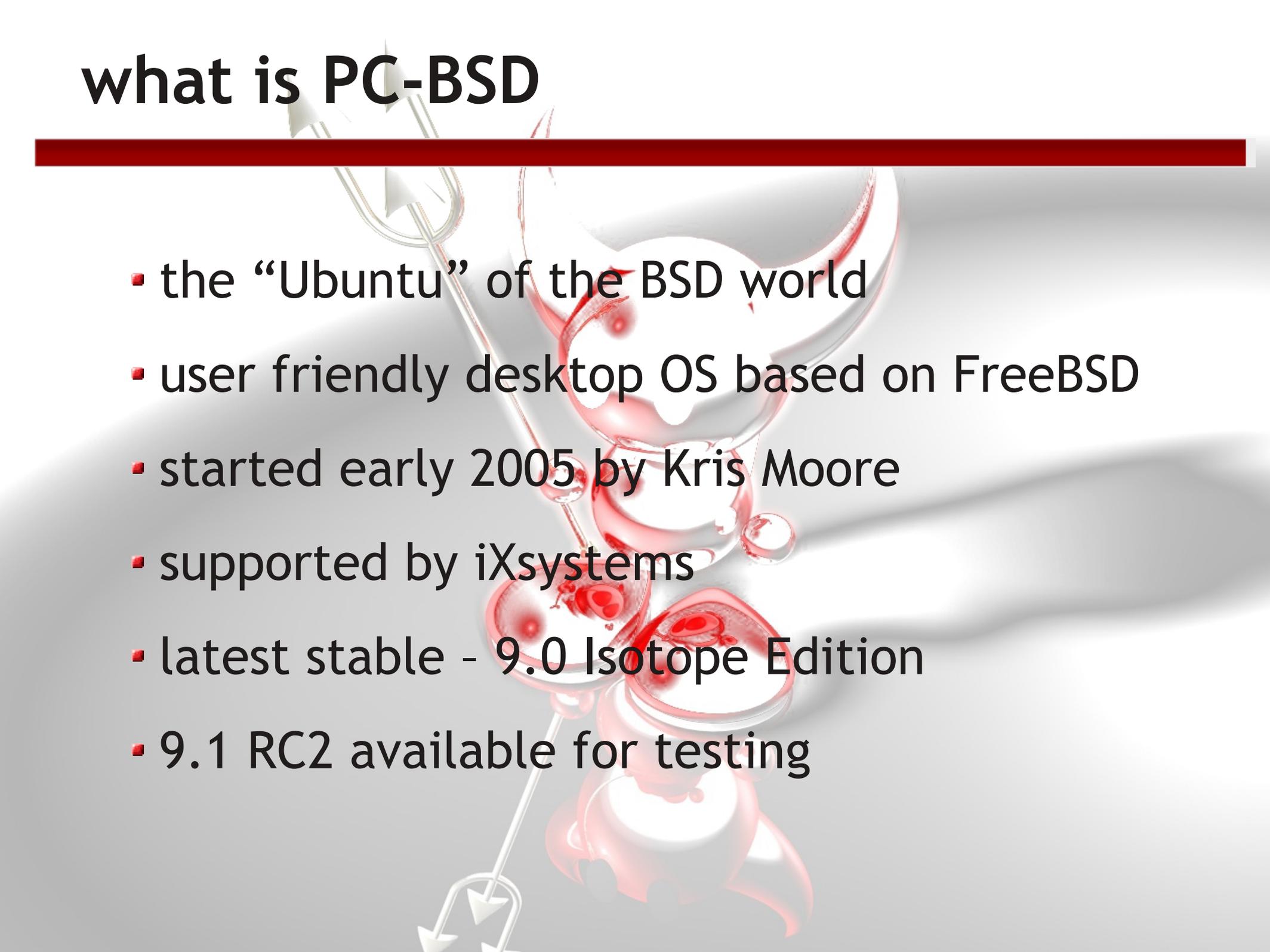


PC-BSD®
BSD for Human Beings

OpenFest, Sofia
November, 2012

what is PC-BSD



- the “Ubuntu” of the BSD world
- user friendly desktop OS based on FreeBSD
- started early 2005 by Kris Moore
- supported by iXsystems
- latest stable - 9.0 Isotope Edition
- 9.1 RC2 available for testing

project infrastructure

- official site - www.pcbsd.org
- documentation & wiki
- handbook
- wiki.pcbsd.org
- SCM & bug tracking - TRAC
- trac.pcbsd.org

