PC-BSD - Making FreeBSD on the Desktop a reality

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PC-BSD Software – iXSystems

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FreeBSD Desktop Strengths

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- Rock-solid stability, security and speed.
- Large variety of ported software
- 3D acceleration and sound support
- Wireless support - 802.11
- Resistance to viruses

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FreeBSD Desktop Weaknesses

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- Lack of easy-to-use graphical installer
- Non-existent Xorg configuration
- Difficult network setup
- Difficult online updates for Desktop
- Manual package management

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How PC-BSD enhances FreeBSD to address these desktop weaknesses.

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Improving the user installation experience.

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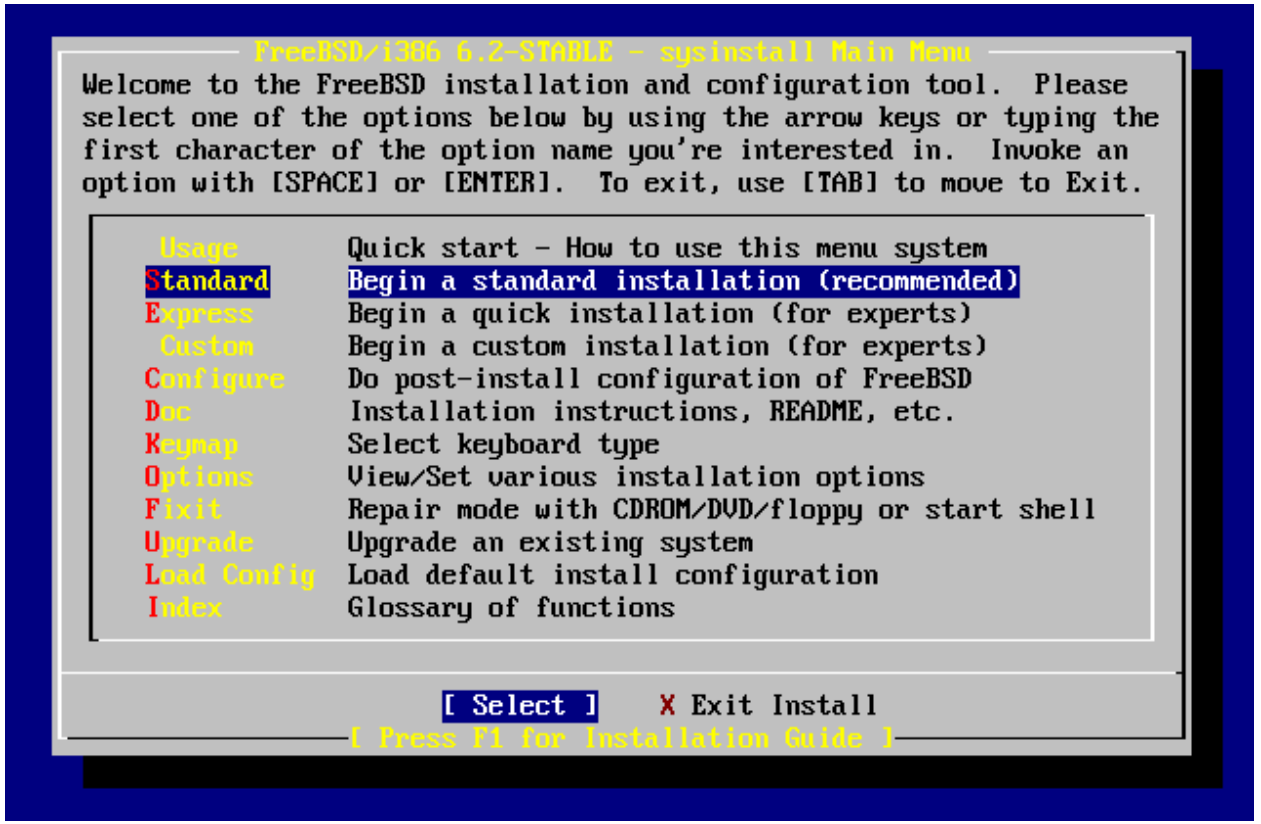
- Problem #1 – “sysinstall”



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- Looks like a legacy DOS-era program
- Non-intuitive
- Complicated installation options, partitioning, network setup, etc.

