Ein agiler Ansatz zur Dokumentation und Kommunikation von Unternehmensarchitekturen
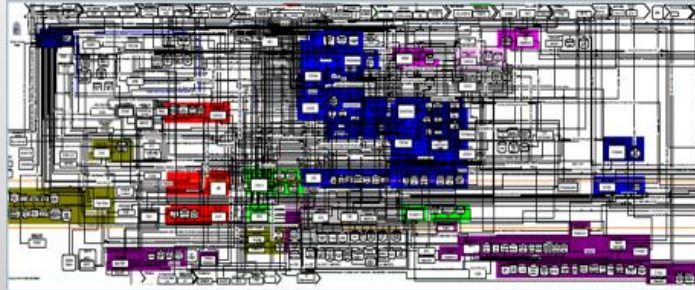
Software-Architektur Jahrestagung 2011, Hamburg
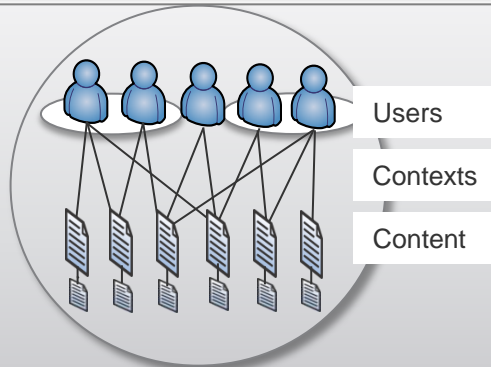
Prof. Dr. Florian Matthes
Software Engineering for Business Information Systems (sebis)
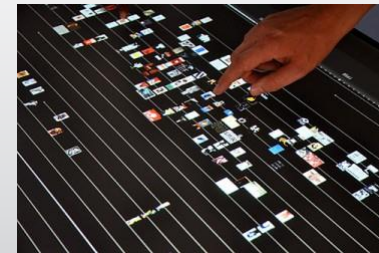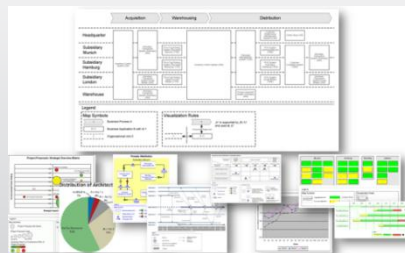Technische Universität München

Our research areas

Enterprise Architecture Management – Enterprise Transformation

Visions & Goals | Questions & KPIs | Strategies & Projects | Principles & Standards

Business Capabilities
Organization & Processes
Business Services
Applications & Databases
Infrastructure Services
Infrastructure Elements

