Gaining maturity in Open Source
– a model cased on Sony Mobile’s journey

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\textit{Carl-Eric Mols, Sony Mobile}
Agenda

- Personal introduction
- The Sony Mobile Open Source journey
- Sony Mobile’s Open Source engagements today
- Open Source today
- The Open Source Maturity model
- The Open Source SCALARE Canvases
  - Engineering driven - or “How to extract value to your product”
  - Business driven – or “How to extract value from your ecosystem”
- Industrial Open Source
- The future
- Final words – Key take away
Some notes on me

- MSEE studies at Lund Institute of Technology (LTH), Sweden.
- Most of the career life spent on Telecom’s SW Engineering, the first 12 years promoting a formal methods based modeling tool.
- Joined Sony Ericsson (now Sony Mobile) in 2004.
- Was in 2007 appointed to Software Strategist.
- Became in 2008 the “Open Source Czar”*, with the assignment to company-wide pave the way for Open Source in Sony Mobile.
- As the leading Open Source Officer* of Sony Mobile, I have spent the last ten years promoting, inside and outside the company, Open Source culture – which is anything but formal!
- Yet – as engaged in the ITEA 2 research project SCALARE* – I have tried to “formalize” some of the Open Source phenomena ....

*) more to come!
The Sony Mobile Open Source journey
- a timeline on OS for mobiles

- 2002: Entry
- 2008: Open Source appears in strategy
- 2009: Open Source is formally adopted
- 2010: Only Open Source OS
- From 2011: Only Android (Linux)
- 2010: Only Android (Linux)
- 2009: Open Source is formally adopted
- 2008: Open Source appears in strategy

Own R&D developed

Today’s R&D engagement
Sony Mobile’s Open Source engagements today

TOOLS
(Gerrit, Jenkins, etc.)

Upstream Components
(Chromium, etc.)

Applications

ANDROID

Linux

+ Miscellaneous
Dev. World Sample Code, Engineers’ side projects, Open Device Project, etc.

IS/IT
(Ubuntu, Apache, etc.)

+ New frontiers
AI/ML, Big Data, Cloud, IoT – and Drones!

SCALARE
Open Source today – it’s exploding!

Reference: Black Duck Software Inc

Reduce Cost & TTM
Global Development
IoT
Merge of domains
A layered view on Open Source Software

Open Source is not only about

– Code & License
– Development Model & Culture
– Market disruptor & Biz builder

Open Source Software =

Code & License
+ Development Model & Culture
+ Market disruptor & Biz builder

Affecting the core business offering
The Open Source Maturity Model
Originating from Sony Mobile

1. Accidental
   Discovery and awareness

2. Repetitive
   Policy, processes and training

3. Directed
   Active and contributing

4. Collaborate
   Co-creating business value

5. Prevail
   Leadership through new initiatives

Value for the company

Effort for the company
SCALARE

- A 3-year Industrial EU research project by ITEA* (2013-16)
  - *Information Technology for European Advancement
  - Swedish participation was funded by Vinnova, the Swedish Governmental Innovation Agency
- Supporting the industry in SCALing softwARE capabilities
- Consisted of 10 companies and 3 universities in 5 countries

Sony Mobile shared its experience on the introduction of Open Source as the core part of its offerings of smartphones and smartwear.
Scaling scenarios

**DRIVERS**

- **Product**
  - Proprietary $\rightarrow$ Open Source

- **Organization**
  - Small & local $\rightarrow$ Large & global

- **Process**
  - HW $\rightarrow$ SW
SCALARE in a nutshell

“To provide systematic guidance to decision makers, for various scaling scenarios”

1. Identify scaling needs
2. Analyze options and decide on solution
3. Introduce changes

Scaling Management Framework (SMF)
The SMF Canvas

- The SMF Canvas is a 2D graphical representation of the Scaling Management Framework.
- Uses color coded Post-It notes for charting software business Patterns in the three domains.
Scenarios

• Basic Software Engineering
• Agile Development
• Servitization
• Deliver 24/7
• Open Source
• Outsourcing
• Offshoring
From the Maturity Model to the SMF