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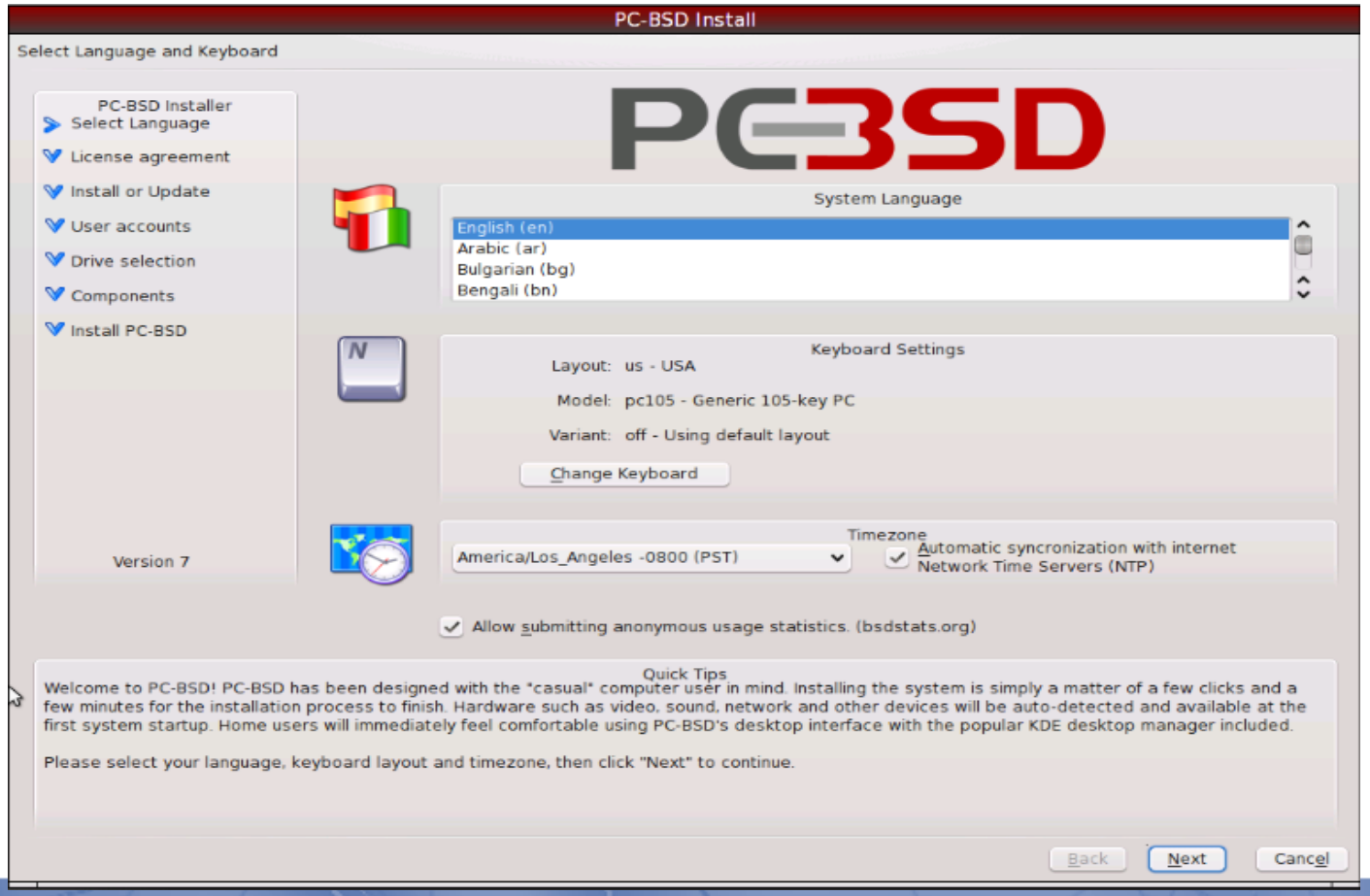
- Solution - “PCInstall”



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- Looks like a modern desktop install
- Intuitive interface
- Helpful Tips to 'guide' the user
- Simplified disk setup and package selection.

