

1 ÅéóáãùãÐ

Οι εαβιάνι αδοῦ οἱβææέ οεὸ ἀεάοἱνÝð ἰαὸαίγ οἱῶ FreeBSD ἐάέ οἱῶ Linux πὸαῖ ἰÝοἰέ Ρ ḏñῐ÷ṽñçῐÝñíé ÷ñΡὸαὸ οἱῶ Linux ἰά ἰḏñῐῖγ ἁñΠῐῖñῐ ἰά ḏñῐῶñῐἰὸοἱῖγ ὀοέð ἁαὸέÝð Ýñííεαὸ οἱῶ FreeBSD. Ḑñṽεάεὸάέ ἁεᾶ ἰεᾶ ὀᾶ÷ἰέéΠ ἁεὸάṽṽῐ ὀοἱ FreeBSD, ἐάέ ἁᾶ ἔα ἰᾶὸᾶñῐῖγῐ ὀᾶ ὀð÷ṽῐ “ὀεῖ῱῱ὀεéÝð” ἁεάοἱνÝð ἰαὸαίγ ὀṽῐ ἰ῱ῐ ὀὸὸçῐÛὸṽῐ.

Òì èàßiàí áðòù òðìèÝóðáè uðè Ý÷àðá Þäç äæéáðáóðÞóáè òì FreeBSD. Áí äáí Ý÷àðá äæéáðáóðÞóáè òì FreeBSD Þ ÷ñæÝðæáðá àíÞæðáè ià ðçí æéäæéáðá äæéáðáóðáðð òìð, ðáñáæáèýíà íá æéáðáóðá òì èàðÝæáí ÁææééóðÞíðáð òì FreeBSD (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/install.html) óòì Áã÷æñßäéí òìð FreeBSD.

2 Êâëýöç: Ääí õõŮñ÷âé Bash;

14οῖς Ἰν-ῖφάας ἀδῦ οἱ Linux ὁ-ῖ ῤῥ ἁδῆῖῖῖῖῖῖῖῖ ὑφάρ ἀφάεῖῖῖῖῖῖῖ ὑφῶ οἱ **Bash** ἁάρ ἁῖῖῖῖ οἱ ὄῖῖῖῖῖῖῖῖῖῖῖῖ ῖῖῖῖῖῖ ὁῖ FreeBSD. Ὄῖῖ ὄῖῖῖῖῖῖῖῖῖῖῖῖ, οἱ **Bash** ἁάρ ὁῖῖῖῖ-ῖῖ ἑάρ ὁῖῖ ἁῖῖῖῖ ἁῖῖῖῖ ὁῖῖ FreeBSD. Ἀῖῖῖῖῖῖ, οἱ FreeBSD ῖ-ῖῖῖῖῖῖῖῖῖ ὁῖ tcsh(1) ὑῖ οἱ ὄῖῖῖῖῖῖῖῖῖῖῖῖ ῖῖῖῖῖῖῖ. Ὄῖ **Bash** ἑῖῖῖ ἑῖῖ ὤῖῖῖ ἑῖῖῖῖ ὁῖῖ ὁῖῖῖ ῖῖῖῖῖῖῖ ῖῖ ἁῖῖῖῖ ῖῖ ἁῖῖῖῖῖῖῖῖῖῖῖ, ἁῖῖῖῖ ἁῖῖῖῖῖῖῖ ὁῖῖ Ὄῖῖῖῖῖῖ Ὄῖῖῖῖῖῖ ἑῖῖ Ports (article.html#SOFTWARE) ὁῖῖ FreeBSD.

[illegible]

3 ĐáêÝòá êáé Ports: ĐñĩòéÝôĩĩòáò ĩĩăéóĩéü óôĩ FreeBSD

[illegible]

3.1 ĐấêÝôá

Όά θαέΥόά αβίαέ θñĩ-ĩαóáæüòóéóĩΥĩáo áóáñĩãΥò, éá ëΥãäĩä öĩ áíóβóóĩé÷ĩ áéá öĩ FreeBSD öüĩ áñ÷ãβüĩ .deb óá óóóóΠĩáoá Debian/Ubuntu éáé öüĩ áñ÷ãβüĩ .rpm óá óóóóΠĩáoá Red Hat/Fedora. Όά θαέΥόά äãæãéβóóáíóáé ÷ñçóéüĩóĩéΠĩáoó öçĩ áíóĩéΠ pkg_add(1). Άéá θánŨäæäĩä, ç äëüëĩöèç áíóĩéΠ äãæäééóóŨ öĩĩ **Apache 2.2**:

```
# pkg_add /tmp/apache-2.2.6_2.tbz
```

C ÷ ñPóç õçð ðáñāīYōñīõ - r īāçāāB ôçí pkg_add(1) íá éāðāāÜōāé áðõūīāðā õūõī õī ðāēYðī, ūõī éāé ðēð āīāñðPóāēð ðīð. éāé íá õī āāēāðāôðPóāé:

```
# pkg_add -r apache22
```

```
Fetching ftp://ftp.freebsd.org/pub/FreeBSD/ports/i386/packages-6.2-release/Latest/apache22.tbz... Do
```

```

Fetching ftp://ftp.freebsd.org/pub/FreeBSD/ports/i386/packages-6.2-release/All/expat-2.0.0_1.tbz...
Fetching ftp://ftp.freebsd.org/pub/FreeBSD/ports/i386/packages-6.2-release/All/perl-5.8.8_1.tbz... D
[snip]

```

To run apache www server from startup, add `apache22_enable="YES"` in your `/etc/rc.conf`. Extra options can be found in startup script.

