

## 1

## 2 Ðñþòç ÅãêáôÛóóáόç

**Ðñíáêäìðìðçόç:** Άβίáê êáêþ éäÝá íá áêóãêÝóáôá áêá ðñþòç ðññÛ áðòþ ôç áêáãêêáóá þñçóêñíðñéðíóáð Ýíá êáíü äñêêíáóóêêü repository, áêá íá áβίáê áÝááêí üðê éá êáóáíñþóáôá üêáð óêð óóíÝðáêáð. Ðñêí íáêêíþóáôá óêáíñáðóðáβá üðê Ý÷áôá ðñüóóáóá backups, óá ðñíá áããóçÝíá äñòêáýííí!

### 2.1 Άñ÷êêñðìðçόç ôìò repository

Ôñ ðñþñ ðññÛáá ðñò êá ðñÝðáê íá êñíáðá üðáí óðñíáðá Ýíá íÝñ repository áβίáê íá ðáβáðá óóñ CVS íá ôñ áñ÷êêñðñóáê:

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

Áðüü êÝáê óóñ CVS íá äçñéññáþóáê ôñí òÛêáêñ áêá÷áβñêóçð CVSROOT, üðñò óóíááβññíñ üêáð íê ðáñáíáðññðñéþóáêð.

### 2.2 Ç ñÛáá ôìò repository

Ôþñá êá äçñéññáþóññá ôçñ ñÛáá óóçñ ðñíá êá áñêáê ôñ repository. ¼êñê íê committers êá ðñÝðáê íá áñêññíñ óá áðòþ ôçñ ñÛáá, þóðá íá ðñññýñ íá ãñÛññíñ óóñ repository. Άêá ôñ óêñðü áðüü êá ðñçóêññðñéþóññá ôçñ βáêá ñÛáá ðñò ðñçóêññðñéáβ áê' áðüü ôñ óêñðü êáê ôñ FreeBSD, ôçñ ñÛáá ncvs.

```
# pw groupadd ncvs
```

ÌáðÛ, êá ðñÝðáê íá áêóãêÝóáôá ôçñ áñðñêþ chown(8) óóñí òÛêáêñ íá ðáññíáðññí ôçñ ñÛáá ðñò ñüêêð ðññóêÝóáôá, êÝðññóáð Ýðóê ôçñ ñÛáá óóçñ ðñíá áñêáê í êáðÛêññð:

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

Áðüü áñáóóáêþáê üðê êáñáβð ááí êá ðññáβ íá ãñÛáê óóñ repository áí ááí áñêáê óóçñ óüóðþ ñÛáá.

### 2.3 Ðáβñññíóáð ôñí ðçãáβñ êþáêêá

Ôþñá êá ðñÝðáê íá áðñêðþóáôá ôñí êáðÛêññ CVSROOT áðü ôñ repository ôñò FreeBSD. Áðüü áβíáðáê áýêñêá, êÛññíóáð check out áðü Ýíá áññê÷ððð ðññóááóçð FreeBSD CVS mirror. Άáβáðá ôñ ó÷áðêêñ êáðÛêáêñ óóñ áá÷áêññáêñ ([http://www.FreeBSD.org/doc/el\\_GR.ISO8859-7/books/handbook/anoncvs.html](http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/anoncvs.html)) áêá ðáñêóóüðáññáð ðêçñññññáð. Áð ððñêÝóññá üðê í ðçãáβñð êþáêêáð êá áðñêêêáðóðáβ óóñí êáðÛêññ CVSROOT-freebsd ðñò áñβóêáðáê ñÝóá óóñí ðñÝ÷ññóá êáðÛêññ.

### 2.4 ÁíóêãñÛññíóáð óá scripts ôñò FreeBSD

¼óóðáñá, áíóêãñÛññíñá ôñí ðçãáβñ êþáêêá áðü ôñí CVSROOT êáðÛêññ ôñò FreeBSD óóñ áêêñ ñáð repository. Áí áβóðá óóçêêóñÝññð íá ôñ CVS, βóðð íá óáð ðáñÛóáê áðü ôñ ñóáêñ íá ðññóðáêþóáôá íá êñíáðá import óá scripts, óá íêá ðññóðÛêáêá íá áβíáê ýóóðáñá í óðá÷ññéóññð íá óêð êáðñðêñÝð áêáñóáêð áðêñññðáññð. Ûóðñóñ, áðñááêññáðáê üðê ôñ CVS ðáñññóêÛáê íêá áðóêáêðññáβá óóçñ ðáñêñ÷þ áðòþ: ¼óáí áêóÛááðá ðçãáβñ êþáêêá ñÝóá óóñ CVSROOT òÛêáêñ, ááí êá áçññáññéýñí óá áðáñáβóçðá áñ÷áβá áêá÷áβñêóçð. Άêá íá ðññÝóáôá íá ôñ êñíáðá íá óá áñáññññóáê, êá ðñÝðáê

ιά εΰίάόά checkin ίά ÷ ùñέόόΰ εΰεά άñ ÷ άβι άόίγ Ύ ÷ άόά όάέάέπόάέ ίά όçí áέόάάüāP, ÷ ΰñíόάό Ύόόέ όçí áίβá òìò cvs import. ΆðñΎíùð, ç ðñíόάέíüíáíç ιΎεíäìð áβíáέ áðεΰ ίά áíόέάñΰøάόά όά scripts.

