# PC-BSD: An Easy to Use BSD Desktop

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## This presentation will cover...

How PC-BSD differs from FreeBSD

How PC-BSD differs from Linux

Current features

New features in the upcoming 9.0 release

Changes to the PBI format

How you can help

#### **How does PC-BSD differ from FreeBSD?**

Sometimes a picture is worth a thousand words:

```
Starting Network: lo0.
loO: flags=8049<UP,LOOPBACK,RUNNING,MULTICAST> metric 0 mtu 16384
       options=3<RXCSUM, TXCSUM>
        inet6 fe80::1×lo0 prefixlen 64 scopeid 0x2
       inet6 ::1 prefixlen 128
       inet 127.0.0.1 netmask 0xff000000
       nd6 options=3<PERFORMNUD, ACCEPT RTADV>
Starting devd.
Generating host.conf.
ELF ldconfig path: /lib /usr/lib /usr/lib/compat /usr/local/lib /usr/local/kde4/
lib /usr/local/lib/mysgl /usr/local/lib/pth /usr/local/lib/gt4
a.out ldconfig path: /usr/lib/aout /usr/lib/compat/aout
Creating and/or trimming log files.
Starting syslogd.
Clearing /tmp (X related).
Updating motd:.
Configuring syscons: blanktime.
Starting cron.
Starting background file system checks in 60 seconds.
Mon Feb 21 11:38:35 UTC 2011
FreeBSD/i386 (Amnesiac) (ttyv0)
login: 📗
```

























## How PC-BSD differs from FreeBSD

Graphical installer that supports GPT, ZFS, encryption, and a live mode for testing hardware

Desktop, video, network, sound, java, flash are pre-configured so you can immediately start using the system

Provides GUI applications to perform common tasks which are specific to BSD (i.e. not provided by desktop environment such as KDE)

## But, it is still FreeBSD "under the hood"

- Uses same version numbers e.g. current release is 8.3
- Anything you can do in FreeBSD, you can do in PC-BSD
- FreeBSD resources (e.g. Handbook, FAQs) are still an excellent source of information
- Many settings that you have to configure manually in FreeBSD "just work" in PC-BSD

## KDE for Default Desktop

- Intuitive for new users
- Provides hundreds of GUI applications
- Supports desktop effects
- Very customizable

## But what if I can't stand KDE?

Fluxbox is pre-configured and integrated into PC-BSD's utilities should you need a lighter weight desktop

PBIs are available for GNOME, XFCE, and Enlightenment

188 window managers are available as FreeBSD ports/packages

PC-BSD 9 will allow you to select desktop(s) during installation

## PC-BSD GUI Applications

PC-BSD provides graphical utilities to manage common configuration tasks (e.g. networking, firewall settings, user management, and printing)

Designed to understand BSD device names, expected paths, etc.

Graphical utilities for functions unique to FreeBSD such as jail(8) management and geli(8) disk encryption

## Tweaked for Desktop Usage

- Customized kernel
- sysctl(8) and loader.conf(5) settings
- rc.conf(5) settings

Can browse all customizations at trac.pcbsd.org/browser/pcbsd/branches/8.1

## How PC-BSD differs from Linux

Filesystems: UFS, UFS+J, UFS+S, ZFS

**Device names:** e.g. ath0 or em0 instead of eth0

Some commands: e.g. kldload instead of insmod

**Switches:** BSD instead of GNU (e.g. -l instead of --list)

System startup: no run levels

### How PC-BSD differs from Linux

Yet, much is similar:

Many of the apps that run on Linux also run on PC-BSD (either through a port or Linux emulation)

Both support Xorg (though GEM and KMS are a work in progress)

# Current Features

## Software/Update Manager

Uses PBI (Push Button Installer) system

Recommended method for installing software on PC-BSD

Even novice users can easily and safely find, install, uninstall, and upgrade software

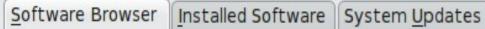
Provides a software browser for finding applications--simply click Download button in application's description























Search



#### Chat - IM

Chat and Instant Messaging applications to communicate with your friends online!



