

Enterprise Architecture (EA) Why do businesses need it?

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IBM Software

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Introduction

- Why is EA Needed?
- What is EA?
- Benefits of EA?

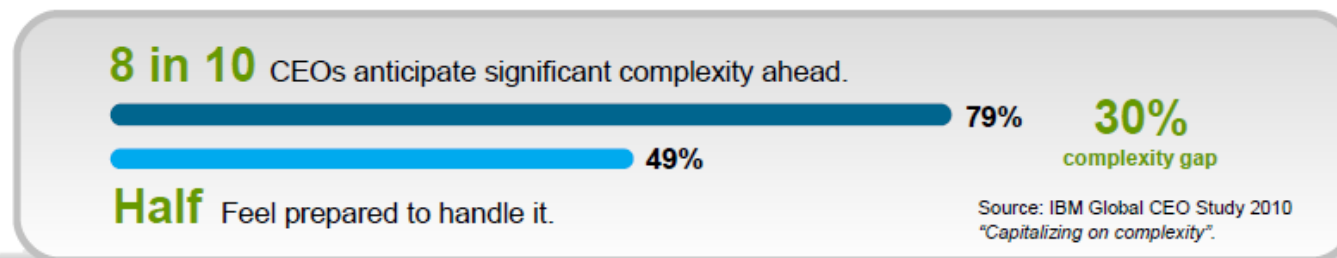
- What is TOGAF?
- TOGAF in IBM Rational System Architect
- Benefits of TOGAF

- More Information

Agenda

- **Why is EA Needed?**

Why is EA needed?



- Organisations have difficulty in maintaining an agile Business and IT organization that can:
 - ▶ Adapt Quickly to Change.
 - ▶ Maintain an IT Portfolio that supports the Business Direction and Strategy.
 - ▶ Provide information to Support Key Decisions.

Why is EA needed?

परिवर् तनमे व स् थरिमस् त्ति

- Sanskrit tattoo

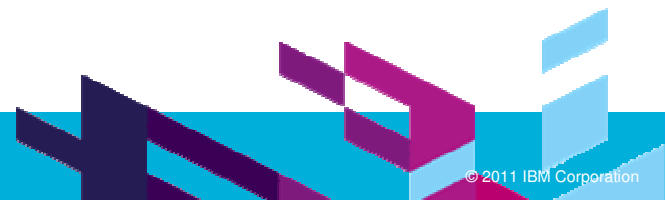
Change is the only constant in life!

- Heraclitus, Greek Philosopher

Why EA? - Year in the life of a CEO



Image Courtesy: Creative Commons - Simon Ledingham



Why EA? - Day in the life of a CIO



When do you know you need EA...

- One customer question elicits different answers
- New regulations require major effort
- Business agility is difficult and growth initiatives aren't profitable
- IT is consistently a bottleneck
- Different business processes and systems compete the same activity
- Information necessary for making decisions is not available
- Employees move data from one system to another
- Senior management dreads discussing IT agenda items
- Management doesn't know whether it gets good value from IT



Source: Enterprise Architecture As Strategy, Jeanne W. Ross et al.

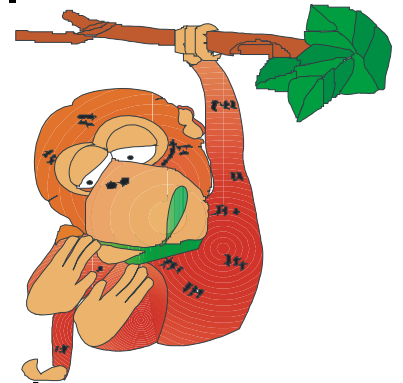
Some risks facing an organization

- “We hold duplicate information in several sources and analysts never know which version to use.”
- “All our data is in disparate applications, therefore analyzing and reporting is a time consuming and manual process.” (Usually spreadsheets!)
- “Our analysts are not using any standards, therefore it becomes a issue when exchanging information internally and externally.”
- “We have hundreds of bits of software and hardware at our data centers, however we are unaware as to what purpose they serve.”



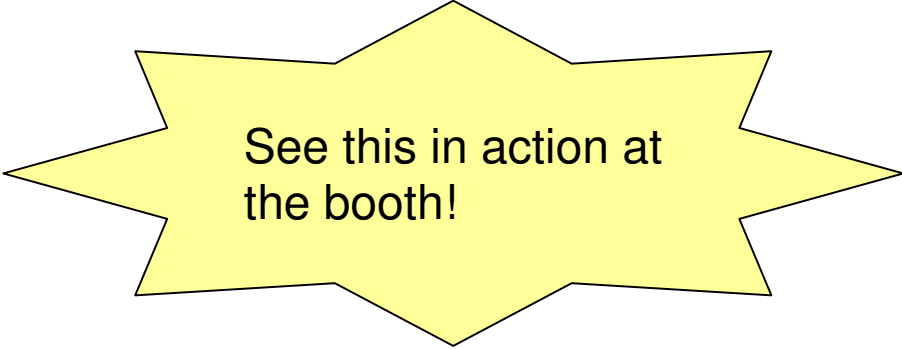
More risks

- “Projects are executed as silos, resulting in duplication of service, resource/effort, and also increases costs.”
- “It’s very difficult to share the Architecture and processes amongst users and stakeholders.”
- “Corporate IT Strategy is not always aligned with the Corporate Business Strategy.”
- “We have difficulty in understanding the full impact of any change. ”



And we have a product for that!

IBM Rational System Architect



See this in action at
the booth!

Agenda

**Is there a method to this madness?
(What is EA.)**

What is EA?

■ Enterprise Architecture

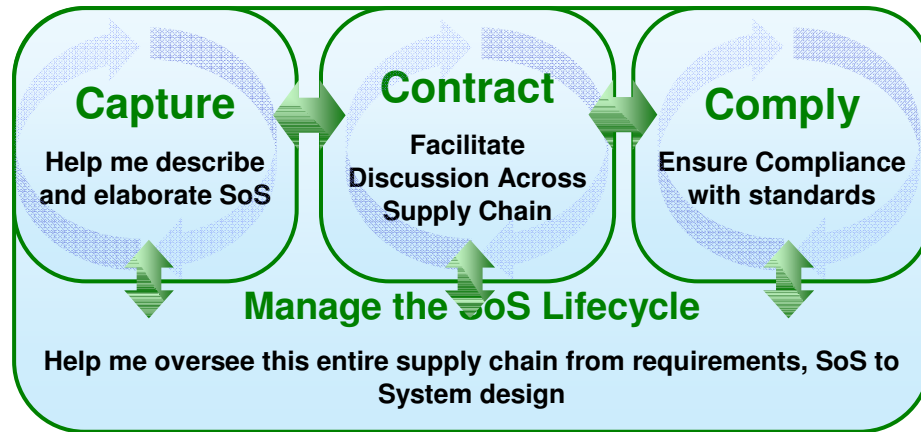
- ▶ An architectural discipline that merges strategic business and IT objectives with opportunities for change and governs the resulting change initiatives



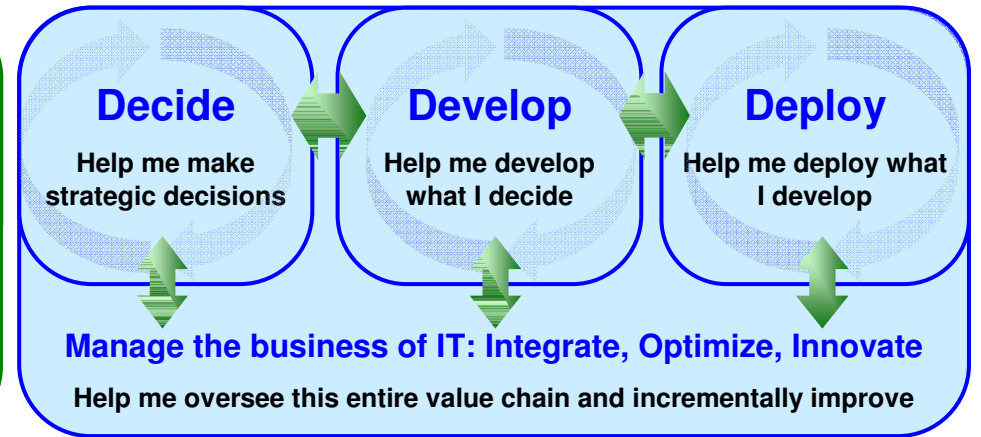
Users of EA

- Broadly we see 2 types of EA users

SoS Supply Chain



Business Context For IT



Multi-Tiered Supply Chain Government Agencies Military

Healthcare Transportation Finance/Banking Insurance Energy

What is not EA

- Software Architecture
- Modelling of software applications
- UML diagrams
- SOA

