

Αἱ ἐνὶ τῷ CVS Repository — ἡ ἐνὶ τῷ FreeBSD

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1 Ἀεὶ ἐνὶ τῷ FreeBSD

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2 Ðñþòç ÅãêáôÛóóáόç

Ðñíáêäìðìðçόç: Άβίáê êáêþ éäÝá íá áêóãêÝóáôá áêá ðñþòç ðññÛ áóòþ òç áêáãêêáóá þñçóêíìðìéðíóáò Ýíá êáíü äìêêíáóóêêü repository, áêá íá áβίáê áÝááêí üòê êá êáóáíìþóáôá üêáò óêò óóíÝðáêáò. Ðñêí íáêêíþóáôá óêáíòñáóóáβá üòê Ý÷áôá ðñüóóáóá backups, óá ðìðá áããóçÝíá äìòêäýííí!

2.1 Άñ÷êêíðìðçόç ôìò repository

Ôñ ðñþòñ ðññÛáíá ðñò êá ðñÝðáê íá êÛíáôá üòáí óòþíáôá Ýíá íÝí repository áβίáê íá ðáβáòá óòñ CVS íá ôñ áñ÷êêíðìéþóáê:

```
% cvs -d path-to-repository init
```

Áóòü êÝáê óòñ CVS íá äçíêñòñáþóáê ôñí òÛêáêñ áêá÷áβñêóòò CVSROOT, üðñò óòíááβñíñí üêáò íê ðáñáíáòññðìéþóáêò.

2.2 Ç ñÛáá ôìò repository

Ôþñá êá äçíêñòñáþóñòíá òçñ ñÛáá óòçñ ðìðá êá áíþêáê ôñ repository. ¼êñê íê committers êá ðñÝðáê íá áíþêññí óá áóòþ òçñ ñÛáá, þóóá íá ðìññýí íá ãñÛóññí óòñ repository. Άêá ôñ óêñðü áóòü êá ðñçóêíìðìéþóñòíá òçñ βáêá ñÛáá ðñò ðñçóêíìðìéáβ áê' áóòü ôñ óêñðü êáê ôñ FreeBSD, òçñ ñÛáá ncvs.

```
# pw groupadd ncvs
```

ÌáòÛ, êá ðñÝðáê íá áêóãêÝóáôá òçñ áíðñêþ chown(8) óòñí òÛêáêñ íá ðáññíáòññí òçñ ñÛáá ðñò íüêêò ðññóêÝóáôá, êÝðññóáò Ýóóê òçñ ñÛáá óòçñ ðìðá áíþêáê í êáòÛêññò:

```
# chown -R :ncvs path-to-your-repository
```

Áóòü áíáóóáêþáê üòê êáíáβò ááí êá ðìññáβ íá ãñÛóáê óòñ repository áí ááí áíþêáê óòçñ óòóòþ ñÛáá.

2.3 Ðáβñññíóáò ôñí ðçãááβñ êþáêêá

Ôþñá êá ðñÝðáê íá áðñêòþóáôá ôñí êáòÛêññ CVSROOT áðü ôñ repository ôñò FreeBSD. Áóòü áβíáóáê äýêñêá, êÛññíóáò check out áðü Ýíá áññê÷òðò ðñüóáóóòò FreeBSD CVS mirror. Άáβáò ôñ ó÷áóêêü êáòÛêáêñ óòñ áã÷áêññ (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/anoncvs.html) áêá ðáñêóóóðáññáò ðççñññññáò. Áò ððñêÝóñòíá üòê í ðçãááβñò êþáêêáò êá áðñêçêáòóáβ óòñí êáòÛêññ CVSROOT-freebsd ðñò áñβóêáòáê ñÝóá óòñí òñÝ÷ññóá êáòÛêññ.

2.4 ÁíóêãñÛññíóáò óá scripts ôñò FreeBSD

¼óóáñá, áíóêãñÛññíá ôñí ðçãááβñ êþáêêá áðü ôñí CVSROOT êáòÛêññ ôñò FreeBSD óòñ áêêü íáò repository. Áí áβóóá óòçêêóñÝññò íá ôñ CVS, βóòò íá óáò ðáñÛóáê áðü ôñ ñóáêü íá ðññóðáêþóáôá íá êÛíáôá import óá scripts, óá íêá ðññóðÛêáêá íá áβíáê ýóóáñá í óóã÷ññêóñò íá óêò êáòñðêñÝð áêáüóáêò áðêñüóáññò. Ûóòñóñ, áðñááêñýíáóáê üòê ôñ CVS ðáñññóêÛáê íêá áóóêáêòñòñáβá óòçñ ðáñêñ÷þ áóòþ: ¼óáí áêóÛááòá ðçãááβñ êþáêêá ñÝóá óòñ CVSROOT òÛêáêñ, ááí êá áçññáññêñýí óá áðáñáβóçóá áñ÷áβá áêá÷áβñêóòò. Άêá íá ðññÝóáôá íá ôñ êÛíáôá íá óá áíáññññóáê, êá ðñÝðáê

ιά εΰίάόά checkin ίά ÷ ùñέόόΰ εΰεά άñ ÷ άβι άöíŸ Ÿ ÷ άόά όάέάέπόάέ ίά όçí άέόάάüāP, ÷ Ÿñíόάό Ÿόόέ όçí άίβá òìò cvs import. ΆðñŸìò, ç ðñìόάέíüíáíç ιŸèíäìò άβίáέ áðēŸ ίά άíόέάñŸøάόά όá scripts.

Άάí άβίáέ έάέ öüóí ççíáíóέέü òí áí ç ðáñáðŸì ðáñŸáñáöìò άάí óáo üáβíáόάέ ðíēŸ íáēŸéáñç—òí öáέέéü áðìòŸēŸóíá άβίáέ òí βáέí. ΆðēŸ áēŸáíóά òíí CVSROOT öŸéáēí έάέ άíόέάñŸøάόά όá FreeBSD άñ ÷ άβá ðŸì ðü òá áέέŸ óáo òíðéēŸ (άðáβñá÷όά) άíόβáñáόά:

```
% cvs -d path-to-your-repository checkout CVSROOT
% cd CVSROOT
% cp ../CVSROOT-freebsd/* .
% cvs add *
```

Όçíáέπόάά üóé ðέέάíüóάόά έá ðŸñáόά íáñέéŸ ðñíáέäíðíēPóáέð ó ÷ áóέέŸ ίá òí üóé íáñέéíβ öŸéáēíē άáí έá άíόέάñáöíŸí. Άάí ðáénŸáέ. Άάí òìòð ÷ ñáēŸæáόάά áóðŸŸò òìòð έáόáέüüíòð.