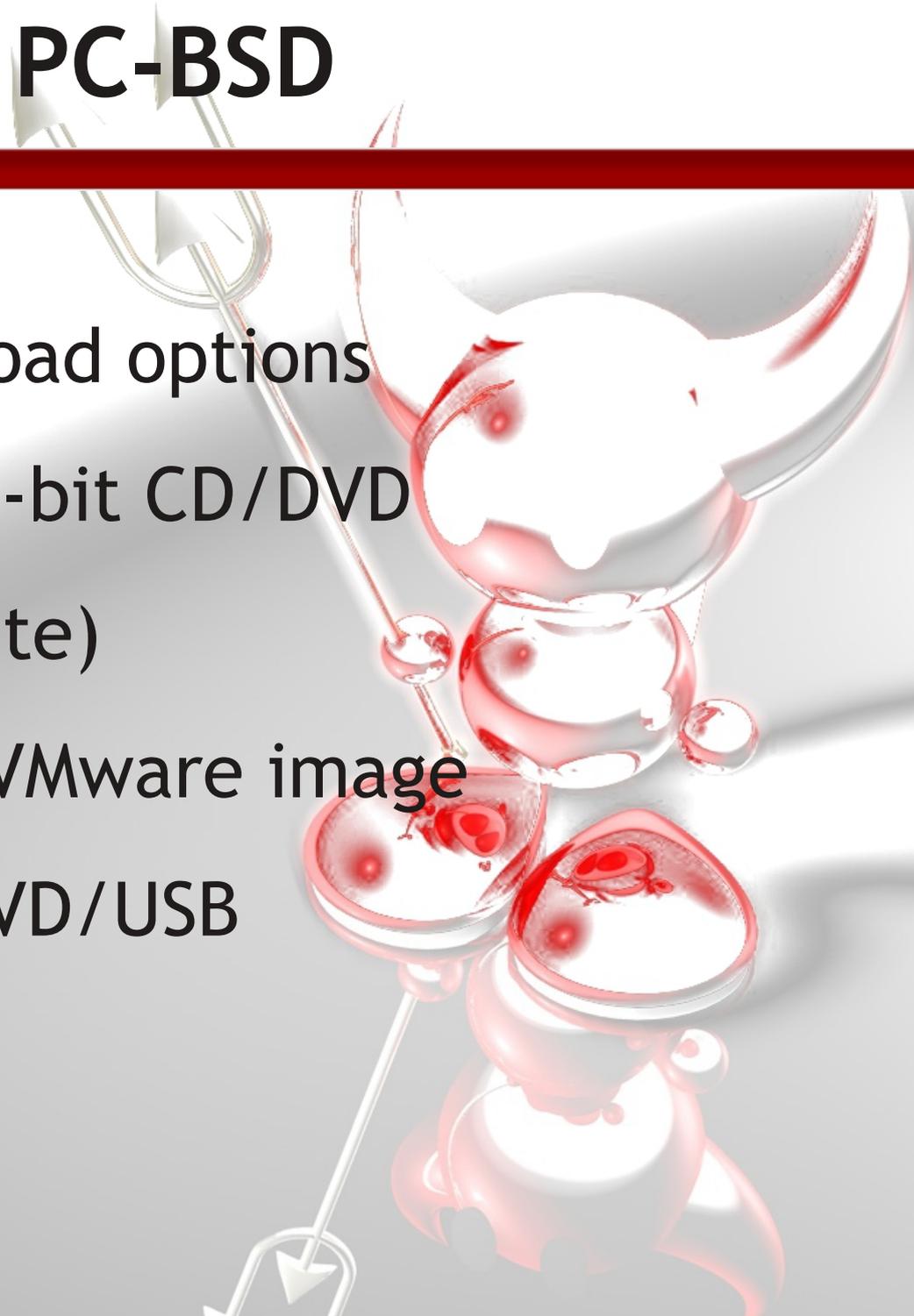
where to ask for help

- mailing lists - lists.pcbsd.org
- forums - forums.pcbsd.org
- IRC - #pcbsd on Freenode
- commercial support

points of interest

- graphical installer
- utilities
- package management
- updates
- Warden - jail management
- (bonus) how to turn your FreeBSD into PC-BSD desktop

install PC-BSD

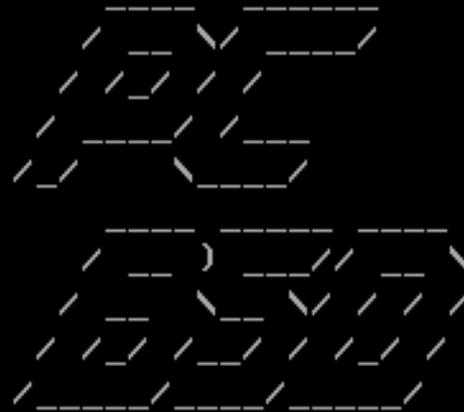
- Download options
 - 32-/64-bit CD/DVD
 - USB(-lite)
 - VBox/VMware image
 - Live DVD/USB
- 

boot menu

Welcome to PC-BSD!

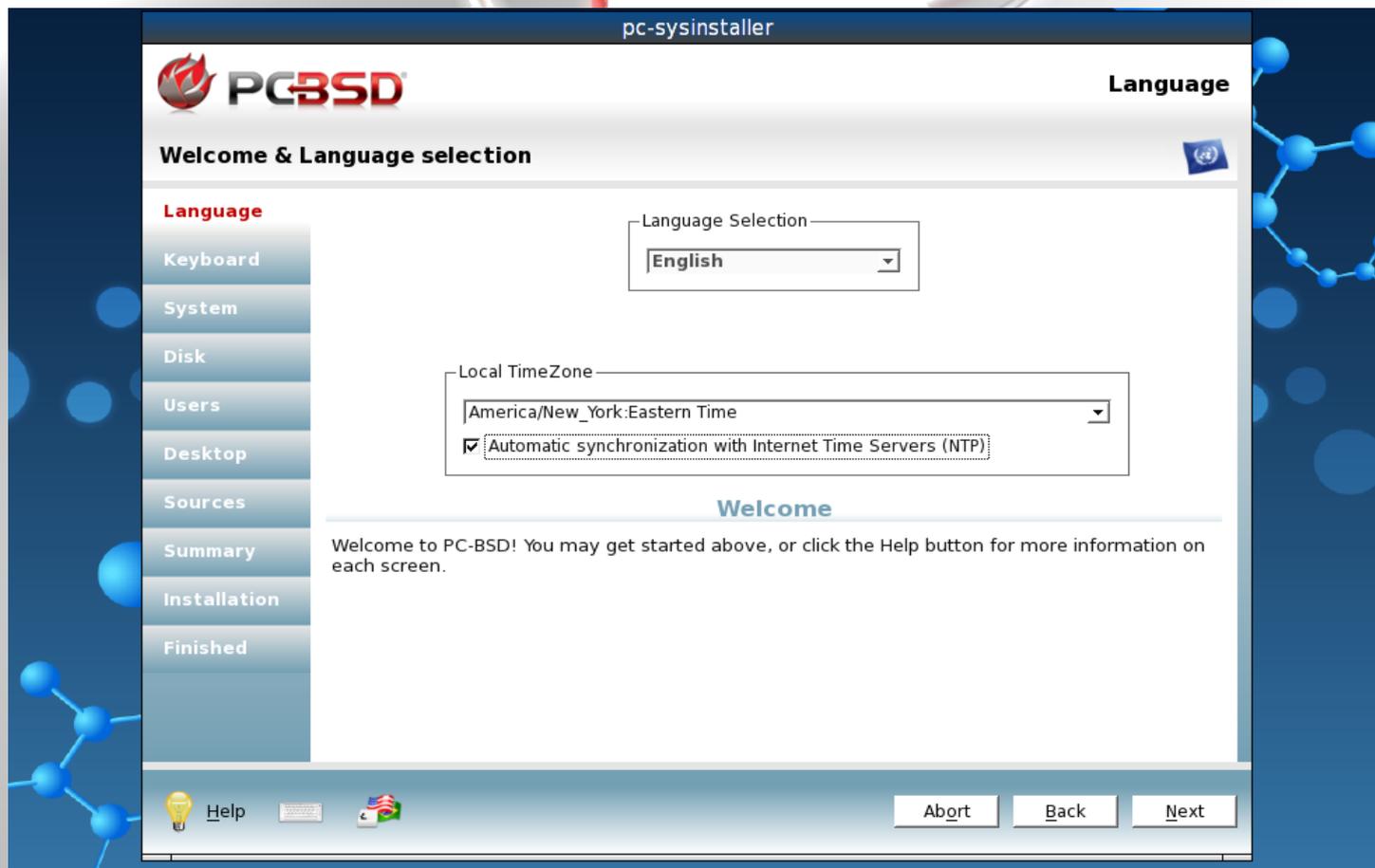
1. Boot [default]
2. Boot with ACPI enabled
3. Boot in Safe Mode
4. Boot with verbose logging
5. Boot to emergency console
6. Boot with X in VESA mode
7. Escape to loader prompt