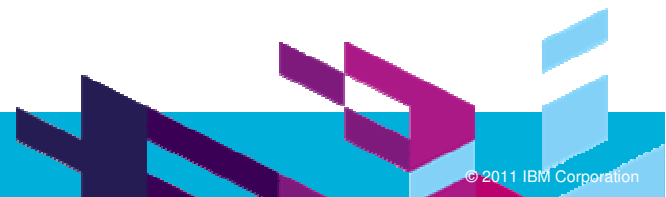
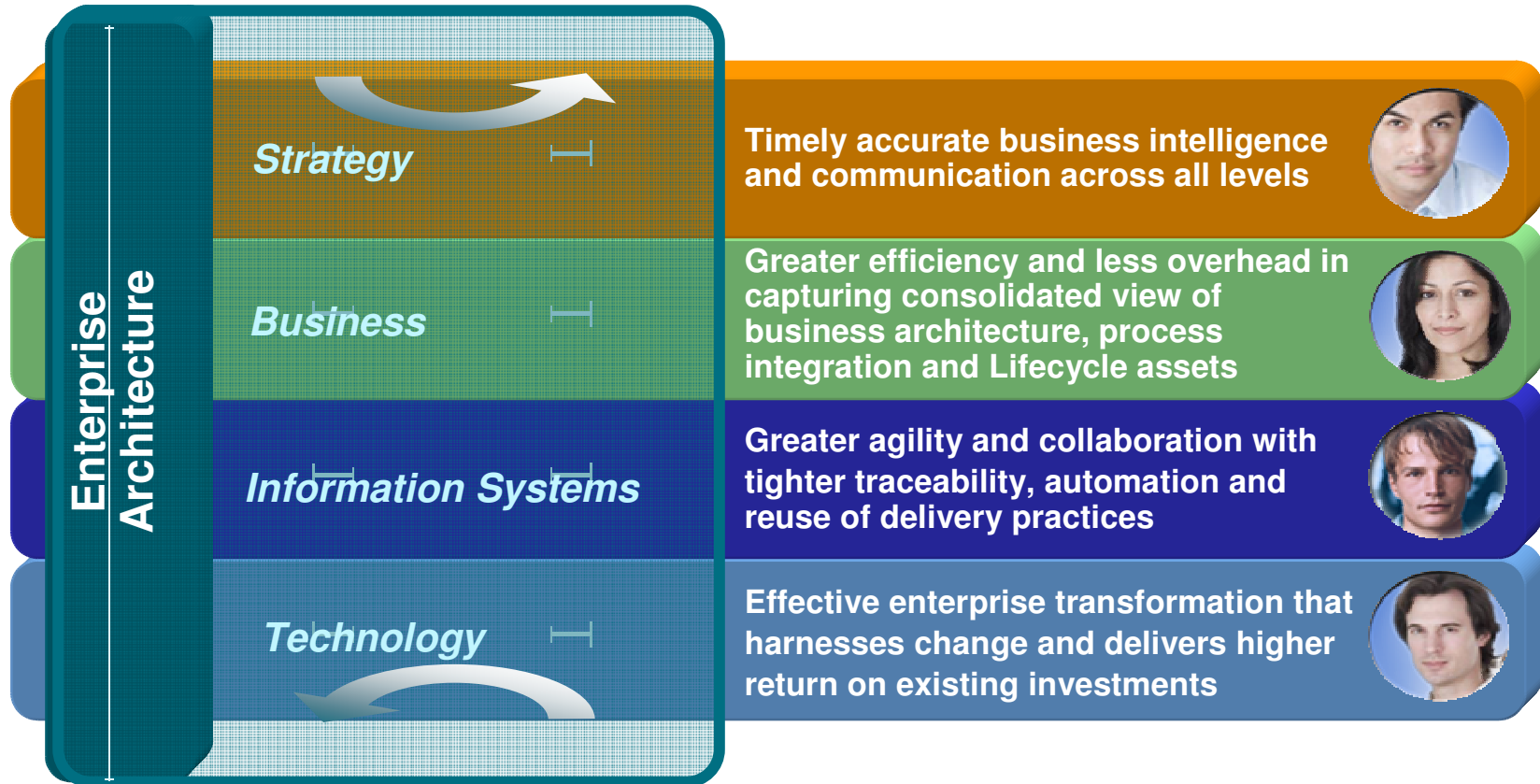
As put simply by Grady Booch on one of his blogs

“EA attends to the architecture of a business that uses technology; TA [Technology Architecture] attends to the architecture of the software-intensive systems that support the business”.

What is EA?

- An Organization typically has the following to work with and needs traceability among
 - ▶ Business objectives and goals
 - ▶ Business Processes
 - ▶ People
 - ▶ IT Applications
 - ▶ IT Infrastructure
- EA is a never ending exercise
 - Built and maintained it will benefit the organisation in it's short, medium and long term goals

Typically, Enterprise Architecture can be Conceptualised as four Interlinked Domains



Multiple points of entry for quick ROI



Testimony

"With IBM Rational System Architect, we centralized our entire business process practice, giving us a solid foundation to improve business intelligence and efficiency across the organization."

- Nilesh Kumar, Corporate Manager, Quality, ICICI Lombard

"You can't overstate the value of having a body of knowledge accessible in a central repository. In a split second, all stakeholders can find all the information they need in a consistent format, and they can view it in the way that enables them to do their job effectively. As a result, Dubai Customs has increased its agility and its ability to respond to new opportunities."

- Fadi Hindi, head of strategic IT planning and enterprise architecture, Dubai Custom

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- **Tangible things you can do with EA using Rational System Architect**

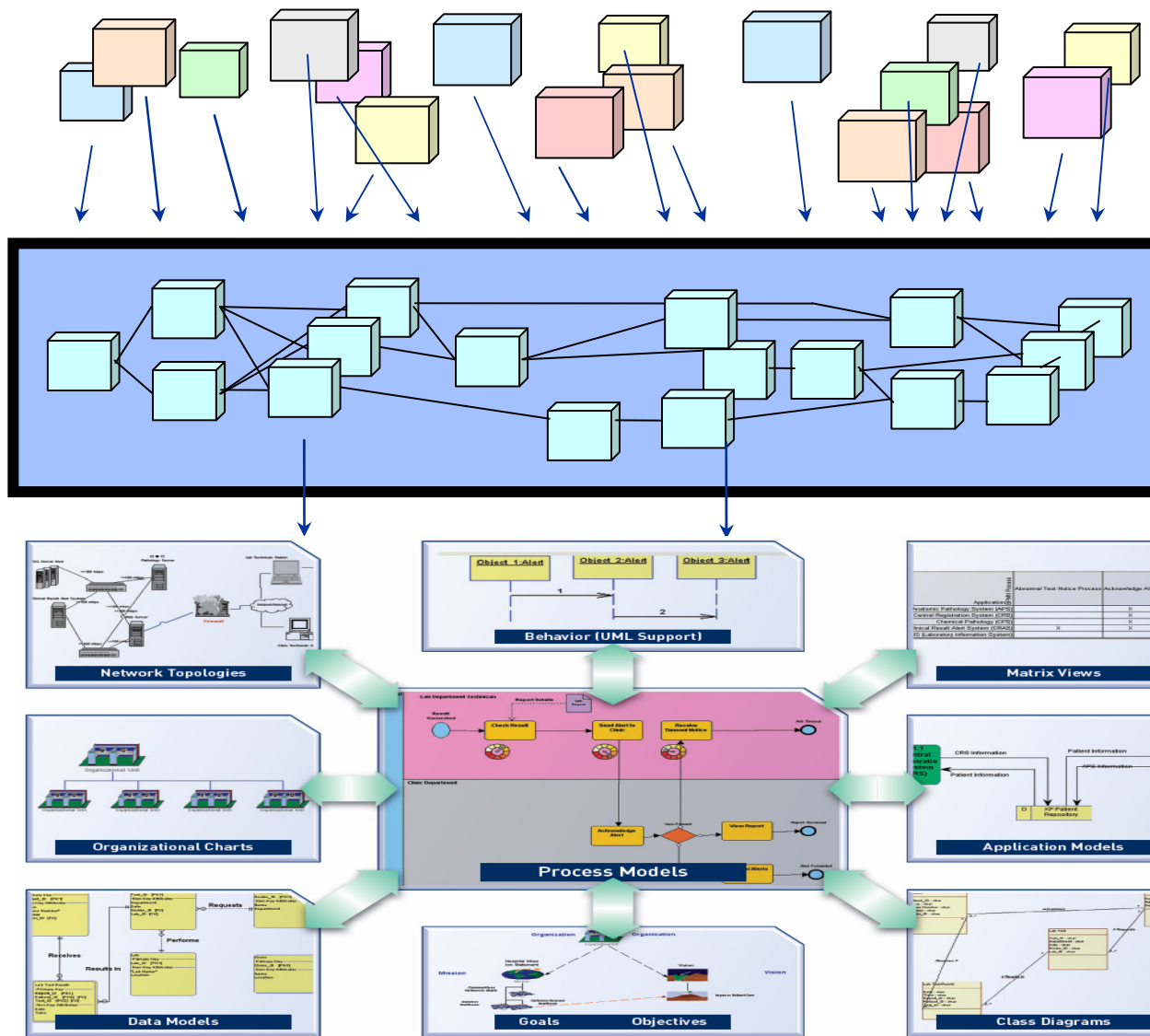
Create an Organizational Blueprint - *Leverage Your Existing Information*