Άάí áβíáέ έάέ òüóí ççíáíóέέü òí áí ç ðáñáðΰíù ðáñΰáñáóíð ááí óáo üáβíáόάέ ðíεγ íáεΰεάñç—òí òáέέέü áðíðΎεΎóíá áβíáέ òí βáέí. Άðεΰ áεΎáíðά òíí CVSROOT òΰέάέí έάέ áíόέάñΰøάόά όά FreeBSD άñ ÷ áβá ðΰíù áðu óá áέέΰ óáo òíðέέΰ (άðáβñá÷όά) áíόβáñáόά:

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

Όçíáέπόάά üóé ðέέάíüóάόά έά ðΰñáόά íáñέέΎð ðñíáέáíðíεPόάέð ó÷ áóέέΰ ίά òí üóé íáñέέíβ òΰέάέíε ááí έά áíόέάñáóíγí. Άáí ðáénΰάέ. Άáí òíðð ÷ ñáέΰάόόά áóðíγð òíðð έάόάέüüíðð.

## 2.5 Tá scripts

Όþñá Ύ ÷ άόά óóíí òΰέάέí áñááόβáo óáo Ύíá áέñέáΎð áíόβáñáóí òüí scripts ðíò òí βáέí òí FreeBSD project ÷ ñçóέíðíεáβ òíí áέέü òíò repository. Íέá ðáñβέçøç òíò óá ðé ÷ ñçóέíáγáέ òí εΰεά άñ ÷ άβι ðáñέέάíáΰíáόάέ ðáñáέΰòü.

- `access` - òí άñ ÷ άβι áóòü ááí ÷ ñçóέíðíεáβόάέ óóéð óóíçέέóíΎíáð ááέάόáóóΰόάέð òíò CVS. × ñçóέíðíεáβόάέ üüí óóçí áέáέεP ááέάόΰόόόç òíò FreeBSD project, áέá ίά áεΎā÷ áóάέ ç ðñüóááόç óóí repository. Íðíñáβóá ίά áóáέñΎóáόά áóòü òí άñ ÷ άβι áí ááí óáo áíáέάóΎñáέ ίά ÷ ñçóέíðíεPόáόά εΰόé òΎòíέí óóç áέέP óáo ááέάόΰόόόç.
- `avail` - òí άñ ÷ άβι áóòü áεΎā÷ áέ όçí ðñüóááόç óóí repository áíΰ έáðΰεíäí P άñ ÷ άβι. ÍΎóá óá áóòü, íðíñáβóá ίά έáέíñβóáόά ñΰááð ÷ ñçóóþí óóíðð íðíβíðð εΎεάόά ίά áþóáðá ðñüóááόç óóí repository, üðüð áðβóçð έάέ ίά áðááíñΎóáόá commits óá áðβðááí έáóáέüüíðð P άñ ÷ άβιð. Έά ðñΎðáέ ίά òí ðñíóáñíüóáόá þóóá ίά ðáñεΎ÷ áέ ðéð ñΰááð ÷ ñçóóþí έάέ òíðð óáέΎεíðð ðíò έá òðΰñ÷íðí óóí áέέü óáo repository.
- `cfg.pm` - òí άñ ÷ άβι áóòü áñíçíáγáέ ðéð ñòéíβóáέð óáo έάέ ðáñΎ÷ áέ ðéð áí' ññέóíγ ñòéíβóáέð. Άáí ðñΎðáέ ίά áέέΰíáόá áóòü òí άñ ÷ άβι. Áíóβέáόά, έá ðñΎðáέ ίά òíðíεáðPόáόá ðéð áέέΎð óáo áέέááΎð óóéð ñòéíβóáέð óóí άñ ÷ άβι `cfg_local.pm`.
- `cfg_local.pm` - òí άñ ÷ άβι áóòü ðáñεΎ÷ áέ üéáð ðéð ñòéíεäüíáíáð ðáñáíΎðñíðð òíò óóóðPíáóíð. Έά ðñΎðáέ ίά εΰíáðá íðíεáóáβðíðá ñòéíβóáέð óáo ááþ, üðüð óá ðíέá áέáγέðíóç έá óóΎεíñíóáέ óá email áðu εΰεά commit, óá ðíεíðð hosts έá áðέóñΎðáόάέ ίά áβíñíóáέ commit, έέð. ðáñέóóüðáñáð ðεçñíöíñβáð ó÷ áóέέΰ ίά áóòü έá áñáβóá ðáñáέΰòü.
- `checkoutlist` - òí άñ ÷ άβι áóòü ðáñέέάíáΰíáέ üεá óá άñ ÷ άβá ðíò áñβóέíñíóáέ εΰòü áðu òíí Ύεää÷í òíò CVS óóíí έáðΰεíäí áóòü—üεá áέòüð áðu óá ðñíέáέíñέóíΎíá άñ ÷ άβá ðíò äçíεíðñááβ ç áíóíεP cvs init. Έά ðñΎðáέ ίά òí áέέΰíáόá áέá ίά áóáέñΎóáόá íáñέέΰ, ó÷ áóέέΰ üüí ίά òí FreeBSD, άñ ÷ άβá.
- `commit_prep.pl` - òí script áóòü áέóáέáβ áέΰöíñíðð áεΎā÷íðð ðñέí áðu εΰεά commit, áíΰεíäí íá ðéð ñòéíβóáέð ðíò Ύ ÷ άόά εΰíáέ óóí άñ ÷ άβι `cfg_local.pm`. Άáí έá ÷ ñáέáóóáβ ίά ðáénΰíáόá áóòü òí άñ ÷ άβι.
- `commitcheck` - òí script áóòü έáέáβóáέ áðáðéáβáð áðu òí CVS. ðñþóá áεΎā÷ áέ, ÷ ñçóέíðíεþíóáð òí ðñüáñáííá `cvs_acls.pl`, áí í committer Ύ ÷ áέ ðñüóááόç óóí óðáέáðñέíΎíí ιΎñíð òíò äΎíóñíð òíò εþáέέá, έάέ íáðΰ áέóáέáβ òí `commit_prep.pl` ðíò áέóáέáβ òíðð áέΰöíñíðð pre-commit áεΎā÷íðð. Áí ááí òðΰñíáέ εΰðíεí ðñüáεçíá óóíðð áεΎā÷íðð áóðíγð, òüóá òí CVS έá áðέóñΎþáέ óóí commit ίά óóíá÷ βóáέ. Άáí έá ÷ ñáέáóóáβ ίά ðáénΰíáόá áóòü òí άñ ÷ άβι.