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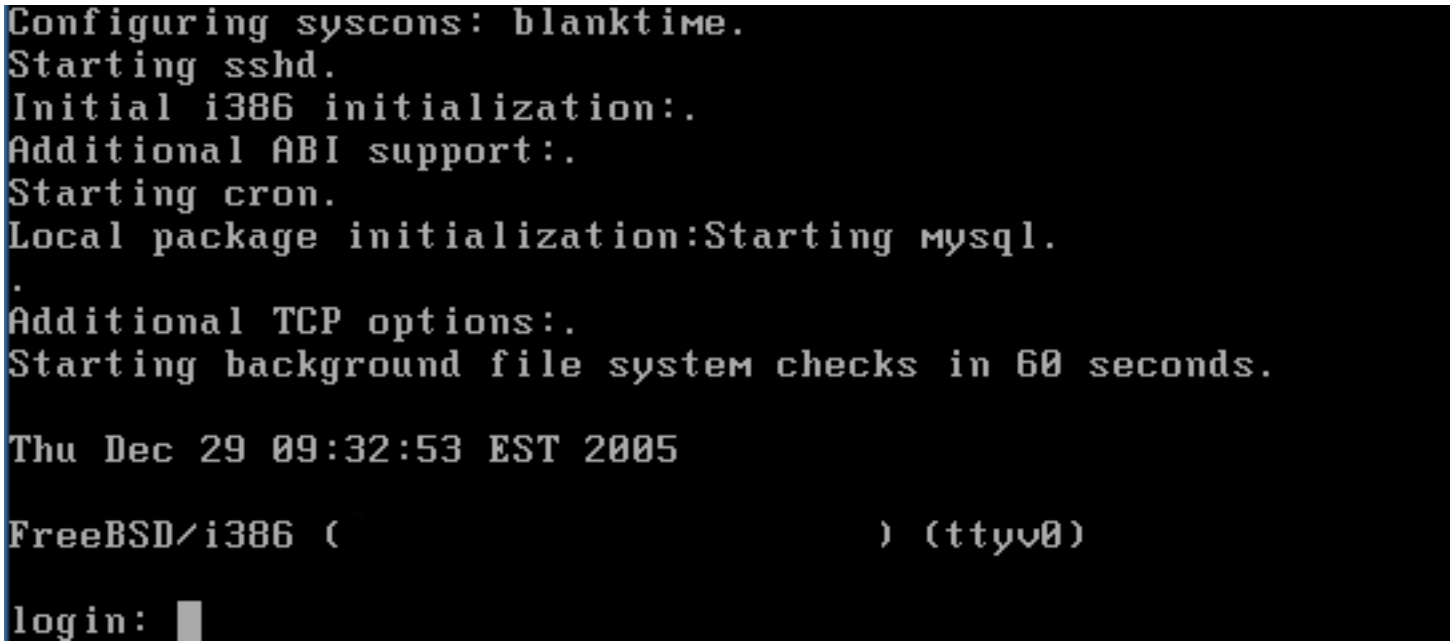
- Problem #2 – No Xorg setup wizard