Non-integrated project data

is imported,

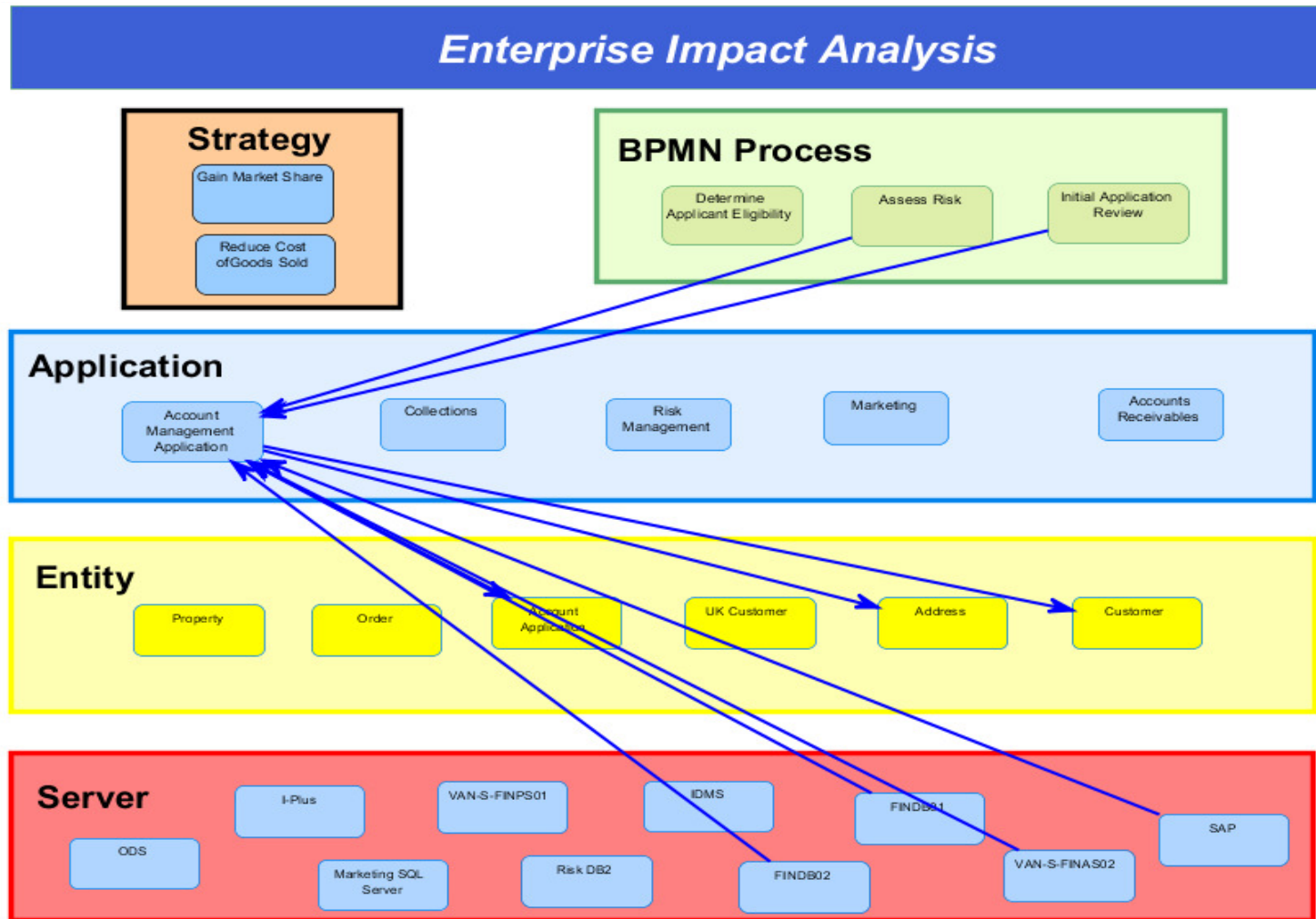
Structured, linked and traced,

to analyze, report, and communicate Architecture (managed information)



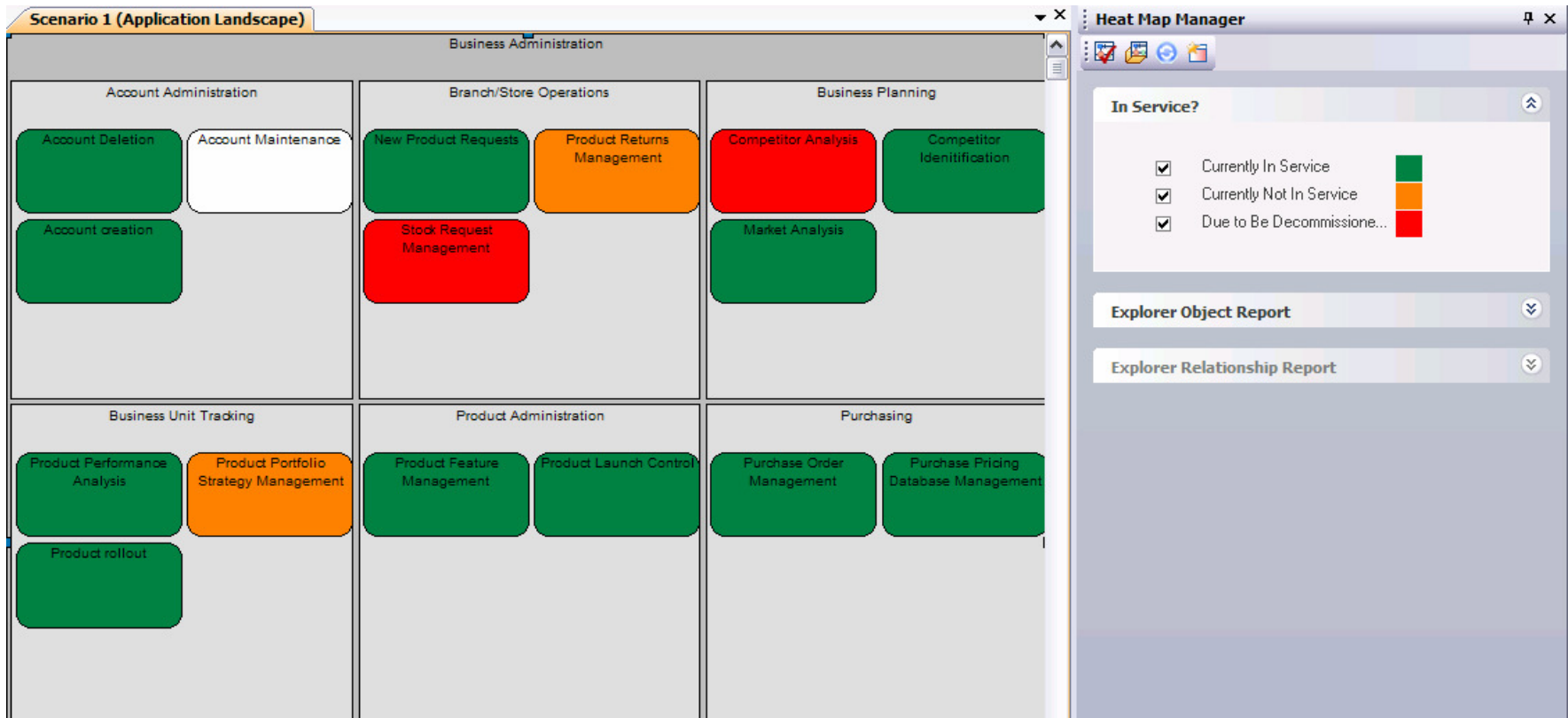
An Accurate View of the Impact of Business Expansion

Quickly identify how potential changes will affect the business and IT eco-system



Visibility of Current status

Dynamic landscapes, analytics, heatmaps



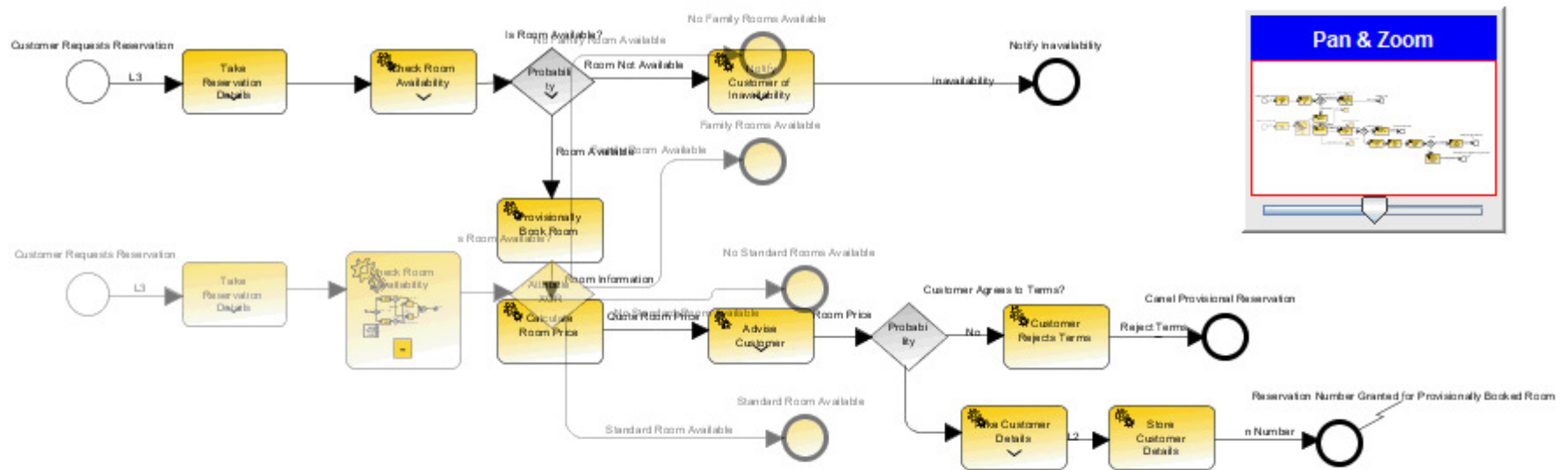
Visibility of Current status

Matrix view

Technology Compliance Roadmap								
Technology Interval	2010 Q1	2010 Q2	2010 Q3	2010 Q4	2011 Q1	2011 Q2	2011 Q3	2011 Q4
IIS	Future	Future	Planned	Planned	Current	Current	Current	Current
Linux	Old Version	Old Version	Sunset	Sunset	Retire			
SQL Server 2005	Old Version	Old Version	Sunset	Sunset	Sunset	Retire		
Win 7	Future	Future	Planned	Planned	Current	Current	Current	Current
Win Server 2008	Future	Future	Planned	Planned	Planned	Current	Current	Current
Win XP	Old Version	Sunset	Sunset	Sunset	Retire			
dotNet	Future	Future	Planned	Planned	Current	Current	Current	Current

