Managing risks in OSS adoption: the RISCOSS approach

Presenter: Xavier Franch, GESSI – UPC

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Risks and OSS

- OSS is about freedom and choice
  - but freedom and choice introduces risks

- Insufficient risk management has been reported as one of the five topmost mistakes to avoid when implementing OSS-based solutions (Gartner 2011)

- Such risks can be manifold:
  - evaluation, integration, context, process, quality and evolution
Example scenario: TEI

- Producing regulatory products for the Ericsson Corporate
- For each product, TEI has always:
  - two different release versions (under maintenance mode)
  - a third one under development
- Moreover, the system is adapted to different customers
  - common parts and variant parts
- Every single version and variant contains 3PPs, mostly OSS
  - different releases, different patches, dependencies, ...
- How to implement a systematic approach towards understanding, representing and assessing all kinds of risk?
Hypothesis of work

Understanding, managing and mitigating OSS adoption risks is crucial to avoid potentially significant adverse impact on the business, in terms of time to market, customer satisfaction, revenue and brand image.
The RISCOSS project

Specification of risk identification, management and mitigation methods

for

community-based and industry-supported Open Source Software (OSS) development, composition and life cycle management

to

individually, collectively and collaboratively manage OSS adoption risks
The RISCOSS platform
Data collection

Pareto Chart for issue.type

<table>
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<tr>
<th></th>
<th>Frequency</th>
<th>Cum. Frequency</th>
<th>Percentage</th>
<th>Cum. Percentage</th>
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OW2con 2013
Open Source Collaborative Innovation, The Way Forward
Quantitative reasoning

Layer of the Business / Strategic goal

Layer of the risks

Layer of risk drivers and risk indicators
Qualitative assessment

Timeliness Risk Drivers

Weekday: When the commit was made
- high: 34%
- low: 35%
- medium: 32%

Month: When the commit was made
- high: 33%
- low: 33%
- medium: 34%

Hour: When the commit was made
- high: 38%
- low: 34%
- medium: 28%

Month day: When the commit was made
- high: 32%
- low: 26%
- medium: 42%

Bug fix time
- s1_below_14.23%
- s2_14_44: 27%
- s3_44_74: 25%
- s4_74_up: 25%

Commit frequency / week
- s1_below_33.24%
- s2_33_62: 33%
- s3_62_93: 28%
- s4_93_up: 15%

Bug fix time for critical & blocker level bugs
- s1_below_27.37%
- s2_27_46: 19%
- s3_46_62: 31%
- s4_62_up: 13%

Timeliness
- State1: 20%
- State2: 20%
- State3: 20%
- State4: 20%
- State5: 20%
Qualitative assessment
Social analysis
Putting all the bricks together
RISCOSS use cases

Five Use Cases in Public and Private sectors

- ERICSSON (Company)
- CENATIC (Institution)
- OW2 (communities)
- Xwiki (community and company)
- Moodbile (community and company)
Towards H2020

- **ICT 7. Innovation platforms for trusted cloud systems.** Development, adaptation and testing of open source software for innovative and trusted cloud-based services

- **ICT 9. Software tools and methods for large, complex and data-intensive systems.** Incorporating integrity, robustness and reliability into evolving software systems across the complete software lifecycle, especially for complex and secure business-critical systems
For more information:

Xavier Franch, franch@essi.upc.edu
RISCOSS project coordinator