



IBM Rational Software Conference 2009
As Real as It Gets!



Soluzioni software a supporto della Enterprise Architecture: Rational System Architect

Gianluca Monticone

Senior Systems Specialist

Rational. software

Agenda

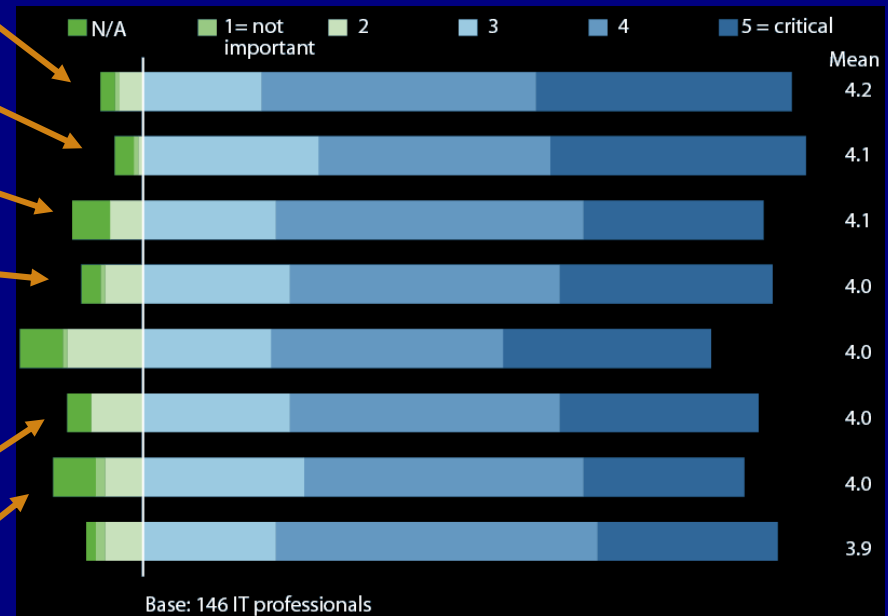
- Introduction
- Enterprise Architecture Definition
- What is Rational System Architect
- Enterprise Architecture Repository Population
- Enterprise Architecture and Portfolio Management
- Enterprise Architecture – How to manage changes
- Enterprise Architecture and Requirements
- Conclusion

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In 2009, Decisions will be focused heavily on Key Corporate Initiatives

- Improve Overall **Agility**, Thru delivery rate and **quality of solutions implemented**
- Making and supporting **technology decisions**
- Advancing the role of **collaboration** tools
- Shifting from tactical, project level architecture to **strategic architecture development**
- Adopting **BPM**
- Determining the role of EA and Architects in improving overall **IT Governance**
- Pursuing information visualization or **information-as-a-service**



Source: Forrester 2008 US And UK Enterprise Architecture And Business Process Management Online Survey

FORRESTER

Businesses are facing an unparalleled rate of change



Successful businesses use enterprise architecture to their competitive advantage

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- Introduction
- **Enterprise Architecture Definition**
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Enterprise Architecture Definition

L'Enterprise Architecture è un **modello concettuale** di una organizzazione:

- Realizzato allo scopo di prendere **Decisioni Migliori**
- Attraverso informazioni catturate e immagazzinate **Graficamente...**
- ...e **Testualmente**

SU...

- Il **Business** (Strategie, Obiettivi,

- **Processi, Persone**)

- **Informazioni e Dati**

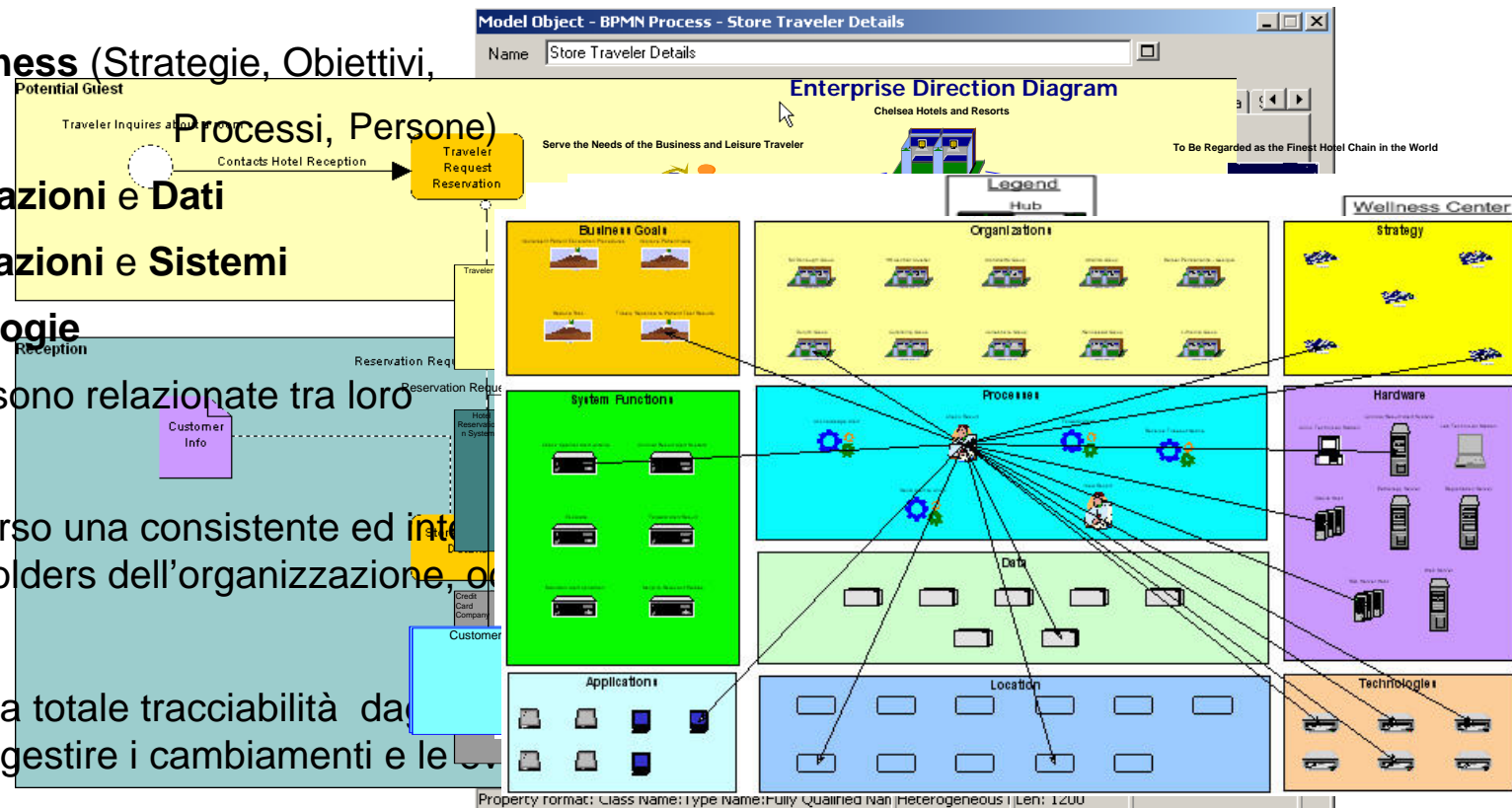
- **Applicazioni e Sistemi**

- **Tecnologie**

- Come sono relazionate tra loro

- Attraverso una consistente ed intera visione di tutti gli stakeholder dell'organizzazione, o

- Con una totale tracciabilità da cui poter gestire meglio i cambiamenti e le



Property format: class name: type name: fully qualified name heterogeneous | len: 1200

Winchester Mystery House



- Number of rooms: 160
- Date of construction: 1884 – 1922 (38 years)
- Cost: \$5,500,000
- Number of basements: 2
- Number of doors: Doorways 467, doors approx. 950 not including cabinet doors.
- Number of bedrooms: Approx. 40
- Blueprints available: **NO**, Mrs. Winchester never had a master set of blueprints, but did sketch out individual rooms on paper and even tablecloths!