Social Software Engineering

Users

Contexts

Content

Transfer Projects

Information & Communication Technology | Application | Prototypical Solutions

Engineering | Assessment

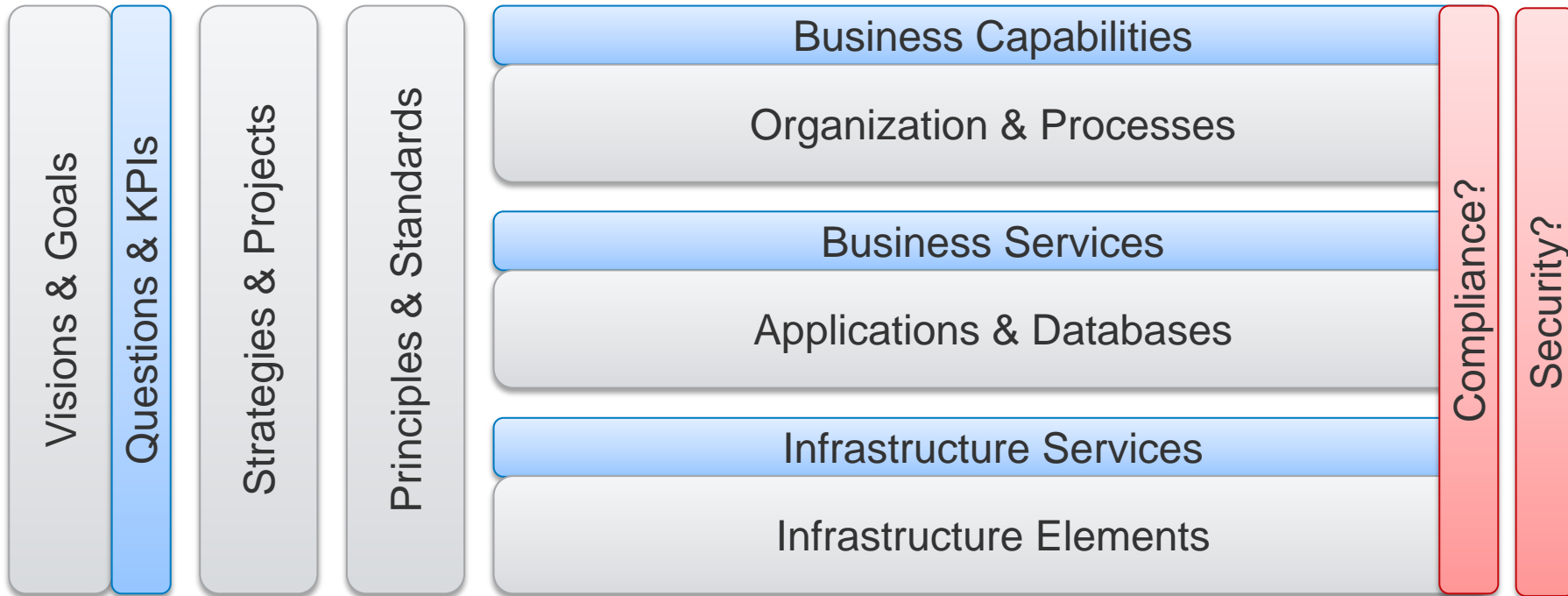Informatics Models | Abstraction | Practical Experience | Spin-Off
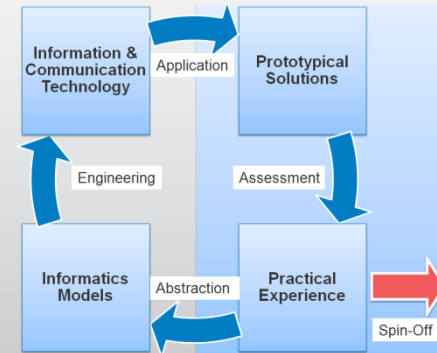
Interactive Information Visualization
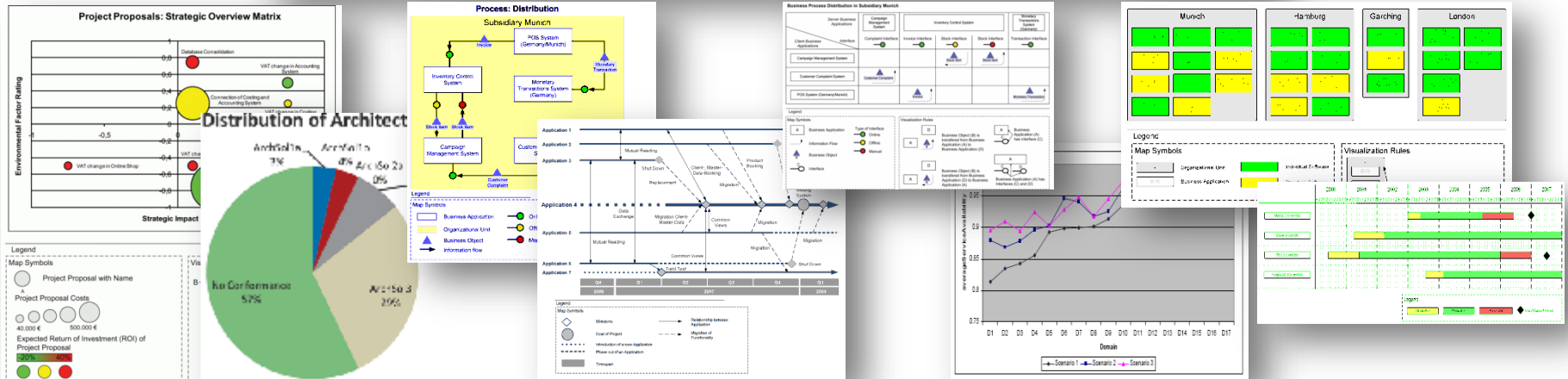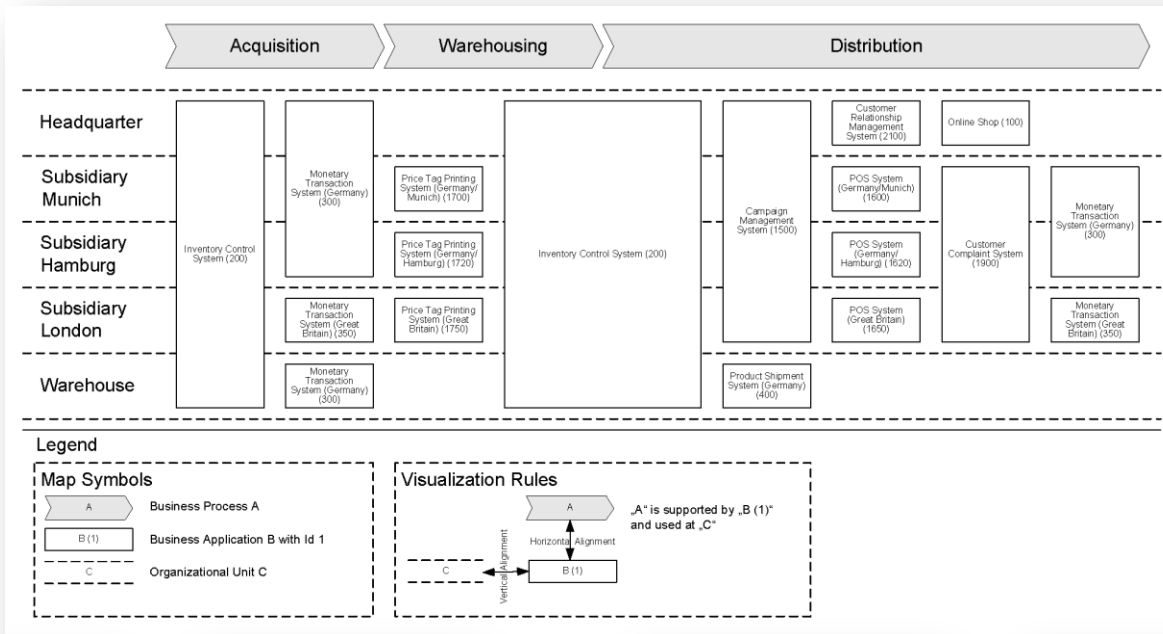
What is an enterprise architecture?

