Evaluating and Selecting Enterprise Architecture Management Tools
Bewertung und Auswahl von EA Management-Werkzeugen

Josef Lankes
Software Engineering for Business Information Systems (sebis)
Ernst Denert-Stiftungslehrstuhl

www.matthes.in.tum.de
lankes@in.tum.de
Application Landscape Management

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<tr>
<td>Introduction</td>
<td>Migration, Replacement</td>
<td>Consolidation, Grouping, Integration</td>
<td>Decoupling, Separation, Decomposition</td>
<td>Uninstallation</td>
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Legend
- **Blue**: Business Process
- **Green**: Organizational Unit
- **Red**: Application
- **Pink**: Plan

[BMW05], [Ke06]

- How does the application landscape look like today and next year?
- What are the differences between the current and the planned landscapes?
- What are the reasons for the differences between the current and the planned landscape
  - ➔ Process Management, Application Portfolio Management, Project Portfolio Management
Finding and Introducing Services

- Which functionalities should be transformed to business services?
- Which applications have a large user base?
- What are adequate service levels?
- What application systems are changed by a transformation to SOA?

...
Why Enterprise Architecture Management

- Application landscapes are complex
  - Business applications support processes
  - Projects affect business applications
  - Projects have to consider business goals
  - …
- Long life spans of business applications
- Growing importance of IT: enabler vs. limitation
- IT is a critical asset
  - Has to be treated as an investment
  - Has to be aligned with the business strategy

**Enterprise Architecture (EA) Management tries to contribute to a solution**
- A continuous process
- Not only focused on IT, including also processes, goals, strategies, …
- Goal: continually aligned steering of business and IT
Practice perceives a Need for supporting EA Management with a Tool

Enterprise Architecture Management Tool Survey (EAMTS) 2005

- Number of copies sold: 130
- Coverage in Media:
- Conference Talks:
  - ...

**EAMTS 2008:** 8 Sponsors, 22 Partners, highly involved in tool survey workshops
Agenda

- Enterprise Architecture (EA) Management & EA Management Tools
- Methodology and Results of Enterprise Architecture Tool Survey 2005
- Aspects of Tool Selection
- Outlook: Enterprise Architecture Tool Survey 2008
Motivation

- We have often been asked: “Which tool do you suggest?”
- Which tools are interesting for our research project Software Cartography?
- A new and emerging market, relevant for our partners and us!

Goals

- Support project partners in decisions regarding tool support for EA management
- Overview of major players in the market for EA management tools
- Analyze: “How are the different areas and processes of EA management addressed by the tools?”
- No simple ranking of the tools!
Approach of EA Management Tool Survey: Evaluation Result Compilation

4 evaluation teams, each consisting of 2 evaluators

Functionality evaluation
- List of criteria filled out by each vendor
- Scenarios for specific functionality simulated by evaluation team
  ➔ Description regarding different functionality aspects and the scenario execution

EA management task evaluation
- Scenarios for support of EA management tasks simulated by evaluation team
  ➔ Description regarding scenario execution and achieved results

Group discussion process among the evaluation teams, based on the textual descriptions
  ➔ Creating an ordering of the tools in regard to the different analyzed aspects

Kiviat diagram for specific functionality

Kiviat diagram for EA management tasks

4 evaluation teams, each consisting of 2 evaluators
Approach of EA Management Tool Survey: 
List of Criteria and Scenarios

The list of criteria analyzed the approach to EA management (~400 questions)

- Functional Criteria
  - Metamodel, analysis techniques, visualization capabilities, rights management, …
- Technical Criteria
  - Architecture, needed infrastructure components, …
- Additional Criteria
  - Vendor’s profile, support, …

The scenarios were simulated by sebis to validate answers given by the vendors and to evaluate the tools in an exemplary context

- Analysis of specific functionality (9 scenarios)
  - Visualization of the Application Landscape, Visualization of Measures, Simplified Access for Readers, Editing Model Data using an External Editor, HTML Export, Metamodel Adaptation, Large Scale Application Landscape
- Analysis of support for EA management tasks (7 scenarios)
Scenario Landscape Management: Concerns and Questions

- **Concerns**
  - In order to keep information about the future development of the application landscape in the tool, there has to be the possibility to create scenarios based on the current application landscape.
  - The current, planned, and target landscapes should be analyzed using three different visualizations.

