



Building strong organizations

Tools for Enterprise Architecture

London

The Open Group Conference

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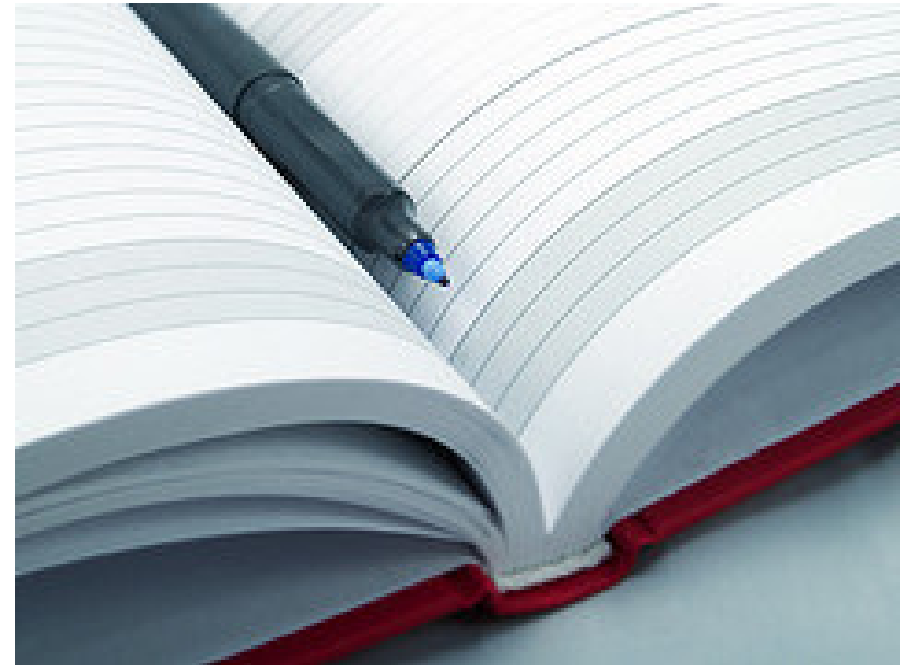
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▶ Proposed schedule

- ▶ Introduction EA
- ▶ Current experiences with tools
- ▶ Office tools and EA tools
- ▶ Requirements for an EA tool
- ▶ Overview tools
- ▶ Tool selection
- ▶ Some best practices on starting with EA





Introduction Enterprise Architecture

Some basic concepts to level our minds...

▶ Why Enterprise Architecture?

- ▶ Managing change and complexity:
 - ▶ Aligning business and IT
 - ▶ Outsourcing
 - ▶ Impact analysis
 - ▶ Project support (project start architectures)
 - ▶ Portfolio management
 - ▶ Communication with stakeholders
 - ▶ ...
- ▶ Obtaining insight in current situation (as-is)
- ▶ So enterprise architecture as a tool
 - ▶ for communication
 - ▶ for governance
 - ▶ for innovation



▶ Enterprise Architecture



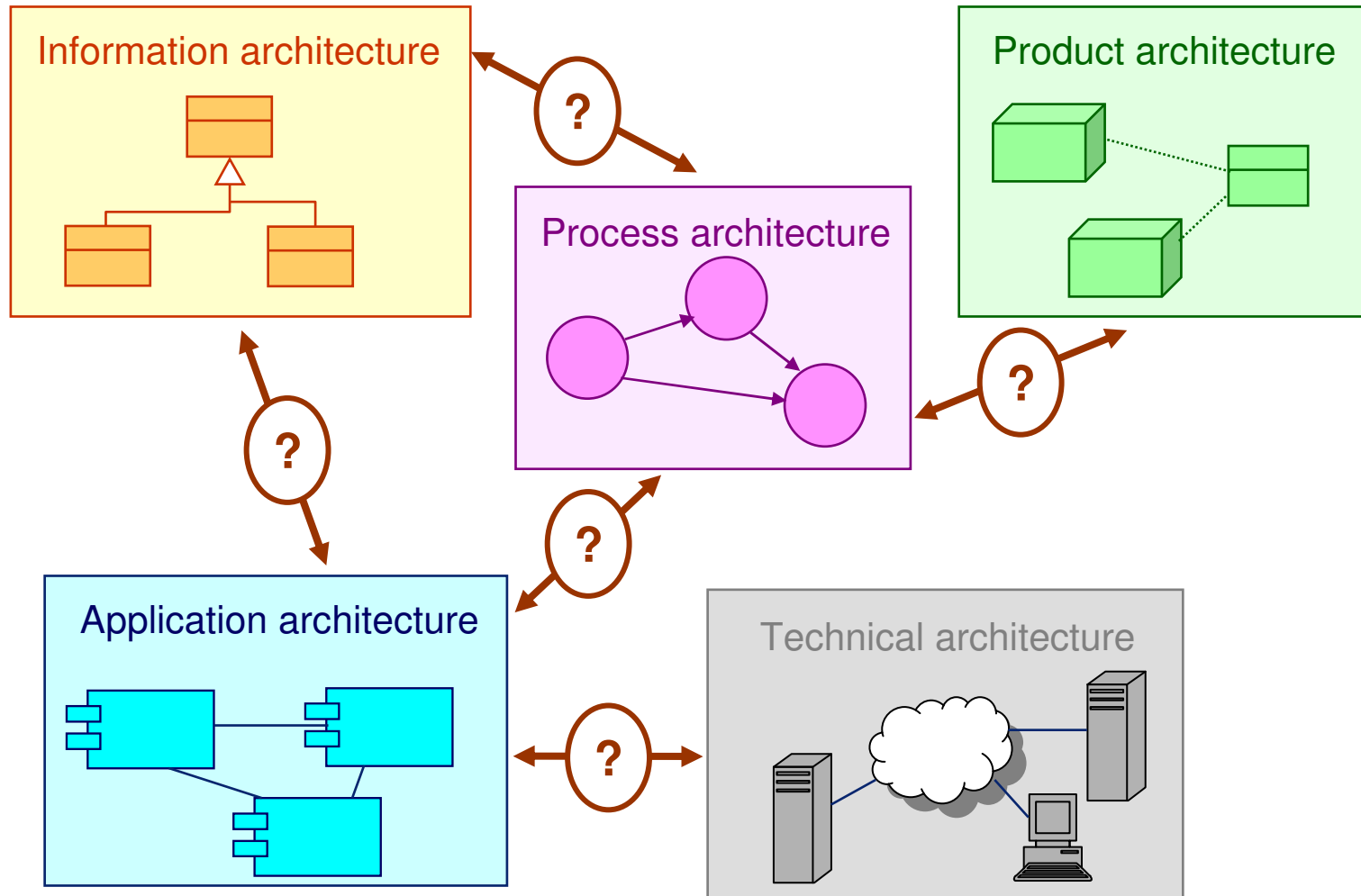
ISO 42010 (IEEE 1471):

