

Ç ĩñãŨíùóç ôùí Âêäüóâùí ôĩõ FreeBSD

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\$FreeBSD: release/8.4.0/el_GR.ISO8859-7/articles/releng/article.xml 39632

2012-10-01 11:56:00Z gabor \$

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Άδου οĩ Ũñēñĩ ðāñēāñŨōāē ôçĩ áíôēíāðþðēóç ēāē ĩñãŨíùóç ôçð ñŨāāð áíŨððôĩçð ôĩõ FreeBSD, ùóĩí áöĩñŨ óôçĩ ðñĩāðĩēíāóßā ðĩēĩðēēþĩ āēäüóâùí ôĩõ Êāēðĩõñāēēĩý Óðóðßíāðĩõ FreeBSD. Âĩçāāß ĩā ēāððñŨñāēā ôçĩ ĩāēĩāĩēĩāßā ðĩõ ÷ñçóēĩĩðĩēāßðāē āēā ðēð āðßóçĩāð āēäüóāēð ôĩõ FreeBSD ēāē ðāñēāñŨōāē óā āñāāēāßā ðĩõ āßíāē āēāēÝóēíā óā ùóĩõð āíāēāóŨñĩíóāē ĩā ðāñŨāĩĩĩ ðāñāĩāðñĩðĩēçĩÝĩāð āēäüóāēð ôĩõ FreeBSD āēā āóùðāñēēþ ð āĩðĩñēēþ ÷ñþóç ēāē áíŨððôĩç ðñĩüĩĩóðũĩ.

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1 Âēóāāũāþ

Ç áíŨððôĩç ôĩõ FreeBSD āßíāē ĩēā ðĩēý āĩē÷ðþ āēāāēēāóßā. Ôĩ FreeBSD áðĩðāēāßðāē áðũ óðĩāēóöĩñÝð ÷ēēēŨāũĩ āĩēñþðũĩ áðũ ùēĩ ôĩĩ ēũóĩĩ. Ç ñŨāā ôĩõ FreeBSD ðāñŨ÷āē ðñũóāāóç ĩÝóũ āĩþĩðĩĩõ CVS[1] óā ùēĩõð, Ýðóē þóðā ĩā ĩðĩñāß ùðĩēĩð ēÝēāē ĩā āāē ĩçýĩāóā log, āēāöĩñÝð (patches) ðĩõ Ý÷ĩĩĩ óā āēŨĩñā development branches, ēāē Ũēēā ÷āñāēðçñēóðēēŨ ðĩõ āĩçēĩýĩ ôçĩ áíŨððôĩç, óā ĩðĩßā ðñĩēýððĩĩĩ áðũ ôçĩ ÷ñþóç āĩũð áððóçñĩý óðóðßíāðĩõ āēā÷āßñēóçð ēþāēēā. Áðũ ðñĩõÝēāóā ēāē ôĩĩ ðēĩ ôçĩāíóēēũ ðāñŨāĩĩĩā Ýēĩçð āēā Ýĩā ĩāāŨēĩ āñēēĩũ áðũ óāēāĩðĩý÷ĩõ ðñĩāñāĩĩāóēóðÝð áðũ ùēĩ ôĩĩ ēũóĩĩ óũĩ FreeBSD. Âßíāē ðñĩóāĩÝð, āÝāāēā, ðũð ðĩēý óýĩðñā ēā āß÷ā āßíāē āĩóāēþð ÷āĩðēēþ ç ēāðŨóðāóç āĩ āß÷āĩ ùēĩē, áðũ ùēĩ ôĩĩ ēũóĩĩ, ðñũóāāóç ĩā āñŨĩĩĩĩ óðĩĩ ēþāēēā. Âē' áððũ, ĩũĩĩ

[illegible]

Ίε όα÷ýόάοίε ηόειηβ άίΰδδοίçό όίό FreeBSD άάί άόβήόί έάέ δίεý ÷ññί άέα όί ίάέάέΰñέόίά όίό όόόόβίάόίό άίΰδδοίçό όά ίέα Ύέάίόç ίά δίέυόçόά όίό ίά άίβέάέ ίά ÷ñçέόίόδίέάβόάέ άόñΎύό. Άέα ίά έόέάβ άόόü όί άέέέçίά, ç άίΰδδοίç άβίάόάέ άάόόü÷ññίά όά άόί όάνΰέέçέά ίññδΰόέα. Ί έýñέίό έίññüό άίΰδδοίçό άβίάέ í **HEAD** þ **trunk** όόί CVS repository ίάό, άíυόόüό έάέ üό “FreeBSD-CURRENT”, þ “-CURRENT” άί όόίόñβά.

Jáο δέι οόάεανύο έιηνύο οόίογνάβόάε, άνυοόύο ιά οί υμνά “FreeBSD-STABLE” η δέι ούύοηά “-STABLE”. Έάε ιέ άοί έιηνύβ άβίάε άδύεçεάοιΥήιέ οόί έύήέι CVS repository, οόçί Έάέέουνήέα, έάε άίόέανÜοήίόάε ιΥόο **CVSup**[2] οά mirrors άάίόιΥ οόήι έυοίι. Üο FreeBSD-CURRENT[8] άβίάε ç “δñòç οάέñÜ” οçò άίÜδòçìç οίò FreeBSD έάέòò οά άòóυ άβήήόάε δñòá υέάò ιέ έάέήήνέάò áέέάáÝò. Üο FreeBSD-STABLE άβίάε ι έιηνύο άίÜδòçìç άδύ οήι ιδύβι οόέÜ÷ήήόάε ιέ άεαυοάέò. Ιέ áέέάáÝò άέóÝñ÷ήήόάε οά άòóυι, οήι άáyοάñι έιηνύ άίÜδòçìç, ιά δέι άñαυ ηέέιυ, άοίΥ δñòá (óýιούήά ιά οçί δύέέóέέη ιάò) άύέέάοόίΥι οόί FreeBSD-CURRENT έάέ Ý÷ήι άήάόάόάβ δύέΥ έάέÜ.