Select option, [Enter] for default
or [Space] to pause timer 0 _



graphical installer

- pc-sysinstaller



py-sysinstaller

- Installation options

Select installation type

Language

Keyboard

System

Disk

Users

Desktop

Select the system to install

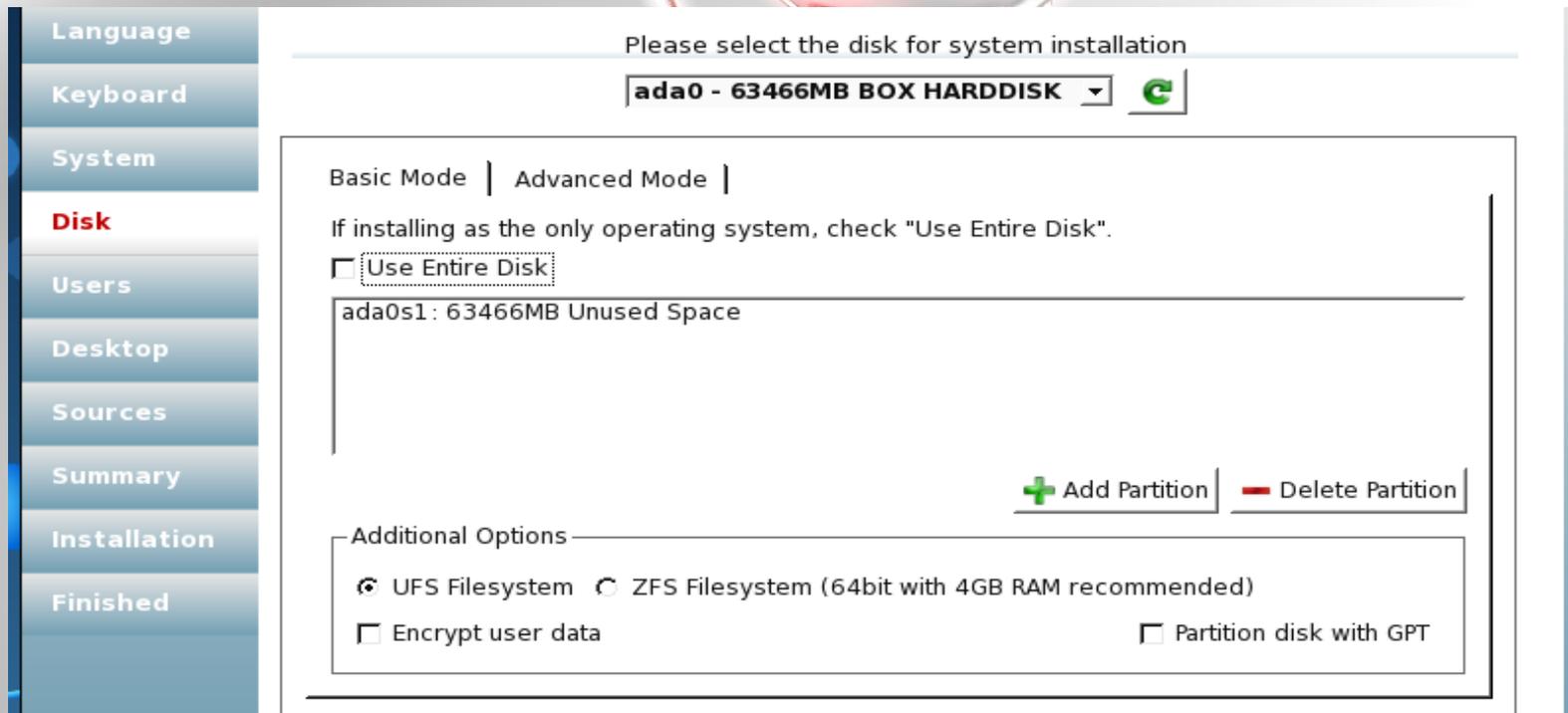
 PC-BSD (Desktop)  FreeBSD (Server)

Select your Installation Source

 DVD / USB  Network / Internet

pc-sysinstaller - disk layout

- basic vs. advanced mode
- no shell option available (yet)



The screenshot shows the 'Disk' configuration window in the pc-sysinstaller installer. On the left is a vertical sidebar with menu items: Language, Keyboard, System, **Disk**, Users, Desktop, Sources, Summary, Installation, and Finished. The main window title is 'Please select the disk for system installation'. Below the title, a dropdown menu shows 'ada0 - 63466MB BOX HARDDISK' with a green refresh icon to its right. The window is split into 'Basic Mode' (selected) and 'Advanced Mode'. A note states: 'If installing as the only operating system, check "Use Entire Disk"'. Below this is a checkbox for 'Use Entire Disk' which is currently unchecked. A text box displays 'ada0s1: 63466MB Unused Space'. At the bottom right of the main area are two buttons: '+ Add Partition' and '- Delete Partition'. Below this is an 'Additional Options' section containing: a radio button for 'UFS Filesystem' (selected), a radio button for 'ZFS Filesystem (64bit with 4GB RAM recommended)', an unchecked checkbox for 'Encrypt user data', and an unchecked checkbox for 'Partition disk with GPT'.

pc-sysinstaller - users

User Creation

Language
Keyboard
System
Disk
Users
Desktop
Sources
Summary
Installation
Finished

Users Setup | System Options |

System password

Password: [*****] Verify password: [*****]

User accounts

Username: [foo] Full name: [Foo Bar]
Password: [*****] Verify password: [*****]
Shell: [csh]

shteryana (Shteryana Shopova)

Help  

pc-sysinstaller - packages

The screenshot shows the PC-BSD Desktop installer's 'Meta Package Selection' window. The window has a title bar with the PC-BSD logo on the left and the word 'Desktop' on the right. A vertical sidebar on the left contains navigation buttons: Language, Keyboard, System, Disk, Users, Desktop (highlighted in red), Sources, Summary, Installation, and Finished. The main area is titled 'System Package Configuration' and contains a list of 'Available System Packages'. The 'Base-118N' package is selected and highlighted in blue. Below it are four expandable categories: 'Desktops' (checked), 'Development' (unchecked), 'Hardware Drivers' (unchecked), and 'Misc' (unchecked). At the bottom of the list, there is a section for 'Additional drivers and software for specific hardware.' with a note: 'Please select the software you wish to have installed. At least one desktop must be selected, and changes may be made after installation.' The bottom of the window features a 'Help' button with a lightbulb icon, a keyboard icon, a flag icon, and three buttons: 'Abort', 'Back', and 'Next'.