Common language for business and IT

- Technical, social and economic aspects
- Layers and crosscutting concerns
- Relationships more important than element details

+ EVOLUTION!

Visions & Goals	Questions & KPIs	Strategies & Projects	Principles & Standards		Compliance?	Security?
				Business Capabilities		
				Organization & Processes		
				Business Services		
				Applications & Databases		
				Infrastructure Services		
				Infrastructure Elements		

An enterprise architecture has to be visualized.

Key challenges of EA modeling

Complex information structures

- Holistic view   ➔ lots of types and elements
- Relationships more important … ➔ lots of links and causal dependencies
- Multiple viewpoints   ➔ lots of attributes, documents, generated views (reports, diagrams)
- Multiple roles & processes   ➔ access rights, audit trails, notifications

Element life cycles

- demand, project proposal, budgeted project, project in execution, completed project

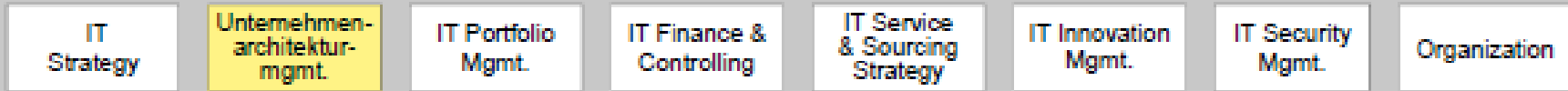**Evolving information structures**

- Mismatch between information demand & supply
- Changing architectural concerns
- Increasing maturity of the EAM function

Special-purpose repositories

- EAM tool, process modeler, CMDB, project portfolio tool, requirements manager, …

Example: EAM within the IT organization of a medium-sized financial service provider

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IT Governance

| IT Strategy | Unternehmen-architektur-mgmt. | IT Portfolio Mgmt. | IT Finance & Controlling | IT Service & Sourcing Strategy | IT Innovation Mgmt. | IT Security Mgmt. | Organization |

Anfo.-mgmt.

Marketing & Communication

Business Consulting

Demand Specification

Solution Strategy

IT Management

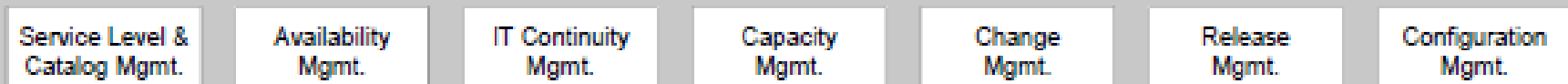| Program & Project Mgmt. | IT Process & Quality Mgmt. | IT Resources Mgmt. | Asset/ License Mgmt. | IT Procurement | IT Supplier Mgmt. |

Solution Delivery

Application Development & Integration

| Analysis | Design | Implementation | Test & Approval |

Solution Support

Methods & Architecture Support

Infrastructure Development

| Analysis | Design | Implementation | Test |

Solution Support

Transition to Production

Service Operations

Takeover & Administration

| Operating | Coordination & Risk Mgmt. |

Service Desk

| Incident Mgmt. | Service Request Mgmt. | Access Mgmt. |

Problem Mgmt.

