

# ! " FreeBSD

# \$

%&' ( ) \* ' + , - . / O 1 2 3 4 FreeBSD 5 6 ! " / 7 8 9 : ; < = > ? @ ABCDE

## ÙÒ

- 1. QRBYÍ .....1
- 2. OÓ56! " .....2

F 2 3 G FreeBSD HI J K L M N O P / Q R S T F E FreeBSD  
 U' V W X Y Z [ \ ] B ^ \_ ` a 9 b c d Z B E Q R e f g h i j k l H B ^ \_ / m n / o p q r s X  
 FreeBSD B t u b c v w x y \$ E

v z { k | } B e ~ / k • e € a ' • , f „ B Programmer / v % ... † FreeBSD core team  
 ‡ ^ V % O B Š < / Q R E • • ~ Ž B s • k B q r E FreeBSD  
 B • b ) ^ ' ' " " / Z • - — ~ ™ + š / > œ • ' v g h Y ž E  
 Ÿ m / ; QR 7 : ‡ s t u £ ¤ B q r / m ¥ X | V Š " B ) © / ^ « QR - - S T k B ! " E

FreeBSD ® - I ° ± B ' • ( ² ³ B r ´ µ ¶ · ¸ / m e ¹ ' • ( kernel \* ' • p ° » B q ¼ ½ E  
 ^ « / Q R B T O D O • ¾ ¿ À Á Â Ã ½ Ä + Å + Æ B q r Ç  
 È < É Ê [ \ ] Ë Ì Ê demo / ? µ ¶ | Í Î Ï Å † Ð ~ ´ B kernel • b E  
 ^ « % & k B - - Ñ Ò Ó / È Ò Ó , Ò Ò / 7 8 9 ! " o ( ® - E

QR x Ø È Ô † FreeBSD Ù x q r B Ú ´ † Q R Û Ü E k Ý \$ • p Þ ß B à c á [ k B â ã ä å æ á L M  
 k Æ b ç Q R % è é ê ë k B ì í / î g ' P ï ð ñ ò ó B E k ' ô U È Ò Ù x B £ ö ´ Å M  
 ö Q R á ! " k ÷ / Q R v z 8 9 : ø p C ‡ Ù ù @ r E  
 ú û ü ý þ U : ÿ ! " # \$ V B % % ( ) ' x X ü ý • b È & ' † ( ) /  
 Q R 2 3 \* ì k w + , - . • / O Æ E

## 1. QRBYÍ

1 ‡ Á f P • p Ý \$ ² ‡ B ¿ À † 2 ® - / . R 3 Â T O D O ( • ¾ ¿ À Á Â )  
 Á Â B é 4 / 9 5 [ \ ] B \$ í E

### 1.1. U: 67 = B¿ À(gï Å • b) ^ )

% 8 9 ¤ FreeBSD ® - B ) e ' Programmer E  
 o ( ® - Ä V < É : ; ] È < = > ® ? È 9 5 - - @ A ) ^ E  
 s X o p B q á C / D R ¹ Ý \$ ^ \_ • p - E / F n ¼ V G H B é I E

- 1. k 8 9 - h J K FAQ † © L (Handbook)  
 / O 1 b ç V M N e O P B Q C / \* ' e @ - R B < É / S w ² " e U T B Q C /  
 7 ì U V Q R E W Ý / X , Y @ Z D R [ U / F Z \ ] ^ - Q R / \_ ` † O P E : ) ( S G M L  
 a b F e c G / d Q R v e e s k f g 5 < • h A S C I I B i < j k ; ) E
- 2. ! " Q R Z FreeBSD < É J I ‡ F B m n E O 1 F B m n k ; o p q : P /  
 v 8 9 J I • p r s B < É / \* ] t u \_ p o V B < É ' ô 4 v w k E k 8 9 x y z { { FreeBSD  
 < É ® - = V x J I - B h | } ~ E 9 ¤ J I q r / F e ' C k \$ • € • , J I I V FreeBSD < É E  
 f 4 B q / \$ H 8 + q r ² " „ ... X k B é I E • † ø ( ) • ‡ J I P /  
 ^ % Š < • ‡ ( E V a D ) 9 { ? o p q r = á E  
 O 1 - E V • / \* ] Ž ! e " • J I ³ • < É / \_ 8 9 ' x • J I Í Î ' " E
- 3. K " [FreeBSD general questions](#) • - & — F ~ ™ J K ( S w V š > Q o Æ H )  
[comp.unix.bsd.freebsd.misc](#) E { ï ) • œ k B ~ ´ • ž /  
 F ! " D R M ... } ~ / ' É Ý ) ; B Ó ‡ £ V - ¤ / k S w 8 9 : o ( ¥ İ = G ? • p w | \$ " E

