Industry Collaboration in Open Source - an imperative to master the challenges of the future

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Hardware Age
Game Changer
The Age of the Software Products

Wikipedia: Hauptburg Burghausen
Industry Challenges

innovation mostly driven by software

large scale software systems

cross-company

cross-discipline

operational safety and security

longevity
The Open World
About Us

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- Foundation
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About the Eclipse Foundation

- What is Eclipse and the Eclipse Foundation?
- Services of the Foundation
  1. IT Infrastructure
  2. Intellectual Property (IP) Management
  3. Development Community Support
  4. Ecosystem Development
- A Unique Model for Open Source Development
- What is the history of Eclipse?

What is Eclipse and the Eclipse Foundation?

Eclipse is a community for individuals and organizations who wish to collaborate on commercially-friendly open source software. Its projects are focused on building an open development platform comprised of extensible frameworks, tools and runtimes for building, deploying and managing software across the lifecycle. The Eclipse Foundation is a not-for-profit, member supported corporation that hosts the Eclipse projects and helps cultivate both an open source community and an ecosystem of complementary products and services.
Predictability
Diversity
Eclipse

- Millions of users
- Thousands of products
- Thousand+ committers
- Hundreds of companies and projects
- twenty employees
- zero product managers
Our constraints

One example: AIRBUS A300

- Program began in 1972 and will stop in 2007
  \[2007 - 1972 = 35 \text{ years} \ldots\]

- Support will last until 2050
  \[2050 - 1972 = 78 \text{ years} \ldots\]

On board software development for very long lifecycle products
Case Study: Airbus

• The software edition does not bring an added value corresponding to the required cost
  ‣ Licenses costs are expensive (not linked to the real value of the tool)
  ‣ Maintenance costs are expensive, although there is finally no real guarantee
  ‣ Evolution costs are prohibiting
  ‣ Lack of continuity in front of very long lifecycle product
  ‣ No mastering of the tools, their evolutions and the editor strategy by the users

• The question is: Is there a new model for software tools that could respond to our constraints?
  ‣ Open source is a possible response

From an Airbus / EADS Presentation
Case Study: Airbus

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From an Airbus / EADS Presentation
TOPCASED: The Open-Source Toolkit for Critical Systems

TOPCASED Model editors

TOPCASED Model to Model Transformations

TOPCASED Simulator Engines

TOPCASED Model to Text Transformations

TOPCASED Formal Checking

Source code, Test code, Documentation, ...

Configuration, Change and Requirements management tools communication
TOPCASED Eco System
TopCased TTM

* main provider: change of business
User-Driven Open Source Collaboration

- OSS + Community
  - Apache, FSF

- OSS + Community + Business Ecosystem
  - Eclipse, OW2

- OSS + Community + User Centric Ecosystem
  - Eclipse WGs
  - Linux Foundation
Dürfen wir uns zivile Sicherheitssysteme mit Closed Source Software überhaupt noch leisten?
Denkansätze am Beispiel der ETCS-Migration bei der Eisenbahnsignaltechnik

Deutsche Bahn AG
Klaus-Rüdiger Hase
Technik, Systemverbund und Dienstleistungen
Braunschweig, 03.12.2009
Get your IVI products to market faster
Build your enhancements on GENIVI Alliance’s core services platform and streamline your development process.

About the Alliance
GENIVI® is a non-profit industry alliance committed to driving the broad adoption of an In-Vehicle Infotainment (IVI) open-source development platform.

The alliance aims to align requirements, deliver reference implementations, offer certification programs, and foster a vibrant open-source IVI community.

Our work will result in shortened development cycles, faster time-to-market, and reduced costs for companies developing IVI equipment and software.

News and Views
04/21/2014
Openness breeds creativity
Automotive Engineer

02/24/2014
Industry standards tune up tomorrow's vehicles
Embedded Computing Design

01/17/2014
GENIVI Alliance Debates Collaboration at 2014 CES
Automotive World

12/13/2013
At CES, GENIVI Alliance Advises Automakers - Collaborate or Die
John Day’s Automotive Electronics

GENIVI® Open Source Projects
The GENIVI Alliance component development will be moving to all-new Alliance-sponsored public open-source community projects.

Informational Quick Links:
Press Release
Frequently Asked Questions (FAQ)
Current Community Project Listing

Compliance Program
The GENIVI compliance program provides a set of specifications for GENIVI member companies to measure their products and services. Those that meet the specifications may be registered as GENIVI compliant and listed on the GENIVI website. Read more.

Events in 2014
GENIVI All Member Meeting

Featured Video
GENIVI executives discuss the future of GENIVI and how companies can help contribute to its success.
Konsortiale Open-Source-Softwareentwicklung im Energiesektor

Veröffentlicht am 26. November 2013 von Peter Herdt

Der Ausbau der Energie- und Wassernetze, neue Steuerungskonzepte für eine verstärkte Einspeisung von erneuerbaren Energien (EEG) sowie erhöhte Anforderungen an die IT-Sicherheit, als Bestandteil der kritischen Infrastruktur, sind einige der Themen, welche die Netzbetreiber mit ihrer technisch orientierten IT in naher Zukunft meistern müssen.


Quelle: http://www.osbf.eu/blog/konsortiale-open-source-softwareentwicklung/im-energiesektor/#.U4G05JR_t2J
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Eclipse Working Groups
Plan. Measure. Share.
And simplify your measured data management

The openMDM® community is going to be transformed into an eclipse industry working group

Thursday, 10. 04. 2014
By spring 2014, an internal working group of the openMDM® community proposed the transformation of the recent community, which is based on the community platform provided by AUDI AG Ingolstadt, to an eclipse industry working group.
Create Terrabytes of Data

AUDI AG currently runs eleven productive measuring data management systems based on openMDM®.
Towards a Industry Standard Implementation

openMDM® 4 – Current Status Technology: Development of ASAM ODS-based Systems
State of openMDM June 2013

openMDM® 4 – Current Status

✔ ASAM ODS is established by openMDM® as open, manufacturer independent integration platform
✔ openMDM® supports processes at company level and embeds measurement data management in company IT
✔ Members of openMDM® community exchange measurement data management software and methods and thus profit mutually

😢 No techniques for steering, prioritizing and evenly distributed efforts
😢 Parallel development, divergence and extensive consolidation of branches
😢 Requirements are not coordinated, reusability of exchanged components is limited
😢 Exchanged software can only be developed further by the owner. Dependency and sluggishness
Transformation:
The Eclipse openMDM WG founded
The Secret Sauce

- Licensing model for sharing co-developed innovation
- Governance model to ensure level playing field for all participants
- IP management to maximize commercialization opportunities
- Highly modular technical architecture for the platform
Thank you!