Architecture = structure(s) of a system in terms of

- ▶ *components*,
- ▶ their *externally visible properties*,
- ▶ their *relations*,
- ▶ and the underlying *principles*

“Structure with a vision”

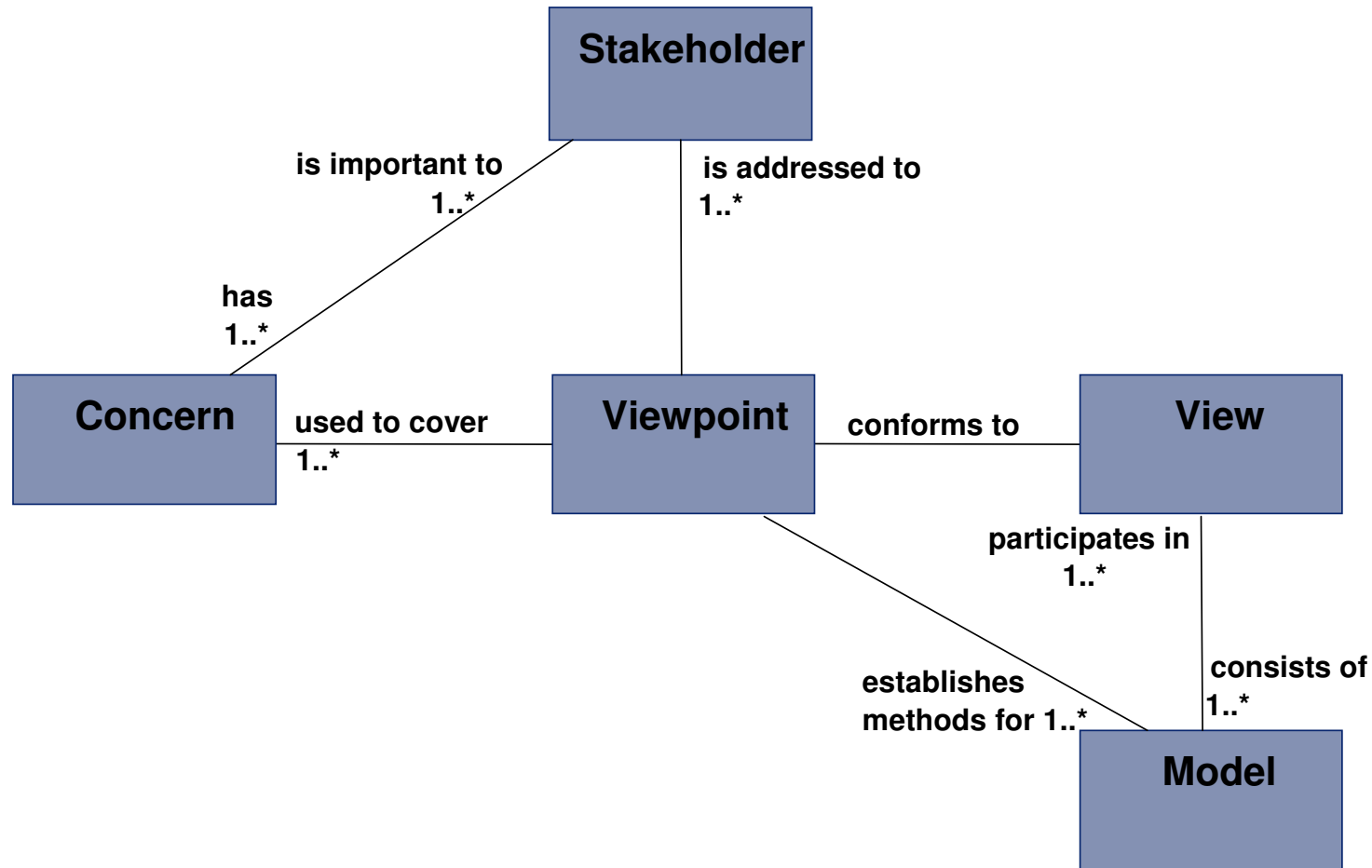
EA: Describing Coherence



▶ What is Enterprise Architecture?

- ▶ *A process*
 - ▶ For developing and using enterprise architecture in an organization
- ▶ *A product*
 - ▶ the complete and consistent set of methods, rules and models, which will guide the (re)design, migration and implementation of business processes, organizational structures, information systems and the technical infrastructure within an organization
- ▶ For managing *change* and *complexity*

▶ IEEE 1471 (summary)



► Current experiences with tools for EA



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▶ Your votes please!

Who is using office tools
(powerpoint, visio, word, excel)
to model and visualize
the (enterprise) architecture?

▶ Your votes please!

Who is using an EA-tool
to model and visualize
the (enterprise) architecture?

▶ Discuss the following questions

- ▶ What do you like about the tool(s) you use(d)?
 - ▶ What didn't you like about the tool(s) you use(d)?
 - ▶ What are your main requirements for tool support?
-
- ▶ Discuss it with your neighbors
 - ▶ Write down the top-3 for the last question

▶ Gartner on Office tools (2006)

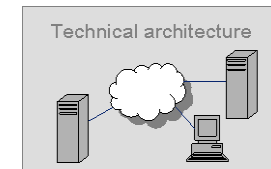
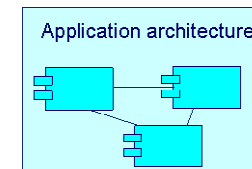
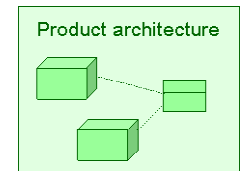
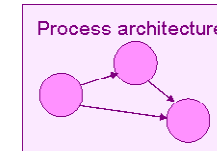
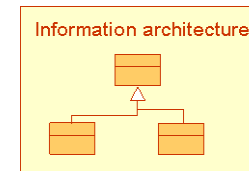
Gartner

While most architecture endeavors can begin successfully with office automation tools (for example, Microsoft Office), diagramming tools (for example, Microsoft Visio) and knowledge management tools (for example, Lotus Notes), at a certain point, more comprehensive architecture modeling tools become a necessity.