2.5 Tá scripts

Ôpñá Ÿ ÷ áόά óöíí öŸéáēí áñááόβáo óáo Ÿíá áēñéáŸ òíóβáñáöí òüí scripts ðìò òí βáέí òí FreeBSD project ÷ ñçóέíðíēáβ öíí áέέü òìò repository. Íέá ðáñβέççç òìò óá ðé ÷ ñçóέíáŸáέ òí εΰεά άñ ÷ άβι ðáñέéáíáŸíáόάέ ðáñáēŸöù.

- access - òí άñ ÷ άβι áóöü άáí ÷ ñçóέíðíēáβóáέ óóéð óóíçέéóíŸíáð ááέáόáóóŸóáέð òìò CVS. × ñçóέíðíēáβóáέ üüí óóçí áέáέēP ááέáóŸóóóç òìò FreeBSD project, áέá ίá áēŸā ÷ áóáέ ç ðñüóááóç óöí repository. Íðñáβóá ίá áóáénŸóáόά áóöü òí άñ ÷ άβι áí άáí óáo áíáέáöŸñáέ ίá ÷ ñçóέíðíēPóáόά εŸöé öŸöíéí óóç áέēP óáo ááέáóŸóóóç.
- avail - òí άñ ÷ άβι áóöü áēŸā ÷ áέ óçí ðñüóááóç óöí repository áíŸ έáðŸēíāí P άñ ÷ άβι. ÍŸóá óá áóöü, íðñáβóá ίá έáέíñβóáόά ñŸáäð ÷ ñçóóðí óóíòð íðíβíòð éŸēáόá ίá áðóáðá ðñüóááóç óöí repository, üðüð áðβóçð έáέ ίá áðááíñŸóáόá commits óá áðβðáāí έáóáέüüíòð P άñ ÷ άβιò. Έá ðñŸðáέ ίá òí ðñíóáñüüóáόá þóóá ίá ðáñēŸ ÷ áέ ðéð ñŸáäð ÷ ñçóóðí έáέ òìòð óáέŸēíòð ðìò έá òðŸñ ÷ íöí óöí áέέü óáo repository.
- cfg.pm - òí άñ ÷ άβι áóöü áñíçíáŸáέ ðéð ñöèíβóáέð óáo έáέ ðáñŸ ÷ áέ ðéð áí' ññέóíŸŸ ñöèíβóáέð. Άáí ðñŸðáέ ίá áέēŸíáόá áóöü òí άñ ÷ άβι. Άíóβέáόá, έá ðñŸðáέ ίá òíðíēáðPóáόá ðéð áέéŸò óáo áέéááŸò óóéð ñöèíβóáέð óöí άñ ÷ άβι cfg_local.pm.
- cfg_local.pm - òí άñ ÷ άβι áóöü ðáñēŸ ÷ áέ üéáð ðéð ñöèíéæüíáíáð ðáñáíŸöñíòð òìò óóóðPíáóìò. Έá ðñŸðáέ ίá εŸíáόá íðíéáóáβðíóá ñöèíβóáέð óáo áāþ, üðüð óá ðíéá áéáŸéðíóç έá óóŸēñíóáέ óá email áðü εŸéá commit, óá ðíéíòð hosts έá áðéóñŸðáόáέ ίá áβñííóáέ commit, έēð. ðáñέóóüðáñáð ðēçñíöíñβáð ó ÷ áóέέŸ ίá áóöü έá áñáβóá ðáñáēŸöù.
- checkoutlist - òí άñ ÷ άβι áóöü ðáñέéáíáŸíáέ üéá óá άñ ÷ άβá ðìò áñβóέíñóáέ εŸöü áðü òíí Ÿéáā ÷ í òìò CVS óöíí έáðŸēíāí áóöü—üéá áέöüð áðü óá ðñíéáέíñέóíŸíá άñ ÷ άβá ðìò äçíēíðñááβ ç áíóíēP cvs init. Έá ðñŸðáέ ίá òí áέēŸíáόá áέá ίá áóáénŸóáόá íáñέéŸ, ó ÷ áóέέŸ üüí ίá òí FreeBSD, άñ ÷ άβá.
- commit_prep.pl - òí script áóöü áέóáέáβ áēŸöíñíòð áēŸā ÷ íòð ðñéí áðü εŸéá commit, áíŸēíāá íá ðéð ñöèíβóáέð ðìò Ÿ ÷ áόá εŸíáέ óöí άñ ÷ άβι cfg_local.pm. Άáí έá ÷ ñáέáóóáβ ίá ðáénŸíáόá áóöü òí άñ ÷ άβι.
- commitcheck - òí script áóöü έáέáβóáέ áðáðéáβáo áðü òí CVS. ðñþóá áēŸā ÷ áέ, ÷ ñçóέíðíēPíóáð òí ðñüáñáííá cvs_acls.pl, áí í committer Ÿ ÷ áέ ðñüóááóç óöí óðáēáðñéíŸíí ιŸñíò òìò äŸíóñíò òìò éþáέéá, έáέ íáðŸ áέóáέáβ òí commit_prep.pl ðìò áέóáέáβ òìòð áēŸöíñíòð pre-commit áēŸā ÷ íòð. Áí ááí òðŸñíáέ εŸðíéí ðñüáέçíá óöíòð áēŸā ÷ íòð áóðŸŸò, öüóá òí CVS έá áðéóñŸðáέ óöí commit ίá óóíá ÷ βóáέ. Άáí έá ÷ ñáέáóóáβ ίá ðáénŸíáόá áóöü òí άñ ÷ άβι.

