



OPEN SOURCE DEVELOPMENT USING & CONTRIBUTING

JAN VAN DER MEER
ERICSSON TELECOMMUNICATIE BV

PRESENTATION GOALS

- › Organize Open Source internally
- › How is Ericsson using Open Source Software ?
- › What about contributing to Open Source ?
- › Watch for.....

CONTENTS

- › Ericsson
- › Software
- › Open Source Handling
- › Experience
- › Roadmap

THIS IS ERICSSON

Ericsson provides:

- › communication networks
- › global telecom services
- › multimedia solutions



We make it easier for people everywhere to communicate by helping operators to bring new services to their customers and evolving and improving the networks that make these services possible.

DRIVING COMMUNICATION EVOLUTION



FOCUS AREAS

- › Broadband everywhere; fixed and mobile
- › Communication for all; increase coverage and capacity
- › Telecom services; managed services & systems integration
- › Multimedia and beyond



THE WORLD'S LARGEST OPERATORS ARE ALL OUR CUSTOMERS



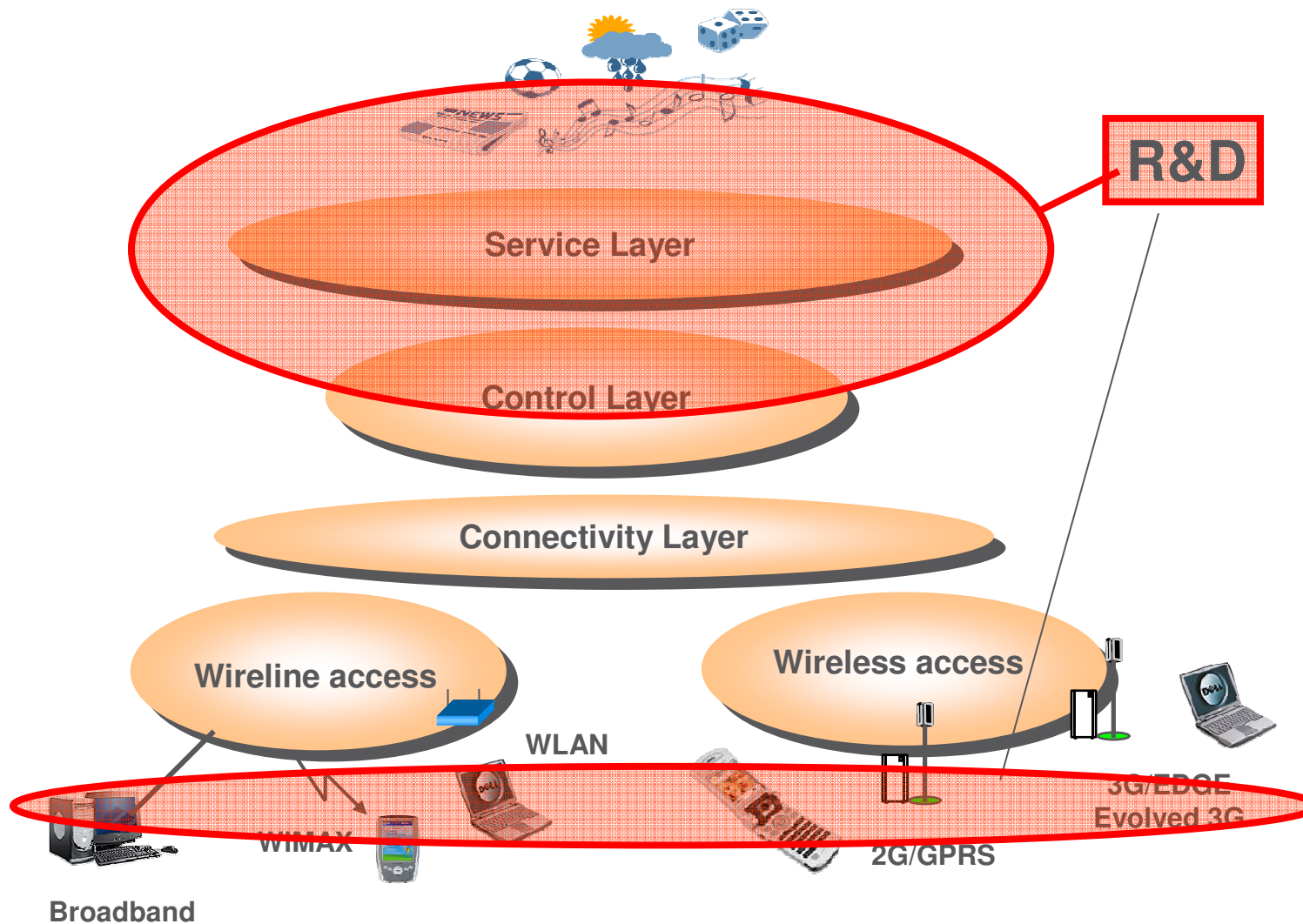
No single customer accounts for more than 6 percent of sales.