▶ Office tools for EA: Drawbacks

Description of isolated EA domains, so

- ▶ no relations between different parts and domains of the EA
- ▶ no insight in the relationships within the EA
- ▶ no impact of change analysis possible
- ▶ Schemas visualizing the architecture are difficult to construct / maintain
 - ▶ only a limited number of views are developed
- ▶ Overall consistency of the architecture is very hard to maintain
 - ▶ propagating changes done by hand and is time-consuming



▶ Advantages of EA tools

- ▶ Descriptions of architectural domains are stored as part of the same model
 - ▶ relations between different parts of the architecture are actually part of the model
 - ▶ enabling impact of change analysis
- ▶ Increasing consistency of the architecture
 - ▶ consistency and model checking mechanisms
- ▶ Automatic generation of views and visualizations
 - ▶ tailored for a particular stakeholder
- ▶ Work in teams
- ▶ Description of enterprise architecture principles in the same model

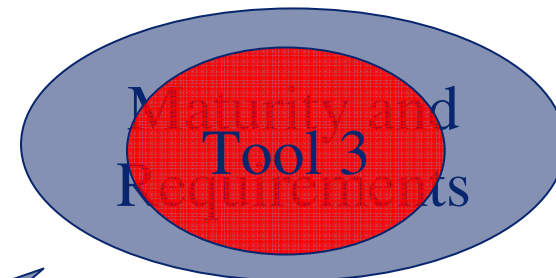
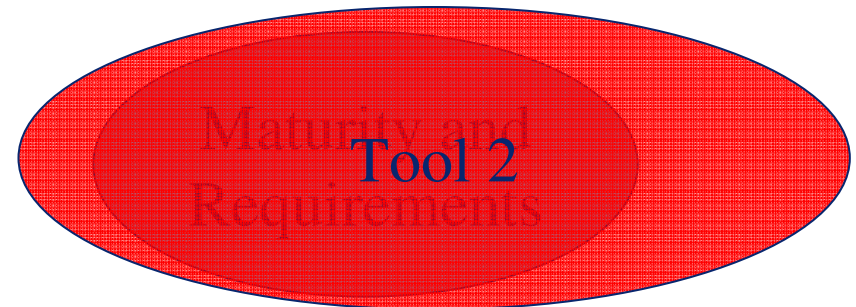
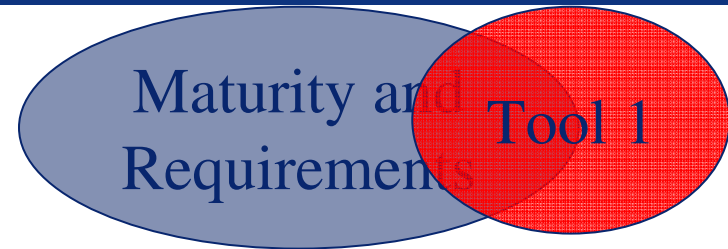
▶ Tool and Maturity

- ▶ An EA practice does not start with tools...
- ▶ Tools don't solve problems, they only help you doing so...!

- ▶ Indicators for needing an EA tool:
 - ▶ You have a group of architects, so consistency becomes an issue
 - ▶ You have a federated environment, so insight in each others work in an issue
 - ▶ You talk to strategic management and projects, so different views are needed
 - ▶ You spent lots of time on synchronization, different independent model are hard to keep in synch
 - ▶ Have a hard time to deliver the requested insights in time, views are maintained and created by hand
 - ▶ You have the need for analyzes, i.e. baseline/target comparison, impact of change

▶ Tool and Maturity

- ▶ Choose tools that suit your maturity
- ▶ No smaller...
- ▶ But certainly no bigger!
- ▶ That can grow with you!





Requirements EA Tools

The most common requirements for EA Tools

▶ Minimal requirements (Gartner)

The minimum requirements of an EA tool are:

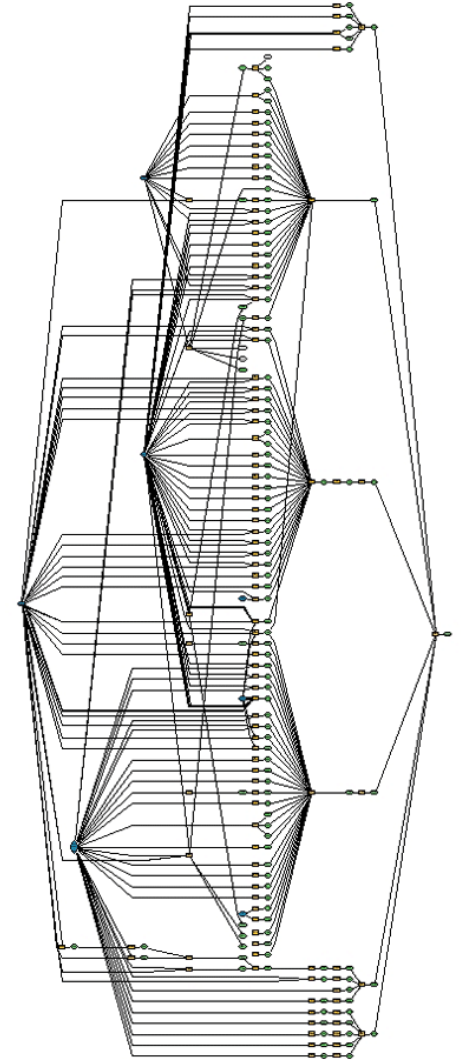
- A repository.
- A metamodel that supports the business, information and technology viewpoints, as well as solution architectures. The repository should also support relationships among and between objects in these viewpoints or architectures.
- Ability to create or import models and artifacts.
- The ability to present repository information to support stakeholder needs, including in graphical, text and executable forms.

▶ The tool should support relevant concepts and framework(s)

- ▶ Relevant for the goal of your enterprise architecture
- ▶ *Less is More!*
 - ▶ Support of more concepts and frameworks is not necessarily better...
- ▶ Minimally, there should be support for
 - ▶ Goals, principles and guidelines
 - ▶ Business concepts
 - ▶ Application and information concepts
 - ▶ Infrastructural / technology concepts
 - ▶ Realization aspects (projects)
 - ▶ Time aspects
 - ▶ **The relations between these concepts**

▶ Modelling functionality

- ▶ Creation and modification of models
 - ▶ easy to use model editing functionality
 - ▶ user-friendly interface
 - ▶ good graphical interface
 - ▶ the ability to assign properties to model elements
 - ▶ importing and exporting information using open standards
 - ▶ multi-user support