1. Accidental
   - Discovery and awareness

2. Repetitive
   - Policy, processes and training

3. Directed
   - Active and contributing

4. Collaborate
   - Business driven
     - Leadership through new initiatives

5. Prevail
   - Engineering driven
     - Leadership through new initiatives

SMF CANVAS
- Open Source Scenario 1 — Engineering driven
- Open Source Scenario 2 — Business driven

Effort for the company

Value for the company
Open Source, Engineering Driven

- Based on the external Maturity assessment made in 2014 at Sony Mobile.
- 14 unique OSS Patterns identified + 4 common.
- Clarified where and what to find value extraction.
- Key achievement: Product value extracted from Open Source communities.
The Pattern “Control Intake”

Process example - a checklist:

• **Why?** – Just happening or a **Conscious** decision?
• **What?** – **Make-Buy-Share** strategy
• **Availability** of Open Source
• **Handling risks**
  – License compliance → possible rework
  – Intelligent Property Rights (patents)
  – Security threats
  – Maintainability of “dead” code (inactive community)
  – Dependencies and lost control
• **Different sources** – e.g. through suppliers
The Pattern “Make-Buy-Share”
The Pattern “Open Source Officer”

- The Open Source Officer role is for **bridging the gaps** between a risk-averse company management, an legally ignorant software development and a reactive legal entity.
- Prime responsibility for the Open Source Officer role is to evolve and **drive a company’s Open Source Maturity** in both engineering as well as in business aspects.
- Tools of the trade involves the development and maintenance of Directives, Policies, Processes, Guidelines, Training – and Open Source Maturity Models.
- Often chairs/coordinates organizational bodies for governing Open Source, e.g. an “Open Source Board”.
- Naturally becomes the contact point for external parties regarding anything related to Open Source.
Based on Sony Mobile’s industry observations and business exploration.

5 unique OSS Patterns identified + 3 common.

Close to the “Servitization” Scenario

Key achievement: Additional/alternative revenues extracted from orchestrating your own ecosystem.
Patterns in Business-driven Open Source

• The end goal is to extract value to your from your *orchestrated ecosystem* to your business

• Common that the seed of an eco-system is a **Developer Program**
  – Created to catch and nurture the *participatory culture* of Open Source, it’s initially intended to open up the company for an environment of independent developers to inspire and influence.

• The Developer program is extended to become your own Open Source community
  – The influence goes both ways, pawing the way for a **Crowd-based requirement management** and fueling an **Open Source-driven product innovation**.

• The offer becomes a **open software platform**, allowing other business partners to explore
  – The platform becomes as well the carrier of new offerings that you provide with **Extended** (e.g. services), **Indirect** (e.g. through a HW premium) or **Asymmetrical** (unrelated) business models.

• An **ecosystem is established** that might disrupt the market logic in such a profound way that it in practice forces all other market actors but the strongest to participate.

• The Open Source eco-system is now not only a support for the business – it is the business!
Industrial Open Source
– an Open Source governance program for Industrials

- The SCALARE book “Scaling a Software Business” was launched by Springer the summer of 2017 and is available as a free eBook at Vinnova.
- Contains two chapters on the Open Source Scenarios.
- The handbook on an Open Source Program for Industrials, “Principles for Industrial Open Source”, was recently released as a free eBooklet!
- Contains detailed descriptions on all 27 identified Open Source patterns.
The future for Sony Mobile

- Even the most hardware oriented product offerings are facing to be “servitized” by a combination of AI/ML, Big Data, Cloud and IoT.
- Those technologies are already entirely entrenched by Open Source.
- We are charging ahead on “Beyond Smartphone”.
Key Take Away

1. Open Source is more than Code & Licenses
   - It is a matter of maturity!

2. It is not hacker heaven anymore
   - There are business patterns for introducing Open Source in a structured way!

3. Industrial Open Source demonstrates a way of how to do it!
Thank You!

carl-eric.mols@sony.com
+46 733 86 42 01