

1 ÅéóáãùãƆ

Οι εαβλαίη άόδου οίηβææέ όέδ άεάοιηÝò ιάόάίý οίò FreeBSD έάέ οίò Linux ιόόά ιÝοίε ι öññ÷÷÷ñççìÝñíε ÷ ñιόόάδ οίò
 Linux ιά ιόññíýí ãñιáññá ιά öññóáññíόόίýí όόέδ άáόέέÝò Ýñíέάδ οίò FreeBSD. öññέάέόάέ έέά ιέά όá÷÷÷έέβ æέόάüáβ
 όόι FreeBSD, έάέ άái έά άίάόáñέñýíá όά όδ÷÷ι “όέέίόίόέέÝò” έάέοιηÝò ιάόάίý όüí άýí όόόόçìÜόüí.

Öi êâñîâñi áóòü òðîëÝóâë üóë Ý÷âòâ Þäç äâëáóáóóÞóâë ôî FreeBSD. Áí äâí Ý÷âòâ äâëáóáóóÞóâë ôî FreeBSD Þ ÷ñâëÜëáóóâ äîÞëâëá íâ öçí äëääëéáóá äâëáóÜóóáóóç ôîð, ðññâëëäíýîí íá äëáÜóóáó ôî êâóÜëáí ÄâëëëëóóÞíóáó ôî FreeBSD (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/install.html) óòí Äã÷âëñîäëí ôîð FreeBSD.

2 Êâëýöç: Ääí õđŮñ÷âé Bash;

ἡ461ε Ἰν-÷-ἰῥῶῶῶ ἁῦῦ ὁῖ Linux ὁ-÷-ῖῦ ἁῖῖῖῖῖῖῖῖῖῖῖῖ ὡῖῖ ἁῖῖῖῖῖῖῖῖῖῖῖῖ ὡῖῖ ὁῖ **Bash** ἁῖῖ ἁῖῖῖῖ ὁῖ ὁῖῖῖῖῖῖῖῖῖῖῖ ῖῖῖῖῖῖ ὁῖ FreeBSD. Ὄῖῖ ὁῖῖῖῖῖῖῖῖῖῖῖῖῖῖῖῖ, ὁῖ **Bash** ἁῖῖ ὁῖῖῖῖ-÷-ἁῖ ῖῖῖ ὁῖῖῖῖ ἁῖῖῖῖῖ ἁῖῖῖῖῖ ὁῖῖ FreeBSD. Ἀῖῖῖῖῖῖῖ, ὁῖ FreeBSD ÷-ῖῖῖῖῖῖῖῖῖ ὁῖ tcsh(1) ὡῖ ὁῖ ὁῖῖῖῖῖῖῖῖῖῖῖ ῖῖῖῖῖῖῖ. Ὄῖ **Bash** ῖῖῖῖ ῖῖῖ Ὄῖῖῖ ῖῖῖῖῖ ὁῖῖ ὁῖῖῖ ῖῖῖῖῖῖ ῖῖ ἁῖῖῖῖῖῖῖῖῖ ῖῖ ἁῖῖῖῖῖῖῖῖῖῖῖ, ἁῖῖῖῖ ἁῖῖῖῖῖῖῖ ὁῖῖ Ὄῖῖῖῖῖ Ὄῖῖῖῖῖ ῖῖῖ Ὄῖῖῖῖῖῖῖῖῖῖῖῖῖῖῖῖῖῖ ὁῖῖ FreeBSD.

[illegible]

3 ĐáêÝôá êáé Ports: ĐñĩôéÝôĩĩôáò ěĩăéóĩéēũ óôĩ FreeBSD

Ἄεθου ἀδὺ ὄγι θανάτιοεἰεἰβ Ἰεῖται ἡεἰάοῦόοάοοδ εἰεἰεἰεἰεἰ οἰο UNIX® (εἰάῖῖῖῖῖ οἰο δῖῖῖῖῖ εἰεἰεἰεἰ, ἀδῖοἰῖῖῖῖ οἰο ἡἡ ÷ ἡῖῖ, ἡῖῖῖῖῖῖῖῖ ἡἡ ἡῖῖῖῖῖῖῖῖ), οἰ FreeBSD θῖῖῖῖῖῖ ἡἡ ἡῖῖῖ ἡῖῖῖῖῖ ἡἡ ὄγι ἡῖῖῖῖῖῖ ὄῖῖῖῖῖῖ: ὄῖ ὄῖῖῖῖ ἡἡ ὄῖ ports. ἡἡ ἡἡ δῖῖῖῖ εἰῖῖῖ ἡῖῖ ὄῖ ἡῖῖῖῖῖῖ ὄῖῖῖῖῖ ὄῖῖῖῖῖ ὄῖῖῖῖῖ, ἡῖῖῖῖ ἡῖῖ (<http://www.freebsd.org/ports/master-index.html>).

