

CONSULTANT PROFILE



Work experience

#311

Engineer. Year of birth 1967
Specialities: Embedded Systems, Linux

- 2010 - Prevas A/S
Prevas Freelance Consultant
- 2007 – 2009 TietoEnator A/S
Software Developer
- 2000 – 2007 Ericsson Telebit A/S
Software Developer
- 1997 – 2000 CCI Europe A/S
System Consultant
- 1995 – 1997 Pine Tree Graphics A/S
Software Developer

Competencies

Programming languages

- 14+ years ANSI C 89, ANSI C 99, Perl, bash
- 3 years TCL, Pascal

Tools

- gcc, gdb, make, rpmbuild, LLVM/Clang.
- Rational Clearcase, Subversion, git, CVS
- PC Lint, splint

Technologies

- Linux kernel handling: patching, configuration and compilation.
- Linux kernel modules: development, maintenance and test.
- Busybox based systems.
- IPv4 based networks, TCP/IP, UDP/IP, sockets, Ethernet.
- WIFI communication.
- Data storage for mobile devices.
- VxWorks on StrongARM and Power PC platforms.
- High performance embedded Linux platforms.
- Telecom Carrier Grade Implementations of embedded Linux systems.

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Education

1987 – 1991 Ingeniørhøjskolen Odense Teknikum
B. Sc. E.E, Dataingeniør

Project references

Freelance

2014 – 2014 Freelance Consultant

Prepare linux part of new product platform
Tasks



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Linux DVB front end framework for NDA chipsets for Raspberry PI and OpenRisc platforms.

Prepare Ethernet device driver framework for OpenRisc kernel

Prepare socket remapping framework - character devices as front ends for FPGA based TCP offload engine

Prepare Linux runtime environment for OpenRisc system - busybox

Toolchains for Raspberry PI and OpenRisc

Prepare Linux kernel for OpenRisc softcore CPU.

System design and documentation

Test framework

Freelance

2013 – 2013 Freelance Consultant

Troubleshoot Linux based AV application.

Challenge:

Sound was periodically played around 25% too slow.

Outcome:

The consultant identified the the root cause and investigated effect of various possible solutions.

The consultant left the project at a point where the sound delay was decreased to about 10% obtained by making a few minor changes in the code.

To obtain the last bit requires some major changes to the code base, which the customer chose to implement themselves now knowing how to avoid causing sound delays.

Freelance

2013 – 2013 Freelance Consultant

Challenge:

Analyze, Investigate and implement prototype solutions for WIFI communication between one hand held device and up to 6 other mobile devices.

Requirements:

Must be usable as a mobile standalone system - world wide.

Must be usable in stationary installations having multiple systems operating concurrently.

Must maintain backward compatibility to existing products.

All documentation created by the consultant was used by management to define scope and content for final solution offered to customers.

Documentation:

Technical documentation of possibilities or limitations found during investigation phase.

Description of likely use cases to be aware of or use cases which need to be handled

Test specification for verification of final solution.

Keywords:

Roving RN 131 net card on Cortex M3 STM32 platform using SeggerOS.

OMAP platform running Ubuntu.

WIFI Access Points, DHCP. UDP, TCP and IPv4. C++ programming.

Prevas

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2011 - 2012 Prevas Freelance Consultant

Challenge:

Storage software for mobile devices using NVM or FLASH media.

Updating and maintenance of legacy software within Non Volatile Memory and FTL components.

Keywords:

C programming, debugging and test, lint, code coverage.

Prevas

2010 - 2010 Prevas Freelance Consultant

Challenges:

Development and Implementation of boot- and chain bootloader for VxWorks. Unification and management of configuration data on flash storage.

Keywords:

Boot and Chain bootloader on ARM and PowerPC platform.
VxWorks on StrongARM and PPC.
Flash disk partitioning.
C and C++ programming, debugging and test.

TietoEnator A/S

2009 – 2009 Software Developer

Research project: Debian on ARM based hardware.

Project initiated to investigate possibilities in delivering Linux to systems being based upon ARM hardware.

Research project: Linux on Beagleboard (ARM Cortex A8).

Project initiated to investigate product opportunities for a product based upon specific hardware components.

Ericsson AB / TietoEnator A/S

2005 – 2009 Software Developer

Integration of SUSE Linux Enterprise Server to hardware platforms.

Challenge:

Linux kernel hardening to Telecom Carrier Grade Standards.