PC-BSD Desktop

Meta Package Selection

Language
Keyboard
System
Disk
Users
Desktop
Sources
Summary
Installation
Finished

System Package Configuration

Available System Packages

- Base-118N
- Desktops
- Development
- Hardware Drivers
- Misc

Additional drivers and software for specific hardware.

Please select the software you wish to have installed. At least one desktop must be selected, and changes may be made after installation.

Help Abort Back Next

pc-sysinstaller - packages contd.

- base-i18N, Development, Hardware drivers
- Desktops - Gnome, KDE (default), LXDE, XFCE
- Misc - Compiz, MythTV, VMware/VBox guest, XBMC Media center
- Services - Database, SAMBA (File Sharing), Web
- Unsupported desktops

pc-sysinstaller - sources

FreeBSD Sources and Ports tree

Available

 FreeBSD ports collection (ports)

 FreeBSD system source (src)



Selected

pc-sysinstaller - final steps

- summary
- installation

Installation

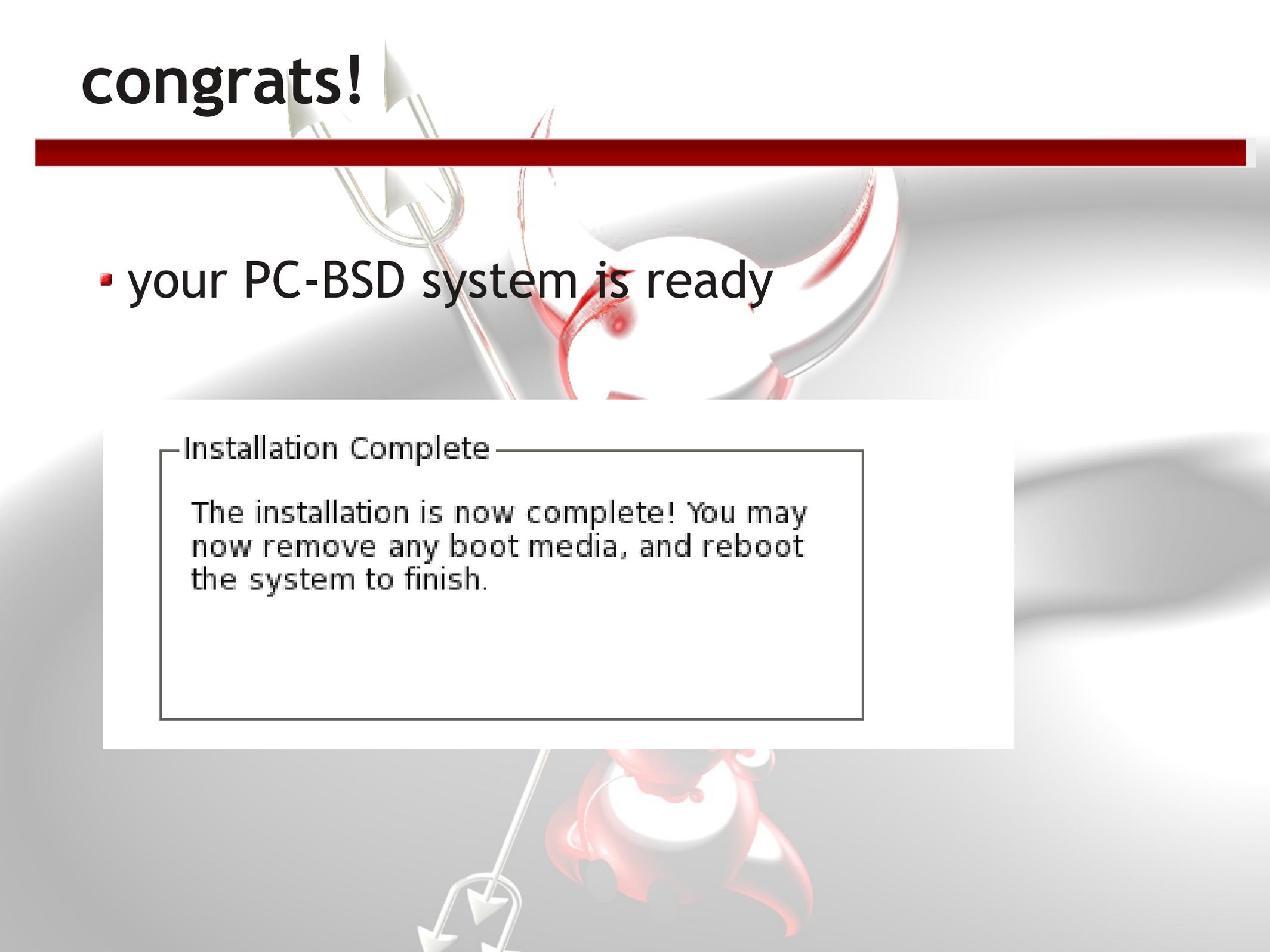
Your system is now being installed! This process may take a while, depending upon the installation options chosen, and system speed. You will be notified when the installation is finished.

Extracting system image...



77%

congrats!



