

1 ÅéóáãùãƆ

Οι εαβλαίη άδουή οίββαέ όέδ άεάοιήΎδ ίαδαιή όιθ FreeBSD έάέ όιθ Linux ίόόα ίΎόιέ ϐ όήι÷ύñçίΎfié ÷ñϐόάδ όιθ Linux ίά ίδññίήί άñϐαίñά ίά όññíóáññíóóúήί όόέδ άάόέέΎδ Ύíñíεάδ όιθ FreeBSD.

 Δññüέάόάέ άέα ίέα όα÷ίέέϐ άέόάαüάϐ όόι FreeBSD, έάέ άάί έά άíáóáñèñýíá όά όθ÷úí “óééíóíóéέΎδ” άεάοιήΎδ ίαδαιή όúí άýí όόόçίÜóúí.

Oĩ êãñĩãĩĩ ãõõũ õõĩẽYõãẽ uõẽ Y ÷ ãõã Pãç ããẽãõãõõPõãẽ õĩ FreeBSD. Áĩ ããĩ Y ÷ ãõã ããẽãõãõõPõãẽ õĩ FreeBSD P ÷ ããẽUẽãõõã ãĩPẽãẽã ãã õçĩ ãẽããẽãõããããããõõõõõõõ õĩõ, õãããããĩĩãĩã ãã ãẽããUõõãõã õĩ êãõUẽãẽĩ ããẽãẽẽõõĩõãõõ õĩ FreeBSD (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/install.html) õõĩ ãã ÷ ãẽñĩãẽĩ õĩõ FreeBSD.

2 Êâëýöç: Ääí õđŮñ÷âé Bash;

[illegible]

Άρ ἀεῖαόαόόΠόαόα ἀεῖοῖνἀόεῦ ἑἑῖϋόϋ, ἰδῖνἁβόἁ ἰά ÷ñçóεῖῖδῖεΠόαόἁ ὁϋ ἰάῖεῖΠ chsh(1) ἁεῖ ἰά ἁεῦῖῖἁόἁ ὀῖ
 δῖνἁδῑεἑἁἰ ῖῖ ἑῖῖεὀῖδ ἑῦδῖεῖδ ÷ñΠόόϋ. Óἁ ὀῖεὀῖῖῖἰἰἰἰἰ ἰἰ ἁὀΠόἁἁ ὀῖ ἑῖῖεὀῖδ ὀῖὀ root ὀῖὀ δῖνἁδῑεἑἁἰ ῖῖ.
 Ἴ εῦἰἰἰ ἁεῖ ἁὀὀἁ ἁβῖἰἰ ἰὀε ὀἁ ἑἑῖϋόϋ δῖὀ ἁἰ δἁñεῑεἁἰἰῖῖὀἁε ὀόϋ ἁἁόεῖΠ ἁεἁῖῖΠ ὀῖὀ FreeBSD, ἁἁεἁεβόὀἁῖὀἁε ὀόϋ
 ὀῖδῖεἁὀἁβ /usr/local/bin Π /usr/bin. Óἁ δἁñβδὀὀὀϋ δῖνἁεΠἰἁὀῖδ, ἁβῖἰἰ ὀεἁῖῖῖ ὀἁ ὀὀὀΠἰἁὀἁ ἁñ÷ἁβῖῖ ἰὀῖὀ
 ἁñβὀεῖῖὀἁε ὀἁ /usr/local/bin ἑἁε /usr/bin ἰἰ ἰϋῖ ἰδῖῖῖῖ ἰἰ ὀῖὀἁñὀὀεῖῖῖ. Óόϋ δἁñβδὀὀὀϋ ἁὀδΠ, ἰ root ἁἰ ἑἁ
 ἁβ÷ἁ δῖνὀἁὀὀ ὀῖὀ δῖνἁδῑεἑἁἰ ῖῖ ὀῖὀ ἑῖῖεὀῖδ, ἁῖδῖἁβἁῖῖὀἁὀ ῖὀὀε ἑἁε ὁϋ ἁβὀῖἰ ὀῖὀ ὀῖὀ ὀὀὀὀἁ.
 ἁεῖ ὀῖ ἑῦἰἰ ἁὀὀ, ὀὀῖῖ÷ἁε ῖἰἁὀ ἁἰἰὀἁῖὀὀ ἑἰἁἁἁεἁὀὀὀ ἰῖῖὀὀ ἰἰ ὀῖὀ root, ἰtoor, ἰῖὀὀὀ ἁϋεῖῖὀñἁβεϋεἁ ἁεἁεῦ ἁεῖ ἰἰ
 ÷ñçóεῖῖδῖεἁβὀἁε ἰἰ ἑῦδῖεῖ ῖῖῖ ἑῖῖεὀῖδ. ἁἁβὀἁ ὀεὀ Óὀ÷ῖῖὀ ἁñὀὀΠὀἁὀ ἁὀὀἁἁἁ ὀ÷ἁὀεῦ ἰἰ ὀῖὀ ἑἰἁἁἁεἁὀὀ
 toor (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/faq/security.html#TOOR-ACCOUNT).