<u>Development</u>
Tools for programmers, be it web or desktop software development



#### Drivers

Drivers for various Hardware Devices



#### E-Mail

E-mail clients and utilities for you to enjoy reading and writing messages



#### Educational

Educational applications and tools for your desktop.





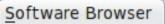
#### PC-BSD Software and Updates



7.67







Installed Software | System Updates













Search

pbiDIR Chat - IM aMSN



#### Description

aMSN is a free open source MSN Messenger clone, with features such as:

- \* Offline Messaging
- \* Voice Clips
- \* Display pictures
- \* Custom emoticons
- \* Multi-language support (around 40 languages currently supported)
- \* Webcam support
- \* Sign in to more than one account at once
- \* Full-speed File transfers
- \* Group support
- \* Normal, and animated emoticons with sounds
- \* Chat logs
- \* Timestamping
- \* Event alarms
- \* Conferencing support
- \* Tabbed chat windows

Vendor: aMSN team

Downloads: 19.369

Average Rate:

Added: 09/15/08

GPL Licence:

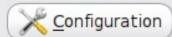
PC-BSD Software Maintainer: support@pcbsd.org

Alternative for: MSN Messenger

DOWNLOAD 0.98.3

8.x Series: 48.52 Mb







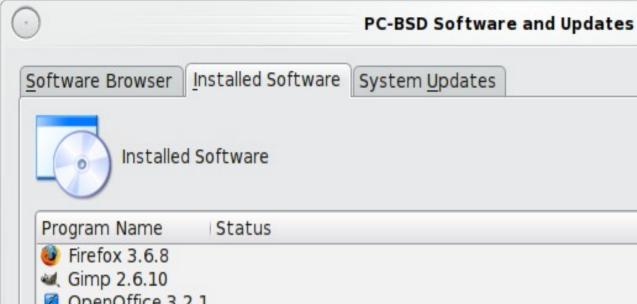
## Software/Update Manager

Automatically detects platform and version and installs correct PBI

Installed software is listed

User automatically notified when new versions are available, for both software and the operating system

OS updates include link to security advisory description









- ☑ OpenOffice 3.2.1
- Pidgin 2.7.2 2.7.3 Available
- Skype 2.0.0.72
- VirtualBox 3.2.8
- Warden 1.1

1.1.1 Available

U<u>p</u>date

Remove





$\odot$	PC-BSD Software and Updates	$\bigcirc \bigcirc \bigcirc \otimes$
Software Browser Installed So	ftware System <u>U</u> pdates	
The following system updates	are available:	
□ KDE / QT FileWatcher Bugfi □ Nvidia Driver Update (256.4		
Select All View Details  Install selected updates	S <u>h</u> ow ignored updates	Check for Updates
<u>Configuration</u>		<b>Q</b> uit

## Ports Jail

Allows advanced users to safely use FreeBSD ports and packages without affecting the software installed with the operating system

For more information about jails, see: <a href="http://en.wikipedia.org/wiki/FreeBSD">http://en.wikipedia.org/wiki/FreeBSD</a> jail

#### Warden

GUI that allows advanced users to easily create, manage, and delete FreeBSD jails

Makes it easy to clone a jail (save as .wdn file)

Makes it easy to create and install inmates (.wit files) which are pre-configured server environments e.g. an AMP stack



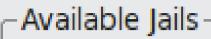
#### The Warden







<u>F</u>ile Jails



IP		Hostname	Au	tostart	Status	
192	Start this Jail		abled	Stopped		
	Toggle	Autostart				
	Install Inmate into jail					
	View in	stalled packag	ges			
	Export jail to .wdn file					
	Delete	Jail				
'				,		

## Firewall Manager

GUI for starting and stopping the firewall and adding, deleting, modifying firewall rules