- your PC-BSD system is ready

Installation Complete

The installation is now complete! You may now remove any boot media, and reboot the system to finish.

boot menu

```
Boot options:  1  Disable ACPI
                2  Enable safe mode
                3  Enter single user mode
                4  Enable verbose logging
                5  Run X in VESA mode
                6  Run the Display Wizard

Actions:       B  Boot PC-BSD with above options
                D  Restore default options
                L  Escape to loader prompt
                R  Reboot
```

PC-BSD utilities

```
> cd /usr/local/bin/
> ls -la | grep pc-
lrwxr-xr-x  1 root  wheel           33 Jan  5  2012 appcafe -> /usr/local/bin/pc-softwaremanager
-rwxr-xr-x  1 root  wheel    248678 Jan  5  2012 pc-controlpanel
-rwxr-xr-x  1 root  wheel       107 Jan  5  2012 pc-cupscfg
-rwxr-xr-x  1 root  wheel    129012 Jan  5  2012 pc-ethernetconfig
-rwxr-xr-x  1 root  wheel     6420 Jan  5  2012 pc-fbsdupdatecheck
-rwxr-xr-x  1 root  wheel     10611 Jan  5  2012 pc-metapkgmanager
-rwxr-xr-x  1 root  wheel    222939 Jan  5  2012 pc-netmanager
-rwxr-xr-x  1 root  wheel    122189 Jan  5  2012 pc-nettray
-rwxr-xr-x  1 root  wheel    222165 Jan  5  2012 pc-pbigui
-rwxr-xr-x  1 root  wheel    138759 Jan  5  2012 pc-pfmanager
-rwxr-xr-x  1 root  wheel       206 Jan  5  2012 pc-runxgui
-rwxr-xr-x  1 root  wheel    104762 Jan  5  2012 pc-servicemanager
-rwxr-xr-x  1 root  wheel    399198 Jan  5  2012 pc-softwaremanager
-rwxr-xr-x  1 root  wheel     14974 Jan  5  2012 pc-sounddetect
-rwxr-xr-x  1 root  wheel    53057 Jan  5  2012 pc-sounderror
-rwxr-xr-x  1 root  wheel       1548 Jan  5  2012 pc-su
-rwxr-xr-x  1 root  wheel    877700 Jan  5  2012 pc-sysinstaller
-rwxr-xr-x  1 root  wheel    308931 Jan  5  2012 pc-sysmanager
-rwxr-xr-x  1 root  wheel     91046 Jan  5  2012 pc-systemupdatertray
-rwxr-xr-x  1 root  wheel     8989 Jan  5  2012 pc-thinclient
-rwxr-xr-x  1 root  wheel    128212 Jan  5  2012 pc-updategui
-rwxr-xr-x  1 root  wheel     26696 Jan  5  2012 pc-updatemanager
-rwxr-xr-x  1 root  wheel    281981 Jan  5  2012 pc-usermanager
-rwxr-xr-x  1 root  wheel    120789 Jan  5  2012 pc-welcome
-rwxr-xr-x  1 root  wheel    271628 Jan  5  2012 pc-wificonfig
-rwxr-xr-x  1 root  wheel       1510 Jan  5  2012 pc-xdutil
-rwxr-xr-x  1 root  wheel    167712 Jan  5  2012 pc-xgui
>
```

pc-firstboot

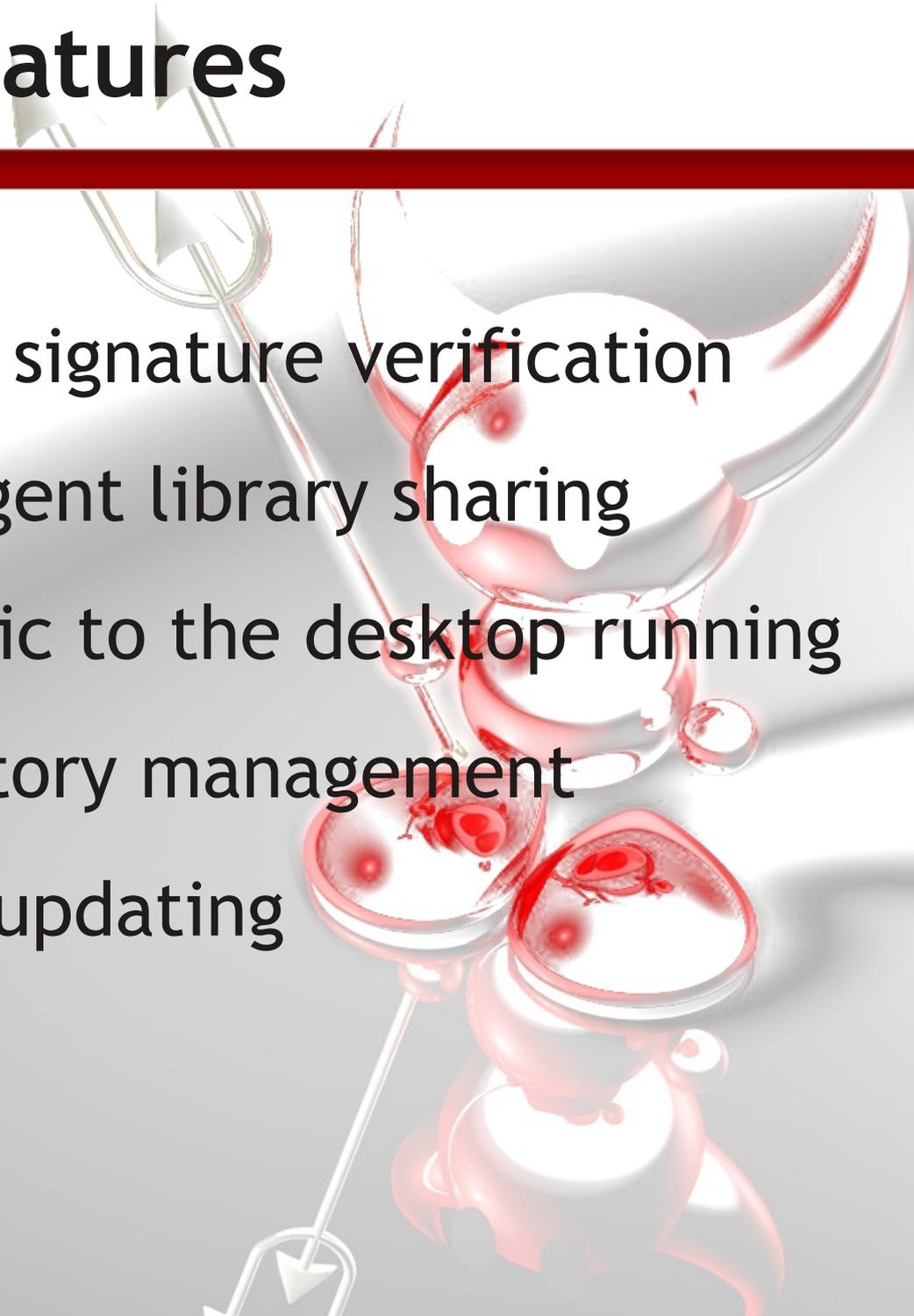
- Wellcome
 - connecting to the network
 - AppCafe®
 - PC-BSD Control Panel
 - Live preserver - backup to FreeNAS
 - Update Manager
- 

package management

- pbi -Push Button Installer
- completely rewritten in 2010 / 9.0
- details in Kris Moore's paper*
- pbi_add(1) & friends
- pbid(1)
- ports-mgmt/pbi-manager in FreeBSD ports