Scopi della Enterprise Architecture

(A Practical Guide to Federal Enterprise Architecture)

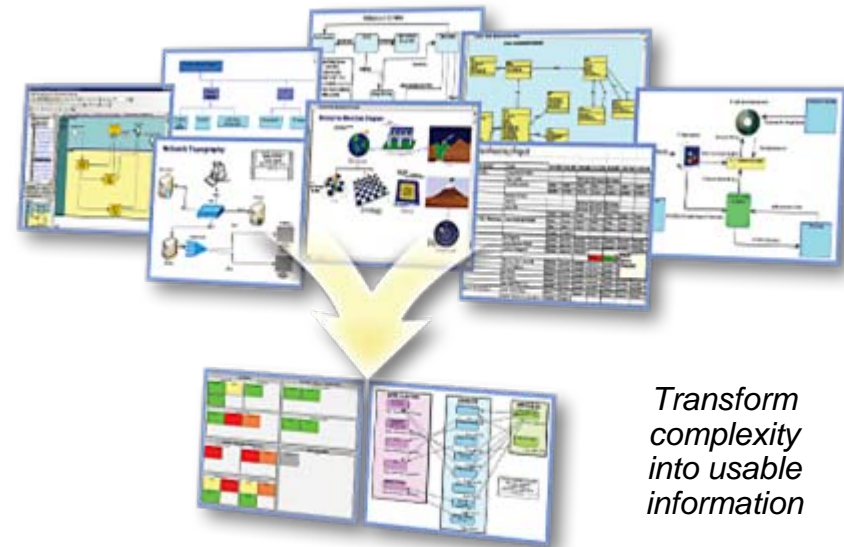
- *Informare, guidare, e tenere sotto controllo* le decisioni della organizzazione

- Specificatamente:
 - ▶ Catturare informazioni in maniera comprensibile per **migliorare la pianificazione** e il decision making (IT investments)
 - ▶ Promuovere una **migliore comunicazione** (architectural views)
 - ▶ Accrescere consistenza, **accuratezza, tempi, integrità e qualità dell'informazione**
 - ▶ **Tenere sotto controllo i costi**
 - ▶ Ottenere risultati quali economie di Scale, **ri-uso, standardizzazione, collaborazione, servizi condivisi.**
 - ▶ **Accelerare l'integrazione di sistemi legacy, le transizioni** e il consolidamento di nuovi sistemi.
 - ▶ Assicurare il **rispetto della legislazione e la compliance con le policies**

Da dove cominciare?

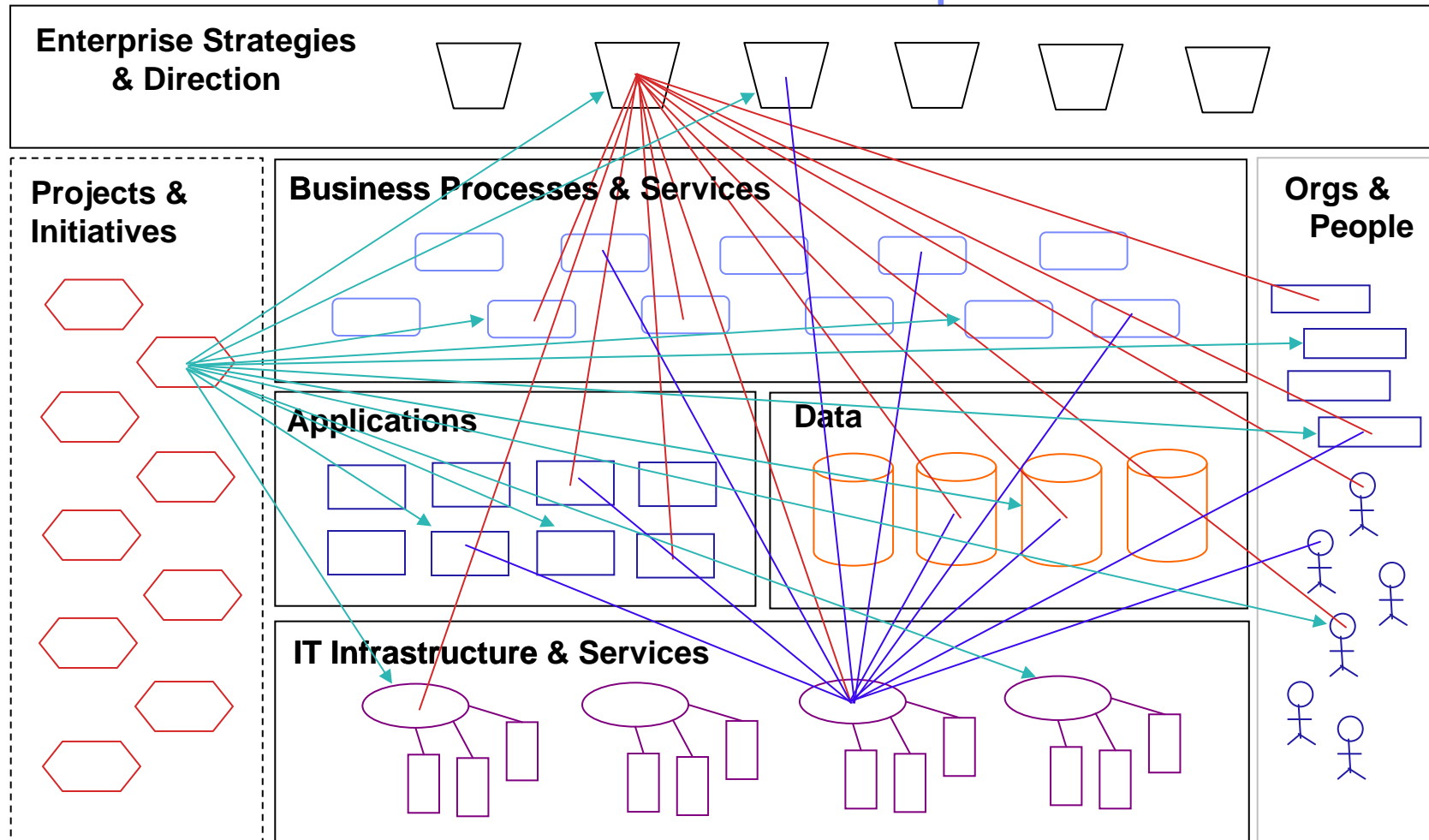
Enterprise Blueprinting

- Linkare, consolidare e analizzare le Informazioni riguardanti Business e IT
 - ▶ Strategie, obiettivi e organizzazione
 - ▶ Business Architecture e Analisi dei processi
 - ▶ Applicazioni, Servizi e Dati
 - ▶ Sistemi, Reti e Tecnologie



A **regional bank in Asia** was able to integrate business transformation planning and execution and provide a single point for collaboration of business and technology teams.

Visualizzare l'Enterprise



*Visualize components supporting Enterprise strategies & goals.
 Visualize dependencies upon specific infrastructure assets.
 Visualize impact of projects and initiatives.*

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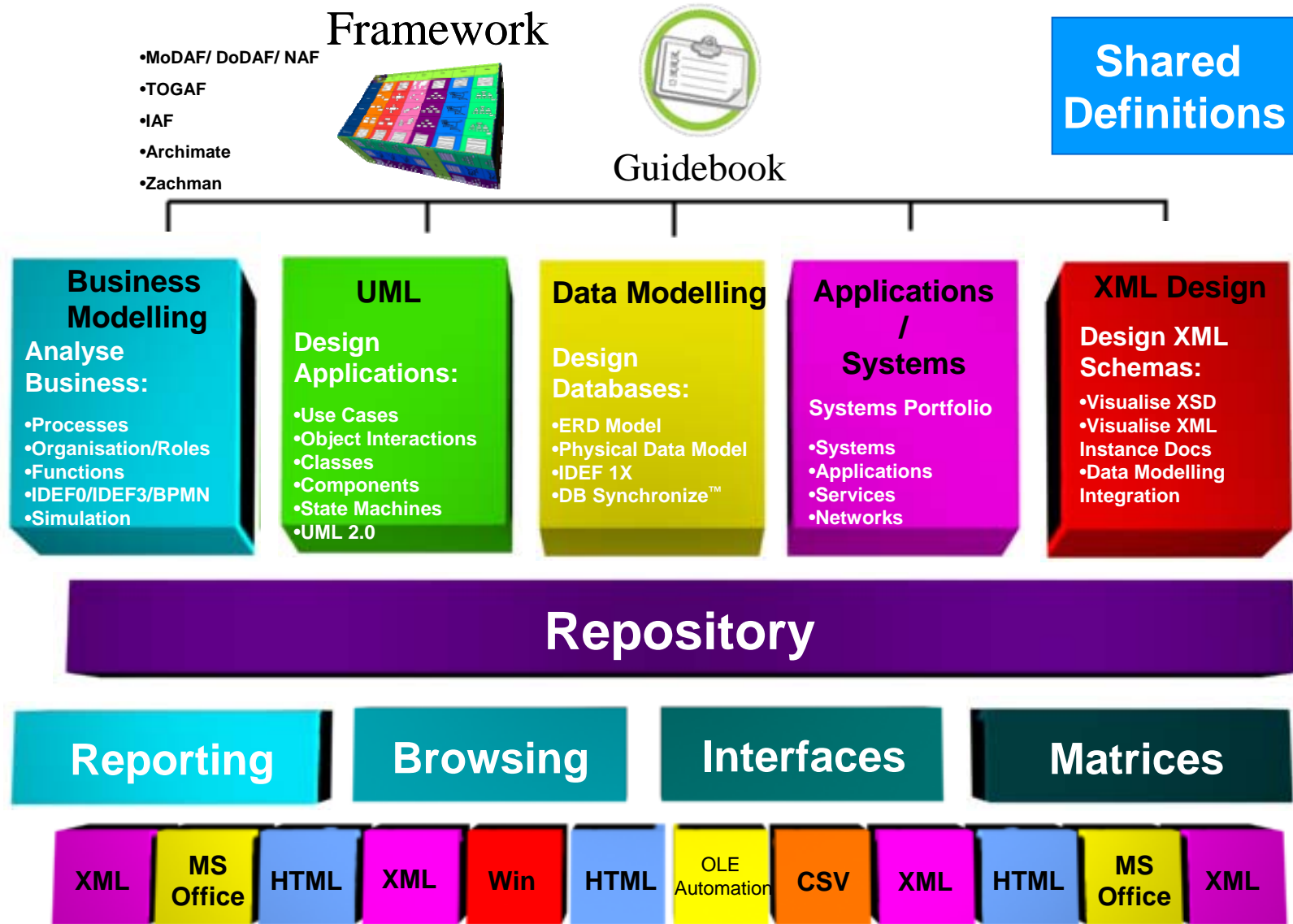
What is Rational System Architect ?

