^ŽB ' Q!"]C *TCP/IP'* a³¼ Ž_ vwd:;. ° ' Q!" " ää? f!Q É, «-X DE 1982K* 4.2BSD* ->X D?wd:;.

1980Kg*, . E Õ' •Q2 TU&ý?+, }]? -xN ° ¥. d:;. g; Õ/ ° } >' 2345` ï s</ D•; UNIX'' ` . ?P&// DM P0•d:;. 1ö Sun Microsystems/ UNIX'' ` . ?P&/F+ SunOSª . - ú, /, 4.2BSD' B tYM >]wd:;. AT&T_ UNIX'' ` ç2¼PQ "3<°" à_/4M5, ° } E System III. - ú, / aáM67l\ bþ•-, ?/ 8 System VQ sY•d:;. System V °a/ RST9M->«= "4N 5~*, i: aáE TCP/IP % ' Sü1 Ü *csH Ì?* vi * Õ\6 eE ; _¼C BSD % ' Sü1]M->•d:;. ?-B N< =çE A>¼PQ *Berkeley ExtensionsQ* •')d:;.

BSD ý? ^ / AT&T % & °a` ->•N 5~* UNIX'' % & . ?P&_ ?Ž•d:;. 1990K*, CSRG' @AE 67±- "w-, BC` D±- "wd:;. i E' Al , F]E # \$ % & xy BSD °a` AT&T' ç2 °a ð? ^, ° <NQ WA•d:;. ?/ GHI *Net/2.* - •'® *Networking Tape 2_* vwd:;. Net/2/ JYB 2345_ F:wd:;. ÈÉ °a' # 20% A°_ 1K•d:;. CSRG , F' B „?wy William F. Jolitz/ 1K•y °a` þ³•- 1992K !* *386BSD.* / ?-PQ «-•d:;. eE bN*, Y CSRG , F]Q a³X iE? [Berkeley Software Design Inc.](#) / ç2 , } æL•-, 386BSD6 eE °a N•M_=/ 2345 [BSD/386'](#) MÆ tYM ^, ° d:;. ? 2345' ?-E °^* BSD/OSQ 6Nwd:;.

386BSD/ 0A¼C 2345_ v=/ P•d:;. ° gý, 1993K* °QI \ ± ï' ; š ' QµS_ Íèvw d:;. [NetBSD6](#) [FreeBSD_](#) °D9:;. ± ' QµS/ 386BSD' ïPMN:;, / CIQ' ?*+ R.) d:;. NetBSD' }S]E •n AT þ2* UÕ•-, FreeBSD' V tYE VW•= 0^v= "4d:;. B÷, X' °aMP&/ ; b ...Ý=N 1' Y A°Q U² R.) d:;. °; _ , Z ' QµS/ +Q ; š [ç` _=- "wd:;(?* gn+/ °^* ; \ D9:;). 1996K*, NetBSDQI \ [OpenBSD_ R.](#) ' ±]-, 2003K*/ FreeBSDQI \ [DragonFlyBSD_ R.](#) ' ±]d:;.

3. 0 BSD& 1 2344 567* +?

á-?@]Q Cn, BSD/ çg¼PQ ^ •' ' "d:;:

1. BSD ï s x] E gï _ </ A•; °a` ï P</ A* ` kQ? . d:;.
2. , - & CN' . E l f E ää Ø/ , - & + ^ & ` 5î </ , } Ç , - & ' QµS bl' ŽÇ* ' B D9:;. fc•=, # \$ % & BSD/ °-B %F×] ? ðwd:;.
3. BSD ï s x] E , - & ï s x] •; ` deX Û=? " -, b&ÊM } ~<N f² >a/ z*/ çg¼PQ ^ kQ "1...:;. !•×] E , - & ` g` ð0n</ Û=? "d:;.
4. 1992K*, AT&T/ BSD/386' î h x C [BSDI`](#) - %•/z, ni 5j? AT&T_ kþôM _=- "/ °a` ->«- "/ D? ° ?@xd:;. 1994K* ° % { E ¥1 M•NQ ...' </ DPQ A0mw=>, ° % { ' @nE } S] M) ù opqd:;. 2000K 3L*] 1 j * ° bX rE ni % { } s? "fc* nWw; "- tq•d:;.