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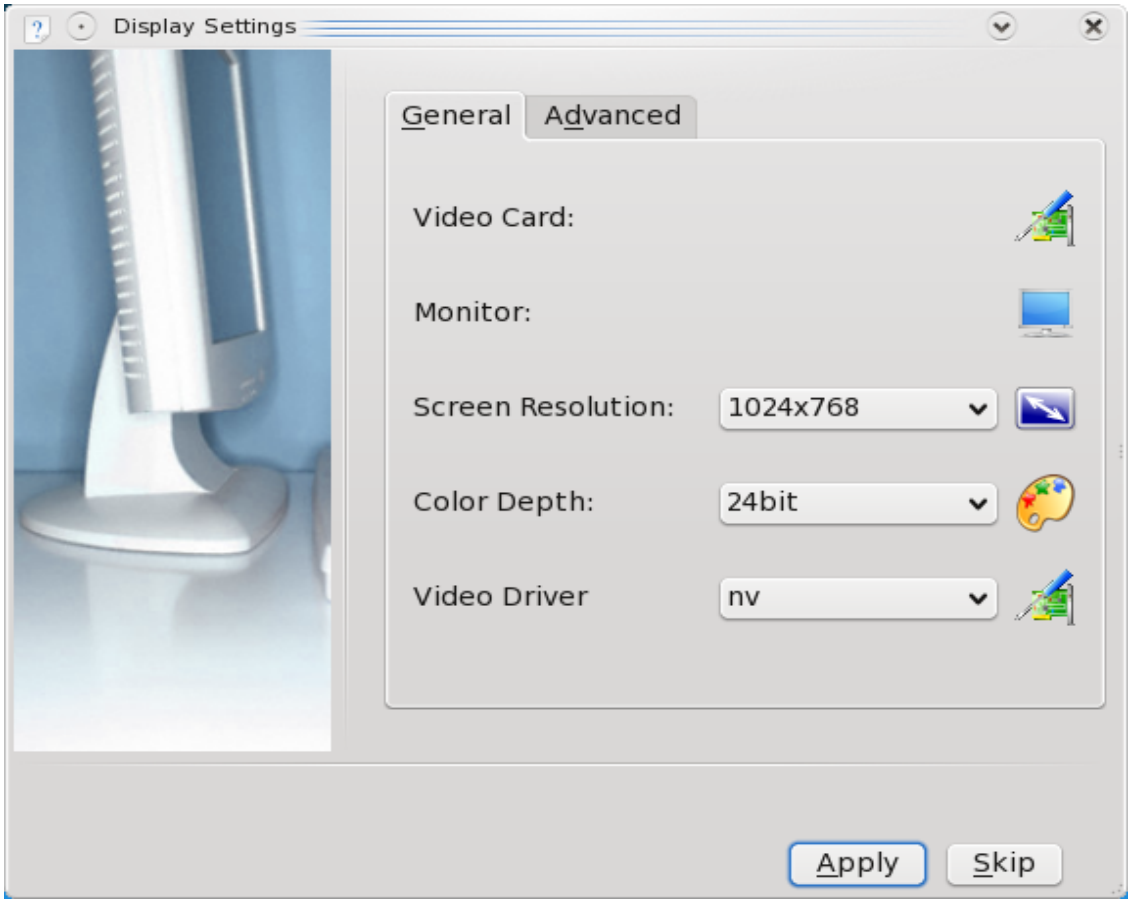
- Solution – Xorg Setup GUI



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- Allows the user to configure their display, via point-n-click interface
- Runs in 1024x768 with auto-detected driver / refresh settings
- Supports fail-safe “vesa” mode

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- Problem #3 – Networking Setup

```
#
# home network; allow all valid ciphers
network={
        ssid="home"
        scan_ssid=1
        key_mgmt=WPA-PSK
        psk="very secret passphrase"
}
```

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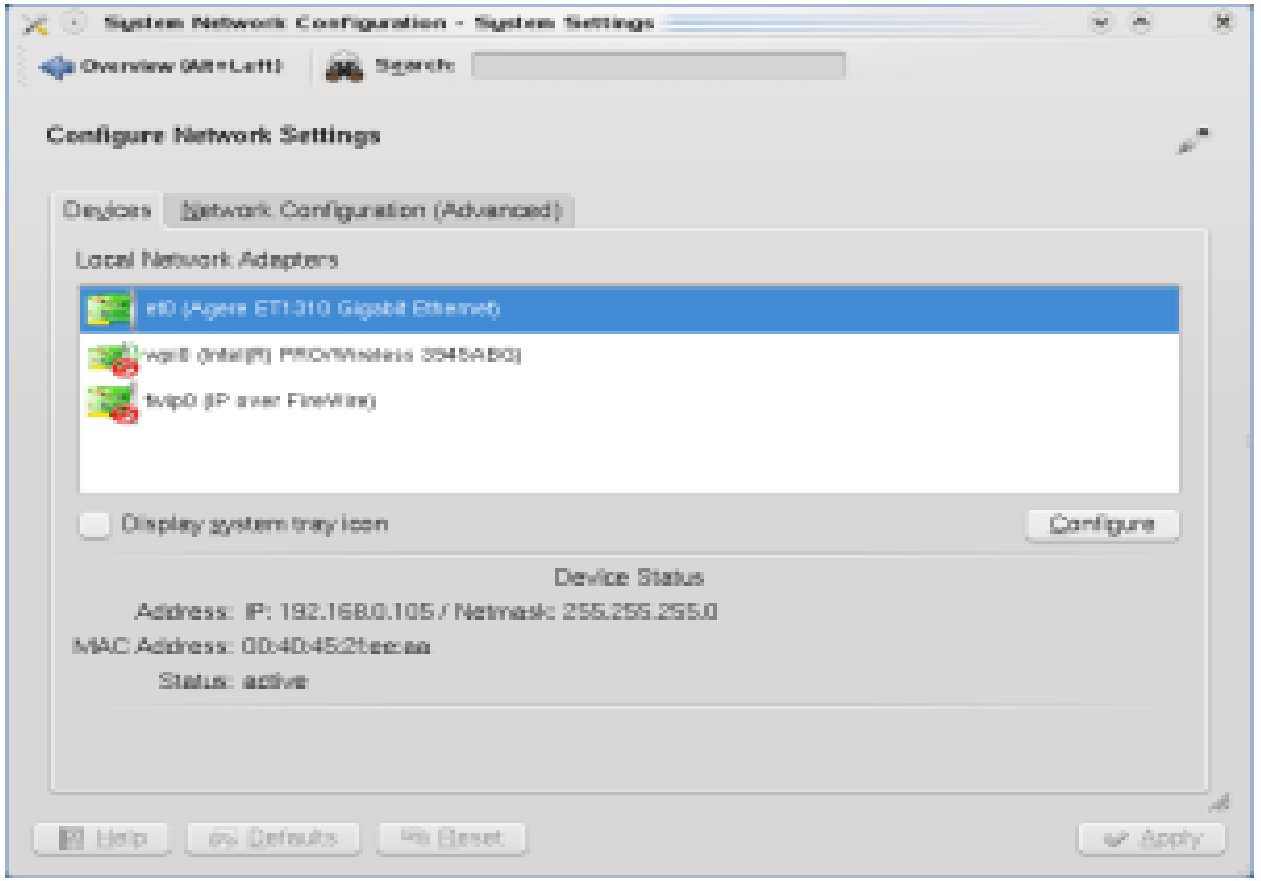
- Solution – Network device manager