- `commitinfo` - οἱ ἀν÷ὰβι ἀδού ÷ñçóεἰῖῑεάβδᾶέ ἀδú ðἱ **CVS** óðἱ ἱά ἀῑῑᾶóβδᾶέ ῑῑεἱ script ἱά ἀέðᾶέÝðᾶέ ῑῑεἱ ἀδú ἔÙεᾶ commit—óðç ᾶέῑῑ ἱάð ῑᾶñβððúðç ᾶðú ðἱ ñüἱ ἔᾶέýððᾶέ ῑῑ `commitcheck`. Ἀᾶἱ ἔᾶ ÷ñᾶέᾶóðᾶβ ἱά ῑᾶέñÙἱᾶðᾶ ᾶðú ðἱ ἀñ÷ᾶβἱ.
- `config` - οἱ ἀñ÷ᾶβἱ ñðεἱβóᾶùἱ ᾶέ᾿ ᾶðú ðἱ repository. Ἐᾶ ḡñÝðᾶέ ἱά ἔÙἱᾶðᾶ ᾶέᾶᾶÝð ῑ᾿ ᾶðú ðἱ ἀñ÷ᾶβἱ ᾶἱÙεἱᾶ ἱᾶ óéð ᾶἱÙᾶᾶð óᾶð, ᾶέῑ Ù ἱé ῑᾶñéóóúðᾶñἱé ᾶέᾶ÷ᾶέñéóóÝð ἱῑñἱýἱ ἱά ᾶóῑóἱῑ óéð ᾶἱ᾿ ἱñéóἱý ñðεἱβóᾶéð. ῑᾶñéóóúðᾶñᾶð ḡçñἱóἱñḡᾶð ᾶέᾶ óéð ᾶéÙἱᾶñᾶð ᾶἱᾶᾶúðçðᾶð ᾶḡéἱᾶῑἱ ḡἱῑ Ý÷ᾶðᾶ óðἱ ἀñ÷ᾶβἱ ᾶðú ἱḡἱᾶβðᾶ ἱά ᾶñᾶβðᾶ óðἱ ᾶᾶ÷ᾶέñḡᾶéἱ ῑῑῑ **CVS**.
- `cvs_acls.pl` - ῑῑ script ᾶðú ᾶéÝᾶ÷ᾶé ḡçἱ óᾶðúðçðᾶ ῑῑῑ committer, ἔᾶἱ ᾶἱ ᾶḡéðñÝðᾶᾶé ᾶðúð ἱά Ý÷ᾶé ḡñúóᾶᾶç óðἱ ᾶÝἱᾶñἱ ῑῑῑ ἑῑᾶἔᾶ. Ἀðú ᾶḡἱᾶᾶἱ ἱᾶ ᾶÙç ῑῑ ἀñ÷ᾶβἱ avail. Ἀᾶἱ ἔᾶ ÷ñᾶέᾶóðᾶβ ἱά ῑᾶέñÙἱᾶðᾶ ᾶðú ῑῑ ἀñ÷ᾶβἱ.
- `cvsignore` - óðἱ ἀñ÷ᾶβἱ ᾶðú ἔᾶἱñḡᾶἱῑᾶἱ óᾶ ἀñ÷ᾶβᾶ ḡἱῑ **CVS** ᾶᾶἱ ἔᾶ ḡñÝðᾶé ἱά ᾶḡéðñÝðᾶé ῑῑ checkin ῑῑð óðἱ repository. ἱḡἱᾶβðᾶ ἱά ᾶḡᾶἱᾶᾶóðᾶβðᾶ ᾶðú ῑῑ ἀñ÷ᾶβἱ ᾶἱÙεἱᾶ ἱᾶ óéð ᾶééÝð óᾶð ḡñἱçἱῑóᾶéð. ῑᾶñéóóúðᾶñᾶð ḡçñἱóἱñḡᾶð ᾶέᾶ ῑῑ ἀñ÷ᾶβἱ ᾶðú ἔᾶ ᾶñᾶβðᾶ óðἱ ᾶᾶ÷ᾶέñḡᾶéἱ ῑῑῑ **CVS**.
- `cvswrappers` - ῑῑ ἀñ÷ᾶβἱ ᾶðú ÷ñçóéἱῑῑῑᾶᾶᾶᾶ ᾶðú ῑῑ **CVS** ᾶέᾶ ḡçἱ ᾶἱᾶñᾶἱḡἱḡççῑ **P** ᾶḡᾶἱᾶñᾶἱḡἱḡçç ῑῑῑ keyword expansion, **P** ᾶέᾶ ῑῑ ᾶἱ ἔÙἱῑἱἱ ἀñ÷ᾶβἱ ἔᾶ ḡñÝðᾶé ἱά ᾶἱçἱᾶðúðḡᾶᾶᾶᾶ ùð binary. ἱḡἱᾶβðᾶ ἱά ᾶḡᾶἱᾶᾶóðᾶβðᾶ ᾶðú ῑῑ ἀñ÷ᾶβἱ ᾶἱÙεἱᾶ ἱᾶ óéð ᾶḡéçἱḡᾶð óᾶð. ῑᾶñéóóúðᾶñᾶð ḡçñἱóἱñḡᾶð ó÷ᾶééÙ ἱᾶ ῑῑ ἀñ÷ᾶβἱ ᾶðú ἱḡἱᾶβðᾶ ἱά ᾶñᾶβðᾶ óðἱ ᾶᾶ÷ᾶέñḡᾶéἱ ῑῑῑ **CVS**. Ḳçἱᾶἑῑðᾶ ḡúð ἱé ᾶḡéἱᾶÝð -t ἔᾶἱ -f ᾶᾶ ᾶἱçᾶýἱῑῑ óúóðÙ ᾶέᾶ client/server ÷ñḡç ῑῑῑ **CVS**.
- `edithook` - ῑῑ ἀñ÷ᾶβἱ ᾶðú ᾶᾶἱ ÷ñçóéἱῑῑῑᾶᾶᾶ ḡᾶᾶ, ᾶéῑ Ù ᾶἱᾶἱἱἱᾶᾶ ἱά ḡḡÙñ÷ᾶἱ ᾶé ᾶᾶ éóðἱñéἱýð éuᾶἱð. ἱḡἱᾶβðᾶ ἱά óᾶῑᾶðᾶ ᾶðú ῑῑ ἀñ÷ᾶβἱ.
- `editinfo` - ῑῑ **CVS** ÷ñçóéἱῑῑᾶᾶ ᾶðú ῑῑ ἀñ÷ᾶβἱ ᾶέᾶ ḡᾶñÙἔᾶἱçç ðἱἱ editors. Ḳἱ FreeBSD ᾶᾶἱ ÷ñçóéἱῑῑᾶᾶ ᾶðḡ ḡçἱ ἔᾶéἱῑñᾶéçúðçᾶ ᾶéᾶḡḡ ç ᾶñḡἱᾶḡᾶ ῑῑῑ log ἱçἱýἱᾶðἱ ᾶḡἱᾶᾶᾶ ᾶðú ḡᾶ verifymsg ἔᾶἱ logcheck ἀñ÷ᾶβᾶ. ἈḡééÝἱᾶἱ ἱᾶ ᾶḡἱᾶᾶᾶ Ýðóé ᾶðú ᾶḡᾶἑᾶ **P** ÷ñḡç ῑῑῑ editinfo Ý÷ᾶἱ ἔÙἱῑᾶ ḡñἱᾶḡἱᾶᾶ ἱᾶ ḡᾶ commits ᾶðú ἱᾶἱἱἱ ἔᾶἱ ἱᾶ ḡᾶ commits ḡἱῑ ÷ñçóéἱῑῑᾶἱýἱ óéð ᾶḡéἱᾶÝð -F **P** -F. Ἀᾶἱ ἔᾶ ÷ñᾶέᾶóðᾶβ ἱά ῑᾶέñÙἱᾶðᾶ ᾶðú ῑῑ ἀñ÷ᾶβἱ.
- `exclude` - ῑῑ ἀñ÷ᾶβἱ ᾶðú ḡᾶñéÝ÷ᾶἱ ἔᾶñἱἱἱéÝð ᾶéðñÙóᾶéð (regular expressions) ḡἱῑ ÷ñçóéἱῑῑᾶἱýἱᾶᾶ ᾶðú ῑῑ ḡñúᾶñᾶἱᾶ commit_prep.pl ᾶέᾶ ἱά ḡñἱᾶἱἱἱἱéóðἱýἱ ḡᾶ ἀñ÷ᾶβᾶ ḡἱῑ ᾶᾶἱ ᾶḡᾶᾶḡççἱ ἱά ḡᾶñéÝ÷ἱῑ ᾶḡéᾶᾶᾶᾶᾶ ᾶḡéçúðçðçð (revision header). Ḳðçἱ ᾶᾶἱóÙóðᾶçç ῑῑῑ FreeBSD, ḡἱᾶ ḡᾶ ἀñ÷ᾶβᾶ ἔÙúð ᾶðú Ýἱᾶᾶ÷ἱ ᾶḡéçúðçðçð (revision control) ᾶḡᾶᾶ ᾶḡᾶᾶḡççἱ ἱά ḡᾶñéÝ÷ἱῑ ἱἱᾶ ᾶḡéᾶᾶᾶᾶᾶ ᾶḡéçúðçðçð (úðúð \$FreeBSD\$). ἱᾶἱ ḡᾶ ἱἱἱᾶᾶ ἀñ÷ᾶβἱ ḡἱῑ óᾶἱἱἱᾶἱῑ ἱᾶ ḡἱḡἱᾶ÷ᾶἱῑ ἱἱᾶ ᾶðú óéð ᾶñᾶἱÝð ῑῑῑ ἀñ÷ᾶβἱῑ ᾶðἱý ᾶἱᾶἱñýἱᾶᾶ ᾶðú ῑῑἱ óᾶἱᾶἱἱἱἱἱ Ýἱἱ Ýἱᾶᾶ÷ἱ. Ἐᾶ ḡñÝðᾶé ἱά ḡñἱᾶéÝðᾶð óéð ᾶἱÙεἱᾶð ἔᾶñἱἱἱéÝð ᾶéðñÙóᾶéð óðἱ ἀñ÷ᾶβἱ ᾶðú ḡᾶἱ ἔÙἱᾶðᾶ checkin ἀñ÷ᾶβᾶ ḡἱῑ ᾶᾶἱ ᾶḡᾶᾶḡççἱ ἱά ḡᾶñéÝ÷ἱῑ ᾶḡéᾶᾶᾶᾶᾶ ᾶḡéçúðçðçð. Ἐᾶð ðç ᾶéÙñἱᾶἱ ḡç