- `commitinfo` - οἱ ἀν÷ᾱβι ἀδού ÷ ñçóεἰῖῑεᾱβόᾱε ᾱδύ οἱ **CVS** ὀδί ἰᾱ ᾱῑῑῑᾱὀβὀᾱε ῑῑεἰ script ἰᾱ ᾱεὀᾱεῒὀᾱε ῑᾱεἰ ᾱδύ ἔῒῒᾱ commit—ὀδç ᾱεἔῒ ἰᾱὀ ῑᾱñᾱᾱὀὀὀὀç ᾱὀὀὀ οἱ ñῡεἰ ἔᾱεῒὀὀᾱε ὀἱ `commitcheck`. Ἀᾱἰ ἔᾱ ÷ ñᾱεᾱὀὀᾱᾱ ἰᾱ ῑᾱεἰῒᾱὀᾱ ᾱὀὀὀ οἱ ᾱñ÷ᾱβι.
- `config` - οἱ ἀñ÷ᾱβι ñὀεἰὀᾱὀᾱἰ ᾱε' ᾱὀὀὀ οἱ repository. Ἐᾱ ὃñῒὀᾱε ἰᾱ ἔῒᾱὀᾱ ᾱεεᾱῒὀ ὀ' ᾱὀὀὀ οἱ ἀñ÷ᾱβι ᾱἰῒεᾱᾱ ἰᾱ ὀεὀ ᾱἰῒᾱεᾱὀ ὀᾱὀ, ᾱεἔῒ ἰε ῑᾱñεὀὀὀὀᾱñἰε ᾱεᾱ÷ᾱεñεὀῒὀ ἰὃἰñἰῒἰ ἰᾱ ᾱὀὀῑὀἰ ὀεὀ ᾱἰ' ἰñεὀἰῒ ñὀεἰὀᾱεὀ. ῑᾱñεὀὀὀὀᾱñὀ ὃεçñἰὀἰñᾱὀ ᾱεᾱ ὀεὀ ᾱεῒὀἰñᾱὀ ᾱὀἰᾱὀὀὀçὀᾱὀ ᾱῑεἰᾱᾱἰ ῑὀὀ ῒ÷ᾱὀᾱ ὀὀἰ ἀñ÷ᾱβι ᾱὀὀὀ ἰὃἰñᾱὀᾱ ἰᾱ ᾱñᾱὀᾱ ὀὀἰ ᾱᾱ÷ᾱεñᾱεἰ ὀἱὀ **CVS**.
- `cvs_acls.pl` - ὀἱ script ᾱὀὀὀ ᾱεῒᾱ÷ᾱε ὀçἰ ὀᾱὀὀὀὀçὀᾱ ὀἱὀ committer, ἔᾱε ᾱἰ ᾱῑεὃñῒὀᾱὀᾱε ᾱὀὀὀ ἰᾱ ῒ÷ᾱε ὃñῡὀᾱὀç ὀὀἰ ᾱῒὀἰñἰ ὀἱὀ εᾱεἔᾱ. Ἀὀὀὀ ᾱᾱἰᾱὀᾱ ἰᾱ ᾱῒὀç ὀἱ ἀñ÷ᾱβι `avail`. Ἀᾱἰ ἔᾱ ÷ ñᾱεᾱὀὀᾱᾱ ἰᾱ ῑᾱεἰῒᾱὀᾱ ᾱὀὀὀ οἱ ἀñ÷ᾱβι.
- `cvsignore` - ὀὀἰ ἀñ÷ᾱβι ᾱὀὀὀ ἔᾱεἰñᾱεἰῑὀᾱε ὀᾱ ἀñ÷ᾱᾱ ῑὀὀ οἱ **CVS** ᾱᾱἰ ἔᾱ ὃñῒὀᾱε ἰᾱ ᾱῑεὃñῒὀᾱε ὀἱ checkin ὀἱὀ ὀὀἰ repository. ἰὃἰñᾱὀᾱ ἰᾱ ᾱῑᾱἰñᾱᾱὀὀᾱὀᾱ ᾱὀὀὀ οἱ ἀñ÷ᾱβι ᾱἰῒεᾱᾱ ἰᾱ ὀεὀ ᾱεἔῒὀ ὀᾱὀ ὃñἰὀεἰὀᾱεὀ. ῑᾱñεὀὀὀὀᾱñὀ ὃεçñἰὀἰñᾱὀ ᾱεᾱ ὀἱ ἀñ÷ᾱβι ᾱὀὀὀ ἔᾱ ᾱñᾱὀᾱ ὀὀἰ ᾱᾱ÷ᾱεñᾱεἰ ὀἱὀ **CVS**.