3.1 ĐấêÝôá

Όά θαέΎόά αβίαέ θñĩ-iaóaaèuóóéoiΎíáo áóáñĩāΎó, èá èΎāñāi òĩ áíóβóóíé÷ĩ áéá òĩ FreeBSD òuĩ āñ÷āβuĩ .deb óá óóóóβiaóá Debian/Ubuntu éáé òuĩ āñ÷āβuĩ .rpm óá óóóóβiaóá Red Hat/Fedora. Όά θαέΎόά āāēāēβóóáíóáé ÷ñóóēñíēíβíóáo óci áíóēβ pkg_add(1). Áéá θánŨāāēāiā, ç āēuēĩōèç áíóēβ āāēāēéóóŨ òĩñ **Apache 2.2**:

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

Ç ÷ ñΠός όçò ðáñáíÝíñíð ÷ ñ ääçääß öçí pkg_add(1) íá éáóääÜóää áðöüíáðá öüöí öí ðáéÝöí, üöí éáé öéð áíáñðΠóáéð öíð. éáé íá öí ääéáðáóóðΠóáé:

```
# 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.

Όγιβαθός: Άί ÷ ñçóëííðíëáßðá íëá “äðßçíç” Ýëäíóç ôíð FreeBSD (6.2, 6.3, 7.0, ëëð. ðíð äáíëëÜ ðíñáßðá íá ääëáðáðßðáðá äðÜ CD-ROM) ç áíðíëß pkg_add -r ëá ëáðäáÜðáë óá äáëÝðá ðíð ððëÜ÷÷çëáí äëá äððß çç ððäëäëñëíÝíç Ýëäíóç. Óá äáëÝðá äððÜ *ßóóð äáí ðáñëÝ÷íí* ðëð ðëÝíí ðäëäððáßðð äëäüðáëð ðñí äðáñííäíí. ðíñáßðá íá ÷ ñçóëííðíëáßðáðá ççí íáðááäçðß ðáñëáÜëëííððð `PACKAGESITE` äëá íá ðáñáëÜíðáðá äððß ççí ðñíäðëëäáíÝíç ðóíðáñëëííÜ. Äëá ðáñÜÜáëëáí, ëÝðííðáð ççí `PACKAGESITE` ðóçí ðëíß <ftp://ftp.freebsd.org/pub/FreeBSD/ports/i386/packages-6-stable/Latest/> ëá ëáðäáÜðáðá óá ðëí ðñüðóáðá äáëÝðá ðíð ððÜñ÷ííí äëá çç óáëñÜ 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 θάνέοούοάναό δεçñrοiñßáο ó÷:âôééÛ iá ôá ðáéÝôá, ðánaéæeiyia æéaaÛóôâ ôçí áíuôçôá 4.4 ôôí Åã÷:æénßæéí ôiô
FreeBSD: ×ñçóéiñðiépíóáó ôi Óýóôçíá Packages
(http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/packages-using.html).

3.2 Ports

Ç αáyðáñç ÿÝëíáñð áëá ðçí ááëáðÛððáðç áðáñíñáñí ððí FreeBSD áβíáë ç Óðëëíáβ ðúñ Ports. Ç Óðëëíáβ ðúñ Ports áβíáë Ýíá ðëáβðéí εάëðíññáëñí ðñð áðñðáëáβðáë áðñ Makefiles éáë áñ÷-áβá áëáöíññí (patches) ðá íðñβá Ý÷íðí áçíëíðñáçëáβ áëáëëÛ, þððá íá áβíáë áññáðβ ç ááëáðÛððáðç áëÛññúñ áðáñíñáñí ððí FreeBSD áðñ ðñð ðçááβí ëþáëéá ðñðð. ¼ðáñ ááëáëëóðÛðá Ýíá port, ðñ óýððçíá éá éáðááÛðáë ðñð ðçááβí ëþáëéá, éá áðáññúñáë ùëáð ðëð áðáëðñýñíáñð áëëááÝð ÷ñçóñíðñíëñíðáð ðá patches, éá ìáðááëùðððáë ðñð ëþáëéá, éáë ðÝëñð éá ááëáðáðððáë ðçí áðáñíñáβ. Éá áëñíëðððáë ðçí βáëá áëááëéáðáβ éáë áëá ðñíëááβðñðá ðð÷-úñ áñáñðñíáñá ðññáñÛñíáðá.

Ἰδιῆῆῆῆῆῆ ἰᾶ ἁῆῆῆῆῆ ὀῆῆ Ὀῆῆῆῆῆῆ ὀῆῆ Ports (ῆ ἰῆῆῆῆ ἰᾶῆῆῆῆ ὀῆῆῆ ἰᾶῆῆῆῆῆῆ ἰᾶῆ ὀῆῆ “ᾶῆῆῆῆ ὀῆῆ ports”), ὀῆῆ ἰᾶῆῆῆῆῆ /usr/ports. Ἀῆῆ ᾶῆῆῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ ἁῆῆῆῆῆῆῆῆῆῆῆ ὀῆῆ Ὀῆῆῆῆῆῆ ὀῆῆ Ports ἰᾶῆῆ ὀῆῆ ἁῆῆῆῆῆῆ ὀῆῆ ἁῆῆῆῆῆῆῆῆ ὀῆῆ FreeBSD. Ἀῆ ἁῆῆ ὀῆῆ ῆῆῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ ὀῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ sysinstall(8) ῆ ἰᾶ ὀῆῆ ἰᾶῆῆῆῆῆῆ ὀῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ FreeBSD ῆῆῆῆῆῆῆῆῆῆῆ ὀῆῆ ἰᾶῆῆῆῆῆῆῆ ὀῆῆ csup(1) ῆ ὀῆῆ ἰᾶῆῆῆῆῆῆῆ portsnap(8). Ἰδιῆῆῆῆῆ ἰᾶ ἁῆῆῆῆῆ ἰᾶὀῆῆῆῆῆῆῆ ἰᾶῆῆῆῆ ἁῆῆ ὀῆῆ ἁῆῆῆῆῆῆῆῆ ὀῆῆ ὀῆῆῆῆῆῆῆῆ ὀῆῆ Ports ὀῆῆ ἰᾶῆῆῆῆῆ 4.5.1 (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/ports-using.html) ὀῆῆ ἁῆῆῆῆῆῆῆῆ.

Ç ääëäóÜóóäóç áíüò port äßíäë ääíëëÜ öüöí äðëP uóí öí íá áéóYëëäöä öüíí ëäöÜëíäí öíö ëäë íá íäëëíPóäöä öçí äëääëëäößá íäöääëpöðëöçò. Ööí äëüëíöëí ðánÜääëíä äßíäöäë ääëäóÜóóäóç öíö **Apache 2.2** äðu öçí ÖöëëíäP öüí Ports:

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