ΌγκιαΒυθός: Οἱ script ἀγαθὸὺθάε ἀδὺ ἰεά διδέρει ἀεεάαP οἷο FreeBSD οἷο **CVS:** Ç ἀεεάαP ἀοδP ἱαῖααεάαUαεά οἱ log ἱPῖοῖα ἀοῖY ἀοδὺ Y÷-ἀε οἷοδιδέρειçαB ἀδὺ οἱ script. Ç εἱλῖέρει Yεἱαῖός οἷο **CVS** οἷοαῖπο ἀαῖ εUῖαε εUῖοε οYοῖεῖ, ἰδῖοῦα οἱ logcheck ἀα ἰδιῖαB ἰά εUῖαε ἰεῖηῖαεῖηεῖποάεο οἷο log ἱPῖοῖα, ἀεεU ἰδιῖαB ἰά ἀεYαῖαε ὑοε οἱ ἱPῖοῖα ἀαῖ Y÷-ἀε οῖοῖαεοεεU εUεç. Ἀδῖ οçῖ Yεἱαῖός 1.11.2 εἱε ἰαδὺ οἱ Bαεῖ οἱ **CVS** ἰδιῖαB ἰά ηῖοεῖοοῖαB ἰά Y÷-ἀε οçῖ Bαεά οῖοῖαῖεοῖηU ἰά ἀοδP οἷο Y÷-ἀε ç Yεἱαῖός οἷο FreeBSD ἰά οçῖ ἀδεεῖαP RereadLogAfterVerify=always οἷο ἁῖ÷-ἁῖ config.

