

Äéáìüñöùóç Áðïèçêåôôéêþí ÌÝóùí ãéá ×ñþóç ìå ôï FreeBSD

Íáò óýíôïïò ïäçãüò

Doug White

dwhite@resnet.uoregon.edu

ìÜñôéïò 1997

Ôi ðáñúí Ýáññáöi ðåñéäñ Üöäé ðþð íá êüøâðå óå òiÞláðå (slices), êññáðé Üóâðå (partition) êáé iññiðiéÞðâðå (format/aéáññöñóç) óêëcñiyò äßöéïðo êáé ðáñúñiéá iÝóá ðið ðññiñßæifôáé ãéá ÷ñþóç iå ñi FreeBSD. Óá ðáññáåßâñáðå ãiñééÜóðçéáí óóí FreeBSD 2.2 áéëÜ ëññééÜ ãiñééýíði êáé óðéó Ûëéåð aéññóâðé. Ôi êáññáññééÝ ÷ñð áé áíçiaññùéåß ãéá õçí Ýéññóç 4 ñið FreeBSD.

1 ÅéóáãùãÞ êáé Ìñéóìïß

1.1 ÅåíéêÜ

Ôi íá ðññiðé Ýðåéð äßbóéïðo íá áðéðö ÷ ßá óá Ýíá ñðÜñ ÷ ii óýðóðciá áßíáé ÷ áññáéðçñéóðéêù áññùð Ýlðåéññið äéá ÷ áéñéñðþ õðóðþiaóð. Ôi êúøéii, ôi êimÜðéáðiá ééá ç ðññiðéþeç äßbóëùí áðáéðåß éæéáßôðñ ðññiði ÷ P êáé óùðóþ óýíðáíç áññiðþ. já ðééáíü ëÜëiò iðiññåß íá áññáðáíßóåé Ýíá iëüñéçñi áßbóëi óá áññóðåññëåððó. Áðóù òi Ýáññáði ãññÜðóçéåù ñò ðññiðÜðéåéá íá áðéiðíéçéåß ç äéäáééåðßá ééá íá áðiòðö ÷ eiyí áðó ÷ þiaðáá. Áðóð ÷ þð, áññáñðóåéð ñððán ÷ üiñùñ áññáñðéåðßñ (eðññßùð ðið sysinstall), óðéó ðññüðóðåð ãéññüðåéð ðið FreeBSD. Ý ÷ iði ãåðééðþoåá õcí áéáééåðßá.

ÕðÜñ÷ iõí äýí ðéèáíß ôñüðíé (modes) iiñöiðíßcóçò:

- **$\tilde{o}\tilde{d}\tilde{i}\tilde{a}\tilde{a}\tilde{d}\tilde{P}$** **$\tilde{e}\tilde{a}\tilde{e}\tilde{o}\tilde{i}\tilde{o}\tilde{n}\tilde{\beta}\tilde{a}$** (*compatibility mode*): $\tilde{A}\tilde{e}\tilde{a}\tilde{i}\tilde{u}\tilde{n}\tilde{o}\tilde{u}\tilde{o}\tilde{c}$ $\tilde{o}\tilde{i}\tilde{o}$ $\tilde{a}\tilde{b}\tilde{o}\tilde{e}\tilde{i}\tilde{o}$ $\tilde{p}\tilde{h}\tilde{o}\tilde{a}$ $\tilde{i}\tilde{a}$ $\tilde{Y}\tilde{i}\tilde{a}$ $\tilde{d}\tilde{b}\tilde{s}\tilde{i}\tilde{a}\tilde{e}\tilde{a}$ $\tilde{o}\tilde{i}\tilde{P}\tilde{i}\tilde{a}\tilde{o}\tilde{u}\tilde{i}$ (*slice table*) $\tilde{e}\tilde{a}\tilde{e}$ $\tilde{i}\tilde{a}$ $\tilde{i}\tilde{d}\tilde{i}\tilde{n}\tilde{a}\tilde{b}$ $\tilde{i}\tilde{a}$ $\tilde{d}\tilde{v}\tilde{c}\tilde{o}\tilde{e}\tilde{i}\tilde{i}\tilde{d}\tilde{e}\tilde{c}\tilde{e}\tilde{a}\tilde{b}$ $\tilde{d}\tilde{a}\tilde{n}\tilde{U}\tilde{e}\tilde{e}\tilde{c}\tilde{e}\tilde{a}$ $\tilde{a}\tilde{d}\tilde{u}$ $\tilde{U}\tilde{e}\tilde{e}\tilde{a}$ $\tilde{e}\tilde{a}\tilde{e}\tilde{o}\tilde{i}\tilde{o}\tilde{n}\tilde{a}\tilde{e}\tilde{e}\tilde{U}$ $\tilde{o}\tilde{d}\tilde{o}\tilde{o}\tilde{P}\tilde{i}\tilde{a}\tilde{o}\tilde{a}$.
 - **$\tilde{a}\tilde{d}\tilde{i}\tilde{e}\tilde{e}\tilde{a}\tilde{d}\tilde{o}\tilde{e}\tilde{e}\tilde{P}$** **$\tilde{e}\tilde{a}\tilde{e}\tilde{o}\tilde{i}\tilde{o}\tilde{n}\tilde{\beta}\tilde{a}$** (*dedicated mode*), $\tilde{i}\tilde{a}\tilde{n}\tilde{e}\tilde{e}\tilde{Y}\tilde{d}$ $\tilde{o}\tilde{i}\tilde{n}\tilde{Y}\tilde{d}$ $\tilde{e}\tilde{Y}\tilde{a}\tilde{a}\tilde{o}\tilde{a}\tilde{e}$ $\tilde{e}\tilde{a}\tilde{e}$ $\tilde{a}\tilde{d}\tilde{e}\tilde{e}\tilde{b}\tilde{i}\tilde{a}\tilde{o}\tilde{i}\tilde{a}$ $\tilde{a}\tilde{d}\tilde{i}\tilde{e}\tilde{e}\tilde{a}\tilde{d}\tilde{o}\tilde{e}\tilde{e}\tilde{e}\tilde{P}$ $\tilde{e}\tilde{a}\tilde{e}\tilde{o}\tilde{i}\tilde{o}\tilde{n}\tilde{\beta}\tilde{a}\tilde{a}$: $\tilde{A}\tilde{e}\tilde{a}\tilde{i}\tilde{u}\tilde{n}\tilde{o}\tilde{u}\tilde{o}\tilde{c}$ $\tilde{a}\tilde{l}\tilde{u}\tilde{o}$ $\tilde{a}\tilde{b}\tilde{o}\tilde{e}\tilde{i}\tilde{o}$ $\tilde{d}\tilde{u}\tilde{n}\tilde{b}\tilde{o}$ $\tilde{d}\tilde{b}\tilde{s}\tilde{i}\tilde{a}\tilde{e}\tilde{a}$ partitions. $\tilde{A}\tilde{o}\tilde{o}\tilde{u}$ $\tilde{e}\tilde{U}\tilde{i}\tilde{a}\tilde{e}$ $\tilde{o}\tilde{c}\tilde{i}$ $\tilde{a}\tilde{e}\tilde{a}\tilde{a}\tilde{e}\tilde{a}\tilde{o}\tilde{b}\tilde{a}$ $\tilde{o}\tilde{c}\tilde{o}$ $\tilde{d}\tilde{n}\tilde{u}\tilde{o}\tilde{e}\tilde{a}\tilde{o}\tilde{c}\tilde{o}$ $\tilde{a}\tilde{b}\tilde{o}\tilde{e}\tilde{i}\tilde{o}$ $\tilde{a}\tilde{o}\tilde{d}\tilde{i}\tilde{e}\tilde{u}\tilde{o}\tilde{d}\tilde{a}\tilde{n}\tilde{c}$ $\tilde{a}\tilde{e}\tilde{e}\tilde{U}$ $\tilde{Y}\tilde{i}\tilde{a}$ $\tilde{l}\tilde{c}\text{-FreeBSD}$ $\tilde{e}\tilde{a}\tilde{e}\tilde{o}\tilde{i}\tilde{o}\tilde{n}\tilde{a}\tilde{e}\tilde{e}\tilde{u}$ $\tilde{o}\tilde{y}\tilde{o}\tilde{d}\tilde{c}\tilde{i}\tilde{a}$ $\tilde{d}\tilde{e}\tilde{e}\tilde{a}\tilde{i}\tilde{u}\tilde{i}$ $\tilde{i}\tilde{a}$ $\tilde{l}\tilde{c}$ $\tilde{i}\tilde{d}\tilde{i}\tilde{n}\tilde{a}\tilde{b}$ $\tilde{i}\tilde{a}$ $\tilde{a}\tilde{a}\tilde{e}$ $\tilde{o}\tilde{i}$ $\tilde{a}\tilde{b}\tilde{o}\tilde{e}\tilde{i}$. Ç $\tilde{Y}\tilde{e}\tilde{o}\tilde{n}\tilde{a}\tilde{o}\tilde{c}$ $\tilde{a}\tilde{d}\tilde{e}\tilde{e}\tilde{b}\tilde{i}\tilde{a}\tilde{o}\tilde{i}\tilde{a}$ $\tilde{a}\tilde{i}\tilde{a}\tilde{o}\tilde{Y}\tilde{n}\tilde{a}\tilde{o}\tilde{a}\tilde{e}$ $\tilde{o}\tilde{d}\tilde{u}\tilde{i}$ $\tilde{e}\tilde{b}\tilde{i}\tilde{a}\tilde{o}\tilde{i}\tilde{b}$ $\tilde{o}\tilde{i}\tilde{o}$ $\tilde{u}\tilde{d}\tilde{e}$ $\tilde{o}\tilde{i}$ $\tilde{o}\tilde{y}\tilde{o}\tilde{d}\tilde{c}\tilde{i}\tilde{a}$ $\tilde{i}\tilde{d}\tilde{i}\tilde{n}\tilde{a}\tilde{b}$ $\tilde{i}\tilde{a}$ $\tilde{l}\tilde{c}\tilde{i}\tilde{a}\tilde{a}\tilde{a}\tilde{u}\tilde{n}\tilde{b}\tilde{o}\tilde{a}\tilde{e}$ $\tilde{Y}\tilde{i}\tilde{a}$ $\tilde{a}\tilde{b}\tilde{o}\tilde{e}\tilde{i}$ $\tilde{i}\tilde{u}\tilde{n}\tilde{o}\tilde{i}\tilde{d}\tilde{e}\tilde{c}\tilde{i}\tilde{Y}\tilde{u}\tilde{i}$ $\tilde{e}\tilde{a}\tilde{d}\tilde{o}$ $\tilde{a}\tilde{o}\tilde{d}\tilde{u}\tilde{i}$ $\tilde{o}\tilde{i}\tilde{r}\tilde{n}\tilde{d}\tilde{i}$.