[illegible]

Όρία÷þð óóÝεῖνῖοάε αἰὺ οἰοῶ ÷ñþóðáð ἰαῶ ἀάῖοῖνÝð ðñἰαεçἰÛοῖρ ἑάε ἀεὸþῶάεð ἁέα ἑάεῖνῖνέα ÷ἀñáεðçñέοóέέÛ, ἑάοÛ òç ἁέÛñεάέα οἰῶ εýέεῖῖο òçð εÛεἶἶ Ἰέἶαῖοçð. Ἰέ ἀάῖοῖνÝð ðñἰαεçἰÛοῖρ ἀέοÛἁῖῖῖοάε ὀçἰ ἁÛòç **GNATS**[9] ἰÝῖοῦ e-mail, ἰἶ ὀçἰ ἁῖῖἁῖἰἁþ send-pr(1), þ ἰÝῖοῦ οἰῶ web-interface ḡῖῖ ḡἁñÝ ÷ἁῖῖ ὀçἰ ἁέἶἶέῖῖῖῖç <http://www.FreeBSD.org/send-pr.html>. Ἄεῖοῦ αἰὺ ὀέῖ ἁέÛῖῖῖἁð εḡῖῖῖῖ çḡἁεῖῖῖῖῖῖῖ ὀἁ÷ῖἁñῖἁḡῖῖ ἰἶ εÝἰἶ ὀἶ ὀἶ÷ἰέέÛ ÷ἁñáεðçñέοóέέÛ οἰῶ FreeBSD ὀḡÛñ ÷ἁέ ἑάε ç εḡῖῖῖῖ FreeBSD Quality Assurance mailing list (<http://lists.FreeBSD.org/mailman/listinfo/freebsd-qa>), ç ἰḡἰḡἶ ḡἁñÝ ÷ἁέ Ἰἶἶ ὀῖῖῖῖῖ ἁέα ὀἶἁçðþῶάεð ὀ÷ἁῖῖῖ ἰἶ ὀέῖ ἑἶḡḡñÝñἁέἶῖ ὀçð “ἰñἶἶÛῖῖῖῖ ὀῖῖ ἁέἶῖῖῖῖῖ”.

[illegible]

Οι ΌιΠία 2 αϊçάαβ ια εαδδδνΥναεαδ οα αεÜοινα οδÜäεα οçδ αεääεεαδβαδ διο ανβδεαδαε δβου αδυ εÜεα Υεαϊοç, ιΥ÷νε εαε οα αΠιαδα διο ιαçαϊρϊ οδçι ιαδääεβδδεοç διο οδδδΠιαδιδ εαε δι ΌιΠια 3 αϊçάαβ οçι βαεα οç αεääεεαδβα οçδ ιαδääεβδδεοçδ. Οι ΌιΠια 5 δανεανÜοαε δυο ιδινάβ ια αδäεδαεάβ δι äαοέευ ογδδçια αδυ ονβδιοδ εαε δι ΌιΠια 6 δανεανÜοαε εÜδιεα αδυ οα δνÜαιαδα διο ιÜεαια αδυ οçι αεääεεαδβα Υεαϊοçδ διο FreeBSD 4.4. ΟΥεϊδ, δι ΌιΠια 7 δανιρδεÜäεε εÜδιεαδ αδυ οεδ εαδäεογϊραεδ διο εΥεϊοια ια δÜναε ç αΓÜδδοιç οδι ιΥεεϊ.

2 Ç Äéääéêáóßá Äçïéïõñãßáo ìéáò êäïóçò

Ié iYáo áëäúóáëð ðíð FreeBSD ðöëÜ ÷ ðíðáë áðú ðíð -STABLE éíñíú áíÜððöíçð ðáñððíð ëÜëá ëÝóóáñáëð íðíáð. Ç
 áëááëëáóáá ðñíáðíëíáóáð íëáð Ýëáíçð ðáëëíÜáë ó ÷ ááúí 45 iYñáð ðñëí ççí áíáíáííáíë çíáññçíßá Ýëáíçð, úðáí í
 ððáýëðñíð áëäúóáíð ðíð FreeBSD óðÝëíáë Ýíá áñÜñíá óðéð ëßóðáð ðíú ðñíáñáíáðëóðñí áëá íá ððáíëðíßóáë óðíðð
 ðñíáñáíáðëóðÝð úðë Ý ÷ íðí 15 iYñáð ëáëñú íá ëÜñíð úðíëáð áëëáÝð ëÝëíðí, ðñëí ðí ðÜáñíá ðíð ëðáëëá. ÍÝóá óá

áòòü òĩĩ éáénü, ðĩēēĩß ðñĩāñāñĩáðēóóŸò ēŪĩĩōĩ ĩéá óáēñŪ áðü áēēááŸò ðĩō Ÿ ÷ ĩōĩ ĩāßĩáē ðēŸĩĩ āñüóóŸò ùò “ĩāēáēāñßōĩáóá MFC”. Ī ũñĩō MFC óçĩāßĩáē “Merge From CURRENT” éáē ðāñēāñŪōāē óçĩ áēááēēáóßā ðñĩóāñĩĩāßò òĩō ēßāēēá ĩéáò āĩēēĩáóĩŸĩçò áēēáāßò áðü òĩĩ -CURRENT ðāñēāñĩáðēēü ēĩñĩü áñŪðòōĩçò óòĩĩ óóāēāñü -STABLE ēĩñĩü.

2.1 ĩēāā ÷ ĩō ēßāēēá

ŌñēŪĩóá çĩŸñāð ðñēĩ óçĩ áĩāĩāñĩāĩç çĩāññĩçĩßā Ÿēāĩōçò, ĩ ēßāēēáð òĩō repository áéóŸñ ÷ āðáē óā ĩéá ðāñßĩāĩ “ēáēóóóŸñçòçò”. ÉáòŪ óç āēŪñēāēá áðòßò òçò ðāñēüāĩō, ũēāð ĩē áēēááŸò óòĩĩ -STABLE ēĩñĩü ðñŸðāē ĩá Ÿ ÷ ĩōĩ óçĩ Ÿāēñēóç òçò ĩñŪāā ĪñāŪtūoçò òuĩ Āēäüoäüĩ <re@FreeBSD.org>. Īē áēēááŸò ðĩō āðēóñŸðĩĩóáē óā áðòß òçĩ ðāñßĩāĩ ðĩō áēāñēāß 15 çĩŸñāð āßĩáē:

- Āēĩñēßóāēð āñüóóßĩ ðñĩāēçĩŪòuĩ.
- Āĩçĩāñßóāēð óóçĩ ðāēĩçñßüóç.
- ĀēēááŸò ó ÷ āðēēŸò ĩā óçĩ áóóŪēāēá.
- ĪēēñŸò áēēááŸò óòĩōð ĩāçāĩŸò ðòóēāðßĩ, ũðüð ð. ÷. ç ðñĩóēßēç òuĩ IDs ĩŸüĩ óóóēāðßĩ.
- Īðĩēāāßðĩōā Ūēēç áēēáāß ðēóóāŸāē ç ĩñŪāā áñŪðòōĩçò ũóē ðñŸðāē ĩá āßĩáē, ĩā òĩ áĩāĩāñĩāñĩ ðŪĩóā ñßóēĩ.