- **loginfo** - οἱ ἀν÷ἄβι ἀδού ÷ ἡγορεύῃθεῖαβόαε ἀδού οἱ **CVS** ἀεά οἱ **Ἰεᾶᾶ÷ι** οἷο θῖο ἐά οόἸεῖῖιόαε ἱε θεçῖῖοῖῖῖḃδ οὐἱ logs. Ἀᾶḃ ᾶῖᾦᾦᾦῖῖῖῖᾦḃδ οἱ ḃῖῖᾦᾦᾦᾦᾦᾦ **log_accum.pl**. Ἀᾦᾦ ἐά ÷ ἡᾦᾦᾦᾦḃḃ ἱά ḃᾦᾦᾦᾦᾦᾦᾦᾦ ᾦḃδ οἱ ᾦᾦ ÷ ᾦḃἱ.
- **modules** - οἱ ἀν÷ἄβι ἀδού ᾦᾦᾦḃḃḃ ὁçῖ ḃᾦᾦᾦᾦᾦᾦᾦᾦᾦ οἷο ὁçῖᾦᾦᾦ ὁοἱ **CVS**. Ἐᾦ ḃῖᾦᾦᾦᾦ ἱά ᾦᾦᾦᾦᾦᾦᾦᾦᾦ ὁᾦ **FreeBSD** modules ᾦḃδ ὁçῖ ᾦᾦῖῖῖῖῖῖῖ **Ἰεᾦῖῖῖῖῖῖῖ**. Ἰḃῖᾦᾦḃḃᾦ ἱά ᾦḃᾦᾦᾦᾦᾦᾦᾦᾦᾦᾦ ᾦḃδ οἱ ἀν÷ἄβι ᾦᾦᾦᾦᾦᾦ ἱά ὁḃδ ᾦḃḃḃḃḃḃḃ ὁᾦḃ. ḃᾦᾦḃḃḃḃḃᾦᾦᾦ ḃḃçῖῖῖῖῖḃḃḃ ᾦᾦᾦ οἱ ἀν÷ἄβι ἀδού ᾦḃῖᾦᾦ ᾦᾦᾦᾦᾦᾦᾦ ὁοἱ ᾦᾦ ÷ ᾦḃῖḃḃᾦᾦᾦ οἷο **CVS**.
- **notify** - οἱ ἀν÷ἄβι ἀδού ÷ ἡγορεύῃθεῖαβόαε ἀδού οἱ **CVS** ὁḃçῖ ḃᾦᾦḃḃḃḃḃḃ ḃῖḃ ἔᾦḃῖῖḃḃ ḃῖḃῖᾦᾦḃḃᾦᾦ ᾦῖῖῖῖῖῖῖῖῖῖ ḃᾦᾦᾦῖῖῖῖῖḃḃḃ ὁᾦ ἔᾦḃῖῖῖῖ ἀν÷ἄβι. Ἀᾦᾦ ÷ ἡγορεύῃθεῖαβόαε ὁοἱ repository οἷḃ **FreeBSD**. Ἰḃῖᾦᾦḃḃᾦ ἱά ᾦḃᾦᾦᾦᾦᾦᾦᾦᾦᾦᾦ ᾦḃδ οἱ ἀν÷ἄβι ᾦᾦᾦᾦᾦᾦ ἱά ὁḃδ ᾦḃḃḃḃḃḃḃ ὁᾦḃ. ḃᾦᾦḃḃḃḃḃᾦᾦᾦ ḃḃçῖῖῖῖῖḃḃḃ ᾦᾦᾦ οἱ ἀν÷ἄβι ἀδού ᾦḃῖᾦᾦ ᾦᾦᾦᾦᾦᾦᾦ ὁοἱ ᾦᾦ ÷ ᾦḃῖḃḃᾦᾦᾦ οἷο **CVS**.
- **options** - οἱ ἀν÷ἄβι ἀδού ὁ ÷ ᾦḃḃḃᾦᾦᾦᾦᾦ ᾦᾦᾦᾦ ἱά ὁçῖ **FreeBSD** Ἰεᾦῖῖῖῖῖῖῖ οἷḃ **CVS** ἔᾦᾦ ḃḃῖḃḃḃḃḃḃᾦᾦᾦᾦᾦ ἱῖῖᾦ ᾦḃδ ᾦḃḃḃ ἔᾦᾦ ὁçῖ Ἰεᾦῖῖῖῖῖῖῖ οἷḃ **Debian**. ḃᾦᾦᾦᾦ ÷ ᾦᾦ οἱ keyword ḃῖḃ ἔᾦ ᾦḃῖᾦᾦᾦᾦ **expand** ὁᾦᾦ **revision** headers. Ἐᾦ ḃῖᾦᾦᾦᾦ ἱά ḃῖῖῖῖῖῖῖῖῖῖᾦᾦ οἱ ἀν÷ἄβι ἀδού ᾦᾦᾦ ἱά ᾦḃῖᾦᾦ ḃᾦᾦᾦ ἱά ὁçῖ Ἰεᾦῖῖῖῖῖῖῖ ḃῖḃ Ἰ ÷ ᾦᾦᾦ ᾦḃḃᾦᾦᾦ ὁοἱ ἀν÷ἄβι **cfg_local.pm** (ᾦᾦ ᾦḃῖῖᾦᾦḃḃᾦᾦᾦ ἱά ÷ ἡγορεύῃθεῖᾦᾦᾦᾦᾦ ᾦḃḃḃ ὁçῖ ἔᾦᾦḃῖḃᾦᾦᾦᾦ, ḃῖḃ ḃῖḃḃ οἱ ḃᾦᾦᾦᾦ ᾦῖḃᾦᾦᾦ ὁḃḃḃᾦ ἱῖῖᾦ ἱά ὁçῖ Ἰεᾦῖῖῖῖῖῖῖ οἷḃ **CVS** ḃῖḃ Ἰ ÷ ᾦᾦ οἱ **FreeBSD**).
- **rcsinfo** - οἱ ἀν÷ἄβι ἀδού ᾦῖḃḃḃḃᾦ ÷ ᾦḃ ὁᾦᾦᾦᾦḃḃ ὁἷḃ repository ὁᾦ ἀν÷ἄβᾦ **template**, ῖḃḃḃ ḃ.÷. οἱ **rcstemplate**. Ἀῖᾦᾦ ἡḃḃῖῖῖ, οἱ **FreeBSD** ÷ ἡγορεύῃθεῖᾦᾦ Ἰῖᾦ **template** ᾦᾦᾦ ῖῖῖῖῖḃῖᾦ οἱ repository. Ἰḃῖᾦᾦḃḃᾦ ἱά ḃῖῖḃᾦᾦᾦᾦᾦ ἔᾦᾦ ᾦḃᾦᾦ ὁοἱ ἀν÷ἄβι ἀδού ᾦᾦ οἱ ᾦḃḃḃḃᾦᾦᾦᾦᾦ.
- **rcstemplate** - οἱ ἀν÷ἄβι ἀδού ᾦḃῖᾦᾦ οἱ **template** ḃῖḃ ἔᾦ ᾦῖῖᾦ ὁᾦḃḃḃᾦ ἱᾦ **committers** ῖḃᾦᾦ ἔᾦ ἔᾦῖḃῖᾦ **checkin**. Ἐᾦ ḃῖᾦᾦᾦᾦ ἱά ᾦḃᾦᾦᾦᾦᾦᾦᾦᾦᾦ ᾦḃδ οἱ ἀν÷ἄβι ḃḃḃᾦ ἱά ḃᾦᾦᾦᾦᾦᾦᾦ ὁḃδ ᾦḃḃḃᾦᾦ ᾦḃḃḃᾦᾦ ḃᾦᾦᾦᾦᾦᾦ ḃῖḃ ᾦᾦᾦᾦᾦᾦᾦᾦ **cfg_local.pm**.
- **tagcheck** - οἱ ἀν÷ἄβι ἀδού ᾦᾦᾦᾦ ÷ ᾦᾦ ὁçῖ ḃῖῖᾦᾦᾦᾦ ὁḃçῖ ÷ ἡḃḃḃ ὁἷᾦ tags ὁοἱ repository. Ç ἔᾦῖῖῖῖῖῖῖ Ἰεᾦῖῖῖῖῖῖῖ οἷḃ **FreeBSD** ᾦᾦ ᾦḃḃḃᾦᾦᾦ tags ἱά ῖῖῖᾦᾦᾦ ῖḃḃḃ **RELENG***, ἔῖᾦᾦ ὁçḃ ᾦᾦᾦᾦᾦᾦᾦᾦ ᾦçῖῖᾦᾦᾦᾦ ὁἷᾦ ᾦḃḃḃḃῖῖᾦ ᾦᾦᾦᾦᾦᾦ. Ἐᾦ ḃῖᾦᾦᾦᾦ ἱά ᾦḃᾦᾦᾦᾦᾦᾦᾦᾦᾦ οἱ ἀν÷ἄβι ἀδού ᾦᾦᾦᾦᾦ ἱά ὁḃδ ᾦᾦᾦᾦ ὁᾦᾦ ᾦᾦᾦᾦᾦᾦ ḃῖῖḃῖᾦᾦᾦᾦᾦ.
- **taginfo** - οἱ ἀν÷ἄβι ἀδού ᾦῖḃḃḃḃᾦ ÷ ᾦḃ ἔᾦᾦᾦᾦᾦᾦᾦ ὁἷᾦ tags ὁᾦ ὁᾦᾦᾦᾦḃḃ ὁἷḃ repository ἱά ḃῖῖᾦᾦᾦᾦᾦᾦ ᾦᾦᾦᾦ ÷ ῖḃ, ῖḃḃḃ οἱ **tagcheck**. Ἀᾦᾦ ἐά ÷ ἡᾦᾦᾦᾦḃḃ ἱά ḃῖῖῖῖῖῖῖᾦᾦᾦ ᾦḃδ οἱ ἀν÷ἄβι.
- **unwrap** - οἱ ἀν÷ἄβι ἀδού ἰḃῖ