- ▶ A repository based enterprise modeling capability
- ▶ collaborative capture & modeling of the enterprise architecture
- ▶ Enterprise architecture is:
 - enterprise strategy & initiatives
 - business processes
 - departments & people
 - information flows
 - Applications
 - Data, hardware, network & infrastructure elements
 - ... and their interdependencies

- ▶ SA's modeling capability spans the enterprise, from high level enterprise strategy to supporting infrastructure and everything in between.

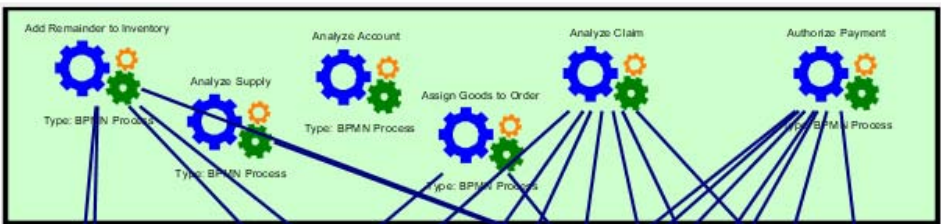
Source: IBM CEO Study 2006

System Architect Product Structure

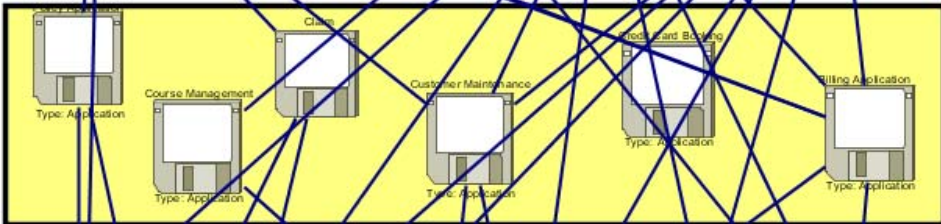


Show Breadcrumbs | Reset
IMPACT
 Type - Explorer

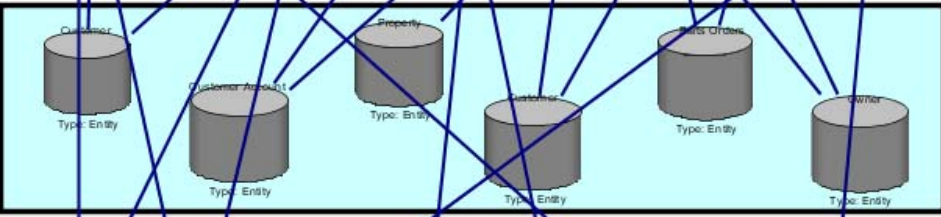
BPMN Process



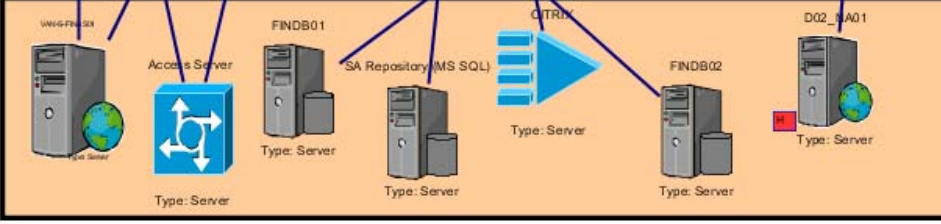
Application



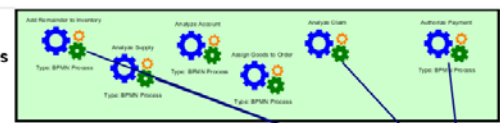
Data



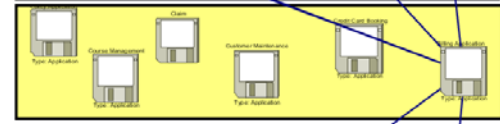
Server



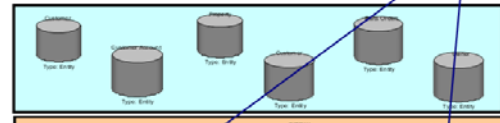
BPMN Process



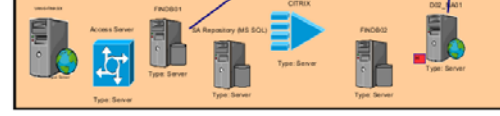
Application



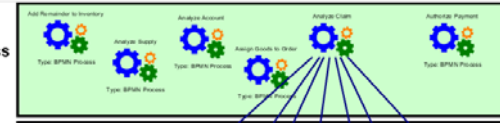
Data



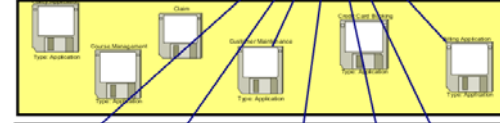
Server



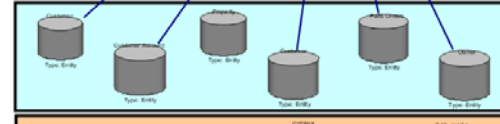
BPMN Process



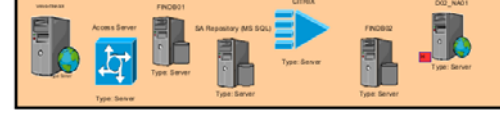
Application



Data



Server



Securities Market Sales Process
BPMN Example

IBM Telelogic® System Architect XT™
Logged in as: demo Users logged in: 1 Refresh | View all sessions | Help

EDIT DEFINITION - RATE SECURITY(PROCESS)

- Introduction
- Analysis
- Execution
- Sim Definition
- Sim Process
- Activity Based Costing (ABC)
- Reference Documents
- Symbol
- Sim Child Diagram
- Sim Fan In

Description
This is a system architect definition. In system architect, you can create new definition types, as well as define you own diagrams. The definitions, once created, may be reused across the entire project, and reported against. A complete history trail is captured for each change, as well as the audit history. The definitions may capture information about Goals, Systems, Applications, Data, or Technolgoey Standards. Linked together, reporting can be done to show

Effective Date
1/1/2007

OK CANCEL

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SA FOOTPRINT

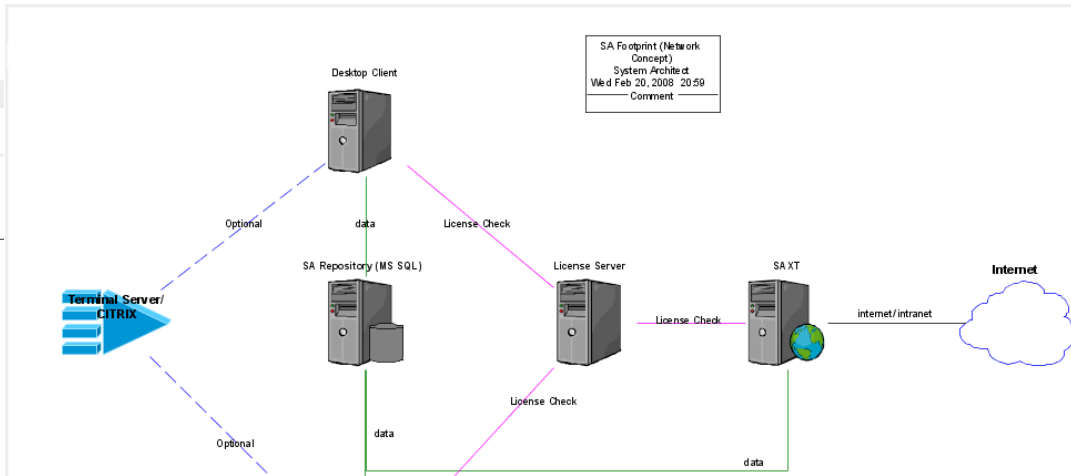
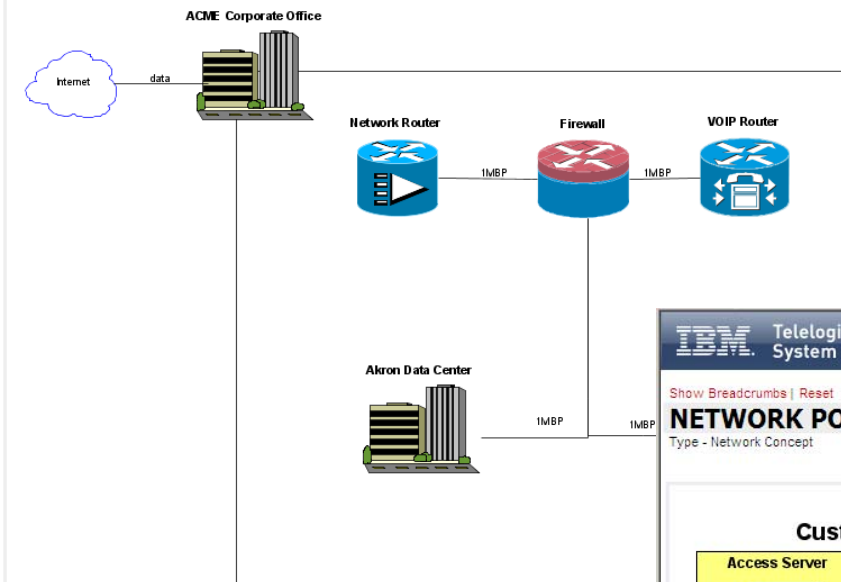
Type - Network Concept