ĪāòŪ ðēò ðñßóāð 15 ĩŸñāð ēáēóóóŸñçòçò, òðēŪ ÷ ĩāðáē ĩéá āĩēēĩáóóēēß Ÿēāĩōç áēá ĩá ÷ ñçóēĩĩðĩēçēāß óáĩ āĩēēĩß òçò ðāēēēßò Ÿēāĩōçò éáē ĩ ēßāēēáð áéóŸñ ÷ āðáē óā ĩéá ðāñßĩāĩ “ðāāßĩāĩōĩō”. ðēŸĩĩ āßĩáē ðĩēŸ ðēĩ āŸóēĩēĩ ĩá āßĩĩōĩ ĩŸāð áēēááŸò óòĩ āŸóóçĩā, áēòüð ēē áĩ āēĩñēßñĩōĩ ēŪðĩēĩ ðĩēŸ óĩāāñü bugß ēŪðĩēĩ ðñüāēçĩā áóóŪēāēáð. ÉáòŪ óç āēŪñēāēá òĩō ðāāßĩāĩð òĩō ēßāēēá, òĩōēŪ ÷ ēóòĩĩ ĩßā āĩēēĩáóóēēß Ÿēāĩōç òðēŪ ÷ ĩāðáē ēŪēā āāāñŪāā, ĩŸ ÷ ñē ĩá āßĩáē Ÿóĩēĩç ç ðāēēēß Ÿēāĩōç. Ōēò çĩŸñāð áēñēāßò ðñēĩ óçĩ ðāēēēß Ÿēāĩōç, ç ĩñŪāā ðĩō āßĩáē òðāŸēōĩç áēá ðēò āēäüoäēð āßĩáē óā óòĩā ÷ ð āðēēĩēñĩßā ĩā óçĩ ĩñŪāā áóóŪēāēáð, óçĩ ĩñŪāā óòĩōßñçòçò òçò ðāēĩçñßüóçò, éáē óçĩ ĩñŪāā óòĩōßñçòçò òuĩ ports, áēá ĩá āāāāēüēĩŸĩ ðüð ũēā óā áðāñāßòçòā ēñĩŪóēá áēá ĩéá ðēßñç Ÿēāĩōç āßĩáē áēáēŸóēĩā.

2.2 Ēßóóā ĀēŸā ÷ ĩō òçò Ōāēēēßò ēāĩōçò

¼óáĩ āñēāðŸò āĩēēĩáóóēēŸò āēäüoäēð Ÿ ÷ ĩōĩ āßĩáē áēáēŸóēĩāð, Ÿ ÷ ĩōĩ āĩēēĩáóóāß áðü āñēāðü ēüóĩĩ éáē ũēá óā óĩāāñŪ ēŸĩāóā Ÿ ÷ ĩōĩ áĩāēðēāß, ç ðāēēēß Ÿēāĩōç ĩðñāß ĩá āñ ÷ ðóāē.

2.2.1 Āçĩēĩōñāßā òĩō ēĩñĩŸ ēāĩōçò

¼ðüð ðāñēāñŪøāĩá óóçĩ áéóáāñāß, ĩē ēĩñĩĩß RELENG_X_Y āßĩáē ĩéá ó ÷ āðēēŪ ĩŸā ðñĩóēßēç óóçĩ ĩāēĩāĩēĩāßā òuĩ āēäüoäßĩ ĩāð. Ōĩ ðñßōĩ āßĩā óóçĩ āçĩēĩōñāßā áóòĩŸ òĩō ēĩñĩŸ āßĩáē ĩá āāāāēüēāßòā ũóē āĩōēāŸāðā ĩā óçĩ ðāēāðóāßā Ÿēāĩōç òĩō ðçāāßĩō ēßāēēá áðü òĩĩ RELENG_X ēĩñĩü áðü òĩĩ ĩðĩßĩ ēā òðēŪĩāðā òĩ ĩŸĩ ēĩñĩü.

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

Ōĩ āðüñāñ āßĩā āßĩáē ĩá āçĩēĩōñāßóāðā ĩéá āðēēŸðā (tag) óòĩ óçĩāßĩ āēēßĩçòçò òĩō ēĩñĩŸ, ðóóā ĩá ĩðñāßòā ĩá āāßòā ðēò áēáóĩñŸò ĩā óçĩ āñ ÷ ð òĩō ēĩñĩŸ āŸēĩēā óòĩ ĩŸēēĩ ĩā òĩ CVS:

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

Éáē òüðā ĩðñāßòā ĩá āçĩēĩōñāßóāðā òĩ ĩŸĩ ēĩñĩü ĩā:

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

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

Το `RELEASE` αρχείο `RELEASE` του `CVS`. Ο `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE`.

2.2.2 Αρχή του `RELEASE`

Ο `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE`.

- `doc/en_US.ISO8859-1/books/handbook/mirrors/chapter.xml`
- `doc/en_US.ISO8859-1/books/porters-handbook/book.xml`
- `doc/share/xml/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/xml/release.dsl`
- `src/release/doc/share/examples/Makefile.relnotesng`
- `src/release/doc/share/xml/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.xml`
- `www/en/cgi/ports.cgi`
- `ports/Tools/scripts/release/config`

Ο `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE`.

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

Ο `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE` και οι `RELEASE` αρχεία του `RELEASE` είναι η `RELEASE` του `RELEASE`.

Άσπυ ιεῖεεεεεεεεεε ε δνιιιιιιιιιιιι εδδ εῖΥάδ αδδβββββββ Ὑεεεεεεε, δνΥδδ ε ία αῖαῖαῖαῖαῖα ῖαῖεεεε ἄν÷άβ εεά ία αῖαῖαῖαῖαῖα οῖι εῖοῖι εεά εε εῖΥ Ὑεεεεε εῖο FreeBSD.

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

2.2.3 Äçìéĩõñãßá ôùí Âôéêâôþí ôçò êäïóçò

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

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

RELEASE_4_8_0 óóá éáóÜëçëä äÝíóñá ðçāāβíø ēpāëéä.

ΙαάεεΥό οινΥό, ιδιναβ ίά ÷ ηαεάοοάβ ίά αβιιόι εÜθιεάο αεεάαΥό οάεαδoαβá οόεαιβ *ιαδÜ* ογι οθιεΥόογος οοι αοεεαορι. ΆαίεεÜ, ααί αβίαε άγoετει ίά αβίαε εÜοε οΥοιει αοιγ οι CVS αδεονΥθαε ίά ιαοαεεριβoαε εÜθιεοι οεο αοεεΥoαο ίά ιαθιεΥό υδυο `cvs tag -d tagname filename`. Άβίαε θιεγ ογιαόεευ υυο αοοΥό ιε αεεάαΥό ογο οάεαδoαβáο οόεαιβδ ίά ογιαεευερι ίά οεο οοοόΥό αοεεΥoαο αεά ογι οοαεαηειΥίγ Υεαοιό. Ιε αδβoγιαο αεαυoαεο οιο FreeBSD θηΥθαε ίά αβίαε δÜιoά άγερει ίά ιαάαηά÷ειγί. ΟιθεεΥό αεεάαΥό οοι θαηεάÜεερι οιο ιç÷ιρεεγ οοι αεαυoαυι ααί αδεονΥθιoαε.