Ó éod ðáñéóðüðåñåð ðáñééðþóráéð ç áðíééðééðóðééþ ëáéðiðññáþ áßíáé í áðíééðüðåñåð óññúðið íá óðçéåß êáé íá ÷ñçóéíðiðéçéåß óá ðóðÜñ ÷íñóá óðóóðÞíáðá, åöüóíí Ýíáð êáéííýññéíð áßóéði ðóðÍÞèùò ðññññßæåðáé íüñí áéá ói FreeBSD. Ðáññüëi ðið ç óðílåáðþ ëáéðiðññáþ áéáóðóáëßæåé íÝäéóðç áéáéåðéiðññéüðóçå (interoperability) íá låéëííðééÝð ååéåðåðÜðóáéð, áßíáé ðéí ðiðéýðééíéç.

ĐÝñá áðü ôçí áðééïäP ôññüðïò ëåéôðïòññåbáð oððÜñ ÷ iðí ayí iÝéëäié ôðçóßiáðïò ôið äßóðiø. Iññþþðiø ÷ ñçóéiiðiøåß ôi åññåáæåßi ååéæåð Üöðåáöçò ôið ôððôðÞiáðïò /stand/sysinstall. Áðü ôi 2.1.7-RELEASE êåé iåðÜ ç sysinstall áðeiðíæåß ôi ôðÞoéii ðùí åßóðení åðåðéäP åðéññÝðåé ôçí åðåðéåßåð åééäåP ôöi label (ôðþðiø) êåé óóå ôiÞiáðå (partitions) ôùí åßóðení. ÅðéðeÝí óåð åðéññÝðåé íá åðíèçéåýoåðå ôéð åééäåÝò iüññ ôóíí ôóðæåññéiÝñ iñ åðéññÜæåé ôiðò ððüëéfðiø. Iñ ååýoåññò ôññüðïò åßíáé íá åðéññÝðååð åéÜññåð åiðiøÝò iå òi ÷ Ýñé áði ôçí åññåiP åiðiøéþí ùò root. Áí åðééÝðååð ôçí åðíèçéåðééP ëåéôðïòññåbá ÷ ññåéÜæåðå íá åéôåéÝðååð iüññ 2-3 åiðiøÝò åíþ iå ôi sysinstall ðñÝðåé åiðoÝðååð åééÜéé ðáññåðÜñ.

1.2 Íñéóíïß

Ç äéá ÷åßñéóç äßóéùí óóï UNIX® Ý ÷åé äþoáé íÝá Ýííéá óå ððÜñ÷-íðoåò eÝíåéò. Ôï ðáñåêÜôù eåíéëüäéï åçäåß ðçí iñííëäå ðòö ÷ñçóéïðííýå óå áðóù ïî èåßíåñí êåé óóï FreeBSD ãåíééÜ (ðñïöåíþò).

