

Ç ĩñãŨíùóç ôùí Âêäüóãùí ôĩõ FreeBSD

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\$FreeBSD: doc/el_GR.ISO8859-7/articles/releng/article.sgml,v 1.8 2008/12/08
03:10:52 keramida Exp \$

Áðòù òĩ Ũñèñĩ ðãñéãñŨöáé ôçĩ áĩòéĩãððéóç éáé ĩñãŨíùóç ôçò ñŨãáð áĩŨððòĩç òĩõ FreeBSD, ùóĩĩ áðĩñŨ óôçĩ ðñĩãðòĩéĩáðá ðĩéĩðééðĩ äêäüóãùĩ òĩõ ÊäéðĩðñäéçŸ Óðóððĩáðòĩõ FreeBSD. Âĩçãã ìã äãððñŸñäéá ôçĩ ìäèĩäĩèĩãá ðĩõ ÷ ñçóéĩðĩèĩãðáé äéá ðéð äððóçĩãð äêäüóãéð òĩõ FreeBSD éáé ðãñéãñŨöáé óã ãñãäéãá ðĩõ äβĩáé äéáéŸóéĩá óã ùóĩòð ãĩáéáóŸñĩóáé íá ðãñŨãĩðĩ ðãñãĩãðñĩðĩéçĩŸĩãð äêäüóãéð òĩõ FreeBSD äéá áóùðãñéçð ð ãĩðĩñéçð ÷ ñðóç éáé áĩŨððòĩç ðñĩũĩíðùĩ.

Ðβĩáéáò Ðãñéã ÷ ñŸĩùĩ

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1 Áéóáãũãð

Ç áĩŨððòĩç òĩõ FreeBSD äβĩáé ìéá ðĩéŸ áñé ÷ ðð äéãäééáðá. Òĩ FreeBSD áðĩðäéãðáé áðũ óóĩãéóñĩŸð ÷ éééŨãũĩ áĩèñðùĩ áðũ ùéĩ òĩĩ èũóĩĩ. Ç ñŨãá òĩõ FreeBSD ðãñŸ ÷ äé ðñũóááç ìŸóũ áĩðĩðĩõ CVS[1] óã ùéĩòð, Ÿðóé þóðã íá ìðĩñã ùðĩéĩð èŸéäé íá ääé ìçĩŸĩáðá log, äéãñĩŸð (patches) ðĩõ Ÿ ÷ ìóĩ óã äéŨñĩãä development branches, éáé Ũèä ÷ ãñãäðçñéóðééŨ ðĩõ äĩçèŸĩ ôçĩ áĩŨððòĩç, óã ìðĩã ðñĩéŸððĩðĩ áðũ ôçĩ ÷ ñðóç áĩũð áðððçñĩŸ óðóððĩáðòĩõ äéá ÷ äβñéóçð èðäééá. Áðòù áðĩðŸéãóá éáé òĩĩ ðéĩ óçĩáĩóéèũ ðãñŨãĩðá Ÿéĩçð äéá Ÿĩá ìããŨéĩ ãñéèũ áðũ óäéáĩðŸ ÷ ìð ðñĩãñãĩãðéóðŸð áðũ ùéĩ òĩĩ èũóĩĩ óóĩ FreeBSD. Âβĩáé ðñĩðáŸŸð, äŸäáéá, ðùð ðĩéŸ óŸĩðñã éã äð ÷ ä äβĩáé áĩðäèð ÷ áĩðééð ç éãðŨóðáç áĩ äð ÷ áĩ ùéĩé, áðũ ùéĩ òĩĩ èũóĩĩ, ðñũóááç íá ãñŨðĩðĩ óóĩ èðäééá. Äé’ áðòù, ìũĩ ìéá “äðééãñĩŸç” ñŨãá áðũ ðãñððĩõ 300 Ũðñã Ÿ ÷ ìóĩ ðñũóááç íá ãñŨðĩðĩ óóĩ CVS repository. Áðòĩ ìéä committers[6] äβĩáé ððäŸéðñĩé äéá òĩ ìããäéŸðãñĩ ìŸñĩõ ôçò áĩŨððòĩçðð ðĩõ äβĩãðáé óóĩ FreeBSD. ĩéá

ἐλπίσθητες-*ἡ* *ὕμνη*[7] (core team) ἁδὴ ἀέαεἀνῆι¹Υἱρὸδ δῆνᾶῖαἰάοεόδ²Υδ ἀέ³Υ⁴ᾶό⁵ἀέ⁶ ἀέ⁷ ἰά⁸ δᾶν⁹Υ÷-ἀέ¹⁰ ἐ¹¹ὔθιε¹²ῖο ἀβᾶ¹³ῖοδ
ἐἀε¹⁴ῖᾶ¹⁵Πᾶ¹⁶ςό¹⁷ς ἐἀέ¹⁸ ἰέα¹⁹ ἐἀό²⁰ᾷ²¹ε²²ῖοί²³ος οό²⁴ἱ²⁵ ό²⁶γ²⁷ῖ²⁸ε²⁹ἱ³⁰ οὐ³¹ἱ³² committers.

Ίε οά÷ýðάοίε ηόειηβ άίΰððσίçð οίò FreeBSD άάί άòßíοί έάέ ðíey ÷ ηύíí άέά οί ίάέάέΰñέοίά οίò óðóðßíáðíð άίΰððσίçð óά ίέά Ύέαιόç ίά ðíεύóçðά ðíò ίά άίβæάέ ίά ÷ ηçέóéíðíέάßðάέ άòñΎýð. Άέά ίά έðέåß áðòý οί άβέέçíá, ç άίΰððσίç άßíáðάέ óáðòý÷ ηίííá óά άοί ðάνΰέέçέά ίίíðΰóέά. Ί έýñέíð έίíñýð άίΰððσίçð άßíάέ í **HEAD** ð **trunk** óóí CVS repository ίάð, άίýóóýð έάέ ùð “FreeBSD-CURRENT”, ð “-CURRENT” άί óóíññά.

[illegible][illegible]

Όρια÷ ποσό Υεῖνῶαέ αἰὺ οἶοδ ÷ ἡΠόοῶα ἰαδ ἀράοῖνΥδ ὁνῖαεçĬòυῖ εἰε ἀεδΠόαέδ ἁεἰ εἰεῖνῖεἰ ÷ ἁἡαέδçḡεοóεēŬ, εἰαδŬ οç ἁεŬἡεἰεἰα οἶο εῖεῖο οçδ εŬεἰ Ἰεἰαοçδ. Ἰε ἀράοῖνΥδ ὁνῖαεçĬòυῖ ἁεóŬἡῖῖοἰε οόçĭ ἁŬοç **GNATS**[9] ἰŬŬ e-mail, ἰἁ οçĭ ἁῶἡῖἡἡP send-pr(1), Π ἰŬŬ οἶο web-interface ὁἶο ὁἡἡŬ ÷ ἁῶἰε οόçĭ ἁεἰἡεἶοἶοç <http://www.FreeBSD.org/send-pr.html>. Ἀέοὺδ αἰὺ οέο ἁεŬῖοἡἡδ εἶόοἡδ çḡἁεἡἡῖεῖῖ οἰ÷ ὁἡἡἡἡἡἶο ἰἁ εŬἡἰ ὁἰ ὁἰ÷ἰεēŬ ÷ ἁἡαέδçḡεοóεēŬ οἶο FreeBSD ὁἶŬἡ ÷ ἁε εἰε ç εἶόῶἰ FreeBSD Quality Assurance mailing list (<http://lists.FreeBSD.org/mailman/listinfo/freebsd-qa>), ç ἱἶἡἰ ὁἡἡŬ ÷ ἁε Ἰἰἰ ὡἡἡἶο ἁεἰ ὁἰæçδΠόαέδ ὁ÷ ἁῶεēŬ ἰἁ ὁέο εἰἁἁἁἡŬἡἡἰαδ οçδ “ἡἡἡŬἡῖοçδ ὁἡἰ ἁεἰἡῶἡἡ”.