Όχι!Βυθός: Αί ÷ η̇ςοείι̇ι̇τι̇ε̇α̇β̇α̇ ίε̇α̇ “α̇δ̇β̇ό̇ς̇ι̇ς̇” Ύ̇ε̇α̇ί̇ό̇ς̇ ο̇ι̇ο̇ FreeΒD (6.2, 6.3, 7.0, ε̇ε̇δ̇. δ̇ι̇ο̇ α̇α̇ί̇ε̇ε̇Ḳ̇ ι̇δ̇ι̇η̇α̇β̇α̇ ί̇α̇ α̇α̇ε̇α̇α̇ο̇δ̇ρ̇α̇α̇ α̇δ̇Ḳ̇ CD-ROM) ς̇ α̇ί̇ο̇ι̇ε̇Ḳ̇ pkg_add -r ε̇α̇ ε̇α̇ο̇α̇Ḳ̇Ḳ̇ο̇α̇ δ̇α̇ δ̇α̇ε̇Ύ̇ο̇α̇ δ̇ι̇ο̇ ο̇δ̇ε̇Ḳ̇÷ο̇ς̇ε̇α̇ί̇ α̇ε̇α̇ α̇δ̇ο̇Ḳ̇ ο̇ς̇ ο̇δ̇α̇ε̇α̇η̇ε̇ί̇Υ̇ί̇ς̇ Ύ̇ε̇α̇ί̇ό̇ς̇. Ὁ̇α̇ δ̇α̇ε̇Ύ̇ο̇α̇ α̇δ̇ο̇Ḳ̇ β̇ο̇υ̇δ̇ α̇α̇ί̇ δ̇α̇η̇ε̇α̇Υ̇÷ι̇ο̇ί̇ ο̇ε̇δ̇ δ̇ε̇Υ̇ί̇ι̇ δ̇α̇ε̇α̇δ̇ο̇α̇β̇α̇δ̇ α̇ε̇α̇Ḳ̇ο̇α̇ε̇δ̇ ο̇Ḳ̇ι̇ α̇δ̇α̇η̇ι̇Ḳ̇α̇Ḳ̇ι̇. ι̇δ̇ι̇η̇α̇β̇α̇ ί̇α̇ ÷ η̇ςοείι̇ι̇̇τι̇ε̇ρ̇α̇α̇α̇ ο̇ς̇ι̇ ι̇α̇δ̇α̇α̇ε̇ς̇ο̇Ḳ̇ δ̇α̇η̇ε̇α̇Ḳ̇ε̇ε̇ί̇ο̇ι̇δ̇ο̇ PACKAGESITE α̇ε̇α̇ ί̇α̇ δ̇α̇η̇α̇ε̇Ḳ̇Ḳ̇α̇δ̇α̇ α̇δ̇ο̇Ḳ̇ ο̇ς̇ι̇ δ̇η̇ι̇α̇δ̇ε̇ε̇α̇ι̇Υ̇ί̇ς̇ ο̇δ̇ι̇δ̇α̇η̇ε̇ο̇ί̇Ḳ̇Ḳ̇. Α̇ε̇α̇ δ̇α̇η̇Ḳ̇Ḳ̇α̇ε̇α̇ί̇α̇, ε̇Ύ̇ο̇ι̇δ̇α̇δ̇ ο̇ς̇ι̇ PACKAGESITE ο̇ο̇ς̇ι̇ ο̇ε̇ί̇Ḳ̇ ftp://ftp.freebsd.org/pub/FreeBSD/ports/i386/packages-6-stable/Latest/ ε̇α̇ ε̇α̇ο̇α̇Ḳ̇Ḳ̇ο̇α̇ δ̇α̇ δ̇ε̇ί̇ δ̇η̇Ḳ̇ο̇α̇δ̇α̇ δ̇α̇ε̇Ύ̇ο̇α̇ δ̇ι̇ο̇ ο̇δ̇Ḳ̇ñ÷ι̇ο̇ί̇ α̇ε̇α̇ ο̇ς̇ ο̇α̇ε̇η̇Ḳ̇ 6.X.

IdinaBda ía áeááUoáda Báneooúoáña áeá oéo áeáúoáeo oíō FreeBSD oíō Ũñeñ ÁdeéYáííoaó oç ÓúoP áeá ÁoUó êáíóc oíō FreeBSD (http://www.FreeBSD.org/doc/en_US.ISO8859-1/articles/version-guide/).