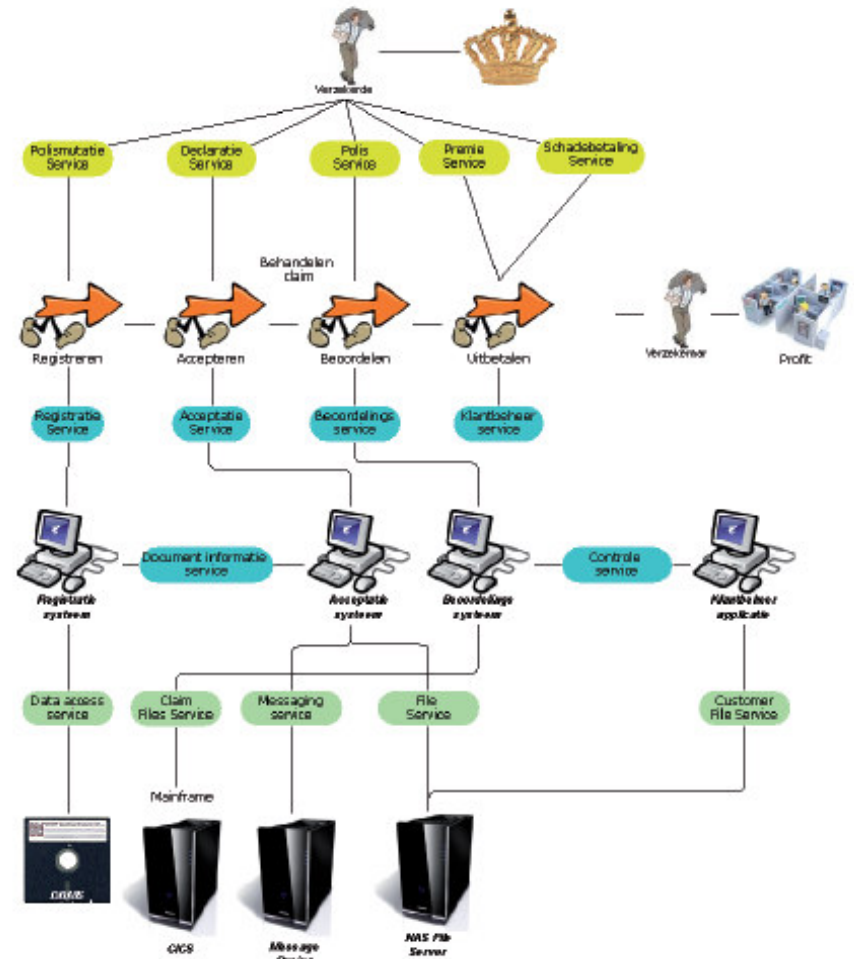
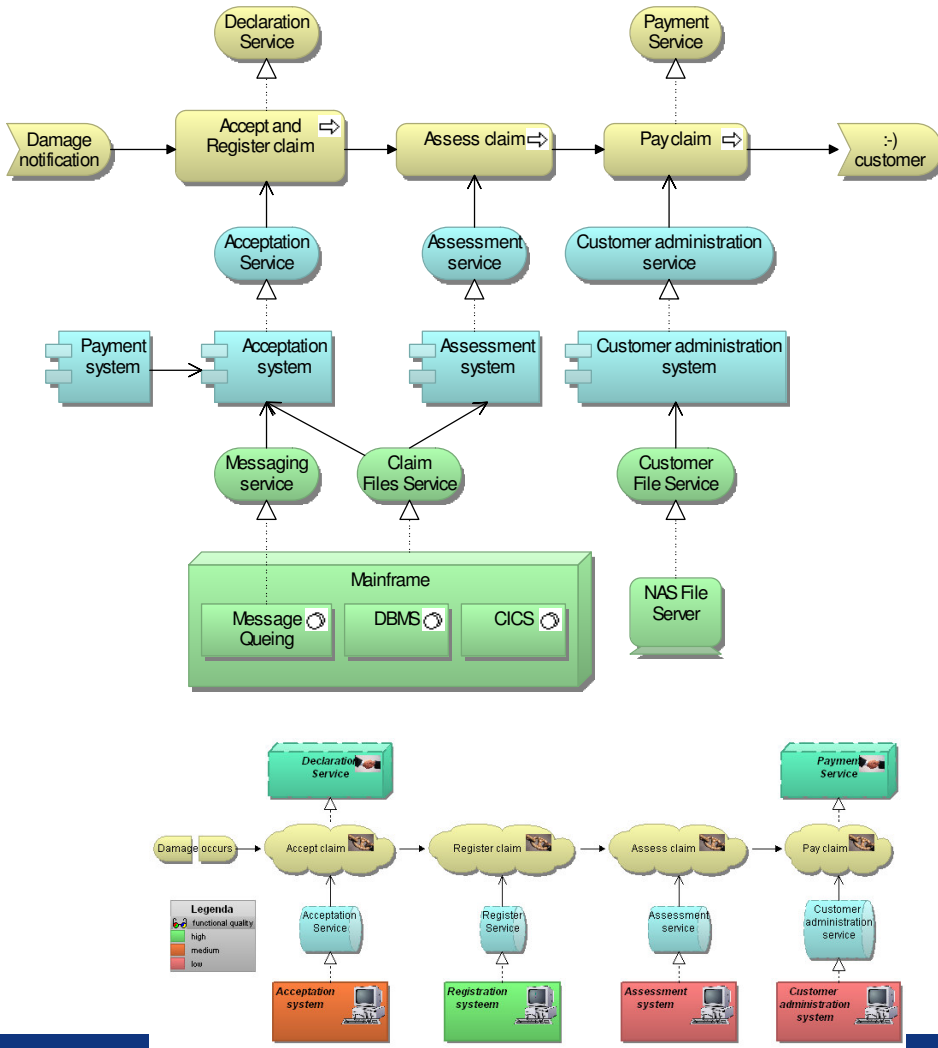


▶ Visualization

- ▶ Visualize and publish (parts of) the enterprise architecture
 - ▶ easy (automatic) generation of views
 - ▶ defining new viewpoints
 - ▶ content and output form
 - ▶ copy to PowerPoint
 - ▶ export to Excel
 - ▶ publish in Word
 - ▶ generate HTML, including feedback possibility



