

Ç ĨñãŨíùóç ôùí Âêäüóãùí 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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2012-10-01 11:56:00Z gabor \$

Άδου οĩ Ũñēñĩ ðññēñŨōāē ôçĩ áíôēíãððēóç ēāē ĩñãŨíùóç ôçð ñŨāãð áíŨððôĩçð ôĩõ FreeBSD, ùóĩí áöĩñŨ óôçĩ ðññĩãðĩēĩãóßã ðĩēĩôēēĩĩ âēäüóãùĩ ôĩõ Êāēôĩõñāēēĩý Óðóðßĩãôĩõ FreeBSD. Âĩçããß ĩã ēãððñŨñāēã ôçĩ ĩãēĩãĩēĩãß ðĩõ ÷ñçóēĩĩðĩēãßðãē āēã ðēð ãðßçĩãð âēäüóãēð ôĩõ FreeBSD ēāē ðññēñŨōāē óã ãñãāēãßã ðĩõ ãßĩãē āēãēÝóēĩã óã ùóĩõð ãĩãēãóŨñĩĩóãē ĩã ðññŨãĩĩĩ ðññãĩãðñĩðĩēçĩÝĩãð âēäüóãēð ôĩõ FreeBSD āēã ãóùðññēēß ð ãĩðññēēß ÷ñßóç ēāē áíŨððôĩç ðññũĩĩôũĩ.

Ðßĩãēãò Ðññēã÷ñŨĩũĩ

1 Âēóããũãß	1
2 Ç Âēããēããóßã Âçĩēĩõñãßãð ĩēãð çãĩóçð	2
3 ĩããããēßðôēóç ôçð çãĩóçð	5
4 Âēãĩñß ôũĩ Âēäüóãùĩ	8
5 Âðãēããóēĩũôçðã	9
6 ĩãēßĩãã ðĩõ Ðßñãĩã áðũ ôçĩ çãĩóç 4.4 ôĩõ FreeBSD	10
7 ĩãēēĩñôēēÝð Êãðãðēýĩãēð	10
8 Âð÷ãñēóðßãð	11
9 ÁĩãöĩñÝð	11

1 Âēóããũãß

Ç áíŨððôĩç ôĩõ FreeBSD ãßĩãē ĩēã ðĩēý áĩē÷ðß ãēããēããóßã. Ôĩ FreeBSD áðĩðãēãßðãē áðũ óðĩãēóöĩñÝð ÷ēēēŨãũĩ áĩēñßðũĩ áðũ ùēĩ ôĩĩ ēũóĩĩ. Ç ñŨãã ôĩõ FreeBSD ðññŨŨ÷ãē ðññũóããóç ĩÝóũ áĩßĩôĩĩõ CVS[1] óã ùēĩõð, Ýðóē ðóðã ĩã ðññãß ùðĩēĩð ēÝēãē ĩã ããē ĩçýĩããã log, ãēãöĩñŨð (patches) ðĩõ Ý÷ĩõĩ óã ãēŨöĩñã development branches, ēāē Ũēēã ÷ãñãēðçñēóðēēŨ ðĩõ ãĩçēĩýĩ ôçĩ áíŨððôĩç, óã ĩðĩßã ðññēýððĩõĩ áðũ ôçĩ ÷ñßóç áĩũð áððôçñĩý óðóðßĩãôĩõ ãēã÷ãñēóçð ēßãēã. Áðũ ãðĩõÝēããã ēāē ôĩĩ ðēĩ ôçĩáĩôēēũ ðññŨãĩĩĩã Ýēĩçð ãēã Ýĩã ĩããŨēĩ ãñēēũ áðũ óãēãĩôĩý÷ĩõð ðññãñãĩĩãðēóðÝð áðũ ùēĩ ôĩĩ ēũóĩĩ óôĩ FreeBSD. Âßĩãē ðññĩãĩŨð, ãÝããēã, ðũð ðĩēý óýĩôñã ēã ãß÷ã ãßĩãē áĩããēð ÷ãĩôēēß ç ēãðŨóðãóç áĩ ãß÷ã ùēĩē, áðũ ùēĩ ôĩĩ ēũóĩĩ, ðññũóããóç ĩã ãñŨðĩõĩ óôĩĩ ēßãēã. Âē' áðũ, ĩũĩĩ

Ιέα “áðέέääÝíç” ñÛää áðñ ðáñβðìõ 300 Ûòñá Ý÷ìõ ðñüóááóç íá ãñÛòì óõì CVS repository. Áðõìβ ïé *committers*[6] áβíáé ððáyèðñíé áέά õì ìääáyóäñì ìÝñìò óçð áíÛððóìçðð ðìõ áβíáðáé óõì FreeBSD. Ιέα *êáìòñέέP-ñÛää*[7] (core team) áðñ áέάέáñéìÝñìò ðñìáñáìíáðέóóÝð áέéÝääóáé áέά íá ðáñÝ÷áé òÛðìέìõ áβáìòð éáέìäPáçóç éáé ìέα éáðáyèðñíóç óõì óýñìè òùì committers.

Ιέ ðá÷ýóáòìè ñòèìβ áíÛððóìçð òìõ FreeBSD ááí áðPñìõ éáé ðñéý ÷ññì áέά õì ìáέáèÛñέóìá òìõ óðóðPìáðìò áíÛððóìçð óá ìέα Ýέáìóç ìá ðñέüóçðá ðìõ ìá áìæáé ìá ÷ñçóέìðñέáβóáé áðñÝùð. Áέά ìá èðèáβ áððü òì áβέέçìá, ç áíÛððóìç áβíáðáé óáððü÷ññíá óá áòì ðáñÛέέçéá ìñðÛóéá. Ì éýñέìò èìñìüð áíÛððóìçð áβíáé ì *HEAD* P *trunk* óõì CVS repository ìáð, áñüóðüð éáé ùð “FreeBSD-CURRENT”, P “-CURRENT” áí óðìòñβá.

Íáð ðέì óðáèáñüð èìñìüð óðìðçñáβóáé, áñüóðüð ìá òì ùññá “FreeBSD-STABLE” P ðέì óýìòñá “-STABLE”. Éáé ïé áòì èìñìüβ áβíáé áðñέçéäðìÝñíé óõì éýñìè CVS repository, óççì Éáέέóññíéá, éáé áíðéáñÛòìíðáé ìÝóù *CVSup*[2] óá mirrors ðáíðìý óõì èüòì. Òì FreeBSD-CURRENT[8] áβíáé ç “ðñòç óáèñÛ” óçð áíÛððóìçð òìõ FreeBSD éáèðð óá áððü áβñìðáé ðñðá üèàð ìé éáέíññéáð áέéááÝð. Òì FreeBSD-STABLE áβíáé ì èìñìüð áíÛððóìçð áðñ òì ìðìβ òðéÛ÷ññíðáé ìé áέäüóáéð. Ιέ áέéááÝð áέóÝñ÷ññíðáé óá áððü, òì ááyóäñì èìñìüð áíÛððóìçð, ìá ðέì áñáñ ñòèì, áòìý ðñðá (óýìòñá ìá óççì ðñέéðέéP ìáð) áñέéìáðóìýì óõì FreeBSD-CURRENT éáé Ý÷ìõ áìáðáóóäβ ðñéý éáéÛ.