3 ðàáãëþôôéóç ôçò ëäïóçò

Ιε "aeauaaeo" oio FreeBSD ioiniia ia iaadaaeuooeooiia adu ioieiaaBpiao Y ÷ ae Yia o ÷ aeaeU anPaiai ic ÷ Uicia eae
 dnuoaaoc ooi repository oio dcaabio epaeaa. (4eie Y ÷ ioi aooB oc aioiaouocoa, aoiy danY ÷ ioia dnuoaaoc iYou
 aipioio CVS! AaBoa oi Aa ÷ aenBaer oio FreeBSD aeaa daneaouoanaa eadonYnaaa.) C iuic aeaeep adabococ abiaa
 ia odu ÷ ae oiooBneic ooi dnoBia oao aeaa oc ooeaop vn(4). (Ooi -CURRENT, aooB c ooeaop Y ÷ ae
 aioeaaaoaoaeb adu oc iYia ooeaop aboeio aaoeoiYio oa iBic md(4). Ai c ooeaop aai abiaa aioiaouuYic ooi
 dnoBia oao, ouoa i eaoUeeceio iacaud ea oionueab adouiaa uoa aeaaeaoaB c aioieP vnconfig(8) eaoU oc
 aeUnea ea oc oUocd aioiaaoba oio iYio aeabocod. 4ea oa anaeeaba oio ÷ naeUaioae aeaa ia iaadaaeuooBaoa iea
 Yeaoc abiaa aeaeYoeia oa iioB dcaabio epaeaa ooi eaoUeia src/release. AooU oa anaeeaba Y ÷ ioi uo oeidu ia
 danY ÷ ioi uoe ÷ naeUaioae aeaa ia ÷ obaioae ie aeauaaeo oio FreeBSD ia Yia oiaop eae oaeaeeneiYi onou. Iea
 deBncd Yeaoc ioinaa ia iaadaaeuooeooa ÷ nceioiepioa aooU oa anaeeaba ia iea eae iui aioieP,
 oioaneaiaa iYic eae oc aieioinaa adu ISO an ÷ abio eaoUeecei aeaa ia eaaB oa CDROM, ie aeoeYoaB
 aeabocod, eaeb eae i eaoUeeceio aeaaouoaooc iYou FTP. AooB c aioieP abiaa ooeep c make release.

3.1 Ç áíôïëþ make release

Ἄέα ἰά ἱὰόἀα̣εὐὸδβόἀὸἀ ἀδέοð÷þò ἰέα Ῥέαιός, ðñÝðáε ðñþὸά ἰά ὀðŨñ÷τῶί ὁά ἐáoÜēęçéá áñ÷âßá ἰÝὸά ὀῶίí ἐáoÜειταῖ
/usr/obj. Ἰðññâßὸά ἰά ὁά æçìέῖ῏ññâßὸάἀ ἂßὸά ἰά ὀçí αἰῶίεÞ make world Þ aðëŨ make buildworld. Ἄέα ἰά

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

- CHROOTDIR - Ì éáðÛëíáðð ðîõ éá ÷ ñçóéíðíéçéáß óáí ðáñéáÛëëí chroot áéá üëç òçí ìáðááëðððéóç òçð Ýêáîóçð.
- BUILDNAME - Õî üñíá òçð Ýêáîóçð ðîõ éá ìáðááëüðððáððá.
- CVSROOT - Ì éáðÛëíáðð óðñí ðíßí áñßóéáðáé òí CVS repository.
- RELEASETAG - Ç áðééÝðá CVS ðîõ áíóéóðíé÷-áß óóçí Ýêáîóç òçí ðíßá ðÝéáðá íá ìáðááëüðððáððá.

Áí ááí Ý÷-áðá ðáç ðñüóááóç óá ðÛðíéí ðíðéëü CVS repository ìá ðñí ëðáééá ðîõ FreeBSD, ðíñáßðá ðÛíóá íá ððéÛíáðá 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, ððí áñ÷-áßí /usr/share/examples/cvsup/cvs-supfile, òí ðíßí ðíñáßðá íá ÷ ñçóéíðíéçéáððá áéá íá áíðéáñÛðáðá òí CVS repository ðîõ FreeBSD ððí áéëü óáð ðíðéëü mirror.

Áí ðáñáëáßðáðá òçí áðééÝðá RELEASETAG, ðüðá éá ìáðááëüðððéóðáß íéá ðëðñçð Ýêáîóç áðü òçí ëíñðð ðîõ HEAD (áçë. ðîõ -CURRENT) ëíññý. Ìé áêüüóáéð ðîõ ððéÛ÷-ñíðáé áðü áððñí òñí ëíññü, óðíðëðð áíáðÝññíðáé óáí “-CURRENT snapshots”.

ÕðÛñ÷-íðí éáé ðíëéÝð Ûëëáð ìáðááëçðÝð ðîõ ðíññý íá ÷ ñçóéíðíéçéáßí áéá íá ðáñáíáðñíðíéçéáððá òçí Ýêáîóç óáð. Ìé ðéí ðíëéÝð áðü áððÝð ðéð ìáðááëçðÝð ðáñéáñÛñíðáé óóçí ëíñðð ðîõ áñ÷-áßíð src/release/Makefile. Ç áêñéáðð áíðíëð ðîõ ÷ ñçóéíðíéçéáððá áéá íá ððéá÷-ðáß ç áðßóçí 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 ÷ ñçóéíðíéçéáßðáé áéá íá ìáðááëüðððáñíðáé ìé áêüüóáéð ðíñáß íá ÷ ññéóðáß óá áñéáðÛ ìá÷-ññéóðÛ ìáðáíý ðîõð áñíáðá.

- Äçíëíðñáß áñüð éáéáññý ðáñéáÛëëíððð óá íéá ìá÷-ññéóðð éáñáñ÷-ßá éáðáëüüñí ìá òçí áíðíëð “make installworld”.
- Áíáñüáð áðü òí CVS ìéáð éáéñýñéáð Ýêáîóçð ðîõ ðçááßíð ëðáééá ðîõ ðððððíáððð, òçð ðáëíçññüóçð éáé òñí ports ìÝóá óóçí éáñáñ÷-ßá éáðáëüüñí ìáðááëðððéóçð òçð Ýêáîóçð.
- Ñðëíðáéð òñí áñ÷-áßñí óðñí éáðÛëíá /etc éáé /dev ìÝóá ððí ðáñéáÛëëí chroot.
- ÁëðÝéáóç òçð áíðíëðð chroot ìÝóá óóçí éáñáñ÷-ßá éáðáëüüñí ðîõ áðíéíÛððçéá, áéá íá ìçí ðíñáß òí áñüðáñéëü ðáñéáÛëëí íá áðçñáÛðáé òç ìáðááëðððéóçð òçð Ýêáîóçð.
- ÁëðÝéáóç òçð áíðíëðð make world ìÝóá ððí ðáñéáÛëëí chroot.
- Ìáðááëðððéóç òñí áëðáëÝóéñí ðîõ áßíáé ó÷-áðééÛ ìá òí óýóóçíá Kerberos.
- Ìáðááëðððéóç ðîõ ððñðíá GENERIC.
- Äçíëíðñáß áñüð ðáéééñý éáðáëüüñí óðñí ðíßí éá ìáðááëüðððéóðíý íéá éá áðíèçéáððéñý íé áëðáëÝóéñáð ññóÝð òñí ðáéééðí ðáéÝðñí.
- Ìáðááëðððéóç éáé ááéáðÛóðáóç òñí áñááéáßñí ðîõ ÷ ñáéÛáñíðáé áéá òçí ðñíáðíéíáðá òçð Ýêáîóçð éáé òç ìáðáðñíðð òçð ðáëíçññüóçð áðü òñí ðçááßíð ëðáééá (SGML) óá html éáé áñ÷-áßá éáéíÝñíð ðîõ éá óðñíáñýíðí òçí Ýêáîóçð.
- Ìáðáðñíðð éáé ááéáðÛóðáóç òçð ðáëíçññüóçð (áá÷-áéñßáéá ÷ ñððóç, áéóáñüáééÛ éáßíáíá, óçíáëðáéð Ýêáîóçð, ëßðáð ððíááðððçðáðð ðéééñý, ëëð.)