Ἄεά íá áñòðçñáðòçείγí íé ðεí ðοιòçñçðέεíβ ÷ ñÞòðáð íáð, íá Ἰέαίòç ðñ FreeΒD 4.3 áñ÷Βóáíá íá ÷ ñçòçείñðíεíγíá íá÷÷ñέóóγíò εíñíγý ðεáυóáυí. Ἀðòíβ íé εíñíβ áçíεíñáγíóáε εβáí ðñβí ðόεá÷ðáβ ç ðáέέεβ Ἰέαίòç. ÍáðÜ ðçí áíáεíβíυòç ðçð Ἰέαίòçð, íυñ ðíεγ óçíáíóέéΥ ðεεάáΥ ðεé ðñíòεÞεáð ó÷áðέéΥ ðá ðçí áóðÜεάá áβíñíóáε ðóñ εíñíυ ðçð Ἰέαίòçð. Ἀέυòð áðυ ðçí áñíáðυðçðá áíááÜείεòçð íΥóυ CVS, áêðáéΥóεíá patchkits ðόεÜ÷ñííóáε áεá íá ðíñíγí íá áíáááεíβóíñ ðá ðóððÞíáðÜ ðíðð υóίε ÷ ñçòçείñðíεíγí ðέð ðεáυóáέð *RELENG_X_Y*.

Οι ΌιΠια 2 αϊçããß íà åãððñŸñæãð ðã æÛöïñã ððÛæã ðçð ææãææãðßãð ðï ãñßöæãðæ ðßóù æðu èÛæ Ýæãïç, ìŸ ÷ ñé ææ ðã æΠιαðã ðï ðãçãŸŸ ðçðŸ ìãðãæððöéç ðï ððððΠιαðïð ææ ðï ÒïΠια 3 αϊçããß ðçŸ Βæã ðç ææãææãðßã ðçð ìãðãæððöéçð. Òï ÒïΠια 5 ðãñæãÛöæ ðùð ðŸñãß íã ððæðæãß ðï æãóæù óŸðçŸã æðu ðñßïðð ææ ðï ÒïΠια 6 ðãñæãÛöæ èÛðŸæ æðu ðã ðñÛãðã ðï ìÛæìã æðu ðçŸ ææãææãðßã Ýæãïçð ðï FreeBSD 4.4. ÕŸæð, ðï ÒïΠια 7 ðãñïðöæÛææ èÛðŸæð æðu ðöð æãðæðŸŸãðð ðï èŸæŸïã íã ðÛñæ ç æŸÛððçŸ ððï ìŸæŸŸ.

2 Ç Äéääéêáóßá Äçïéïõñãßáo ìéáò êäïóçò

Ίε ϊΎαο αεαυοάοδ οΐο FreeBSD οοεΰ÷ ρΐοάε αδϋ οΐϊ -STABLE εΐνϋ αΐΰδδοΐοδ δαΐβδϋο εΰεα οΎϋοάναοδ ϊΐΐαδ. Ϙ αεαεεεαοβα δΐηαοΐεαοβαδ ιεάδ Ύεαϋοδ ϊαεεΐΰαε ο÷ ααϋ ϊ5 ϊΎναδ δΐεϊ οϘϊ αΐαΐαϋαΐϘ ϘαΐΐΐϘβα Ύεαϋοδ, υοαϊ ϊ οδϋγεοΐοδ αεαυοαϋ οΐο FreeBSD οοΎεαε Ύα αΐΰηα οοεδ εβοαδ ουϊ δΐηαΐηααοεοοϋϊ αεα ϊα οδαρεοιβοαε οοιϋδ δΐηαΐηααοεοοΎδ υοε Ύ÷ ϊοϊ 15 ϊΎναδ εαεϋ ϊα εΰϋοι υδϋεαδ αεεααΎδ εΎεϋοι, δΐε ϊο δΰαυα οΐο εραεεα. ΊΎοα οα αοου οΐϊ εαεϋ, δρεεϊ δΐηαΐηααοεοοΎδ εΰϋοι ιεα οαεϋ αδϋ αεεααΎδ δϋο Ύ÷ ϊοϊ ιαβαε δεΎϊ αϋυοοΎδ υο “ϊαεαεαΐβοαοα MFC”. Ί υϋοι MFC οϘαβαε “Merge From CURRENT” εαε δαΐεαΐΰοαε οϘϊ αεαεεεαοβα δΐηοαΐηαδ

òĩō ēpāēēā iēāō āiēēiāōĩŸĩçò āēēāāpò āðũ òĩĩ -CURRENT ðāēñāiāóēēũ ēĩñĩũ áĩŪðòðĩçò òòĩĩ òóāēāñũ -STABLE ēĩñĩũ.

2.1 ĩēāā÷ĩō ēpāēēā

ŌñēŪiōā çĩŸñāð ðñēĩ òçĩ áĩáĩāĩũĩāĩç çĩāññĩçĩā Ÿēāĩōçò, ĩ ēpāēēāð òĩō repository áēóŸñ÷āóāē óā iēā ðāñbĩrāĩ “ēāēðóóŸñçòçò”. ĒāðŪ òç āēŪñēāēā āððò òçò ðāñēũāĩð, ũēāð ĩē āēēāāŸò òòĩĩ -STABLE ēĩñĩũ ðñŸðāē iā Ÿ÷ĩōĩ òçĩ Ÿāēñēóç òçò Release Engineering Team <re@FreeBSD.org>. Ĩē āēēāāŸò ðĩō āðēōñŸðĩiōāē óā āððp òçĩ ðāñbĩrāĩ ðĩō āēāñēāb 15 çĩŸñāð ābĩāē:

- Āēĩñēpóāēð āĩüóðĩ ðñĩāēçĩŪðũĩ.
- Āĩçĩāñpóāēð òòçĩ ðāēĩçñbũóç.
- ĀēēāāŸò ó÷āðēēŸò iā òçĩ áóðŪēāēā.
- ĨēēñŸò āēēāāŸò òòĩōð ĩāçāĩŸò òóóēāðĩ, ũðũð ð÷. ç ðñĩóēðēç òũĩ IDs ĩŸũĩ òðóēāðĩ.
- Ĩðĩēāāððĩōā Ūēēç āēēāāp ðēóðāŸāē ç ñŪāā áĩŪðòðĩçò ũðē ðñŸðāē iā ābĩāē, iā òĩ áĩáĩāĩũĩāĩ ðŪiōā ñbóēĩ.

ĨāðŪ òēð ðñpóāð 15 ĩŸñāð ēāēðóóŸñçòçò, òðēŪ÷ĩāóāē iēā āiēēiāóóēēp Ÿēāĩōç āēā iā ÷ñçóēĩĩðĩēçēāb óāĩ āiēēĩp òçò ðāēēēpò Ÿēāĩōçò ēāē ĩ ēpāēēāð áēóŸñ÷āóāē óā iēā ðāñbĩrāĩ “ðāāpĩāðĩð”. ðēŸĩĩ ābĩāē ðĩēŸ ðēĩ āŸóēĩēĩ iā ābĩĩōĩ ĩŸāð āēēāāŸò òòĩ óŸóðçĩā, āēðũð ēē áĩ āēĩñēpñĩōĩ ēŪðĩēĩ ðĩēŸ òĩāāñũ bugp ēŪðĩēĩ ðñũāēçĩā áóðŪēāēāð. ĒāðŪ òç āēŪñēāēā òĩō ðāāpĩāðĩð òĩō ēpāēēā, òĩōēŪ÷ēóðĩĩ ĩbā āiēēiāóóēēp Ÿēāĩōç òðēŪ÷ĩāóāē ēŪēā āāāñŪāā, ĩŸ÷ñē iā ābĩāē Ÿĩōēĩç ç òāēēēp Ÿēāĩōç. Ōēð çĩŸñāð āēñēāpò ðñēĩ òçĩ ðāēēēp Ÿēāĩōç, ç ñŪāā ðĩō ābĩāē òðāŸēðĩç āēā òēð āēāũóāēð ābĩāē óā òòĩā÷p āðēēĩēĩũĩā iā òçĩ ñŪāā áóðŪēāēāð, òçĩ ñŪāā òòĩðpñçòçò òçò ðāēĩçñbũóçò, ēāē òçĩ ñŪāā òòĩðpñçòçò òũĩ ports, āēā iā āāāāēũēĩŸĩ ðũð ũēā óā āðāñābðçòā ēĩñŪðēā āēā iēā ðēpñç Ÿēāĩōç ābĩāē āēāēŸóēĩā.