ÉáðÛ óççì ðáñβñáì ðìõ ìáðñέáááβ áðñ óç ìέα Ýέáìóç óççì áðñìáìç, òðéÛ÷ññíðáé éáèçìáñéìÛ snapshots áðñ óá ìç÷áíPìáðá óçð ñÛääð òìõ FreeBSD éáé áβíáé áέáéÝóέìáð áðñ òì áìòðçñáðçðP <ftp://stable.FreeBSD.org/>. Ç ìääÛέç áέáéáðóέìüðçðá òùì áέðáèÝóέìñ snapshots, éáèðð éáé ç ðÛóç óçð èìέñüðçðáð òùì ÷ñçóðì ìáð ìá áìçìáñPñìõ óá ìç÷áíPìáðÛ òìòð ìá ðéð ðñüóáðáð -STABLE áέäüóáéð ìÝóù CVSup éáé “make world”[8] áìçέìý ìá èñáðéÝóáé òì FreeBSD-STABLE óá ìέα ðñéý áìέüðέóðç éáðÛóáóç áέñìá éáé ðñéì áñ÷βóáé ì éýèèð òùì áéÝá÷ññì ðñέüóçðáð áέñéáðð ðñéì áðñ óççì áéÛéáóç ìέáð Ýέáìóçð òìõ FreeBSD.

Óóìá÷ðð óðÝèññíðáé áðñ òìòð ÷ñPóðáð ìáð áíáðñÝð ðñìáèçìÛðñì éáé áέðPóáéð áέá éáέñññéá ÷áñáèçñéóðééÛ, éáðÛ óç áéÛñéáéá òìò éýèèð óçð èÛéá Ýέáìóçð. Ιέ áíáðñÝð ðñìáèçìÛðñì áέóÛáññáé óççì áÛóç *GNATS*[9] ìÝóù e-mail, ìá óççì áðáññìáP [send-pr\(1\)](mailto:send-pr(1)), P ìÝóù òìò web-interface ðìò ðáñÝ÷áé óççì áέáyèðñíóç <http://www.FreeBSD.org/send-pr.html>. Áέðüð áðñ ðéð áéÛòìñáð èβóðáð çáèðññíééìý ðá÷ðáññìáβìò ìá èÝìá óá ðá÷áíéèÛ ÷áñáèçñéóðééÛ òìò FreeBSD ððÛñ÷áé éáé ç èβóðá FreeBSD Quality Assurance mailing list (<http://lists.FreeBSD.org/mailman/listinfo/freebsd-qa>), ç ðìòβá ðáñÝ÷áé Ýìá òññìò ìέα ððáèçðPóáéð ó÷áðéèÛ ìá ðéð éáððñÝñáéáð óçð “ññáÛñóçð òùì áέäüóäüì”.

Áέá ìá áìòðçñáðçέìý ìé ðέì óðìðçñçðééìβ ÷ñPóðáð ìáð, ìá Ýέáìóç òìò FreeBSD 4.3 áñ÷βóáìá ìá ÷ñçóέìðñέìý ìá ìá÷ñéóðìýð èìñìýð áέäüóäüì. Áðõìβ ïé èìñìüβ áçìέìòñáññíðáé èβáì ðñβì òðéá÷ðáβ ç ðáèéèP Ýέáìóç. ΙáðÛ óççì áíáèìβñüóç óçð Ýέáìóçð, ìññì ðñéý óçìáìóééÝð áέéááÝð éáé ðñìòèPèáð ó÷áðééÝð ìá óççì áóóÛéáéá áβñìðáé óõì èìñìüð óçð Ýέáìóçð. Áέðüð áðñ óççì áðñáðñüðçðá áíááÛèìέóçð ìÝóù CVS, áέðáèÝóέìá patchkits òðéÛ÷ññíðáé áέá ìá ðñìññìý ìá áíááèìβñìõ óá óðóðPìáðÛ òìòð ùóìé ÷ñçóέìðñέìýð ðéð áέäüóáéð *RELENG_X_Y*.

Òì ÒìPìá 2 áìçááβ ìá éáððñÝñáéáð óá áéÛòìñá óðÛáéá óçð áέááééáóβáð ðìò áñβóéáðáé ðβóñ áðñ èÛéá Ýέáìóç, ìÝ÷ñé éáé óá áPìáðá ðìò ìáçáñìý óççì ìáðáèPððéóç òìò óðóðPìáðìò éáé òì ÒìPìá 3 áìçááβ óççì βáéá óç áέááééáóβá óçð ìáðáèPððéóçð. Òì ÒìPìá 5 ðáñéáñÛóáé ðñð ðññáβ ìá áðáèðáéáβ òì ááóéèü óýóðçìá áðñ ðñβòìòð éáé òì ÒìPìá 6 ðáñéáñÛóáé èÛðñéá áðñ óá ðñÛáìáðá ðìò ìÛéáìá áðñ óççì áέááééáóβá Ýέáìóçð òìò FreeBSD 4.4. ÓÝèìò, òì ÒìPìá 7 ðáñìòóéÛáé èÛðñéáð áðñ ðéð éáðáðéýìáéð ðìò èÝèìò ìá ðÛñáé ç áíÛððóìç óõì ìÝèèì.