Designed for pf http://www.openbsd.org/faq/pf/

May be replaced by fwbuilder in 9.0









#### Firewall



General Exceptions

#### **General settings**

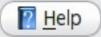
<u>✓ Enable Firewall on startup</u>

#### Firewall

Start Stop Restart

#### Configuration

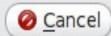
Restore default configuration











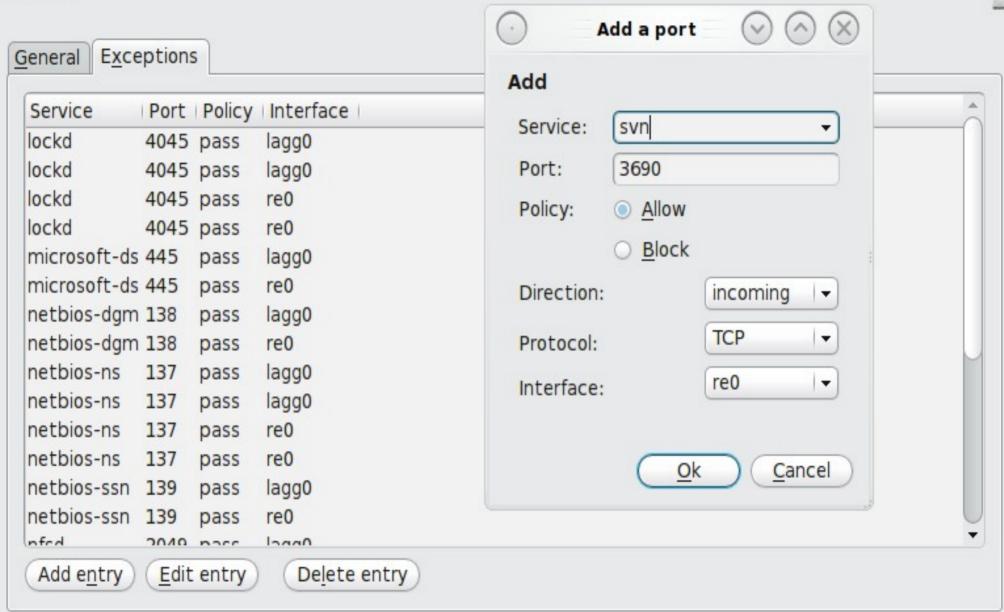








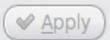
#### Firewall

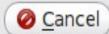












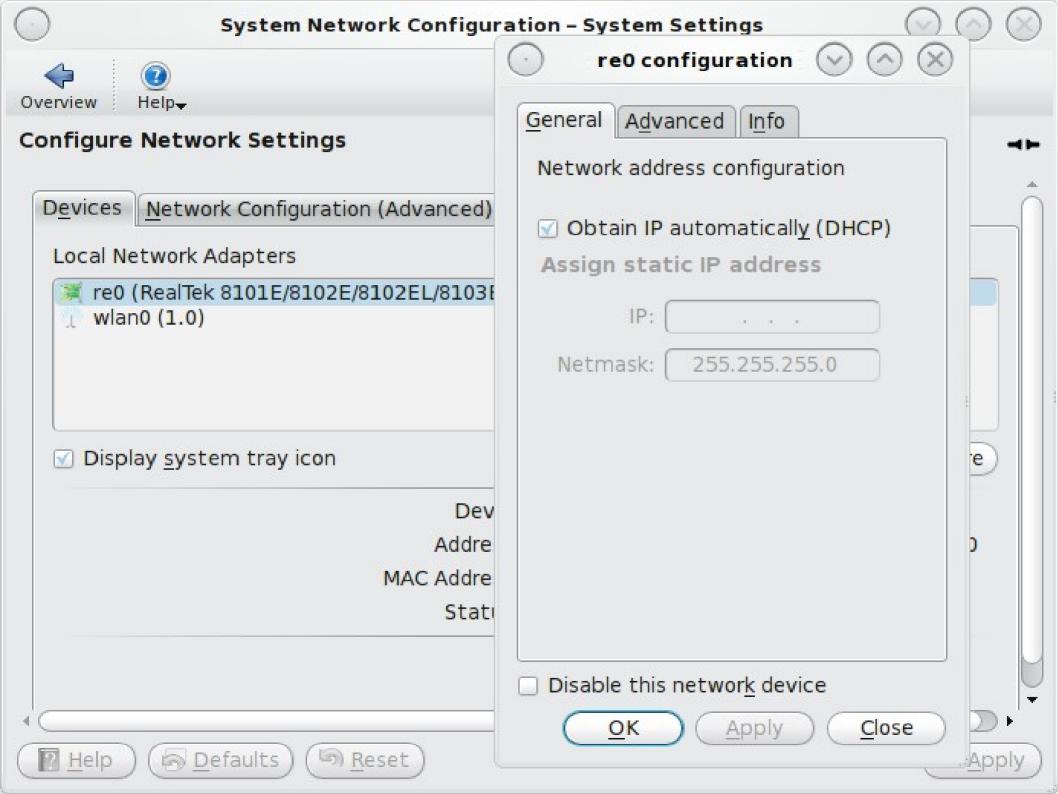
## Network Manager

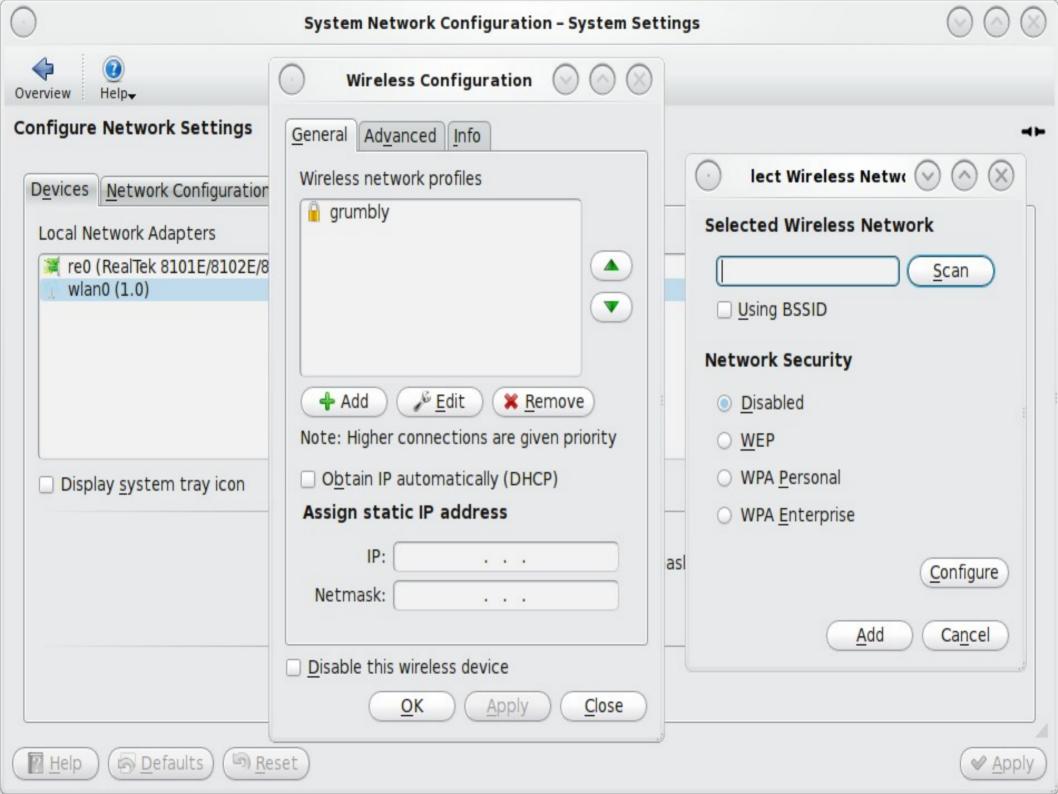
GUI to view and configure network interfaces (Ethernet, wireless, PPP/PPPoE)