2.2 Ēbóóā ĀēŸā÷ĩō òçò Ōāēēēpò ēāĩōçò

Ÿāðāĩ āñēāðŸò āiēēiāóóēēŸò āēāũóāēð Ÿ÷ĩōĩ ābĩāē āēāēŸóēĩāð, Ÿ÷ĩōĩ āiēēiāóóāb āðũ āñēāðũ ēũóĩĩ ēāē ũēā óā òĩāāñŪ ēŸĩāóā Ÿ÷ĩōĩ áĩāēōēāb, ç ðāēēēp Ÿēāĩōç ĩðĩñāb iā āñ÷bóāē.

2.2.1 Āçĩēĩñābā òĩō ēĩñĩŸ ēāĩōçò

Ÿāðũð ðāñēāñŪøāĩ òòçĩ āēóāāũāp, ĩē ēĩñĩñb RELENG_x_y ābĩāē iēā ó÷āðēēŪ ĩŸā ðñĩóēðēç òòçĩ ĩāēĩāēĩābā òũĩ āēāũóāpĩ iāð. Ōĩ ðñpòĩ āpĩā òòçĩ āçĩēĩñābā āðòĩŸ òĩō ēĩñĩŸ ābĩāē iā āāāāēũēābðā ũðē āĩōēāŸāðā iā òçĩ òāēāðóābā Ÿēāĩōç òĩō ðçāābĩð ēpāēēā āðũ òĩĩ RELENG_x ēĩñĩũ āðũ òĩĩ ĩðĩbĩ ēā òðēŪiāðā òĩ ĩŸĩ ēĩñĩũ.

```
/usr/src# cvs update -rRELENG_4 -P -d
```

Ōĩ āðũāĩñ āpĩā ābĩāē iā āçĩēĩñābāðāðā iēā āðēēŸðā (tag) òòĩ òçĩābĩ āēēbĩçòçò òĩō ēĩñĩŸ, póðā iā ĩðĩñābðā iā āābðā òēð āēāòĩñŸò iā òçĩ āñ÷p òĩō ēĩñĩŸ āŸēĩēā òòĩ ĩŸēēĩ iā òĩ CVS:

```
/usr/src# cvs rtag -rRELENG_4 RELENG_4_8_BP src
```

Ēāē òũðā ĩðĩñābðā iā āçĩēĩñābāðāðā òĩ ĩŸĩ ēĩñĩũ iā:

```
/usr/src# cvs rtag -b -rRELENG_4_8_BP RELENG_4_8 src
```

Οδηγός: Το `RELEASE_*` αρχείο `RELEASE_*` είναι η βάση των `CVS-meisters` και οι `RELEASE_*` αρχεία.

Το `RELEASE_*` αρχείο είναι η βάση των `CVS-meisters` και οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters` και οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters`.

2.2.2 Αρχή του Απριλίου

Οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters` και οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters`.

- `doc/en_US.ISO8859-1/books/handbook/mirrors/chapter.sgml`
- `doc/en_US.ISO8859-1/books/porters-handbook/book.sgml`
- `doc/share/sgml/freebsd.ent`
- `src/Makefile.incl`
- `src/UPDATING`
- `src/gnu/usr.bin/groff/tmac/mdoc.local`
- `src/release/Makefile`
- `src/release/doc/en_US.ISO8859-1/share/sgml/release.dsl`
- `src/release/doc/share/examples/Makefile.relnotesng`
- `src/release/doc/share/sgml/release.ent`
- `src/share/examples/cvsup/standard-supfile`
- `src/sys/conf/newvers.sh`
- `src/sys/sys/param.h`
- `src/usr.sbin/pkg_install/add/main.c`
- `www/en/docs.sgml`
- `www/en/cgi/ports.cgi`
- `ports/Tools/scripts/release/config`

Οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters` και οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters`.

- `src/release/doc/en_US.ISO8859-1/relnotes/common/new.sgml`
- `src/release/doc/en_US.ISO8859-1/errata/article.sgml`

Οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters` και οι `RELEASE_*` αρχεία είναι η βάση των `CVS-meisters`.

[illegible]

- `www/en/includes.xsl`
- `www/en/includes.sgml`
- `www/es/includes.sgml`
- `www/en/releases/*`
- `src/share/misc/bsd-family-tree`

2.2.3 Äçìéĩõñãßá ôùí Âôéêâôpí ôçò êäïóçò

1/40áí ç ôãëëêP Ýêäiôç åbíáé Ýôieîç, ç ðãñáéÛòù áíôieîP èá äçieiõñãPóáé ôçí åôëêÝôá RELENG_4_8_0_RELEASE.

```
/usr/src# cvs rtag -rRELENG_4_8 RELENG_4_8_0_RELEASE src
```

RELEASE_4_8_0 óóá éáôÜëëçä äÝíóná ðçāáβíø ēpāëéä.

ΙάναεΎδ οινΎδ, ιδιναβ ίά ÷ ναεάοοαβ ίά αβιροι εΎδιεάδ αεεάαΎδ οάεαδoαβa οόεαιb ιαδoΎ ογι οδιεΎδoγoς ουι
 αοεεαορι. ΆαρεεΎ, ααρ αβίαε άγoερει ία αβίαε εΎδε οΎοιει αοιγ οι CVS αδεονΎδαε ία ιαοαεειbοαε εΎδιειo οεο
 αοεεΎοαο ία ιαδιεΎδ uδuo cvs tag -d tagname filename. Άβίαε διεγ oγιαδιεου uδuo αδoΎδε ιε αεεάαΎδ oγo
 οάεαδoαβaο οόεαιbο ία oγιαεuειγί ία οεο ουoοΎδ αοεεΎοαο αεα oγι oοαεαειγίγc Ύεαιoγ. Ιε αδbογiαο αεαυoαεο οiο
 FreeBSD ονΎδαε ία αβίαε δΎiοα άγeρει ία αiαδαña÷ειγί. ΟιδεεΎδ αεεάαΎδ οοι δaνεαΎεειο οiο ιc÷αiεειγ ουι
 αεαυoαui ααρ αδεονΎδιoαε.

3 àâãäåæç èé êëìíîï

Ιε "ææuðæð" ðið FreeBSD iðiniýi íá íaðææuððéóóðýi áðu iðieíæððiðæ Ý÷æ Ýíá ó÷æðéÛ æñðæini íç÷Ûíçíæ éæðñuðææóç ððí repository ðið ðçææðio ððæéæ. (¼æie Ý÷iðí áððð ðç æiðíðuðçðá, áðý ðænÝ÷iðí ðñuðææóç ìÝðu æíðíðio CVS! Åæðæ ði Åæ÷æñðæie ðið FreeBSD æéá ðæñéóóðuðæñð æððñÝñææð.) Ç iuiç æææéð æðæðçóç æðíæ íá ððÛñ÷æ ððíðððñéíç ððíð ððñðíá óáð æéá ðçí ðððéæðð vn(4). (Óðí -CURRENT, áððð ç ðððéæðð Ý÷÷æ æíðéæáðáððææð áðu ðçí íÝá ðððéæðð æððéið æáðéóíÝñð óá ðíðç md(4).) Áí ç ðððéæðð æá æðíæ æíðuáððuìÝíç ððíð ððñðíá óáð, ðuðð í æáðÛëççðð íæçðuð éá ðíððuðæð áððuáðá uðáí æððææáððæ ç æíðieð vnconfig(8) æáðÛ ðç æéÛñææá ðçð ðÛóçð æðieíæáðð ðið ìÝðio æéððíçðçð. ¼æá ðá æñæææðá ðið ðñæÛæíðææ æéá íá íaðææuðððððæð íéá Ýææíóç æðíæ æææÝðéíá óá ðñðð ðçææðio ððæéæá ððíð æáðÛëiæ src/release. ÁððÛ ðá æñæææðá Ý÷÷iðí uð ðéiðu íá ðænÝ÷iðí uðé ðñæÛææðææ æéá íá ðððæíðææ íé æææuðæð ðið FreeBSD ìá Ýíá ðíðæðð éæð ððæææñéíÝñ ðñuðí. Íéá ðéðñçð Ýææíóç ððíðæð íá íaðææuðððððæð ðñçðéiððieðíðáð áððÛ ðá æñæææðá ìá íéá éæð iuið æíðieð, ððððæñéæáðæíÝíçð éæð ðçð æçieíðñæðáð æíðu ISO æñ÷æðio æáðÛëçççí æéá íá éææð óá CDROM, íé æéðéÝððáð æéððíçðçð, éæðð éæð í æáðÛëçççð æææáðÛðáðçð ìÝðu FTP. Áððð ç æíðieð æðíæ ðððéð ç make release.