% { *+ f , n ® B _ = Ž%/ 6Q ?-9:;. 1980Kg*, BSD/ "BSD UNIX'' " . - •' ' "wd:;. BSD*+ AT&T °a' G=u v¼•= 57•N 5~*, °DE UNIX'' . / ?-* gB ô, wb xwd:;. °yN 5~* á-fE z 5 [Ç*+ "4.3BSD UNIX'' 2345" °, - "4.4BSD 2345"6 eE çàM { F | Õ "MD9:;.

4. BSD 9: ; < " =

3D+, }`]1, Debian , -& FreeBSD' ê5¼C ?jE Š<A•Ž? A•¼C }~x]*², ?jE èi >~ ¼d:;: X i± UNIX")• 23459:; . X i± ^3, 'QµS* 'n is0:;(?/ €ä ;š .E , -& «-''*/ ¼-v= "/ }ê9:;). FĐ •[*+, , , / BSD` f,, •-, -& gan| D9:;,E BSD ..Æé' # 80%` =</ FreeBSD` NOPQ b¾w=>, NetBSD, OpenBSD Ü DragonFlyBSD*o ?/ 7' ðd:; .

4.1. >? BSD@ ABC/ DE+?

BSD/ iC 0/ <α' , }* 'n %@v= "d:; . BSD/ Y~¼C N†M_=- "/ Y() ' †ÿ¼C Ná×]Q ?o1® Èˆ:İ* 'n isv- «-0:; . BSD' Al a¾Ž%/ ³] -@' #S %& 'QµS* ùn "- ;š 'QµS k, ×]* 'n is0:; .

4.2. BSD& FGH I JK/ LMNOKE+?

BSD ÈÉE ;½ #S %& is i%* H. isv- 2z?S0:; . Z 'QµS/ Subversion (SVN)MmB îi S& AS` @=...; . áN*/ ~+ Ü ;š l_¼C ÍA]M→B 'QµS' i: %& ÍA]? →v1 "d:; . SVNE }~x]? b&È' F</ tYM"check out" (; b W<J, Š}éM; <)/ DM à~...; .

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¥ î†×]E ©ª 0/ ~+` b¾...; . ?]E %& S, * LŽ È•(©ª ;_)</ DE à-v= "d:; . ³] ' ©ª` b&È* →b¹N |n+/, •k ' TK Q •' ©, Ç"X is×* 'n '!/F' ...; .

¥ È"\"]E %& S, * "N ðBM_® is×9:; . È"\"_ vN |n+, iCE ³]? r8<- "/ 3w* gB <•M•á t1' ...; .

%& S, * 0A }•MÈ•<N Y* à_` /F' </= / È"\" iC' @-9:; . A•¼PQ, deX È"\" / „-n •?/ 0A* gn+ / ;š }S™' ~Mæ™<= "- È•š 0 "d:; . }`]1, documentation project È"\" / #¥α ~> #ÆÇM0Åš 5 ' !/M?Ž_ ðd:; . B÷, . E l fM0/ Šœ<² 0A</ is×/ È•<N Y* ³] ' 0AM5<n+ '!/F' ...; . &0¼C Ū, *, Principal Architect6 eE ðBM_® ©1 • a¾F? 0AB I~MS, *+ 57š D(backing out?. - lí:;)MŽžš 0° "d:; . i: È"\"]E ZZ' È•* gB ÂAM/² vŸQ, ~% * È•</ DE ú<...; .