Workplace & End Devices Mgmt.

Service Lifecycle Management

| Service Level & Catalog Mgmt. | Availability Mgmt. | IT Continuity Mgmt. | Capacity Mgmt. | Change Mgmt. | Release Mgmt. | Configuration Mgmt. |

Example: What is an application and what are its components and interfaces?

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IDE	Req. Manager	License Manager	Help Desk Knowledge Base
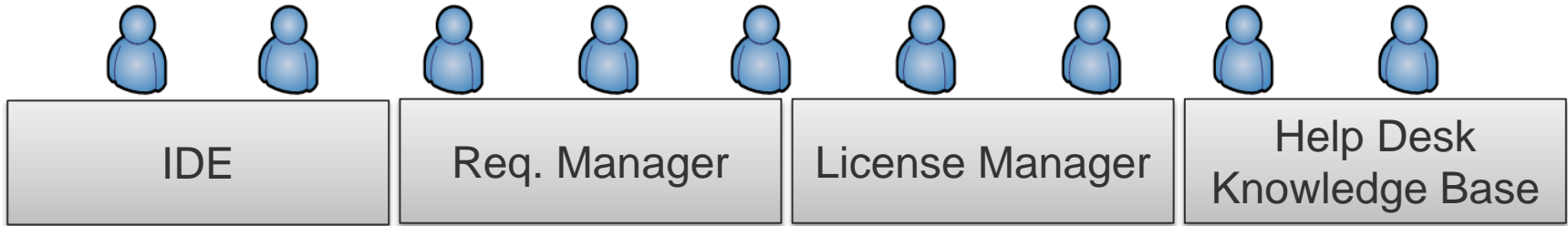
Ontology Integration and Evolution Problem

Application, deployed application, business component, technical component, service, license, service Instance, Interface, connector, … ..

→ 10^1 -10^2 Classes / Entity Types + Attributes + Relationship Types
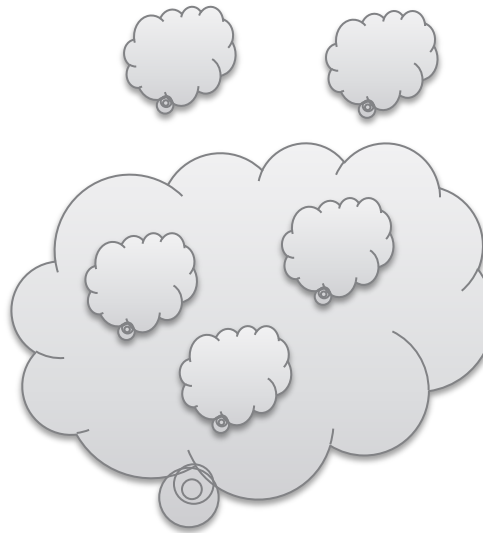
Federated Linked Data Management Problem

Identity, Lifecycle, Ownership, Name Space, Access Rights, Versions, Consistency Rules, Conflict Resolution, Data Provenance, ..

→ 10^3 -10^6 Objects / Instances + Attribute values + Links

Enterprise Process Modeler	Service Repository	CMDB	EAM Tool

Outline

1. **Key challenges in enterprise architecture modeling**

2. **Tricia – Enterprise information management and collaboration using hybrid wikis**

3. **Summary**

IT until now focuses on structured information and automated processing.