3 ĐáêÝôá êáé Ports: ĐñĩôéÝôĩĩôáò ěĩăéóĩéēũ óôĩ FreeBSD

[illegible]

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 θánŪāēēāi, ç āēuēĩōèç áíóēβ āāēāēéóóŪ òĩ **Apache 2.2**:

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

Ç ÷ ñΠός όçò ðáñáÝíññíð - ð ãäçããß öçí pkg_add(1) íá éáóääÜóää áðöùíáðá öüöí öí ðáéÝöí, üöí éáé öéð áíáñðΠóáéð öíð. éáé íá öí ääéáðáóðΠóáé:

```
# 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.

[illegible]

Ἄέᾱ ḁānéóóúôāñāō ḁēçñīōīñḂāō ò÷:âôééÛ îā ôā ḁāēÝôā, ḁāñāéāēīyîā äéāāÛôōā ôçí âfuôçôā 4.4 ôōī Ἀā÷:äénḂäēī ôīō
 FreeBSD: ×ñçóéīīḁīépīôāō ôī Óýôðçíā Packages
 (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/packages-using.html).

3.2 Ports

Ç αáyðáñç ÿYëraüð áëá ðçí áäëáðÜððááç áðáññíáñí ððí FreeBSD áñíáë ç Óðëëíáñ ðüñ Ports. Ç Óðëëíáñ ðüñ Ports áñíáë Ýíá ðëáððéí èäëðíðñáëñí ðñð áðñðáëáñðáë áðñ Makefiles éáë áñ÷-áñá áëáðññí (patches) ðá ïðñá Ý÷íðí áçíëíðñáçëáñ áëáëëÜ, þððá íá áñíáë áñíáðñ ç áäëáðÜððááç äëÜíðññí áðáññíáñí ððí FreeBSD áðñ ðñí ðçááñí ëþáëëá ðñðð. ¼ðáí áäëáëëéðÜðá Ýíá port, ðñ óýððçíá èá éáðááÜðáë ðñí ðçááñí ëþáëëá, èá áðáññíðáë ðëáð ðéð áðáëðñíñáñð áëëááÝð ÷ñçóñíðñíëñðáð ðá patches, èá ïáðáäëüðððáë ðñí ëþáëëá, éáë ðÝëñð èá áäëáðáðððáë ðçí áðáññíáñ. Èá áëñíðëððáë ðçí Òáëá áëááëéáðá èáë áëá ïðñíááðññðá ðð÷íñ áñáññíáñá ðññáñÜñíáðá.

[illegible]

Ç ääëäóÜóóäóç äíüò port äßíäë ääíëéÜ öüóí äðëP uóí öí íá äéóÝëëäòä öüíí éäòÜëíäí öíò éäé íá íäëëíPóäòä öçí äéäáééäóßá íäòääëpòóéóçò. Öüí äëüëíöëí ðänÜääëäíä äßíäòäé ääëäóÜóóäóç öíò **Apache 2.2** äðü öçí ÓðëëíäP öüí Ports:

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

Já oçiaíðeēü ðeāñYēoçia oço ÷ ñPóço ports oçoí āāēāōŪóóāoç ēiaēoiēēry āBiaē ç ēēāüoçoā ðñioāñiaPð ouí āðēēiaPí āāēāōŪóóāoço. Āēā ðāñŪāēēñia, üōáí āāēāēēóóŪōā oñi **Apache 2.2** āðü ōā ports iðñāñōā íā āiāñāñðiePóāōā oçí āðēēiaP **mod_ldap** èYōñiōāō āðēð ōēiP ōóc iāōāāēcōP WITH_LDAP ōiō make(1):

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

ÀéááÜôâ ôçí áíúôçôá 4.5 ôïð Åã÷ãéñéãßïð ôïð FreeBSD, ×ñçóéïïðíéðíôáð ôçí Ports Collection (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/ports-using.html), áéá ðãñéóóüôãñãð ðëçñïïñßãð ó÷ãóééÜ ïà ôç Óôëëïãß ôúi Ports.

3.3 Ports Þ ðáêÝôá, ôé ðñÝðáé íá ÷ñçóéìðïéÞòù;

Ὁ ἀὰς Ὑδα ἀβίαε ὀφεί δὴ ἀναδοεῦσιν ὁ ἀδερὸ δὴν-ἰαδᾶεῦσιν ὁ εἰ Ὑία ports, Ὑνᾶ ἀβίαε δὴ ἀνεόουσιν εἰ Ὑία ἀδεεραὶ αἱ
 ἀβίαε ἀδεεσιν ὁ βυρ ρ ἀαεᾶδ Ὑδᾶ ὀφεί ἀδὺ οἱ δὴ ἀβίαε ἐπαεᾶ β ἀδὺ Ὑδᾶ ἀεᾶ Ὑδᾶ. Ἐὔεα Ὑδᾶ Ὑδᾶ
 δὴ ἀναδοεῦσιν ὁ βυρ ρ:

ĐáêÝôá (Ýôïëíà àêôãëÝóéíà)

- Δεί ἀνῑαῖνς ἀἀεάδὺόαός (ς ἰαόαῖῑῑῑῑῑῑ ἰαῖῑῑ ἂῑῑῑῑῑ ἰῑῑῑ ἰά ἕῑῑῑῑῑ ἂῑῑῑῑ ῑῑῑ).