Requirements:

99,999% up time or better required – max 5.26 minutes downtime pr year
At least 10 years of SW maintenance required.

Both goals achieved on time and on budget.

Keywords:

Handling of Linux kernels: patching, configuration, compilation and test.

Kernel modules development, maintenance and test.

Development and maintenance of Release Management System and integration

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to automated test system on Linux platform.

Product preparation of kexec based kernel crash dumping.

kexec based fast booting solution for disk-less server using Busybox.

World Wide support of SUSE Linux Enterprise Systems used within core mobile network managing servers and Mobile Switching Center platforms.

Fault Slip Through analysis.

Technical coordination of content in deliveries to customer.

Project planning, technical analysis of dependencies in projects, estimation of time consumption for tasks in projects.

Products:

Ericsson APZ 212/55, APZ 212/60, APZ 214/01 and APZ 214/02

Ericsson Diax A/S

2004 - 2005 Software Developer
Redesign and upgrade of DHCP server.

Challenge:

Design, coding and testing of a DHCP server used internally within ADSL site control system.

The existing solution became impossible to maintain and expand with new features. The consultant executed the entire project from initial request for requirements to implementation, documentation, testing and verification.

Keywords:

RFC 2131, RFC 2132, Embedded Linux, DSLAM, C, test, documentation, lint.

Ericsson Diax A/S

2004 - 2004 Software Developer
IPv4 based Services On Demand.

Challenge:

Distribution of IPv4 based Services On Demand using ADSL connections

Research project executed by the consultant implementing and documenting Proof of Concept showing pro's and con's for the intended solution.

Keywords:

IPv4 networking, PC auto configuration, vlan, DHCP

Ericsson AB

2003 - 2004 Software Developer
IPv4 binary compatible socket interface for OSE Delta platform.

Challenge:

Is it possible to replace the platform layer without needing to recompile the application layer? One way of estimating effort needed to break vendor lock-in.

Research project implementing and documenting a Proof of Concept showing pro's and con's for the intended solution. The consultant was part of the group solving the task.

Keywords:

IPv4 socket API, C, OSE Delta, test and documentation, lint.

Ericsson AB

2002 - 2003 Software Developer

IPv4 stack management in core mobile network router.

Challenge:

Management of AAL5 and Ethernet lines internally in multi-site router.

Design and implementation of run time IPv4 stack management (O&M) internally in core mobile network router.

The consultant was part of the group solving the task.

Keywords:

AAL5, O&M, ASN, C, mibs, TCL, lint, Embedded Linux, OSE Delta, Ethernet.

Ericsson Mobile Platforms AB

2000 - 2002 Software Developer

IPv4 / IPv6 stack for mobile handsets (TIP stack)

The consultant was part of a group responsible for developing a dual IP host stack for mobile terminals from scratch.

Challenges:

RFC 1144 – Van Jacobson Header Compression.

FIPS specifications for SHA, SHA1, DES libraries.

Run time configuration of IPv4 and/or IPv6 stack in mobile handsets (O&M).

Keywords:

IPv4, IPv6, C, lint, Doxygen, Linux, OSE Delta, Latex.

CCI Europe A/S

1997 – 2000 System Consultant

Integration of CCI System to 3. party systems.

Challenge:

Design and implement customer specific functionality related to each customers specific work flow in certain areas - photo, news, ads, planning, etc

Keywords:

TCL, PL/SQL, Postscript, C, Linux, Solaris, AIX

Pine Tree Graphics A/S

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1995 – 1997 Software Developer
Archiving and print job management.

Challenges:

Development of semi and fully automatic archiving systems for image and document management systems.

Development of backup system for image and document management system.

Specification and programming of print job management routines.

Keywords:

Perl, SQL, Postscript, C, Solaris, Sybase, Windows

Competencies (continued)

Technologies

- Disk less systems / network booted systems.
- Kernel crash dump analysis.
- Bug tracking, reporting or fixing in Linux kernels or user space.
- Automation of tests and test systems.
- **Development of applications**

Tools

- Latex, Doxygen, sed, awk, postscript

Languages

- English: Fluent
- **Danish: Native**
- **German: Basic conversational**

Quality Management

- Software Quality Ranking and CMMI knowledge.

Web

- 4 years Linux, Apache, MySQL, PHP
- XXHTML 1.1, CSS 2.0, java script (ECMA script), SQL

Education (continued)