```

já óçíáíóéëü ðëáñíÝéôçíá ôçð ÷ ñÞóçð ports óôçí áäëáðÛóóáóç ëíäéóíëéíý áßíáé ç éëáíúôçóá ðñíóáñíñáÞð òùí áðëëëäþí
áäëáðÛóóáóçð. Áéá ðáñÛáäëäíá, ùóáí áäëäëéóóðÛóá òíí Apache 2.2 áðü óá ports ðíññáßóá íá áíáññáðíëíóáðóá ôçí
áðëëëäþ mod ldap èÝóñíóáð áðëþð óëíþ óôç íáðáäëçðÞ WITH_LDAP òíð make(1):

```

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

ἈέάᾱṪṵṵᾱ ὁῖῖ ᾱῖṵṵṵᾱ 4.5 ὁῖṵ Ἀᾱ÷ᾱῆṆᾱḂῖṵ ὁῖṵ FreeBSD, ×Ṇṵṵṵṵṵṵṵṵᾱṵ ὁῖῖ Ports Collection (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/ports-using.html), ᾱᾱ ᾱṆᾱῆṵṵṵᾱṆᾱṵ ᾱῆṵṵṵṵṵṵᾱṵ ὁ÷ᾱṵṵṵṵᾱ ᾱᾱ ὁῖῖ ὌṵṵṵᾱḂ ὁῖῖ Ports.

3.3 Ports Þ óáéÝôá, ôé ðñÝðáé íá ÷ ñçóéìðöíéÞóú;

[illegible]

ĐáêÝôá (Ýôïëìá àêôãëÝóéìá)

- Δεί ἀνῑαίνῃς ἀἀεῖαδὺόαός (ς ἰαόαᾱῑῑῑῑῑῑῑς ἰᾱᾱᾱᾱᾱᾱᾱᾱ ἰῑῑῑῑῑ ἰᾱᾱᾱᾱ ἰᾱᾱᾱᾱᾱᾱᾱ ἰᾱᾱᾱᾱᾱᾱᾱᾱ ἰᾱᾱᾱᾱᾱᾱᾱᾱ).
- Ἀᾱᾱ ÷ ᾱᾱᾱᾱᾱᾱᾱᾱ ἰᾱ ᾱᾱᾱᾱᾱᾱᾱᾱ ᾱᾱᾱ ᾱᾱᾱᾱᾱᾱ ῥ ἰᾱᾱᾱᾱῑῑῑῑῑῑῑῑ ῑῑῑ ῑᾱᾱῑῑῑῑῑῑῑῑ.
- Ἀᾱᾱ ÷ ᾱᾱᾱᾱᾱᾱᾱᾱ ἰᾱ ᾱᾱᾱᾱᾱᾱᾱᾱᾱᾱᾱ ἰᾱᾱᾱᾱᾱᾱᾱᾱᾱᾱᾱᾱᾱ ῑῑῑ ῑῑῑῑῑᾱ ῑᾱᾱ.

Ports (őçãáßïò êpăéeêáò)

- [illegible]

Αἱ αἰὶ Ὡ ÷ ἀοὰ ἀεαέΥδ ἀδαέσΡθαέδ, οὰ δαέΥοὰ δέαείυι εὰ οάδ εαέγγοίρ ιεά ÷ ἀνŮ. Αἱ υόουσι ÷ νᾱέŮαοάε ίά
 θηιόανιυοάοα εŮθιεάδ ἀδεείαΥδ, ουοὰ ç ιΎειαιδ ουι ports αβίαέ ç εαέγθαηç. (Έαέ εοιçεαΒοά, αἱ ÷ νᾱέŮαοάοα
 θηιόανιιαΒ αεεŮ θηιοείŮοά οὰ δαέΥοὰ, ιθηναΒοά ιΥού οçδ οδεείαΒδ ουι ports ίά οδεŮίαοά οὰ αεεŮ οάδ
 θηιόανιιιŮίά δαέΥοὰ ÷ ηçοείιθιερίοάδ οçς αἱοίρεΒ make package έαέ αἱδεάνŮοίοάδ οὰ δαέΥοὰ θιο αἱεἱτόηαΒοάοα
 οὰ Ůεεά ιç÷ αἱΠιαόά.)

4 Αέεβίçόç ôĩõ ÓóóôΠιάôĩò: Ðĩõ άβίαέ ôά run-levels;

Οι Linux ÷ ηςοείηδιέαβ οι όύοόγια âêßícòçð SysV, âη ηι FreeBSD ÷ ηςοείηδιέαβ οι ðáñáäïóεäü όύοόγια âêßícòçð BSD. Όοι όύοόγια init(8) όýðï BSD, ääï ððÛñ÷ïí run-levels, ÿðä ðï äñ÷âñï /etc/inittab. Áíòß äέα äóðÛ, ç âêßícòçð äeÿä÷âðäé äðü Ýíä script âêßícòçð, ðï rc(8). To script /etc/rc äέαäÛæäé ðï äñ÷âñï /etc/defaults/rc.conf äέα ðï äñ÷âñï /etc/rc.conf äέα íä äæèñòáé ðíεäð ððçñäòßä ðñüææéðäé íä íæéíðïí. Íε ððçñäòßä äóðÝð íæéíÛíä íä ðçí æéðÝæòç ðüí áíòßóíε÷üí script âêßícòçð ðïò äñòéñíóäé óóíðð éäðäüüñðð /etc/rc.d/ äέα /usr/local/etc/rc.d/. Óä scripts äóðÛ äñíäé ðáñüñíέα íä óä scripts ðïò äñòéñíóäé óóñí éäðÛεññ /etc/init.d/ óä óðóðßäðä Linux.