Comparison of future options

Diagram Compare



Benefits of EA

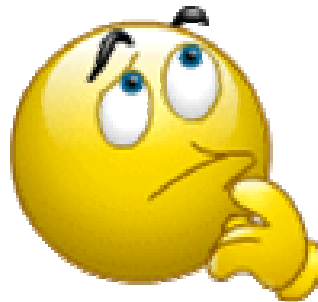
- Rational System Architect Help Organisations
 - ▶ Act quickly to seize business opportunities
 - Analyze business opportunity and the impact of change
 - Manage organizational transformation by better aligning business and IT priorities
 - ▶ Make informed decisions based on real-time and accurate information
 - ▶ Prioritize investments to support business goals
 - ▶ Improve risk management of organizational transformation
 - ▶ Deliver quality solutions with reduced risk & cost
 - Improve IT efficiency through real-time team collaboration, automation and reporting
 - ▶ Turn strategy into execution and measure the results

Industry Standards

- EA Frameworks
 - ▶ Vertical industry specific
 - Commercial - ToGAF
 - Defence – DoDAF (US), MoDAF(UK), NAF(UN)
 - US Govt – GEA
 - Telecom - NGOSS
 - ▶ Generic
 - Zachman

Agenda

- **What is TOGAF?**



What is ToGAF?

- The Open Group Architecture Framework (TOGAF)
 - ▶ A tool used for developing enterprise architecture.
 - ▶ Define a set of tools and provide a common vocabulary enterprise architects

- TOGAF is
 - ▶ Positioning itself as the de facto standard for “doing” EA
 - ▶ Process Driven
 - ▶ For big or small organizations

What is ToGAF?

- Customer members demand architecture standards ...

- TAFIM selected as starting point...

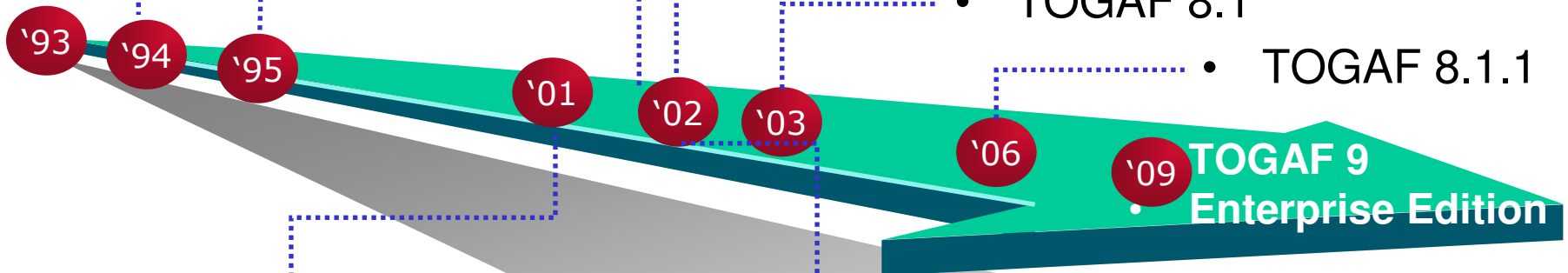
- TOGAF first published

- TOGAF 7 – Technical Edition

- TOGAF 8 Enterprise Edition

- TOGAF 8.1

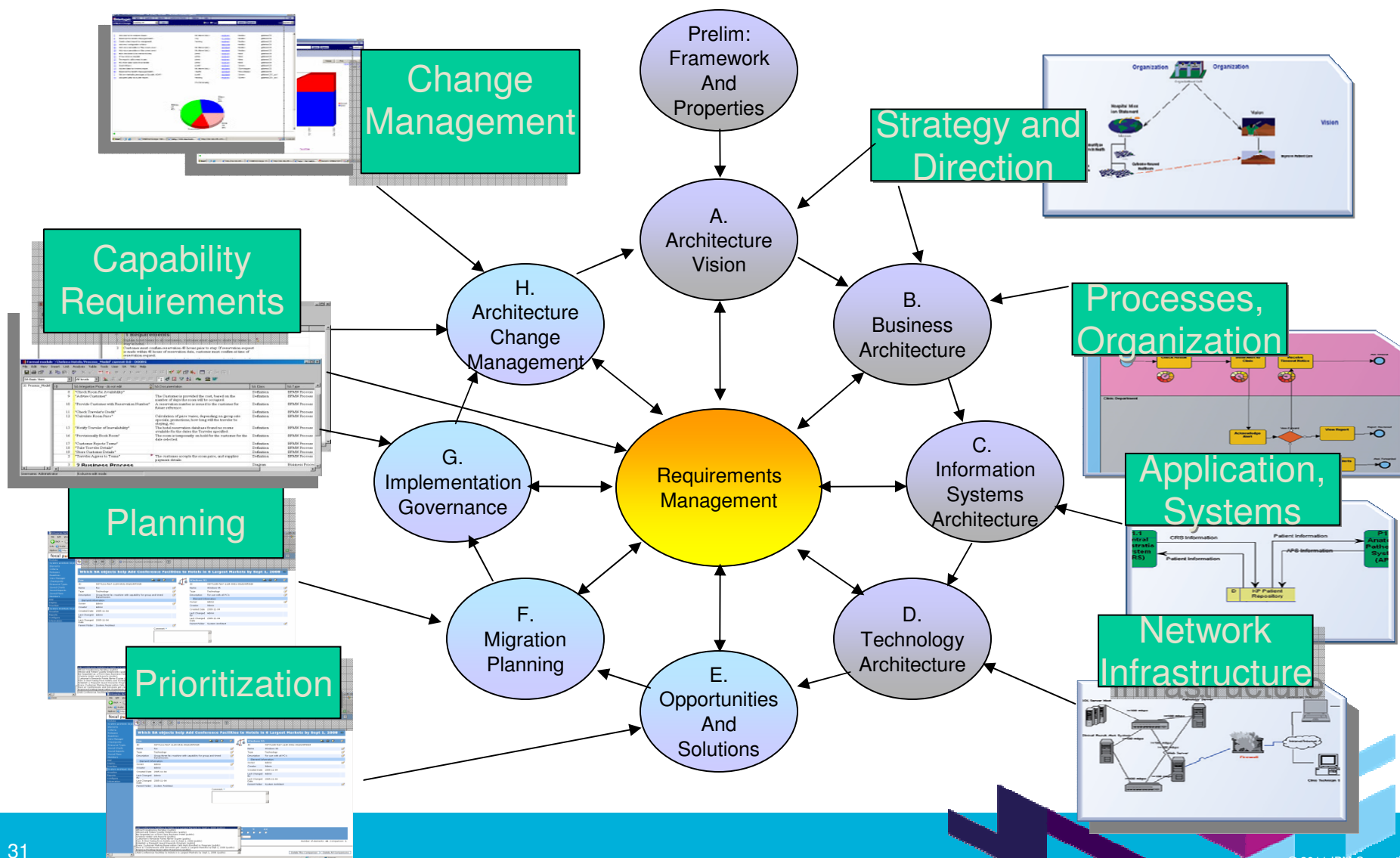
- TOGAF 8.1.1



- The Interoperable Enterprise Business Scenario first published

First TOGAF Certification Program Launched

TOGAF ADM (Architecture Development Method)