- **Questions**
  - How does the application landscape look like today (current landscape)?
  - What is the application landscape going to look like in January 2009 (planned landscape)?
  - How does the target landscape look like?
  - What are the differences between the current and the planned landscapes?
  - What are the reasons for the differences between the current and the planned landscape?
  - What projects have to be initiated in order to evolve from a current to a target landscape?
Scenario Landscape Management: Deliverables

**Current Landscape**

**Planned Landscape**

**Target Landscape**
Min/Max Rating of EA Management Tool Survey: Kiviat Diagram for Specific Functionality

- Configurability of the Metamodel
- Coverage of EAM Concepts by Predefined Metamodel
- Support for Impact Analysis & Calculation
- Richness of Predefined Visualization Techniques
- Flexibility of Reporting
- Flexibility of Visualization Techniques
- Collaboration Support
- Import/Export & External Data Sources
- Usability
Lessons learned from Specific Functionality Evaluation

- Collaboration support is well understood
- Impact Analysis & Calculation
  - Query languages retain potential for improvements
    - Arithmetical concepts of e.g. SQL/OQL
- Visualization (predefined & flexible)
  - Different approaches for visualizing the EA and parts of it
  - Approaches retain potential for improvements
    - (Semi)-Automatically generated visualization are rather restricted
    - Flexible models have no strictly defined semantics / have to be created manually
- Import/Export & external data sources
  - No existing exchange formats for EA models
  - No common understanding of an information model for EA management
Min/Max Rating of EA Management Tool Survey: Kiviat Diagram for EA Management Tasks
Lessons learned from EA Management
Task Evaluation

- Projects and especially the concept of "time" are not completely supported by all tools
  - E.g. projects with new applications/application versions as deliverables were only known by some tools
- Differences in supporting traceability and strategy management
  - Balanced scorecards or other management models are only partially supported by some tools
- Differences in supporting management of business objects and business services
  - Visualization of information flows is sometimes limited
  - Concepts of modeling objects, accessible through services, which can be transferred over connectors are not completely supported by all tools
Evaluation Overview planningIT from alfabet AG (1)

Kiviat for specific functionality:

- Configurability of the Metamodel
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Kiviat for EA management tasks:
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Thoughts about targeted EAM Activities should precede Tool Selection

- Creating an EA Management approach is a prerequisite of tool selection.
  - Which decisions have to be supported?
  - Which data has to be gathered, how and by whom?
  - What visualizations are necessary?

- It should be carefully evaluated, whether a tool can be used as it is shipped.
  - Most Tools explicitly require customization effort.
  - Some tools are sold together with the necessary consulting effort.

- Big Bang Approach vs. Incremental introduction
  - Is a specific tool feasible/sensible for a stepwise introduction?
Tools Evaluation should focus on the actual Usage Context

- Demonstrations by tool vendors get more meaningful, if they concern an actual usage scenario at the potential buyer.
  - The demonstration is more specific
  - Rough spots of the tool are more likely to appear
    ➔ A test installation might be the best option
- Role of a tool survey in the selection process
  - Provide information for preselection ➔ free time for evaluating real „candidates“
  - Sharpen focus in evaluating tools
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Scenarios of EAMTS2008

- Scenarios for Analyzing Specific Functionalities
  - Importing, Editing and Checking model data
  - Creating Visualizations of the Application Landscape
  - Interacting with and Editing of Visualization of the Application Landscape
  - Annotating Visualizations with certain Aspects
  - Supporting lightweight Access
  - Editing Model Data using an external Editor
  - Adapting the Information Model
  - Large scale Application Landscape
  - Supporting multiple Users and Collaborative Work
  - Visualization of Measures

- Scenarios for Analyzing EA Management Support
  - Landscape Management
  - Demand Management
  - Project Portfolio Management
  - Synchronization Management
  - Strategies and Goals Management
  - Business Object Management
  - SOA Transformation
  - IT Architecture Management
  - Infrastructure Management
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- Finishing Date: Q1/2008
- Contact: eamts@softwarekartographie.de
## Backup: Tools Evaluated in EAMTS 2005

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