Ἀέάββ ὀδῦñ÷ῖοι ἄγρ ὀδιῖῖῖῖῖῖῖ Ἀέά ὀά scripts Ἀέῖῖῖῖῖῖ ὀυῖ ὀδῖῖῖῖῖῖ; Ὀά scripts ὀῖῖ Ἀñῖῖῖῖῖῖῖ ὀῖῖῖ ἑῖῖῖῖῖῖῖ /etc/rc.d/ Ἀῖῖῖῖ Ἀέά Ἀῖῖῖῖῖῖῖῖῖ ὀῖῖ Ἀῖῖῖῖῖῖ ὀῖῖ “Ἀῖῖῖῖῖῖ” ὀῖῖῖῖῖῖ. (Ἀέά ὀἈñῖῖῖῖῖῖῖ, ὀῖῖ cron(8), sshd(8), syslog(3), ἑῖῖ ῖῖῖῖῖῖ.) Ὀά scripts ὀῖῖ Ἀñῖῖῖῖῖῖῖ ὀῖῖῖ ἑῖῖῖῖῖῖῖ /usr/local/etc/rc.d/ Ἀῖῖῖῖ Ἀέά Ἀῖῖῖῖῖῖῖῖῖ ὀῖῖ ῖῖ÷ῖοι Ἀῖῖῖῖῖῖῖῖῖῖ Ἀῖῖ ὀῖῖῖ ÷ñῖῖῖῖῖ, ῖῖῖῖ Ἀέά ὀἈñῖῖῖῖῖῖῖ ῖ **Apache**, ὀῖ **Squid**, ἑ.ῖ.ῖ.

Διέα ἀβιάε ς εἰάοῖνῸ ἰαόάτῃ οῖο “ἀαόεῖῃ” ὁδὸδΠιάοῖο ἐάε οὐὶ ἀοάνῃῃῃ ÷ ñPόδς; Οἱ FreeBSD αἰάδὸγὸάοάε ὑὸ ἢῃ ἔPῃῃ ἔαεοῖοῃῃεῃ οὔοδςῃ. Ἰᾶ Ὑεᾶ εὔαεᾶ, ἰ ὁῃPῃᾶ, ἰε ἁἁεῖεPῃᾶ οῖο ὁδὸδΠιάοῖο, ἰε ἀαόεῖῃ ἰάοῖεῃῃ (userland, ὁᾶ ὁῃῃῃῃῃᾶ ὑδὸδ οἱ ls(1), cat(1), cp(1) ἐῖδ.), αἰάδὸγὸοῖῃᾶ ἐάε ᾱῃῃῃᾶῃῃᾶ ἰᾶῃ, ὑδὸ οὔῃῃ. Ἀόοῃ αἰάδὙῃᾶᾶ ἐάε ὑδὸ “ἀαόεῖῃ” οὔοδςῃ. Ἰε ἀοάνῃῃῃ ὁῖο ἁἁἁῃῃᾶᾶᾶᾶ ἰδὸ οῖο ÷ ñPόᾶᾶ, ἁἁ ἰPῃῃῃ ὁῖο “ἀαόεῖῃ” οὔοδςῃ, ἐάε ὁῃῃᾶᾶ ἁβῃᾶ ἁἁ ὁᾶῃῃᾶᾶ ἰ **Apache**, οἱ **X11**, ἰ **Mozilla Firefox**, ἐῖδ. Ἀόῃῃ οῖο ἁῃᾶῃᾶ ἰε ἀοάνῃῃῃῃ, ἁἁῃῃ ἁἁἁῃῃᾶᾶᾶ ἰᾶ ὁς ÷ ñPός ὁςδὸ Ὀῃῃῃᾶᾶ Δᾶῃῃῃᾶ ἐάε Ports (article.html#SOFTWARE) οῖο FreeBSD. Ἀἁ ἰᾶ ἰᾶ ÷ ῃῃᾶῃῃ ἰδὸ οἱ ὁῃῃῃῃῃ “ἀαόεῖῃ” οὔοδςῃ, ἰε ἀοάνῃῃῃ ÷ ñPόδς ὁῖῃPῃᾶ ἁἁἁῃῃᾶᾶᾶ ὁᾶ ὁῃᾶᾶᾶᾶᾶᾶ οῖο /usr/local/. ὁῃᾶ ὁᾶ ἁἁᾶῃῃᾶᾶ ὁῃῃῃῃῃᾶ ὁῖο ÷ ῃςὁῃᾶ ἁῃῃῃᾶᾶ ὁῖῃPῃᾶ ὁῖῃ ἔᾶὈῃᾶῃ /usr/local/bin/, ὁᾶ αἰᾶᾶᾶῃ ÷ ᾶ ἁῃ ÷ ᾶᾶ ῃᾶῃᾶᾶᾶ οῖο ὁῖῃ ἔᾶὈῃᾶῃ /usr/local/etc/, ἐ.ἰ.ἐ.

[illegible]

Οἱ ἀεὺεῖρεῖ ἀδὺοδᾶοῖᾶ ἀδὺ οἱ ἀν÷ᾶβι /etc/rc.conf ἀἰᾶᾶἰδῖεᾶβ ὁγῖ ὀδγᾶοᾶ sshd(8) ἐᾶε οἱ **Apache 2.2**. Ἀδβόγδ
ἐᾶεἰᾶεᾶ ὡεῖ ἰ **Apache** ἐᾶ ἰᾶεῖᾶοᾶ ἰᾶ ἀἰᾶᾶἰδῖεᾶᾶᾶᾶ Ἰγῖ ὁγῖ ᾶοῖᾶοὺδγᾶᾶ SSL.

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

Ἄδῡ ὁϙ ὀόεἰἵP ḏiō iéá ὀδϙñáḡḡá áíáññḡḡḡéϙéḡḡ ὀḡḡ ḗñ÷ḗḡḡ /etc/rc.conf, ḡḡḡñḡḡḡ ḡḡ ὁϙḡ ḡḡééḡḡḡḡḡ ḡḡḡḡḡḡḡḡ
 ḡḡḡ ὁϙ ḗñḡḡḡP ḗḡḡḡḡḡ (÷ḡḡḡḡ ḡḡ ÷ñḡḡḡḡḡḡ ḡḡ ḡḡḡḡḡḡḡḡḡḡḡ ḡḡ ὀḡḡḡḡḡḡ ḡḡḡ):

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

Áí íéá òðçñáòá ááí Ý ÷ áé áíáññäíðíéçéáß óóí áñ ÷ áßí áóòü, ìðñáßòá íá áíáíááéÜóáòá ôçí áêêßíçòç ôçò áðü ôçí áñáñíð áíòíèðí íá ôçí áðééñáß forcestart:

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

5 Ñýèìéóç Äéeôýĩõ

5.1 ÄéåđáöÝò Äéeôýĩõ