svgo ?

Show Breadcrumbs | Reset

BACKBONE CONCEPT

Type - Network Concept



IBM. Telelogic® System Architect XT™
 Logged in as: demo Users logged in: 1
 Refresh | Bookmarks | View Sessions | Help

Show Breadcrumbs | Reset

NETWORK PORTFOLIO

Type - Network Concept

svgo ?

Customer Service		Account Management		Transactional Data Storage	
Access Server Existing Server / License Server	System Architect Server FINDB02	Terminal Server / CITRIX License Server	VAN-S-FINAS01 Synergy Change	VAN-S-FINAS02 SA Repository (MS SQL)	VAN-S-FINPS01 VAN-S-FINPS02
 SAXT	 DOORs Repository	 FINDB01	 CITRIX	 DOORs / SA Repository	 D02_NA01



SA Publisher

BUSINESS-FOCUS-AREA: Recreation - Microsoft Internet Explorer

Address: <http://dear.nrc.gov/reports/test/dash/index.html>

Information is for official use only - Last update 10/20/2009 15:14:51

Department of Interior | BFA Dash

Blueprint Dashboard

Name: Recreation
Description:

BFA Current System Inventory

Managing Partner

Legend:
 ■ NPS
 ■ OS
 ■ BLMOR
 ■ BLMUT
 ■ <All Others>

BFA PRM Outcomes

Outcome Code

Legend:
 ■ REO_1
 ■ REO_2

BFA SRM Services

Parent Service Type

Legend:
 ■ Financial Management
 ■ Human Resources
 ■ Security Management
 ■ Customer Relationship
 ■ <All Others>

BFA Inventory Data Quality

Attribute Bureau Systems Data Quality Status

Legend:
 ■ Unknown
 ■ Validated

BFA BRM Functions

Parent Function Activity

Legend:
 ■ Recreation Resource Planning: 4 (14.81%)
 ■ Recreation Resource Planning
 ■ Recreation Operations
 ■ <All Others>

BFA Organizations

Managing Organization

Legend:
 ■ FED
 ■ BLM
 ■ FWS
 ■ NPS
 ■ DOI

Information is for official use only - Last update 10/20/2009 15:14:51

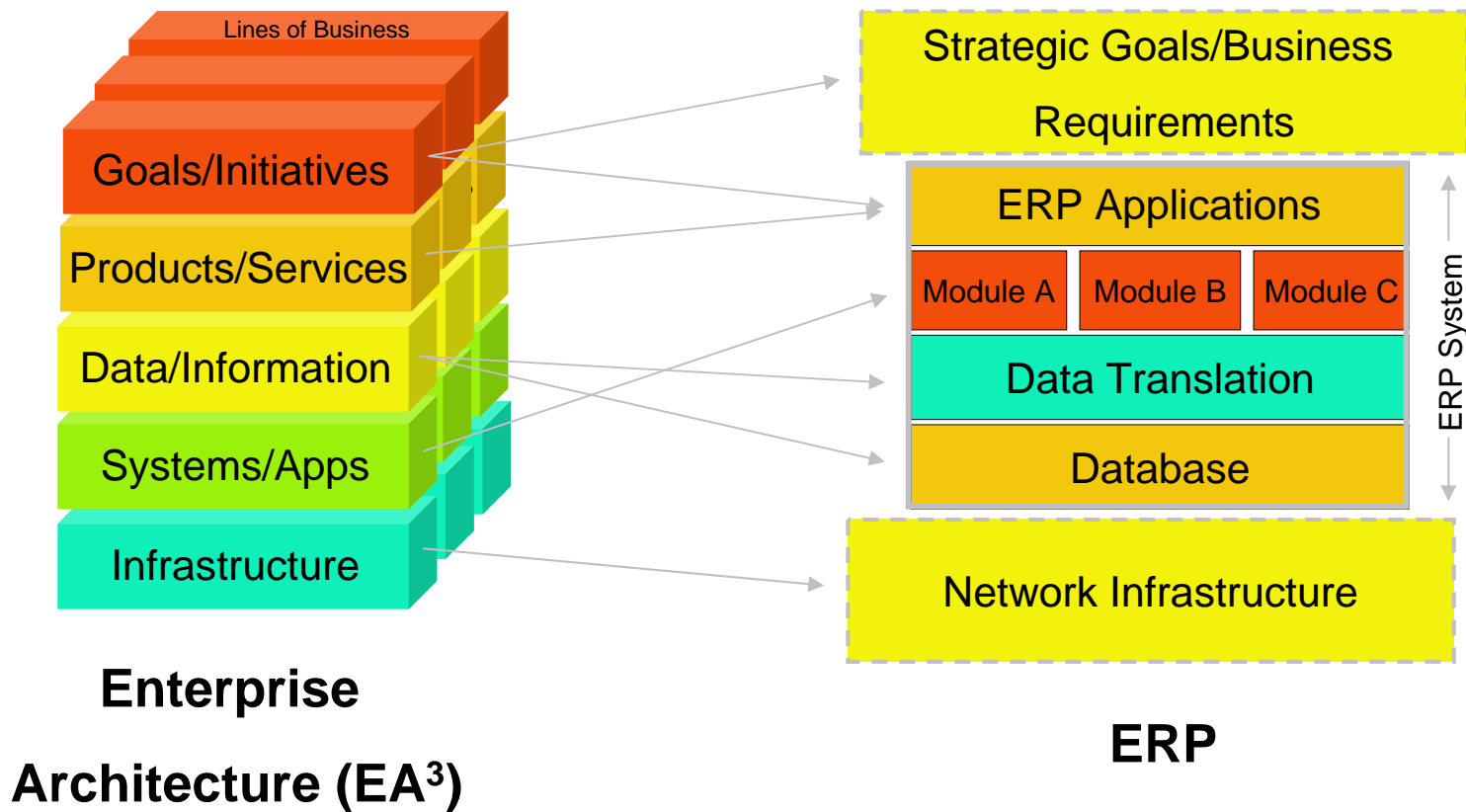
mismatched tag: line 2029, column 2

Start | Matt Tricom... | S:\wwwi.do... | Google Sear... | BUSINESS-... | Section 3_J... | Microsoft Po... | 98% | 11:22 AM