- Ἀῑ ḗῑῑῑῑῑῑ ἰά ἕῑῑῑῑῑῑῑ ḗῑ ἂῑῑῑῑῑ ῑ ἰῑῑῑῑῑῑῑῑ ῑῑῑ ῑῑῑῑῑῑῑῑῑ.
- Ἀῑ ḗῑῑῑῑῑῑ ἰά ἀῑῑῑῑῑῑῑῑῑ ἰῑῑῑῑῑῑῑῑῑῑ ῑῑῑ ῑῑῑῑῑῑῑ ῑῑῑ.

Ports (őçääßïò êpäéeâò)

- **Έξαιρούσθε τὸν ἀνθρώπου** τοῦ ἀποειράρει ἀπὸ τοῦ ὄχλου. (Ὁ **Θαυμάσιος** ὁ **Παῖς** τοῦ ἀποκαταστήσει τὸ ὄνομα τοῦ ἀποειράρει). Ἡ ὁα **ports** τοῦ ἀνθρώπου ἰσχυρὰ ἡ ἀποκαταστήσει, ὡς ὅτι τοῦ ἀποκαταστήσει τοῦ ἀνθρώπου, **τὸ ἀποκαταστήσει** ὅτι τοῦ ἀποκαταστήσει.
- **Τὸ ἀνθρώπου** ἰσχυρὰ ὅτι ἀποκαταστήσει (patches) ἂν ὁ ἀποκαταστήσει.

Ἄν ἀὰν Ὡ ÷ ἀὸα ἀεᾶεῤῥὸ ἀδᾶεῶρὸαᾶδ, ὸα δᾶεῤῥὸα δᾶεᾶῖν ἑὰ ὸαδ ἑᾶεῤῥὸῖ ἱᾶ ÷ ᾶνῦ. Ἀῖ ὠὸῶῶῖ ÷ ᾶᾶῦᾶᾶᾶ ἱᾶ
 ᾶᾶᾶᾶᾶᾶᾶ ἑῦᾶᾶᾶ ᾶᾶᾶᾶᾶᾶ, ὠῶᾶ ḡ ἱῤᾶᾶᾶ ὠῖ ports ᾶᾶᾶ ḡ ἑᾶεῤῥᾶᾶ. (Ἐᾶᾶ ὠῶḡᾶᾶᾶ, ἁῖ ÷ ᾶᾶῦᾶᾶᾶᾶ
 ᾶᾶᾶᾶᾶᾶ ᾶᾶῦ ᾶᾶᾶᾶῦᾶ ὸα δᾶεῤῥὸα, ἱᾶᾶᾶᾶ ἱῤῶ ὸᾶ ὸᾶᾶᾶᾶ ὠῖ ports ἱᾶ ὠᾶῦᾶᾶ ὸα ᾶᾶῦ ὸαδ
 ᾶᾶᾶᾶᾶᾶᾶᾶ ἱᾶ δᾶεῤῥὸα ÷ ᾶḡᾶᾶᾶᾶᾶᾶ ὸᾶ ἁῖᾶᾶᾶ make package ἑᾶᾶ ἁῖᾶᾶᾶᾶᾶᾶ ὸα δᾶεῤῥὸα ᾶᾶ ἁḡᾶᾶᾶᾶᾶᾶ
 ὸα ῦᾶᾶ ἱḡ ÷ ἁῖᾶᾶᾶ.)

4 ΑέεΒίçç ôĩõ ÓóóôΠιάôĩò: Ðĩõ άβιάέ ôá run-levels;

Οι Linux ÷ ηςοείηθιέαθ οι όύοόγια âêßίςόçð SysV, âη ηο FreeBSD ÷ ηςοείηθιέαθ οι θάηάâιόέαêη όύοόγια âêßίςόçð BSD. Οι όύοόγια init(8) όýθιθ BSD, ââι θðÛñ÷ιθι run-levels, ιýθâ ηι âñ÷âßι /etc/inittab. Αίθß âέα äòðÛ, ç âêßίςόç âêÿâ÷âðáé äðü Ýíá script âêßίςόçð, ηι rc(8). Το script /etc/rc âέαâÛæáé ηι âñ÷âßι /etc/defaults/rc.conf êáé ηι âñ÷âßι /etc/rc.conf âέα íá êáèηñßóáé θιέäθ ððçηâóßäθ θηηêáéðáé íá íáêêηθιθι. Íé ððçηâóßäθ äòðÿð íáêêêÿíá íâ ðçí âêðÿέäόç ðηι áιθßóθι÷÷ηι script âêßίςόçð θιθ âñßóêηθóáé óθιθð êáðáêüηιθð /etc/rc.d/ êáé /usr/local/etc/rc.d/. Óá scripts äòðÛ âßíáé θáñηιιέα íâ óá scripts θιθ âñßóêηθóáé óθιθ êáððÿêêηι /etc/init.d/ óâ óðóðßιäá Linux.

Ἀεάβοθ ὁδῦñ÷ῖοῖ ἄγῖ οἰδῖεάβοθ Ἀεά ὁά scripts Ἀεεβῖςόζοδ οἰδ ὁδζñἈοεῖ; Ὅά scripts θῖο ἄñβόεῖῖοάε ὁοῖῖ εάοῦεῖῖῖ /etc/rc.d/ ἄβῖάε Ἀεά ἈοἈñῖῖῖῖῖ θῖο Ἀῖῖεῖοῖ ὁοῖ “Ἀάοεεῖ” ὀγόζοζῖἈ. (Ἀεά θἈñῖῖῖῖῖῖ, ὁεδ cron(8), sshd(8), syslog(3), εἈε ῖῖεἈδ.) Ὅά scripts θῖο ἄñβόεῖῖοάε ὁοῖῖ εάοῦεῖῖῖ /usr/local/etc/rc.d/ ἄβῖάε Ἀεά ἈοἈñῖῖῖῖῖ θῖο ῖ÷ῖοῖ ἈεεἈοἈοἈοἈεἈβ Ἀδῖ οἰῖδ ÷ñῖῖἈδ, ὑδῖδ Ἀεά θἈñῖῖῖῖῖῖ ῖ **Apache**, ο἖ **Squid**, ε.ε.θ.

[illegible][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 ίάέέíßόάέ ίά άίάñήήιέçí Ýíç όç άόίάόύόçά SSL.

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

Ἄδῡ ὁϙ ὀόεἰἵP ḁiō iéá ὀδϙñáḱá áíáññḁiḱéçéḱḁ ὀḱi ḁñ÷ḁḱi /etc/rc.conf, ḁiñḁḱḱá íá ὁϙi íáééiḱḱḱḱḱḱ ḁḱḱḱéḱḱḱḱ
 ḁḱḱ ὁϙ ḁñḁḱḱP ḁiḱḱḱḱ (÷ḁñḱḱ íá ÷ñḁḱḱḱḱḱḱ íá ḁḱḱḱḱééiḱḱḱḱ ὀi ὀýḱḱḱḱḱ ḱḱḱ):

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

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

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

5 Ñýèìéóç Äéêôýïõ

5.1 ÄéåđáöÝò Äéeôýĩõ

[illegible]