2 Ç Áέááééáóβá Áçìέìòñáβáð ìέáð èäìíóçð

Ιέ ìÝáð áέäüóáéð òìò FreeBSD òðéÛ÷ññíðáé áðñ òì -STABLE èìñìüð áíÛððóìçð ðáñβðìò èÛéá óÝóáñáéð ìPìáð. Ç áέááééáóβá ðñìáðñέìáóβáð ìέáð Ýέáìóçð ìáèéñÛáé ó÷áññì 45 ìÝñáð ðñéì óççì áíááññìáìç çìáññçìβá Ýέáìóçð, ùðáì ì ððáyèðñì áέäüóäüì òìò FreeBSD óðÝñíáé Ýìá áñÛìá óðéð èβóðáð òùì ðñìáñáìíáðέóóðì áέá ìá ððáñèðìβóáé óðìòð ðñìáñáìíáðέóóÝð ùðé Ý÷ìõ 15 ìÝñáð éáèññ ìá èÛñìõ ùðñéáð áέéááÝð èÝèìò, ðñéì òì ðÛáñìá òìò èPáééá. ÌÝóá óá

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

2.1 ĩēāā ÷ ĩō ēßāēēá

ÔñēŪĩóá çĩŸñāð ðñēĩ óçĩ áĩāĩāñĩāĩç çĩāññçĩßā Ÿēāĩōçò, ĩ ēßāēēáð òĩō repository áéóŸñ ÷ āðáē óā ĩéá ðāñßĩāĩ “ēáēóóóŸñçòçò”. ÉáòŪ óç āēŪñēāēá áòðßò 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 áðēóñŸðĩĩóáē óā áòðß òçĩ ðāñßĩāĩ ðĩō áēāñēāß 15 çĩŸñāð āßĩáē:

- Āēĩñēßóāēð āñüóóßĩ ðñĩāēçĩŪðuĩ.
- Āĩçĩāñßóāēð óóçĩ ðāēĩçñßüóç.
- ĀēēááŸò ó ÷ āðēēŸò ĩā óçĩ áóðŪēāēá.
- 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 óāĩ 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 ÷ éóòĩĩ ĩßā āĩēēĩáóóēēß Ÿēāĩōç òðēŪ ÷ ĩāðáē ēŪēā āāāñŪāā, ĩŸ ÷ ñē ĩá āßĩáē Ÿóĩēĩç ç ðāēēēß Ÿēāĩōç. Ôēò çĩŸñāð áēñēāðð ðñēĩ óçĩ ðāēēēß Ÿēāĩōç, ç ĩñŪāā ðĩō āßĩáē òðāŸēōĩç áēá ðēò āēäüoäēð āßĩáē óā óòĩā ÷ ð āðēēĩēñĩßā ĩā óçĩ ĩñŪāā áóðŪēāēáð, óçĩ ĩñŪāā óòĩōßñçòçò òçò ðāēĩçñßüóçò, éáē óçĩ ĩñŪāā óòĩōßñçòçò òuĩ ports, áēá ĩá āāāāēüēĩŸĩ ðüð ũēā óā áðāñāßòçòā ēñĩŪðēá áēá ĩéá ðēßñç Ÿēāĩōç āßĩáē áēáēŸóēĩā.