3.1 CMake make release

Ἄέα ἰά ἰάόάαῦῶῶῶῶῶῶ ἄῶῶῶ÷ῶ ἰέα Ἰέαῖος, ὄñÝῶῶ ὄñῶῶ ἰά ὄῶῦñ÷ῖῖ ὁῶ ῆῶῶῶῶῶ ἁñ÷ῶῶ ἰÝῶῶ ὀῖῖ ῆῶῶῶῶῶ
 /usr/obj. Ἰῶñῶῶ ἰά ὁῶ ἁῖῖῖῶñῶῶῶ ῶῶῶ ἰῶ ὀῖ ἰῖῖῶῶῶ **make world** ῶ ἁῶῶ **make buildworld**. Ἄέα ἰά

ðáðý÷-áé áðßóçð ç ìáðááëðððéóç òçð Ýêáîóçð ðñÝðáé íá äðáððá ðéð éáðÛëëçéäð ðéíÝð éáé óá èÛðíéäð ìáðááëçðÝð:

- CHROOTDIR - Ì éáðÛëíáðð ðîõ èá ÷ ñçóéíðíéçéäð óáí ðáñéáÛëëí chroot áéá üëç òçí ìáðááëðððéóç òçð Ýêáîóçð.
- BUILDNAME - Õî üñíá òçð Ýêáîóçð ðîõ èá ìáðááëüðððáððá.
- CVSROOT - Ì éáðÛëíáðð óðñí ìðíßí áñßóéáðáé òí CVS repository.
- RELEASETAG - Ç áðééÝðá CVS ðîõ áíóéóðíé÷-áß óóçí Ýêáîóç òçí ìðíßá èÝéäðá íá ìáðááëüðððáððá.

Áí ááí Ý÷-áðá ðáç ðñüóááóç óá èÛðíéí ðíðéëü CVS repository ìá òñí èðáééá ðîõ FreeBSD, ìðíáððá ðÛíóá íá òðéÛíáððá òí áéëü óáð ðíðéëü CVS mirror ìá òí CVSup (http://www.FreeBSD.org/doc/en_US.ISO8859-1/books/handbook/synching.html#CVSUP). ÕðÛñ÷-áé Ýíá supfile, óðí áñ÷-áßí /usr/share/examples/cvsup/cvs-supfile, òí ìðíßí ìðíáððá íá ÷ ñçóéíðíéçéäð áéá íá áíðéáñÛððá òí CVS repository ðîõ FreeBSD óðí áéëü óáð ðíðéëü mirror.

Áí ðáñáëáßðáððá òçí áðééÝðá RELEASETAG, ðüðá èá ìáðááëüðððéóðáß íéá ðëðñçð Ýêáîóç áðü òçí èíñðð ðîõ HEAD (áçë. ðîõ -CURRENT) èíññí. Ìé áêüüóáéð ðîõ òðéÛ÷-ñíðáé áðü áððüí òñí èíññí, óðíðëüð áíáðÝññíðáé óáí “-CURRENT snapshots”.

ÕðÛñ÷-íðí éáé ðíéëÝð Ûëëáð ìáðááëçðÝð ðîõ ìðíñíí íá ÷ ñçóéíðíéçéçíí áéá íá ðáñáíáðñíðíéçéäðá òçí Ýêáîóç óáð. Ìé ðéí ðíéëÝð áðü áððÝð ðéð ìáðááëçðÝð ðáñéáñÛñíðáé óóçí èíñðð ðîõ áñ÷-áßíð src/release/Makefile. Ç áêñéáðð áíðíëð ðîõ ÷ ñçóéíðíéçéäð áéá íá òðéá÷-ðáß ç áðßóçð Ýêáîóç 4.7 ðîõ FreeBSD (x86 ðéáððüñíá) ððáí:

```
make release CHROOTDIR=/local3/release \
    BUILDNAME=4.7-RELEASE \
    CVSROOT=/host/cvs/usr/home/ncvs \
    RELEASETAG=RELENG_4_7_0_RELEASE
```

Õí Makefile ðîõ ÷ ñçóéíðíéçéäð áéá íá ìáðááëüðððáíðáé ìé áêüüóáéð ìðíáß íá ÷ ùñéóðáß óá áñéáðÛ ìá÷-ùñéóðÛ ìáðáíý ðîõð áðíáðá.

- Äçíëíðñáß áñüð éáéáññí ðáñéáÛëëíððð óá íéá ìá÷-ùñéóðð éáñáñ÷-ßá éáðáëüüí ìá òçí áíðíëð “make installworld”.
- Áíáñüáß áðü òí CVS ìéáð éáéññéáð Ýêáîóçð ðîõ ðçááßíð èðáééá ðîõ óððððíáððð, òçð ðáèíçññüóçð éáé òñí ports ìÝóá óóçí éáñáñ÷-ßá éáðáëüüí ìáðááëðððéóçð òçð Ýêáîóçð.
- Ñðëíðáéð òñí áñ÷-áßí óðñí éáðÛëíá /etc éáé /dev ìÝóá óðí ðáñéáÛëëí chroot.
- ÁéðÝéáóç òçð áíðíëðð chroot ìÝóá óóçí éáñáñ÷-ßá éáðáëüüí ðîõ áðíéíÛóðçéá, áéá íá ìçí ìðíáß òí áñüðáñéëü ðáñéáÛëëí íá áðçñáÛóáé òç ìáðááëðððéóçð òçð Ýêáîóçð.
- ÁéðÝéáóç òçð áíðíëðð make world ìÝóá óðí ðáñéáÛëëí chroot.
- Ìáðááëðððéóç òñí áéðáëÝóéíð ðîõ áßíáé ó÷-áðééÛ ìá òí óýóðçíá Kerberos.
- Ìáðááëðððéóç ðîõ ððñðíá GENERIC.
- Äçíëíðñáß áñüð ðáéééñí éáðáëüüíð óðñí ìðíßí èá ìáðááëüðððéóðííí éáé èá áðíèçéáððéñíí ìé áéðáëÝóéíð ìñðÝð òñí ðáéééðí ðáéÝðð.
- Ìáðááëðððéóç éáé ááéáðÛóðáóç òñí áñááéáßíð ðîõ ÷ ñáéÛáñíðáé áéá òçí ðñíáðíéíáððá òçð Ýêáîóçð éáé òç ìáðáðñíðð òçð ðáèíçññüóçð áðü òñí ðçááßíð èðáééá (SGML) óá html éáé áñ÷-áßá éáéíÝñð ðîõ èá óðñíáññíðí òçí Ýêáîóçð.
- Ìáðáðñíðð éáé ááéáðÛóðáóç òçð ðáèíçññüóçð (áá÷-áéñßáéá ÷ ñððóç, áéóáñüáééÛ éáßíáíá, óçíáéðáéð Ýêáîóçð, èßóðáð óðíááðððçðáðð ðéééñí, èëð.)

- Îāóāāēpôóéóc òuĩ “òõĩðēáõĩŸĩũĩ” (crunched) āēðāēŸóēĩũĩ ðĩō ēā ÷ ñçóēĩĩðĩēçēĩŸĩ óóēð āēóēŸôðāð āāēáðŪóóáócð.
- Āçĩēĩōñāβā òuĩ ðāēŸôũĩ ôçð āāēáðŪóóáócð ēāē òuĩ ðāēŸôũĩ ðçāāβĩō ēpāēēā.
- Āçĩēĩōñāβā òuĩ ìŸóũĩ āēēβĩçóçð ēāē ôçð āēóēŸôðāð “fixit”.
- Āçĩēĩōñāβā ôçð ēāñāñ÷βāð ēáðāēüũĩ āēā ôçĩ āāēáðŪóóáóc ìŸóũĩ FTP.
- (ðñĩíēñāôēēŸ) Āçĩēĩōñāβā òuĩ ISO āñ÷āβũĩ āēā ìŸóā CDROM/DVD media.

Āēā ðāñēóóũðāñāð ðēçñĩōĩñβāð ó÷āðēēŸ ìā ôçĩ āēāēēāóβā āçĩēĩōñāβāð ìēāð Ÿēāĩóçð, āāβôā ôçĩ óāēβāā ôāēĩçñβũóçð release(7).