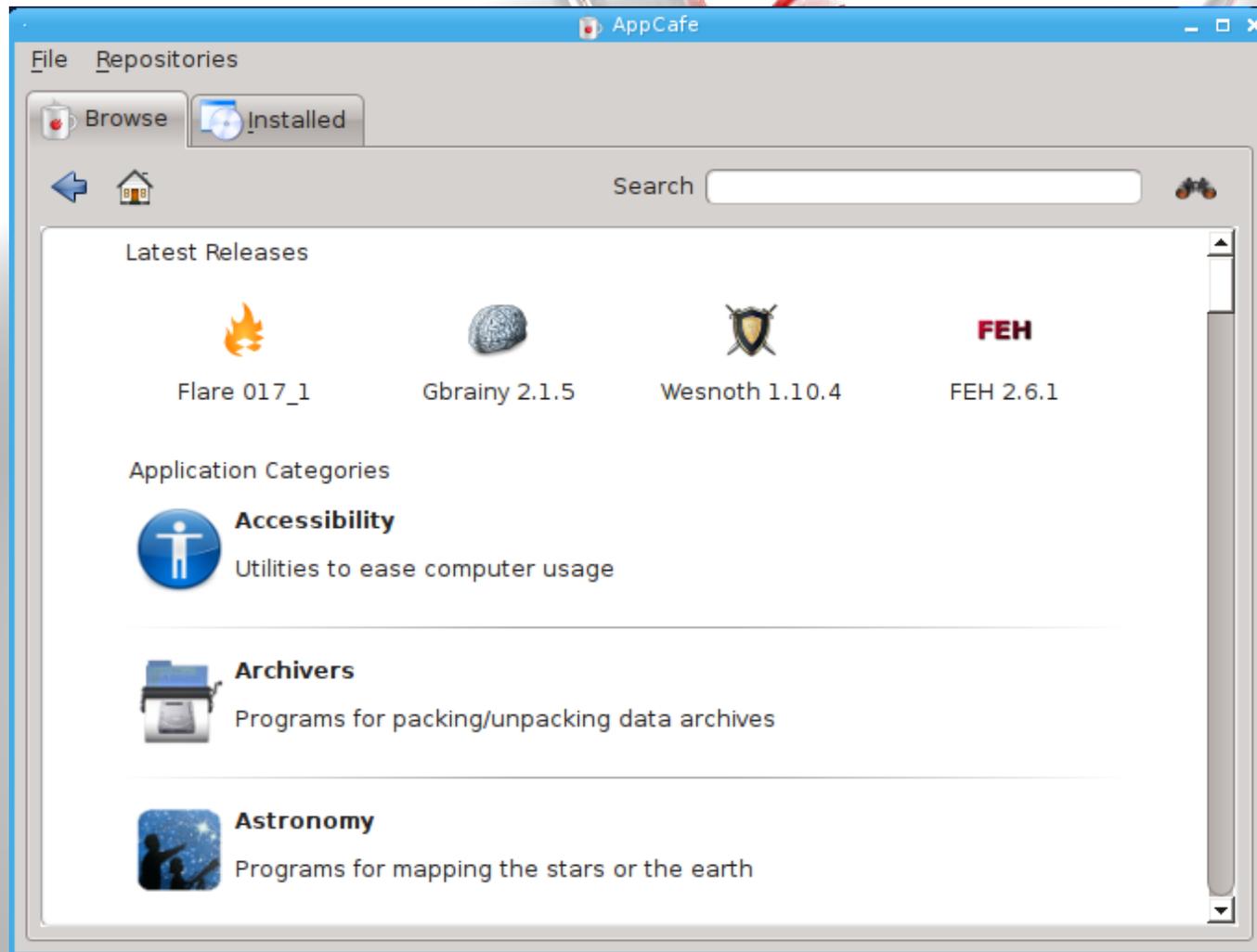
*<http://2011.eurobsdcon.org/papers/moore/eurobsdcon2011-pbi9-kpm.pdf>

pbi features

- digital signature verification
 - intelligent library sharing
 - agnostic to the desktop running
 - repository management
 - bsdiff updating
- 

new and shiny AppCafe®

- “QT4 based front-end to pbi_browser(1)”



(bonus) AppCafe on FreeBSD

- devel/qt4-qtsolutions-singleapplication port
- check out sources of PC-BSD components
- checkout pcbsd.rpo & copy index files*
- compile libpcbsd
- compile about-gui
- compile & install all

(bonus) AppCafe on FreeBSD (2)

```
File Edit View Bookmarks Settings Help
syrinx@apollo:/compat/linux/home/shteryana % cd /usr/ports/devel/qt4-qtsolutions-singleapplication
syrinx@apollo:/usr/ports/devel/qt4-qtsolutions-singleapplication % sudo make install clean
syrinx@apollo:/usr/ports/devel/qt4-qtsolutions-singleapplication % cd /usr/ports/ports-mgmt/pbi-manager/
syrinx@apollo:/usr/ports/ports-mgmt/pbi-manager % sudo make install clean
syrinx@apollo:/usr/ports/ports-mgmt/pbi-manager % cd
syrinx@apollo:/compat/linux/home/shteryana % mkdir PC-BSD
syrinx@apollo:/compat/linux/home/shteryana % cd PC-BSD
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % svn co svn://svn.pcbsd.org/pcbsd/current/src-qt4
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % cd src/src-qt4/libpcbsd/
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4/libpcbsd % qmake-qt4 *.pro
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4/libpcbsd % sudo make && sudo make install
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4/libpcbsd % cd ../about-gui/
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4/about-gui % sudo make && sudo make install
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4/about-gui % cd ..
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4 % qmake-qt4 *.pro
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4 % sudo make && sudo make install
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD/src/src-qt4 % cd ../../
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % svn co svn://svn.pcbsd.org/pcbsd/current/src-sh/pbi-manager/repo
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % rehash
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % sudo pbi_addrepo repo/pcbsd.rpo
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % sudo /usr/local/sbin/pbid --refresh
Your meta and index files will begin refreshing in a moment...
Details available in /var/log/pbid.log
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % ls -l /var/db/pbi/index
total 913
-rwxr-xr-x  1 root  wheel  355272 Oct 31 14:20 dd3920955c2fcf9bcc66b20dc0d89354-index
-rwxr-xr-x  1 root  wheel  447159 Oct 31 14:20 dd3920955c2fcf9bcc66b20dc0d89354-meta
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % pbi_listrepo
[ID]      [Description]
-----
001      Official PC-BSD Repository
syrinx@apollo:/compat/linux/home/shteryana/PC-BSD % pc-softwaremanager █
```

updating

- pc-updategui
- pc-systemupdatetray
- pc-softwaremanager (a.k.a) AppCafe
checks for updates of all installed packages