- `cvswrappers` - ὀἱ ἀñ÷ᾱβι ᾱὀὀὀ ÷ ñçóεἰῖῑεᾱβὀᾱε ᾱδύ οἱ **CVS** ᾱεᾱ ὀçἰ ᾱἰñᾱἰὃἰᾱçὀç ῒ ᾱὃᾱἰñᾱἰὃἰᾱçὀç ὀἱὀ keyword expansion, ῒ ᾱεᾱ ὀἰ ᾱἰ ἔῒὃἰεἰ ἀñ÷ᾱβι ἔᾱ ὃñῒὀᾱε ἰᾱ ᾱἰὀεἰᾱὀὀὀᾱὀᾱε ῡὀ binary. ἰὃἰñᾱὀᾱ ἰᾱ ᾱὃᾱἰñᾱᾱὀὀᾱὀᾱ ᾱὀὀὀ οἱ ἀñ÷ᾱβι ᾱἰῒεᾱᾱ ἰᾱ ὀεὀ ᾱῑεὃἰᾱὀ ὀᾱὀ. ῑᾱñεὀὀὀὀᾱñὀ ὃεçñἰὀἰñᾱὀ ὀ÷ᾱὀεἔῒ ἰᾱ ὀἱ ἀñ÷ᾱβι ᾱὀὀὀ ἰὃἰñᾱὀᾱ ἰᾱ ᾱñᾱὀᾱ ὀὀἰ ᾱᾱ÷ᾱεñᾱεἰ ὀἱὀ **CVS**. Ὄçἰᾱεᾱὀᾱ ῑὀὀ ἰε ᾱῑεἰᾱῒὀ ÷ ÷ ἔᾱε ÷ ÷ ᾱᾱ ᾱἰὀεᾱῒὀἰ ὀὀὀὀ ᾱεᾱ client/server ÷ ñᾱçὀ ὀἱὀ **CVS**.
- `edithook` - ὀἱ ἀñ÷ᾱβι ᾱὀὀὀ ᾱᾱἰ ÷ ñçóεἰῖῑεᾱβὀᾱε ῑᾱ, ᾱεἔῒ ᾱἰᾱεἰῑὀεᾱᾱ ἰᾱ ὀὃῒñ÷ᾱε ᾱεᾱ εὀὀἰñεἰῒὀ ἔῡᾱὀὀ. ἰὃἰñᾱὀᾱ ἰᾱ ὀᾱὀᾱὀᾱ ᾱὀὀὀ οἱ ἀñ÷ᾱβι.
- `editinfo` - ὀἱ **CVS** ÷ ñçóεἰῖῑεᾱᾱ ᾱὀὀὀ οἱ ἀñ÷ᾱβι ᾱεᾱ ῑᾱñῒᾱἰç ὀῡἰ editors. Ὄἱ FreeBSD ᾱᾱἰ ÷ ñçóεἰῖῑεᾱᾱ ᾱὀὀᾱ ὀçἰ ἔᾱεὀἰñᾱεἔῡὀçὀᾱ ᾱεᾱὀᾱ ç ᾱñἰçἰᾱᾱ ὀἱὀ log ἰçἰῒᾱὀὀ ᾱᾱἰᾱὀᾱ ᾱδύ ὀᾱ `verifymsg` ἔᾱε `logcheck` ἀñ÷ᾱᾱ. Ἀῑεἔῒᾱἰᾱ ἰᾱ ᾱᾱἰᾱὀᾱ ῒὀὀε ᾱὀὀὀ ᾱῑᾱεᾱᾱ ç ÷ ñᾱçὀ ὀἱὀ `editinfo` ῒ÷ᾱε ἔῒὃἰεᾱ ὃñἰᾱεᾱὀᾱ ἰᾱ ὀᾱ commits ᾱδύ ἰᾱεἰῒῒ ἔᾱε ἰᾱ ὀᾱ commits ῑὀὀ ÷ ñçóεἰῖῑεἰῒἰ ὀεὀ ᾱῑεἰᾱῒὀ ÷ ÷ ῒ ἔᾱε ÷ ÷ ᾱᾱ ᾱἰὀεᾱῒὀἰ ὀὀὀὀ ᾱεᾱ client/server ÷ ñᾱçὀ ὀἱὀ **CVS**.
- `exclude` - ὀἱ ἀñ÷ᾱβι ᾱὀὀὀ ῑᾱñεῒ÷ᾱε ἔᾱñἰεἔῒὀ ᾱεὃñῒὀᾱεὀ (regular expressions) ῑὀὀ ÷ ñçóεἰῖῑεἰῒἰὀᾱε ᾱδύ οἱ ὃñῡᾱñᾱἰᾱ `commit_prep.pl` ᾱεᾱ ἰᾱ ὃñἰὀᾱεἰñεὀὀἰῒἰ ὀᾱ ἀñ÷ᾱᾱ ῑὀὀ ᾱᾱἰ ᾱᾱἰᾱε ᾱῑᾱñᾱὀçὀἰ ἰᾱ ῑᾱñεῒ÷ᾱἰ ᾱῑεἔᾱὀεᾱᾱ ᾱῑεὀεῡὃçὀὀ (revision header). Ὄὃçἰ ᾱᾱεᾱὀὀὀᾱὀç ὀἱὀ FreeBSD, ῡεᾱ ὀᾱ ἀñ÷ᾱᾱ ἔῒὀὀ ᾱδύ ῒεᾱᾱ÷ἰ ᾱῑεὀεῡὃçὀὀ (revision control) ᾱᾱἰ