¥ ©1 • FreeBSD6 NetBSD/ ZZ 'QµS` k, </ ©1 •M_=- "d:; . ©1 •E 'QµS' ® °^* >]1)-, ³] ' wŠE •ç † A' v1 "= / "d:; . ©1 • a¾F? vN |n+ is×A ?Ž/ ð=>, ³ò Ū, _ A•¼0:; . ©1 •* gB h jE 'QµSG; ; I=>, A•¼PQ ³]E 'QµS' ® ç=* gn ;š ?]•; f 3=•? "d:; .

FĐ A, X I~E , -& á- çJ*+' ?jMα¥|:; .

1. B }S? b&È' a¾Ž%` mš<=/ "d:; . ê5Q/, Principal Architect_ ©ª` back outš DMŽš Åš 0 "N 5~* ? ?j? ™gα_vN° ...; . Q=1 , -& 'QµS*+° á- }S]? 0Åš ðB? "d:; .
2. B÷, ^¥ kq%/ UVWX, ? |E Y4 2345' b&È %&` ?Y tY•= →<á i± {F| 0 " / m.X q%9:; .
3. BSD 'QµS/ 0= ÈÉ>? F: . "2345" Y4` k, ...; . ? ?jE Ft #S' ' "> "d:; : BSD° , -&° "0, ¿?+ ð?/ @~<= "d:; . BSD*+ }~v/ "0, ¿?+]E , -&*+ }~v/ "0, ¿?+™ eE Ū, _ . d:; .
4. <α' î© SVN %& S, ` k, </ W™Q, BSD' isE „Š<² ?o1=- "P*, -, ° at «E ó-` mm b&È' 1- tY*. ° Žčš 0 "d:; . SVNE 0B b&È' ®f 2z?S` =F...; . }`]1, FreeBSD kq%/ <o* # 100, 2z?S0:; . ?-B 0A }•' gl fE pE D]9:; .

4.3. BSD P9Q

FreeBSD, NetBSD ³, - OpenBSD/ b&ÈM (_= ;š "-, °" Ä©PQ 5î...; . , -& e?, -, °]E 1.4.1 0/ 3.56 eE 0` l á/d:; . `ú1, tY 0/ b&È' [¼Mα¥I/ Ž"}` _=- "d:; .

1. isx tY' b&ÊE CURRENT?. - ú°:;. FreeBSD/ FreeBSD 5.0-CURRENT6 eE Ä±Q CURRENT* ²x` ši...;. NetBSD/ #§; š p„>M}~<á I1 C\³?&* ' (` ¼YI/ B r×' Ž“} ` ´9:;. } `]1 NetBSD 1.4.3G6 ed:;. OpenBSD/ ²x` ši<= “d:; (“OpenBSD-current”). b&Ê' •Q2 isE i±? _=Q]1-:;.
2. A K* ± `*+ R ` A°' ¼i B §µPQ, Z ´QµS/ CD-ROM Ø/ FTP Š¶; ; 2Qª Ä©PQ 5îv/ RELEASE tY b&ÊM5î...:;. } `]1 OpenBSD 2.6-RELEASE Ø/ NetBSD 1.4-RELEASE6 ed:;. RELEASE tYE A•¼C tY' b&ÊPQ f. }~x` |B D9:;. NetBSD/ (` , x, 06 »¹ patch release]M5î...:;. } `]1 NetBSD 1.4.26 ed:;.
3. REALEASE tY*+ t³ s~vJ, ³D]E -ÿ=-, -ÿ° I-E SVN S, * •30:;. FreeBSD' Ū, , ³ W¼C tYE STABLE tY?. - I1-, NetBSD6 OpenBSD' Ū,)ù RELEASE tY?. - l1:;. CURRENT _=*+ AA N§ ý&SX ?%* pE • N<]?? _=* ;_f 0° “d:;.