- ĩāóāāēpôóéóc òuĩ “òõĩðēáõĩŸĩũĩ” (crunched) āēðāēŸóēĩũĩ ðĩō ēá ÷ ñçóēĩĩðĩēçēĩŸĩ óóēð āēóēŸôðāð āāēáðŨóóáócð.
- Āçĩēĩōñābá òuĩ ðāēŸòuĩ ôçð āāēáðŨóóáócð ēáē òuĩ ðāēŸòuĩ ðçāābĩō ēpāēēá.
- Āçĩēĩōñābá òuĩ ĩŸóuĩ āēēbĩçóçð ēáē ôçð āēóēŸôðāð “fixit”.
- Āçĩēĩōñābá ôçð ēāñāñ÷bāð ēáðāēüũĩ āēá ôçĩ āāēáðŨóóáóc ĩŸóũ FTP.
- (ðñĩíēñāôēēŸ) Āçĩēĩōñābá òuĩ ISO āñ÷ābũĩ āēá ĩŸóá CDROM/DVD media.

Āēá ðāñēóóũðāñāð ðēçñĩōĩñbāð ó÷āðēēŸ ĩā ôçĩ āēáēēáóbá āçĩēĩōñābāð ĩēáð Ÿēāĩóçð, āābôā ôçĩ óāēbāā ôāēĩçñbũóçð release(7).

3.2 ĩāóāāēpôóéóc òuĩ XFree86

Ōĩ āñāóēēũ ðāñēáŨēēĩ **XFree86** ābĩáē Ÿĩá óçĩáĩóēēũ ēñĩŨðē ēŨēā Ÿēāĩóçð āēá ðĩēēĩŸð ÷ ñpôóāð ðĩō ēŸēĩōĩ òĩ FreeBSD āēá óðāēĩŸð āñāáóbāð. ðñēĩ ôçĩ Ÿēāĩóç 4.6-RELEASE òĩō FreeBSD, ĩē āðbóçĩāð āēüüóāēð òĩō FreeBSD ÷ ñçóēĩĩðĩēĩŸóáĩ ôçĩ Ÿēāĩóç 3.x òuĩ **XFree86**. Ĩ ðēĩ āŸēĩēĩð ðñũðĩð ĩā ĩāóāāēũðôðóáðā áððŸð óēð āēüüóāēð ābĩáē ĩā ÷ ñçóēĩĩðĩēĩŸóáĩ òĩ ðñũāñāĩā `src/release/scripts/X11/build_x.sh`. Áðũũ òĩ ðñũāñāĩā áðāēðāb ĩā ābĩáē pāç óçĩŸĩá óõĩ óŸóçĩŨ óáð òũõĩ òĩ ðāñēáŨēēĩ XFree86 üõĩ ēáē ç āēpóóá Tcl/Tk. ĩāðŨ ôçĩ ĩāóāāēpôóéóc òuĩ ēáðŨēēçēũ X servers, òĩ ðñũāñāĩā ēá ðāēāðŨñāē üēā óā āñ÷ābā óā óðēēĩāŸð āñ÷ābũĩ ðĩō ðāñēĩŸĩāē ĩā āñāē òĩ `sysinstall(8)` ĩŸóá óõĩ ēáðŨēĩāĩ `XF86336` óõĩ ĩŸóĩ āāēáðŨóóáócð.

ĩāēēĩpĩóáð ĩā ôçĩ Ÿēāĩóç 4.6-RELEASE òĩō FreeBSD, òĩ `sysinstall(8)` āāēāēéóðŨ ôçĩ Ÿēāĩóç 4.x òuĩ XFree86, óáĩ ēāñĩēēŨ ðāēŸóá. ÁððŨ ĩðĩñāb ĩā ābĩáē ābôā óā ðāēŸóá ðĩō āçĩēĩŸñāçóā òĩ cluster òuĩ ports p ĩðĩēāāðĩðā Ũēēā ðāēŸóá ðĩō Ÿ÷ĩōĩ āçĩēĩōñāçēāb āðũ Ÿĩá ports tree ĩā ôçĩ ēáðŨēēçç āðēēŸóá.

Óçĩābũóç: Ābĩáē ðĩēŸ óçĩáĩóēēũ ĩā áðāēñŸóáðā āðũ òĩ āñ÷ābĩ `/etc/make.conf` ĩðĩēáóāpðĩðā òĩðēēŸð ñòēĩbóāēð Ÿ÷āðā ēŨĩāē. Āēá ðāñŨāāēāĩā, āāĩ ābĩáē ēāēp ēāŸā ĩā āēáĩŸĩāðā āēðāēŸóēĩā ðĩō Ÿ÷ĩōĩ ĩāóāāēũðôéóðāb óā ēŨðĩēĩ óðāēāēñēĩŸĩĩ óŸóçĩā ĩā ĩñēóĩŸĩç ôçĩ óēĩp ôçð ĩāóāāēçðpð `CPUTYPE` āēá āāēðēóõĩðĩbçóç òuĩ āēðāēŸóēĩũĩ āēá ēŨðĩēĩ óðāēāēñēĩŸĩĩ āðāĩāñāáóðp.

3.3 ðñĩāñŨĩĩáðā Ōñbôũĩ (“ports”)

Ç Óðēēĩāp òuĩ Ports òĩō FreeBSD (<http://www.FreeBSD.org/ports>) ābĩáē ĩēá óðēēĩāp ĩā ðāñēóóũðāñā āðũ 24,000 ðñĩāñŨĩĩáðā āðũ òñbôĩðð, ðĩō ābĩáē āēáēŸóēĩā āēá FreeBSD. ĩē ĨŨāā Āēá÷ābñēóçð òuĩ Ports `<portmgr@FreeBSD.org>` ābĩáē òðāŸððĩēē āēá ôçĩ óõĩðpñçóç āĩũð āŸĩóñĩō āðũ ðçāābĩ ēpāēēá āēá óā ports, ðĩō ĩðĩñāb ĩā ÷ ñçóēĩĩðĩēçēāb āēá ĩā āçĩēĩōñāçēĩŸĩ óā ðāēŸóá ĩā óā ðñĩāñŨĩĩáðā ðĩō óðñāŸĩōĩ óēð āðbóçĩāð āēüüóāēð òĩō FreeBSD.