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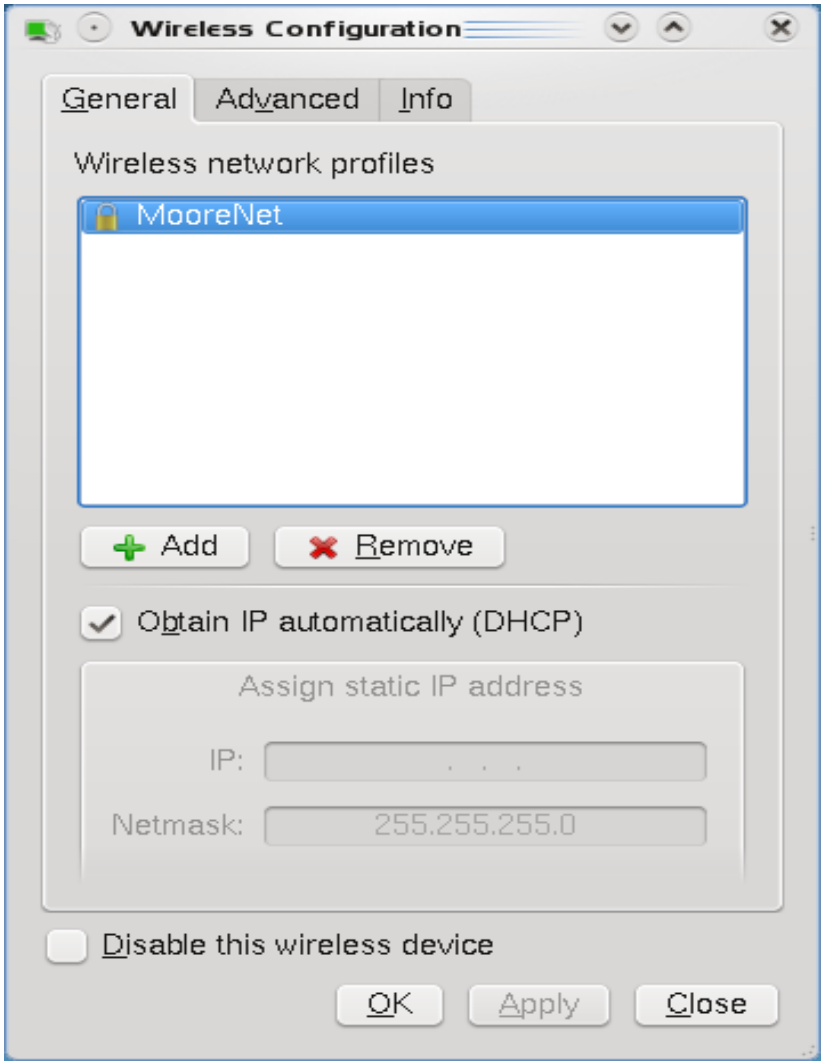