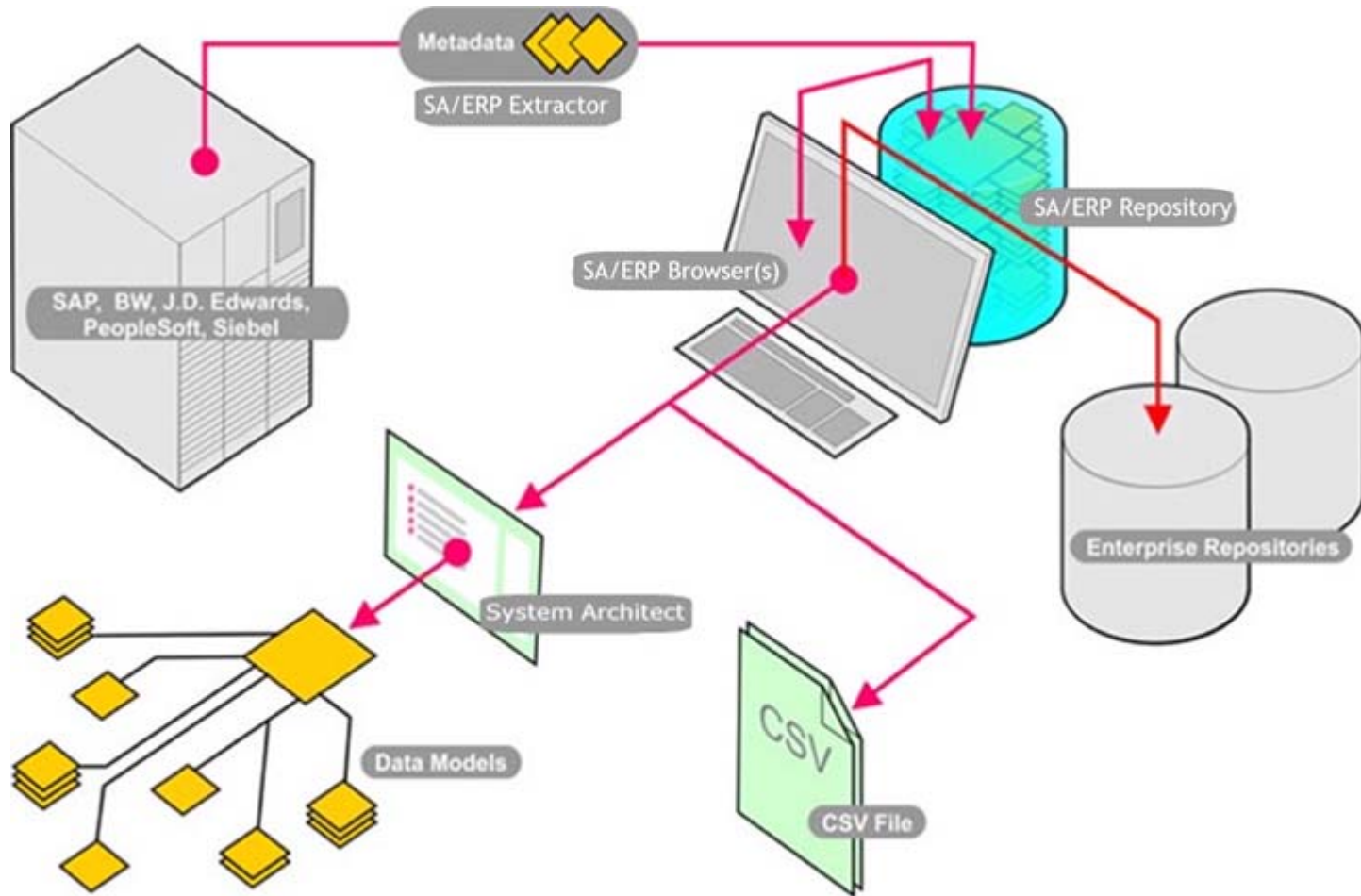
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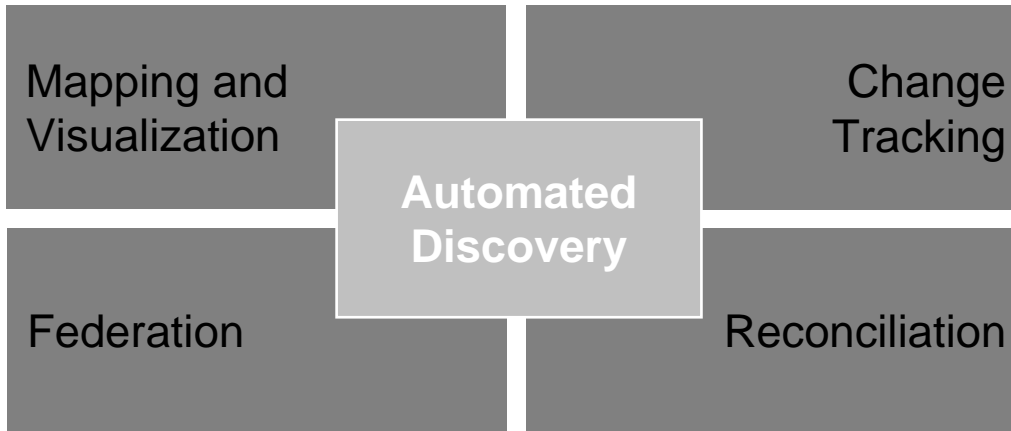
Enterprise Architecture – ERP Relationship



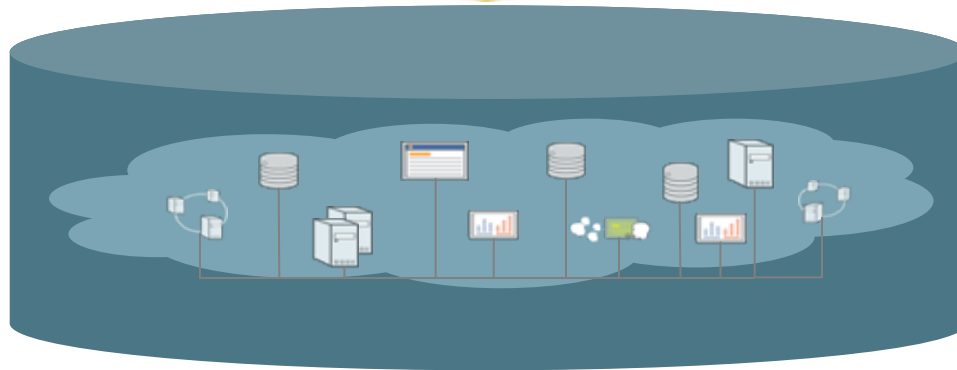
Configuration and Deployment



Business Services-Centric CCMDB



Maintains a comprehensive and current record of all Configuration Items (CIs) and relationships from multiple sources to unlock value of configuration information



The IBM Solution - CCMDB and Rational System Architect Coming Soon

- Link IT organization with key strategies and business architecture
- Understand the impact of operational change to the business plan before significant resource expenditures are incurred
- Minimize complexity of decision support to the business

Challenge

- Manually documenting current IT infrastructure in Enterprise Architecture
- Disconnected business architecture from operational CI and Asset infrastructure

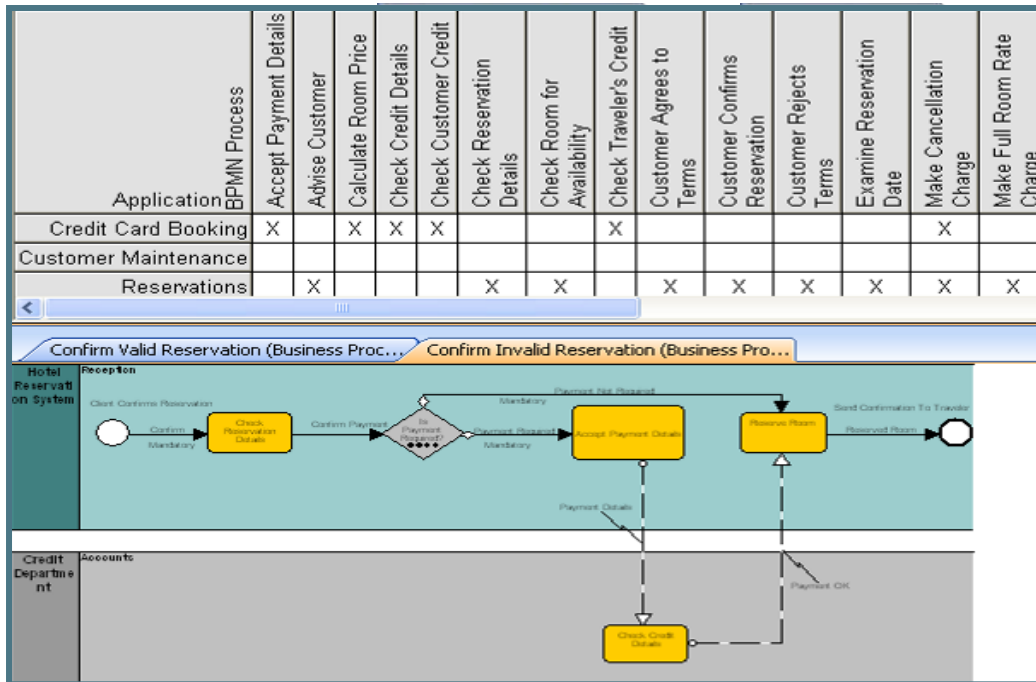
Solution

- Synchronize Assets and CI's with Rational System Architect repository
- Establish relationships between business architecture and infrastructure
- Generate explorer views and traceability reports

Result

- Automate linkage between business process and IT infrastructure
- Top-Down, Bottom-Up visibility and collaboration between enterprise architects and IT Operations
- Single source of truth
- Rapid EA ROI