ERP	CRM	PLM	BI

Islands of business-critical information

Process Modeler	Service Repository	CMDB	**EAM Tool**
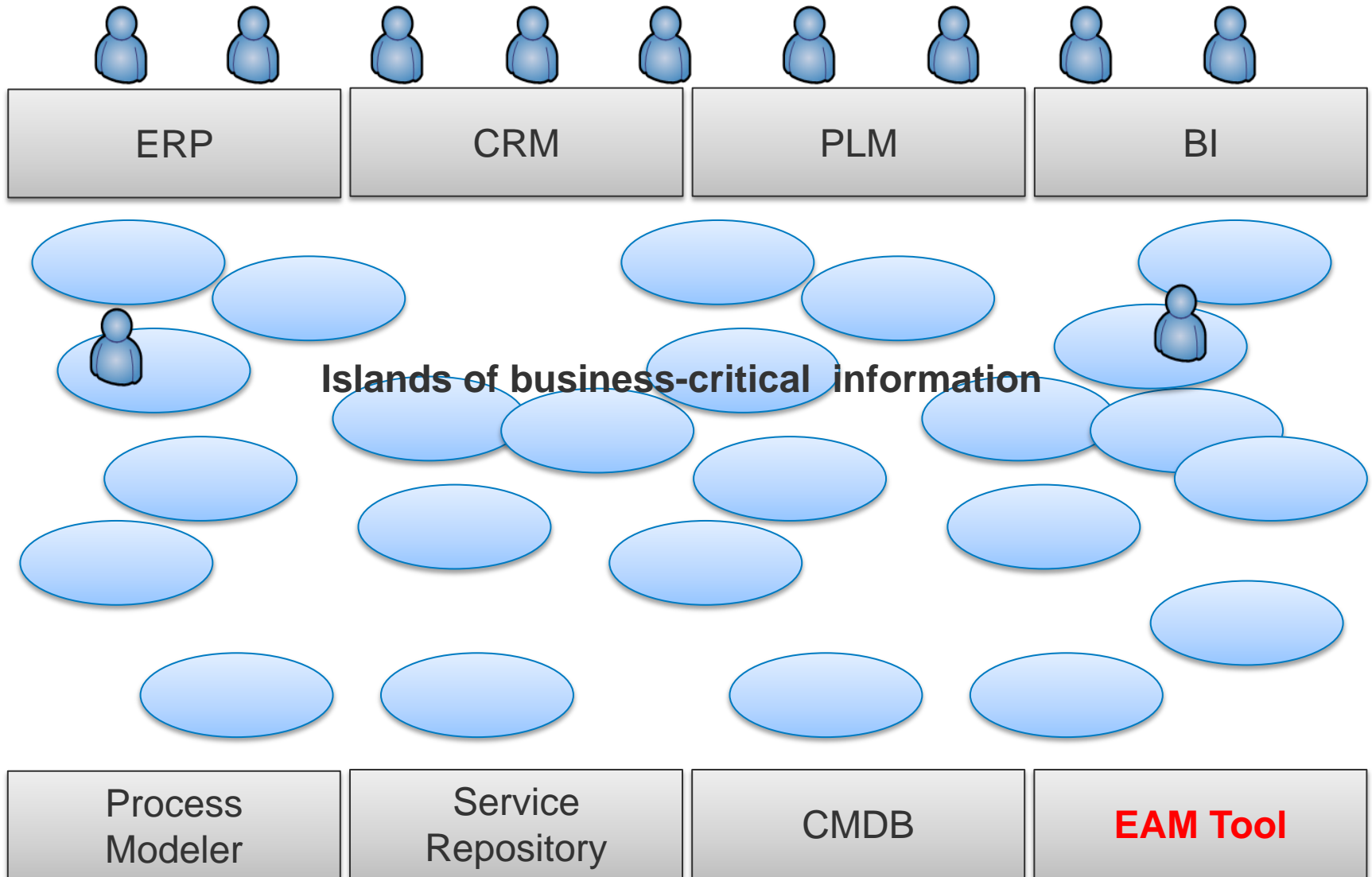
Tricia reduces the gap between structured and unstructured enterprise information management.