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- Allows graphical configuration of networking
- Supports Wifi scanning, and various encryption methods
- Includes “tray” application, which can monitor connection status

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Base System Modifications

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- Default kernel has more hardware support enabled.
- Base system includes additional packages, such as X11, KDE4, Nvidia drivers, Flash 9 and more.
- Custom LOCALBASE in /PCBSD/local

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– PBI –

A desktop friendly packaging system

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Problem:
How do we make package management user friendly?

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Ports:

- Many available applications
- Up to date with most popular releases
- Long wait times for builds
- Tedious upgrade process
- Prone to dependency related failures
- May not contain desktop icon data

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Packages:

- No long compile times
- Tedious upgrade process
- Prone to dependency related failures
- No GUI driven installation method
- May not contain desktop icon data

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PBI (Push Button Installer)

- No long compile times
- Simple upgrade procedure
- Includes necessary libraries, reducing dependency failures.
- GUI and CLI installation methods
- Larger total installation size

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To depend or not to depend

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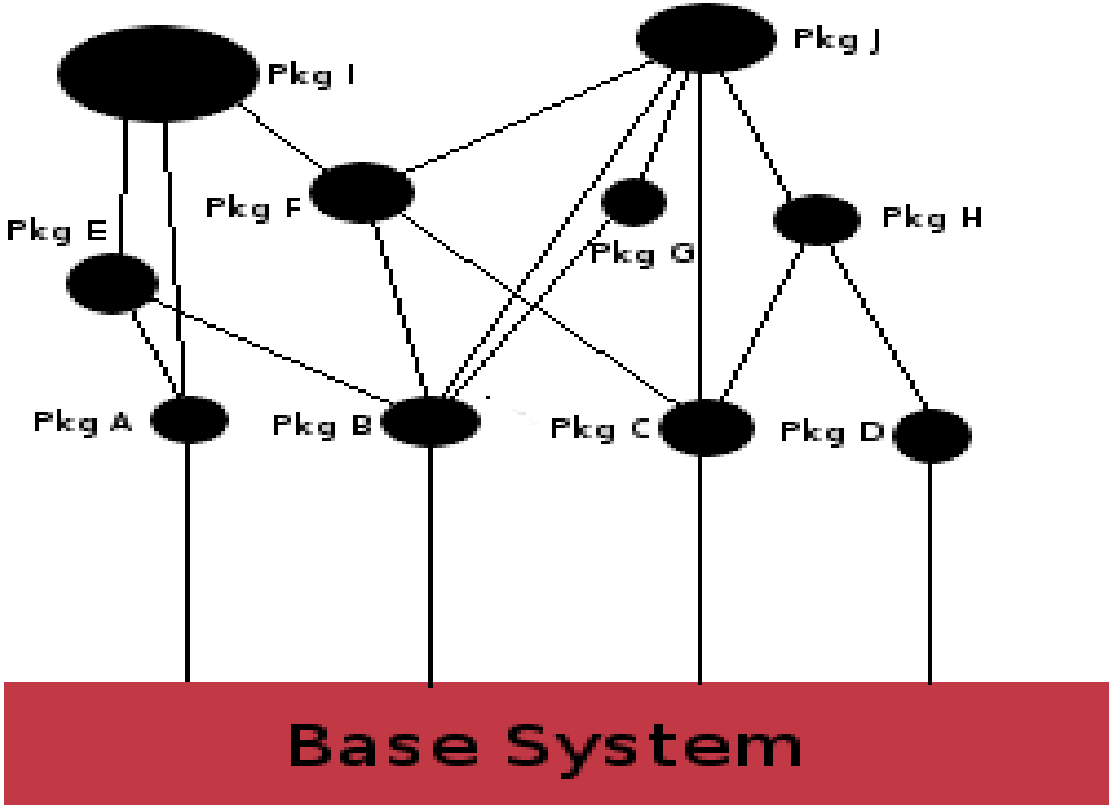