Άέά δάνεόουόαηάο δέçññοιηβáο ò÷âôééÛ ìà ôá δαéÝôá, δάηάεαεγγíα áéááÛóôâ ôçí áíüôçóá 4.4 ôôí Åã÷âénβáεí ôïò FreeBSD: ×ñçóéüñðīépíóáò ôī Óýóôçíá Packages
(http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/packages-using.html).

3.2 Ports

Ç αáyóαñç Ýíεíáíð áέá öçí ááέáðÜóðáöç áóáñíáíðí öóí FreeBSD áβίáε ç Óóεεíáβ öúí Ports. Ç Óóεεíáβ öúí Ports áβίáε Ýía ðεáβóεί εάέοíτñάεíðí ðíò áðíðáεáβóáε áðu Makefiles έάέ áñ÷áβá áέáóíñíðí (patches) óá íðíβá Ý÷íòí áçίεíτñάçέáβ áέáέέÜ, þóðá íá áβίáε áíóíáð ç ááέáðÜóðáöç áέÜóíñíúí áóáñíáíðí öóí FreeBSD áðu öíí ðçάáβí έþáέέá öíòð. ¼óáí ááέáέέóðÜóá Ýía port, öí óýóóçía έá έáðááÜóáε öíí ðçάáβí έþáέέá, έá áóáñíúóáε úεáð öéð áðáέóíýíáíáð áέέάáÝð ÷ñçóέíúíðίέíðíóáð óá patches, έá íáðάáέúðóðáε öíí έþáέέá, έάé öÝέíð έá ááέáðáóðóáε öçí áóáñíáβ. Έá áέρεíðεþóáε öçí βáέá áέáάέέáóβá έάé áέá íðίέάáβðíðáð öð÷úí áíáñðíáíá ðñíáñÜíáðá.

[illegible]

Ç ääëäôÜóôäóç áúò port äßíäë ääíëëÜ öúóí äðëP uóí ôí íá áéóÝëëäôä öóíí ëäôÜëíäí öíò ëäë íá íäëëíPóäôä öçí äëäëëëäóßá íäôääëpôðëöçð. Öóí äëüëíðëí ðánÜäëëíä äßíäôäë ääëäôÜóôäóç öíò **Apache 2.2** äðu öçí ÖðëëíäP öúí Ports:

```
# cd /usr/ports/www/apache22
# make install clean
```

já óçíáíóêéü ðeäííÝéôçíá ôçð ÷ ñÞóçð ports óçíí áäeáoÜóóáoç ëíäeóíeéíý áßíáé ç éeáíuôçóá ðñíóáñííäÞð òùí áðeéäíí
 áäeáoÜóóáoçð. Áeá ðáñÜáäeäíá, uóáí áäeäeéóóÜðá òíí **Apache 2.2** áðu óá ports íðñíáßòá íá áíáñäíðíeÞáoðá ôçí
 áðeéäíí **mod ldap** èÝóííóáo áðeðð òeíÞ óçç íàðáäeçðÞ **WITH_LDAP** òíð **make(1)**:

```
# cd /usr/ports/www/apache22
# make WITH_LDAP="YES" install clean
```

ἈέάάṪṵṵṵ ὁῖ ἁίṵṵṵṵṵ 4.5 ὁṵ Ἀṵṵṵṵṵṵṵ ὁṵ FreeBSD, ×ṵṵṵṵṵṵṵṵṵṵṵ ὁῖ Ports Collection (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/ports-using.html), ἁṵ ḁṵṵṵṵṵṵṵṵṵ ḁṵṵṵṵṵṵṵṵṵ ὁṵ Ṫṵṵṵṵṵṵṵṵṵ ṵṵ ὁῖ Ṫṵṵṵṵṵṵṵṵṵ ὁṵ Ports.

3.3 Ports Þ ðáéÝôá, ôé ðñÝðáé íá ÷ñçóéìðïéÞòù;

[illegible]

ĐáêÝôá (Ýôïéìá àêôãëÝóéìá)

- [illegible]

Ports (őçãáßìò êpäéêáò)

- **Ἐξαιρούμεθα ὁμιλοῦντες** τοὺς ἀδελφεοὺς ἀπὸ τῆς ἐκκλησίας. (Ὁ **Θαεῦ** ὁ **ὁρίσθη** τὸ **ἀπομαρτυρεῖσθαι** τὸ **ὅτι** ὁ **ὁμιλοῦν** τὸν **ἑαυτοῦ**). Ἰὰ οἱ **ports** ἡ **ἐκκλησία** ἡ **ὁμιλοῦν** τὸν **ἑαυτοῦ** ἀπὸ τῆς ἐκκλησίας, **ὡς** ὅτι ἡ **ἐκκλησία** ὁ **ὁμιλοῦν** τὸν **ἑαυτοῦ**, **τὸ** ἀπὸ τῆς ἐκκλησίας ἡ **ἐκκλησία** ὁ **ὁμιλοῦν** τὸν **ἑαυτοῦ**.
- **Ἰσχυροῦνται** ἡ **ἐκκλησία** ὅτι **ἀπὸ** τῆς ἐκκλησίας (patches) **αἱ** οἱ **ἐκκλησίας**.