3.2 Îāóāāēpôóéóc òuĩ XFree86

Ōĩ āñāóēēũ ðāñēāŪēēĩ **XFree86** āβĩāē Ÿĩā óçĩāĩóēēũ ēñĩŪðē ēŪēā Ÿēāĩóçð āēā ðĩēēĩŸð ÷ ñβóðāð ðĩō ēŸēĩōĩ òĩ FreeBSD āēā óðāēĩŸð āñāóáð. ðñēĩ ôçĩ Ÿēāĩóç 4.6-RELEASE òĩō FreeBSD, ìē āðβóçĩāð āēüüóāēð òĩō FreeBSD ÷ ñçóēĩĩðĩēĩŸóāĩ ôçĩ Ÿēāĩóç 3.x òuĩ **XFree86**. Ĭ ðēĩ āŸēĩēĩð ðñũðĩð ìā ìāóāēũððóðāðā áððŸð óēð āēüüóāēð āβĩāē ìā ÷ ñçóēĩĩðĩēĩŸóāĩ òĩ ðñũāñāĩā `src/release/scripts/X11/build_x.sh`. Áðũũ òĩ ðñũāñāĩā áðāēðāβ ìā āβĩāē ðāç óççĩŸĩā óõĩ óŸóççĩŸ óáð òũũĩ òĩ ðāñēāŪēēĩ XFree86 üũĩ ēāē ç āēpóóā Tcl/Tk. ÎāðŪ ôçĩ ìāóāāēpôóéóc òuĩ ēáðŪēēçēũĩ X servers, òĩ ðñũāñāĩā ēā ðāēāðŪñāē üēā óā āñ÷āβā óā óðēēĩāŸð āñ÷āβũĩ ðĩō ðāñēĩŸĩāē ìā āñāē òĩ `sysinstall(8)` ìŸóā óõĩ ēáðŪēēĩāĩ `XF86336` óõĩ ìŸóĩ āāēáðŪóóáócð.

Îāēēĩpĩóáð ìā ôçĩ Ÿēāĩóç 4.6-RELEASE òĩō FreeBSD, òĩ `sysinstall(8)` āāēāēéóðŪ ôçĩ Ÿēāĩóç 4.x òuĩ XFree86, óāĩ ēāñĩēēŪ ðāēŸóā. ÁððŪ ìðĩñāβ ìā āβĩāē āβôā óā ðāēŸóā ðĩō āçĩēĩŸñāçóā òĩ cluster òuĩ ports ð ìðĩēāāðĩðā Ūēēā ðāēŸóā ðĩō Ÿ÷ĩōĩ āçĩēĩōñāçēāβ áðũ Ÿĩā ports tree ìā ôçĩ ēáðŪēēçç āðēēŸóā.

Óçĩāβũóç: Āβĩāē ðĩēŸ óçĩāĩóēēũ ìā áðāēñŸóðāðā áðũ òĩ āñ÷āβĩ `/etc/make.conf` ìðĩēāóāððĩðā òĩðēēŸð ñòēĩβóāēð Ÿ÷āðā ēŪĩāē. Āēā ðāñŪāāēāĩā, āāĩ āβĩāē ēāēp ēāŸā ìā āēāĩŸĩāðā āēðāēŸóēĩā ðĩō Ÿ÷ĩōĩ ìāóāāēũððéóðāβ óā ēŪðĩēĩ óðāēāēñēĩŸĩĩ óŸóççĩā ìā ìñēóĩŸĩç ôçĩ óēĩp ôçð ìāóāāēçððð `CPUTYPE` āēā āāēðéóõĩðĩβçç òuĩ āēðāēŸóēĩũĩ āēā ēŪðĩēĩ óðāēāēñēĩŸĩĩ áðāĩāñāóðp.

3.3 ðñĩāñŪĩĩāðā Ōñβôũĩ (“ports”)

Ç Óðēēĩāp òuĩ Ports òĩō FreeBSD (<http://www.FreeBSD.org/ports>) āβĩāē ìēā óðēēĩāp ìā ðāñēóóũðāñā áðũ 23,000 ðñĩāñŪĩĩāðā áðũ òñβôĩðð, ðĩō āβĩāē āēāēŸóēĩā āēā FreeBSD. Ĭē Ports Management Team <portmgr@FreeBSD.org> āβĩāē òðāŸððĩēē āēā ôçĩ óõĩðpñççç āĩũð āŸĩóñĩō áðũ ðçāāβĩ ēpāēēā āēā óā ports, ðĩō ìðĩñāβ ìā ÷ ñçóēĩĩðĩēçēāβ āēā ìā āçĩēĩōñāçēĩŸĩ óā ðāēŸóā ìā óā ðñĩāñŪĩĩāðā ðĩō óðñāŸĩōĩ óēð āðβóçĩāð āēüüóāēð òĩō FreeBSD.

Ç āēāāēēāóβā óõĩðpñçççð ôçð óðēēĩāpð òuĩ ports āβĩāē ēŪðē ðĩō āāĩ ìðĩñĩŸĩā ìā ēāēŸðĩðĩā āāp. Ĭā ìā÷ũñēóðũ Ūñēñĩ, ìā ðβôēĩ Ç ÎñāŪtūóc ēāĩōçð òuĩ ðāēŸôũĩ ĒĩāēóĩēēŸ áðũ Ōñβôĩðð ([./releng-packages/article.html](http://releng-packages/article.html)), ēāēŸðāē áðũ òĩ ēŸĩā.

3.4 Āñ÷āβā ISO ôçð ēāĩóçð

Îāēēĩpĩóáð ìā ôçĩ Ÿēāĩóç 4.4 òĩō FreeBSD, ç ñŪāā ĀĩŪðððĩçð òĩō FreeBSD áðĩōŪóēóā ìā āēāĩŸĩāē ēāē óā òŸóóāñā ISO āñ÷āβā ðĩō ðñpóā ðĩōēĩŸóāĩ ìē āðāēñāβāð *BSDi/Wind River Systems/FreeBSD Mall* óðēð “āðβóçĩāð” āēāmŸð CDROM ðĩō Ÿēāĩāĩ. ĒŪēā Ÿĩā áðũ óā òŸóóāñā ISO āñ÷āβā ðñŸðāē ìā ðāñēŸ÷āē Ÿĩā āñ÷āβĩ `README.TXT` ðĩō

ðǻñéǻñŨóǻé óǻ ðǻñéǻ ÷ ùǻǻǻ òĩō ǻßóèĩō, êé Ýǻǻ ǻñ ÷ ǻßĩ CDROM.INF ðĩō ðǻñéÝ ÷ ǻé ìǻóǻ-ðéçñĩōĩñßǻð ǻéǻ íǻ ìðĩñǻß òĩ ðñüǻñǻìǻ sysinstall(8) íǻ ǻéÝǻǻé éǻé íǻ ÷ ñçóéĩðĩéßóǻé áðòù òĩ ǻßóèĩ, éǻèð òé Ýǻǻ ǻñ ÷ ǻßĩ filename.txt ðĩō ðǻñÝ ÷ ǻé ìéǻ èßóóǻ ǻñ ÷ ǻßüĩ òĩō CDROM. Áðòß ç èßóóǻ ìðĩñǻß íǻ ǻçĩéĩñǻçéǻß ðĩéý áðéŨ, ùò ǻĩßð:

```
/stage/cdrom# find . -type f | sed -e 's/^\\.\\.\\/' | sort > filename.txt
```

Ìé óðǻéǻéñéĩÝǻð áðǻéòßóǻéò ǻéǻ èŨèǻ Ýǻǻ áðü áðòŨ óǻ CD ðǻñéǻñŨĩĩóǻé ðǻñǻéŨòù:

3.4.1 ǻßóèĩò 1

Ì ðñðòĩò ǻßóèĩò ǻßǻé ó ÷ ǻǻüĩ áðĩééǻéóóééŨ áðĩòÝéǻóĩǻ òçð ǻĩòĩéßð make release. Ìé ùĩǻð ǻééǻǻÝò ðĩō ðñÝðǻé íǻ ǻßĩòĩ óòĩĩ éǻòŨéĩǻĩ disc1 ǻßǻé ç ðñĩóèßéç òĩō éǻòŨéĩǻĩò tools, òùĩ **XFree86**, éǻé üòĩ òĩ ǻóĩǻòüĩ ðǻñéóóüòǻñüĩ ðǻéÝòüĩ ìðĩñĩý íǻ ÷ ùñÝóĩòĩ óòĩ ǻßóèĩ. Ì éǻòŨéĩǻĩò tools ðǻñéÝ ÷ ǻé ǻñǻǻéǻǻá ðĩō áðéòñÝðĩòĩ óǻ ÷ ñßóóǻð Ũéèüĩ éǻéòĩñǻéèßĩ óðóòçĩŨòüĩ íǻ òòéŨĩòĩ òéð ǻéóéÝòðǻð ǻéèßĩçóçð. Áðòùò ì ðñðòĩò ǻßóèĩò ðñÝðǻé íǻ òòéŨ ÷ ìǻóǻé bootable Ýòóé ðóóǻ íǻ ìðĩñĩý ìé ÷ ñßóóǻð òùĩ ùĩòÝñüĩ òðĩéĩǻéóòßĩ íǻ áðĩòǻýǻĩò òĩ óòŨǻéĩ ǻçĩéĩñǻßǻð òùĩ ǻéóéǻòòßĩ ǻéèßĩçóçð.