Ç āēáāēēáóbā óõĩðpñçóçð ôçð óðēēĩāpð òuĩ ports ābĩáē ēŨðē ðĩō āāĩ ĩðĩñĩŸĩā ĩā ēāēŸøĩðĩā āāp. ĩā ĩā÷ũñēóðũ Ũñēñĩ, ĩā ðbôēĩ Ç ĨñāŨtūóc ēāĩóçð òuĩ ðāēŸòuĩ ĒĩāēóĩēēŸ āðũ Ōñbôĩðð (`./releng-packages/article.html`), ēāēŸðāē áðũ òĩ ēŸĩā.

3.4 Āñ÷ābā ISO ôçð ēāĩóçð

ĩāēēĩpĩóáð ĩā ôçĩ Ÿēāĩóç 4.4 òĩō FreeBSD, ç ĨŨāā ÁĩŨðððĩçð òĩō FreeBSD áðĩōŨóēóā ĩā āēáĩŸĩāē ēáē óā ôŸóóāñā ISO āñ÷ābā ðĩō ðñpóā ðĩōēĩŸóáĩ ĩē āðāēñābāð *BSDi/Wind River Systems/FreeBSD Mall* óðēð “āðbóçĩāð” āēāmŸð CDROM ðĩō Ÿēáĩāĩ. ēŨēā Ÿĩā āðũ óā ôŸóóāñā ISO āñ÷ābā ðñŸðāē ĩā ðāñēŸ÷āē Ÿĩā āñ÷ābĩ `README.TXT` ðĩō

ðǻñēǻñŨöǻē óǻ ðǻñēǻ ÷ ùǻǻǻ òĩō ǻßóēĩō, ēē Ýǻǻ ǻñ ÷ ǻßĩ CDROM.INF ðĩō ðǻñēÝ ÷ ǻē ǻǻóǻ-ðēçñĩōĩñßǻð ǻēǻ ǻǻ òĩñǻß òĩ ðñüǻñǻǻǻ sysinstall(8) ǻǻ ǻēÝǻǻē ēǻē ǻǻ ÷ ñçóēĩĩðĩēßóǻē áðòũ òĩ ǻßóēĩ, ēǻēð òē Ýǻǻ ǻñ ÷ ǻßĩ filename.txt ðĩō ðǻñÝ ÷ ǻē ǻēǻ òǻǻ ǻñ ÷ ǻßũ òĩō CDROM. Áðòß ç ēßóóǻ òĩñǻß ǻǻ ǻçĩēĩñǻçēǻß ðĩēý áðēŨ, ùò ǻĩðò:

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

Īē óðǻēǻēñēĩÝǻǻ ððǻēóßóǻēð ǻēǻ ēŨēǻ Ýǻǻ áðũ áðòŨ òǻ CD ðǻñēǻñŨōĩĩóǻē ðǻñǻēŨòũ:

3.4.1 ǻßóēĩō 1

Ī ðñðòĩð ǻßóēĩð ǻßǻē ó ÷ ǻǻũĩ áðĩēēǻēóóēēŨ áðĩōÝēǻóǻǻ òçð ǻĩōĩēßð make release. Īē ùĩǻð ǻēēǻǻÝð ðĩō ðñÝðǻē ǻǻ ǻßĩōĩ óòĩĩ ēáðŨēĩǻĩ disc1 ǻßǻē ç ðñĩóēßēç òĩō ēáðŨēĩǻĩ tools, òũĩ XFree86, ēǻē ùóĩ òĩ ǻóǻǻũĩ ðǻñēóóũðǻñũĩ ðǻēÝòũĩ òĩñĩýĩ ǻǻ ÷ ùñÝóĩōĩ óòĩ ǻßóēĩ. Ī ēáðŨēĩǻĩ tools ðǻñēÝ ÷ ǻē ǻñǻǻēǻǻ ðĩō áðēòñÝðĩōĩ óǻ ÷ ñßóóǻð Ũēēũĩ ēǻēòĩñǻēēßĩ óðòçðŨòũĩ ǻǻ óðēŨĩōĩ óēð ǻēóēÝððǻð ǻēēßĩçóçð. Áðòũð Ī ðñðòĩð ǻßóēĩð ðñÝðǻē ǻǻ óðēŨ ÷ ǻǻǻē bootable Ýðóē ðóðǻ ǻǻ òĩñĩýĩ Īē ÷ ñßóóǻð òũĩ ùĩðÝñũĩ ððĩēĩǻēóðßĩ ǻǻ áðĩōǻýǻĩōĩ òĩ óðŨǻēĩ ǻçĩēĩñǻßǻð òũĩ ǻēóēǻððßĩ ǻēēßĩçóçð.

ǻĩ ǻēǻ ǻēǻóĩñǻðēēß Ýēǻĩóç òũĩ XFree86 ēǻ ǻēǻĩÝǻǻǻē ǻǻ òçĩ Ýēǻĩóç áðòß, ðñÝðǻē ǻǻ ǻçĩǻñùēǻß òĩ ðñüǻñǻǻǻ sysinstall(8) ǻēǻ òçĩ ĪÝǻ òÝóç ēǻē Īē Īǻçǻßǻð ǻǻēǻðŨóóǻóçð. Ī ó ÷ ǻðēēũð ēßǻēēǻð òðŨñ ÷ ǻē óòĩĩ ēáðŨēĩǻĩ src/release/sysinstall óòĩĩ -STABLE ēĩñũĩ ð óòĩĩ ēáðŨēĩǻĩ src/usr.sbin/sysinstall óòĩĩ -CURRENT ēĩñũĩ. ÓðǻēǻēñēĩÝǻǻ, òǻ ǻñ ÷ ǻǻǻ dist.c, menus.c, ēǻē config.c ēǻ ÷ ñǻēǻóðǻß ǻǻ ǻçĩǻñùēĩýĩ.

3.4.2 ǻßóēĩō 2

Ī ǻǻýðǻñĩð ǻßóēĩð ǻßǻē áðßóçð áðĩōÝēǻóǻǻ òçð ǻĩōĩēßð make release ēáðŨ Ýǻǻ ǻǻŨēĩ ĪÝñĩð. Áðòũð Ī ǻßóēĩð ðǻñēÝ ÷ ǻē Ýǻǻ “live filesystem” ðĩō òĩñǻß ǻǻ ÷ ñçóēĩĩðĩēçēǻß áðũ òĩ sysinstall(8) ǻēǻ ǻǻ ǻĩǻóǻóóĩýĩ ðñĩǻēßǻóǻ óǻ ǻēǻ ǻǻēǻðŨóóǻóç òĩō FreeBSD. Īē áðòũð Ī ǻßóēĩð ðñÝðǻē ǻǻ ǻßǻē bootable. Īǻ ðñÝðǻē áðßóçð ǻǻ ðǻñēÝ ÷ ǻē Ýǻǻ óòĩðēǻóĩÝĩĩ ǻĩðßǻñǻǻĩ òĩō CVS repository óòĩĩ ēáðŨēĩǻĩ CVSROOT ēǻē ǻǻßǻǻóǻ áðũ ǻĩðĩñēēŨ ðñĩǻñŨĩǻóǻ óòĩĩ ēáðŨēĩǻĩ commerce.