[illegible]

4 Αέεβίçόç ôĩõ ÓóóôΠιάôĩò: Ðĩõ áβιάέ ôá run-levels;

Οι Linux ÷ ηςοείηδιέαβ οι όγούοία âêêβίςοçð SysV, âηρ οι FreeBSD ÷ ηςοείηδιέαβ οι θανάαίόεαêü όγούοία âêêβίςοçð BSD. Όοι όγούοία init(8) όγδῖο BSD, ââί οδÜñ÷ῖοί run-levels, ῖγδâ οι âñ÷âβί /etc/inittab. Αίοβ âέα âοδÜ, ç âêêβίςοç âêŸâ÷âðâέ âδü ῖία script âêêβίςοçð, οι rc(8). Το script /etc/rc âέαâÜæâέ οι âñ÷âβί /etc/defaults/rc.conf êâέ οι âñ÷âβί /etc/rc.conf âέα ίâ êâèηβοâέ διέâð οδçηâðâðð ðηüêâέðâέ ίâ ίâέέηβοίοι. Ιέ οδçηâðâðð âοδŸð ίâέέŸίâ ίâ οçί âêðŸέâοç ðüι âίοβοίε÷÷üι script âêêβίςοçð ðῖο âηβόέηοâέ οδῖðð êâðâêüâῖðð /etc/rc.d/ êâέ /usr/local/etc/rc.d/. Όâ scripts âοδÜ âβίâέ ðâñüüιέâ ίâ οâ scripts ðῖο âηβόέηοâέ οδῖι êâðÜêῖâι /etc/init.d/ óâ óðóðβιâðâ Linux.

*Ἀεάβοθ ὁδὺν ÷ τῶι αὐτῷ οἰδιρεὰςβὰδ ἀέα ὀα scripts ἀεβεῖςζόφου οὐτ ὁδζῆσἀοέρη; Ὀά scripts θῖρ ἀνβόειήδαέ ὀοίρ εᾶόὔειῖαι /etc/rc.d/ ἀβίαέ ἀέα ἀὸάνηιᾶΨὸ θῖρ ἀΠεῖτοῖ ὀοί “ἀάοεῦ” ὄγοςζιά. (Ἀέα δᾶνὔΑᾶέᾶιά, ὁεδ cron(8), sshd(8), syslog(3), ἐαέ ὔεᾶᾶ.) Ὀά scripts θῖρ ἀνβόειήδαέ ὀοίρ εᾶόὔειῖαι /usr/local/etc/rc.d/ ἀβίαέ ἀέα ἀὸάνηιᾶΨὸ θῖρ Ὡ ÷ τῶι ἀᾶεᾶὀάὀᾶεᾶβ ἀδῦ οἰτῶ ÷ νβὀᾶᾶδ, υδῦδ ἀέα δᾶνὔΑᾶέᾶιά ἱ **Apache**, οἱ **Squid**, ἐ.ἐ.δ.*