[illegible]

- [illegible]

## 2.6 Ôñïðïðïéþíôáò ôá scripts

[illegible]

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

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

2.  $\text{\AA}\epsilon\iota\eta\epsilon\pi\omicron\omicron\alpha\ \omicron\iota\ \alpha\eta\div\alpha\beta\iota\ \text{avail}\ \rho\omicron\omicron\alpha\ \iota\acute{\alpha}\ \delta\alpha\eta\epsilon\acute{\Upsilon}\div\acute{\alpha}\epsilon\ \omicron\iota\omicron\omicron\ \acute{\alpha}\epsilon\tilde{\Upsilon}\omicron\iota\eta\omicron\omicron\ \omicron\acute{\alpha}\epsilon\acute{\Upsilon}\epsilon\iota\omicron\omicron\ \omicron\iota\omicron\ \text{repository}\ \omicron\acute{\omicron}\iota\omicron\omicron\ \iota\delta\iota\beta\iota\omicron\omicron\ \epsilon\acute{\Upsilon}\epsilon\alpha\omicron\alpha$   
 $\iota\acute{\alpha}\ \acute{\alpha}\epsilon\acute{\Upsilon}\alpha\eta\alpha\omicron\ \omicron\zeta\iota\ \delta\eta\upsilon\omicron\alpha\alpha\zeta\ .\ \acute{\omicron}\epsilon\alpha\iota\eta\eta\alpha\omicron\omicron\alpha\beta\alpha\omicron\ \upsilon\omicron\epsilon\ \epsilon\alpha\ \acute{\alpha}\epsilon\alpha\omicron\zeta\eta\text{\AA}\rho\alpha\omicron\alpha\ \acute{\alpha}\rho\acute{\Upsilon}\delta\alpha\omicron\zeta\ \omicron\zeta\iota\ \text{avail}\ ||\ \text{CVSROOT}\ \acute{\alpha}\eta\alpha\eta\text{\AA}\text{\AA},$   
 $\acute{\alpha}\epsilon\alpha\tilde{\Upsilon}\epsilon\epsilon\upsilon\omicron\ \epsilon\alpha\ \acute{\alpha}\delta\iota\eta\epsilon\acute{\alpha}\beta\alpha\omicron\alpha\ \acute{\alpha}\epsilon\upsilon\iota\ \acute{\epsilon}\acute{\alpha}\epsilon\ \omicron\iota\ \acute{\alpha}\alpha\omicron\upsilon\ \omicron\alpha\omicron\ \iota\alpha\ \omicron\iota\ \acute{\alpha}\delta\upsilon\iota\acute{\alpha}\eta\ \acute{\alpha}\iota\iota\acute{\alpha}.$

Àεòυò áσóιγύ óðί òσáέáεñéíΥή άñ÷÷άβί ιδñηάßòá íá áέòÜääòá éáé ηÜääò áðu committers. Άí' ηñέóιγý, όι FreeBSD ÷ñçόέιηδρεάß όι άñ÷÷άβί access áέα όçί όιδρεÝόçόç üèüι ðúι committers, áέëÜ ιδñηάßòá íá ÷ñçόέιηδρεÉòáòá üðιεí Üέεí áðέειηάßòá. Ιδñηάßòá áðßόçòó íá θñιόέÝóáòá éáé ηÜääò áí όι áðέειηάßòá (ç óýíóáiç éáειñßæáðáέ όðόç έιñθöÞ όιò άñ÷÷άβίò cvs\_acl.s.pl).