3.4.3 ǻßóēĩē 3 ēǻē 4

Īē ððũēĩēðĩē ǻòĩ ǻßóēĩē ðǻñēÝ ÷ Īōĩ áðēðñũóēǻóǻ ðǻēÝóǻ ēĩǻēóĩēēĩý ǻēǻ òĩ FreeBSD. Óǻ ðǻēÝóǻ ēǻ ðñÝðǻē ǻǻ ǻßǻē ñǻǻĩðĩēçĩÝǻǻ, Ýðóē ðóðǻ ēŨēǻ ðǻēÝòĩ ǻǻ ǻßǻē óòĩĩ ðǻēĩ ǻßóēĩ ǻǻ ùēǻ óǻ ðǻēÝóǻ áðũ óǻ Īðĩßǻ ǻĩǻñðŨóǻē ǻēǻ ǻǻ ǻǻēǻóóóǻēǻ ēǻē ǻǻ òñÝǻē. ðǻñēóóũðǻñǻð ðēçñĩōĩñßǻð ǻēǻ òçĩ ǻçĩēĩñǻßǻ áðòßĩ òũĩ ǻßóēũĩ ǻĩǻóÝñĩĩóǻē óòĩ Ũñēñĩ Ç ÎñǻŨñóç ēǻĩóçð òũĩ ðǻēÝòũĩ Īĩǻēóĩēēĩý áðũ Őñßòĩðð (../releng-packages/article.html).

4 ǻēǻĩñß òũĩ Āēüüóǻũĩ

4.1 ǻĩððçñǻðçðÝð FTP

Īóǻǻ ç Ýēǻĩóç ǻßǻē Ýōĩēĩç, Ý ÷ ǻē ǻĩēēĩǻóóǻß ǻēðǻĩðð, ēǻē Ý ÷ ǻē ðǻēǻóǻñēóóǻß ǻēǻ ǻēǻĩñß, Ī ēýñēĩð FTP ǻĩððçñǻðçðð ðñÝðǻē ǻǻ ǻçĩǻñùēǻß. Īē áðßóçĩē ǻĩððçñǻðçðÝð FTP òĩō FreeBSD ǻßǻē üēē mirrors ǻĩũð ēýñēĩð ǻĩððçñǻðçðß óòĩĩ Īðĩßĩ Ý ÷ Īōĩ ðñũóǻǻóç ùũĩ Ũēēēē FTP ǻĩððçñǻðçðÝð. Áðòũð Ī ǻĩððçñǻðçðð ǻßǻē ǻĩũóũð ùò ftp-master. Īóǻǻ ç Ýēǻĩóç ǻßǻē Ýōĩēĩç, ðñÝðǻē ǻǻ ǻçĩǻñùēĩýĩ óǻ ðǻñǻēŨòũ ǻñ ÷ ǻǻǻ óòĩĩ ftp-master:

5.1 Äçĭēĭōñāßá ÐñĭóáñĭōĭŸĭñĭ Āéóēāōōþĭ Āēēßĭçóçð.

ÐĭēēŸð āēēāóáóōŨóāēð Ÿ÷ĭōĭ ðĭēŸðēĭēāð áðāēðþóāēð ðĭō ĭðĭñāß ĭā òç óāēñŨ ðĭōð ĭá áðāēðĭŸĭ òçĭ ðñĭóēþēç ðñāēóóóðññĭ ĭāçāþĭ þ āñāāēāßñĭ ÷ñþóçç òóēð āēóēŸððāð āāēāðŨóóáçðð. Ĩ “ĭðāēŨēēēĭð” òññðĭð ĭá ðĭ ēŨĭāðā áððñ āßĭāē ĭá ēŨĭāðā òēð āēēāŸð óāð òñĭ ēāðŨēĭāĭ ðĭō Ÿ÷āē āðĭēĭŨóāē ĭāðŨ ðĭ òŸēĭð òçð ç āēāāēēāóßá make release:

- ÐāñŨóðā òá patches óāð þ ðñĭóēŸððā òá āðēðēŸĭñ āñ÷āß ĭŸóá òñĭ ēāðŨēĭāĭ chroot òçð Ÿēāĭóçð.
- `rm ${CHROOTDIR}/usr/obj/usr/src/release/release.[59]`
- ĭāðāēñððóððā ðŨēē òĭ sysinstall(8), òĭ ðñþĭá, þ ũðĭēā Ũēēā ðññāñŨñāðā Ÿ÷ĭōĭ āðçñāāóðāß áðñ òēð āēēāŸð óāð.
- `chroot ${CHROOTDIR} ./mk floppies`

ĭē ĭŸāð āēóēŸððāð āāēāðŨóóáçðð ēā äçĭēĭōñāçēĭŸĭ òñĭ ēāðŨēĭāĭ \${CHROOTDIR}/R/stage/floppies.

ĀĭāēēāēðēēŨ, ĭðĭñāßðā ĭá ÷ñçóēĭðĭēþóāðā òĭ make target boot.flp, þ ĭðĭñāßðā ĭá ðñŸĭāðā áðāðēāßāð òĭ script ðĭō äçĭēĭōñāßá òá òðððĭāðā āñ÷āßñĭ src/release/scripts/doFS.sh.

ĭðĭñāßðā áðßóçð ĭá ēāñĭßóðāð þóðā āēēŸð óāð āēēāŸð ĭá ðñāāóðĭŸĭ ĭā ĭññðþ patch òçĭ Ÿēāĭóç ũðñð ēā òēēŨ÷ĭāðāē, āßñĭðāð òēĭþ òçĭ ĭāðāāēçðþ LOCAL_PATCH ũðāĭ ðñŸĭāðā òçĭ āĭðĭēþ make release.

5.2 Ðñĭāñāĭāðßæĭĭóāð òĭ sysinstall

Ōĭ āñāāēāßĭ āāēāðŨóóáçðð ēāē ñŸēĭóçðð òĭō FreeBSD, òĭ sysinstall(8), ĭðĭñāß ĭá ðñĭāñāĭāðēóðāß āēā ĭá ēŨĭāē ðēĭ āŸēĭēāð òēð áððñāðĭðĭēçĭŸĭāð āāēāðáóðŨóāēð òá ðĭēēŨ ĭç÷āĭþĭāðā. Áððñ òĭ ÷āñāēðçñēóðēēñ ðĭō ðññāñŨñāðĭð ĭðĭñāß ĭá ÷ñçóēĭðĭēçēāß òá òñĭāðāðĭñ ĭā ðĭ PXE[13] òçð Intel āēā ĭá ĭāēēĭþóāē ç āāēāðŨóóáçðð áðñ òĭ āßēððĭ, þ òá òñĭāðāðĭñ ĭā ðñĭóáñĭōĭŸĭāð āēóēŸððāð āēēßĭçóçðð ēē Ÿĭā sysinstall script. ĭá ðāñŨāāēāĭā áðñ òŸðĭēĭ sysinstall script ĭðĭñāßðā ĭá āñāßðā òðĭ āñ÷āßñĭ src/release/sysinstall/install.cfg.