Traditional Package Management Model

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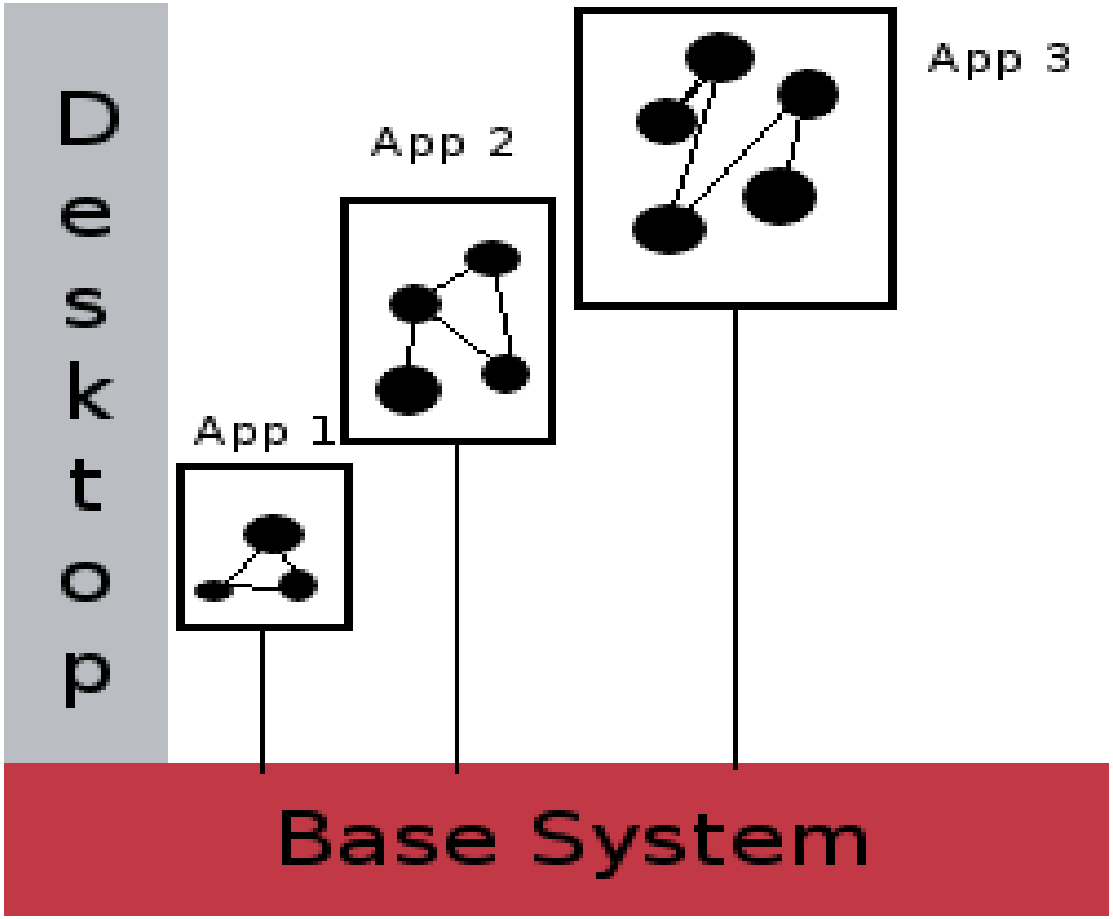

PBI Application Model

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The PBI format in practice

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- Applications are compiled from ports
- A custom LOCALBASE is set for each PBI.
  - LOCALBASE=/Programs/Firefox3.0.5
- Resulting binaries / data are compressed with tar and lzma
- Data is appended to binary, and program data