Example visualization



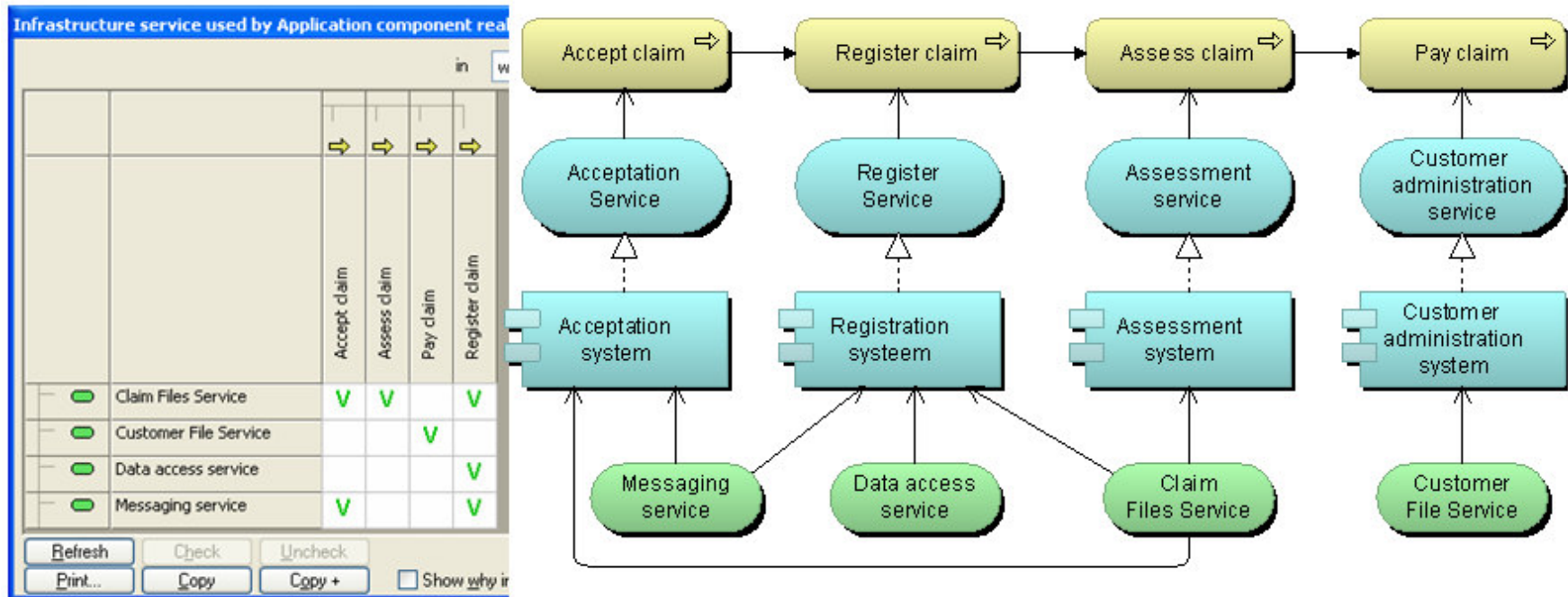
▶ Analysis of enterprise architecture

- ▶ Impact-of-change analysis
 - ▶ graphical, table, cross-domain
- ▶ Comparing views
 - ▶ reporting differences and similarities
- ▶ Comparing architectures (as-is, to-be)
 - ▶ reporting differences and similarities
- ▶ Queries
 - ▶ e.g., list all business critical processes, supported by applications that use technology services with an availability less than 99%
- ▶ Quantitative analysis
- ▶ ...

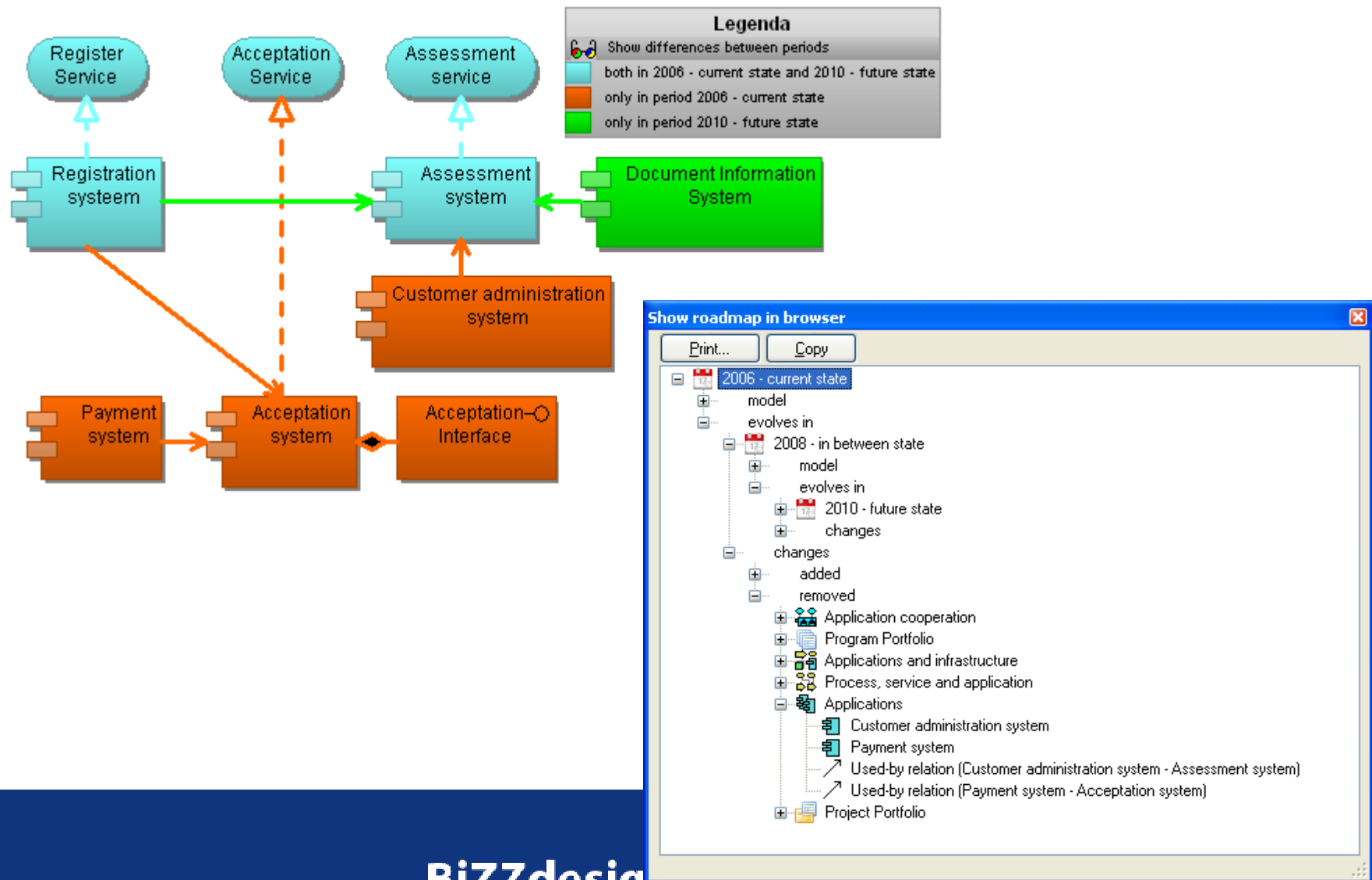


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▶ Example impact analysis



▶ Example comparing architectures



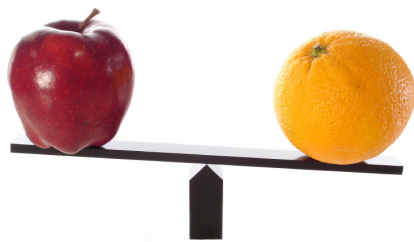
▶ Repository and team support

- ▶ Objects and relations should be stored in a repository
 - ▶ User management and user rights management
 - ▶ Content organization
 - ▶ Artifact sharing
 - ▶ Version management
 - ▶ Locking / check-in / check-out
 - ▶ Scalable