ǻĩ ìéǻ ǻéǻóĩñǻðéèß Ýéǻĩóç òùĩ XFree86 éǻ ǻéǻĩÝǻǻóǻé ìǻ òçĩ Ýéǻĩóç áðòß, ðñÝðǻé íǻ ǻçĩǻñüèǻß òĩ ðñüǻñǻìǻ sysinstall(8) ǻéǻ òçĩ ìÝǻ èÝóç éǻé ìé ìǻçǻßǻð ǻǻéǻòŨóóǻóçð. Ì ó ÷ ǻðéèüð èßǻééǻð òðŨñ ÷ ǻé óòĩĩ éǻòŨéĩǻĩ src/release/sysinstall óòĩĩ -STABLE èĩñü ð óòĩĩ éǻòŨéĩǻĩ src/usr.sbin/sysinstall óòĩĩ -CURRENT èĩñü. ÓðǻéǻéñéĩÝǻǻ, óǻ ǻñ ÷ ǻßǻ dist.c, menus.c, éǻé config.c éǻ ÷ ñǻéǻóóǻß íǻ ǻçĩǻñüèĩý.

3.4.2 ǻßóèĩò 2

Ì ǻǻýòǻñĩò ǻßóèĩò ǻßǻé ǻðßóçð áðĩòÝéǻóĩǻ òçð ǻĩòĩéßð make release éǻòŨ Ýǻǻ ìǻǻŨéĩ ìÝñĩò. Áðòùò ì ǻßóèĩò ðǻñéÝ ÷ ǻé Ýǻǻ “live filesystem” ðĩō ìðĩñǻß íǻ ÷ ñçóéĩðĩéçéǻß áðü òĩ sysinstall(8) ǻéǻ íǻ ǻĩǻóǻóóĩý ðñĩǻéßĩǻóǻ óǻ ìéǻ ǻǻéǻòŨóóǻóç òĩō FreeBSD. Èé áðòùò ì ǻßóèĩò ðñÝðǻé íǻ ǻßǻé bootable. Èǻ ðñÝðǻé ǻðßóçð íǻ ðǻñéÝ ÷ ǻé Ýǻǻ óòĩðéǻóĩÝĩ ǻĩóßǻñǻòĩ òĩō CVS repository óòĩĩ éǻòŨéĩǻĩ CVSROOT éǻé ǻǻǻǻǻóǻ áðü ǻìðĩñééŨ ðñĩǻñŨĩǻóǻ óòĩĩ éǻòŨéĩǻĩ commerce.

3.4.3 ǻßóèĩé 3 éǻé 4

Ìé òðüéĩéðĩé ǻòĩ ǻßóèĩé ðǻñéÝ ÷ ìĩò áðéðñüóéǻóǻ ðǻéÝóǻ éĩǻéóĩééý ǻéǻ òĩ FreeBSD. Óǻ ðǻéÝóǻ éǻ ðñÝðǻé íǻ ǻßǻé ñǻǻĩðĩéçĩÝǻǻ, Ýòóé ðóóǻ èŨèǻ ðǻéÝòĩ íǻ ǻßǻé óòĩĩ ßǻéĩ ǻßóèĩ ìǻ üéǻ óǻ ðǻéÝóǻ áðü óǻ ìðĩßǻ ǻĩǻñòŨóǻé ǻéǻ íǻ ǻǻéǻóóóǻéǻ éǻé íǻ òñÝǻé. ðǻñéóóüòǻñǻð ðéçñĩōĩñßǻð ǻéǻ òçĩ ǻçĩéĩñǻßǻ áðòß òùĩ ǻßóèüĩ ǻĩǻóÝñĩĩóǻé óòĩ Ũñèñĩ Ç ÎñǻŨñóç éǻĩóçð òùĩ ðǻéÝòüĩ Éĩǻéóĩééý áðü Òñßòĩòð (../releng-packages/article.html).

4 ǻéǻĩñß òùĩ Áêüüóǻùĩ

4.1 ǻĩòðçñǻòçòÝò FTP

¼óǻĩ ç Ýéǻĩóç ǻßǻé Ýòĩéĩç, Ý ÷ ǻé ǻĩééĩǻóóǻß ǻéòǻĩßð, éǻé Ý ÷ ǻé ðǻéǻóǻñéóóǻß ǻéǻ ǻéǻĩñß, ì éýñéĩò FTP ǻĩòðçñǻòçòßð ðñÝðǻé íǻ ǻçĩǻñüèǻß. Ìé ǻðßóçĩé ǻĩòðçñǻòçòÝò FTP òĩō FreeBSD ǻßǻé üéé mirrors ǻĩüò éýñéĩò ǻĩòðçñǻòçòß óòĩĩ ìðĩßĩ Ý ÷ ìĩò ðñüóǻǻóç ùüĩ Ũééé FTP ǻĩòðçñǻòçòÝò. Áðòùò ì ǻĩòðçñǻòçòßð ǻßǻé ǻĩüóóüð ùò ftp-master. ¼óǻĩ ç Ýéǻĩóç ǻßǻé Ýòĩéĩç, ðñÝðǻé íǻ ǻçĩǻñüèĩý óǻ ðǻñǻéŨòù ǻñ ÷ ǻßǻ óòĩĩ ftp-master:

[/pub/FreeBSD/index.html](#)

λέα ἀδῆP web οἰαῖβᾶᾶ θῖο θᾶñéY ÷ ᾶé ᾶᾶβêοᾶᾶ οᾶ ᾶéUοῖñῖῖοᾶ οῖαῖοᾶééῖῖYᾶ FTP ῗᾶοᾶῗῗῗῖῖοᾶ ᾶῗᾶ οῖαῖ οñY ÷ ῖῖοᾶ Yῗᾶῖῖοῖ οῖῖ FreeBSD.

```
/pub/FreeBSD/releases/arch/X.Y-RELEASE/
```

I éadóUeräno ádu öni rðirBi ððrñryí íá äBfröi äæéáoóóÜóáéo iYóu FTP, üðuò öni Ý÷æ ðñiäoielÜóáe ç áföieP make release.

/pub/FreeBSD/ports/arch/packages/packages-X.Y-release/

¼ëá ôá ðñĩĩãôããëùôêéóìÝíá ðáéÝôá ãéá ôçì ôñÝ÷ĩõóá Ýëäĩõç.

```
/pub/FreeBSD/releases/arch/X.Y-RELEASE/tools
```

Îéá óõïâîëëêÐ óõïôùîâõóç ãéá ôîí êáôÛëîï .../.../.../tools.

/pub/FreeBSD/releases/arch/X.Y-RELEASE/packages

```

λέά όοίâîëêêP όοίôùîâóóç äéá ôîí êáoÜëîäî .../.../.../ports/i386/packages-X.Y-release.

```

```
/pub/FreeBSD/releases/arch/ISO-IMAGES/x.y/x.y-*.iso
```

Ôá áñ÷åßá ISO.

Άέά άάήέόούόάήάό άέçñĩōĩñßå ò÷âôéÛ ìà ôçĩ ìñãÛĩúôç òùì mirror áéáñĩðò FTP ôĩò FreeBSD, άάñáéáēρ ááßôå ôĩ Ûñēñĩ ÖôéÛ÷ĩĩôåò Ýía FreeBSD mirror (../hubs/).