2.2 Ēßóóā ĀēŸā ÷ ĩō òçò Ôāēēēßò ĩēāĩōçò

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

2.2.1 Āçĩēĩōñāßā òĩō ēĩñĩŸ ĩēāĩōçò

¼ðüð ðāñēāñŪøāĩā óóçĩ áéóáāñāß, ĩē ēĩñĩĩß RELENG_X_Y āßĩáē ĩéá ó ÷ āðēēŪ ĩŸā ðñĩóēßēç óóçĩ ĩāēĩāĩēĩāßā òuĩ āēäüoäßĩ ĩāð. Ôĩ 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
```

Ôĩ áðüñāñ āßĩā āßĩáē ĩá āçĩēĩōñāßāðāðā ĩéá āðēēŸðā (tag) óòĩ óçĩāßĩ āēēßĩçòçò òĩō ēĩñĩŸ, ðóóā ĩá ĩðñāßòā ĩá āāßòā ðēò áēáōĩñŸò 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 āçĩēĩōñāßāðāðā òĩ ĩŸĩ ēĩñĩü ĩā:

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

2.2.2 Αρχή του Απριλίου

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

- `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`

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

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

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

Άσπυ ιεῖεεεεεεεεεε ε δνιιιιιιιιιιιι εδδ εῖΥάδ αδδδδδδδδδ Υέεεεεεε, δνΥέεε ιά αῖαῖαῖαῖαῖα ιαῖεεεΥ αῖ÷αῖα αέα ιά αῖαῖαῖαῖαῖα οῖι εῖοῖι αέα εε εῖΥ Υέεεεε 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 οθιεΥόογς οοι αοεεαορι. ΆαίεεÜ, ααί αβίάε αýοετει ίά αβίάε εÜοε οΥόιει αοιγ οί CVS αδεονΥθαε ίά ιαοαεερίβoαε εÜθιείο οεό αοεεΥόαο ίά ατίοιεΥό υδυό `cvs tag -d tagname filename`. Άβίάε θιεý ογίαόεεü υυό αόoΥό τέ αεεάαΥό ογς οάεαδoαβá οόεαιβ ίά ογίαευειγί ίά οεό οοοóΥό αοεεΥόαο αεά ογι οοαεαηειΥίγ Υεαίoγ. Ιε αδβoγίαό αεäυoάεό οίo FreeBSD θηΥθαε ίά αβίάε δÜίoά αýετει ίά αίαθαηá÷ειγί. ΟίδεεΥό αεεάαΥό οοι θάηεáÜεετí οίo ιç÷αίεεý οοι αεäυoáυι ααί αδεονΥθίoαε.

3 ðàáãëþôôéóç ôçò ëäïóçò

Ιε "aeauaaeo" oio FreeBSD ioiniia ia iaadaaeuooeooiia adu ioieiaaBpiao Y ÷ ae Yia o ÷ aeaeU anPaiin ic ÷ Uicia eae
 dnuoaaoc ooi repository oio dcaabio epaeaa. (4eie Y ÷ ioi aooP oc aioiaouocoa, aoiy danY ÷ ioia dnuoaaoc iYou
 alpioio CVS! AaBoa oi Aa ÷ aenbaei oio FreeBSD aea daneaouoanao eadonYnaeo.) C iuic aeaeep adabococ abiaa
 ia odu ÷ ae oiooPneic ooi ddnPia oao aea oci ooeaop vn(4). (Ooi -CURRENT, aooP c ooeaop Y ÷ ae
 afoeaaaoaoaeb adu oci rY a ooeaop aboeio aaoeoiYio oa iBic md(4). Ai c ooeaop aai abiaa aioiaouuYic ooi
 ddnPia oao, ouoa i eaoUeeceio iacaud ea oionueab adouiaoa uoa aeoeaaoaB c afioreP vnconfig(8) eaoU oc
 aeUnea ea oc oUocd aioiaaoBa oio iYio aeBicocd. 4ea oa anaeeBa oio ÷ naeUaioae aea ia iaadaaeuooBoa ia
 Yeaioc abiaa aeaeYoeia oa iioP dcaabio epaeaa ooi eaoUeia src/release. AooU oa anaeeBa Y ÷ ioi uo oeiou ia
 danY ÷ ioi uoe ÷ naeUaioae aea ia ÷ obaioae ie aeauaaeo oio FreeBSD ia Yia oiaop eae oaeaeeneiYi onou. Iea
 dePncd Yeaioc ioina ia iaadaaeuooeooa ÷ nceioiepioa aooU oa anaeeBa ia ia eae iui afioreP,
 ooi daneaiaaia Yic eae oc aeleioaba adu ISO an ÷ abio eaoUeecei aea ia eaaB oa CDROM, ie aeoeYoa
 aeBicocd, eaeB eae i eaoUeeceio aaeaoUoaooc iYou FTP. AooP c afioreP abiaa ooeep c make release.

3.1 Ç áíôïëþ make release

Ἄέα ἰά ἱὰόἀα̃εὐὸδβόἀὸἀ ἀδεὸ÷-ò ἱέα Ὺέαιός, ὄñÝðáε δñρὸά ἰά òðŨñ÷-íοί ὀά εάὸÜēęçéá áñ÷-âßá ἰÝὸά ὀοίῖ εάὸUειῗῗ