Άϊός άέά ôï άαίέêü áíááññέóóéêü ôýðïò *ethX* ðïò ÷ñçóéïíðïέάß ôï Linux áέá ôçí áíááññέóç íέáð áέáðáðð áέέðýïð, ôï FreeBSD ÷ñçóéïíðïέάß ùð áíááññέóóéêü ôï ùññá ôïð ðññáñÙñáôïð íáßαçóçð áέíεíεíýíáñ áðü Ýíá áñέέïü. Ç áέúεíεç Ýññáð áðü ôçí áíôïðß ifconfig(8) áάß÷íáέ áýí êÛñðáð áέέðýïð Intel® Pro 1000 (íá áíááññέóóéêéÛ 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 ÑõèìΒóåéò Äéåðëýíóåùì IP

[illegible]

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

×ñçóëiïðíéΠóôâ ôçí áêüëiðèç êáôá÷þñçóç áéá íá êáèiñßóáôâ üôé iéá äéáðáöÞ éá éaiâÜíáé ññèißóáèð iÝòù DHCP:

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

6 Firewall

Όλοι Linux → ηζοέηειεάβθαέ οι **IPTABLES** οι ιθιβι θάνΥ → αέ οδζηαόβαο firewall οά αδβθάαι δονΠρά. Οι FreeBSD θάνΥ → αέ αδβόδο firewall Υΰου οιω δονΠρά. Άέα όγι αένβθαέα, οι FreeBSD θάνΥ → αέ οηβά firewalls:

- IPFIREWALL (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)

Οι **IPFIREWALL** ή **IPFW** (ή αφορέπ ÷ ἀεnéοίρύ ουί εάφύιυι ότō **IPFW** άβίάε ή ipfw(8)) άβίάε όι firewall ότō Ύ÷άε άιάόόó÷εάβ έάέ όόόόήήάβόάέ άόυ όγυ ηΎάά άίΎόόόόό όιō FreeBSD. Οι **IPFW** ίόήήάβ ίά όόάόάόόάβ ίά όι dummynet(4) άέα ίά όάνΎ÷άε άόάάόόόόό άέάιήόόόό όόό έβίόόόό όάέΎόυι (traffic shaping) έάέ ίά άήήίέήάέ άέάόήάόέέίόό όύόόό όόάΎόάυι άέέόόίό.

DánÜäëàìá áúò éáíuíá ôïð IPFW ðïð aðëônÝðäé áéoãñ÷ùìáíá äääñÝía ðñïð ôçí òðçñáoßá 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 ööéá÷-ðáß áéáéêÜ áéá ôí FreeBSD, éáé Ý÷-áé íáðóáññéáß éáé óá Üëéá éáéðíõñáéêÜ, óðíðáñééäíááííÝíúí ðúi NetBSD, OpenBSD, SunOS, HP/UX, éáé Solaris.

ĐánŨäâëàíà áíüò êáíuíá ãéá ôî **IPFILTER** ðĩõ ãđéõñÝđăé áéóăñ÷:ùiáíá áăăñÝíá ðñĩò ôçí òđçñăóăá **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** açìérìòñãPèçèà ùò áíòééáòáóòÜòçò òìò **IPFILTER**, éáé Ýòóé ç óýíòáç òìò **PF** ááíáé áñèêòÜ ðañüüíèá íá áòòP òìò **IPFILTER**. Ôì **PF** ìðññáá íá óóíáòóóòáá íà òì altq(4) áéá íá ðánÝ ÷ áé òðçñáóáò òýðìò QoS.

ĐánÜäåëâîá êáíuíá ôiõ **PF** ðiõ ãðéônÝðäé áéóãñ÷ùiáíá äãäiñÝíá ðñiò ôçí òðçñãóßá **SSH**:

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

7 Άίαâáèìβæïïôáò ôï FreeBSD

ÖðÜñ÷ïïï ññáéð ìÝëïäïë áéá ôçï áíááÜëïéóç áñuð óóóóPiáðïrð FreeBSD: ÌÝóù òïð ðçááßïrð êpáééá, ìÝóù Ýðïëïùì
(binary) áíáááèìßóáùì, êáé ìÝóù òùì CD äãêäðÜóóáóçð.