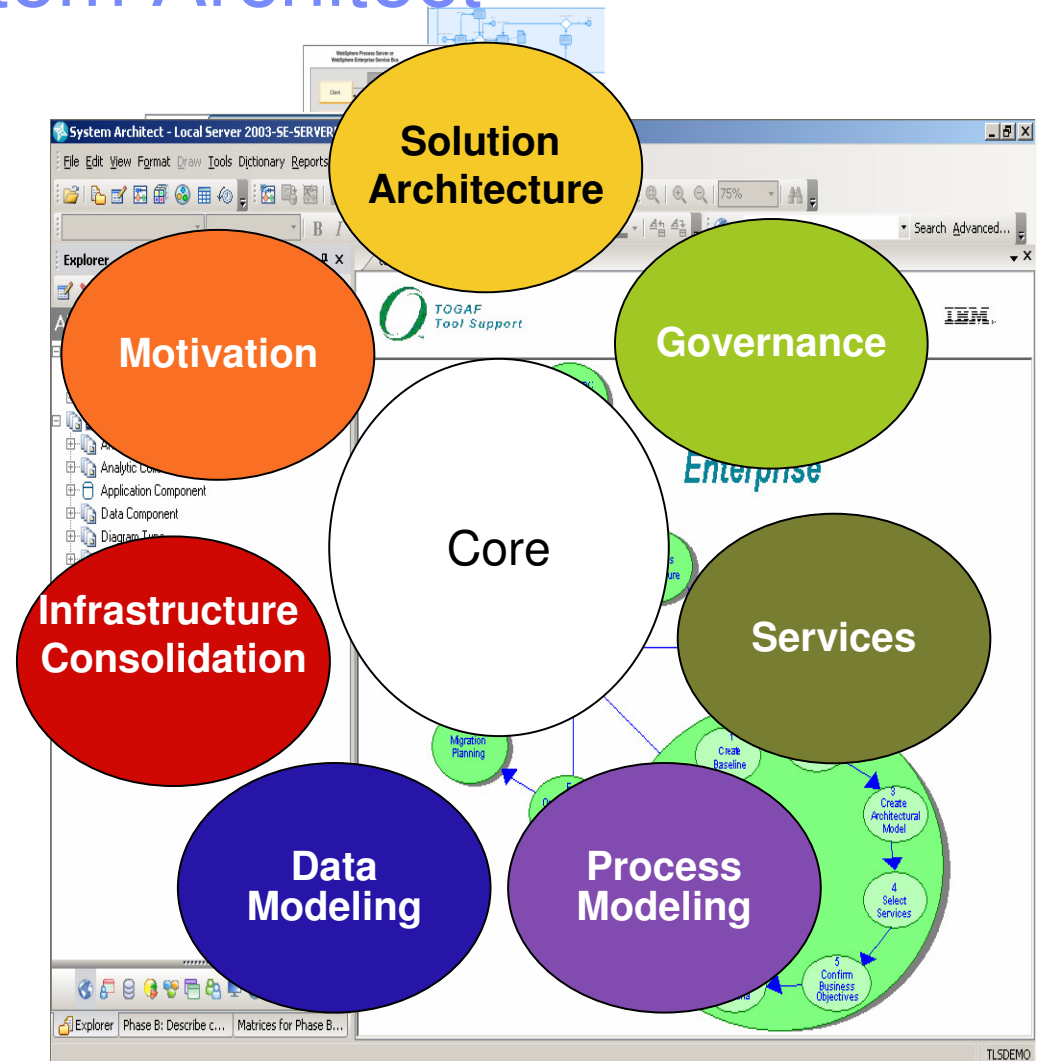


Agenda

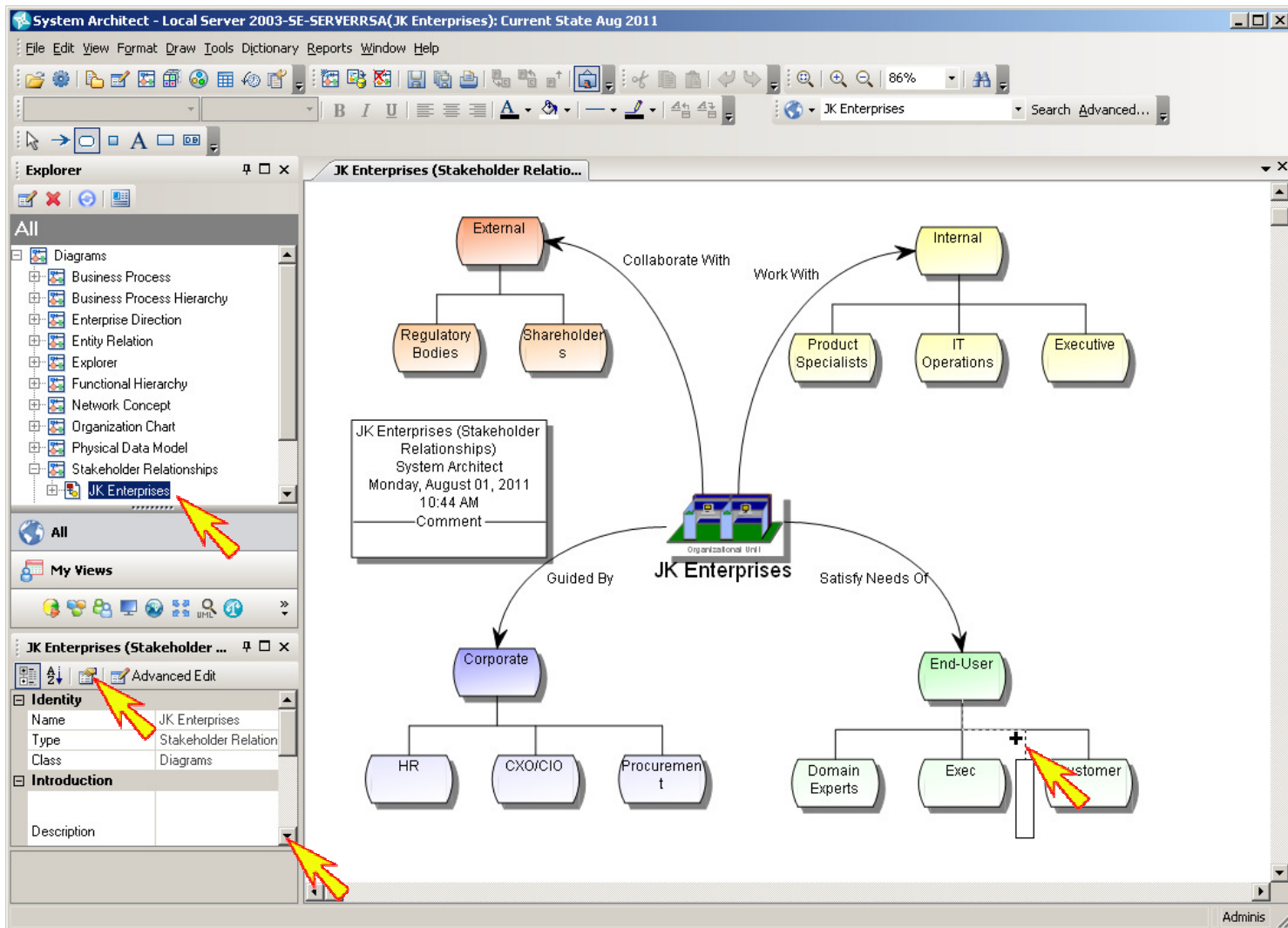
- **TOGAF in IBM Rational System Architect**

TOGAF 9 within System Architect

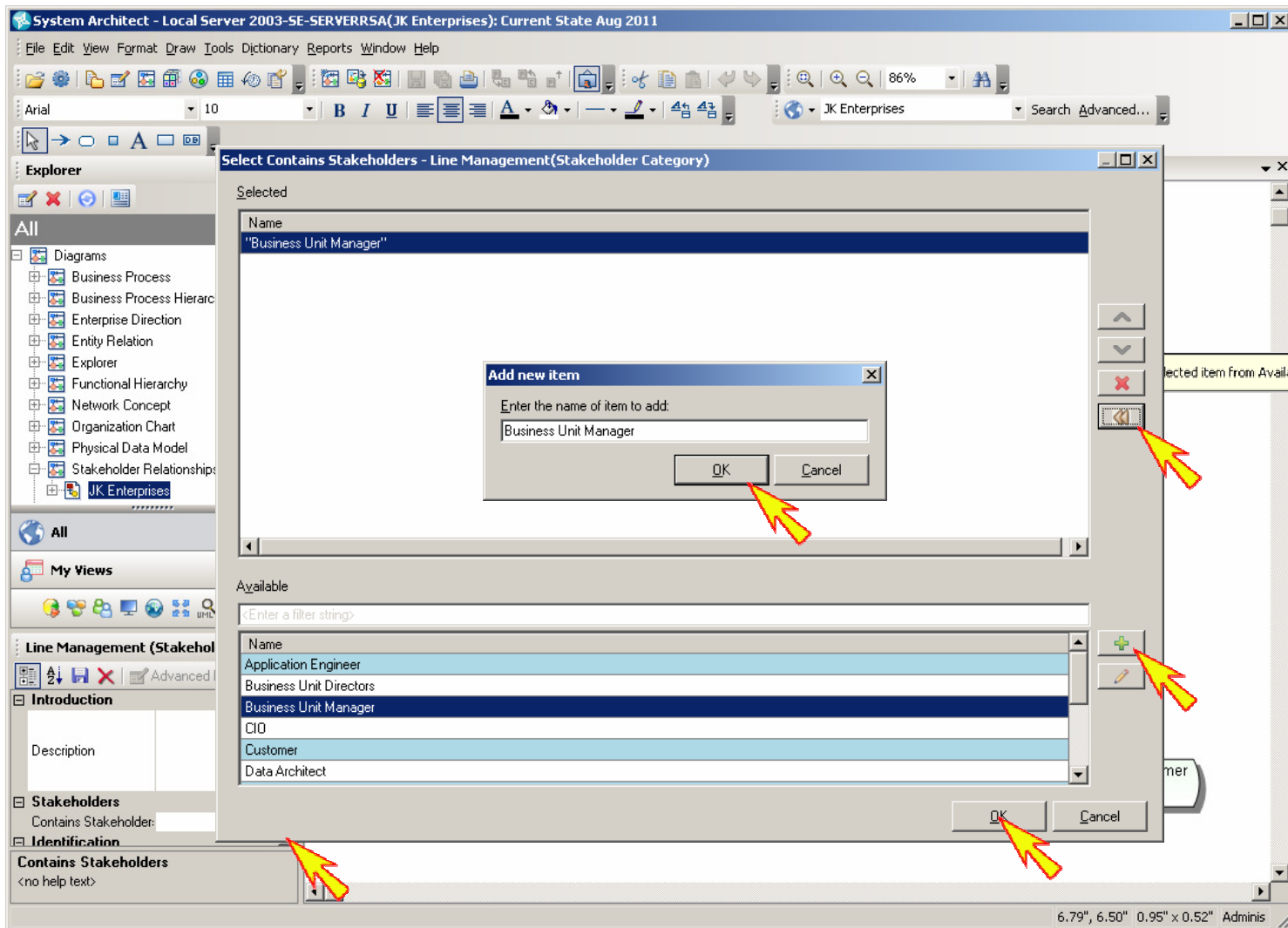
- Catalogs, Matrices, Views
- Switchable metamodel extensions
- Reuses well known modelling notations
- Framework Manager