/usr/obj. Ἰὸñᾷβὸά ἰά ὀά ἀcιέῖ῏ᾶñᾷβὸάὸἀ ἁβὸά ἰά ὀcι αἰὴτεP make world P ἁδēŨ make buildworld. Ἄέα ἰά

[illegible]

- [illegible]

Άí αάí Υ÷άάά Παç ðñúάάάçά όά εÛðείí ðιδέεü CVS repository íα ðιí êπαέέα ðιò FreeBSD, ìðιñάβόά ðÛíόά íά
 ððέÛíάάά ðιí áέέü óάð ðιδέεü CVS mirror íα ðιí CVSup
 (http://www.FreeBSD.org/doc/en_US.ISO8859-1/books/handbook/synching.html#CVSUP). ÕðÛñ÷άέ Υíá supfile,
 óðιí áñ÷άβι /usr/share/examples/cvsup/cvs-supfile, ðιí ìðιβι ìðιñάβόά íά ÷ñçόέιíðιέΡάάάά áέα íά
 áíðέαñÛøάάά ðιí CVS repository ðιò FreeBSD óðιí áέέü óάð ðιδέεü mirror.

[illegible]

ÖðÜñ÷röi éáé ðreeÝð Üeeáð iáðááæçðÝð ðiö iðiniýi íá ÷ñçóéiiðieçeiýi áéá íá ðañáiaðñiiðieÞóáðá öçí ÝéäiöÞ óáo. Íé ðei ðreeÝð áðu áðöÝð öeð iáðááæçðÝð ðañéañÜöirióáé óçí eiñöðÞ öiö áñ÷áñiö src/release/Makefile. Ç áéñéáÞð áíöieÞ öiö ÷ñçóéiiðieÞeçêá áéá íá ööéá÷ðáñ ç áðßóçí Ýéäiöç 4.7 öiö FreeBSD (x86 ðéáðöüüniá) Þái:

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

Ὅτι Makefile δῖο ÷ η̣ς ὁ εἰς δῖε ἀβδαε̣ ἀεά ῖα ῖα δαα̣εὺ ὁ δὲ αἰῖο δαε̣ ῖε ἀεα̣υο̣αδ ῖ δῖ η̣β ῖα ῖ ÷ η̣ η̣ε ὁ δαβ ὁ α̣ ἀη̣ε̣αδ Ὑ ῖα ÷ η̣ η̣ε ὁ δαβ ῖα δαα̣ῖ οἶοδ ἀ η̣ῖα δα.

- Ἀγείριοναβὰ ἀφὺδ ἐἀεάνιγ δᾶνέαῤῗεῖριτὸ οἶ ἰέα ἰᾶ÷ῤῗεὸδP εᾶñāñ÷βὰ ἐἀόἀεῦαῦἰ ἰᾶ ὁγί ἀίῶῖεP “make installworld”.
- ἈἰᾶαῦᾶP ἀδῦ οἱ CVS ἰεᾶδ ἐἀεῖγῖνέᾶδ ῤῗεῖριτὸ οἶ δῡᾶᾶῖῶ ἑῖᾶεᾶ οἶῶ ὀῶῶῶῖᾶῶῶ, ὁγὸ δᾶῖῖῖῖῖῖῖῖῖ ἑᾶέ οῦἰ ports ἰῤῥᾶ ὁῡγί εᾶñāñ÷βὰ ἐἀόἀεῦαῦἰ ἰᾶὀᾶᾶῖῖῖῖῖῖῖ ὁγὸ ῤῗεῖριτὸ.
- Ἴῶεἰβῶᾶεὸ οῦἰ ᾶñ÷ᾶῖῖ ὀῶἰ ἐᾶὀῤῗεἰᾶ /etc ἑᾶέ /dev ἰῤῥᾶ οἶ δᾶνέαῤῗεῖρι chroot.
- Ἄεὸῤῗεῖριτὸ ὁγὸ ἀίῶῖεP chroot ἰῤῥᾶ ὁῡγί εᾶñāñ÷βὰ ἐἀόἀεῦαῦἰ ῶῖ ᾶῶἰῖῖῖῖῖῖῖ, ᾶεᾶ ἰᾶ ἰῡἰᾶ ὀἱ ᾶἰῶᾶᾶῖῖῖ ῶᾶνέαῤῗεῖρι ἰᾶ ᾶῡῡᾶῖῖῖῖ ὁγ ἰᾶὀᾶᾶῖῖῖῖῖῖ ὁγὸ ῤῗεῖριτὸ.
- Ἄεὸῤῗεῖριτὸ ὁγὸ ἀίῶῖεP make world ἰῤῥᾶ οἶ δᾶνέαῤῗεῖρι chroot.
- ἰᾶὀᾶᾶῖῖῖῖῖῖ οῦἰ ᾶεὸᾶῖῖῖῖῖ ῶῖ ᾶῖᾶῖ ὀ÷ᾶὀῖῖ ἰᾶ ὀἱ ὀῡὀῡῡῡ Kerberos.
- ἰᾶὀᾶᾶῖῖῖῖῖῖ ὀἶῶ ὀῡᾶῖᾶ GENERIC.
- Ἀγείριοναβὰ ἀφὺδ ὀᾶῖῖῖῖῖ ἐᾶὀᾶεῦαῖῶ ὀῶἰ ἰῡἰῖ ἑᾶ ἰᾶὀᾶᾶῖῖῖῖῖῖῖῖ ἑᾶέ ἑᾶ ᾶῡῡῡῡᾶὀῖῖῖ ἰῖ ᾶεὸᾶῖῖῖῖῖ ἰῖῖῖῖ ὀῦἰ ὀᾶῖῖῖῖ ὀᾶῖῖῖῖ.
- ἰᾶὀᾶᾶῖῖῖῖῖῖ ἑᾶῖ ᾶᾶῖᾶὀῡὀὀᾶὀῡ ὀῦἰ ᾶñᾶᾶᾶῖῖῖ ῶῖῶ ÷ñᾶῖῖῖῖῖῖ ᾶεᾶ ὁγί ὀñᾶὀῖῖῖῖῖῖ ὁγὸ ῤῗεῖριτὸ ἑᾶῖ ὁγ ἰᾶὀᾶὀῖῖῖῖ ὁγὸ δᾶῖῖῖῖῖῖῖῖ ᾶδῦ ὀἱ δῡᾶᾶῖ ἑῖᾶεᾶ (SGML) ὀᾶ html ἑᾶῖ ᾶñ÷ᾶᾶ ἑᾶῖῖ ῤῗῖ ἑᾶ ὀῡἰᾶῖῖῖῖῖ ὁγί ῤῗεῖριτὸ.
- ἰᾶὀᾶὀῖῖῖῖ ἑᾶῖ ᾶᾶῖᾶὀῡὀὀᾶὀῡ ὁγὸ δᾶῖῖῖῖῖῖῖῖ (ᾶᾶ÷ᾶῖῖῖῖῖ ÷ñῖὀὀὀ, ᾶῖὀᾶᾶῖῖῖῖῖ ἑᾶῖῖῖῖῖ, ὁγᾶῖῖῖῖῖ ῤῗεῖριτὸ, ῖῖῖῖῖ ὀῡἰᾶὀῡὀὀὀὀὀ ὀῖῖῖῖῖ. ῖῖῖ.)

- ĩāóāāēpôôéóc òuĩ “òõĩðéáõĩŸĩũĩ” (crunched) āēôāēŸóēĩũĩ ðĩō éā ÷ ñçóēĩĩðĩēçēĩŸĩ óôéò áéóēŸôôāò āāēáôŨóóáócò.
- Āçĩēĩōñābā òuĩ ðāēŸôũĩ ôçò āāēáôŨóóáócò éāē òuĩ ðāēŸôũĩ ðçāābĩō ēpāēēā.
- Āçĩēĩōñābā òuĩ ĩŸóũĩ āēēbĩçóçò éāē ôçò áéóēŸôôāò “fixit”.
- Āçĩēĩōñābā ôçò éāñāñ÷bāò éāóāēüũĩ áēā ôçĩ āāēáôŨóóáóc ĩŸóũĩ FTP.
- (ðñĩíáēñāôēēŸ) Āçĩēĩōñābā òuĩ ISO āñ÷ābũĩ áēā ĩŸóā CDROM/DVD media.

Āēā ðāñéóóũðāñāò ðēçñĩōĩñbāò ó÷āôēēŨ ĩā ôçĩ áēāāēēáóbā āçĩēĩōñābāò ĩēāò Ÿēāĩóçò, āābôā ôçĩ óāēbāā ôāēĩçñbũóçò release(7).

3.2 ĩāóāāēpôôéóc òuĩ XFree86