- ÓðílåáðP ëæéóïõñãßá (compatibility mode): ç ææíüñöùñóç ðíò äßbóëiò þróðå íá Ý÷åé Ýíá ðßíáéå ðíPíáðùí (slice table) êáé íá ïðiñåß íá ÷ñçóëiòïéçèåß ðáñÜëëçéå íå Üëëå ëæðiõñãééÜ óðóðPíáðå. Áíðbèåði ôçò áðiñëéåðééPò ëæéðiõñãßåd.
 - (åðééßíäðíá) áðíiêëåéóðééP ëæéðiõñãßå: ç ææíüñöùñóç ðíò äßbóëiò éåðÜ ðÝðiøíi ðñüði þþóðå íá lçí ðåñéÝ÷åé ðßíáé ðíçÜðùí (slice table). Åßíáé ðéi åýéïëç ææåäéåáßå áééÜ i äßbóëiò ïðiñåß íå lç ãiñëåýåé óå lç-FreeBSD ëæéðiõñãééÜ óðóðPíáðå. Áíðbèåði ôçò ðóðíåðPò ëæéðiõñãßåd.
 - äßbóëiò: Íé óðééçñið äßbóëié, óå CDROM, íé lðáíçöi-ïððééÜ ðó óðóðéåðÝð éåé óå áóáðñíiýíå íá Ýíá Zip®/Jaz® åßíáé ïåñééÝð áðü óéð óðóðéåðÝð íåæééPò áðiñëPéåðóçò äåäñíiÝíüí ðíò ÷ñçóëiòïéíýíðåé óPíåñá. Ç ãáðééP áñ÷P ëæéðiõñãßåd áðóþí ðúí iÝóúí áðiñëPéåðóçò Ýíáò P ðåñéóðúðåñíé äßbóëié íé iðiñüé ðåñéóðñÝíðåé áðü Ýíá iñðóÝñ, áíþ lçá èåðåééP èéíñåðóåé óå Ýíá iñðÜðéé ðÜñü óðóçí áéðbíá ðíò äßbóëiò éåé ææáðUæåé áðü ói äßbóëi P ñiñÜðåé äåäñíiÝíá óå áðóüí. Òi ãñÜðéií ãßíåðåé íå lðåðåáïéP èÜðiéiò ððóðééíý ÷åñåéðçñéóðééíý ðíò äßbóëiò (lðáíçðééP ñiP, áíáééåðóðééüöçóå, eëð.). Áíþ ðí äéÜðåáóíå ãßíåðåé íå “áíß÷íåðóç” áéëåáðíí ðóçí ßæéå ððóðééP éåéüðçóå ðíò äßbóëiò.
 - ðíPíá (slice): Íßá ððíäéåßñåðç áíüò äßbóëiò. Óýíöùíå lðå ðá ðñüððå ðúí PC ïðiñíýí íå ððÜñ÷iðí iÝ÷ñé 4 ðíPíáðå óå Ýíáí äßbóëi. Óå ðíPíáðå áðiñåðéíýíðåé áði ððíå ÷iñåñíðò ðñüðå (sectors). ÓðÜñ÷åé Ýíáò “ðßíáéå ðíçÜðùí” (slice table) ðíò ðåñéÝ÷åé ðëçñiñiñåðåé áéá ðá ðíPíáðå éåé ÷ñçóëiòïéåßåé áðü ðí BIOS áéá íå ãñåß áðü ðíy ïðiñåß íå ðåñééÞóåé ði òýóðçìå. Í ðßíáéå ðíçÜðùí èÝðåðåé éåé “ðßíáéå ðíñíàðéþí” (partition table) óå iññëiñåßå DOS ðíò óðéÜ÷iñåðåé áði ðí ðñüñññííä fdisk.
 - èññÜðé (partition): Íßá ððíäéåßñåðç áíüò ðíPíáðò. ÓðíPíëùò ÷ñçóëiòïéåßåé áéå áíáöiñÜ óðéò ððíäéåñÝóåéò ðúí ðíçÜðùí (slices) ðíò äßbóëiò óóï FreeBSD. ÈÜðå òýóðçìå áñ÷åßùí (filesystem) P ääðóðåñåýiñóåò iñPíçò (swap area) óðíí äßbóëi ðñüðåé óå Ýíá èññÜðé. Óå èññÜðé åðéÜ÷iñåðåé íå ði ãññåéåßi disklabel.
 - ðíñÝåò (sector): C iéññüðåñc ððíäéåßñåðç áíüò äßbóëiò. ÓðíPíëùò Ý÷åé Ýíååéiò 512 bytes.

1.3 Óçìåßá ðïö ðñÝðåé íá ðññöÝìåôå êáé ðáãßäåò

Äþooå iåå Üeç ðññói ÷ P óöc äéäééåóßá, áí äåí ëÜååôå óá iÝóñá óåò êáé åßñåé ëÜeëò iðññåß íá êåóåóñÝóååôå óå ðåññéå ÷ üìåå íá Üeëùí åßñóùí ôiõ óoôóÞìåöi.

Dñiió Yitôå ðé êÜtâôå. Åßiaé ðiieý åyéiïí íá êáôåôññ Ýøåôå ëÜeïò äßöðëi äiñðeýññôå íå áôôÝð ðéó åiðiïëÝð. Áí Ý : åôå åiñðeáïïëßå ãëÝññôå ôá lçíýiáôå ðiñ ðõññPíá êáôÜ ðç åéåäééåñßå åééññçò ãéá íá âññåßôå ðç òññôðP ññññññ ðç åßöðëi.

ÖööéêÜ äáí Ý÷ïöìå êáißá åööéýíç äéá æçìéÝò ðöö ìöññåß íá ðññéëçëéýí. Ç åööéýíç åßíáé äééP óáò!

1.4 Zip, Jazz, êáé Üëëá áöáéñïýìåíá ïÝóá

Í é áöáéñíýíáñíé äßöôéíé iðiñíýí íá áæâiñöùèiýí óáí êáñíééíß äßöôéíé. Ôí òçíáíöéëü áßíáé íá áßíáé ööñäåíÝñò i íäçäüö ôíö äßöôéíö éáôÜ ðçí áêéßíçóç ôíö ööñöPíáöödö éáé íå áæöéÝóá íÝóá þööå íá iðiñÝóåé i ðöñPíáö íá áäß óùööÜ ðçí áäñùìåññßá ôíö äßöôéíö. ÈíéöÜíöå öé ëÝåé ç áïöiÞ dmesg æá íá áäßöö åí ç ööñéåöP áßíáé ðçí ëßóóå. Áéá ðáñÜäåéäíá áí i ðöñPíáö ãñÜøåé:

Can't get the size

Ööôå äái ððÜñ÷åé äéöéÝôá óoíí iäçäü. Áí áßíåé áôöü èá ðñÝðåé íá åðáíåêéíÞóåôå öi ìç÷Üíçìá ðñéí äïëéíÜóåôå íá äéáiiñöþóåôå ôcí äéöéÝôá.