Auto-detects interfaces

Allows creation of wireless profiles

Shows interface stats and IP addressing info for active interfaces





## System Manager

GUI to view system info and generate a diagnostic report

Kernel tab used to set boot delay

Tasks tab used to install src or ports tree

Misc tab used to customize boot splash screen









#### System Manager



General Kernel Tasks Misc



PC-BSD Version: 8.1

Base Version: 8.1-RELEASE

CPU Type: Celeron(R) Dual-Core CPU T3000 @ 1.80GHz

System Memory: 2.8GB

You may also generate a diagnostic sheet, with information about your system. This sheet can be used by technicians for troubleshooting purposes.

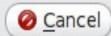
Generate











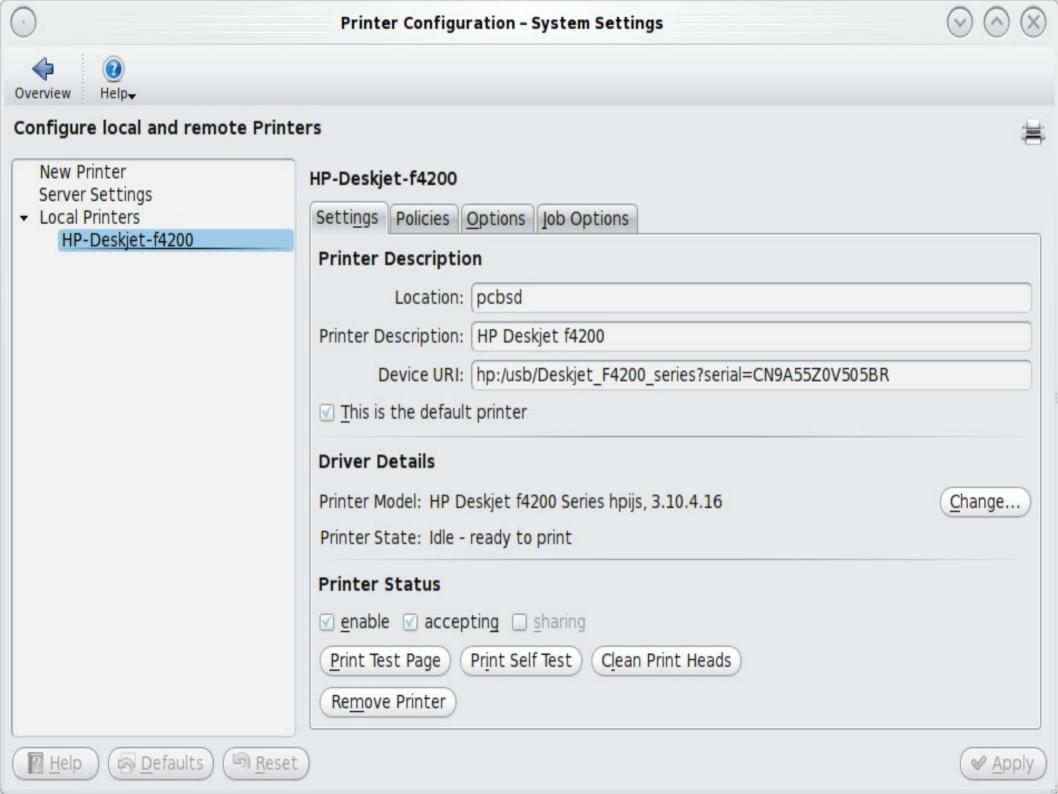
## Printer Manager

GUI to configure and manage printers