ERICSSON IN THE NETHERLANDS

Ericsson Telecommunicatie BV, Netherlands

- Market Unit Northern Europe (Benelux, Germany, Switzerland)
- › **Market Unit (~500 employees)**
 - Marketing & Sales
 - Customer Services (Systems Integration, Professional Services)
 - Customer Solutions & Sales Support
 - Support Units and Corporate Functions
- › **Global (~500 employees)**
 - Research & Development
 - Hosted Business Units: Global Services, Systems
 - Shared Services Center

ERICSSON NL R&D FOCUS AREA'S



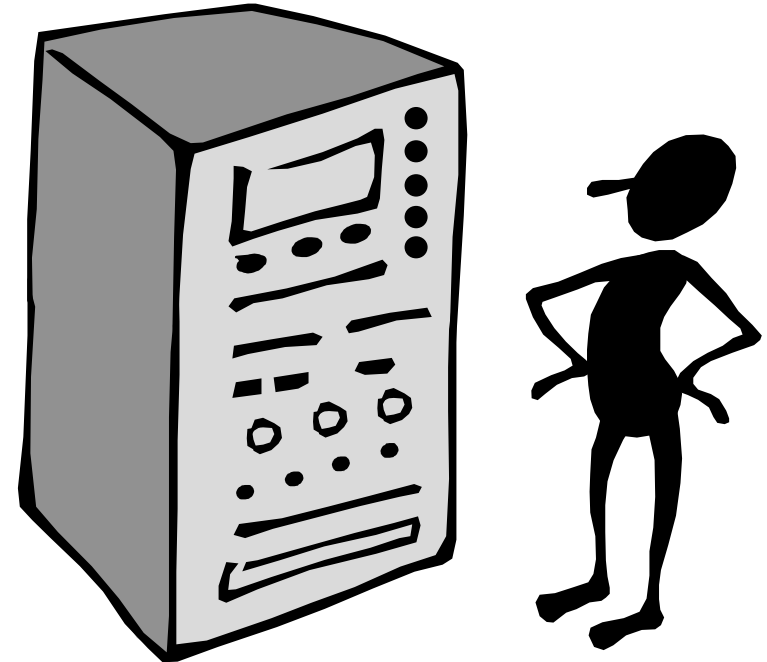
SOFTWARE - GENERAL

> Proprietary hardware

- radio base station, radio node controllers
- communication switches, media control
- application servers

> Standard (blade) servers

- solaris, hp-unix, linux
- special software and hardware add-ons to ensure 99,999% availability



CONTENTS

- › Ericsson
- › Software
- › Open Source Handling
 - general
 - use & contribute
 - license
- › Experience
- › Roadmap

OPEN SOURCE - AWARENESS

> Worldwide

- Community for code development
- Code sharing

> Ericsson

- Attention for open source
- Promotion of internal open source
- eforge = sourceforge
- knowledge sharing



