Active Directory For Your Breast Pocket

Mobile Networks For Mobile Workgroups

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SambaXP 2010, May 7th

Outline

Mobile Workgroup

http://ars.userfriendly.org/cartoons/?id=20000614 June 14th, 2000
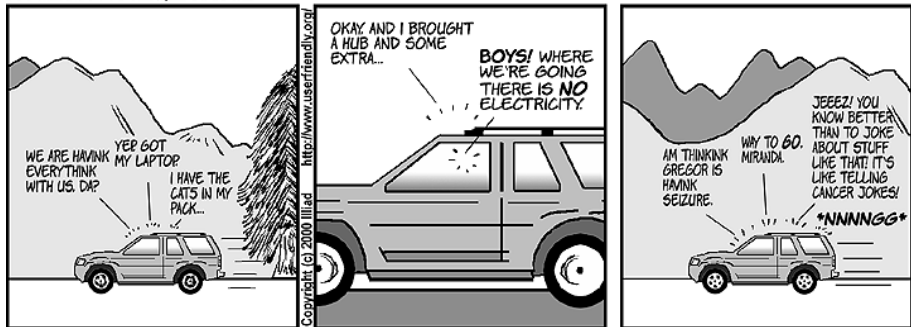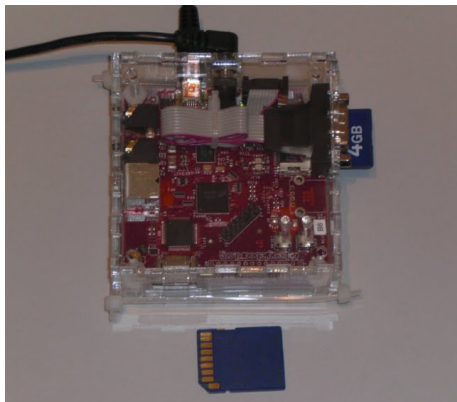
Other Uses

- RODC server for branch offices
- SOHO Servers
- Management appliances

ARM

- 32bit RISC architecture
- Low power, low cost
- Widely used in consumer electronics
  - Smartphones/PDAs
  - Handheld gaming consoles
  - Routers/NAS boxes
  - Netbooks/Internet tablets

Beagle

- 8cm x 8cm
- 128/256 MB RAM
- 500 mA / 5 V
- 500MHz ARMv7
- SD/MMC/SDIO slot
- Serial port
- **No** ethernet

Phones

- 11cm x 6cm
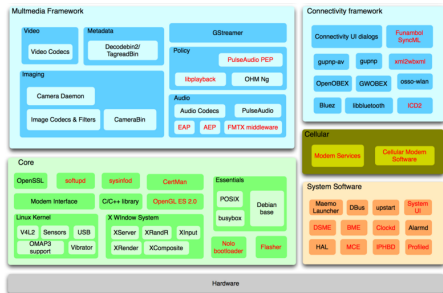- 288 MB RAM
- 528MHz ARM
- MicroSD
- WiFi

Linux

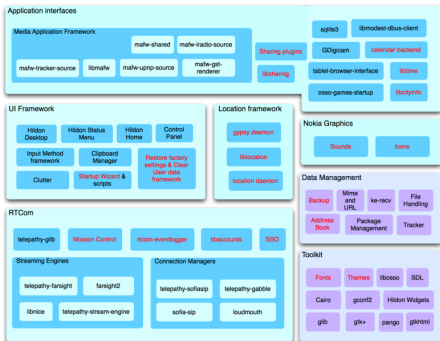- Ubuntu 9.04 (ARMel)
- Debian
- Angstrom

Android

http://developer.android.com/guide/basics/what-is-android.html, May 5th, 2010

Maemo

http://wiki.maemo.org/Documentation/Maemo_5_Developer_Guide/Architecture/Top_Level_Architecture

May 2005, 2010

Building for Android

- Grab `repo`
- Fetch native development kit (NDK) (go get a coffee...)
- Build the NDK (go have lunch, a walk and cake...)
- Cross-build your project

Challenges on Android

- Android is not a Linux OS
- Hard to get community support

Building for Maemo

- Grab Scratchbox2
- Make sure app compiles for x86
- Cross-build for ARMel

Challenges on Maemo

- No working simulator available
- Build tools only work on 32bit
- Less devices supported

Crossbuilds Using Waf

- Uses the current S4 build system
- Cross-configure currently hits simulator bug
- Likely the way to go in future
- Can possibly be made to use embedded SDKs

Native Builds

- Easy on "real" Linux
- Requires dev env on embedded system
- Samba4 builds in ca. 2 hours

Demo

Join XP machine to S4

Demo

Join Win7 machine to S4

Demo

Join Win2k8R2 DC to S4

Power Consumption

System	Idle(W)	Load(W)
AMD Athlon64 3000+	75	105
Intel Core2 Quad	109	180
Mac Mini G4	20	40
ThinkPad R52	27	50
Beagleboard	4	7
ShevaPlug	6	9

Benchmark

Test (cycles/minute)	Win2003(VM)	S4 (VM)	S4 (Beagleboard)
kinit − kdestroy	510	1430	100
join − leave	70	90	10
user add − delete	90	110	12
group add − delete	90	160	22
LDAP search (idx)	70	120	40
LDAP search (wc)	200	340	100
LDAP search (i. idx)	220	360	100

Summary

- Suitable for small setups
- Slow operations not done often
- Affordable Active Directory setup (no license costs)
- Some optimization might help
- Building Samba4 with busybox worth a try

Thank you

Questions?