Auto-detects connected printers as well as printers shared over a network

Auto-detects correct driver for the printer

Provides print job management



## User Manager

GUI to manage user accounts

Simple view shows users only, Advanced view also shows system accounts

Can be used to change root or users' passwords

Can change user's home directory or shell

Easy to add/remove users from groups



#### PC-BSD User Manager

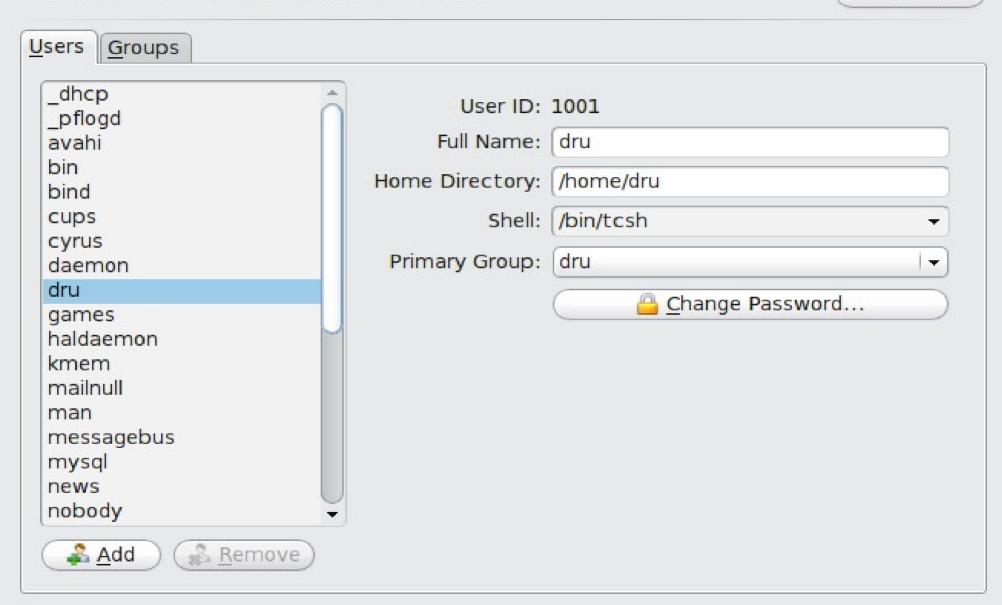






#### PC-BSD User Manager - Advanced Mode

Simple View





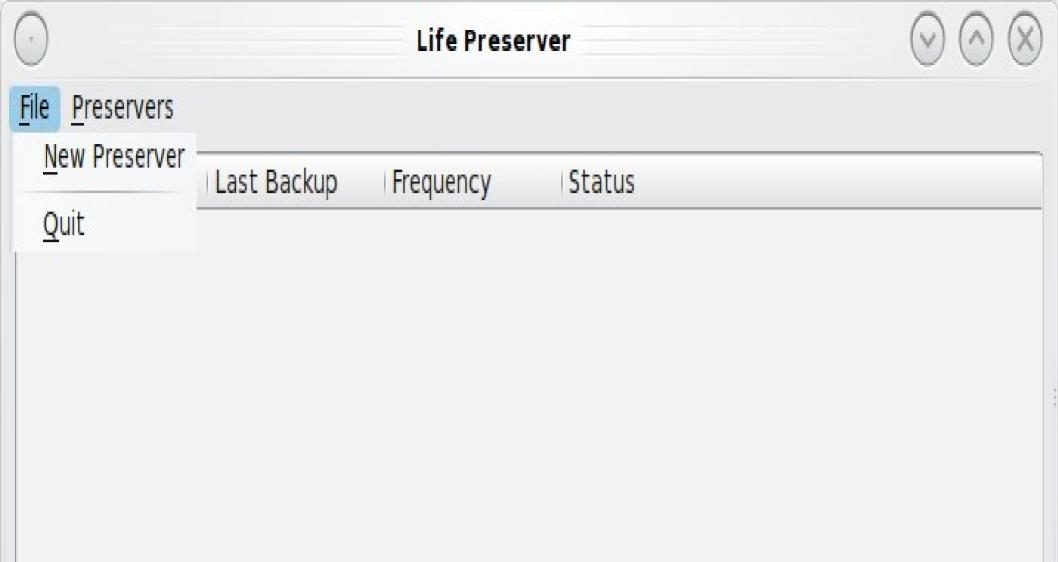


## Life Preserver

GUI to backup entire system to a remote system using rsync and SSH

Provides scheduler to automate backups and determine how many backups to keep

Installation utility allows you to restore a system from a specified Life Preserver backup