Automatic Data Discovery Helps Populate Business Models

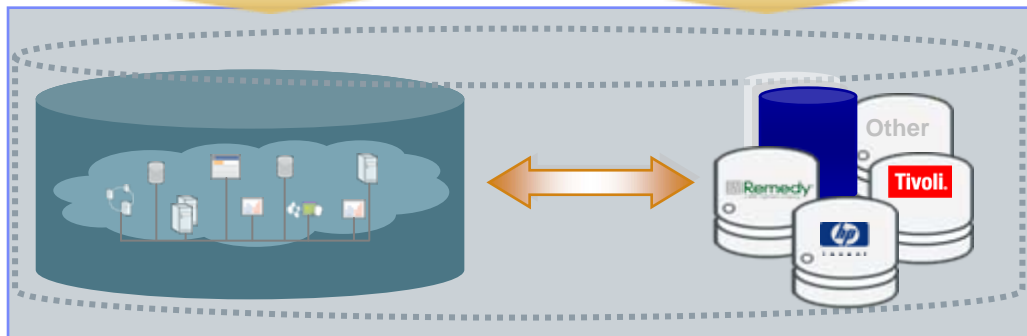


- Connect business information to the CCMDB:

- ▶ Business objectives
- ▶ Strategy
- ▶ Organization structures
- ▶ Business process models
- ▶ Data models

- Accelerate the creation of future business models

- Evolve IT architecture based on the actual environment today



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Make the right strategic decisions, align investments with priorities



Rational System Architect

- Streamline your decision-making
- Consolidate and link business and IT information
- Provide key input into enterprise planning
- Provide accurate risk and impact analysis
- Guide successful enterprise transformation

Rational Focal Point

- Build, Buy, and/or Implement the right assets
- Build and implement assets in the right manner
- Maintain operate assets in the right ways and retire or replace them at the right times



Solicit feedback for organization enhancement

Which Project provides more customer value?

Conf Management		Order Tracking	
Name	Conf Management	Name	Order Tracking
Description	Capacity Mgmt. System	Description	
Project Ranking	3 - HIGH PRIORITY	Project Ranking	3 - HIGH PRIORITY
Vendor	Not Evaluated	Vendor	Not Evaluated
Performance		Performance	
Project Dependencies		Project Dependencies	
Risk Status		Risk Status	
Total Benefits (US\$K)	17,008	Total Benefits (US\$K)	25,440
Total Cost (US\$ K)	18,885	Total Cost (US\$ K)	17,794
Resource Status	Fully Staffed	Resource Status	Fully Staffed
Schedule Status	On Schedule	Schedule Status	1 Week Schedule Sla
Stage Gate	Benefits Realization	Stage Gate	Maintenance

Completed: 3 Required & Recommended 13. Number of elements: 7. Comparison: 4

Customer value (public) | Delete This Comparison | Delete All Comparisons

Legend: The triangles indicate the total score (Positive - Negative)

v6.4 Rational Focal Point for Product and Portfolio Management

- Export architecture objects and assets to Focal Point for prioritization
 - Perform cost/benefit analysis, weight user importance against factors such as cost, development times, and resources available.
- User feedback guides decisions to:
 - Build, Buy, and/or Implement the Right Assets
 - Build and Implement Assets in the Right Manner
 - Maintain Operate Assets in the Right Ways and Retire or Replace Them at the Right Times

"Everything that can be counted does not necessarily count; everything that counts cannot necessarily be counted"

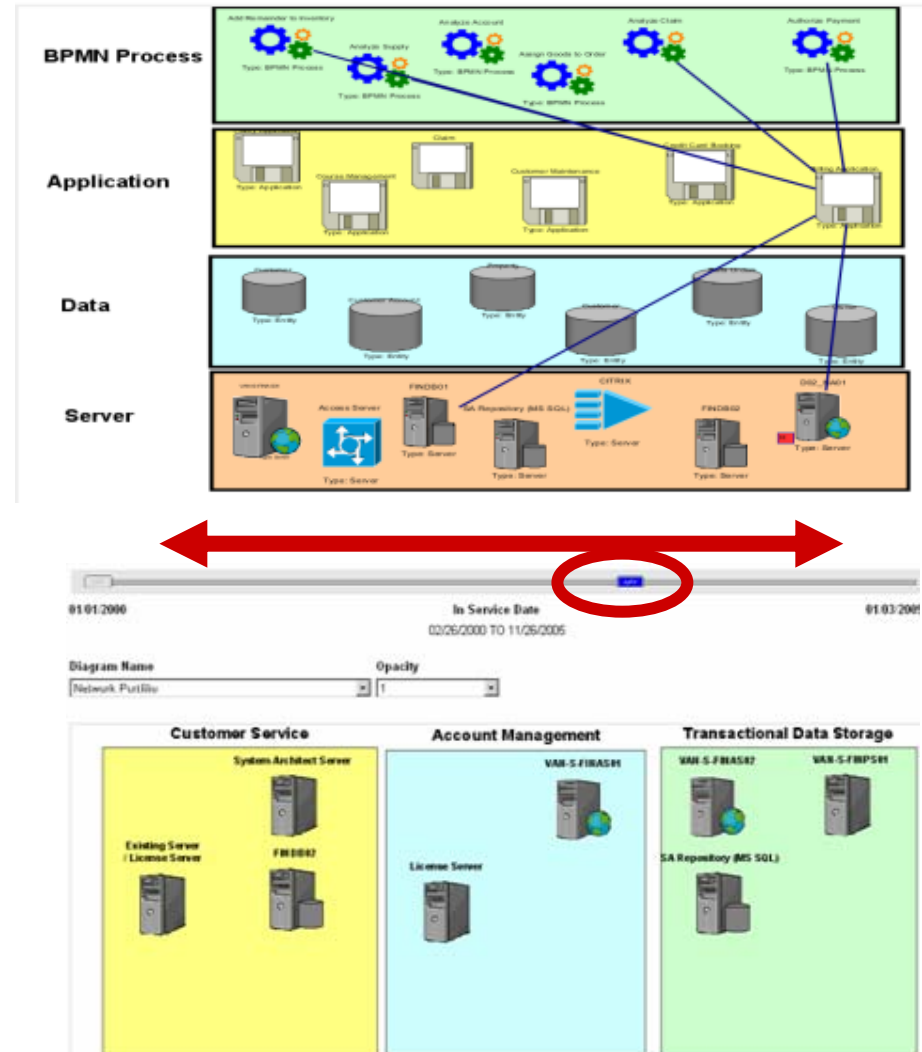
- Albert Einstein

Use feedback to drive IT change and transformation

Understand impact to the organization

- Enterprise planning supports impact analysis and transformation
 - ▶ Executive dashboard and visual reports for impact analysis based on related information across the organization
 - ▶ Visualization and time-based analysis for effective migration from current-state to desired future-state

- Application-level impact analysis to optimize future investments
 - ▶ Quickly identify how potential changes will affect applications or subsystems
 - ▶ Traceability matrix supports analysis of change to detailed requirements
 - ▶ Identify and reuse IT/engineering assets and applications that support design environment



v11.3 Rational System Architect

Collaborate on the results



IBM Telelogic System Architect XT™

Home Process (BPMN) Using Most Applications Capture information

CAPTURE INFORMATION

Type - BPMN Process

Reference Documents:

Description: This is a system architect definition, once created, may change, as well as the audit his Standards. Linked together, re

DATA USED BY THIS PROCESS

Name	Model	Entity T
Reservation	Hotel Reservation System	Type A

CONTAINED IN DIAGRAMS

Diagram Name

Patient Intake (BPEL)

ITEMS OF TECHNOLOGY THAT ARE USED BY THIS PROCESS

Name	Desc
Windows Vista	

APPLICATIONS THAT SUPPORT THIS PROCESS

Name	Description
Policy Application	This is a system architect definition. In system architect, you can create new definition created, may be reused across the entire project, and reported against. A complete his The definitions may capture information about Goals, Systems, Applications, Data, or Te show impact analysis.
DOORS	Generic application description regarding this object
Customer Maintenance	Miscellaneous customer related activities

IBM Telelogic System Architect XT™

Home Process (BPMN) Using Most Applications

PROCESS (BPMN) USING MOST APPLICATIONS

Top 10

Value : 3 (11.11%) Authorize Payment - BPMN Process

Item	Count
Capture information	4
Add Remainder to Inventory	4
Create/ Modify Business System Plans	3
Cancel Claim	3
Authorize Payment	3

Gain clarity in enterprise decision making

- ▶ Enhanced web collaboration creates a common perspective of the organization, from one location
- ▶ New enterprise search quickly reveals critical data required for accurate decisions