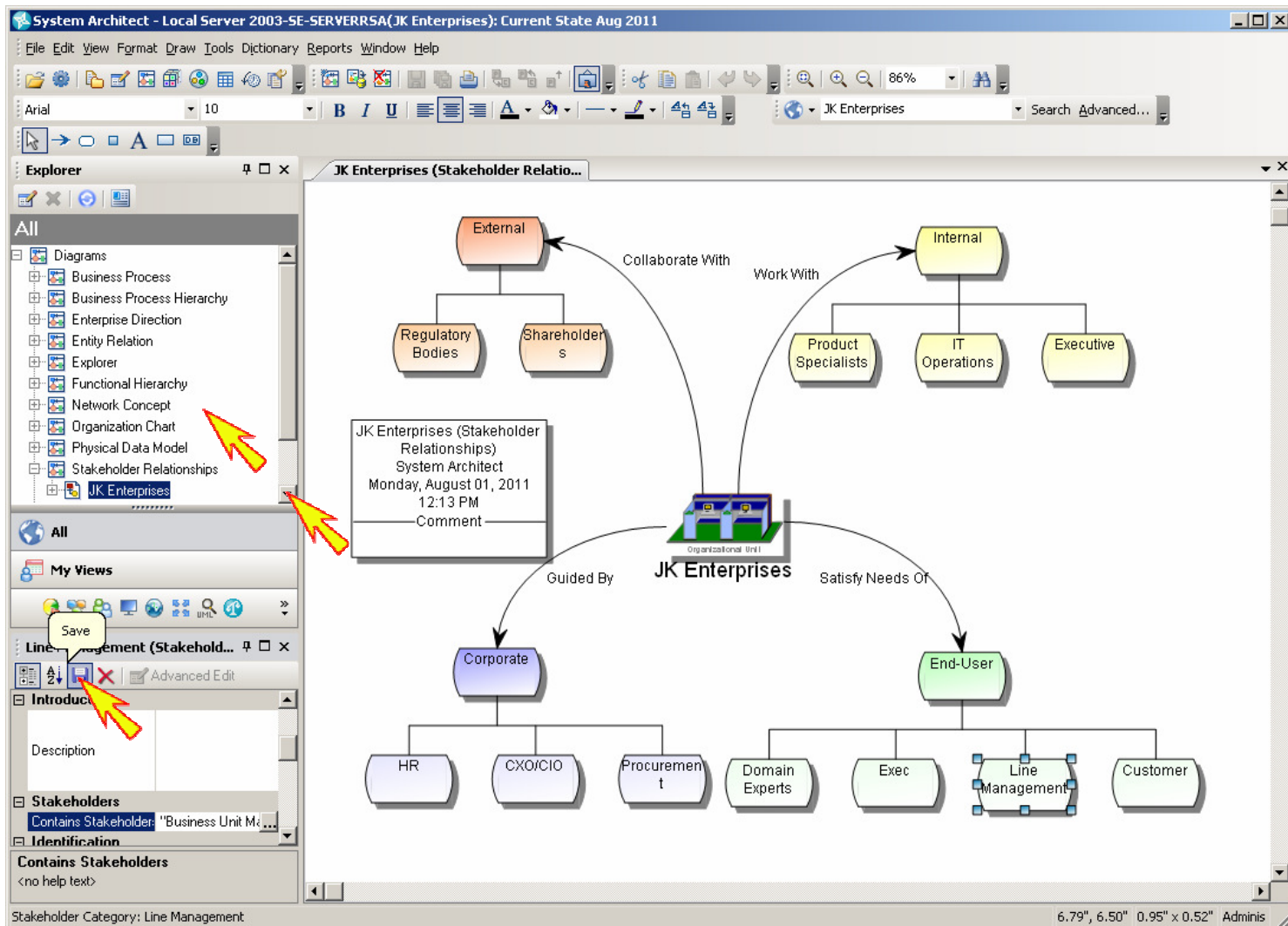
TOGAF 9 within System Architect



TOGAF 9 within System Architect



TOGAF 9 within System Architect



TOGAF 9 within System Architect

The screenshot displays the IBM System Architect interface. The main workspace shows a stakeholder relationship diagram for 'JK Enterprises (Stakeholder Relationships)'. At the center is the 'JK Enterprises' organizational unit. Relationships include:

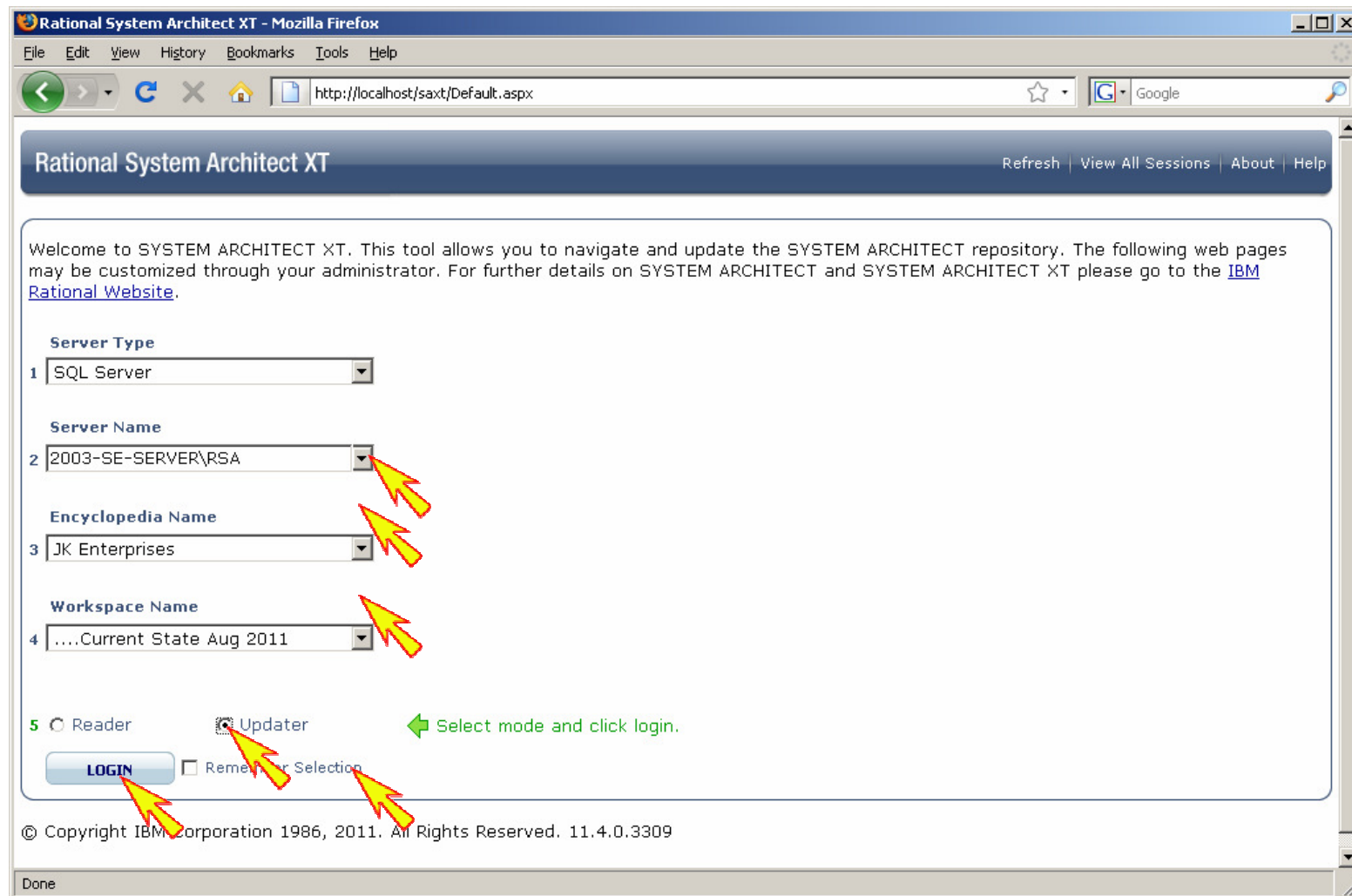
- External Stakeholders:** Regulatory Bodies and Shareholders.
- Internal Stakeholders:** Product Specialists, IT Operations, and Executive.
- Corporate Stakeholders:** HR, CXO/CIO, and Procurement.
- End-User Stakeholders:** Domain Experts, Exec, Line Management, and Customer.