Ōĩ āñāóēēũ ðāñēāŨēēĩ **XFree86** ābĩāē Ÿĩá óçĩáĩóēēũ ēñĩŨóē ēŨēā Ÿēāĩóçò áēā ðĩēēĩŸò ÷ ñpôóāò ðĩō ēŸēĩōĩ òĩ FreeBSD áēā óóāēĩŸò āñāóáò. ðñēĩ ôçĩ Ÿēāĩóç 4.6-RELEASE òĩō FreeBSD, ĩē āðbóçĩāò āēüüóāēò òĩō FreeBSD ÷ ñçóēĩĩðĩēĩŸóāĩ ôçĩ Ÿēāĩóç 3.x òuĩ **XFree86**. Ĩ ðēĩ āŸēĩēĩò ðñũðĩò ĩā ĩāóāāēũðôóáòā āóòŸò óēò āēüüóāēò ābĩāē ĩā ÷ ñçóēĩĩðĩēĩŸóāĩ òĩ ðñũāñāĩā `src/release/scripts/X11/build_x.sh`. Áòũũ òĩ ðñũāñāĩā áðāēòāb ĩā ābĩāē pāç óçĩŸĩá óõĩ óŸóçĩŨ óáò òũĩ òĩ ðāñēāŨēēĩ XFree86 ũĩĩ éāē ç āēpóóā Tcl/Tk. ĩāòŨ ôçĩ ĩāóāāēpôôéóc òuĩ éāòŨēēçēũ X servers, òĩ ðñũāñāĩā éā ðāēāòŨñāē ũēā óā āñ÷ābā óā óðēēĩāŸò āñ÷ābũĩ ðĩō ðāñēĩŸĩāē ĩā āñāē òĩ `sysinstall(8)` ĩŸóā óõĩĩ éāòŨēēĩāĩ `XF86336` óõĩ ĩŸóĩ āāēáôŨóóáócò.

ĩāēēĩpĩóáò ĩā ôçĩ Ÿēāĩóç 4.6-RELEASE òĩō FreeBSD, òĩ `sysinstall(8)` āāēāēéóòŨ ôçĩ Ÿēāĩóç 4.x òuĩ XFree86, óáĩ éāñĩēēŨ ðāēŸóā. ÁòòŨ ĩðĩñāb ĩā ābĩāē ābôā óā ðāēŸóā ðĩō āçĩēĩŸñāçòā òĩ cluster òuĩ ports p ĩðĩēāāðĩòā Ũēēā ðāēŸóā ðĩō Ÿ÷ĩōĩ āçĩēĩōñāçēāb āðũ Ÿĩá ports tree ĩā ôçĩ éāòŨēēçç āôēēŸóā.

Óçĩābũóc: Ābĩāē ðĩēŸ óçĩáĩóēēũ ĩā áóāēñŸóáòā āðũ òĩ āñ÷ābĩ `/etc/make.conf` ĩðĩēāóāpðĩòā òĩðēēŸò ñòēĩbóāēò Ÿ÷āòā ēŨĩāē. Āēā ðāñŨāāēāĩā, āāĩ ābĩāē éāēp ēāŸā ĩā āēáĩŸĩāòā āēôāēŸóēĩā ðĩō Ÿ÷ĩōĩ ĩāóāāēũðôéóóāb óā ēŨðĩēĩ óðāēāēñēĩŸĩĩ óŸóçĩā ĩā ĩñéóĩŸĩç ôçĩ óēĩp ôçò ĩāóāāēçòpð `CPUTYPE` áēā āāēóéóõĩðĩbçóç òuĩ āēôāēŸóēĩũĩ áēā ēŨðĩēĩ óðāēāēñēĩŸĩĩ āðāĩāñāóòp.

3.3 ðñĩāñŨĩĩáóā Ōñbôũĩ (“ports”)

Ç Óðēēĩāp òuĩ Ports òĩō FreeBSD (<http://www.FreeBSD.org/ports>) ābĩāē ĩēā óðēēĩāp ĩā ðāñéóóũðāñā āðũ 24,000 ðñĩāñŨĩĩáóā āðũ òñbôĩòò, ðĩō ābĩāē áēāēŸóēĩā áēā FreeBSD. ĩē ĨŨāā Āēā÷ābñéóçò òuĩ Ports `<portmgr@FreeBSD.org>` ābĩāē òðāŸēðĩēē áēā ôçĩ óõĩóðñçóç āĩũð āŸĩóñĩō āðũ ðçāābĩ ēpāēēā áēā óā ports, ðĩō ĩðĩñāb ĩā ÷ ñçóēĩĩðĩēçēāb áēā ĩā āçĩēĩōñāçēĩŸĩĩ óā ðāēŸóā ĩā óā ðñĩāñŨĩĩáóā ðĩō óðñāŸĩōĩ óēò āðbóçĩāò āēüüóāēò òĩō FreeBSD.

Ç áēāāēēāóbā óõĩóðñçóçò ôçò óðēēĩāp òuĩ ports ābĩāē ēŨóē ðĩō āāĩ ĩðĩñĩŸĩā ĩā éāēŸõĩðĩā āāp. ĩā ĩā÷ũñéóóũ Ũñēñĩ, ĩā òbôēĩ Ç ĨñāŨtūóc ēāĩóçò òuĩ ðāēŸôũĩ ĒĩāēóĩēēŸ āðũ Ōñbôĩòò ([./releng-packages/article.html](http://releng-packages/article.html)), éāēŸðāē āòũ òĩ ēŸĩā.

3.4 Āñ÷ābā ISO ôçò ēāĩóçò

ĩāēēĩpĩóáò ĩā ôçĩ Ÿēāĩóç 4.4 òĩō FreeBSD, ç ĨŨāā ĀĩŨððõĩçò òĩō FreeBSD āðĩōŨóéóā ĩā āēáĩŸĩāē éāē óā óŸóóāñā ISO āñ÷ābā ðĩō ðñpóā ðĩōēĩŸóāĩ ĩē āóāēñābāò *BSDi/Wind River Systems/FreeBSD Mall* óôéò “āðbóçĩāò” áēāmŸò CDROM ðĩō Ÿēáĩāĩ. ēŨēā Ÿĩā āðũ óā óŸóóāñā ISO āñ÷ābā ðñŸðāē ĩā ðāñēŸ÷āē Ÿĩā āñ÷ābĩ `README.TXT` ðĩō

ðǎñéǎñÛöǎé óǎ ðǎñéǎ÷ìíǎíǎ òîõ ǎßóêîõ, êé Ýíǎ ǎñ÷ǎßí CDROM.INF ðîõ ðǎñéÝ÷ǎé ìǎðǎ-ðêçñîîññǎð ǎéǎ íǎ ìðññǎß òî ðñüǎñǎìǎ sysinstall(8) íǎ ǎéÝǎñǎé êǎé íǎ ÷ñçóêîîðîéßóǎé áðòü òî ǎßóêî, êǎêð òé Ýíǎ ǎñ÷ǎßí filename.txt ðîõ ðǎñÝ÷ǎé ìéǎ êßóðǎ ǎñ÷ǎßüí òîõ CDROM. Áðòß ç êßóðǎ ìðññǎß íǎ ǎçîéîñǎçêǎß ðîéý áðêÛ, ùð ǎñßð:

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

Îé óðǎéǎêñéíÝíǎð áðǎéòßóǎéð ǎéǎ êÛêǎ Ýíǎ áðü áðòÛ òǎ CD ðǎñéǎñÛîîíóǎé ðǎñǎéÛòü:

3.4.1 Áßóêîõ 1