Διέα ἀβιάε ε ἀέαοῖνῦ ἰαόατῶ οῖο “ἀαόέεῦ” οδοόΠιάοῖο ἐάε οὐὶ ἀοάνῖαῖ ÷ ñPóóç; Õῖ FreeBSD αἰάδóγóóαόάε ὑò ὕῖα ðēPñāð εἰάεῖοῖñἕεῦ οὔóóçῖα. ἰᾶ Ὑεεᾶ εὔαεᾶ, ἰ ðñPῖᾶð, ἰε ἕἕἕεῖεPεᾶð οῖο οδοόΠιάοῖο, ἰε ἕἕἕεῖYð αἰóῖeYð (userland, óᾶ ðñῖᾶñῖῤῖᾶóᾶ ὑðῦð ðῖ ls(1), cat(1), cp(1) ἕἕð.), αἰάδóγóóῖῖᾶε ἐἕἕ ἕçῖóεᾶῖῖῖᾶε ἰᾶᾶB, ὑò οὔῖῖῖ. Ἀóðῖ αἰᾶóYñᾶóᾶε ἐἕἕ ὑò “ἕἕἕéῦ” οὔóóçῖα. ἰε ἕἕἕῖῖῖῖYð ðῖῖ ἕἕἕἕἕBóóᾶῖᾶε ἕἕἕ οῖῖð ÷ ñPóóðð, ἕἕἕ ἕῖPεῖῖ óῖῖ “ἕἕἕéῦ” οὔóóçῖα, ἐἕἕ ðYῖῖῖᾶð ἕῖῖᾶ ἕἕᾶ ðᾶñῖῖᾶἕἕἕἕ ἰ **Apache**, ὀῖ **X11**, ἰ **Mozilla Firefox**, ἕἕð. Ἀóῖῖ ὀῖῖ ἕἕἕῖῖð ἰε ἕἕἕῖῖῖῖYð, ἕἕἕῖῖ ἕἕἕἕἕBóóᾶῖᾶε ἰᾶ ðç ÷ ñPóç ðçð ὀóἕἕῖῖBð ΔᾶéYῖῖῖ ἐἕἕ Ports (article.html#SOFTWARE) ὀῖῖ FreeBSD. ἕἕᾶ ἰᾶ ἰᾶ ÷ ἕἕἕῖῖῖ ἕἕἕ ὀῖ ὀἕἕῖῖῖῖ “ἕἕἕéῦ” οὔóóçῖα, ἰε ἕἕἕῖῖῖῖYð ÷ ñPóóç ὀῖῖPεῖð ἕἕἕἕἕBóóᾶῖᾶε ὀᾶ ὀἕῖᾶóᾶεῖῖῖð ὀῖῖ /usr/local/. ὀóé ὀᾶ ἕἕἕἕἕYῖῖᾶ ᰇñῖᾶñῖῖᾶóᾶ οὐὶ ÷ ñçóῖῖ ἕἕἕἕῖῖᾶε ὀῖῖPεῖð ὀῖῖῖ ἕἕóὙῖῖᾶῖ /usr/local/bin/, ὀᾶ αἰῖBóóῖῖ ÷ ᾶ ἕἕ ÷ ᾶᾶ ᰇἕἕἕἕἕἕἕ ὀῖῖð ὀῖῖῖ ἕἕóὙῖῖᾶῖ /usr/local/etc/, ἕ.ἰ.ἕ.

[illegible]

Όι άέυήρηήι άδύοδάοία άδύ όι άñ÷άβι /etc/rc.conf άίάñήήιέάβ όçí όδçñάόβά sshd(8) έάέ όήί **Apache 2.2**. Άδβόçό έάέñβæάέ ύόέ í **Apache** έά ήάέήβόάέ ή άίάñήήιέçí Ýíç όç άόίάόύόçά SSL.

```
# enable SSHD
sshd_enable="YES"
# enable Apache with SSL
apache22_enable="YES"
apache22_flags="-DSSL"
```

Ἄδῡ ὁϙ ὀόεἰἵP ḑiō iéá ὀḑᑕñáḑá áíáñáñḑiēéçéḑḑ ὀḑi áñ÷ḑḑi /etc/rc.conf, ḑḑiñḑḑḑ iá ὁϙi iáééiPḑḑḑḑ ḑḑḑḑḑḑḑ
 ḑḑḑ ὁϙ ḑñḑḑḑP ḑiḑḑḑḑ (÷ḑñḑḑ iá ÷ñḑḑÛḑḑḑ iá ḑḑḑḑḑḑḑḑḑḑḑ ḑi ὀýḑḑḑḑḑ ḑḑḑ):

```
# /etc/rc.d/sshd start
```

Áí íéá òðçñáòßá ááí Ý ÷ áé áíáññäíðíéçéáß óóí áñ ÷ áßí áóòü, ìðíñáßòá íá áíáíááéÚóáòá ôçí áêêßíçòç ôçò áðü ôçí áñáñíP áíòíèþí ìá ôçí áðééñäP forcestart:

```
# /etc/rc.d/sshd forcestart
```

5 Ñýèìéóç Äéeôýĩõ

5.1 ÄéåđáöÝò Äéeêôýĩõ

Άϊός άέά ôï άαίέêü áíááññéóóéêü ôýðïð *ethX* ðïð ÷ñçóéïððíéáß ôï Linux áέá ôçí áíááññéóç íéáð áέáðáðð áέéðýïð, ôï FreeBSD ÷ñçóéïððíéáß ùð áíááññéóóéêü ôï ùññá ôïð ðññáñÙñáôïð íáßáççðð áέíεíεíýíáñ áðü Ýíá áñέέíü. Ç áέúεíεç Ýññáð áðü ôçí áíôíεß ifconfig(8) ááß÷íáé áýí êÙñðáð áέέðýïð Intel® Pro 1000 (íá áíááññéóóéêéÛ em0 and em1):

```
% ifconfig
em0: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=b<RXCSUM, TXCSUM, VLAN_MTU>
    inet 10.10.10.100 netmask 0xffffffff00 broadcast 10.10.10.255
    ether 00:50:56:a7:70:b2
    media: Ethernet autoselect (1000baseTX <full-duplex>)
    status: active
em1: flags=8843<UP,BROADCAST,RUNNING,SIMPLEX,MULTICAST> mtu 1500
    options=b<RXCSUM, TXCSUM, VLAN_MTU>
    inet 192.168.10.222 netmask 0xffffffff00 broadcast 192.168.10.255
    ether 00:50:56:a7:03:2b
    media: Ethernet autoselect (1000baseTX <full-duplex>)
    status: active
```