op&-V- vE4k @bf • pe<sup>a</sup> B | DE

## 1.2. U: 67 = B<sub>z</sub> Å (i Å • b) ^ )

Å: oÃBZ « • z Å7Y\$ k - - 8®B- E / \* ] Y\$ k : FreeBSD kernel  
CÇV ° B • ž / \* ] ± ] 7 \$ E Wÿ oÃvV%8y \$ B<sub>z</sub> Å / A@} ' "weekend hackers"  
o<sup>2</sup> 1 \ 3 ^ 89µ(EB HackerE

1. O1kU: ¶B' FreeBSD-CURRENTk; /Fn< . 1° e<sup>a</sup> / \_K89?  
[current.FreeBSD.org/](http://current.FreeBSD.org/) o» i (EV • (wk; -O1kV¼/ k89½e¾- 1<sub>z</sub> FÍ Î /  
aEO1fPJK} ~ / i UVQRE
2. K" [FreeBSD problem reports • - &—Eop](#)} ~ / \* zk, 56VÀ > ÁéBBé | /  
\* ] ! ÅÈÌ • p patch E « s / Sw89ÅÌ [ Ua = B • p } ~ E
3. O1k • ÄV • p [ Uop: -CURRENT Å ± ÅQ [ \ / d: p¥ • Ç- E (Èh' 2  
³ É È) ^ % / ÈÌ @Í ? -STABLE (oÍ Î ` ' MFC!Ñ!Merged From Current) / \_K89- Ûx B  
committer) ^ bĐÑÒB5ÓÔE
4. ÖÖ½C(3rd party)ü ý α - ? x ± Ø = B src/contrib ÛÚE
5. T Û src/contrib = B x ± Ø' v wBE
6. Ûl x ± Ø (\* ' « • x ± Ø) - / i Ý \ ĐPBBUà á (warning level)  
9âã<sup>a</sup> (debug) \ / F: ² ± ÈÌ ÊTäUh² â ^ % / Oî opÛl BBUà á E
7. Đw\_p: ports = [ \ ¥ - B | § / æO gets() \* ½Ä malloc.h | â ç BBUE
8. O1V4 ports r P<sub>z</sub> Ó [ U / i è a Òk B patch b - x r ]  
(oÆ1 / é á - / kBqr (Êâèi • p)E
9. x „ aUÅBí Ò / O POSIX“ Bî ; E : [FreeBSD C99 & POSIX í ÒÛì ®](#) -  
< ðÅ / 89a ? Ûx ñgE ì ÖFreeBSD B74 { ÅòBí Ò67óô / XI aõ1 { C99 &  
POSIX í Òe ~ Bö / Pí ' \_p ÷ ø QCBùúûš / i b • ( x X. B PR () ~ ù U)E  
O18, / i ' fOÓ [ U. / F - PR 5 < patch E  
O1kä4í ÒV } ~ / i ýopšpí ÒBÛxýý / i í sa67ywb! " E
10. 4o • ÅÅ56Đ8Å# "

## 1.3. uK<sup>3</sup> ( PR \$ % &

[FreeBSD PR ÁÅ](#) oÃ( ( Û) | V PR B } ~ \* + / 95û FreeBSD [ \ ] 5 < BÝ6À# E PR  
\$ % & ~ - ½, P • b) ^ † g • b) ^ B<sub>z</sub> ÅE u { \_p - Ì M...B  
PR / F { { ' öVki . / B<sub>z</sub> ÅE oa = 8, V • p' ghyz B } ~ / 1 Y\$ { • { FT ä PR  
' UTBE Os • p8, (Egh12 / \* ] ² " Ì 3<sub>z</sub> Ó [ UE

' x { • { \_p ° | V) g © B PRE O1 PR op • 4 - Pa. ) / d { æá' k, ° ± B /  
k89^Ö- \_ ( ) / F5 } k' ö8956! " -DR8, opV86ÈÌ B patch  
/ \* V • p866&Bé | E