ERP	CRM	PLM	BI

Islands of business-critical information

Incrementally **linked using Tricia**

Process Modeler	Service Repository	CMDB	EAM Tool
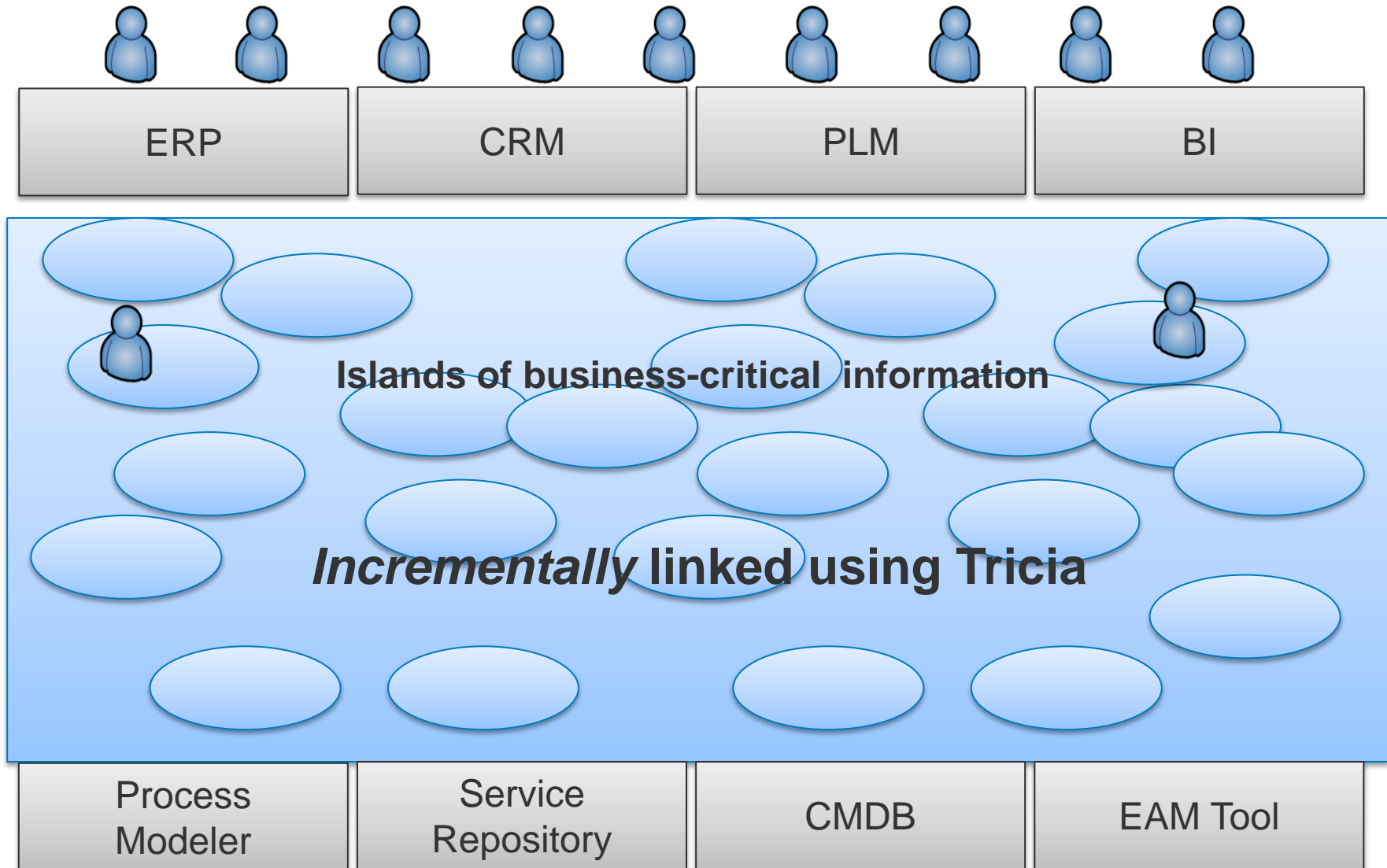
Tricia incrementally increases coherence by providing balanced benefits for all relevant stakeholders.

Users immediately become more productive

- web and desktop access
- searches, tags, links, notifications, versions.

Teams can define

- information structures & consistency rules
- views & processes

for their collaborative work.

The enterprise provides unified and secure access to structured and unstructured information

- groups & access rights
- open web standards

Coherence

Current
EAM Tools

Tricia

**Fragmentation
(technical, social)**

Wiki4EAM Community at TU München

Workshop Participants	
▪ Allianz	▪ Niedersächsisches Ministerium für Inneres und Sport
▪ Bundesministerium des Inneren	▪ Nokia Siemens Network
▪ Capgemini	▪ objectarchitects
▪ Computacenter	▪ Schufa
▪ Cirquent	▪ Steria Mummert Consulting
▪ FZI Forschungszentrum Informatik, Uni Karlsruhe	▪ UniCredit Group
▪ GAD	▪ Wacker Chemie
▪ Innocopia	▪ WHU Otto Beisheim School of Management
▪ Max-Planck-Gesellschaft	

Interest / Customers	EAM Tool
▪ act! consulting	▪ Bundesrechenzentrum Österreich
▪ Adidas	▪ Münchener Verein
▪ Canada Life	▪ e.on
▪ Landschaftsverband Rheinland	
▪ LVM Versicherung	
▪ Iteraplan	
▪ Novartis, …	

Capture non-structured and structured information in a unified way.