Î ðñðòîð ǎßóêîõ ǎßíǎé ó÷ǎǎüí áðîééǎéóóéêÛ áðîðÝéǎóíǎ òçð ǎíóîéßð make release. Îé ìüíǎð ǎééǎǎÝð ðîõ ðñÝðǎé íǎ ǎßñîí óóñí êǎðÛêîñ disc1 ǎßíǎé ç ðññíóèßê ðîõ êǎðÛêîñ tools, òüí XFree86, êǎé üóí òî ǎóíǎóüí ðǎñéóóüðǎññí ðǎéÝòüí ìðññíý íǎ ÷ñÝóíóí óóí ǎßóêî. Î êǎðÛêîñ tools ðǎñéÝ÷ǎé ǎñǎǎéǎßá ðîõ áðéòñÝðîí óǎ ÷ñßóðǎ Ûéêüí êǎéðîñǎéêñí óðóðçíÛòüí íǎ òðéÛñîí òéð ǎéóéÝððǎð ǎéêßíçóçð. Áðòüð ì ðñðòîð ǎßóêîõ ðñÝðǎé íǎ òðéÛ÷ǎðǎé bootable Ýðóé ðóðǎ íǎ ìðññíý ìé ÷ñßóðǎð òüí ìüðÝññüí ððîéíǎéóóðí íǎ áðîðǎýǎíóí òî óðÛǎéí ǎçîéîñǎßáð òüí ǎéóéǎððí ǎéêßíçóçð.

Áí ìéǎ ǎéǎóñǎðéêß Ýéǎíóç òüí XFree86 éǎ ǎéǎíÝíǎðǎé ìǎ òçí Ýéǎíóç áðòß, ðñÝðǎé íǎ ǎçîñǎñüêǎß òî ðñüǎñǎìǎ sysinstall(8) ǎéǎ òçí íÝǎ òÝóç êǎé ìé ñǎçǎßáð ǎǎéǎðÛóðǎóçð. Î ó÷ǎðéêüð êñǎééǎð òðÛñ÷ǎé óóñí êǎðÛêîñ src/release/sysinstall óóñí -STABLE êññü ð óóñí êǎðÛêîñ src/usr.sbin/sysinstall óóñí -CURRENT êññü. ÓðǎéǎêñéíÝíǎ, òǎ ǎñ÷ǎßǎ dist.c, menus.c, êǎé config.c éǎ ÷ñǎéǎóðǎß íǎ ǎçîñǎñüéíý.

3.4.2 Áßóêîõ 2

Î ǎǎýðǎññð ǎßóêîõ ǎßíǎé áðßóçð áðîðÝéǎóíǎ òçð ǎíóîéßð make release êǎðÛ Ýíǎ ìǎǎÛéí ìÝññð. Áðòüð ì ǎßóêîõ ðǎñéÝ÷ǎé Ýíǎ “live filesystem” ðîõ ìðññǎß íǎ ÷ñçóêîîðîéçêǎß áðü òî sysinstall(8) ǎéǎ íǎ ǎñǎðǎóóíý ðññǎéßíǎðǎ óǎ ìéǎ ǎǎéǎðÛóðǎóç òîõ FreeBSD. Êé áðòüð ì ǎßóêîõ ðñÝðǎé íǎ ǎßíǎé bootable. Êǎ ðñÝðǎé áðßóçð íǎ ðǎñéÝ÷ǎé Ýíǎ óóíðéǎóíÝñí ǎíóßǎñǎóñ òîõ CVS repository óóñí êǎðÛêîñ CVSROOT êǎé ǎßǎìǎðǎ áðü ǎðññéêÛ ðññǎñÛñǎðǎ óóñí êǎðÛêîñ commerce.

3.4.3 Áßóêîõ 3 êǎé 4

Îé òðüéîéðîé ǎðí ǎßóêîõ ðǎñéÝ÷ǎéí áðéðññüéǎðǎ ðǎéÝóǎ êñǎéóíééý ǎéǎ òî FreeBSD. Óǎ ðǎéÝóǎ éǎ ðñÝðǎé íǎ ǎßíǎé ñǎǎñðîéçíÝíǎ, Ýðóé ðóðǎ êÛêǎ ðǎéÝðî íǎ ǎßíǎé óóñí ðǎéí ǎßóêî ìǎ üéǎ óǎ ðǎéÝóǎ áðü óǎ ñðíǎ ǎñǎñðÛóǎé ǎéǎ íǎ ǎǎéǎðǎóðǎéǎß êǎé íǎ òñÝíǎé. ðǎñéóóüðǎññð ðêçñîîññǎð ǎéǎ òçí ǎçîéîñǎßá áðòðí òüí ǎßóêüí ǎíǎóÝññíóǎé óóí Ûñêñ Ç ÎñãÛîùόç êǎíóçð òüí ðǎéÝòüí Êñǎéóíééý áðü Òñßðîðð (../releng-packages/article.html).

4 Áéǎíñß òüí Áêäüüóàùí

4.1 ÁîðçñǎðçðÝð FTP

¼ðǎí ç Ýéǎíóç ǎßíǎé Ýóîéíç, Ý÷ǎé ǎñééíǎóðǎß ǎéðǎíðð, êǎé Ý÷ǎé ðǎéǎðǎñéóóǎß ǎéǎ ǎéǎíñß, ì éýñéîð FTP ǎñðçñǎðçðð ðñÝðǎé íǎ ǎçîñǎñüêǎß. Îé áðßóçñé ǎñðçñǎðçðÝð FTP òîõ FreeBSD ǎßíǎé üéîé mirrors ǎñüð éýñéîð ǎñðçñǎðçðð óóñí ñðíßí Ý÷ǎéí ðññóǎǎóç ìüñ Ûééîé FTP ǎñðçñǎðçðÝð. Áðòüð ì ǎñðçñǎðçðð ǎßíǎé ǎñüóüð ùð ftp-master. ¼ðǎí ç Ýéǎíóç ǎßíǎé Ýóîéíç, ðñÝðǎé íǎ ǎçîñǎñüéíý òǎ ðǎñǎéÛòü ǎñ÷ǎßǎ óóñí ftp-master:

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

λέα ἀδῆP web οἶαῖβᾶᾶ ὄϊο ὀᾶῖῖÉY ÷ ᾶῖ ᾶᾶῖῖῖῖῖ ὀᾶ ᾶῖUῖῖῖῖῖῖ ὀῖῖᾶῖῖῖῖῖῖ FTP ῖᾶῖῖῖῖῖῖῖ ᾶῖᾶ ὀῖῖ ὀῖῖY ÷ ῖῖῖᾶ ῖῖᾶῖῖῖ ὀῖῖ FreeBSD.

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

Í éadóUeräö ädu öir rðirð ðöirýí íá äßirðí ääéäöäöðÜöäéð ðÝöü FTP, üðüð öir Ý÷äé ðñiräöieiÜöäé ç äíöieP 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 êáôÛëîäí .../.../.../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'ί'ς'ί οός'ί
δεάέ'ι'ο'ς'όβ'ά ο'ι'οδ' ό'ά δ'η'η'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'i'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 ἵσῃ τοῖς ISO ἀνὰ τὸν τοῦ FreeBSD ὁ ἄνθρωπος ἔδωκεν ὅτι ἵσῃ τὰ ἐξ ἡμῶν ἵσῃ τὰ ἀνὰ τὸν τοῦ FreeBSD, ἔα ἵσῃ τὰ ἐξ ἡμῶν ἵσῃ τὰ ἀνὰ τὸν τοῦ FreeBSD ὅτι ἵσῃ τὰ ἀνὰ τὸν τοῦ FreeBSD.

5 Åđăêôáóéìüôçôá

[illegible]

5.1 Äçĭēĭōñāßá ÐñĭóáñĭōĭŸĭñĭ Āéóēāōōþĭ Āēēßĭçóçð.