### Life-Preserver Settings







### **Backup Options**

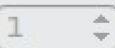
- Number of backups to keep
- Remove incomplete or failed backups

#### Scheduled Backups

- Disable automatic backups
- Backup daily at
- Backup weekly on



at





AM

#### **Remote Directory**

life-preserver

Modify Exclude List





### PBI Builder

Command line tool for converting an existing FreeBSD package into a PBI

Can be as simple as modifying a few variables to indicate the program's name and location in KDE menu

Provides variables for advanced configuration

Creates clean build sandbox for each PBI

## pc-sysinstall

- Scriptable backend to GUI installer
- Allows for the creation of custom and automated installations

Examples of custom configurations can be found in /PCBSD/pc-sysinstall/examples

# Plans for 9.0

### Plans for 9.0

Uncouple PC-BSD utilities from KDE so they can integrate into any window manager

Allow the selection of more window managers during installation

Early days yet, we're open to features users find useful (due out in summer 2011)

http://wiki.pcbsd.org/index.php/ PC-BSD\_9.0\_TODO

### Plans for 9.0

Overhaul the PBI structure to include incremental PBIs (download just the change instead of the whole PBI) http://wiki.pcbsd.org/index.php/PBI9\_Format

Overhaul the PC-BSD Users Handbook and include an off-line version with the release

Provide translations of documentation resources

# Changes to PBI Format

### New PBI Format

Provide command line tools with names and features familiar to FreeBSD users (e.g. pbi\_add, pbi\_info, pbi\_delete)

Added digital signature verification and intelligent library sharing (i.e. PBIs are no longer entirely self-contained)

Can be used with any (or no) window manager and on FreeBSD systems as well

### New PBI Format

pbi\_makerepo, pbi\_addrepo, and pbi\_deleterepo allow user to create custom software repositories

pbi\_listrepo allows user to prioritize repos or specify a repo to use with pbi\_add

convertoldmod.sh utility can be used to convert existing PBIs to 9.x format

New format will be documented at <a href="http://wiki.pcbsd.org/index.php/PC-BSD\_9\_Handbook">http://wiki.pcbsd.org/index.php/PC-BSD\_9\_Handbook</a>

# How you can Help

### Community

PC-BSD is designed for users and takes user feedback seriously

Many opportunities for user involvement:

- Localization and translations
- PBI requestors, creators and testers
- Assisting others on forums, IRC

### Community

- Write or proof read documentation
- Become a beta tester

Details can be found at:

http://wiki.pcbsd.org/index.php/Supporting\_PC-BSD

and

http://wiki.pcbsd.org/index.php/Tasks\_Looking\_for\_People

PC-BSD Website: http://www.pcbsd.org

PC-BSD Users Handbook:

http://wiki.pcbsd.org/index.php/

PC-BSD Users Handbook

PC-BSD FAQs:

http://wiki.pcbsd.org/index.php/

PC-BSD\_FAQS

Official Blog: http://blog.pcbsd.org

PC-BSD on Freenode IRC: #pcbsd

PC-BSD Forums: http://forums.pcbsd.org

PC-BSD Mailing Lists:

http://lists.pcbsd.org/mailman/listinfo

### Facebook Group:

```
http://www.facebook.com/home.php?
#!/group.php?gid=4210443834
```

### LinkedIn Group:

http://www.linkedin.com/groups? mostPopular=&gid=1942544

Definitive Guide to PC-BSD (Apress)

### Questions?

dru@freebsd.org

**URL** to slides:

http://www.slideshare.net/

dlavigne/scale9x\_sun