Building strong organizations

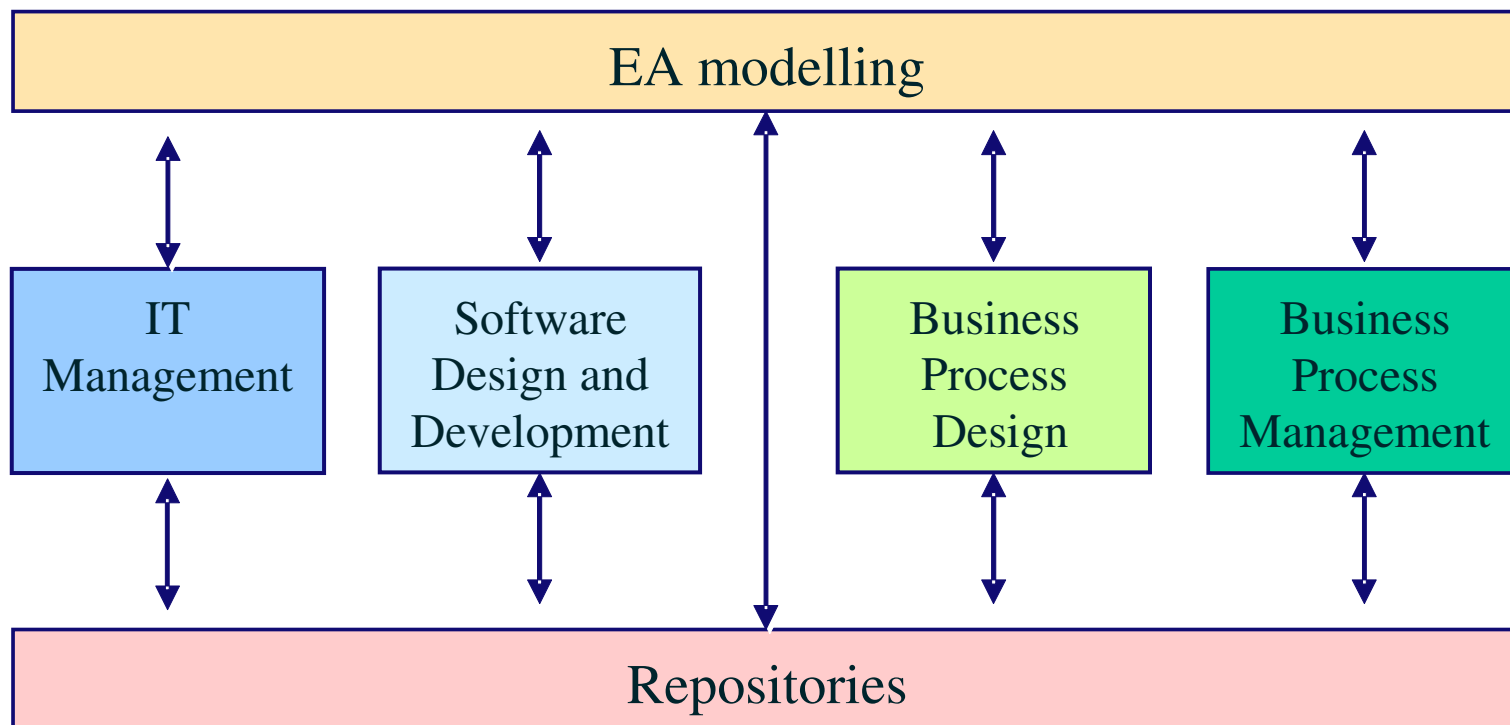
Overview of different type of tools for EA



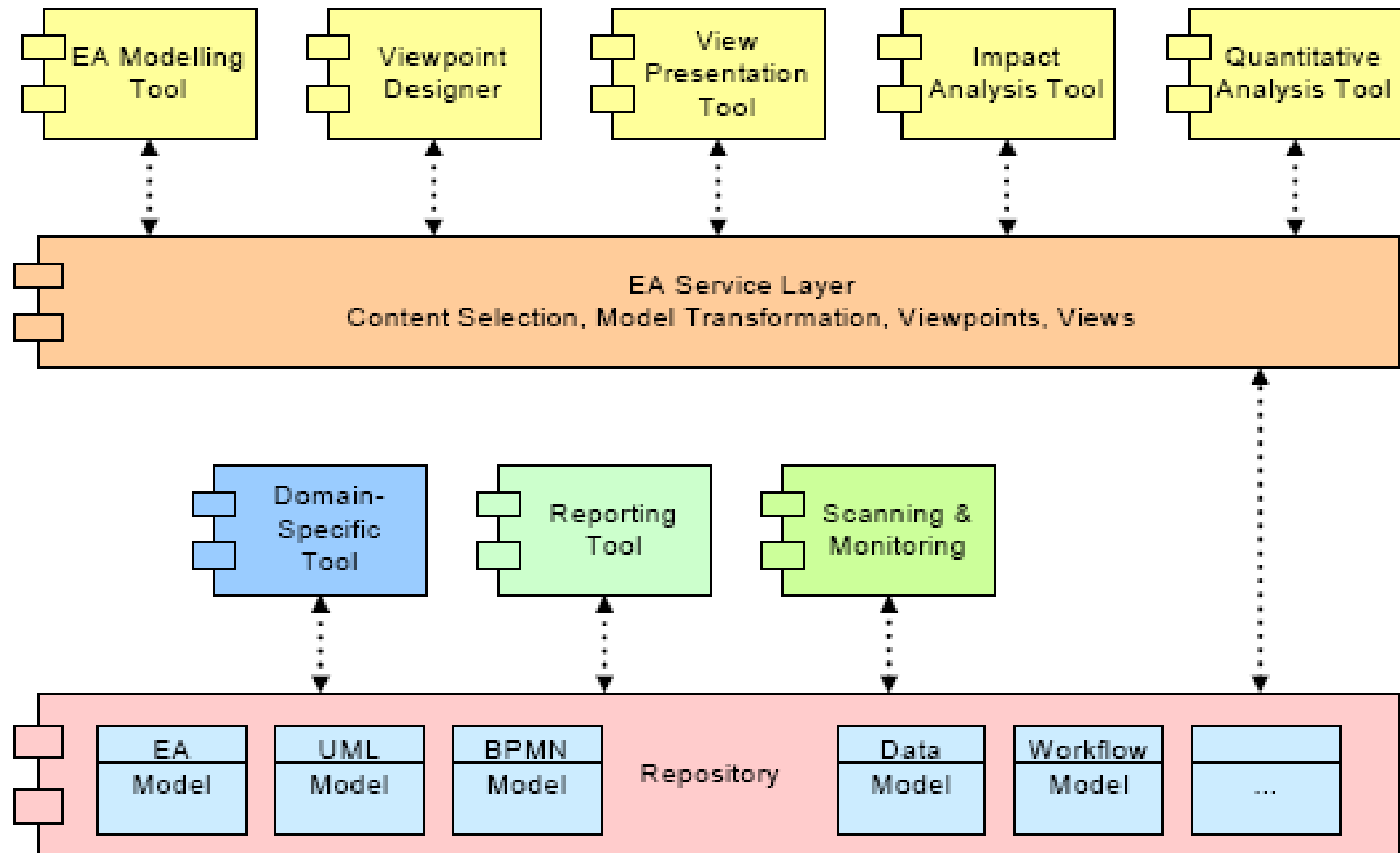
Comparing apples and oranges...