5.2 ÑõèìΒóáéò Äéãðëýíóãùí IP

[illegible]

```
hostname="server1.example.com"
ifconfig_em0="inet 10.10.10.100 netmask 255.255.255.0"
defaultrouter="10.10.10.1"
```

×ñçóëiïðíéÞóôâ ôçí áêüëiðèç êáôá÷þñçóç ãéá íá êáèiñßóâôâ üôé iéá áéâðáöÞ èá êáìâÛiáé ñöèißóáèò iÝòù DHCP:

```
hostname="server1.example.com"
ifconfig_em0="DHCP"
```

6 Firewall

Όλοι Linux ÷ ηχανείνθιέαβόαέ οι **IPTABLES** οι ιθίβι θάνΥ ÷ αέ οδχνήαόβαο firewall οά αδβθαάι οθνήβια. Οι FreeBSD θάνΥ ÷ αέ αδβόοο firewall ιΥού οιθ οθνήβια. Άέα οχι αένηαάέα, οι FreeBSD θάνΥ ÷ αέ οηβά firewalls:

- IPFWALL (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/firewalls-ipfw.html)
- IPFILTER (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/firewalls-ipf.html)
- PF (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/firewalls-pf.html)

Ôî **IPFIREWALL** þ **IPFW** (ç áföreb ÷ ænééoirý ðúí éáfúúr öð **IPFW** ábíáé ç ipfw(8)) ábíáé ôî firewall ðrö Ý ÷ æ íáfððð ÷ èab éáé óóíçñábðáé aðú öçí ñÜäá árÜððöíçð öio FreeBSD. Ôî **IPFW** iðínåß íá óóíæáoóðåß íå ôî dummynet(4) åéå íá ðånÝ ÷ æ äóíáóúöüçðåð æéåíüñöüüçð öçð êßícççð ðåēÝòuí (traffic shaping) éáé íå åññiéþíå æéåöíñåðééýð öýðröð óóíåÝóåúí æéèöýíð.

ĐánÜäëàlà áíùò éáíuíá ôiõ **IPFW** ðiõ ãðëõñÝðäé áéóãñ÷ùiáíá äããñÝíá ðñiò ôçí õðçñãóá **SSH**:

```
ipfw add allow tcp from any to me 22 in via $ext_if
```

Ôi **IPFILTER** áðíáé íéá áóáñííáP firewall ðíó áíáððýóóáðáé áðú ôíí Darren Reed. Äáí Ý÷-áé öðéá÷-ðáß áéáéêÜ áéá ôí FreeBSD, éáé Ý÷-áé íáðóáññéáß éáé óá Üëéá éáéðíõñáéêÜ, óðíðáñééäíááííÝíúí ðúi NetBSD, OpenBSD, SunOS, HP/UX, éáé Solaris.

ĐánŨäâëàlà áíüò éáíuíá áéá ôi **IPFILTER** ðĩõ ãðéõñÝðäé áéóãñ÷:üàíá äããñÝíá ðñĩò ôçí òðçñãóá **SSH**:

```
pass in on $ext_if proto tcp from any to any port = 22
```

Ç òàèãòòàáá àòàñìràP firewall, òì **PF**, áíáðóýòóòàéé áðü òì OpenBSD project. Ôì **PF** àçìéròñãPèçèà ùò áíòééáòáóòÜòçò òìò **IPFILTER**, éáé Ýòóé ç óýíòáç òìò **PF** ááíáé áñèêòÜ ðañüüíéá íá áóòP òìò **IPFILTER**. Ôì **PF** ìðññáá íá óóíáòáóòáá íà òì altq(4) áéá íá ðánÝ ÷ áé òðçñáóáò òýðìò QoS.

ĐánÜäåëãíà êáíuíá ôiõ **PF** ðiõ ãðéônÝðäé áéóãñ÷ùìáíá äããñÝíá ðñiò ôçí òðçñãóßá **SSH**:

```
pass in on $ext_if inet proto tcp from any to ($ext_if) port 22
```

7 Άίαâáèìβæïïôáò ôï FreeBSD

ÖðÜñ÷ïï ññáoò ìÝëäëé áéá ôçí áíááÜëìéóç áíuò óóóóPíáòïò FreeBSD: ÌÝòù òïò ðçááßïò êþäééá, ìÝòù Ýðíëíìì (binary) áíáááèìßóáñì, êäé ìÝòù òùì CD äãêäóÜóóáóçð.