6 ĭāēþĭāðā ðĭō Ðþñāĭā áðñ òçĭ êäĭóç 4.4 òĭō FreeBSD

Ç āēāāēēāóßá āðĭēĭāðāð òçð Ÿēāĭóçð 4.4 òĭō FreeBSD ĭāēßĭçóçā āðßóçĭā òçĭ ĭç ÁðāĭŸóðĭð 2001. ĭāðŨ áðñ áððþ òçĭ çĭāññĭçĭá, ũēāð ĭē āēēāŸð òñĭ ēĭñĭñ RELENG_4 òĭō FreeBSD Ÿðñāðā ĭá Ÿ÷ĭōĭ Ÿāēñēóç áðñ òçĭ ĨŨāā ĨñāŨñóçð òñĭ Āēäüóäñĭ <re@FreeBSD.org>. Ç ðñþðç āĭēēĭāóðēēþ Ÿēāĭóç āēā òçĭ āñ÷ēðāēðĭēēþ x86 Ÿāēĭā āēāēŸóēĭç òóēð 16 ÁðāĭŸóðĭð, ēē āēĭēĭðēþēçēā áðñ 4 áēñĭā āĭēēĭāóðēēŸð āēäñóāēð ðĭō ĭāþāçóāĭ òçĭ òāēēēþ Ÿēāĭóç òóēð 18 òĭō ÓāððŸĭāñç. Ĩ òðāŸēðñð áóðŨēāēāð Ÿðāēĭā òçĭāĭðēēñ ññēĭ ēāðŨ òçĭ āēŨñēāēā òçð òāēāððāßāð āāāñŨāāð ēāēþð ēŨðĭēā ðñĭāēþĭāðā áóðŨēāēāð āñŸēçēāĭ òá ðñĭçāĭŸĭāĭāð, āĭēēĭāóðēēŸð āēäñóāēð. ÓññēēēŨ, ðŨĭñ áðñ 500 email òðŨēçēāĭ òçĭ ĨŨāā ĨñāŨñóçð òñĭ Āēäüóäñĭ <re@FreeBSD.org> òá āēŨóçĭā ĭēēññðññĭ áðñ Ÿĭā ĭþĭā.

Ç ēĭēĭñðçðā òñĭ ÷ñçóðþĭ ĭāð Ÿēāĭā óāðŸð ũðē ç áóðŨēāēā ēāē ç óðāēāññðçðā ĭēāð Ÿēāĭóçð āāĭ ēŨ ðñāðā ĭá ēððēŨæāðāē āēā ēāĭāñð āßāĭðð ðñĭēāðĭßāð þ çĭāññĭçĭáðð ðĭō Ÿ÷ĭōĭ òāēāß óāĭ òðñ÷ĭē áðñ ðñēĭ. Ōĭ FreeBSD Ÿ÷āē ĭāāāēþóāē āñāĭāðēēŨ ēāðŨ òç āēŨñēāēā òçð æððð ðĭō óāĭ óŸóçĭā, ēāē ç āĭŨāēç āēā óðāēāñēĭŸĭç ðĭēðēēþ ēāē ĭñāŨñóçð āēā òçĭ äçĭēĭōñāßá ĭŸñĭ āēäñóäñĭ āßĭāē ðēŸĭñ óāĭāñþ ðñāēóóóðññĭ áðñ ðĭōŸ. Áððþ ç āĭŨāēç ēā āßĭāē áēñĭā ðēĭ çĭāĭðēēþ ēāēþð òĭ FreeBSD ēā āñ÷āßāē ĭá ĭāðāŸŸñāðāē òá ĭŸāð ðēāððññāð.

7 ìǎëëĩíôéeêÝò Êáôǎõèýíóǎéo

[illegible]

- *ḐānÜëëççē āēōYēāōç - İlaneü ÜİYñç öçō İāōāāēpōōēōçō İēāō āēāēāÜōōāōçō İdñİYİ İā āßİİōİ “ðīēý ḑānÜëëçēā”.* Ōā ðēİ ðīēēÜ āðü ōā ōōÜāēā āßİāē I/O intensive, İðüōā ç ýðāñİç ðīēēpİ òðçēpō-ōā÷ýōçōāō āßōēüİ āßİāē ðēİ öçİāİōēēp āðü öçİİ ÷ñpōç ðīēēpİ āðāİāñāāōōpİ āēā İā āðēōā÷ōİēāß ēÜðüō ç āēāāēēāōßā öİō make release. Áİ āēāōİñāōēēİēİ āßōēİē ÷ñçōēİİðīēçēİYİ āēā öİpİāōā öçō ēāñāñ÷ßāō öİō chroot(2) ḑāñēāÜēēİİðİō, öüōā öİ CVS checkout öüİ ēāōāēüāüİ ports ēāē doc İdñİāß İā āßİāē āōðōü÷ñİİā İā öçİ āİōİēp make world öōİİ Üēēİ āßōēİ. ×ñçōēİİðīēpİōāō İēā RAID ēýōç (hardware p software) İdñİāß İā İāēpōāē āñāōōēēÜ öİİ öōñēēēü ÷ñüñ ðİō ÷ñāēÜāōāē İā İāōāēüōōēōōāß İēā ðēpñçō Yēēİōç.
- *İāōāāēpōōēōç āēüüōāüİ āēā āēāōİñāōēēYō āñ÷ēōāēōİēēYō - ÈYēāōā İā İāōāēüōōßōāōā İēā Yēēİōç āēā IA-64 p Alpha ōā ēÜðīēİİ x86 āðāİāñāāōōp? make TARGET=ia64 release.*
- *ÄīēēİYō āēā vÜēç - ×ñāēāæüİāōāō ēāēýōāñā āñāāēāßā āēā āōðüİāōİ Yēāā÷İ İñēüōçōāō öōİ FreeBSD.*
- *Āñāāēāßā ĀāēāōÜōōāōçō - Öİ ðñüāñāñÜ İāō āēā öçİ āāēāōÜōōāōç öİō FreeBSD Y÷āē İāðāñÜōāē ðñİ ðīēēİY öİİ āİāİāİüāñ ÷ñüñ æùpō öİō. ÖðÜñ÷İōİ āēÜōİñāō ñÜāāō ðİō āñāÜāİōāē āēā İā öēİðīēpōİōİ ēÜðīēİİ Üēēİ, ðēİ İİİōYññ İç÷āİēōİÜ āāēāōÜōōāōçō. İēā āðü öēō ðēİ öðİō÷üāİāō, āßİāē ç ñÜāā libh[5] ðİō öōİ÷āYāē öççİ öēİðİßçōç āİüō Yİōðñİō, İYİō ðñüðİō ðāēāōāñßōİāİōİ ēİāēōİēēİY ēāē āİüō GUI ðñİāñÜİāİōİ āāēāōÜōōāōçō.*

8 Ã÷áñéóôßàò

[illegible]

9 ÁíáöïñÝò

- [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>)