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Wikis | Files | Blogs | Groups | Deleted | Site | Diagrams | 👤 Administrator | Logout

Wiki4EAM

What are you looking for? 🔍

🏠 » Wikis » IT-Landschaft » Data Warehouse

Last editor 👤 Administrator - 1 minute ago ❓

| View | Details | Versions |

Edit   Browse this Wiki   Delete   New Page   Clone

Data Warehouse

Tags: todo edit tags

Description of the application goes here. It may include

» formatted text

» formatted tables

» hyperlinks (Subsidiary Munich)

» graphics (PNG, JPG, ...) and

» editable and linked diagrams (Oryx).

Arbitrary many **files** can be linked as attachements 🛈 and are full-text intexed.

0 Comments

Leave a comment:

Non-structured information

Types (0..m)

Non-rigid attribute list

Attributes defined for this type

Attribute suggestions

Inverse links

Types: business application edit tags

criticality	high
responsible unit 🛈	📄 Headquarter
used technology 🛈	📄 Oracle 9i
number of users	

References

"used applications" of	📄 Subsidiary London

Change the information and its structure at any time.

Manage the evolution of the information structures to match changing business needs.

Define the information model and its constraints incrementally (top-down or bottom up).

Identify, understand and cooperatively resolve constraint violations.

Search by full text, tags, attributes and other relevant facets in combination.
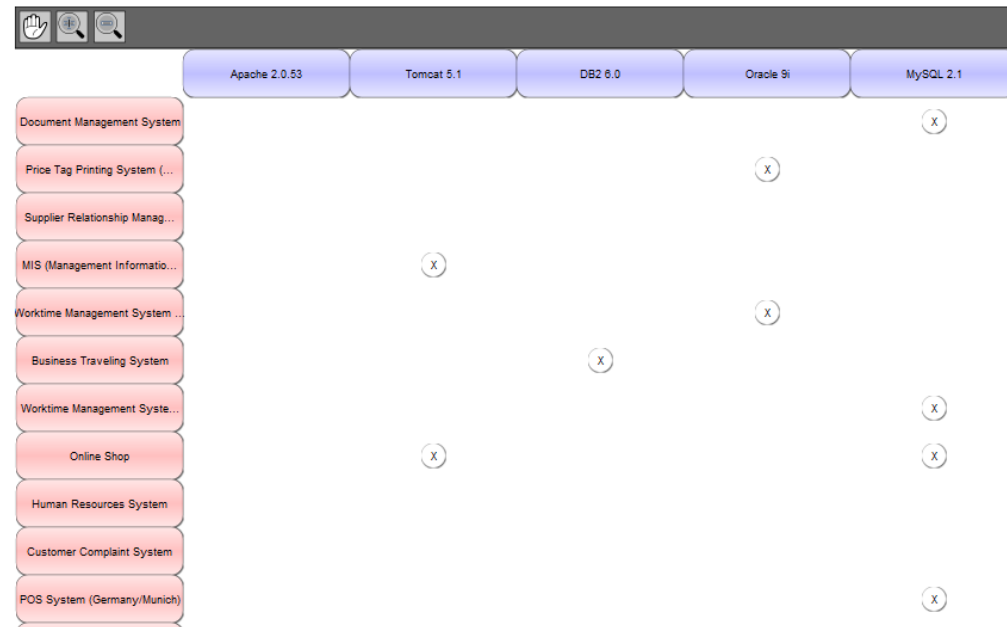
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Use generated lists, tables and diagrams to provide stakeholder-specific views.

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Which organizational unit is responsible for which business application?