```
% 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"
```

×ñçóëiïðiéΠóôâ ôçí áêüëiøëç êáôá÷þñçóç áéá íá êáëiñßóáôâ üôê iéá äéáðáöÞ éá êáiâÛiáé ñõëißóáèð iÝòù DHCP:

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

6 Firewall

Όλοι Linux → η-configurēi tēa bōaē oi **IPTABLES** oi i dībi dānY → aē dōch nāo bāo firewall oā a dō bāa i dōnPrā. Oi FreeBSD dānY → aē a dō bōcō firewall i Yōu oiō dōnPrā. Aēa oci aēn bāa eā, oi FreeBSD dānY → aē o n bā 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)

Ôĩ **IPFWALL** ð **IPFW** (ç áfõrëð ÷ äéñéoirý õũĩ éáfũũĩ õĩõ **IPFW** áßíáé ç ipfw(8)) áßíáé õĩ firewall õĩõ Ý÷äé áíaððõ÷ëàß éáé õõfõçñãßðáé áðu õçĩ ñÛää áfÛððõçõ ðĩõ FreeBSD. Ôĩ **IPFW** iðñãã íá õõñäóáóðãß iã õĩ dummynet(4) áéá íá ðãñÝ÷äé áõíáõõðçðãð áéáiũñõõçð õçõ èßíççõð ðãéÝõũĩ (traffic shaping) éáé íá áññíépíáé áéáõĩñäóééĩõ óýðĩð õõñáÝõãũĩ áéèõýĩð.

DánÜäëàìá áúò éáíuíá ôïð IPFW ðïð aðëônÝðæé æéoãñ÷ùìáíá äääñÝía ðñïð ôçí òðçñáoßá SSH:

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

Ôi **IPFILTER** ábíáé íéá áóáníāP firewall ðŕō áíáðŕŕóóáóáé áðŭ ôíí Darren Reed. Äáí Ý÷-áé ööéá÷-ðáß áéáéÜ áéá ôí FreeBSD, éáé Ý÷-áé íáðóáññéáß éáé óá Üëëá éáéðíŕñáéÜ, óðíðñééäíâááŕmÝíúí ðùí NetBSD, OpenBSD, SunOS, HP/UX, éáé Solaris.

ĐánŨäâëàíà áíüò êáíuíá ãéá ôí **IPFILTER** ðĩõ ãđéõñÝđăé áéóăñ÷:ùìáíá áăăñÝíá ðñĩò ôçí òđçñăóăá **SSH**:

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

Ç òàèãòòàáá àòàñìràP firewall, òì **PF**, áíáðóýóóòàéé áðü òì OpenBSD project. Ôì **PF** àçìéròñãPèçèà ùò áíòééáóáóòÜòçò òìò **IPFILTER**, éáé Ýóóé ç óýíóáç òìò **PF** àáíáé àñèàòÜ ðañüüíéá íá áóòP òìò **IPFILTER**. Ôì **PF** ìðññáá íá óóíáóóóòáá íà òì altq(4) áéá íá ðánÝ ÷ áé òðçñáóáò òýðìò QoS.

ĐánÜäåēāiā êáíuíá ôiō **PF** ðiō ãđéônÝđăé áéoăñ÷ùiăiá āăăiñÝiá đñiò ôçí õđçñăóßá **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 áñuò óóóóPiáðïrò FreeBSD: ÌÝòù òïò ðçááßïrò êpáééá, ìÝòù Ýðïëèùì
(binary) áíáááèìßóáñì, êáé ìÝòù òùì CD äãêäóÜóóáóçð.