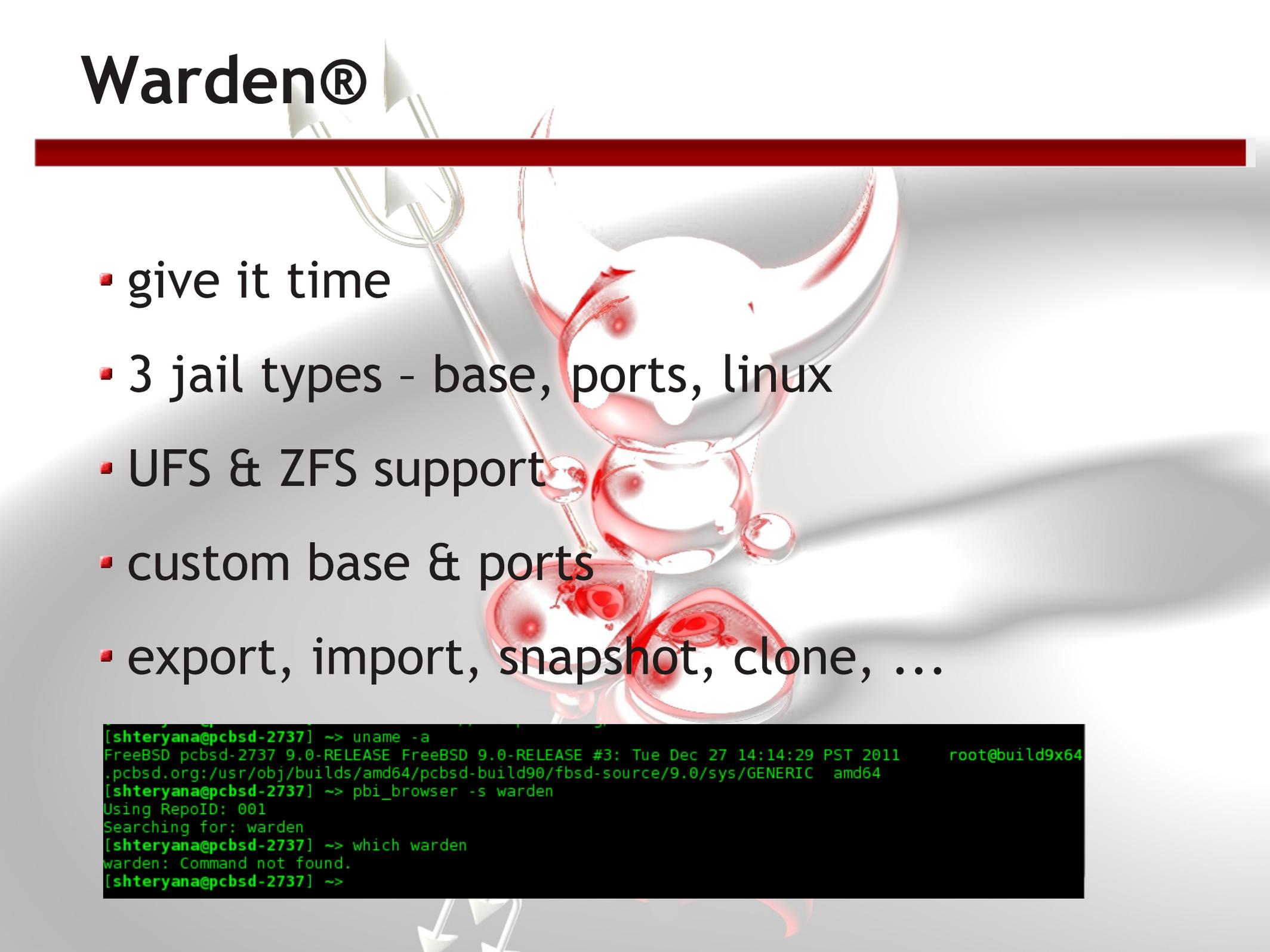
updating - contd.



jail management

- Warden
- pc-su - root credentials
- ncurses interface
- sudo warden menu
- built-into PC-BSD's base system (from 9.1)
- available in AppCafe (9.0 and earlier)