Summary: Harnessing the Power of EA and APM

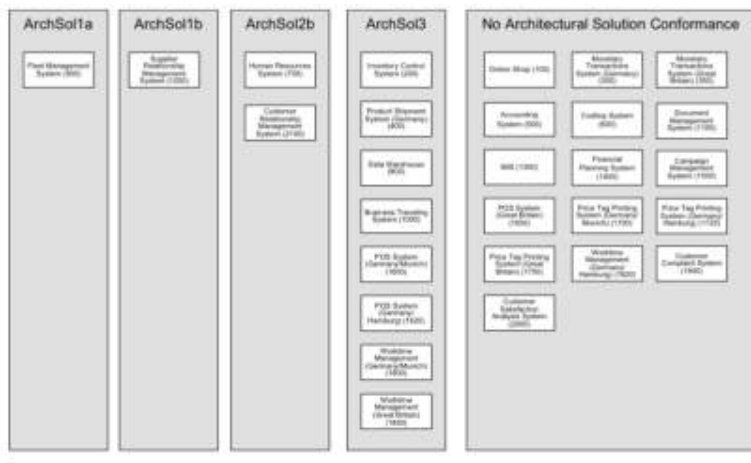
 **What**

 **Where**

 **How**

 **When**

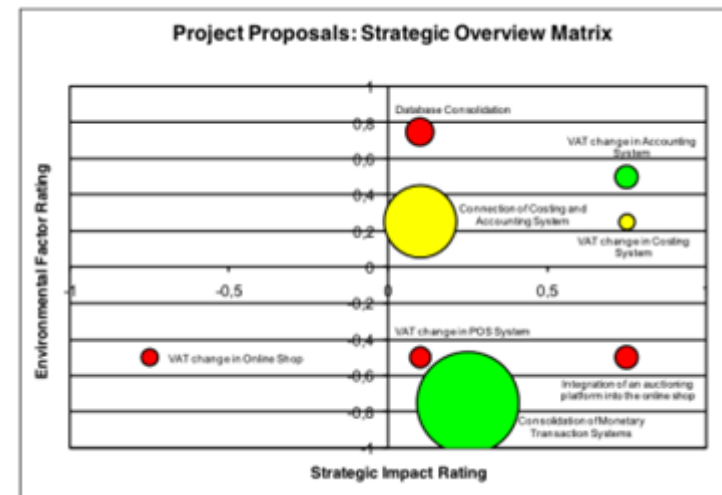
Summary: Harnessing the Power of EA and APM



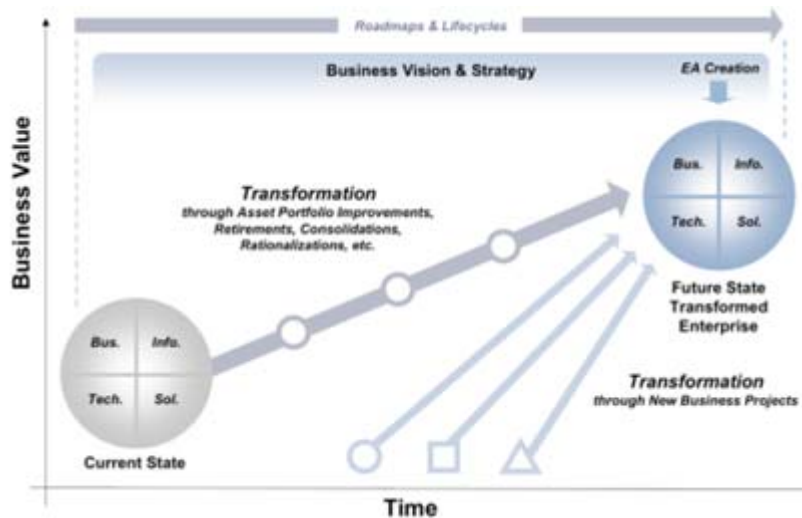
- What do we have?
 Architectural Building Blocks
 Application Inventory
 Business Architecture

Summary: Harnessing the Power of EA and APM

- Where should we be spending our precious resources?
 - Business Value Identification
 - Financial Analysis
 - Risk Management



Summary: Harnessing the Power of EA and APM



- Where are we going?
 - Architectural Options
 - Business Impact
 - Business Process Optimization

Agenda

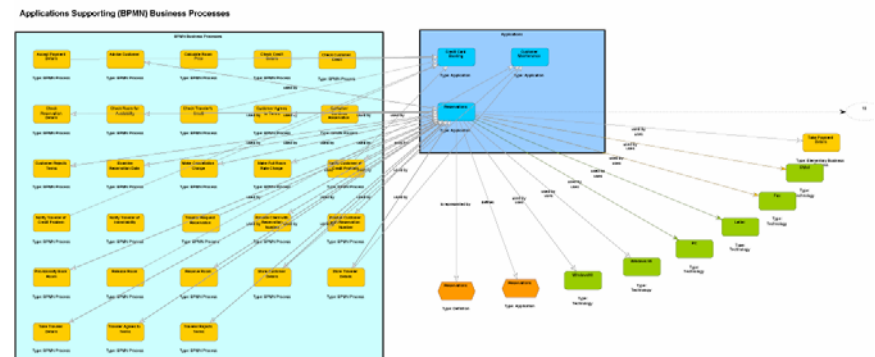
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Enterprise Architecture


Turn Change into a Competitive Advantage

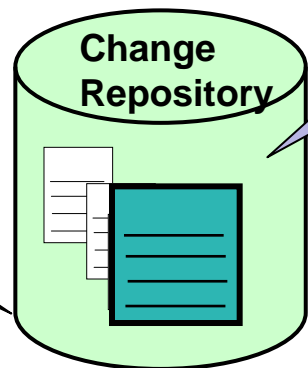
EA and Enterprise Planning allow organizations to intelligently prepare for change and pursue successful transitions in manageable, progressive phases


- ▶ Identify our complete Current State
- ▶ Create Plans for Optimization and Continued Improvement
- ▶ Identify impact will our changes make to the organization
- ▶ Exploit assets of the enterprise that should effectively guide solution development and project delivery
- ▶ Communicate information, analyses, and decisions in rapid, continuous cycles, creating a smarter, more efficient organization



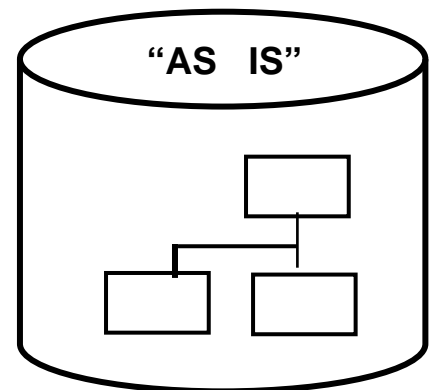
How Does It Apply to Enterprise Architecture? A Sample Scenario

 (1) A change request is created

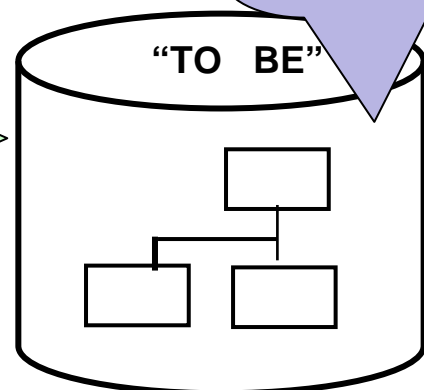
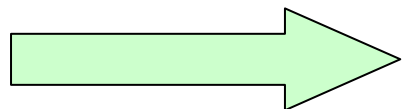


 (2) Change request is assigned by CCM to an analyst

(3) A new workspace is created (or existing identified) for the proposed work...