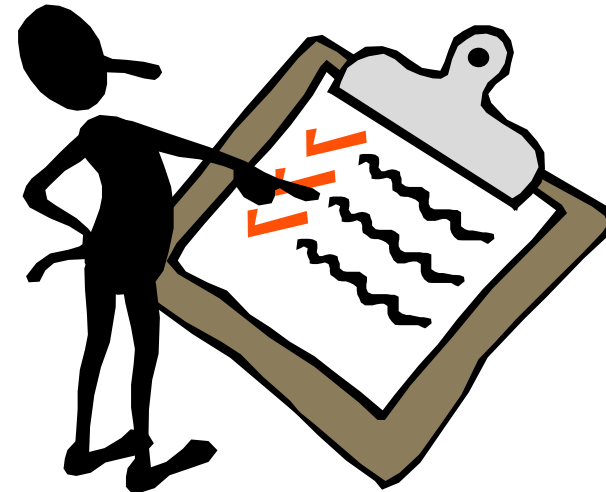
ERICSSON – LEARN MORE



- › Open Source can be found almost anywhere
 - Several of our products use open source today, Linux has become one of the most important OS's
 - Using Open Source often means well tested!!
 - All Open Source can be considered as any 3rd party
- › Free Open Source is licensed and owned (not public domain)
- › Copyright is automatically attached to every novel expression of an idea e.g. software

ERICSSON - DEFINITION

- › FOSS = Free Open Source Software
- › Source openly released
- › license grants to run the program for any purpose
- › license grants the rights to study the code and modify/adapt it
- › license grants the right to redistribute binary copies
- › license has no time or geographical restrictions



LICENSES

- › Copyright forbids commercial exploitation, unless relaxed
- › Licenses grant a right to use the software
- › Open source licenses
 - make code available for modification and redistribution
 - possibly additional requirements

- › The Open Source Initiative has approved ~60 licenses as Open Source licenses



USAGE PROCESS



> FOSS Directive

- provide an evaluation of the software (template)
- how is the software used
- community status
- possible alternative solutions
- license must be reviewed
- business case

> Usage of FOSS is allowed when

- Evaluation is performed
 - > preferably commercial agreement with FOSS supplier
 - > else Ericsson takes full responsibility
- Approved by Design Unit Management team