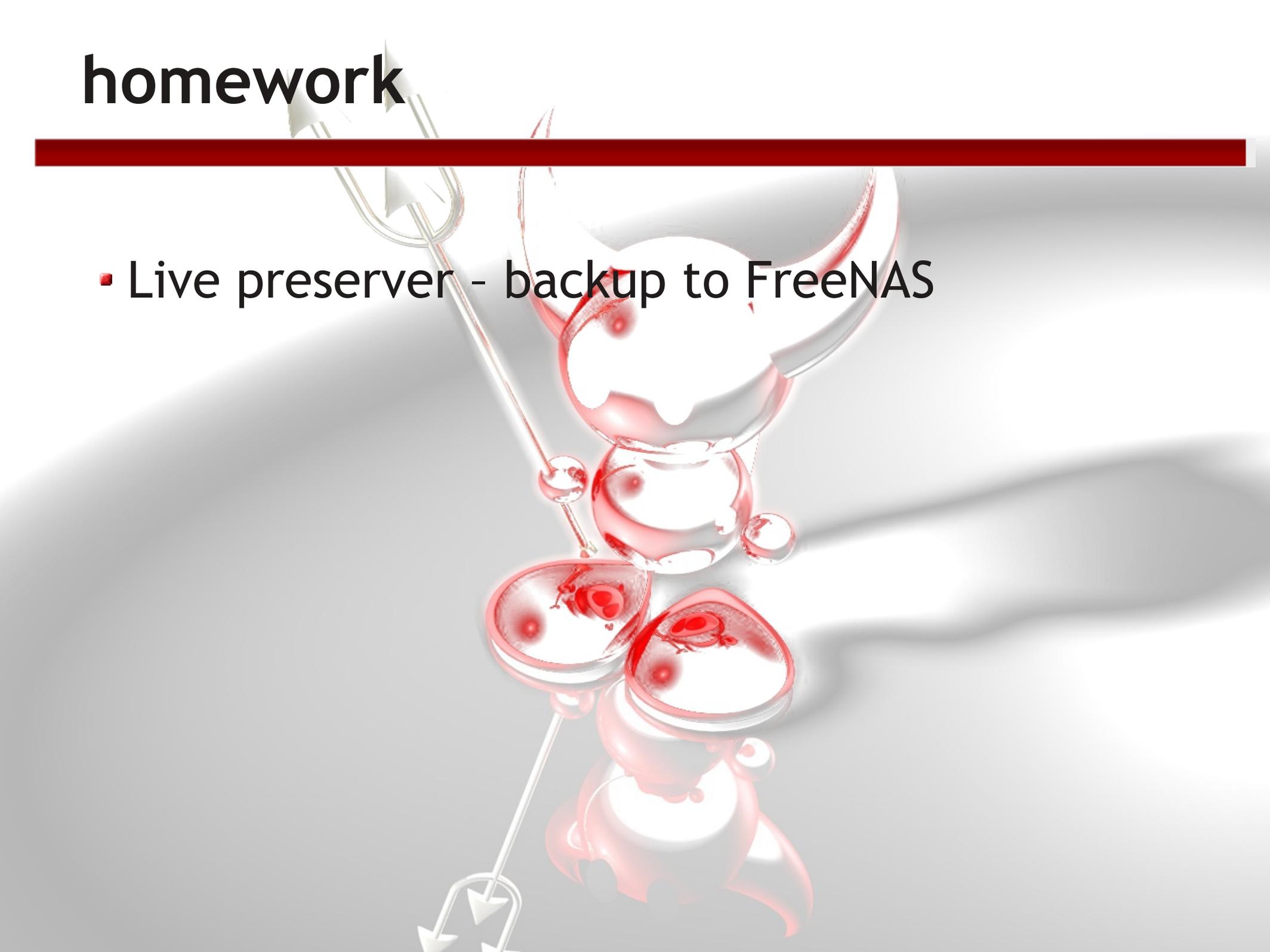
Warden®



- give it time
- 3 jail types - base, ports, linux
- UFS & ZFS support
- custom base & ports
- export, import, snapshot, clone, ...

```
[shteryana@pcbsd-2737] ~> uname -a
FreeBSD pcbsd-2737 9.0-RELEASE FreeBSD 9.0-RELEASE #3: Tue Dec 27 14:14:29 PST 2011    root@build9x64
.pcbsd.org:/usr/obj/builds/amd64/pcbsd-build90/fbsd-source/9.0/sys/GENERIC    amd64
[shteryana@pcbsd-2737] ~> pbi_browser -s warden
Using RepoID: 001
Searching for: warden
[shteryana@pcbsd-2737] ~> which warden
warden: Command not found.
[shteryana@pcbsd-2737] ~>
```

homework



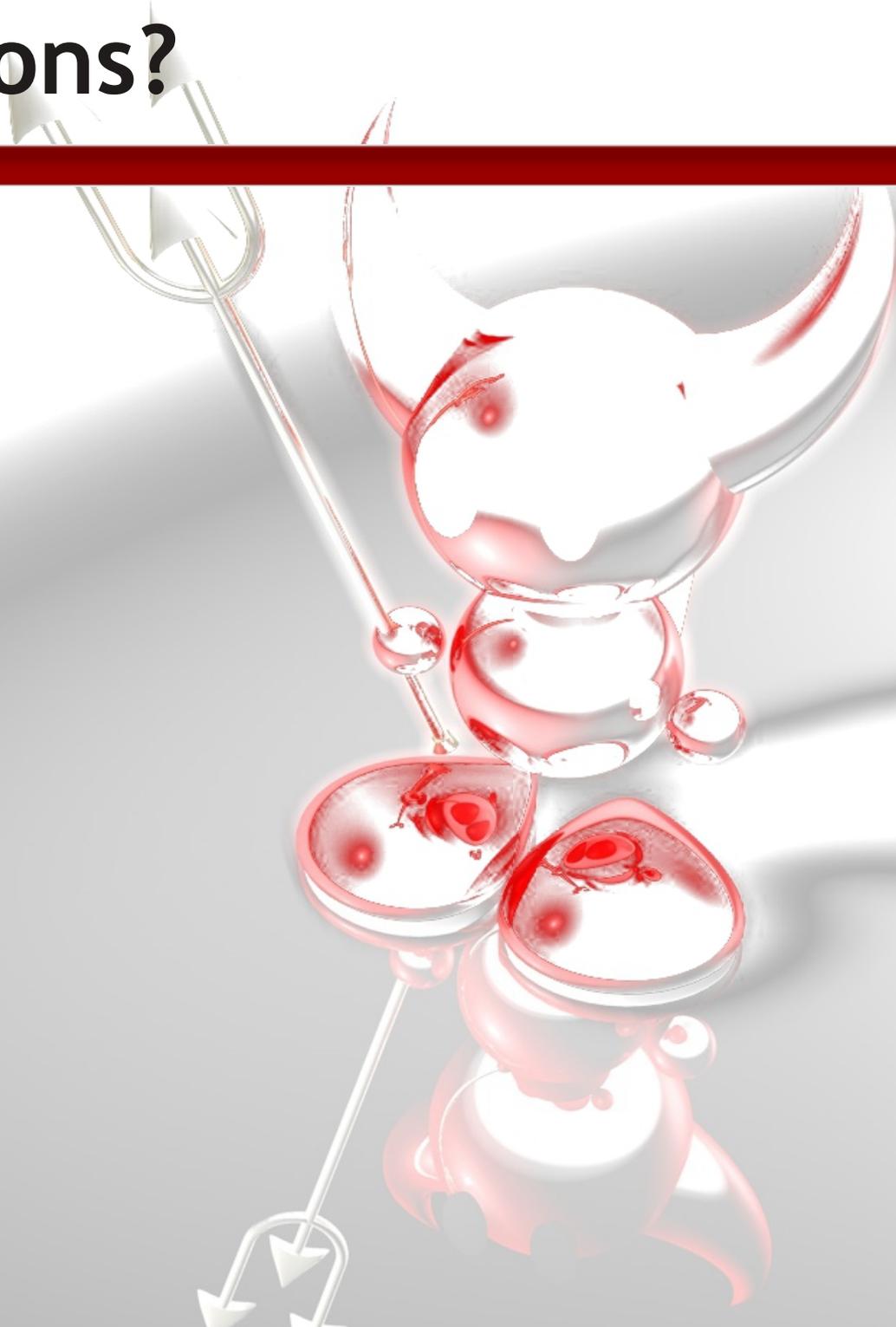
- Live preserver - backup to FreeNAS

note!



- November 5th is Clang-Day

questions?



thank you!