Ιδιόηας ία δ'Υηάε ανέαο'Υο ηηαο αδ'υ ός'ί οόέαηδ' θ'ιρ έα άίς'ίαν'ηεάβ ί ftp-master ι'Υ÷ηέ ία άίς'ίαν'ηε'ίς'ί οός'ί
δεάέ'ι'ο'ς'όβ'ά ο'ι'οδ' ό'ά δ'ηη'ο'ι'ο' άδεδ'Υ'α'ι'ο' FTP mirror ία ός'ί ι'Υ'ά 'Υ'ε'α'ι'ο'ς'. Άδεά'Υ'ε'ε'α'ο'άέ ίε οδ'α'γ'ε'ο'η'έ 'Υ'ε'α'i'ο'ς'ό ία
οδ'ί'ά'η'ί'ς'ί'ς'ί' ία ός'ί 'ς'ε'ά'ε'ο'η'ί'έ'ε'β' έβ'ο'ό'ά ο'υ'ι' mirror sites ο'ι'ο' FreeBSD
(<http://lists.FreeBSD.org/mailman/listinfo/freebsd-hubs>) δ'η'έ'ί' ά'ί'ά'έ'ί'ε'ς'ί'ο'ι'ο' ός'ί' ά'α'ί'έ'ε'β' ά'ε'ά'ε'α'ο'έ'ι'υ'δ'ς'ό'ά' ός'ό' ι'Υ'ά'ο
'Υ'ε'α'i'ο'ς'ό' ο'ό'ι'οδ' ά'ι'οδ'ς'η'ά'ός'ό'Υ'ο' FTP.

4.2 ÀáæéêÞ ÁíáðáñáãùãÞ ôùí CD-ROM

Ἐὰ σοὶ δὲ ἔχνη δὲ ἄβ οὐ γίνῃται· Ὅτι ἂν ῥοῦ ἔα ὁ ἄνθρωπος τοῦ ISO ἀνὰ τὸν FreeBSD ὁ αὐτὸς ἐπὶ τοῦ τοῦ ἰδιωτοῦ ἡ ἐπὶ τοῦ ἰατρικοῦ ἀνάγκῃ ἀνάγκῃ, ἔα ἡ ἰδιότητα αὐτῆς τὸν διεύθυντοῦ τοῦ ἰδιωτοῦ ἡ ἀνάγκῃ.

5 Åđăêôáóéìüôçôá

[illegible]

5.1 ĀçîēîōñāāĀ ĐñîóáñîîóíŸíuî ĀéóēāôôĀ ĀēēĬîççò.

ĐîēēŸ ãāēāóáóôŪóāēò Ÿ÷îîí đîēýđēîēāò áđāēôĀóāēò đîō ìđîñāĬ íā ôç óāēñŪ òîō ñā áđāēôîŸí ôçî đñîóēĬēç đāñéóóúôāñuî ñāçāĬ Ā āñāāēāĬuî ÷ñĀóôç óôēò āéóēŸôôāò āāēāôŪóóáóçò. Ĭ “ñāēŪēēēîō” òñuđîō íā òî ēŪíāôā áôôu āĬíāē íā ēŪíāôā ôēò āēēāŸô óāò óôñî ēāôŪēîāî đîō Ÿ÷āē āôîēîŪóāē ñāôŪ òî ôŸēîō ôçò ç āēāāēēāóĀā make release:

- ĐāñŪóôā óā patches óāò Ā đñîóēŸôôā óā āđēđēŸîí āñ÷āĀ íŸóā óôñî ēāôŪēîāî chroot ôçò Ÿēāîôçò.
- `rm ${CHROOTDIR}/usr/obj/usr/src/release/release.[59]`
- ñāôāēüôôóôā đŪēē òî sysinstall(8), òñ đôñĬíā, Ā üđîēā Ūēēā đñîāñŪñāóā Ÿ÷îîí āđçñāāóôāĬ áđü ôēò āēēāŸô óāò.
- `chroot ${CHROOTDIR} ./mk floppies`

Ĭē íŸāò āéóēŸôôāò āāēāôŪóóáóçò ēā āçîēîōñāçēîŸí óôñî ēāôŪēîāî \${CHROOTDIR}/R/stage/floppies.

ĀíāēēāēôēēŪ, ìđîñāĬôā íā ÷ñçóēîîđîēĬóāôā òî make target boot.flp, Ā ìđîñāĬôā íā òñŸíāôā áđāôēāĬāò òî script òî āçîēîōñāāĬ óā óôôôĬíāóā āñ÷āĬuî src/release/scripts/doFS.sh.

ĬđîñāĬôā āđĬóçò íā ēāñîĬóāôā Ĭóôā āēēŸô óāò āēēāŸô íā đāñāóôîŸí ñā ññôĀ patch óôçî Ÿēāîôç üđüò ēā ôôēŪ÷íāôāē, āĬñîíôāò ôēĬĀ óôçî ñāôāāēçôĀ LOCAL_PATCH üôāí òñŸíāôā ôçî āîôîēĀ make release.

5.2 ĐñîāñāîîāôĬæîîóāò òî sysinstall

Ōî āñāāēāĬî āāēāôŪóóáóçò ēāē ñŸēîēóçò òîō FreeBSD, òî sysinstall(8), ìđîñāĬ íā đñîāñāîîāôēóôāĬ āēā íā ēŪíāē đēî āŸēîēāò ôēò áôôñîāôîđîēçîŸíāò āāēāóáóôŪóāēò óā đîēēŪ ñç÷āĬíāóā. Áôôu òî ÷āñāēôçñēóôēēu òîō đñîāñŪñāôîō ìđîñāĬ íā ÷ñçóēîîđîēçēāĬ óā óôñîāóáóîu ñā òî PXE[13] ôçò Intel āēā íā ñāēēĬóāē ç āāēāôŪóóáóçò áđü òî āĬēôôî, Ā óā óôñîāóáóîu ñā đñîóáñîîóíŸíāò āéóēŸôôāò āēēĬîççò ēē Ÿíā sysinstall script. íā đāñŪāāēāîā áđü ôŸôîēî sysinstall script ìđîñāĬôā íā āñāĬôā óôî āñ÷āĬî src/release/sysinstall/install.cfg.

6 ÌāēĬíāóā òîō ĐĬñāîā áđü ôçî êäîôç 4.4 òîō FreeBSD

Ç āēāāēēāóĀā āôîēîāóĬāò ôçò Ÿēāîôçò 4.4 òîō FreeBSD ñāēĬîçóā āđĬóçîā ôçî Ĭç ÁôāîŸóôîō 2001. ÌāôŪ áđü áôôĀ ôçî çîāññîçîĬā, üēāò ñē āēēāŸô óôñî ēîñîü RELENG_4 òîō FreeBSD Ÿđñāđā íā Ÿ÷îîí Ÿāēñēóç áđü ôçî Release Engineering Team <re@FreeBSD.org>. Ç đñĬôç āîēēîāóôēēĀ Ÿēāîôç āēā ôçî āñ÷ēôāēôñîēēĀ x86 Ÿāēíā āēāēŸóēîç óôēò 16 ÁôāîŸóôîō, ēē āēîēîōēĬēēā áđü 4 āēüîā āîēēîāóôēēŸô āēāüóāēò đîō ñāĬāçóāí ôçî òāēēēĀ Ÿēāîôç óôēò 18 òîō ÓāđôŸíāñç. Ĭ òđāŸēôñîō áóôŪēāēāò Ÿđāēíā ôçîāíóēēü ñüēî ēāôŪ ôçî āēŪñēāēā ôçò òāēāôôāĬāò āāāñŪāāò ēāēĬò ēŪđîēā đñîāēĬíāóā áóôŪēāēāò āñŸēçēāí óā đñîçāîŸíāíāò, āîēēîāóôēēŸô āēāüóāēò. ÓôñîēēēŪ, đŪîü áđü 500 email óôŪēēçēāí ôçî Release Engineering Team <re@FreeBSD.org> óā āēŪóôçîā ñēēñüôāñî áđü Ÿíā ñĬíā.

