

# Diploma Thesis at Siemens CT

## Title and Subtitle

Distributed SLIND Devices communicating over FireWire and Ethernet

Benchmarking real-time alternatives based on GNU/Linux

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About my department: CT SE2 Architecture

## **Siemens Corporate Technology (CT)**

The Siemens company is occupied in many different areas of operation and therefore has many subdivisions. The Corporate Technology department is there especially to support all the other subdivisions with research and development, so that they are supplied with innovations and thus able to maintain their competitiveness.

## **Siemens CT Software & Engineering 2**

Corporate Technology is divided into many different departments. One of them is Software & Engineering (SE), whose occupation is the development of software, as well as research in that area. After all, Siemens is one of the biggest software developers for industrial systems, but also in other areas software competence is indispensable. SE 2 is dealing primarily with architectural questions and acts as a consultant for other departments. Among other things, SE 2 also performs research in fields like aspect-oriented programming. My team deals mainly with solutions concerning Linux.

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About involved people

Advisor FH:

Prof. Dr. Arnulf Deinzer ([arnulf.deinzer@fh-kempton.de](mailto:arnulf.deinzer@fh-kempton.de))

Company advisor:

Marion Deveaud ([marion.deveaud@siemens.com](mailto:marion.deveaud@siemens.com))

Me:

Philipp Beyer ([mail@network-crawler.de](mailto:mail@network-crawler.de))

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What was postulated?

- practical comparison among different real-time systems
- find out about the capability of real-time network communications
- tap new applications
- demonstration of SLIND (Siemens Linux Distribution) within a networking environment

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What was developed?

- a web based configuration and benchmark environment
- a multi platform connector to send instructions to the involved test candidates
- a POSIX conform round trip measurement tool with special care of a lossless sending and receiving
- a Linux LiveCD to perform the tests and distribute the OSs to the test targets

An important task was to install and configure bloody edge real-time solutions based on Linux.

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More Info

You are free to download my thesis and my presentation. Just write me an email ([mail@network-crawler.de](mailto:mail@network-crawler.de)) and I'll show you where to find them.

If you want to know more about Siemens CT try [www.ct.siemens.de](http://www.ct.siemens.de)