2 Äéáïïñöþííôáò äßóéïõò ãéá áðïéëåéóôéêþ ëåéôïõñäßá

2.1 ÅéóáãùãÞ

Áôôþ ç ðáñÜãñáöïò ðåñéãñÜöåé ðþò íá ööéÜíåôå äßööïò ìüïí áéá ôi FreeBSD. Èòïçèåßôå üöé íé äßööïé áðïëéæööéêþò èäéöïññåßåò áåí îòññïíý íá áéáâåööïíý áðü Üééá èäéöïññåéêÜ, íþåá íá ÜÙïñí boot.

2.2 Đò íá öôéÜîåôå äßóéïòò áðíéëåéóôéêÞò èåéôïõñäßáò íå ôï Sysinstall

To /stand/sysinstall, ôi ðñüäññáíà áåéåðÜóðåóçò ðïõ óðóðPíáðò, Ý÷åé åðåéðåéåß óðéð óåéåðóðåßåò ôiõ áåëüóåéò þóôå íá áðëiðíéåß ôçí áéäåééåðå ÷ùñéöiý ôuí äßóêúí éåé íá áðåéóåß èéäüöåñç ðñïóðÜéåéå. Ôá ðñïäñÜìáðå fdisk éåé disklabel ðiõ ððÜñ : iõí ôði sysinstall åßíáé åñáöééý ðåñéåÜëíðò (GUI - Graphical User Interface) éåé iåéþíði ôi iðÝñääíà ðiõ êïøþíáðò ôuí äßóêúí. Åßíáé ðñïöáþò i åðéëíüöåñò ðñüðò íá êùøåðå äßóéïðò åðü ôçí Ýéäíöc 2.1.7 éåé iåðÜ ðiõ FreeBSD.

- ## 1. ÎåêéÍÞóôå ôï sysinstall þò root ãñÜöíïç

```
# /stand/sysinstall
```

óôcí ãñáììP åíôïëbí.

2. ÅðéëÝîôå Index.
 3. ÅðéëÝîôå Partition.
 4. ÅðéëÝîôå ôi äßööï ðiõ èÝëåôå íá åâéäôåóôÞóåôå ÷ñçóéiiðiéþíôåô áåéëÜééå ééå íåôÜ SPACE.

5. Áí èá ÷ñçóéíïðíéþóåôå üëi ôi äßöéï áéá ôi FreeBSD, åðéëëÝîôå A.
 6. Íüëéò óåò ñùôþóåé áí üíòùò èÝëåôå íá ôi êÜíåôå áðöü (Do you still want to do this) áðáíôþóôå Yes.
 7. ÅðéëëÝîôå Write.
 8. Èá óåò áâÜëåé íéá ðñïåéäïðíþçóç ó÷åôéëÜ ià ôçí áâæñáöP óå õðÜñ ÷íðå óððôðþlåôå áðáíôþóôå Yes.
 9. Íüëéò óåò ñùôþóåé áí èÝëåôå íá áâæåôåðóþóåôå Ýíá boot loader, åðéëëÝîôå None áéá íá áðïöýåôå iðïéáäþðïôå áæëåäP óoi Master Boot Record. Ç áâæåôÜóôåç áíüò boot loader ÷ñâéÜæåôåé íüñ óå éâéñýñéåò áâæåôåðóÜoåéò ôi FreeBSD P áí ó÷åæÜæåôå íá ôiðïëåôþoåôå ôi äßöéï óå êÜðiéï Üëëi lç÷Üíçíá.
 10. Ðåôþóôå **ENTER** óóï áíçìåñùôéêü ìþfðià ðiò ëÝåé “Wrote FDISK partition information out successfully”.
 11. ÅðéëëÝîôå **Quit** áéá íá áââßôå áðü ôi FDISK Editor eáé iàðÜ **ESCAPE** áéá íá åðéóðñÝþåôå óoi Index menu.
 12. ÅðéëëÝîôå **Label** áðü ôi Index menu.
 13. ÍññÜóôå ôi äßöéï óåò üðùò èÝëåôå (åäþ ïñßæåôå óå partitions). Áí èÝëåôå íüñ Ýíá partition ðåôþóôå ôi C áéá íá åçïéïñäþóåôå ôi partition. ÌåðÜ åðëþò åä÷èåßôå ôeò ðñïåðéëïäÝò áéá óå ðñiêåeïñéóïÝíá size, partition type Filesystem, eáé mountpoint (ôi iðiþíi åâí ÷ñçóéíïðíéåßôåé).
 14. Ðåôþóôå W ìüëéò óâééåþóåôå áéá åðééòñþóôå ôeò áæëåäÝò áéá íá óðíå ÷ßóåôå. Ôi filesystem eá ðåñáôôåß áðòùùåôå áðü ôçí åíðiëP newfs åâöüò áí åðéëëÝëåôå ôi áíðþèåôi. (Áí åÜæåôå êáéñýñæï partition óåò óðòðÝñåé íá ôi êÜíåôå!). Èá óåò åþóåé ôi ëÜëiò:
- Error mounting /mnt/dev/ad2s1e on /mnt/blah : No such file or directory
- Áâñþóôå ôi.
15. Ðåôþóôå óðíå ÷üìåíå ôi **ESCAPE** áéá íá áââßôå.