 Relationships are labeled: 'Collaborate With' (External to Internal), 'Work With' (Internal to External), 'Guided By' (Corporate to JK Enterprises), and 'Satisfy Needs Of' (End-User to JK Enterprises). A legend at the top identifies 'Unfilled Stakeholder Categories' with a pink square. On the right, the 'Heat Map Manager' panel shows a list of 'Unfilled Stakeholder Categories' with a checked item and a pink square. Below it are 'Explorer Object Report' and 'Explorer Relationship Report' sections. The 'Activity Log' at the bottom right states: 'Following Analytics were applied on the current diagram. Time of applying : 8/4/2011 6:15:02 AM. Unfilled Stakeholder Categories. The analytic was applied on 4 objects.' The status bar at the bottom right shows '2.04", 0.15" 5.07" x 0.63" Adminis'.

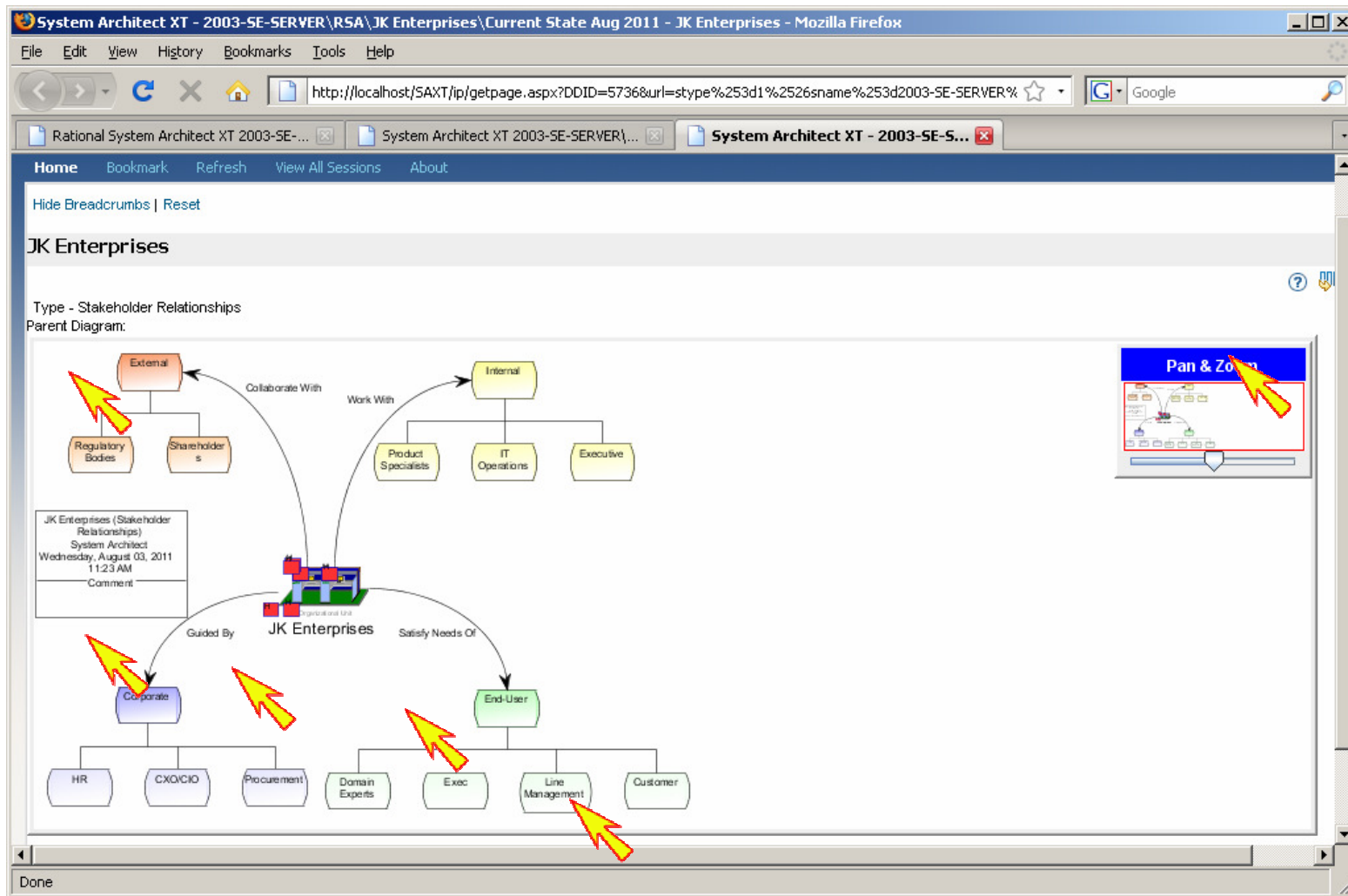
TOGAF 9 within System Architect

The screenshot displays the System Architect interface. The main window shows a 'Stakeholder Map Matrix' with columns for 'Architecture Principles', 'Architecture Vision', 'Business Footprint', 'Business Footprint Diagram', and 'Business Service In'. A 'Matrix Browser' dialog box is open, listing TOGAF 9 concepts such as 'Role to Competency', 'Role to Function', 'Role to Logical Application Component', 'SBB vs ABB', 'Stakeholder Map Matrix', 'Stakeholder Position Matrix', and 'System/Data Matrix'. A yellow arrow points to the 'Stakeholder Map Matrix' option in the browser. Another yellow arrow points to a dropdown menu in the matrix, which includes options like 'ATISFIED', 'ATISFIED', 'LAYERS', 'FORMED', 'EFFORT', and 'ATISFIED'. A third yellow arrow points to the '2-KEY PLAYERS' cell in the matrix. The interface also shows an Explorer pane on the left with a tree view of project elements, and a 'Business Unit Manager' pane at the bottom.

