Linux in embedded security devices

ESSENSIUM

Your needs translated into silicon
Contents

1. Company
2. System
3. Demo

Jan Veldeman
Linux in embedded security devices: a showcase
Essensium

- Incorporated March 25, 2005
- Spin-off from IMEC and supported by Silterra
- Acquired Mind March 10, 2006
- Corporate Headquarters
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  - Tel +32 16 28 65 00 - Fax +32 16 28 65 01
  - www.essensium.com
Intelligent Data Capturing Systems
Established in 1987
Corporate Headquarters
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- Tel +32 11 27 94 50 - Fax +32 11 27 58 32
- www.idcs.be
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2 System
   - Overview
   - Design challenges
   - Planned extensions

3 Demo

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3 Demo
Overview

Linux in embedded security devices: a showcase
Advantages

- Secure and reliable use of UTP cables
  - standard
  - available in most cases
- Robust system:
  - Redundant central component
  - Distributed control
  - Multi-site through IP network
- Fast development
  - Easy debugging (ssh)
  - Re-use of hard and software
Disadvantages

- Installation requires networking knowledge
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Tamper proof

- Signed software updates
  - base packages
  - optional packages
- OpenSSL
- remote monitoring
Use of existing network infrastructure

- use of DHCP (dynamic)
- extra option added
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Planned extensions

- General IO controllers for sensing and special devices (e.g. AD convertor over SSL)
- Distributed scripting engine using lua
- Multifunction devices
USB devices in LPU
Redundant power supply and network
Debugging in shell
Hardware reuse
PoE
Components
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Questions & Answers