YZ[G., \$%&* \]6 CD ASE ^_. ` \$UN aR; +: stable bc) development bc! Od7e; +. stable bcf 2.0, 2.2, 2.4g h! i j 6 minor bc kl E 3PN aR; +. development bcf 2.1, 2.3, 2.5g h! mj 6 minor bc kl E 3PN aR; +. nn6 opq, ! kl +rq* stu v\$wE PxU* l yj 3 z {<|; +. z}~, n •€l * 07 N•6, f1 ? . 0., ... •†\$‡E ^3UO %Šq, <€•6 !Ž •• H' :; +. n <€• •€l * <€•q Yu bc kl _ ' “UO %Šq, c” [W •, * “TurboLinux 6.0 with kernel 2.2.14”g h! -; +.

4.4. BSD! & FR ST? DE+?

0. E • €' , -& «-”]™/ gæ¼PQ, #§ %& BSD*/ #L R _= tŽB tY>? “d:;. Z BSD ´QµS/ -@B %& S, 6 ÈÉM@=...:;. ³-¼ è5Q/, userland ©a/ , -&' Ū, *+•; ?_¼d:;.

Z ´QµS' [ç` f€<N/ 1°d:; : ?/ 3, tk¼Q:;. Né¼PQ,

¥ FreeBSD/ »E ¾< ³, - end user_¼f² }~</ DM; a<*, j ½¼ 5îx] ? P0...:;. FreeBSD/ ; ÅB ÓÁÁ*+ p8f 0 “P* ; š ´QµS* ^n äkö • E }~x` _=- “d:;.

¥ NetBSD/ ?©³Mf, pPQ <á isv- “d:; : “of course it runs NetBSD”. NetBSD/ palmtop*+l\ gÄ +t*+•= a8f 0 “P*, Q=1/ NASA' space mission*o }~vwd:;. #DX ^ Intel“ <aü1` a8bÄ 5 1ö ÄE pB9:;.

¥ OpenBSD/ •0™©ª j æMf, pPQ <á isv- “d:; : OpenBSD/ #§ %&6 õµB ©ª ‘ } ` mm „-ö correctB b&ÊM>Ä:;. ?` mm E , @ö 7Ð% Ū US Al Nk Ç™e? •0? ^bv/ |*+ }~f 0 “o” ...:;. NetBSD6 GÆ_=Q, ?/ ; ÅB ÓÁÁ*+ a8f 0 “d:;.

¥ DragonFlyBSD/ single-node UP b&Ê*+l\ ghi ã-&\ b&Ê* ?IN•=' ŪŪ*+ »E ¾<™ Šq¼M ; a...:;. DragonFlyBSD/ >>' qN¼C N† [ç]M_=- “=>, ÇQE ?n<- @=<- is<N È2 gÄÄ ; ^ Ä, (SMP) N•M5î</ D* “d:;.

?6 `ú1 #§ %&_ F, ± i' BSD UNIX“ 2345]° “d:;. BSD/OS6 Apple' Mac OS“ X_³D]9:;:

¥ BSD/OS/ _q #DX 4.4BSD Íèé9:;. ?D' %& ©ª/ çg¼PQ ÉE _µ* ÊMÖ “w=>, #§ %&/ F: wd:;. ?DE FreeBSD6 á- çJ*+ @}...:;. BSDi_ Wind River Systems* 'n CÕX = 2K %, BSD/OS/ È°¼C 5jPQ fFÌ/ z*/ è, •d:;. %& ©ª Ū =FE Wind River*+ áYö 5î•=>, i: •Q2 isE VxWorks EMª 2345* p^vwd:;.

¥ Mac OS“ X/ Apple“ ' Mac“ M|B 2345' fy tY9:;. ? 2345' BSD ©1C DarwinE x86 Ū PPC Z[\` |B JYB N<' #§ %& 2345Q }~? _<...:;. ³-¼ Aqua/Quartz ³ÐÑ b&Ê Ū Mac OS“ X' ; š • E ç~ l fE äQª %&Q ÌF “d:;. >> Darwin isx]E FreeBSD' committer?N° ...:;.