2.3 Ðùò íá ööéÜíåôå äßóëïòò áðïëëåéóôééþò èåéòïñäþáò iÝóá áðü ôçí åñáïþ áíóïëþí

ÅêôåéÝóôå ôeò ðáñáêÜôù åíòiëÝò áíðééâèéóôþíôåò ôi ad2 ià ôi üññá ôçò óððôéåðþò ôið äßöéïò (âñÜþôå dmesg íá åëÝäåôå áí åßíáé óùóðü).

```
# dd if=/dev/zero of=/dev/ad2 count=2
# disklabel /dev/ad2 | disklabel -B -R -r ad2 /dev/stdin
ÈÝëiòiå íüñ Ýíá partition, iðüôå iðiññýà íá ÷ñçóéíïðíéþóïòiå ôi êiññÜóé 'c':
# newfs /dev/ad2c
```

Áí ÷ñâéÜæåôåé íá áæëÜíåôå ôi disklabel áéá íá ÷ñçóéíïðíéþóåôå ðïëëåðëÜ partitions (áéá ðáñÜäåéäà íá èÝëåôå swap) ôüôå êÜíåôå:

```
# dd if=/dev/zero of=/dev/ad2 count=2
# disklabel /dev/ad2 > /tmp/label
Áñþiôå ôi disklabel áéá íá ðñiðèÝóåôå partitions:
# vi /tmp/label
# disklabel -B -R -r ad2 /tmp/label
åêðåëÝóôå ôçí åíðiëP newfs óôå partitions üðùò ðñÝðåé
```

I äßöéïò óåò åßíáé Ýðiëïò ðñið ÷ñþóç.

3 Æáìíñöþííóáò äßóëíòò ãéá óðìâáôþ ëåéöïõñãßá

3.1 Æóáãùþ

Ç ãñáìíþ áíôïëþí áßíáé íáí i áðéïëüôåñíò ôññðíò ãéá íá öðéÜíåôå äßóëíòò áðíëéåéðôéêþò ëåéöïõñãßáò áéëÜ áßíáé êáé i äðóëëüöåñíò ãéá íá öðéÜíåôå óðìâáôïýò äßóëíòò. Ôi fdisk áðü ôçí ãñáìíþ áíôïëþí èÝéåé ðåñéóðüöåñåò áíþðåéò íáèçìåðéêþí êáé ðíëëÝð áíþðåéò ó÷åðéêÜ íá ôíí ðßíáéá êñíáðéþí, êÜðé ðíð ðññðáíþò ááí ÷ñåéÜæåðåé íá iÜèåðå. Äé áðóü ÷ñçóéíïðíéþóå ôi sysinstall ãéá íá öðéÜíåôå óðìâáôïýò äßóëíòò áéëëöèþíóåò ôéò ïäçäßåò ðåñáéÜò.

3.2 Ðþò íá öðéÜíåôå äßóëíòò óðìâáôþò ëåéöïõñãßáò iá ôi Sysinstall

1. Îåééíþóå ôi sysinstall þò root ãñÜöííðåò

```
# /stand/sysinstall
```

óðçí ãñáìíþ áíôïëþí.

2. ÅðéëÝíôå Index.
3. ÅðéëÝíôå Partition.
4. ÅðéëÝíôå ôi äßóëí ðíð èÝéåðå íá áåéåðåðóþóåò ÷ñçóéíïðíéþíóå ôá ååëÜééå êáé iåðÜ SPACE.
5. Áí èá ÷ñçóéíïðíéþóåò üëi ôíí äßóëí ãéá ôi FreeBSD, åðéëÝíôå A.
6. ¼ðáí óåò æçðçèåß:

Do you want to do this with a true partition entry so as to remain cooperative with any future possible operating systems on the drive(s) ?

(ÈÝéåðå íá ôí êÜíåôå áðóü iá ðññðáðééÜ êññÜðéá ãéá íá ðåñáìåßíåé óðìâáðüò iá Üëëá ëåéöïõñãééÜ óðóðþíàðá?) Áðáíðþóå Yes.

