Keeping up with the pace of opportunity

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The old game

- One customer
- One operations approach – national defence
- One project at a time
- Long development times
- Predictability: Sweden and Saab
The new Game

- Multiple parallel projects
- International operations and interoperability
- Exports
- International collaboration
  - Multi-site Development & Production
- More stringent international regulations
- Speed!
  - Product development
  - Enabling systems
- Unpredictable future
Consequences

Strategic directions

• Alignment with best international practise
• Need to architect organisation and development environment for **Flexibility**
  • Optimise overall capability
  • Ability to adapt the latest processes, methodology and tools
  • Quick adaptation to new collaboration scenarios
    • At low cost
SE process approach
Systems Development @ Saab Aeronautics
Using models in systems design

Objective is to optimise this loop

Model Integration and System Simulation
Legacy PLM setup

- Requirement Management
- Document Management
- Config Item Structure
- Change Control
- Realisation structure
- System Design
- Analysis
- Software development
- Mechanical design
- Mechanical design

**Images:**
- IBM DOORS
- isograph
- ATLASSIAN
- DASSAULT SYSTEMES
- SAAB
Next generation development system
Genesis PLM Model

- Engineering Disciplines
- Engineering Deliverables
- Design Traceability Dimensions
  - We believe there are four of them only
- Archiving
Modularity

• Optimise support for each engineering discipline
  • Maximise automation, as provided by the supplier
  • Minimise application family switching
• Bring together management and engineers in a single environment
  • E.g., Change management and Status reporting
• Ability to upgrade individual capabilities independent of others
• Redundant capabilities accepted
• Ability to replace environment without upsetting the complete PLM landscape
Traceability

• Need capability to ensure traceability and integrity of product data

• Traceability dimensions between engineering discipline environments
  • Requirements
  • Configuration item structure
  • Change management
  • Realization

• Configuration Management capability required for Requirements Traceability, Configuration item structure and Realization structure
  • Versions and baseline capability

• The OSLC standard offers the desired capabilities
  • Exploit for low cost and high quality integrations
Example System – Software interface
Supplier – acquirer interface

Stakeholder requirements

Internal development environment

Trace links

Component Stakeholder requirements

Collaboration environment
Top – down development planning
The Heliple project

• Swedish research project to promote the use of OSLC – 18 months

• Participants
  • Eurostep
  • KTH
  • Saab

• Scope
  • Promote the Genesis architecture pattern
  • Get experience in OSLC interface creation
  • Improve OSLC interface generation tools
  • Demonstrate the power of OSLC
Conclusions

• Need to prepare for an uncertain future
  • An opportunity, not a threat
• Optimise towards flexibility
• Genesis architecture pattern for federated PLM
  • Optimise process performance
  • Embrace heterogeneity
  • Minimise the number of integration points
• OSLC is key for enabling plug and play integration
• Heliple – our project for promoting OSLC
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