## 1.4. û "Ideas" = 7 • 8

[FreeBSD list of projects and ideas for volunteers](#) ~ ÅQ • 9 - VéI 9 { FreeBSD ® - B) E  
o • Oz Òt uQĐw / ~ - 56 + ( 8ÛB\$: - l V) ; e & ' ô4Í Å > ®) ^ < E

## 2. OÓ56! "

= ; Å89 • 4915, CÂÇ

### 2.1. <sup>a</sup> ] üUt é | bÅ

Èh / • h B - — | D† Å# è > b? [FreeBSD technical discussions • - &—E](#)  
~ ÅQ / s Xop | § V. / B) (Wÿ / DR ~ - ° \$, " i ? Z @ B • É " ) 89! " AK [FreeBSD](#)

[technical discussions](#) • [— &—E ì 9K FreeBSD \[ \ ©L 9PMx Xo \( • — &—/ 95a. • — &—BB ÷ Ç CE](#)

O1k bç P bug \* ] | \$5< øp [ Ý / ì D¥ [send-pr\(1\)](#) Ĩ Å\* [ \ < = E Ç BF ù  
á 5< E ì Ĩ GH; PRB ( 8ÛE • háC / î g patch I J ¥ 65 KB / QRÅ #: PR = f g 3Å  
patch ` 89PE X8f gK \ patch ? x ‡ ØBö / \_ K Å #: PR B Synopsis L MNO [\[PATCH\]](#)E  
s P / : 3Å patch - / ì e \$ D¥ PQBR 1 S Ê T Å U á 67 / ^ a 4oÆHÇEZ Tab ê ‡ ¼b /  
ÆVW patch ` e , \ PE O1 patch J ¥ 20KB / ì ! " XY. F [ \ [uuencode\(1\)](#) á 67 Ü ØE

: ; ^ 2 PR ^ % / k ÇEZ ? • Ð T ä • É 95 Ô É [ \ Ü ] E  
ì Ü ^ o ( Ü ] / ^ a 4 Ô % 89 \ o Ü ] b Ô ? [bug-followup@FreeBSD.org](mailto:bug-followup@FreeBSD.org)  
á F \_ Ê 56x X > Ô É B % u \$ % E k Ý \$ HB ' Ö Ü ] 9 ? • É B í ~ = / æ O "Re: kern/3377" E  
X ' ~ • } ~ BF \_ C Ç / ë > D ¥ o , C Å á 67 E

O1k : • Ç - E ( J ¥ 3 ; S w 1 ^ 3 / o \_ ... X k B • É ` Å ) ^ % Ë ÿ | V Z ? T ä Ô  
\* ] û X • p x ^ a % D [ \ [send-pr\(1\)](#) Ĩ Å / a 89 b Ô ? [FreeBSD problem reports](#) • — &—  
á ì Ĩ ) ! F 3 ^ E

ì 9K [ob < c](#) P M O Ó : ; O B } ~ ü U E

## 2.2. s X < É B [ A

< É B [ Ý C Ç / ' û [FreeBSD documentation project](#) • — &— á d u E ì 9K [FreeBSD Documentation Project Primer](#) á e a ^ 2 ^ 3 B f G ÷ ø E ì g h ^ a ] ü U † é | b Å = E i B C D [ \ [send-pr\(1\)](#) á 5< w B < É / \* ] Ý j ç V B < É ( k l ' % ú B Ý ó v ' S T B " ) E

## 2.3. s X Ç V x ‡ Ø B [ Ý

: ç V x ‡ Ø Å 67 [ Ý \* E ø Æ , / : ø , Ĩ 1 Å ' Ý \$ Ð 8 - m B Ô / F n ° n k s X Û ) [FreeBSD B • bç \\* PM Ĩ 1 V x E V 8 , C Å 89 a ? opr "FreeBSD-CURRENT" B FreeBSD • b k ; E ì 9K FreeBSD \[ \ © L B Ü x « • / á P M \[ \ FreeBSD-CURRENT B B Ç E](#)

: \$ B x ‡ Ø Å 67 [ Ý / a È h 8 , x ‡ Ø o ¥ - / \* { w B k ; û š N Z m % D o y w ^ 3 @ ?  
[FreeBSD = E O1k VA FreeBSD announcements](#) • — &— 95 [FreeBSD-CURRENT](#) • — &— B ö /  
a 89 D ¥ . R á Z W P M Ü ) B • b \* + E