7. ÅðéëÝíôå Write.
8. ¼ðáí óåò æçðçèåß íá áåéåðåðóþóåò ôíí boot manager, åðéëÝíôå None iá ôi SPACE êáé iåðÜ ENTER ãéá OK.
9. Quit (áååßôå) áðü ôi FDISK Editor.
10. Èá óåò ñùðþóåé êÜðé ó÷åðéëü iá ôíí boot manager ðÜëé, åðéëÝíôå None iáíÜ.
11. ÅðéëÝíôå Label áði ôi Index menu.
12. ÍññÜðå ôi äßóëí üðùò èÝéåðå (âäþ èá iññþðåôå ôá partitions). Áí èÝéåðå iññÝíá partition áðëþò áå ÷èåßðå ôéò ðññðéëëäÝð ãéá ôá ðññðéëñéòÝíá size, partition type filesystem, êáé mountpoint (ôi iðíþí ááí ÷ñçóéíïðíéåßðåé).
13. Ôi filesystem èá ðåñáðåðåß áðóüìåðå áðü ôçí áíðëþ newfs áéðóüò áí åðéëÝíåôå ôi áíðßèåði. Áí åÜæåðå êáéññäéí partition óåò óðíöÝñåé íá ôi êÜíåðå! Èá óåò äþðåé ôi ëÜëíò:

```
Error mounting /mnt/dev/ad2s1e on /mnt/blah : No such file or directory
```

Áåññþóå ôi.

14. Ðáðþóå ôðíå ÷üìåíå ôi ESCAPE ãéá íá áååßðå.

I äßóëìò óáò åßíáé Ýôïëíìò ðñïò ÷ñPóç.

4 ¶ëëåò èåéôïõñäßåò iå ôïò ãßóëïò

4.1 ĐñïóèÝóíôåò swap.

Êáèþò Ýíá óýóôçìá åðåéôåßíåôáé, ç áíÜääç ãéá iåññäéýðåñí swap åßíåôáé üëi êáé ðëi åðéôåéôéêþ. Đáñüëi ðïò oï íá ðñïóðåéåß swap óå Ýíá ððÜñ÷íðå åßóëi åßíáé ðññññÜ åýóëëi, Ýíá ëáéñýñäéïò åßóëìò ìðññåß íá iññöiðíéçèåß Ýôóé þóôå fá ðåñéÝ÷åé oï åðéðëÝí swap ðïò óáò eåñðåé.

Ãéá íá ðñïóèÝóåôå swap êáèþò åÜæåôå Ýíá åßóëi óóï óýóôçìá:

1. Êáèþò êüååôå oï åßóëi (partitioning) áéëÜôå oï disklabel êáé iñßóôå ÷þñí ãéá swap óóï êññÜôé (partition) ‘b’ êáé åÜéôå oïí ððüëëi ÷þñí óå êÜðíëi Üeëi êññÜôé, ð.÷. óóï ‘a’ P óóï ‘e’. Ói iÝaåëìò ðïò åßíåôå åßíáé óå blocks òúí 512 bytes.
2. ¼ååí êÜíåôå newfs óóï åßóëi, IÇÍ oï êÜíåôå óóï êññÜôé ‘c’. Áíðßèåôá, êÜíåôå oï iññí óóï êññÜôé ðïò ååí åßíáé swap.
3. ĐñïóèÝóåôå óóï /etc/fstab oï ðáñáéÜò:

```
/dev/ad0b          none          swap      sw  0  0
```

ÁéëÜôå oï /dev/ad0b óóï üññá ôçò êáéñýñäéåò óáò óðóéåðÞò.

4. Æá íá åíåññíðíëÞóåôå Ülåóå oï iÝí swap ÷ñçóéñíðíëÞóôå ôçí åíôëþ swapon

```
# swapon /dev/ad0b
swapon: added /dev/ad0b as swap space
```

4.2 ÁíóéñÜöíôåò óá ðåñéå÷üìåíá ãßóëùí

Áðü oïí: Renaud Waldura (<renaud@softway.com>)

Æá íá iåññäééíÞóåôå áñ÷åßá áðü oïí áñ÷ééü óáò åßóëi óå Ýíáí êáéñýñäéi, êÜíåôå:

```
# mount /dev/ad2 /mnt
# pax -r -w -p e /usr/home /mnt
# umount /mnt
# rm -rf /usr/home/*
# mount /dev/ad2 /usr/home
```

4.3 ÖôéÜîôå áíúìÝíïòò äßóéïòò iå ôi CCD

Áði ôi: Stan Brown (<stanb@awod.com>)

Ìå ôi Concatenated Disk Driver, P áéééþò CCD, iðiñåßôå íá Ý÷åôå ðíeeïýò üiïéïòò äßóéïòò áééÜ íá óðiðåñéöÝññíôåé ùò Ýíåò. Ç áéáäééåóåé óðå÷þíåðóç (striping). Ìå ôcí áðééüëéçóç Ý÷åôå êáéýôåñá áðiðåéÝóíåôå óðóçí ðå÷ýôçåá åðåéäþ iïéñÜæïïòåé íé ååäñåöÝò êáé íé áíåäþóåéò óðiòò äßóéïòò. ÁéååÜóôå ôéò manual pages ccd(4) êáé ccdconfig(8) P ôcí áñ÷ééþ óåëßåá ôiõ CCD (<http://stampede.cs.berkeley.edu/ccd/>) áéá ðåñéóöüôåñåò èåðôiñÝññéåò.