ÐĭēēŸð āēēāóáóōŨóāēð Ÿ÷ĭōĭ ðĭēŸðēĭēāð áðāēðþóāēð ðĭō ĭðĭñāß ĭā òç óāēñŨ ðĭōð ĭá áðāēðĭŸĭ òçĭ ðñĭóēþēç ðñāēóóüðāñĭ ĭāçāþĭ þ āñāāēāßñĭ ÷ñþóçç òóēð āēóēŸððāð āāēāðŨóóáçðð. Ĩ “ĭðāēŨēēēĭð” òññðĭð ĭá ðĭ ēŨĭāðā áððü 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÷āßā ĭŸóá òñĭ ēāðŨēĭāĭ chroot òçð Ÿēāĭóçð.
- `rm ${CHROOTDIR}/usr/obj/usr/src/release/release.[59]`
- ĭāðāāēüððóðā ðŨēē òĭ sysinstall(8), òĭ ðñþĭá, þ ũðĭēā Ũēēā ðñĭāñŨñāðā Ÿ÷ĭōĭ āðçñāāóðāß áðü 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 òñŸĭāðā áðāðēāßāð òĭ script ðĭō äçĭēĭōñāßāß òá òðððþĭāðā āñ÷āßñĭ src/release/scripts/doFS.sh.

ĭðĭñāßðā āðßóçð ĭá ēāñĭßóðāð þóðā āēēŸð óāð āēēāŸð ĭá ðñāāóðĭŸĭ ĭā ĭññðþ patch òçĭ Ÿēāĭóç ũðüð ēā òēēŨ÷ĭāðāē, āßñĭðāð òēĭþ òçĭ ĭāðāāēçðþ LOCAL_PATCH ũðāĭ òñŸĭāðā 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. Áððü òĭ ÷āñāēðçñēóðēēü òĭō ðñĭāñŨñāðĭð ĭðĭñāß ĭá ÷ñçóēĭðĭēçēāß òá òñĭāðāóĭü ĭā ðĭ PXE[13] òçð Intel āēā ĭá ĭāēēĭþóāē ç āāēāðŨóóáçðð áðü òĭ āßēððĭ, þ òá òñĭāðāóĭü ĭā ðñĭóáñĭōĭŸĭāð āēóēŸððāð āēēßĭçóçðð ēē Ÿĭā sysinstall script. ĭá ðāñŨāāēāĭā áðü òŸðĭēĭ sysinstall script ĭðĭñāßðā ĭá āñāßðā òðĭ āñ÷āßñĭ src/release/sysinstall/install.cfg.

6 ĭāēþĭāðā ðĭō Ðþñāĭā áðü òçĭ êäĭóç 4.4 òĭō FreeBSD

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

Ç ēĭēĭñóçðā òñĭ ÷ñçóðþĭ ĭāð Ÿēāĭā óāðŸð ũðē ç áóðŨēāēā ēāē ç óðāēāñññóçðā ĭēāð Ÿēāĭóçð āāĭ ēŨ ðñāðā ĭá ēððēŨæāðāē āēā ēāĭāññð āßāñð ðñĭēāóĭßāð þ çĭāññĭçĭāð ðĭō Ÿ÷ĭōĭ òāēāß óāĭ òðü ÷ĭē áðü ðñēĭ. Ōĭ FreeBSD Ÿ÷āē ĭāāāēþóāē āñāĭāðēēŨ ēāðŨ òç āēŨñēāēā òçð æñþð òĭō óāĭ óŸóçĭā, ēāē ç āĭŨāēç āēā óðāēāñēĭŸĭç ðĭēðēēþ ēāē ĭñāŨñóçç āēā òçĭ äçĭēĭōñāßā ĭŸñĭ āēäñóäñĭ āßĭāē ðēŸĭñ óāĭāñþ ðñāēóóüðāñĭ áðü ðĭōŸ. Áððþ ç āĭŨāēç ēā āßĭāē áēñĭā ðēĭ çĭāĭðēēþ ēāēþð òĭ FreeBSD ēā āñ÷āßāē ĭá ĭāðāŸŸñāðāē òá ĭŸāð ðēāððññāð.

7 ìàëëïíôéeêÝò Êáôãõèýíóãéò

[illegible]

- [illegible]

8 Å ÷ á ñ é ó ô ß à ò

Εὰ Πεᾶέα ἰά ἀο÷ἀνεόδΠουὸ οἱ Jordan Hubbard, θῖο ἱτὸ Ὡαυόᾶ ὀγί ἀδεᾶένβΑ ἰά δῦNνὺ εὔθιεᾶ αῶν ὀγί ἀεῳίγ ὀδò Ὡεᾶιτόδ 4.4 οἱο FreeBSD, ἐᾶεð òεᾶ ᾶεᾶ ὑεç ὀγί ᾶιρεᾶεὔ θῖο Ὡ÷ᾶε εὔἰᾶε ᾶᾱρ ἑᾶε ÷nυἰεᾶ ᾶεᾶ ἰά ᾶβἰᾶε ὅἱ FreeBSD ᾶδου θῖο ᾶβἰᾶε ὀΠἰᾶᾶ. Ὤοóεὔ, ç Ὡεᾶιτόç ᾶἰρ ἑᾶ Πὀᾶἰ θῖο Ὡ ᾶοἰᾶούἰ ἰᾶ ἱεἱεççnυεᾶß ÷ññð ὑεç ὀγί ὀ÷ᾶόεὔ ἰᾶ ὀγί Ὡεᾶιτόç ᾶιρεᾶεὔ θῖο Ὡεᾶἰᾶ ἱé Satoshi Asami <asami@FreeBSD.org>, Steve Price <steve@FreeBSD.org>, Bruce A. Mah <bmah@FreeBSD.org>, Nik Clayton <nik@FreeBSD.org>, David O'Brien <o'brien@FreeBSD.org>, Kris Kennaway <kris@FreeBSD.org>, John Baldwin <jhb@FreeBSD.org> ἑᾶε ὑεἱέ ἱé ὀδῡἱεἱέθῖε θῖο ᾶó÷ἱεἱἰὀᾶε ἰᾶ ὀγί ᾶἰὔððῖç ὀἱο FreeBSD. ÈὔÈὔ ᾶðβὀδò ἰᾶ ἀο÷ἀνεόδΠουὸ ὀἱòð Rodney Grimes <rgrimes@FreeBSD.org>, Poul-Henning Kamp <phk@FreeBSD.org>, ἑᾶε ὑεἱῖð ὀἱòð Ὡεἱῖðð θῖο ᾶᾶᾶὔὀὀεᾶἰ ᾶεᾶ ἰᾶ ὀόεὔἱῖοἰ ὀᾶ ᾶᾶᾶεᾶᾶ ᾶεᾶ ὀόð ᾶεᾶüὀᾶéð ὀóéð ðñπὀᾶð ἰὔᾦᾶð ὀδò ᾶçἱεἱῖὤᾶᾶð ὀἱο FreeBSD. Ἀὀου ὀἱ Ὡñēñ Ὡ÷ᾶε ᾶðçᾦᾶὀὀᾶß ᾶὡ ἑᾶβἰᾶἰᾶ ὀ÷ᾶόεὔ ἰᾶ ὀγί ἱᾶᾦὔἱúç ὀυἰ ᾶeᾶüὀᾶἰ ᾶὡ ὀἱ CSRG[14], ὀγί ḥÜᾶᾶ ὀἱο NetBSD[11], ἑᾶε ὀγί ðñῡὀᾶὀç ᾶεᾶ ἱéᾶ ᾶeᾶᾶeᾶὀᾶ ἱᾶᾦὔἱúçð ὀυἰ ᾶeᾶüὀᾶἰ ὀἱο John Baldwin[12].

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
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