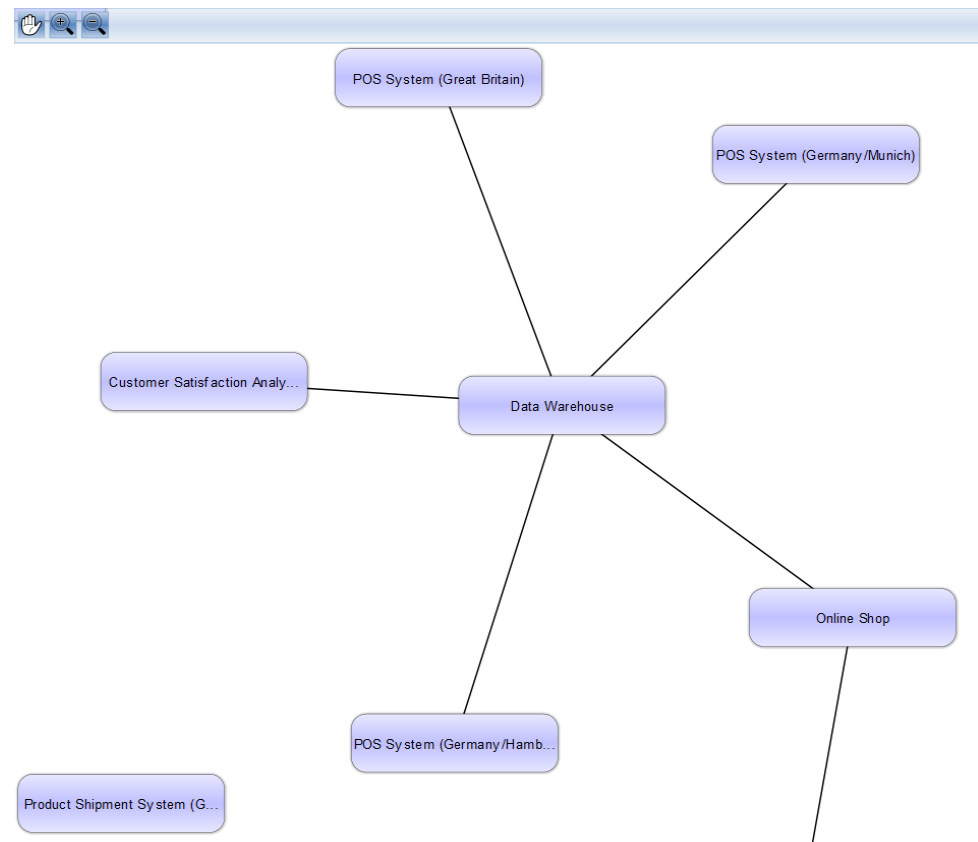Which business application uses which technology?

Link to detailed information

Use generated lists, tables and diagrams to provide stakeholder-specific views.

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What are our domains, subdomains and business applications?

What information dependencies exist for the data warehouse?

POS System (Great Britain)

POS System (Germany/Munich)

Customer Satisfaction Analy...

Data Warehouse

Online Shop

POS System (Germany/Hamb...

Product Shipment System (G...
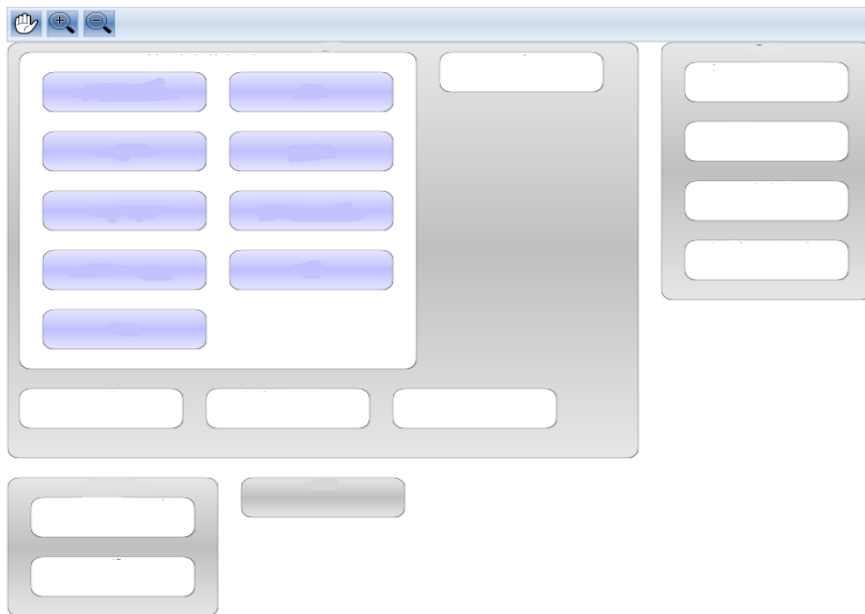
Define access control lists (ACLs) that match your business requirements.

Outline

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1. **Key challenges in enterprise architecture modeling**

2. **Tricia – Enterprise information management and collaboration using hybrid wikis**

3. **Summary**

Summary & Outlook

EAM Team	BPM Team	CMDB Team	IT Dep. A	IT Project B	Arch. Board

Persons, Groups & Group Memberships
Access Control Lists with Persons and Groups
for Readers and Editors

**Unified services
for the web & desktop**

Searches, Links, Tags, Versions,
Notifications, Comments, Views,
Types, Attribute Definitions & Consistency Rules

Personal Spaces
(collect, organize, share)

Team Spaces
(communicate, exchange, collaborate)

Enterprise Spaces
(re-use, link, contribute)

Directories	Files	Wiks	Wiki Pages	Blogs	Blog Posts	Comments

Process Modeler	Service Repository	CMDB	EAM Tool