Development with OTS components

10 facts
About research

- Industrial case studies
- IDI
Fact 1

• "Development process: Companies use traditional processes enriched with OTS-specific activities to integrate OTS components."

• 75% chose process, then OTS

• Familiarity with OTS: deciding factor.
Fact 2

• "Component selection: Integrators select OTS components informally. They rarely use formal selection procedures."

• Trusts in-house experts over formal process.

• 1/28 used formal process
  1. Search for options
  2. Filter by reading documentation/forum
  3. Filter by buying and testing.
Fact 3

• Component selection: OTS done in specific phases of development. Selecting early has benefits and challenges.
• About 85% / 15%
• Risks with early decision:
  – Integrators ignoring tech details.
  – Agile development process: what if user story changes?
• Benefit with early decision:
  – System architecture planing.
  – Can define test-cases earlier
  – Estimate cost earlier
Fact 4

• **Component Integration:** Personal experience > all
Fact 5

- **Quality of the integrated system:** Negative effects by OTS rare.
Fact 6

• **OSS and COTS components**: Usually used the same way, i.e. without modification.
• Changed source code: COTS 15%, OSS 36%
• Why change? To long wait time for update.
• Why not?
  – Source code unavailable
  – Fast response from OTS support
  – Lack deep knowledge of OTS component
  – Can’t patch OTS
  – Legal issues
Fact 7

- Locating defects is difficult
- Integrators in general are satisfied
- 80% experienced difficulty locating defects.
Fact 8

• **Relationship with the provider**: More than defect fixing.

• OTS provider also evaluated by support potential.
Fact 9

- **Relationship with the client**: Involving clients rare, sometimes infeasible.
- Client may have interest in reselling and licensing issues.
Fact 10

• **Knowledge management**: Knowledge that goes beyond the functional features of OTS components must be managed.
Conclusion

• Gap between theory and practice:
  – Points at selection process.