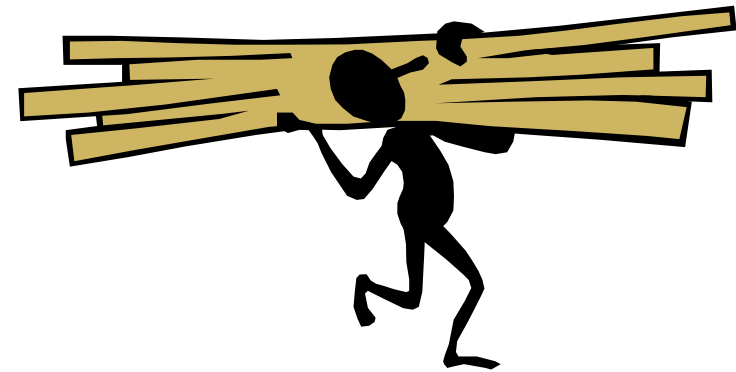


CONTRIBUTING

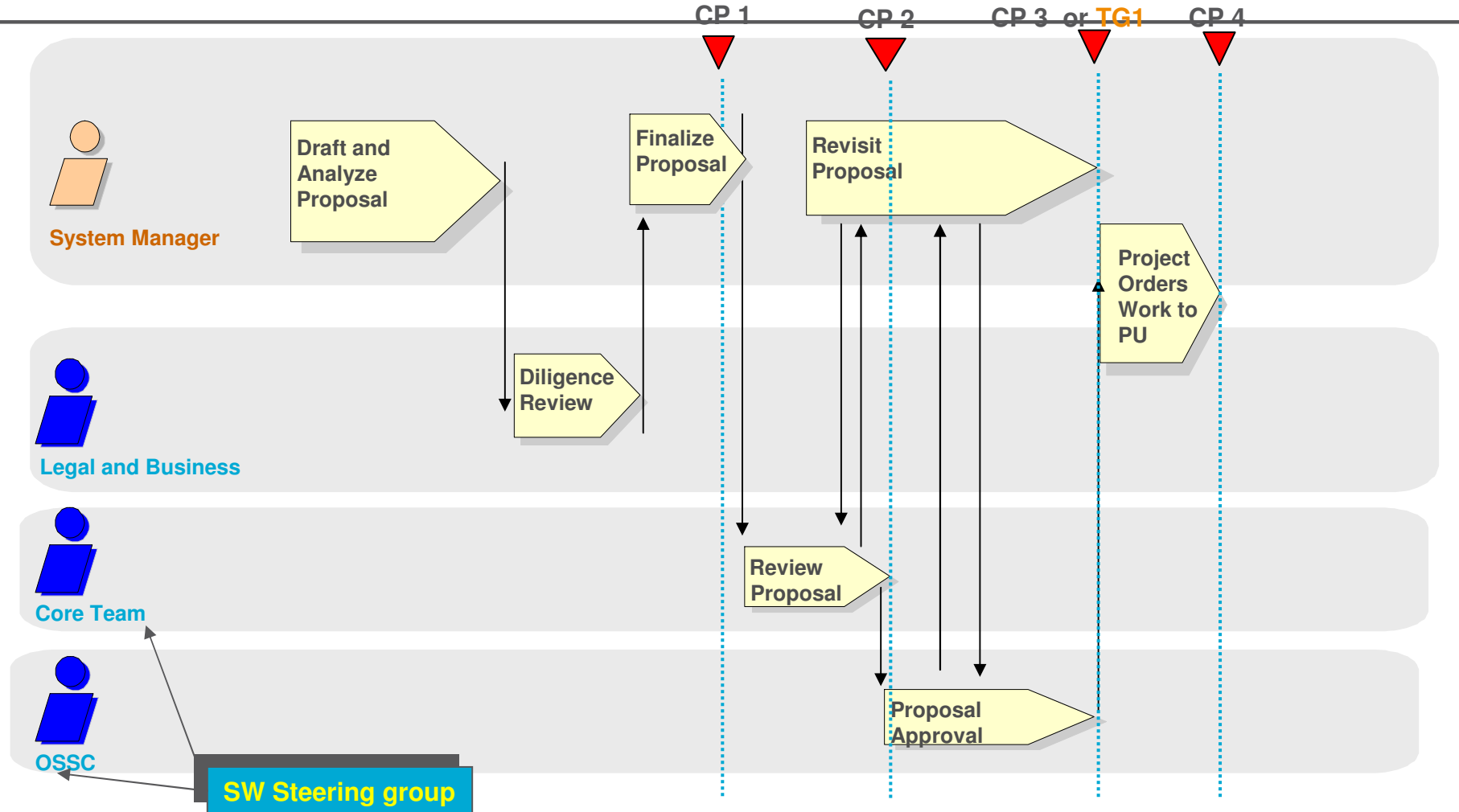


- › Open Source Review Process for contributing
 - business case/value
 - strategy must be defined
 - a community must exist
 - Intellectual Property Rights considered

- › When the work is finalized:
 - reviewed by Open Source Core Team
 - decision by Ericsson Technology Board - Software



OSSC PROCESS DESCRIPTION



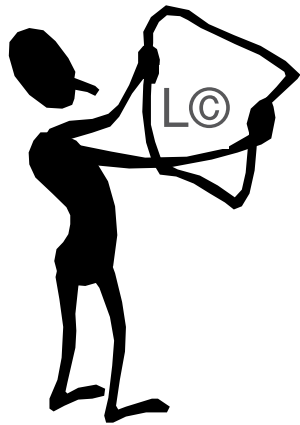
Ericsson's Open Source Steering Committee Review Process