Ç ääëäöÜöäöäç ìÝóü öïð ðçäâßïð ëðäëä äßíäé ç ðér ðíëýðëíêç, äëëÜ ðñïóÝñäé éäé öç ìäääëýöäñç äöíäðP äöäëéßßä. Ç äéääëäöäöä äöðP ðäñëëäìäÜíäé öì ööä÷ñííéöìü öïð öìðëëëý áíöëäñÜöïð öïð ðçäâßïð ëðäëä öïð FreeBSD ìä öíí ëðäëä öïð FreeBSD ðïð äñßöëäðäé öóíöð äíððçñäðöçÝð CVS (Concurrent Versioning System). Äðü öç öóéäìP ðïð öì öìðëëü áíößäñäöí ðçäâßïð ëðäëä äßíäé äíáíäüÝñí, ìðñäßöä ìä ìäöäëüöðößöäðä ìÝäð äëäüäüäëð öïð ððñPíä éäé öüí ääöëëþí ðñíäñäìÜöüí. Äéä ðäñëöóóüðäñäðð ðççñïíöíßäð ö÷äöëëÜ ìä öì öýöðçíä äíääÜëíëöçð ìÝóü ðçäâßïð ëðäëä, ääßöä öì ëäöÜëäëí ÄíçìÝñöóç éäé ÄíääÜëíëöç (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/updating-upgrading.html) öóí Ää÷äëñäëí öïð FreeBSD.

Ίε Υόιειάο (binary) αίαάειβόάεο, αβίαέ δάνυιρέαο ιά ος ÷ñΠός οςο αίοιρέΠο yum P apt-get αέα οςι αίαάΥειέος αΐυο
 οόοόΠιάοιò Linux. Ç αίοιρέP freebsd-update(8) έα έαόάάΥοάε οέο αίαάειβόάεο έάε έα οέο αάεάοάοόΠοάέ. Ιδιñαβόα ιά
 έάειñβόάοά οςι αόδύιáος, αΐΥ όάέδΥ έάέάοΠιάόά άέοΥέάος οςό, ιά ος ÷ñΠός οίò cron(8).

Όγιὰβυός: Άί ðñüêääéáé íá ÷ ñçóéíïðíéPóáðå ðí cron(8) äéå ðñíäñáííáðéóéíÝíäð áíáääèíßóáéð, ääääéüèåßððå ïðé ÷ ñçóéíïðíéåßðå ðçí áíðíèP freebsd-update cron ððí äñ÷:åßí crontab(1) äéå íå äéå÷:éóðíðíèçèåßß ç ðééáíüðçðå íå äßíåðéé áíáíÝüóç ðçí ßäéå ðééåíP äðu Ýíå íääÜèí äñèèü ïç÷:áíçÜðüí.

```
0 3 * * * root /usr/sbin/freebsd-update cron
```

Ç 0âæã0ôáßá áðéeĩãP áíááÛèíóçò, ìÝòù òùì CD âæáoÛóóáoçò, âßíáé áñêáoÛ íæèÛeáñç. Áðèðò æêééìPóðá áðu òì
 CD âæáoÛóóáoçò éáé áðéeÝíòá òçì áíòßóðíé÷ç áðéeĩãP áíááÛèíóçò (upgrade).

8 procfs: ĐăñáóìÝĩ áëëÜ ü÷é Îă÷áóìÝĩ

Ói Linux, á ÷ñááóâá íá áââôâ ôi /proc/sys/net/ipv4/ip_forward áéá íá éâéññóáôâ áí áíáíé áíáññíðéííÝí c ðñíðécó IP (IP forwarding). Ói FreeBSD á ðñÝðáé íá ÷ñcéííðééóáôâ ôi sysctl(8) áéá íá áââôâ

ἄοδP εἰς Ὑπερὸ νοεῖBῶαῖο διο ὁῶῶῶPῖαῖοιδ, ἐἰσῖο δι procfs(5) εἰσῖαῖBῶαῖ δᾶνῖ÷çiYῖ ὁᾶ δῖνῖοῶῶᾶᾶ ᾶεῖῖοῶᾶῖο διο
εἰσῖοιῖᾶεῖῖ. (Αῖ εἰς ç αῖῖῖP_{sysctl} ᾶBῖᾶ ᾶδBῖῖ ᾶεᾶYῖεῖ εἰς ὁῖ Linux).

Όι δανÜäæçïà òðò ðñìþεçòçò IP, εά ÷ñçóèñîðíεýóαïà òçï áεúειòδεç αίοίεP äεá íá êæεïñßóτöïà αί ç äöíaòουòçòá äòòP äßíáé αíanαιðíεçïÝíc óá Ýía FreeBSD όýόðçïá:

```
% sysctl net.inet.ip.forwarding
net.inet.ip.forwarding: 0
```

Ç ¢đéëĩãP -a ÷ñçóéĩđĩéãßôáé ¢éá íá đŨñĩõĩã ìéá ëßóóá ìã üëàò ôéò ñõèìßóáéò ôĩõ óõóôPĩáôĩò:

```
% sysctl -a
kern.ostype: FreeBSD
kern.osrelease: 6.2-RELEASE-p9
kern.osrevision: 199506
kern.version: FreeBSD 6.2-RELEASE-p9 #0: Thu Nov 29 04:07:33 UTC 2007
        root@i386-builder.daemonology.net:/usr/obj/usr/src/sys/GENERIC

kern.maxvnodes: 17517
kern.maxproc: 1988
kern.maxfiles: 3976
kern.argmax: 262144
kern.securelevel: -1
kern.hostname: server1
kern.hostid: 0
kern.clockrate: { hz = 1000, tick = 1000, profhz = 666, stathz = 133 }
kern.posix1version: 200112
...
```

Όχι!Βούο: ÊÜðíεαò áðü öéo öéíÝò ðĩö äãß÷íáé ç áíöîÊP_{sysctl} áßíáé ìüñ äéá áíÜáíüöç.