Ç ēîēîüôçôā òùí ÷ñçóôĬ íāò Ÿēāíā óāôŸô üôē ç áóôŪēāēā ēāē ç óôāēāñüôçôā ñēāò Ÿēāîôçò āāí ēŪ 'đñāđā íā ēôôēŪæāóāē āēā ēāíāüò āĬāüôò đñîēāóîĬāò Ā çîāññîçîĬāò đîō Ÿ÷îîí òāēāĬ óāí óôü÷îē áđü đñēí. Ōî FreeBSD Ÿ÷āē ñāāēĬóāē āñāîāôēēŪ ēāôŪ ôç āēŪñēāēā ôçò æüĬò òîō óāí óŸóóçîā, ēāē ç áíŪāēç āēā óôāēāēñēîŸîç đîēēôēēĀ ēāē ññāŸüôç āēā ôçî āçîēîōñāāā íŸuî āēāüóāüí āĬíāē đēŸîí óāíāñĀ đāñéóóúôāñî áđü đîōŸ. ÁôôĀ ç áíŪāēç ēā āĬíāē āēüîā đēî ôçîāíóēēĀ ēāēĬò òî FreeBSD ēā āñ÷āĬāē íā ñāóāŸŸñāóāē óā íŸāò đēāóôñîñāò.

7 ÎáëïíîééÝò Êáóãðëýíóáèò

Ãßíáé æüðééðò óçíáóßáð ïé ðñáéðééÝò éáé ç ïñÃÛîóç òçð ñéááééáóßáð äçíëíðñáð òùí Æêüüóàùí íáð íá óðíáááßæíðí íá òçí óðíá÷ð ðóíáíúíáíç áÛóç òùí ÷ñçóðíí íáð. Ìá áÛóç áððð òç óéÝðç ãñááæüíáóðá ðéççñÛ áéá íá ðáëíçñéðóíðíá òçí ñéááééáóßá ðáñááüñðò òùí Æêüüóàùí òîõ FreeBSD.

- *ÐáñÛëçççç áððÝéáóç* - ÌáñééÛ ïÝñç òçð ïáðááëðððéóçð ïéáð ÆáéáðÛóðáóçð ïðñíýí íá áßñðí “ðñéý ðáñÛëççççá”. Óá ðéí ðñééÛ áðü ðá óðÛáéá áßíáé I/O intensive, ïðüðá ç ýðáñíç ðñééðí ððççðð-ðá÷ýðçðáð áßóèùí áßíáé ðéí óçíáíðééð áðü òçíí ÷ñðç ðñééðí áðáíáñááóðíí áéá íá áðéðá÷ðñéáß éÛðüð ç ñéááééáóßá ðîð make release. Áí ñéáóññáðééëß áßóéíé ÷ñçóéíðñéççýíí áéá ðíðíáðá òçð éáñáñ÷ð ðîð chroot(2) ðáñéáÛëçñðò, ðüðá ðí CVS checkout òùí éáðáéüüñí ports éáé doc ïðñáß íá áßíáé ðáððü÷ñííá íá òçí áñðñð make world óðñ Ûëëí áßóéí. ×ñçóéíðñéçççç ïéá RAID éýóç (hardware ð software) ïðñáß íá ïáéðóáé ãñáóðééÛ ðñí óðñééü ÷ñññ ðîð ÷ñáéÛáðáé íá ïáðáéüððéóðáß ïéá ðéðñçð Ýéáñóç.
- *Ïáðááëðððéóç Æêüüóàùí áéá ñéáóññáðééÝò áñ÷éðáðñééÝò* - ÈÝéáðá íá ïáðáéüðððáðá ïéá Ýéáñóç áéá IA-64 ð Alpha óá éÛðñéíí x86 áðáíáñááóðð? make TARGET=ia64 release.
- *ÃñééíÝð áéá éÛçç* - ×ñáéáæüíáóðá éáéýðáñá ãñááéáßá áéá áððüíáðí Ýéáá÷ñ ïñëüðçðáð óðñ FreeBSD.
- *Ãñááéáßá ÆáéáðÛóðáóçð* - Õñ ðñüãñáñÛ íáð áéá òçí ÆáéáðÛóðáóç ðîð FreeBSD Ý÷áé ïáðáñÛóáé ðññ ðñééý ðñí áíáíáñññ ÷ñññ æüðò ðîð. ÕðÛñ÷ñ ñéáóññáð ïñÛáð ðîð ãñáÛéíðáé áéá íá ðéíðñéðóíðí éÛðñéí Ûëëí, ðéí ïñðÝññ ïç÷áíéðü ÆáéáðÛóðáóçð. Ìéá áðü ðéð ðéí ððñó÷ññáð, áßíáé ç ïñáá libh[5] ðñí óðñ÷áéáé òçí ðéíðñçççç áñüð Ýñðññ, ïÝñ ðññðñ ðáéáðáñðóíáðñ éñáéóíéçý éáé áñüð GUI ðññáñÛñáðñ ÆáéáðÛóðáóçð.

8 Æð÷áñéóðßáð

Èá ðéáéá íá áð÷áñéóððóù ðñí Jordan Hubbard, ðñí ïñ Ýáñóá òçí ððéáéñßá íá ðÛññ éÛðñéá áðü òçí áðéýíç òçð Ýéáñóçð 4.4 ðñí FreeBSD, éáçð éáé áéá ïéçç òçí ãñéáéÛ ðñí Ý÷áé éÛñáé ááð éáé ÷ñññéá áéá íá áßíáé ðñí FreeBSD áððü ðñí áßíáé óðñáñ. ÕðééÛ, ç Ýéáñóç ááí éá ðóáí ðñíÝ áðñáðñ íá ïñéççññéáß ÷ññð ïéçççç òçí ó÷áðééð ïá òçí Ýéáñóç ãñéáéÛ ðñí Ýéáíáí ïé Satoshi Asami <asami@FreeBSD.org>, Steve Price <steve@FreeBSD.org>, Bruce A. Mah <bmah@FreeBSD.org>, Nik Clayton <nik@FreeBSD.org>, David O’Brien <obrien@FreeBSD.org>, Kris Kennaway <kris@FreeBSD.org>, John Baldwin <jhb@FreeBSD.org> éáé ïñéé ïé ððñéñéðñé ðñí áð÷ññýíáé ïá òçí áñÛððñç ðñí FreeBSD. ÈÝëü áððóçð íá áð÷áñéóððóù ðñíð Rodney Grimes <rgrimes@FreeBSD.org>, Poul-Henning Kamp <phk@FreeBSD.org>, éáé ïññð ðñíð Ûëëñð ðñí ãñáÛóççáí áéá íá ððéÛññí ðá ãñááéáßá áéá ðéð Æêüüóáéð óðéð ðñðáð ïÝñáð òçð äçíëíðñáð ðñí FreeBSD. Áððü ðñí Ûñéñí Ý÷áé áðçñááóðáß áðü éáßíáíá ó÷áðééÛ ïá òçí ïñÃÛîóç òùí Æêüüóàùí áðü ðñí CSRG[14], òçí ïñáá ðñí NetBSD[11], éáé òçí ðññóðáç áéá íéá ñéááééáóßá ïñÃÛîóçð òùí Æêüüóàùí ðñí John Baldwin[12].

9 ÁíáðñÝò

[1] CVS - Concurrent Versions System <http://www.cvshome.org>

[2] CVSup - The CVS-Optimized General Purpose Network File Distribution System
<http://www.polstra.com/projects/freeware/CVSup>

[3] <http://bento.FreeBSD.org>

[4] FreeBSD Ports Collection <http://www.FreeBSD.org/ports>

[5] The libh Project <http://www.FreeBSD.org/projects/libh.html>

- [6] FreeBSD Committers
http://www.FreeBSD.org/doc/en_US.ISO8859-1/articles/contributors/staff-committers.html
- [7] FreeBSD Core-Team http://www.FreeBSD.org/doc/en_US.ISO8859-1/articles/contributors/staff-core.html
- [8] FreeBSD Handbook http://www.FreeBSD.org/doc/en_US.ISO8859-1/books/handbook
- [9] GNATS: The GNU Bug Tracking System <http://www.gnu.org/software/gnats>
- [10] FreeBSD PR Statistics <http://www.FreeBSD.org/prstats/index.html>
- [11] NetBSD Developer Documentation: Release Engineering <http://www.NetBSD.org/developers/releng/index.html>
- [12] John Baldwin's FreeBSD Release Engineering Proposal <http://people.FreeBSD.org/~jhb/docs/releng.txt>
- [13] PXE Jumpstart Guide http://www.FreeBSD.org/doc/en_US.ISO8859-1/articles/pxe/index.html
- [14] Marshall Kirk McKusick, Michael J. Karels, and Keith Bostic: *The Release Engineering of 4.3BSD*
(<http://docs.FreeBSD.org/44doc/papers/releng.html>)