Ãéá íá ôñÝíåôå CCD ðëÝíí ãái ÷ñåéÜæåôåå áéééü ððñPíá. Ìå ôcí áíðiøþ ccdconfig, öiñôþíåðåé ôi êåôÜëëçëi KLD åðôüíåôå áí i ððñPíáò ãái Ý÷åé þäç ððiðôþñéç áéá CCD.

Óå CCD ôðéÜ÷ññíôåé óå partitions ôýðiò 4.2BSD. Áí èÝéåôå íá ÷ñçóéíïðiéþóåôå ôi partition c áéá CCD, åöüöíí åßíáé ôýðiò unused. Áíôßèåôå áçíéïññåþóååÝíå íÝí partition áéñéåþò ßæéò iãäÝéïòò áééÜ ôýðiò 4.2BSD:

```
#      size    offset    fstype    [fsize bsize bps/cpg]
c: 60074784        0      unused        0      0      0    # (Cyl.      0 - 59597)
```

Ãáí iðiñåßôå íá ÷ñçóéíïðiéþóåôå ôi partition c áéá CCD, åöüöíí åßíáé ôýðiò unused. Áíôßèåôå áçíéïññåþóååÝíå íÝí partition áéñéåþò ßæéò iãäÝéïòò áééÜ ôýðiò 4.2BSD:

```
#      size    offset    fstype    [fsize bsize bps/cpg]
c: 60074784        0      unused        0      0      0    # (Cyl.      0 - 59597)
e: 60074784        0      4.2BSD        0      0      0    # (Cyl.      0 - 59597)
```

Ãéá íá áçíéïññåþóååÝíå íÝí CCD, åêôåéÝóôå ôéò ðáñáéÜôù áíðiøÝò. ÐáñéññÜöïòí ðþò íá ðññóèÝóåôå ôññåßò äßóéïòò. Áðëþò áééÜîôå ôéò óðóéåðÝò üðiò ÷ñåéÜæåôåé. Èðiçèåßôå üðé íé äßóéïé ðñÝóåé íá åßíáé üiïéïé.

```
# cd /dev ; sh MAKEDEV ccd0

# disklabel -r -w da0 auto
# disklabel -r -w da1 auto
# disklabel -r -w da2 auto

# disklabel -e da0
DññóèÝóôå ôi partition e ôýðiò 4.2BSD
# disklabel -e da1
DññóèÝóôå ôi partition e ôýðiò 4.2BSD
# disklabel -e da2
DññóèÝóôå ôi partition e ôýðiò 4.2BSD

# ccdconfig ccd0 273 0 /dev/da0e /dev/da1e /dev/da2e

# newfs /dev/ccd0c
```

Ç ôéiþ 273 åßíáé ôi iÝååèiò ôiõ stripe. Åßíáé i áñéèìüò ôùí sectors (512 bytes i êáéÝíåò) óå êÜéå block äåäññÝíùí ôiõ CCD. Èá ðñÝóåé íá åßíáé ðiðëÜ÷éóðí 128 kB, êáé ãái ðñÝóåé íá åßíáé áýíáìç ôiõ 2.

Öþñá iðiñåßôå íá êÜéåôå mount êáé íá ÷ñçóéíïðiéþóåôå ôi CCD óåò iÝóù ôçò óðóéåðþò /dev/ccd0c.

Íá ðéü äðíáôü éáé åðÝééêòí áíåëëåéôéü ôiõ CCD åßíáé ôi Vinum. Ðáñéóöüôåñåò ðëçññöñßåò óóï Vinum Project home page (<http://www.vinumvm.org/>).

5 Åõ÷áñéóôßåò

Í óðääñáöÝåò èá Þèåëå íá åõ÷áñéóôÞóåé ôiõò ðáñáêÜòù ãéá ôçí óðíåéóöïñÜ ôiõò óå áðôÞ ôçí åñääóßá ôiõò:

- Darryl Okahata (<darrylo@hpnmhjw.sr.hp.com>) ãéá ôéð áðëÝo räçäßåð åâéáðÜôðáóçð åíüð åßóëïð óå áðïëéåéóôéêü ôñüðí ëåéöñäßåð, ôéð iðïßåð Ý÷ù ðïëëÝò öïñÝò ÷ñçóéïðïéÞóåé óôçí FreeBSD-questions.
- Jordan K. Hubbard <jkh@FreeBSD.org> ðiõ Ýéáíå ôi sysinstall ÷ñÞóéïí ãéá ôÝóïéïð åßäïõò åiõëåéÝò.
- John Fieber (<jfieber@indiana.edu>) ðiõ Ýäúóå ôéð ðëçñïöïñßåð êáé óá ðáñáäåßäíáôá ãéá ôi DocBook DTD ðÜíü óóá iðïßá áðôü ôi êåßìåñí åáóßæåðáé.
- Greg Lehey <grog@FreeBSD.org> ðiõ Ýéåñíå ôçí åiõëåéÜ ñiõ, øÜ÷ñíóð ãéá áíáêñßååéåð, êáé ãéá ôçí ððïóôÞñéïç ðiõ óå åeÜöiñá èÝíáôá.