▶ Tools, tools, tools...

- ▶ Different types of tools exist



Components EA tools (ideal situation)





Building strong organizations

**Selection of an EA Tool;
There is no ideal tool for all situations.**

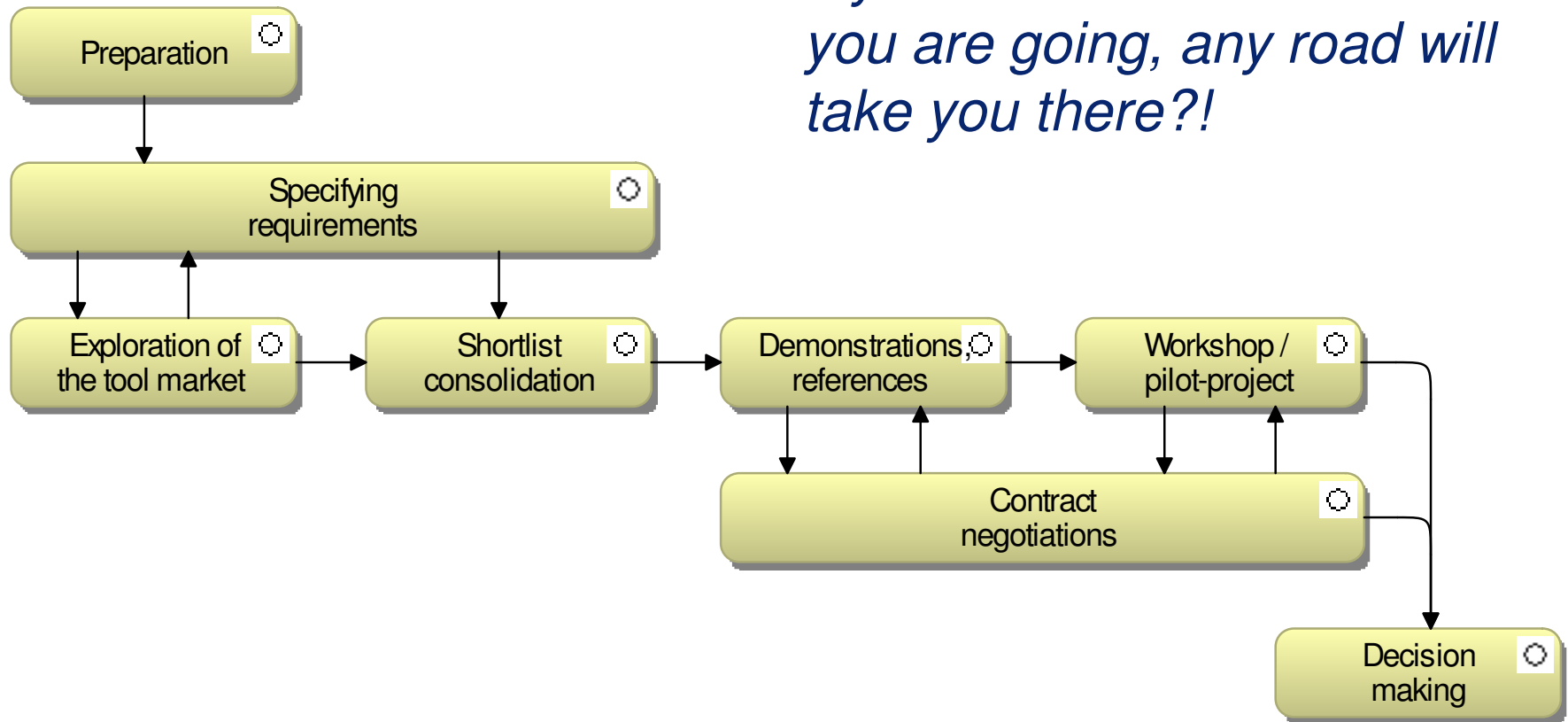
A step-by-step select and implement an EA Tool

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► Procedure tool selection

If you don't know where you are going, any road will take you there?!



▶ 1. Preparation

Analysis of current situation; identify

- ▶ the groups involved in EA
- ▶ the EA areas these groups are targeting
- ▶ the maturity of the EA practice within organization
 - ▶ Measuring instruments (Togaf9:part VII, Gartner, DYA, BiZZdesign, etc.)
- ▶ means/tools that are used
- ▶ conventions/standards that are available
- ▶ requirements concerning possible migration of current data and models

Result: clear picture of maturity of EA practice and stakeholders



▶ 2. Specify requirements

- ▶ The EA principles!
 - ▶ Identify requirements
 - ▶ Prioritize the requirements!!
-
- ▶ Take into account the maturity of the organization
 - ▶ tool that fits the maturity level of the organisation
 - ▶ that does not impose severe complexity
 - ▶ that can grow with the organisation tot the next maturity levels



▶ Examples on requirements

- ▶ Functionality of the software package;
- ▶ Methodology/language support (e.g. ArchiMate[®], Togaf[®])
- ▶ Training support (tool and methodology)
- ▶ Administration and configuration aspects
- ▶ Technical aspects
- ▶ Contractual aspects (i.e., licenses, support, new releases, etc.)
- ▶ Security aspects and Performance aspects

▶ Example requirements

- ▶ Many lists of requirements are available
 - ▶ Internet, Gartner, TOGAF, Forrester, http://www.enterprise-architecture.info/EA_Tools.htm, etc.
 - ▶ See e.g. [Enterprise Architecture Tool Selection Guide v4.2.pdf](#)
 - ▶ Including scoring sheets, see e.g. [142242 ea reqs tool matrix v2.xls](#)
- ▶ Important: choose only those things important for your organization!
 - ▶ Possibly weight the requirements

3. Exploration of the tool market

- ▶ Create long list of tool vendors
 - ▶ Ask around
 - ▶ Analyst firms
 - ▶ What are partner using?
- ▶ Create RFI and let vendors answer the RFI
- ▶ Ask for screendumps etc. to validate answers...

