Summary

1. Introduction
2. Probably talk about DeforaOS
3. Probably also talk about pkgsrc
4. With luck share a personal problem or two
5. Picture of a cat
6. Conclusion
7. Cake, ice cream, whatever is there to be eaten
Introduction

- Where babbling about oneself is done
- Freelance IT-Security Consultant
- Based in Berlin, Germany
- Thinks he's funny
- Likes to work on NetBSD and pkgsrc between a silly pun and the next one
- Can be serious too
About DeforaOS (1/2)

Open Source project since 2005

Born from my frustration with the existing stuff:

- I just wanted to synchronize IRC chat logs between my two computers!
- Rinse, repeat, apply (RSS, bookmarks, playlists, SCM, documents... possibly running programs)

Really:

- Ubiquitous computing
- Seamless networking
About DeforaOS (2/2)

Three parts:

**Self-hosted capability**
kernel, libc, assembler, compiler...

**Distributed framework**
RPC, interfaces, services...

**Desktop environment**
desktop, embedded devices...

Portable, also meant to run on today's systems
Not fully implemented...
About pkgsrc

- No need to tell you much here
- So I'll just skip to the next slide
What's relevant in pkgsrc

audio/deforaos-mixer
comms/deforaos-phone
databases/deforaos-libdatabase
devel/deforaos-coder
devel/deforaos-libsystem
editors/deforaos-editor
graphics/deforaos-camera
mail/deforaos-mailer
meta-pkgs/deforaos-desktop
multimedia/deforaos-player
print/deforaos-pdfviewer
sysutils/deforaos-browser
sysutils/deforaos-terminal
time/deforaos-todo
www/deforaos-surfer
x11/deforaos-keyboard
x11/deforaos-libdesktop
x11/deforaos-locker
x11/deforaos-panel
What works

- The desktop environment, featuring:
  - Meta-package
  - A lot of the functionality expected already there
  - A special mode for embedded devices (as a compile-time option)
- A couple development tools:
  - Embedded development simulator (needs Xephyr from wip though)
  - SQL console
- So, in no particular order...
The desktop: volume mixer

- audio/deforaos-mixer
- This is the vertical mode
- Has tabbed and horizontal modes too
- Defaults to OSS on other platforms
The desktop: video camera

- graphics/deforaos-camera
- Can take pictures
- Meant to be used as a camera application on a phone
- Yes I have a boring office wall on this side
- I don't care, I don't see it when I work
The desktop: UMTS modems

- comms/deforaos-phone
- Interfaces with pppd
- Works unprivileged
- No need for chat
- Full telephony on the Openmoko Freerunner
- Beginning of VoIP support
The desktop: panel

- x11/deforaos-panel
- Lots of applets available
- Some XDG support
- Integrates a virtual keyboard
The desktop: online help

- www/deforaos-surfer
- Also meant to read NetBSD manuals (as HTML) and more
- I need help myself
- Not implemented yet
The desktop: kick-ass file manager

- sysutils/deforaos-browser
- Plug-in system:
  - CVS, Subversion, Git
  - Gtk+ favorites
  - Makes coffee
  - Saves the world from white sharks
  - My only finished project to date
  - (not all of this is true)
The desktop: mail client

- mail/deforaos-mailer
- Read-only access to mbox, POP3 and IMAP4 mailboxes
- A couple plug-ins
The desktop: PIM applications

- time/deforaos-todo
- A Todo list (and a calendar once packaged)
- Available as plug-ins for the mail client
The desktop: web browser

- Supports multiple HTML rendering engines: WebKit, Gecko, libgtkhtml2, home-grown text-only...
The desktop: terminal emulator

- sysutils/deforaos-terminal
- Really embeds xterm
- Supports multiple tabs
- Very young code
The desktop: media player

- multimedia/deforaos-player
- Really embeds mplayer (rather painful unfortunately)
- Slowly getting it to be actually usable
Development tool: simulator

- devel/deforaos-coder
- Simulates the display of embedded devices, here the Nokia N800 tablet (much like wip/xoo does)
Development tool: SQL console

- `devel/deforaos-coder`
- Connects to a SQL database (SQLite 2 & 3, PostgreSQL are supported)
Embedded mode

- It is exactly the same code for the logic
- Slight modifications of the user interface:
  - No more menu bar
  - Missing functionality added to the toolbar
  - Missing keyboard shortcuts handled explicitly
- Otherwise some default values may change
- Compile-time option: `CPPFLAGS= -DEMBEDDED`
- In pkgsrc, the “embedded” option
- Meant to be used on touchscreens
My personal problem (1/2)

- I have big fingers
- I will spare you the second one
What doesn't work

• Building on Linux, MacOS X, probably more:
  • The Makefiles are meant to be very portable
  • They are automatically generated through the “configure” tool
  • Unfortunately some differences cannot be fully helped through Makefiles (libossaudio, libdl...)
  • Some packages need either re-running configure, or special handling code depending on the target platform

• The window manager is not nearly good enough (wip/deforaos-framer)
What's coming

Behold...
(and this happened to me in real life before)
My cat (1/2)

(courtesy of my sister)
My cat (2/2)
(Dis-)Assembly framework

- Supports:
  Available architecture plug-ins:
  amd64, arm, armeb, armel, dalvik, i386, i386_real, i486, i586, i686, java, sparc, sparc64, yasep, yasep16, yasep32
  Available file format plug-ins:
  dex, elf, flat, java, pe

- In wip/deforaos-asm for the moment

- The GDeasm tool aforementioned is in devel/deforaos-coder, but not built by default
Compilation framework

- Likewise, very much work in progress
- Cannot do much besides generating call graphs at the moment
- Not even found in pkgsrc-wip yet
Distributed framework

- First prototype way too experimental
- Current rewrite too far from being ready
- Potential for:
  - Remote filesystem access (VFS)
  - Transparent, user-land VPN (much like net/tsocks)
  - OpenGL-based replacement for X
- Too soon to promise anything : (
A little more about the desktop

- Will package nodm soon:
  - It efficiently replaces gdm as a graphical auto-login program
  - Will be very useful on embedded targets
- The packages in pkgsrc-wip target Gtk+ 3:
  - deforaos-browser fails to build the “desktop” binary
  - A couple more packages may not build yet
How much time do I have?

• What about some more demos:
  • Rewrite of the “progress” tool in Gtk+
  • Integration inside the panel
  • Desktop notifications (volume, power management, system events...)

03/23/13  DeforaOS & pkgsrc
Conclusion

- Hope it has piqued your interest
- Would love to see it running on more devices
- Patches welcome!
- Or any kind of feedback anyway
- As for food, help yourself (but you do know already)
Contact information

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