4.5. BSD . NU; & GNU Public license8 FGH VW?+?

, -&/ closed %& %´Sü1` 57<°" 0×CX GNU General Public License(GPL)* H. «-0:;. 1ö, GPL' Íè€E i± }~x_ %& ©ª Žž<J?` 5în' ...:;. ?6/ gæ¼PQ, BSD . ?p&/ 5# }•? ¼d:; : 6?Í, > «-</ D? à~0:;. ?/ EMªª “0, ç?+Misš 5 1ö 3•¼C pB9:;.

4.6. 2XY Z VW ' [?? DE+?

BSD*+ }~ _<B "Ó, ¿?+' Ô_ , -&' Ū , •; ¼N 5~*, BSD i s×]E , -& 'Q³âMBSD*+ a8š Ō "°" n t/ , -& OÚ¾ , ¹= ` >]wd: ; .
? , ¹=/ , -& b&Ê "MÎ6I² Ō <N |B ÈÉ ŌA™, C . ?Ë-, 6 eE , -& OÚ¾ [Á]M→»<- "d: ; . eE q^*+ , -& ` ..Æn+ , -& "Ó, ¿?+M
a8š 56 BSD ` ..Æn+ , -& "Ó, ¿?+Ma8š 5 ê ù°/ Ĩ* Ð= "MA°Q ?_ pd: ; .

BSD' "all from one supplier" ŪŪE , -&*+ . . ~5_ vN° </ 2³Ō?ª` ÑŌ f² š Ō " ; / DM' " ... ; . BSD/ . ?Ë-, tYM
2³Ō?ªš 5 ?Y . ?Ë-, tY* gB OÚ¾ i ŌM5î <N 5~* , >K Y' 6?Í , ` ~5ð? ê </ D? _<... ; .

4.7. BSD8 9: ; \! ' (7] ^ _Y CE+?

êšQ ?s ŠŌ ŒA•Ž? Ō_ BSD ` }~n' <- , Ō_ , -& ` }~n' š•Ž?

?/ gŌ<N gŌö 1' 2 æ~9: ; . áN* #S' æa? "d: ; :

¥ "x_== "4; J, -Æ= G. " : >A á-f? #S %& 2345 ` }~<- " , ?* gn >K<- " ; J, FG Ø? ³ž 6Ū1' š ?@/ ðMÚ: ; .

¥ BSD b&Ê, 1ö FreeBSD/ , -&•; LÇö »E ¾MsŪš Ō "d: ; . <=> •ç ³ò DE FG: ; . gĩ' Ū , * , ¾< ?/ ð7ª Ft pd: ; . Al
Ū , */ , -&_ FreeBSD•; ` ¢E ¾MsŪš Ō° "d: ; .

¥ A•¼PQ, BSD b&ÊE •; ¾dB ©ª M& ` _=- "N 5~* , ³ OA¾? ` † •' "d: ; .

¥ BSD ´QµS/ ~+' j æ™ J¾Q † •' "d: ; . ; ÆB ~+ ´QµS]E b&Ê' i: çJM; o/ ~+ ` ; ÆB a1Q ŪŌö Ūÿ</ DM [çQ <- "d: ; .

¥ BSD . ?p&/ GPL•; 3•¼C ÞßA Ō "d: ; .

¥ , -&/ BSD 6?Í , ` ê š Ō ð/ •J, BSD/ glf' , -& 6?Í , ` ê š Ō "d: ; . . E BSD aa]E ; š UNIX") • b&Ê' 6?Í , ØB
ê š Ō "d: ; . W™¼PQ ; š b&Ê*+ BSDQ G?³Ō?+</ DE , -&Q </ D•; ŌLš Ō "d: ; .

4.8. >? BSD! " # 4 ` , ab; , c9/ de7 fgCE+?

BSDi / [FreeBSD Mall, Inc.](#) / 7' 10K 80 FreeBSD* gB =F) #M5î n #- "d: ; .

`ú1, Z ´QµS/ --* gB çÝ' ["M_=- "d: ; : [FreeBSD](#), [NetBSD](#), ³, - [OpenBSD](#).