2.6 Ôñïðïðïépíôáò ôá scripts

[illegible]

1. Áí aái ēYēāōā íá ÷ñçóéúíðíēíPóāōā óēō ēāēōíōñāñāō ðúí scripts íē íðíñāō ÷ñçóéúíðíēíýíōāē āðíēēāēóōēēŨ āðú ðí FreeBSD, íðíñāōā íá āōāēñYōāōā íā āōōŨēāēā ðí āñ ÷āñí access:

```
% cvs rm -f access
```

2. Ἀείνεþóðá õĩ añ÷ãßĩ avail þóðá íá ðañēÝ÷æ õĩõð æĖõĩõĩõð óæÝēĩõð õĩõ repository óõĩõ ãðĩBiõð ėÝēaðā
íá æÝñāðā õçĩ ðñũóáας. Óéãĩñāðōðßā uõe ēá æéαðçñÞóðā áÝÝðäøç õçĩ avail | CVSROOT aññĩñP,
æéUēēùð ēá αðĩēēßóðā æēũā ēáē õĩ āáõũ óád ìā õĩ αðũĩñĩ āçĩá.

[illegible]

3. Αέινεηπόά οί άν÷άβι cfg_local.pm πόά ίά άανέΥ÷άέ οέό άδέεραΥό ότö άδέεοιαβόά. Δεί οάάέάεινέΥία, έά όηΥάέ ίά άέΥάαόά οέό άάηάέÜü όηιόιόέπόέιαό άδέεραΥό:

- `%TEMPLATE_HEADERS` - ΆόόΥό ιέ άόέέάόάέβääό άάάάάάÜæüíόάέ áδü óá log scripts, έάέ öüðëäöüíόάέ éÜòü áδü öü mail öüò éÜëá commit áí öðÜñ÷íöü έάέ äáí äßíáέ έárÝð ööü üPíöüá öüò commit. ÄáíééÜ, üðüñáßöá íá áóáénÝóáðá öéð έáóá÷ üñPóáéð PR έάέ MFC after—áöüý áóðÝð ó÷ äöβæüíόάέ ü öü bug tracking óýöóçüá öüò FreeBSD έάέ öüü öñüðü ðüò áéá÷ áénñæáðóáέ öü FreeBSD óá branches öüò repository öüò. Έάέ öðöééÜ üðüñáßöá íá ðñüóéÝóáðá öéð äééÝð óáð.
- `$MAIL_BRANCH_HDR` - Áí éÝÉäóá íá ðñüóðβéäóáέ áóðüüáóá íéá áðééáóáέβää óá éÜëá commit üPíöüá mail, ç üðüβá éá ðñééñÜöóáέ öü branch öüü üðüβü Ýáéíá öü óöáéäñéñüÝü commit, üñβóðá öçü öéüP áóðP íá óáéñéÜæáέ ü öçü áééP óáð äáéáöÜöóáóç. ÁöPóðá öçü έárP áí äáí áðééöüñáßöá íá ðñüóðβéäóáέ áóðüüáóá íéá öÝöüéá áðééáóáέβää.
- `@COMMIT_HOSTS` - Üñβóðá öçü öéüP áóðP óá íéá éβóóá áδü öóööPüáóá (hosts), áδü óá üðüβá áðéöñÝðáóáέ íá äβüüíόáέ commits.
- `$MAILADDRS` - Üðëüβóðá áóðP öçü öéüP öüü email öüò áéá÷ áéñéóðP P óá íéá áéäýèðíóç éβóóáð öóçü üðüβá éÝÉäóá íá ðçääáβüüíöü óá mail öüü commit üçüíöÜðüü.
- `@LOG_FILE_MAP` - ÁéëÜíöá áóðü öü array üðüð áðééöüñáßöá. ÊÜëá regexp áíðéóöüíé÷ áß öüü ööáéäñéñüÝü üÜéáéü öüüü üðüβü äβüíόáέ öü commit, έάέ öü log üPíöüá öüò commit áðüçéçäýáðóáέ éÜòü áδü öüü έáöÜéüü CVSROOT, öüüü öðüéáöÜéüü commitlogs, öüü äñ÷áβü ðüò áíáóÝñáðóáέ öóçü áíóβóðüíé÷ ç ääñáóP öüò ößíáéá `@LOG_FILE_MAP`.
- `$COMMITCHECK_EXTRA` - Áí äáí éÝÉäóá íá ÷ñçóéüüðüéPóáðá öüüð βáéüð äéÝä÷üð öñüóááóçð üá öü FreeBSD, éá ðñÝðáέ íá áóáénÝóáðá öüü üñéöüü öçð öéüð `$COMMITCHECK_EXTRA` áδü öü äñ÷áβü áóðü.