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Institute For Enterprise Architecture Developers		Risk / Strategy / Enterprise / Solution Architecture Tools Overview - 2007 v4.2							Frameworks, Modelling Languages
Supplier	Tool	Governance, Risk, Compliance	Program Management	Enterprise/IT Portfolio management	Business IT Strategy	Enterprise Architecture	Service Oriented Architecture	Software Engineering	
Aam tech	SAMJ								Not Specified
Acceptsoftware	Accept 360								Not Specified
Adaptive	Adaptive EA Manager, IT Portfolio Manager, Metadata Manager, Project Portfolio Manager								Adaptive, Zachman, FEAF, Archimate, GWM
Agilense	EA Webmodeler								Agilense, Synthesis, Zachman, TOGAF, DoDAF, FEAF/TEAF, FEA
Altova	Altova Enterprise Suite								UMODEL, XML Suite
Alfabet	Planning IT								SITM framework
ASG Software Solutions	ASG-Rochade								Not Specified
Avolution	Abacus								Zachman
BEA Aqualogic	Enterprise Repository								FEAF
Bizzdesign	BIZZdesign Architect, BIZZdesigner, Riskmanager								Archimate
Casewise	Corporate Modeler Enterprise Edition								Casewise Framework, Zachman, FEAF, TEAF eTOM, DoDAF, etc.
CACI International	SimProcess								Zachman
Enterprise Elements	Elements Repository								CPIC / DoDAF
Forsight Framework Software, Inc	Modeling & Validation Tool set								DoDAF
Future Tech Systems, Inc	Structure								FEAF, DoDAF, Zachman
GoAgile	ENVISION® VIP								Not Specified
GoAgile	GoAgile MAP Product Suite								Not Specified
IBM	IBM Rational Software Architect								Not Specified
IDS Scheer	ARIS Process Platform								ARIS Framework, Archimate
Intelligie Corporation	MAP Suite + ITAA								Zachman, TOGAF, DODAF, E2AF, FEAF, TEAF
Knotion Consulting	SYNAP-C SOLUTION								Not Specified
LogicLibrary	Logidex								Not Specified
Méga International	Méga (Process, Architect, Designer)								Zachman
NetViz	NetViz Suite								Not Specified
Palisade	Risk & Decision Analysis								Not Specified
Proforma	Provision Modeling Suite								Zachman, C4ISR
Qualware	Qualware Product Suite								Not Specified
Salamander Organisation	MooD Transformation Technology								MoDAF
Select Business Solutions	Select Component Architect								Zachman
Simon Labs	SimonTool								Simon Enterprise Architecture, Zachman
Sparx Systems	Enterprise Architect								Not Specified
TeleLogic	System Architect Family + Rhapsody								Zachman, TOGAF 8, DoDAF, MoDAF
Troux	Metis Product Family								Zachman, TOGAF, DoDAF, FEAF / TEAF, Archimate
Visible	Visible Advantage								Not Specified

▶ 4. Create short list tools

- ▶ Evaluate RFI
- ▶ Create a short list of 3 – 5 tools
- ▶ Ask additional information (if necessary)



▶ 5. Demonstrate and evaluate

- ▶ Organize demonstrations for the selected tools
 - ▶ focus on functionality important for organization
 - ▶ use a case
 - ▶ let participants fill in evaluation form, based on the requirements
 - ▶ Let them model a case
- ▶ Visit reference sites
- ▶ Rank vendors on short list

**DROP YOUR
DEMO**



▶ 6. Contract negotiations

- ▶ Procurement should start negotiations with the most likely candidate(s)
 - ▶ This step can also be postponed just before deciding
- ▶ Procurement should check:
 - ▶ the financial aspects such as the size of the investment, the yearly maintenance costs, estimation of the amount of necessary customization work, education costs, etc.
 - ▶ Modulairity of tools (architect, vendor, procurement)
 - ▶ information regarding the vendor (previous experiences, continuity expectation, etc.)
 - ▶ the contractual clauses



TCO vs ROI!!

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AFP

▶ 7. Pilot / workshop

- ▶ Organize a pilot or workshop with the preferred vendor(s)
 - ▶ Use a case
 - ▶ Let “ordinary users” play with the tool
 - ▶ Create an interactive workshop of one or two days, or
 - ▶ Train some users and organize a longer pilot
 - ▶ Acquire information on configuration, conventions, implementation, etc. during the pilot

See it!
Feel it!
Do it!



▶ 8. Decide

- ▶ Create a document for management to decide on EA tool

And start implementing the tool...



Start Future Now!



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Some best practices on starting with
EA and tools

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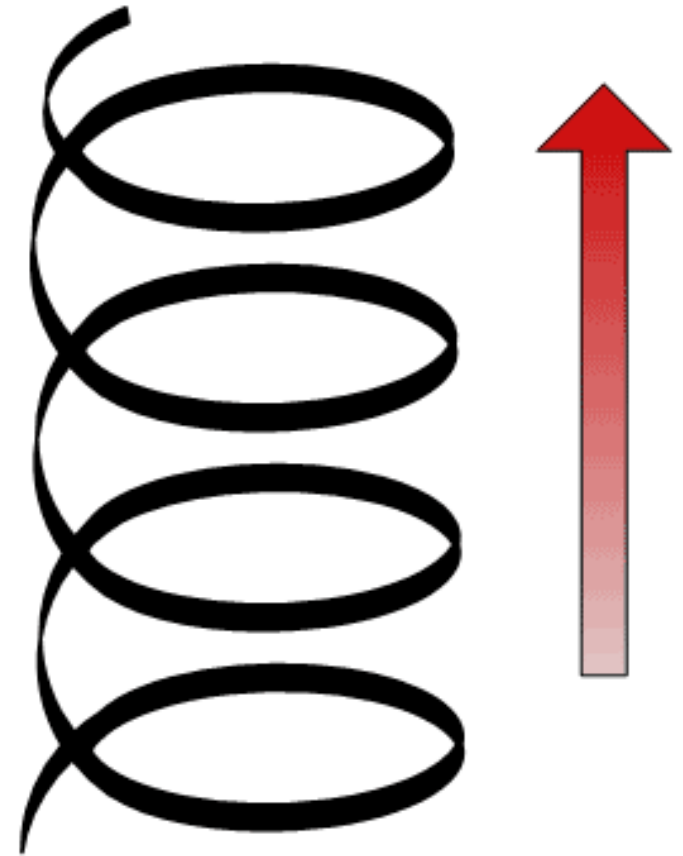
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▶ Steps to take introducing EA and tools

- ▶ Start pilot enterprise architecture
 - ▶ case should realize a quick win; small investment creates added value; buy in support from management
- ▶ Match concepts and describe current architecture
 - ▶ Use framework/language in organization;
 - ▶ Import as much as possible (in scope)
- ▶ Create coherence within the architecture
 - ▶ Create relations within the architecture; create *enterprise* architecture
- ▶ Organise the architecture effort within your organization
- ▶ Use architecture for future situations

▶ Think big, start small...

- ▶ Select concepts and relations from meta model
 - ▶ Not everything at the same time: just in time, just in place
 - ▶ On which parts is information available?
 - ▶ What do you need to answer the questions from your organization?
 - ▶ Divide the use of concepts and relations in time
- ▶ Define criteria for the selection and use of concepts
 - ▶ Learn from others (best practices)
 - ▶ Go visit other companies



A wide-angle photograph of the Chicago skyline at night, with numerous skyscrapers illuminated against a dark blue sky. The text "Building strong organizations" is overlaid in white.

Building strong organizations

Questions....

....and answers

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