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

- `%TEMPLATE_HEADERS` - ΆόόΥό ιέ άόέέάόάέβääό άάάάάάΥάέιόάέ άάü όά log scripts, έάέ όιόέάόίόάέ έÜòü άάü όι mail όιό έÜέά commit άί όóÜñ÷ιόι έάέ άάί άβίάέ έάρΥό όόι ιΠίόιá όιό commit. ΆάίέέÜ, ιόιñάβόά ίά άóάέñÝόάόά όέó έάόά÷ üñΠόάέó PR έάέ MFC after—άόίΥ άόóÝό ó÷ άóβάέιόάέ ίά όι bug tracking όýόόçíá όιό FreeBSD έάέ όιι όñüóι όιό áéá÷ áέñβάάόάέ όι FreeBSD όά branches όιό repository όιό. Έάέ όóóéέÜ ιόιñάβόά ίά όñιόέÝόάόά όέó áééÝό óάó.
- `$MAIL_BRANCH_HDR` - Άί έÝέάόά ίά όñιόóβέάόάέ άóóüιáόά ίέά άóέέάόάέβää όά έÜέά commit ιΠίόιá mail, ç ιόιβá έá όāééñÜόάέ όι branch όόι ιόιβι Ýáέíά όι όóάέáéñέíÝí commit, ιñβόόά όçí όéιΠ άóóΠ ίά όáéñέÜæáé ίά όçí áééΠ óάó ááéáóÜóóáόç. ΆóΠόόά όçí έάρΠ άί άάί άóééóιάβόά ίά όñιόóβέάόάέ άóóüιáόά ίέά όÝόιέά άóééáόáέβää.
- `@COMMIT_HOSTS` - Ιñβόόά όçí όéιΠ άóóΠ όά ίέά έβóόá άάü όóóóΠιáόά (hosts), άάü όά ιόιβá άóéóñÝόáόáέ ίά áβíιíόάέ commits.
- `$MAILADDRS` - Νóéιβóόά άóóΠ όçí όéιΠ όόι email όιό áéá÷ áéñέóóΠ Π όά ίέά áéáyέóίόç έβóόáó όóçí ιόιβá έÝέάόά ίά όçááβíιόι όά mail όüι commit ιçíóιÜóüí.
- `@LOG_FILE_MAP` - ΆέéÜíόá άóóü όι array üóüó άóééóιáβóá. ÊÜέá regexp άίόéóóιé÷ áβ όόι óóáéáéñέíÝí όÜέáéí όóíι ιόιβι áβίáόáέ όι commit, έάέ όι log ιΠίόιá όιό commit άóιéçéáyáόáέ έÜòü άάü όιι έáóÜέíäí CVSROOT, όóιι όóιέáóÜέíäí commitlogs, όóι áñ÷ áβι όιό áίáóÝñáόáέ όóçí áίόβóóιé÷ ç áāāñáóΠ όιό όβίáéá @LOG\_FILE\_MAP.
- `$COMMITCHECK_EXTRA` - Άί άάί έÝέάόά ίά ÷ñçóéíιόίéΠóáόá όιόó βáéíóó áéÝā÷íóó όñüóááόçó ίá όι FreeBSD, έá όñÝόáé ίá áóáéñÝóáόá όιι ιñéóüι όçó όéιΠó \$COMMITCHECK\_EXTRA άάü όι áñ÷ áβι άóóü.

**ΌçiaBuòç:** Ç äëëäâP òçò ðãñáíYòññò §IDHEADER äßíäë äãäòçíYññ üòë èä äñöëYðäë üññ óä ðëäðòñññäð FreeBSD. ÄñäñÜðäë äðü äëäëëYð ïäðäðññöYð òñò FreeBSD óññ **CVS**.

Ἰδιναβόα ἰά ἀεΨάῖαόα ὀι ἀν÷αβῖ cfg. pm ἀέα ἰά ἀαβόα θῖεΨό Ὑεεάο 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 íáέέñýí íá ^ports/ έðέ.). Άέðüð áððý, áÜέðá óá ó÷üέέá ðέð áñáñÝð ðìð íáέέñýí íá ^CVSROOT/, έάέ ðñìóέÝóóá íέá áñáñP ðìð έá ðáñέÝ÷άέ íüñí òì ^CVSROOT/. Áóý áάέáðáóðáέáð í wrapper, ìðìñáððá íá ðñìóέÝóóá òì áέέü óáð header óóá áñ÷áðì ðìð áñðóέñíóáέ ìÝóá óóñí έáðÜέñáì CVSROOT έάέ íá áðáíáðÝñáðá ðέð áñáñÝð áððÝð, áέέÜ ðñìð òì ðáñüí áðέÜ έá óáð áçìέìñáðóíòì ðñíáέðíáðá üðáí έá ðñìóðáέðóáðá íá έÜíáðá commit áñüðáñá.
5. Áñíðìð òì áñ÷áðì modules, έάέ áóáέñÝóóá üέáð ðέð ó÷áðέέÝð ìá òì FreeBSD έáóá÷ññðóáέð. ðñìóέÝóóá óá áέέÜ óáð modules áí òì áðέέðìáððá.
- 6.

**Όçìáðüóç:** Όì áðíá áððü áðíáέ áðáñáððçòì íüñí áí Ý÷áðá ìñðóáέ έÜðíέá ðέìP óççí ðáñÜìáðñì \$IDHEADER òìð áñ÷áðìð `cfg_local.pm` (ç ìðìá äìðέáýáέ íüñí áóüóñí ÷ñçóέììðíέáððá óççí ðñìðìðíέçìÝç Ýέäìóç òìð CVS ðìð Ý÷άέ òì FreeBSD).

Άέìñèðóáð òì áñ÷áðì `options` þóðá íá óáέñέÜάέ ìá òì tag ðìð ìñðóáðá óðì áñ÷áðì `cfg_local.pm`. Íέá áíáάPðçóç 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 áðáíáñáððíέPóáðá üέìðð òìðð áέÝá÷ìð óðì tagging.
9. Όì óáέáððáðì ðñÜáìá ðìð ðñÝðáέ íá áðíáέ, áðíáέ íá óέáìñáððóáððá üέέ óá commitlogs ìðìñýí íá áðìέçέáððýí. Óá CVS scripts òìð FreeBSD áðìέçέáýìí áððÜ óá logs óðìí ððíέáðÜέñáì commitlogs òìð έáðáέüáìð CVSROOT. Áððüð ì Üέέáðð ðñÝðáέ íá áçìέìñáçέáð, ìðüðá έÜíðá óá áέüέìðέá:

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

Όðñá, áóý áέÝáñáðá óá ðÜíðá ðñìóáέðέέÜ, έá ðñÝðáέ íá έÜíáðá commit ðέð áέέááÝð óáð. Õñìíððóáð íá áððáðá óðáìññíé üέέ Ý÷áðá áðóáέ óðìí ááððü óáð ðñüóááóç óðìí óÜέáèì CVSROOT ìÝóá áðü òì áñ÷áðì `avail` ðñέí έÜíáðá ìðέáððìðá, áóüóñí óççí áíððέáðç ðáñððððóç έá έέáέððóáðá òñí ááððü óáð Ýñ. ìðüðá, òñìíððóáð óá ðÜíðá íá áðíáέ üðüð áðέέðìáððá, έάέ íüñí ðüðá áðóðá óá áέüέìðέá:

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

## 2.7 ΆìέέìÜάέìíðáð óççí ΆάέáðÜóóáóç

Άððá Ýòìέìé áέá óççí ðñðç óáð äìέέìP: íá forced commit óðì áñ÷áðì `avail`, áέá íá óέáìñáððóáððá üέέ üέá äìðέáýìí üðüð 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 έáέìñáέέð áάέáðÜóóáóç ðñì FreeBSD scripts áέá òì repository óáð. Óççí ðáñððððóç ðìð òì CVS áíáέìñέáð íá ðáñáðìéÝóáέ áέá έÜðέ, áðέóðñÝððá óðέð ðñìçáìýíáíð áíüðçðáð έάέ áέÝáñðá íáíÜ üέέ Ý÷áðá áέðáέÝóáέ óüóðÜ üέá óá ðñìçáìýíáíá áðíáðá.

### 3 ÅéäêÞ ÅãêáôÛóóáóç ôïõ FreeBSD Project

Οι Βαέι οι FreeBSD project ÷ ηςοείηθιέας ιέα αεάοηθο αεάοιηαόέεθ αεάαόŨοάοός, ς ιθιβα ÷ ηςοείηθιέας αδθόος  
 αη÷αβα αδŨ οηθ οθροŨεαέη freebsd οηθ CVSROOT θηθ ÷ ηςοείηθιέαθάέ οθι FreeBSD. Οι project ÷ ηαέŨααάέ εŨοέ  
 οŨοιέι εαŨ οηθ ιααŨεηθ αηέειηθ οηθ committers, θηθ αεάοιηαόέεŨ εα Ũθηαθα ιά αηθεηθι Ũειέ οθι Βαέι group. θόέ,  
 αςιέιηθαθεςέα Ũιáo αδεŨο wrapper ι ιθιθιθ αοηθ θηθθα αηαόοαέβαεαέ οά οŨοόŨ αεάδεόάαοθθηέα οηθ committers,  
 αεέŨαεα ιαοŨθαέόά οηθ group id οά αδθŨ οηθ repository.

Ἄν ἐὰν οἱ ἀέεῦ ὁὰδ repository ÷ nāēŬāāḁāē eŬōē aŬērai, ὁὰ āPiāḁā ḁiō eā ḁnŬāē iā āēterōēPḁāḁā āēterōēŬi  
 ḁānāēŬōu. ἈέēŬ ḁnḁḁā ḁḁ eŬiűā iēā ḁűiōűc āḁēḁēuḁcḁc ḁui ḁ ÷ āḁēēűi āñ ÷ āḁui.

### 3.1 Άν÷άΒα ðĩ ÷ñçóèĩĩðĩéĩýĩôáé óôçĩ áéáéêþ åãéåôÛóôáóc ôĩõ FreeBSD

- `access` - `οἱ ἀν÷ὰβι ἀδούυ` ἀέ Ἰά÷ἀέ οέδ δέçññöññßð æά όά æέέæññάόά δñúúάάόçð. Èά δñÝðæέ ίά οἱ ἀδññññάάόόάßðά άíÙññά Ἰόóέ þóðά ίά δññέέάñÙññά üέά όά ïÝέç öñð project óád.
- `freebsd/commitmail.pl` - `οἱ ἀν÷ὰβι ἀδούυ` ἀάñ ÷ñçóéññðñέάßðάέ δέά, æέέÙ δññññÝññά æά έóóññέέñýð έüññðð. Ἀάñ έά ÷ññέάóóάß ίά ἀδññññάάόόάßðά ἀδούυ οἱ ἀν÷ὰβι.
- `freebsd/cvswrap.c` - δññέάέóάέ æάά οññ δçääβι έþäέέά öñð CVS wrapper δñð έά δñÝðæέ ίά ääέάóáóðþáððά æάά ίά ïðñÝóñññ üññέ ίέ Ἰέää÷ñέ δñúúάάόçð ðäέέέÙ ίά ãññέÝñññ. Ðññέóóúðñññð δέçññöññßð æάά öç æέάæέέáßά ἀóðþ έä ãññßðά δñññέÙðñ. Èά δñÝðæέ ίά æéññþéóáððά όά paths óóèð ACCESS έάέ REALCVS ïäñññññññÝð þóðά ίά óäññέÙññññ ïä öç æέέþ óád ääέάóÙóóáóç.
- `freebsd/mailsend.c` - `οἱ ἀν÷ὰβι ἀδούυ` ÷ññέÙæäðάέ æάά öçñ ó÷äóéέþ ïä óèð έßóóðð όä÷ðññññßñð ääέάóÙóóáóç öñð FreeBSD. Ἀάñ έä ÷ññέάóóάß ίä δñέñÙññðά οἱ ἀν÷ὰβι ἀδούυ.