ΌçiaBuòç: Ç äëëäâP òçò ðãñáíYòññò §IDHEADER äßíäë äääòçíYíí üòë èä äïðëYòäë üüñ óä ðëäóðññíäò FreeBSD. ÄíäñòÜòäë äðü äëäëëYð íäðäóññíðYð òïò FreeBSD óôí **CVS**.

Ἰδιναβόα ἰά ἀεΨάῖαόα ὀι ἀν÷αβῖ cfg. pm ἀέα ἰά ἀαβόα θῖεΨό Ὑεεαό θἀναΨόνῖρο ἰθῖναβόα ἰά ἀεεῤῖαόα, ἀεεῤ ἰε θἀναθῤῖ ἄβῖαε ἰε θει ὀοῖβεαέο ἀδεεῖαΨό.

4. Άðáíáñááóðáððá òì áñ÷áðì exclude áέá íá áóáέñÝóáðá ðέð áέáέέÝð έáóá÷ññðóáέð òìð FreeBSD (üðüð üέáð ðέð áñáñÝð ðìð íáέέñíýí íá ^ports/ έðέ.). Άέðüð áððíý, áÜέðá óá ó÷üέέá ðέð áñáñÝð ðìð íáέέñíýí íá ^CVSROOT/, έάέ ðñìóέÝóóá íέá áñáñP ðìð έá ðáñέÝ÷άέ íüñí òì ^CVSROOT/. Áóíý ááέáðáóðáέáð í wrapper, ìðìñáððá íá ðñìóέÝóóá òì áέέü óáð header óóá áñ÷áðì ðìð áñðóέñíóáέ ìÝóá óóñí έáðÜέíáñ CVSROOT έάέ íá áðáíáðÝñáðá ðέð áñáñÝð áððÝð, áέέÜ ðñìð òì ðáñüí áðέÜ έá óáð áçìέíðñáðóíðì ðñíáέðíáðá üðáí έá ðñìóðáέðóáðá íá έÜíáðá commit áñáüðáñá.
5. Áñíðìð òì áñ÷áðì modules, έάέ áóáέñÝóóá üέáð ðέð ó÷áðέέÝð íá òì FreeBSD έáóá÷ññðóáέð. ðñìóέÝóóá óá áέέÜ óáð modules áí òì áðέέðìáððá.
- 6.

Όçìáðüóç: Όì áðíá áððü áðíáέ áðáñáððçðì íüñí áí Ý÷áðá ìñðóáέ έÜðíέá ðέìP óççí ðáñÜìáðñì \$IDHEADER òìð áñ÷áðìð `cfg_local.pm` (ç ìðìá áìðέáýáέ íüñí áóüóñí ÷ñçóέñìðíέáððá ðççí ðñìðìðíέçìÝç Ýέáìóç òìð CVS ðìð Ý÷άέ òì FreeBSD).

Άέìñèðóáð òì áñ÷áðì `options` þóðá íá óáέñέÜάέ íá òì tag ðìð ìñðóáðá óðì áñ÷áðì `cfg_local.pm`. Íέá áíáάPðççç έάέ áíðέέáðÜóóáóç òìð FreeBSD óá üέì òì áñ÷áðì áðíáέ áñέáðP.

7. Άðáíáñááóðáððá òì áñ÷áðì `rcstemplate` þóðá íá ðáñέÝ÷άέ óá ðáέá keywords ìá áððÜ ðìð Ý÷áðá ìñðóáέ óðì `cfg_local.pm`.
8. ðñíáέñáðέέÜ, áóáέñÝóóá òìðð áέÝá÷ìð òìð FreeBSD áðü òì áñ÷áðì `tagcheck`. ìðìñáððá áðέÜ íá ðñìóέÝóóáð `exit 0` óççí áñ÷P òìð áñ÷áðì áέá íá áðáíáñáìðíέPóáðá üέìðð òìðð áέÝá÷ìð óðì tagging.
9. Όì óáέáððáðì ðñÜáìá ðìð ðñÝðáέ íá áðíáέ, áðíáέ íá óέáìðñáððáððá üðέ óá commitlogs ìðìñíý íá áðìέçέáððíýí. Óá CVS scripts òìð FreeBSD áðìέçέáýìí áððÜ óá logs óðìí ððíέáðÜέíáñ commitlogs òìð έáðáέüáìð CVSROOT. Áððüð ì Üέáέðð ðñÝðáέ íá áçìέíðñáçèáð, ìðüðá έÜíðá óá áέüέìðέá:

```
% mkdir commitlogs
% cvs add commitlogs
```

Όðñá, áóíý áέÝáìáðá óá ðÜíðá ðñìóáέðέέÜ, έá ðñÝðáέ íá έÜíáðá commit ðέð áέέááÝð óáð. Õñìíððóáð íá áððáðá óðáìðñìé üðέ Ý÷áðá áðóáέ óðìí ááððü óáð ðñüóááóç óðìí óÜέáέì CVSROOT ìÝóá áðü òì áñ÷áðì `avail` ðñέí έÜíáðá ìðέáððìðá, áóüóñí óççí áíððέáðç ðáñðððüóç έá έέáέððáðá òñí ááððü óáð Ýñ. ìðüðá, òñìíððóáð óá ðÜíðá íá áðíáέ üððð áðέέðìáððá, έάέ íüñí ðüðá áðóðá óá áέüέìðέá:

```
% cvs commit -m '- Initial FreeBSD scripts commit'
```

2.7 ΆìέέìÜάέìíðáð ðççí ΆáέáðÜóóáóç

Άððá Ýòìέìé áέá ðççí ðñðçç óáð áìέέìP: íá forced commit óðì áñ÷áðì `avail`, áέá íá óέáìðñáððáððá üðέ üέá áìðέáýìí üððð έá Ýðñáðá.

```
% cvs commit -f -m 'Forced commit to test the new CVSROOT scripts' avail
```

¶í üέá ðÜíá έáέÜ, óðá÷áñçððñέá! ,÷áðá έáðáðÝñáέ íá óððóáðá íέá ðέðñüð έáέìðñáέέð ááέáðÜóóáóç ðñí FreeBSD scripts áέá òì repository óáð. Óççí ðáñðððüóç ðìð òì CVS áíáέìέìðέáð íá ðáñáðìéÝóáέ áέá έÜðέ, áðέóðñÝððá óðέð ðñìçáìýíáìð áíüðçðáð έάέ áέÝáìðá íáíÜ üðέ Ý÷áðá áέðáέÝóáέ óüóðÜ üέá óá ðñìçáìýíáíá áðíáðá.