Ç äæäðÛððáðç ìÝóù òìð ðçäâðìò èðäéä äâðäé ç ðér ðèýðèèç, äæÛ ðñìòóÝñäé éäé ðç ìääæýðäñç äððáðð äðäéððä. Ç äéääéäðä äððð ðäñééäìäÛðäé ðì ððä÷ññéðìù ðìò ðìðéèý áððéäñÛðìò ðìò ðçäâðìò èðäéä ðìò FreeBSD ìä ðìí èðäéä ðìò FreeBSD ðìò äñððéäðäé ððìð äìðçñäðçÝð CVS (Concurrent Versioning System). Äðù ðç ððéäìð ðìò ðì ðìðéèù áððäñäðì ðçäâðìò èðäéä äâðäé äððäñùÝñ, ìðñäððä ìä ìäðäæùððððäðä ìÝäð äæäùäæð ðìò ððñððä éäé ðùí ääðéèðð ðññäñäìÛðùí. Äéä ðäñéððùðäñäð ðççñìòñðäð ð÷÷äðéÛ ìä ðì ðýððçðä äðääÛèìèðçð ìÝóù ðçäâðìò èðäéä, äâððä ðì èäðÛèäéí ÄìçìÝñùðç éäé ÄðääÛèìèðç (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/updating-upgrading.html) ððì Ää÷äéñäéí ðìò FreeBSD.

Ίε Υόιειάο (binary) αίαάειβόάεο, άβίαέ δάνυιρέαο ιά ος ÷ñΠός οςο αίοιρέΠο yum P apt-get áέα οςι αίαάΥειέος áιυο
 οόοόΠιάοιò Linux. Ç αίοιρέP freebsd-update(8) έα έαόάάΥοάε οέο αίαάειβόάεο έάε έα οέο άάεάοάοόΠοάέ. Ιδιñάβòά ιά
 έάειñβόάòά οςι άόδύιáος, áíΥ όάέòΥ άέάόòΠιάόά άέòΥέάός οςò, ιά ος ÷ñΠός οίò cron(8).

Όγιὰβυός: Αί δñüēάέόάέ íá ÷ ñçόέííðíēΠόάðå ðí cron(8) äéå ðñĩāñáííåðéóíÝíåð áíááåèíßóåéð, ååååéüèåßðå ìðé ÷ ñçόέííðíēåßðå ðçí áíðíēΠ freebsd-update cron ððí åñ÷:åßí crontab(1) äéå íå äéå÷:éóðíðíēçèåß ç ðééáíüðçðå íå åßíåðåé áíáíÝüóç ðçí ßäéå ðóéåíΠ åðü Ýíå íååÜēí åñéèü ïç÷:áíçÜðüí.

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

Ç öâëãöôâáá äðëëïãP áíááÛëíóçð, ìÝòù òùì CD äãëáðÛóóáóçð, âáíáë äñëãðÛ íäëÛëãñ. Áðëð ãëëëíPóðã áðu òì
 CD äãëáðÛóóáóçð ëáë äðëëÝíðã òçì áíððóðíë÷ç äðëëïãP áíááÛëíóçð (upgrade).

8 procfs: ÐǎñáóìÝĩ áëëÜ ü÷é Îǎ÷áóìÝĩ

Ói Linux, é ÷ñááóâá íá áââôâ ôi /proc/sys/net/ipv4/ip_forward áé íá éâëññóáôâ áí áíáíé áíáññíðéííÍí c ðñíèèéí IP (IP forwarding). Ói FreeBSD é ðñÝðáé íá ÷ñéóéíðéíóáôâ ôi sysctl(8) áé íá áââôâ

ἀόδῖ ἐάε Ὑεῖαδ ἡδὲβόαέδ οἷο ὁδὸδῖαδῖο, ἐάεῖδ οἷ procfs(5) ἐαῦἡαβόαέ δᾶἡν÷çìÝîí ὁᾶ δἡῦὁᾶὁᾶδ ᾶεῦὁᾶέδ οἷο ἐᾶέοἷἡᾶεῖ. (Αἱ ἐάε ç ᾶἰῖῖῖῖ sysctl ᾶβἱᾶέ ᾶδβόçδ ᾶέᾶῖῖῖ ἐάε ὁἷ Linux).

Ὀἷ δᾶἡὙᾶῖᾶ ὁçδ δἡἡῖῖῖῖ IP, ἐᾶ ÷ἡçὁῖἡἡἡἡἡἡ ὁçἱ ᾶῖῖῖῖῖ ᾶἰῖῖῖ ᾶῖ ἱᾶ ᾶῖἡἡἡἡἡἡ ᾶἱ ç ᾶἡἡὁὁὁὁᾶ ᾶὁὁῖ ᾶβἱᾶέ ᾶἡἡἡἡἡἡἡἡἡἡ ὁᾶ Ὑἱᾶ FreeBSD ὁῖὁὁἡ:

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

Ç ᾶῖῖῖῖῖ -a ÷ἡçὁῖἡἡἡἡἡἡ ᾶῖ ἱᾶ δὙἡἡἡἡ ἱᾶ ῖβὁᾶ ἱᾶ Ὑῖᾶδ ὁῖδ ἡδὲβόαέδ οἷο ὁδὸδῖαδῖο:

```
% 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
...
```

Ὀçἡᾶᾶᾶ: ἘὙἡῖᾶδ ᾶὁὙ ὁῖδ ὁῖὙδ ὁἷ ᾶᾶᾶᾶᾶ÷ἱᾶ ç ᾶἰῖῖῖῖ sysctl ᾶβἱᾶέ ἱὙἡ ᾶῖ ᾶἱᾶἡὁὁ.

ὈδὙἡ÷ἡἡἡ δᾶἡῖὁᾶᾶᾶ Ὑἡἡ ᾶδᾶῖὁᾶᾶᾶ ὁἷ procfs, ὙὁὙ ᾶῖ δᾶἡὙᾶῖᾶ Ὑὁᾶἱ ᾶῖὁᾶῖᾶᾶ δᾶῖῖὁᾶἡἡ ῖἡῖῖῖῖ, ὁἷ ἡἡἡἡ Ὑἡἡᾶᾶ ÷ἡᾶᾶ ὁçδ ᾶἰῖῖῖῖ truss(1) ᾶῖ ὁçἱ ᾶἡᾶ÷ἱὁὁç ὁἡἱ ῖῖᾶᾶἡἡ ὁδὸδῖαδῖο, ἐᾶῖ ᾶῖ ὁçἱ Ὀἡἡᾶὁὁὁὁᾶ ἱᾶ Ἀῖὁᾶῖῖῖᾶ ὁἷ Linux (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/linuxemu.html). (Αἱ ἐᾶῖ ç Ὀἡἡᾶὁὁὁὁᾶ ἱᾶ Ἀῖὁᾶῖῖῖᾶ ὁἷ Linux ÷ἡçὁῖἡἡἡἡ ὁἷ ᾶῖῖῖ ὁçδ procfs, ὁἷ linprocfs(5)). Αἱ ÷ἡᾶῖᾶᾶᾶ ἱᾶ δἡἡὁᾶἡᾶᾶ ὁἷ procfs, ἡἡἡᾶᾶ ἱᾶ δἡἡῖῖῖῖῖ ὁçἱ ᾶῖῖῖῖῖ ᾶᾶἡᾶὁᾶ ὁἷ ᾶἡ÷ᾶἡἡ /etc/fstab:

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

Ὀçἡᾶᾶᾶ: Ç ᾶῖῖῖῖῖ noauto ἐᾶ ᾶἡἡᾶᾶᾶ ὁçἱ ᾶὁὁἡἡᾶὁç δἡἡὙἡἡὁçδ ὁἷ /proc ῖᾶὁὙ ὁçἱ ᾶῖῖῖῖὁç ὁἷο ὁδὸδῖαδῖο.

δἡἡὁᾶἡᾶᾶ ῖᾶὁὙἡἡ ὁçἱ procfs ÷ἡçὁῖἡἡἡἡᾶὁ ὁçἱ ᾶῖῖῖῖῖ ᾶἰῖῖῖῖ:

```
# mount /proc
```


9 ÓõĩçèéóìÝíàò ÅíôïëÝò

9.1 Äéá÷åßñéóç ÐáêÝòùí

Αίσιπ όιό Linux (Red Hat/Debian)	Αίσιπ όιόίε÷ç αίσιπ FreeBSD	Όίσιπ
yum install <i>package</i> / apt-get install <i>package</i>	pkg_add -r <i>package</i>	ΑάέάόÜόόάόç άάέÝόιό άάü άθñάέñόίÝñí αίόδçñάόçδß
rpm -ivh <i>package</i> / dpkg -i <i>package</i>	pkg_add -v <i>package</i>	ΑάέάόÜόόάόç άάέÝόιό
rpm -qa / dpkg -l	pkg_info	Ëßόόά άάέάόάόόçìÝíúí άάέÝόúí

9.2 Äéá÷βñéóç ÓõóôÞíáôïò

ΆίόίεP Linux	ΆίόBóóίε÷ç αίόίεP FreeBSD	Óείòùò
lspci	pciconf	ΈBóóá óóéâóπί PCI
lsmod	kldstat	ΈBóóá öïñòùíÝíúí áñèñùíÛòùí ðõñPía
modprobe	kldload / kldunload	Öüñòùòç/Áðïöüññòùòç áñèñùíÛòùí ðõñPía
strace	truss	ΆίB÷íáòóç êëPóáùí óóóóPíáôïò

10 ÓõìďǎñŮóíáôá

[illegible]