### 3.2 Ç äéáäëêáóßá

1. Ἀέινεῖρῶδᾶ ὀϊ ἀν÷ᾶβι access ῖῶδᾶ ἰᾶ ὀᾶνεῖ ÷ᾶε ἰῡῖ ὀϊ ᾶεῦ ὀᾶδ username.
2. Ἀέινεῖρῶδᾶ ὀϊ ἀν÷ᾶβι cvswrap.c ῖῶδᾶ ἰᾶ ὀᾶνεῖ ÷ᾶε ὀϊ ὀῡῶῡ path ᾶῆ ὀς ᾶεῖρ ὀᾶδ ᾶᾶῆᾶὨὨὶὶὶὶὶὶ. Ἀὀὡ ἱῖῖᾶὶὶὶ ὡδ ἰῆᾶ ἰᾶῖῖᾶῖὶὶὶὶ ὀῖὶ ἱῖὨᾶὶὶὶ ACCESS. Ἐᾶ ὀῖῖὶὶ ᾶὶὶὶ ἰᾶ ᾶῆῆὨᾶὶ ῆᾶ ὀϊ ἱῖᾶ ᾶν÷ᾶβιὶ ὀῖὶ ὀᾶᾶᾶὶὶὶὶ cvs binary ᾶἰ ᾶὶὶ ὀῖὶ ὀὨὨ÷ᾶῆ ᾶᾶ ᾶβἰᾶῆ ῥ ὀῡὶὶ ᾶῆ ὀς ᾶεῖρ ὀᾶδ ὀᾶῖὶὶὶὶ. Ὠἰ ῆᾶῖὶὶ cvswrap.c ῆὡᾶᾶ ὀὡδ ῆᾶ ᾶὶὶὶὶὶὶὶὶὶὶὶὶ ὀς ᾶὶὶὶ cvs ὀᾶ ᾶὶὶᾶὶ ὀὶὶὶὶὶὶ ἰᾶ ὀϊ cvwrap, ῆῆ ῥ ᾶν÷ᾶῆὶ ᾶὶὶὶ cvs ῆᾶ ἰᾶὶὶὶὶὶ ὀὶὶ ᾶν÷ᾶβι /usr/bin/ncvs.

Ôi áéêü iîõ áíôßôõðî ôîõ ãñ÷ãßîõ cvswrap.c Ý÷áé ôá áéüëîëá:

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

3. Οι αδιυμνί απιά άβιάέ ίά άάέάάόóóóóííòìà òíí wrapper áéá ίά άβιάόóà óβāíññíé üöé èä äbíåðáé ç íåðåññíðP öòí ðüóðü group üðái äbíåðáé commit. Í ðçääßìð êpåééåð åé' áðøü āñßöèåðáé öòí āñ÷-åßí cvswrap.c öòíí éåðÜëīāī CVSROOT.

İlaââeüôôßôâ ôîî êbâeâ đĩô Ý÷ââ Pâc âeîñèbôâé bôââ íá đăñéÝ÷âé ôâ ôâ ôôôÜ paths:

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



Óðç öörÝ ÷ áéá ääéáóáóóÐóá ôî rŸî cvs äêöäēÝóéüî äêêîröêþríoáó ôá áêüêîðéá âÞíáóá (éá ðñÝðäé íá áßóóâ root áéá ôî âÞíá áóóü):

```
# mv /usr/bin/cvs /usr/bin/ncvs
# mv cvs /usr/bin/cvs
# chown root:ncvs /usr/bin/cvs /usr/bin/ncvs
# chmod o-rx /usr/bin/ncvs
# chmod u-w,g+s /usr/bin/cvs
```

Ἄδου ἀαεάεεοόῦ ὀν wrapper οάι ὀςι ἀί ineοιίῃ cvs αίρεῖP, eῦνιῖοαδ Ὑοόε ὀβᾱroni uόε ιδιεῖοαPδιῖοα εᾱεPοᾱε ιᾱ  
 ÷ñςοεῖιδιεῖPοᾱε ὀι repository, εᾱ ὃñὙῖᾱε ιᾱ Ὑ÷ᾱε οᾱ εᾱοῦἔεçᾱ ᾱῖῖῖᾱᾱ ὃñυῖοᾱῖῖ.

4. Ἰδιναβὼα ὀπνά ἰά ἀοάεν Ὑοᾶδᾶ ὑεῖοδ ὀιοδ ÷ ἡβόοᾶδ ἄδῦ ὀι repository group ὀᾶδ. 1/4εῖε ἰε Ὑεᾶᾶ ÷ ἰε ὀἡῦᾶᾶᾶᾶᾶ ἔᾶ ἄβῡῖῖῖῖῖῖ ἄδῦ ὀῖῖ wrapper, ἔᾶε ἰ βᾶεῖδ ἰ wrapper ἔᾶ εὐῖῖῖῖ ὀῖ ἰῖῖῖῖῖῖ group ἰᾶ ὀῖ ὀῖῖῖῖ ἔᾶ ἄβῡᾶᾶᾶᾶ ἔᾶε ς ὀᾶεῖῖῖ ὀἡῦᾶᾶᾶᾶ.

### 3.3 ÅĖÝã÷ííôáò ôçí åãêáôÛóôáóç

I wrapper ðñÝðǎé ðēÝñí íá áßíáé Ýðíēñò. Ìðñǎßòá òòóéêÛ íá òí äñēēìÛóáòâ êÛññíóáò Ýíá forced commit óóí añ÷÷âßí access:

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

ÎáíÛ, áí áõõü áðíõý÷áé, æÝãîã üöé üéá ôá ðãñáðÛü âÞíáôá Ý÷íí æêðæãóôãß óúóôÛ.