3 Åéäêþ ÅãêáôÛóóáóç ôïõ FreeBSD Project

Οι Βαέι οι FreeBSD project ÷ ηςοείηδιεάβ ιεά αεάοηο αεάοηηαόεεΡ αεάοÜοόαός, ς ιθίβα ÷ ηςοείηδιεάβ αδβόςο
 αη÷αβα αδύ οη οδρöÜεαέη freebsd οηö CVSROOT δηö ÷ ηςοείηδιεάβοάε οόη FreeBSD. Οι project ÷ ηαεÜααόάε εÜοε
 öÝοιέη εüαυ οηö ιααÜεηö αηέεηιγ οüη committers, δηö αεάοηηαόεεÜ εα Ýδηαδä ιά αηΠεηöη üεηε οόη βαέη group. öόε,
 αςιέιöηαΠεςεä Ýιáo αδεüö wrapper ι ιθίβηö αöιγ δηηöä αηαόöαεβαεä öä öüοöÜ αεάδεöäöδöΠηεä οüη committers,
 αεεÜαεä ιαöÝδαεöä öη group id öä αδöü öηö repository.

Ἄν ἐὰς οἱ ἀεὺ οὐδὲν repository ÷ ἡεῦῤῥᾶδᾶς εὔδᾶς ἀῤῥᾶι, οἱ ἀῤῥᾶδᾶς δῖο εἰ δῖοῤῥᾶς ἰᾶ ἀεῖρᾶδᾶς ἀῤῥᾶς ἀεῖρᾶδᾶς
 δᾶῤῥᾶς. Ἀεῖῤῥ δῖοδᾶς ἀδ εὔῤῥᾶς ἰᾶ οὔῤῥᾶς ἀδᾶδᾶς οὔῤῥᾶς οὔῤῥᾶς ἀν ÷ ἀῤῥᾶς.

3.1 Άν÷άΒα ðïð ÷ñçóéïïðïéíýíóáé óôçí áéääêþ åääêåôÛóóáóç ðïð FreeBSD

- `access` - `οἱ ἀν÷ὰβι ἀδού ἀεΨᾶ÷ᾶε οεὸ δεϋνῖοῖνβᾶδ ἀεᾶ οᾶ ἀεᾶεπῖαδᾶ δῆυοᾶᾶοδ.` Ἐᾶ δῆΥδᾶε ἰᾶ οἱ ᾶδᾶῖᾶᾶᾶοᾶβᾶᾶ ᾶῖᾤεῖᾶᾶ ὕοᾶε πᾶᾶ ἰᾶ δᾶᾦεᾶῖᾶᾤῖᾶε ὑεᾶ οᾶ ἰΨεϋ οἷᾶ project οᾶδ.
- `freebsd/commitmail.pl` - `οἱ ἀν÷ὰβι ἀδού ᾶᾶῖ ÷ᾦϋοεῖᾤῖεᾶβᾶᾶε δεᾶ, ᾶεᾤᾤ δᾶᾦᾶἰΨῖᾶε ᾶεᾶ εᾶοᾤᾦεῖᾤᾤ εὔᾶῖᾶδ.` Ἀᾶῖ εᾶ ÷ᾦᾶεᾶοᾶβ ἰᾶ ᾶδᾶῖᾶᾶᾶοᾶβᾶᾶ ἀδού οἱ ἀν÷ὰβι.
- `freebsd/cvswrap.c` - `δᾦὑεᾶεᾶε ᾶεᾶ οἱῖ δϋᾶᾶβι ἐπαεᾶ οἷᾶ CVS wrapper δῖᾶ εᾶ δῆΥδᾶε ἰᾶ ᾶᾶεᾶᾶοᾶᾶᾶᾶᾶ ᾶεᾶ ἰᾶ ἰδῖᾦΨᾶῖᾶῖ ὑεῖε ἰε ὕεᾶᾶ÷ῖε δῆυοᾶᾶοδ οᾶεεᾤᾤ ἰᾶ ᾶῖᾤεΨᾶῖᾶ. δᾶᾦεᾶᾤᾤᾶᾦᾶδ δεϋνῖοῖνβᾶδ ᾶεᾶ οϋ ᾶεᾶᾶεᾶᾶᾶ ᾶᾶᾶᾤ ἔᾶ ᾶᾦᾶᾶ δᾶᾦᾶεᾤᾤ. Ἐᾶ δῆΥδᾶε ἰᾶ ᾶεῖᾦεπᾶᾶᾶ οᾶ paths οᾶδ ACCESS ἔᾶε REALCVS ἰᾶεᾦᾶῖᾶῖεΨᾶ πᾶᾶ ἰᾶ ᾶᾶᾦᾦᾤᾤᾶῖᾶ ἰᾶ οϋ ᾶεᾤᾤ οᾶδ ᾶᾶεᾶᾤᾤᾶᾶᾶ.`
- `freebsd/mailsend.c` - `οἱ ἀν÷ὰβι ἀδού ÷ᾦᾶεᾤᾤᾶᾶε ᾶεᾶ οϋῖ ᾶ÷ᾶᾶεᾤᾤ ἰᾶ οεὸ εᾤᾶᾶᾶ οᾶ÷ᾶᾦᾦᾦᾶῖᾶ ᾶᾶεᾶᾤᾤᾶᾶᾶ οἷᾶ FreeBSD. Ἀᾶῖ εᾶ ÷ᾦᾶεᾶοᾶβ ἰᾶ δᾶεᾦᾤᾶᾶᾶ οἱ ἀν÷ὰβι ἀδού.`

3.2 Ç äéáäéêáóßá

- [illegible]

Ôĩ áéêũ iĩõ áíôßôõđĩ ôĩõ án÷ǎßĩõ cvswrap.c Ý÷ǎé óá áêũëĩõëá:

```
#define ACCESS "/local/cvsroot/CVSR00T/access"
#define REALCVS "/usr/bin/ncvs"
```

3. Οι αδιυϊάν άΠία άβίαέ ίά άάέάάάόδΠόϊόϊά όϊϊ wrapper άέά ίά άβίαόόά όβάρϊόνϊέ υόέ έά άβίαόάέ ç ίάόάόνϊδΠ όόϊ όύόόύ group υόάϊ άβίαόάέ commit. Ι όçääβϊδ έπαέέάό άέ' άόόύ άñβόέάόάέ όόϊ άñ÷:άβϊ `cvswrap.c` όόϊϊ έάόÜέϊάϊ CVSROOT.

İlaõãæuõõßõõ õii êpaëëã ðiõ Ý÷:ãõ Þãc æëĩnëþõáë þõõã íá ðãñëÝ÷:ãë õã õúõõÜ paths:

```
% cc -o cvs cvswrap.c
```