Ç ääëäöÜöäöäç ìÝóü öîö ðçäâîö ëþäëä äîäíä ç ðëî ðëýðëîç, äëëÜ ðñîóÝñäë ääë öç ìääëýðäñç äöíäðP äðäëëîä. Ç äëääëäöä äöðP ðäñëëäìÜíäë öî öðä÷ññíëöíü öîö öîðëëëý áíðëäñÜöîö öîö ðçäâîö ëþäëä öîö FreeBSD ìä öñí ëþäëä öîö FreeBSD ðîö äñöðëäðäë öóîðð äíððçñäðçÝð CVS (Concurrent Versioning System). Äðü öç öðëäñP ðîö öî öîðëëü áíðäñäöî ðçäâîö ëþäëä äîäíäüÝñ, ìðñäðä ìä ìäðäëüöðöðäðä ìÝäð äëäüäðäëð öîö ððñÞíä ääë öüí ääöëëÞî ðññäñäìÜöüí. Äëä ðäñëöóüðäñäðð ðççññîññäðð ö÷ððëëÜ ìä öî öýððçíä áíääÜëíëöçð ìÝóü ðçäâîö ëþäëä, ääðä öî ëäðÜëäëí ÄíçìÝñóç ääë ÄíäÜëíëöç (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/updating-upgrading.html) öîí Ää÷äëñäëí öîö FreeBSD.

Ίε Υόιειάο (binary) αίαάειβόάεο, αβίαέ 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 άάεάοάοόΠόάε. Ιδιñάβόά ιά
 έάειñβόάόά οςι άόδύιáος, áíΥ όάέδΥ άέάόόΠιάόά άέοΥέάος οςό, ιά ος ÷ñΠός οίò cron(8).

Όγιὰβυός: Αί δñüēάέόάέ íá ÷ ñçόέííðíéΠόάðå ðí cron(8) áέá ðñĩāñáííáðéóéÝíäð áíáááèíßóáéð, ááááéùèåßððå ðé ÷ ñçόέííðíéåßðå ðçí áíðíēΠ freebsd-update cron ððí åñ÷:åßí crontab(1) áέá íá åēå÷éóðíðíēçèåßß ç ðēéáíüðçðå íá åßíáðáé áíáÝýóç ðçí ßéåå óééåíΠ åðü Ýíá íååÜēí åñēèüü íç÷:áíçÜðüí.

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

Ç öâëãöôâáá äðëëïãP áíááÛëíóçð, ìÝòù òùì CD äãëáðÛóóáóçð, âáíáë äñëãðÛ íäëÛëãñ. Áðëð ãëëëíPóðã áðü òí
 CD äãëáðÛóóáóçð ëáë äðëëÝíðã òçí áíððóðíë÷ç äðëëïãP áíááÛëíóçð (upgrade).

8 procfs: ĐăñáóìÝĩ áëëÜ ü÷é Îă÷áóìÝĩ

Óôî Linux, èà ÷ñàéáôâß íá äâßôâ ôî /proc/sys/net/ipv4/ip_forward áéá íá èâèññóáôâ áí âíáíé áíâñâíðíéçíÝíc ç ðñíèèçóç IP (IP forwarding). Óôî FreeBSD èà ðñÝðáé íá ÷ñçóéíðíèÉóáôâ ôî sysctl(8) áéá íá äâßôâ

ἀόδῖ ἐὰς Ὑεῖαδὸ ἡδὲβόαέδ οἷο ὁδὸδῖαδὸ, ἐὰεῖδ οἷ procfs(5) ἐαῦἡαβόαέ δᾶἡν÷çìÝîí ὁᾶ δἡῦόαδᾶδ ᾶεῦῖόαέδ οἷο ἐᾶέοἰῶἡεῖῖ. (Αἷ ἐὰς ç ᾶἰῖῖῖῖ sysctl ᾶβἷᾶέ ᾶδβόçδ ᾶέᾶῖῖῖ ἐὰς ὁἷ Linux).

Ὀἷ δᾶἡὙᾶῖᾶ ὁçδ δἡἡῖῖῖῖ IP, ἐᾶ ÷ἡçóῖἡἡἡἡἡἡ ὁçἷ ᾶῖῖῖῖῖ ᾶἰῖῖῖῖ ᾶῖ ἡ ᾶῖἡἡἡἡἡἡ ᾶἷ ç ᾶἡἡἡἡἡἡἡ ᾶἡἡῖ ᾶβἷᾶέ ᾶἡἡἡἡἡἡἡἡἡἡἡ ὁᾶ Ὑἷᾶ FreeBSD ὁῖὁçἷᾶ:

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

Ç ᾶῖῖῖῖῖ -a ÷ἡçóῖἡἡἡἡἡἡ ᾶῖ ἡᾶ δὙἡἡἡἡ ἡᾶ ῖβόἡᾶ ἡᾶ Ὑῖᾶδ ὁῖδ ἡδὲβόαέδ οἷο ὁδὸδῖαδὸ:

```
% 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
...
```

Ὀçἷᾶβῖὁç: ἘὙἡῖᾶδ ᾶἡὙ ὁῖδ ὁῖὙὁ δἡὙ ᾶᾶḃḃḃḃḃḃ ç ᾶἰῖῖῖῖ sysctl ᾶβἷᾶέ ἡἡἡ ᾶῖ ᾶἡᾶἡὁç.

ὈδὙἡ÷ἡἡἡ δᾶἡῖδὁḃὁᾶῖ Ὑἡἡ ᾶδᾶῖὁᾶḃὁᾶ ὡἡ procfs, ὙἡὙ ᾶῖ δᾶἡὙᾶῖᾶ Ὑὁᾶἷ ᾶῖὁᾶῖᾶḃὁᾶ δᾶῖῖὙὁᾶἡἡ ῖἡῖῖῖῖῖ, ὡἡ ἡἡἡἡ Ὑἡἡᾶῖ ÷ἡḃὁç ὁçδ ᾶἡῖῖῖῖὁ truss(1) ᾶῖ ὁçἷ ᾶἡḃḃḃḃḃḃ ἡἡὁç ὁἡἡ ῖῖḃὁᾶἡ ὁδὸδῖαδὸ, ἐὰς ᾶῖ ὁçἷ ὈἡἡᾶὁὙὁçὁᾶ ἡᾶ ἈῖὁᾶῖὙὁῖᾶ ὡἡ Linux (http://www.FreeBSD.org/doc/el_GR.ISO8859-7/books/handbook/linuxemu.html). (Αἷ ἐὰς ç ὈἡἡᾶὁὙὁçὁᾶ ἡᾶ ἈῖὁᾶῖὙὁῖᾶ ὡἡ Linux ÷ἡçóῖἡἡἡἡἡ ὡἡ ᾶῖῖῖ ὁçδ procfs, ὡἡ linprocfs(5)). Αἷ ÷ἡᾶῖὙᾶὁᾶῖ ἡᾶ δἡἡὁᾶḃὁᾶ ὡἡ procfs, ἡἡἡᾶḃὁᾶ ἡᾶ δἡἡὁῖὙὁᾶ ὁçἷ ᾶῖῖῖῖῖ ᾶᾶἡᾶὁḃ ὁἡ ᾶἡ÷ᾶḃἡ /etc/fstab:

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

Ὀçἷᾶβῖὁç: Ç ᾶῖῖῖῖῖ noauto ἐᾶ ᾶἡἡᾶḃὁᾶ ὁçἷ ᾶὁὙἡᾶὁç δἡἡὙἡὁçὁç ὡἡ /proc ῖᾶὙ ὁçἷ ᾶῖῖῖῖὁç ὡἡ ὁδὸδῖαδὸ.

δἡἡὁᾶḃὁᾶ ῖᾶὙὙῖῖ ὁçἷ procfs ÷ἡçóῖἡἡἡἡἡὁ ὁçἷ ᾶῖῖῖῖῖ ᾶἡῖῖῖῖ:

```
# mount /proc
```


9 ÓõĩçèéóìÝíàò ÅíôïëÝò

9.1 Äéá÷åßñéóç ÐáêÝòùí

Άίότῆρ ôîõ Linux (Red Hat/Debian)	Áíôßóóιέ÷ç áíôìῆρ FreeBSD	Óēīðùò
yum install package / apt-get install package	pkg_add -r package	Α̂ãēáoŬóóáócì δάēÝōĩō áđü áđñíáēñóoíÝĩř āīōδçñāôçôÞ
rpm -ivh package / dpkg -i package	pkg_add -v package	Α̂ãēáoŬóóáócì δάēÝōĩō
rpm -qa / dpkg -l	pkg_info	Ēßóóá āãēáoáóóçìÝĩúĩ δάēÝòuí

9.2 Äéá÷βñéóç ÓõóôÞíáôïò

ΆίόίεP Linux	Άίόβόόίε÷ç αίόίεP FreeBSD	Όέίöùò
lspci	pciconf	ËΒόόά όόόέâóí PCI
lsmod	kldstat	ËΒόόά öïñòùíÝíúí áñèñùìÛòùí ðõñPíá
modprobe	kldload / kldunload	Öüñòùóç/Áðíöüññòùóç áñèñùìÛòùí ðõñPíá
strace	truss	Áίß÷íâóóç êëPóâùí óóóóPíáôïð

10 ÓõìďǎñŮóìáôá

[illegible]