TYPES OF OPEN SOURCE LICENSES



LICENSES - COPLYLEFT

- › Example: the GNU GPL license
 - Requires that any re-distribution of the original software or a derivative of it must be licensed under the original copyleft license
- › The source code of any changes, to the Open Source code, must be provided with the product
- › Copyright to own code is maintained and is not invalidated

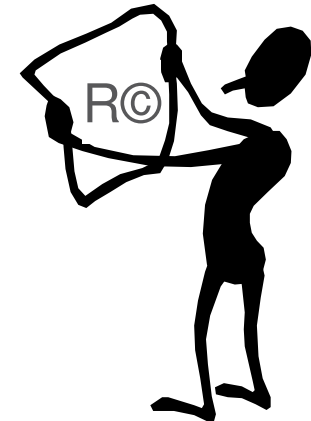


LICENSES – NON COPYLEFT

> Example: BSD license

– A non-copyleft license does not put a restriction on the re-distribution of changed Open Source code.

You can license non-copyleft software under another license when you distribute it.



WARRANTIES

- › Open Source Licenses ... no warranties

- express warranty
- warranty of merchantability
- warranty of fitness for a particular purpose
- warranty against infringement

- › Ericsson possibly still liable (when using Open Source)

- direct damages
- consequential damages



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OPEN SOURCE SOFTWARE AT ERICSSON

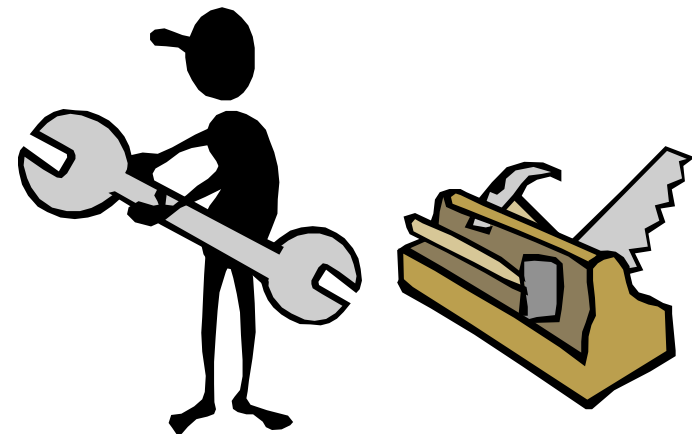


- › Roughly half of registered third party software in Ericsson's products is FOSS
- › Linux is the most important operating system in Ericsson's systems today



EXPERIENCE - USAGE

- › Linux Managed Workplace
- › Linux
- › Eclipse
- › Firefox
- › OpenOffice
- › OpenSSH
- › WireShark
- › TortoiseSVN
- › Cygwin
- › Ghostscript



EXPERIENCE - CONTRIBUTING

- › Open Source Application Server GlassFish
 - Sailfin (robust & scalable SIP servlet)
 - Café (framework for media-control)

- › Erlang/OTP
Functional language aimed to handle concurrency

- › OpenSAF (Service Availability Forum)

- › Wonderland

ERICSSON VIRTUAL MULTIMEDIA OFFICE



> JavaOne 2009 Session TS4538



EXPERIENCE

- › Internal awareness
- › Internal open source flourishing
- › Knowledge base increasing

- › Licenses are an issue
- › Plan for review process time

ROADMAP

- › OpenSAF

- operating system for various platforms

- › Mobile Applications

- differences in J2ME on mobile devices
- usage of browser /javascript expected to increase

RESUMING

- › Ericsson Internal Open Source is increasing
- › Process for “insourcing” Open Source
- › Process for contributing to Open Source
- › Watch out for Licenses and Warranties



ERICSSON