Ὁ ὁὔν ÷ τοῖς ἀναεδοροαέοις ὑδρὸς ἀδαεδοβαέαι οἱ procfs, ὑδρὸς αέα δανῦΑαεαῖα υδράς ἀεοαεβαόα δαεεουἀνι εἰαεοίεεϋ, οἱ ἰδῖβι εὔῖαε ÷ πῶος ὅος ἀίοιεβδ truss(1) αέα ὀγί ἀιβ ÷ ἰαοός ουῖ ἐεβραῖι οδοόβιαοῖο, εάε αέα ὀγί Ὀοῖααούοόα ἰα ἈεοαεΎοεία οῖο Linux (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/linuxemu.html). (Άί εάε ς Ὀοῖααούοόα ἰα ἈεοαεΎοεία οῖο Linux ÷ ηςοείηδιεάβ οἱ αέεϋ ὅος procfs, οἱ linprocfs(5)). Άί ÷ ηαεῦΑαοαέ ἰα θηιοαήοβραόα οἱ procfs, ἰδηῖαβόα ἰα θηιοεΎοαόα ὀγί αέυειρες ααῖαῖαβ οοῖ ἀñ ÷ ᾱβι /etc/fstab:

```
proc          /proc          procfs  rw,noauto      0      0
```

Ὁγιαβυός: Ὁ ἀδελφεῖς *noauto* ἐὰ ἀιδιᾶβόαε ὁγί ἀδὸυιδόος δῆτοῦ ἡνὸς ὁτῷ /*proc* ἐὰδὺ ὁγί ἀέελβίος ὁτῷ ὁδὸδπλαδὶδ.

ĐñĩóãñôPóóâ éáôũđéĩ ôçĩ procfs ÷ñçóëĩđĩéĩpĩóáò ôçĩ áéũëĩõèç áĩôĩëP:

```
# mount /proc
```


9 ÓõίϑέέοιÝíãð ÁíôĩēÝò

9.1 Äéá÷ãβñέόϑ ÐáēÝòũí

ÁíôĩēP ôĩð Linux (Red Hat/Debian)	Áíôβóôĩē÷ç áíôĩēP FreeBSD	Óēĩðũð
<code>yum install package / apt-get install package</code>	<code>pkg_add -r package</code>	ÄãēáoÛóóáoϑ ÐáēÝòĩð áðũ áðñíáēñōóĩÝíñ áĩôðçñãðçðP
<code>rpm -ivh package / dpkg -i package</code>	<code>pkg_add -v package</code>	ÄãēáoÛóóáoϑ ÐáēÝòĩð
<code>rpm -qa / dpkg -l</code>	<code>pkg_info</code>	Ëβóðá ããēáoðáoðçĩÝíñĩ ÐáēÝòũí

9.2 Äéá÷ãβñέόϑ ÓóóðPíáôĩð

ÁíôĩēP Linux	Áíôβóôĩē÷ç áíôĩēP FreeBSD	Óēĩðũð
<code>lspci</code>	<code>pciconf</code>	Ëβóðá óóóēãðPí PCI
<code>lsmod</code>	<code>kldstat</code>	Ëβóðá ôĩñðũĩÝíñĩ áñēñũĩÛðũĩ ððñPíá
<code>modprobe</code>	<code>kldload / kldunload</code>	Ûññðũðç/Áðĩöññðũðç áñēñũĩÛðũĩ ððñPíá
<code>strace</code>	<code>truss</code>	Áíβ÷íãðóϑ êēPóãũĩ óóóðPíáôĩð

10 ÓõĩðãñÛóíáôá

ÄðãēðéóôĩÝíã ùðé áððũ ôĩ êãβíãñĩ óáð ðãñãβ÷ã áñēãðÝð ðççñĩôĩñβãð ãéá íá íãēéíPóãðã íã ôĩ FreeBSD. Äéá ðãñéóóóðãñãð éáé ðēĩ êãððñãñãβð ðççñĩôĩñβãð, ðãñáéáēĩÝíã íá äéáãÛóãðã ôĩ Äã÷ãēñβãēĩ ôĩð FreeBSD (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/index.html) ôĩ ïðĩβĩ áðβόϑð ðãñéÝ÷ãé éáé ðĩēēÛ èÝíáðá ðĩð ããĩ éáēÝðēçēáĩ éáēũēĩð óôĩ ðãñũĩ êãβíãñĩ.