X k , " q @ 9 v w B x ‡ Ø á 67 k B [ Ý / a 1 • Ĩ \$ H B Ô Ç ` ' â ç k l [ Ý B diff I /  
F Ö . b - [FreeBSD B \( \) \) ^ E o 8 q r 89 D ¥ diff\(1\)](#) r Ý á ^ 2 ‡ E

5< patch - / Å # [diff\(1\)](#) p Å s \ unified diff ( 89 \ [diff -u](#)  
á â ç ) E e ¥ / O1k [ Ý P Z @ B x ‡ Ø / a [ \ [diff -c](#) á ç ‡ B context diff B diff  
8 , Ð Ĩ t K " / ^ a m u v [ \ E • h m w / Z 7 ' s \ [diff -ruN](#) x 8 E

æ O Ç

```
% diff -c oldfile newfile
```

\*

```
% diff -c -r olddir newdir
```

Ö Ç s Þ Æ Ü Ú / â ç context B diff I E

\* ] } ' É

```
% diff -u oldfile newfile
```

\*

```
% diff -u -r olddir newdir
```

Öâ ç • ÆB diff / d' pÅ 4 unified E

D8B ÷ ø « • / ì 9K diff(1)E

• † k [ \ diff(1) á â ç diff I (89 [ \ patch(1) r Ý á È Ì • 1) / ` 895 < . R / 9 â o FreeBSD Z Û E D ¥ [ \ ^ ] ü Ü † é | b Å = I E i B send-pr(1) Ĩ Å ` 89² † o 8qr E ì y é Ç e \$¹ Z diff I b ? FreeBSD technical discussions • – &— / ô a . R8 , Œ oz { " QR E ghi © k 5 < B [ Ý (o' • ( Bq ® " " ) E ^ a 4 QR 7 % Å / ^ a « V - e • Œ , " | x [ U } ~ / d PR \$ % & Ö • f Û t Gop è Ú / ^ a « ¹ \$ V ) VP - E . R ` , o Ý UPE O 1 k B } ~ ü U = ½ , patch / e \$ { P : í ~ æ Å [PATCH] á } ~ • 1 E

O 1 k ä 4 @ A (æ o E È • I € \* Ð Ý I , ) / ° 89 ! " [ \ tar á Ö I € " ½ / Ý % \ uuencode(1) á Ü Ø E « s / v 89 \ shar(1) â ç BC Å E

O 1 k B [ Ý 8 , q : • : B , # / æ O / ke T Œ Ü x B k f } ~ / \* ] i „ Ý \$ p ¥ Ð ... p B † d ` 89 b † . R / a ë f g b - Core Team < core @ FreeBSD . org > / me ' D ¥ send-pr(1) á b ^ E Core Team < core @ FreeBSD . org > o ú - † ^ Z 8 È Ö FreeBSD B % hqr E Ý \$ y é B ' / o ( ú - v ^ a « Š • Å < / ^ a « ¹ V : gh € \$ B - æ / ` ë ; Ö - DRE

ì 9 ! intro(9) † style(9) 9 PM x X : ; Ĩ Å Ø B Œ p • OE X , : ^ f Ü x Ĩ Å Ø ^ ) / x P M op / \_ s Z • á C Ö ' Ž Z B ! " E

## 2.4. wx † Ø \* y \$ B æ ö ü ý ½

O 1 k " • 5 6 š • ô Z B x † Ø / \* ] 4 FreeBSD £ æ y \$ B w Å , / a 8 , € ... Ö . RD ¥ uuencode 6 7 Ü Ø / \* ' ? ø ( Web \* FTP ð I / 9 â Ð 8 B ) , " a ? . EO 1 k | Vo Æ B ' O / ì ? Ü x B FreeBSD • – &— 5 f / { { ' ô V ) I é ! k 9 " . RE

s X Z @ B x † Ø mw / x X k f B } ~ " Œ Œ o 5 f E FreeBSD = ; µ ¶ = , " [ \ B k f • O ½ , Ç