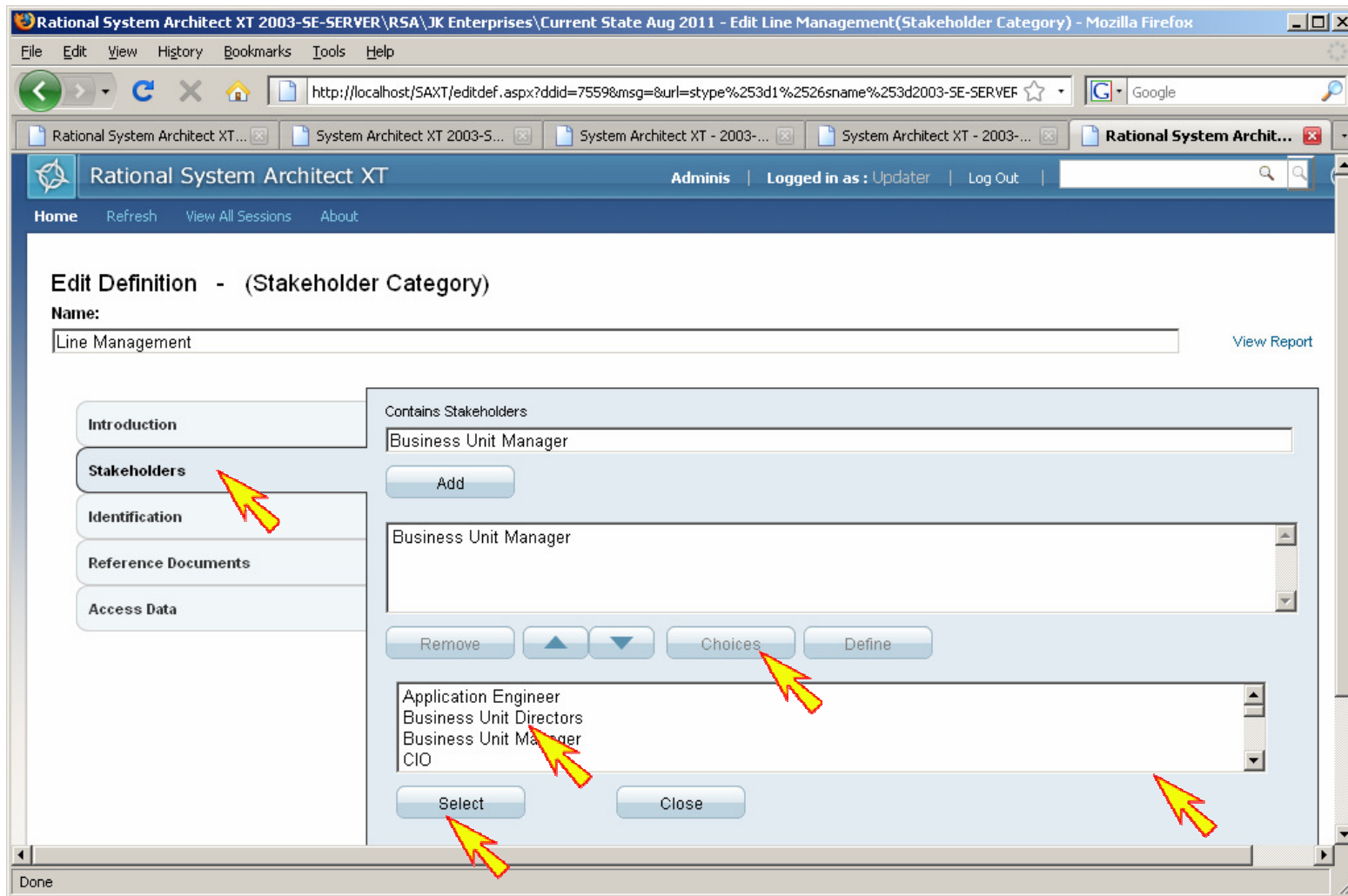
TOGAF 9 within System Architect

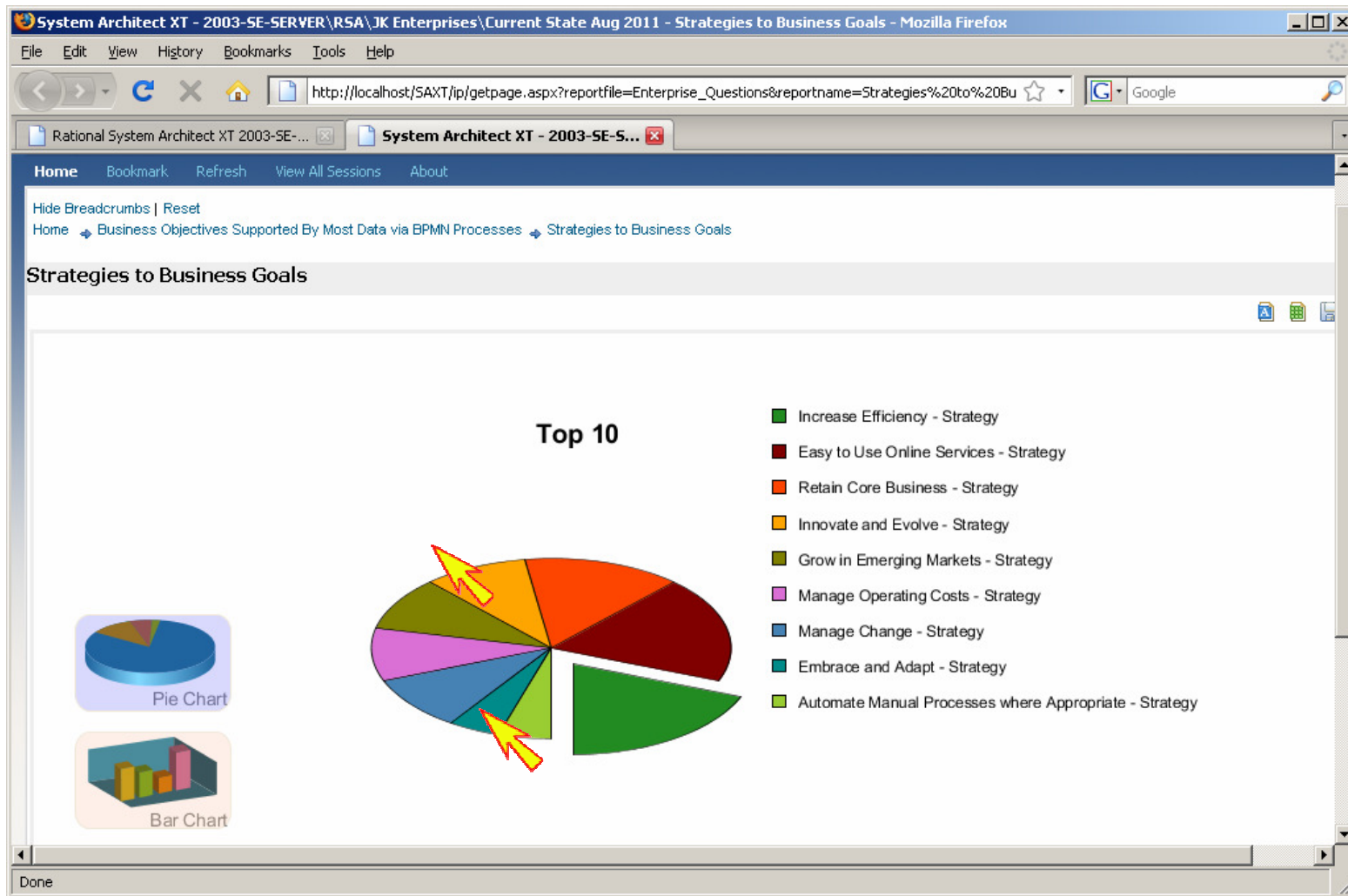


TOGAF 9 within System Architect



TOGAF 9 within System Architect



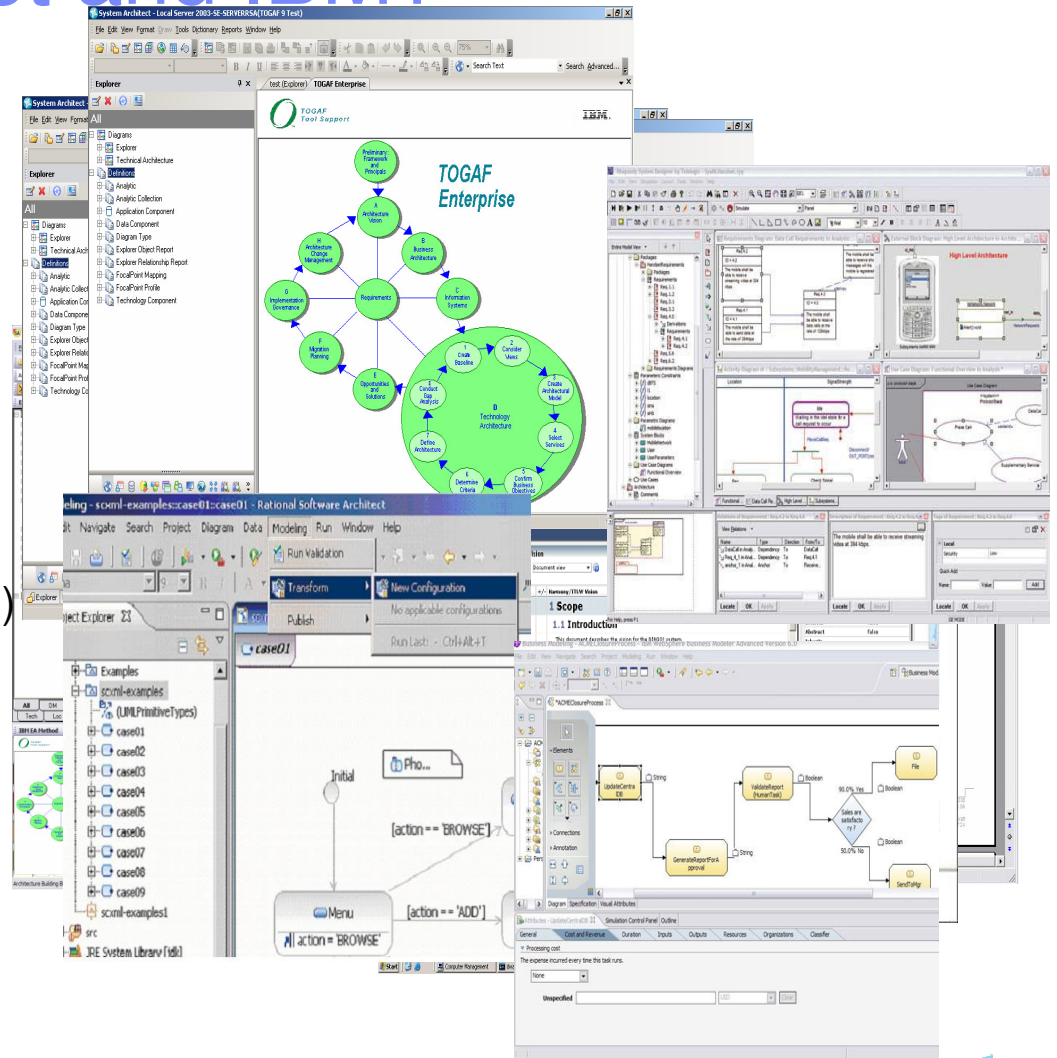


Agenda

- **Why System Architect and IBM?**

Why System Architect and IBM?

- Document production with IBM Rational Publishing Engine, Cognos
- Requirements Management with IBM Rational DOORS
- EA Portfolio Management with IBM Rational Focal Point
- Solution development with
 - ▶ IBM Rational Software Architect (for IT)
 - ▶ WebSphere Business Modeler (for BPM)
 - ▶ IBM Rational Rhapsody (for embedded/Real Time)
- Enterprise Change Management with IBM Rational Change , RTC



Why System Architect and IBM?

- IBM is committed to supporting TOGAF within System Architect
- IBM is a platinum member of the Open Group
- IBM has contributed to the development of TOGAF 9 and is continuing to do so
- IBM Rational is leveraging IBM methods as extensions to TOGAF 9
- IBM organizations are collaborating internally and with partners to ensure a consistent approach to TOGAF

Agenda

- **Benefits of TOGAF**

Benefits of ToGAF

- An accepted standard for enterprise architecture.
- A flexible process for building enterprise architecture.
- A common vocabulary to build your enterprise architecture.
- Certification Program
- Helps organizations
 - ▶ Make faster, better-informed strategic decisions
 - ▶ Prioritize investments to support business goals
 - ▶ Improve risk management of organizational transformation
 - ▶ Turn strategy into execution and measure the results


Agenda

- **More Information**

More Information

- IBM Rational System Architect - <http://www-01.ibm.com/software/info/itsolutions/enterprisearchitecture/>
- developerWorks community for Rational System Architect
 - ▶ To exchange ideas with other customers and experts
- Beta participation, Design partner program – contact your acct rep

- The Open Group - <http://www3.opengroup.org/>
 - ▶ Where you can find more information on TOGAF and Enterprise Architecture.



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Backup slides

EA is the “planning” phase between strategy formulation and delivery