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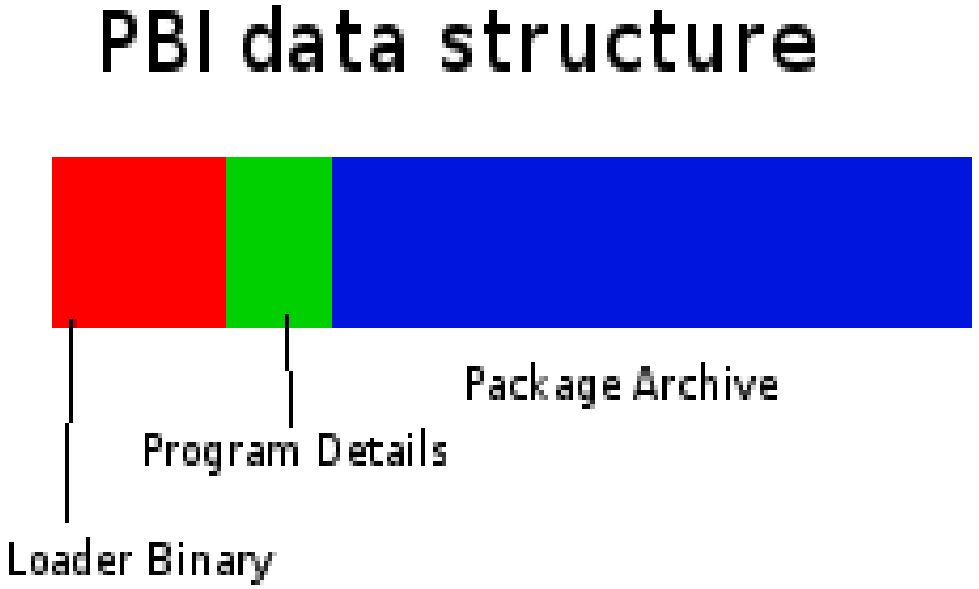

The PBI file layout

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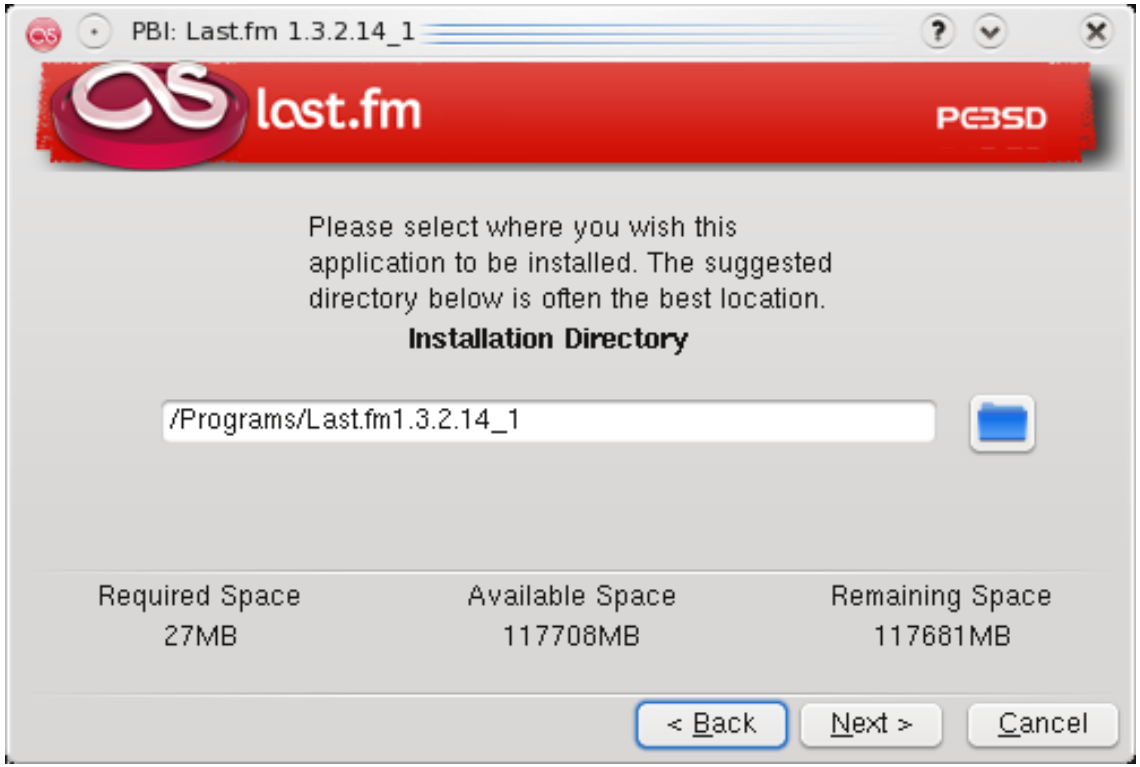

End User Installation

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FreeBSD Wishlist

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- Visually improve startup process
- Improve Wine compatability on BSD
- Improved mmap functionality
- Improved device support – sound, webcam, etc
- Laptop Enhancements, Suspend, Resume

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Summary

FreeBSD can and does make a great desktop system. PC-BSD simply is trying to make it easy and enjoyable for the typical desktop user.