1. BSD k f E QR - ý X [ \ o² - f B x † Ø / ^ a 4 . Re 3 æ 8 ^ B™ È U / ^ a m Ð , " š > æ ' Ú ' [ \ E FreeBSD Fees æ ' • ž [ \ . B x † Ø / Ü e / QR Ý Ž Q x Ø æ ' • ž [ \ QR B x † Ø / W Ý / O 1 . RX v , Z « • x † Ø / y w j Ç - FreeBSD ` Ð OPE
2. GNU General Public License / \* yp " GPL " E QRF e % ST [ \ o Å - f B x † Ø / ^ a 4 æ ' • ž [ \ . Ý \$ H Ð 8 B qr E e ¥ / ú X % 8 [ \ GPL - f B x † Ø Û ) ' % D £ æ B ( compiler , assembler , text formatter à ) / ¥ | [ \ I V s \ o Å - f B ü ý ' % e O \$ B E s \ GPL - f B x † Ø Œ o 9 ? x † Ø B • p P Œ B M " / æ O / sys / gnu \* / usr / src / gnu / 9 â \_ p ä 4 GPL 8 , Œ " † © ^ B ) , " r f A W B « - E

[ \ a . - f B x † Ø : 6 - FreeBSD ^ ) € ... p ¥ - y B † d † ! " E s \ ½ Ä ... ® • ^ B æ ' - f B x † Ø / • há C Œ o ¥ | / d QR x Ø op x † Ø Br ] / D ¥ ú ° B ± Ä á b ' . RE

X \$ : k B † 1 Å æ - " BSD - based " k f B ö / ì Z 1 Á < j 9 ? • x † Ø B v • † « • / F \ A W B < j G² % % ^ E B < j E

```
Copyright (c) %%proper_years_here%%
```

```

%your_name_here%, %your_state% %your_zip%.
All rights reserved.

```

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer as the first lines of this file unmodified.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY %your\_name\_here% ``AS IS'' AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL %your\_name\_here% BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

```
$Id$
```

4PCâ k B[ \ / : /usr/shared/examples/etc/bsd-style-copyright v 89 > ? « -f Bî ; E

## 2.5. 3 " \$ ^ Ê µ ý \* Internet mirror

```

QRghi é gñ + , . ÅBj φ / 96 • Î ¸ c FreeBSD ® ¯
/ ^ 4VkB@t / } QRoÆBBqÿ! ` , " VÐZB† ` "
j φ µ ý v g h y $ / ^ 4 o Æ , " ! " QRÉ α 8 @ A B µ ý , ^ /
mQR = B % 8 ) F | V § " B $ ´ á ^ " o p µ ý E

```

### 2.5.1. j °

```

FreeBSD = ´ Œ ' • ( g » ¼ B Ê V ½ ¾ ç α f B = ´ Œ / ^ | 9 Œ Å | o ( = ´ Œ / ' 4 P ö FreeBSD
® ¯ , " 8™ 8 Å E ^ 4 > = ´ Œ Á 501(c)3
b ý / • h m w j ° - = ´ Œ B ö / 8 9 α Å Æ Æ Ü Å Z - ¾ /
9 5 Æ Ç È 8 É Z - ¾ E È h s X V ½ ¾ ç α f B b ý 6 7 j φ B ö /
8 9 Ê Ë Ü Å Z - = ë ½ ¾ « • B ´ r E

```

k 89Z @ Ì ^ Í Ç

The FreeBSD Foundation  
3980 Broadway Street

STE #103-107  
Boulder CO 80304  
USA

FreeBSD = ' Æç : 89D¥ PayPal È < Åg¶i ° E O1k | ý = ' Æi ° /ì 9K FreeBSD = ' Æ  
< ðE

x X FreeBSD = ' ÆBÐ8Bç / 89: FreeBSD = ' Æ!Ñ!E i >? E \$ÛÎ = ' Æ/  
ì b ^ Í 2 • É? bod@FreeBSDFoundation.orgE

### 2.5.2. i Φμύ

FreeBSD ® STζ Ó) i Φ89[ \ ΒμύE O1kV. /i Φμύ/i ÛÛ i ΦÛÎ ) ¾• ðE

### 2.5.3. ‡ 4 FreeBSD mirror B < ð

QRST wB FTPÊ WWW \* **cvsup** mirror ðE O1k 23‡ 4oÆB mirror ð / ì 9K OÓÑ>  
FreeBSD mirror • < / 9PM6 • Í BçCE