PokyLinux: Mobile GNOME at your fingertips

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Presentation agenda

- FOSS building challenges
- Poky build system presentation
- PokyLinux as an image
- PokyLinux, Sato, and user experience

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FOSS building challenges

• software sources
  – are distributed
  – use different build tools (autotools ...)
  – various storage format: tars, VCSes ...
  – change frequently

• software images
  – need support for various targets
  – need support for optional features
Poky build system

- based on OpenEmbedded
- clean architecture
  - metadata (recipe): how to build sources
    - software licences & descriptions
    - locations and patches
    - dependencies
  - task executor (BitBake): reads metadata
  - result: a binary image installable on the target
    - tar, jffs2, ext2, ext3, tar.bz2, ...
A recipe: xv-test.bb

DESCRIPTION = "Simple XVideo test application"
LICENSE = "GPL"
DEPENDS = "libxv"
PV = "0.0+svnr${SRCREV}" 

SRC_URI="svn://svn.openedhand.com/repos/dists/trunk; \
 module=test-xvideo;proto=http"

S = "${WORKDIR}/test-xvideo"

inherit autotools

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Launching bitbake

> bitbake xv-test

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Results of bitbake

• binary installable packages
  – ipk, deb, rpm ...
• binary installable image
Poky metadata repository

- can be seen as a stable subset of OE
  - focused on providing a stable GMAE platform
  - configurations tested and can be supported
- contains various machine configs
  - pxa270, fic-gta-01, htcuniversial, mx31, Zylonite, qemux86, qemuarm ...
- can generate various image types
  - stripped, development, debugging ...
- over 650 recipes (OE has over 4000)
Poky/OE relationship

• Poky easier to manage
  – metadata repository in svn
  – ease of experimentation

• healthy Poky & OE collaboration
  – lot of changes are being pushed upstream
PokyLinux

• result of a particular set of recipes
• optimized GMAE platform:
  – Linux kernel
  – TinyX (Kdrive Xserver)
  – Matchbox
  – GTK+/Cairo
  – D-BUS IPC system
  – Sato

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Development support in PokyLinux

• can run in
  – QEMU ARM/x86
  – chroot on the workstation
  – on the embedded target, of course.

• well integrated with oprofile and LTTng
  – GDB (including remote GDB)
  – strace

• has touchscreen debugging/test tools

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Sato desktop

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Sato at a glance

• aimed at high DPI handheld devices
• features a full PIM application suite (Pimlico)
  – contacts management
  – calendaring management
  – tasks management
  – synchronisation
• optimized for speed
  – specific GTK+ theme

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Sato contacts application

OpenedHand Ltd

Homepage: http://www.o-hand.com/
Other: info@openedhand.com
Voice: +44 208 819 6559
Work: 216 - 218 Homedale Road
      Unit R, Homedale Business Ce
      Bromley
      BR1 2QZ
      United Kingdom

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Sato dates application

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- 10:00: Test Poky
- 10:00: Delivery
- 16:00: Delivery

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Sato tasks application

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Sato web

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Poky case study: Vernier

- data collection and analysis devices for student labs
Poky case study: Vernier

- used Poky to build the LabQuest device
  - fast development time
    - advanced build system
    - GMAE
    - use of QEMU when hardware not available yet
    - debugging/profiling capabilities
- designed a LabQuest training tool
  - runs on students PCs
  - uses QEMU ARM

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Thanks!

- http://www.pokylinux.org
- http://pimlico-project.org
- http://www.openedhand.com