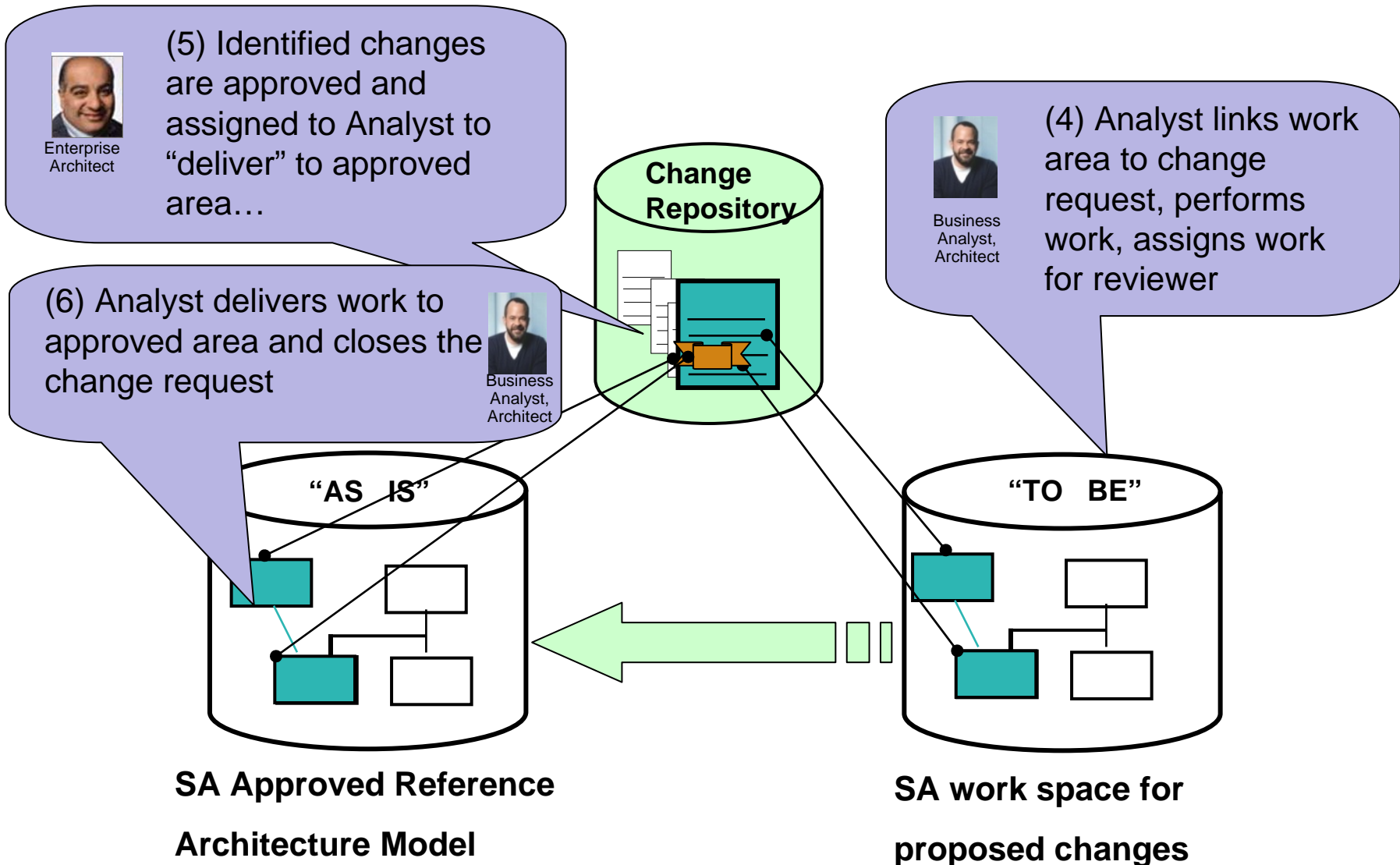


SA Approved Reference Architecture Model



SA work space for proposed changes

How Does It Apply to Enterprise Architecture? A Sample Scenario



A Tightly Integrated Solution

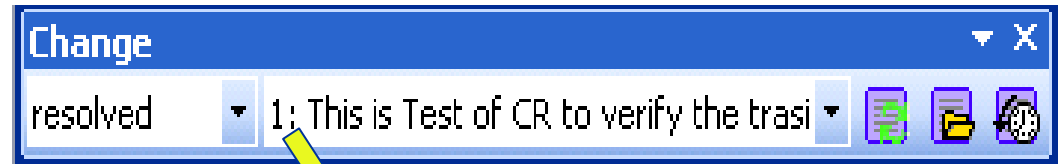
The System Architect User's Perspective

A New Toolbar is introduced in System Architect

- Without leaving SA, view a list of Change Request that can be filtered per the needs of the team member

A New Change Review Form is introduced in SA

- Track change history
- View how changes have been modified, approved, or rejected over time.



Class	Type	Name	Changed By	Change Time	Change Type
Definition	BPMN Process	Send Credit Details to Agency	LouV	06/10/2008 03:32:31 PM	Modified
Definition	BPMN Process	Send Credit Details to Agency	LouV	06/10/2008 03:32:01 PM	Modified
Definition	BPMN Process	Send Credit Details to Agency	LouV	06/10/2008 03:31:47 PM	Modified
Definition	Action State	Make Inquiry of Reservation	LouV	06/10/2008 02:57:05 PM	Modified
Definition	Action State	Make Inquiry of Reservation	LouV	06/10/2008 02:56:27 PM	Modified
Definition	Action State	Make Inquiry of Reservation	LouV	06/10/2008 02:56:14 PM	Modified

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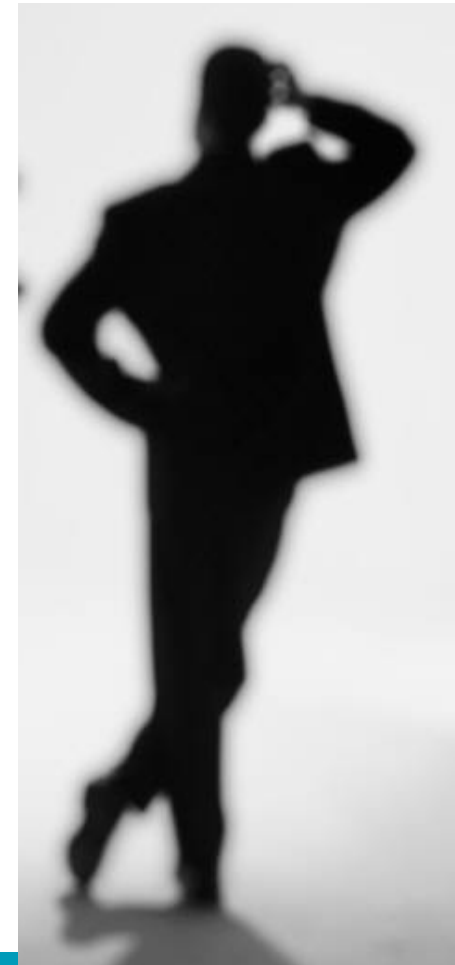
The Value of Requirements and EA

- Requirements provide the basis for:
 - ▶ **Communication** of Enterprise Needs between Business and IT
 - ▶ A **method of measuring** Enterprise Agility

- Therefore, the value proposition is that the combination of enterprise architecture and requirements:
 - ▶ provides **highly granular control and management** for mission critical processes and projects and their underlying infrastructure.
 - ▶ This yields **better and more predictable projects and processes**. Highly desirable from an economic, compliance and reliability (risk) standpoint.

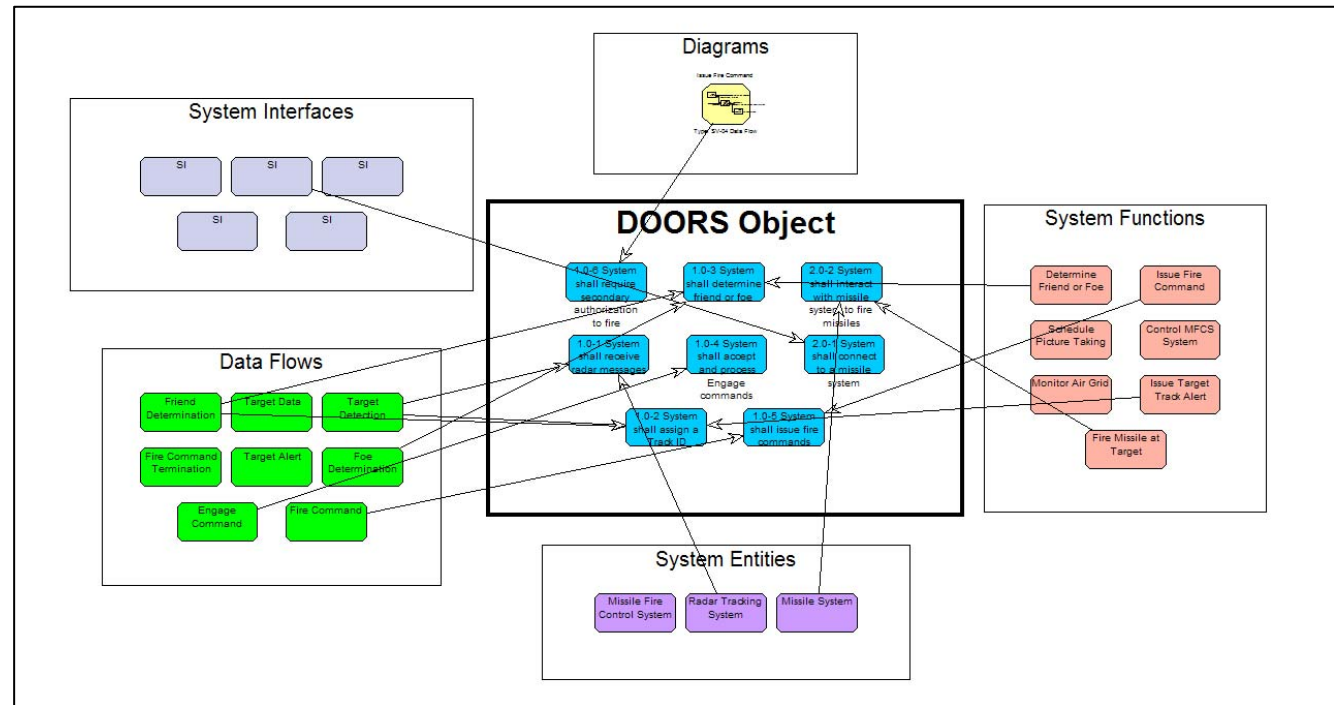
What if...

- A business requirement changes
 - ▶ What impact will it have on the enterprise architecture?
 - ▶ Which pieces of our technical architecture have no business need?
 - ▶ Which processes may be impacted?
- The infrastructure changes
 - ▶ What impact will it have on critical business requirements?



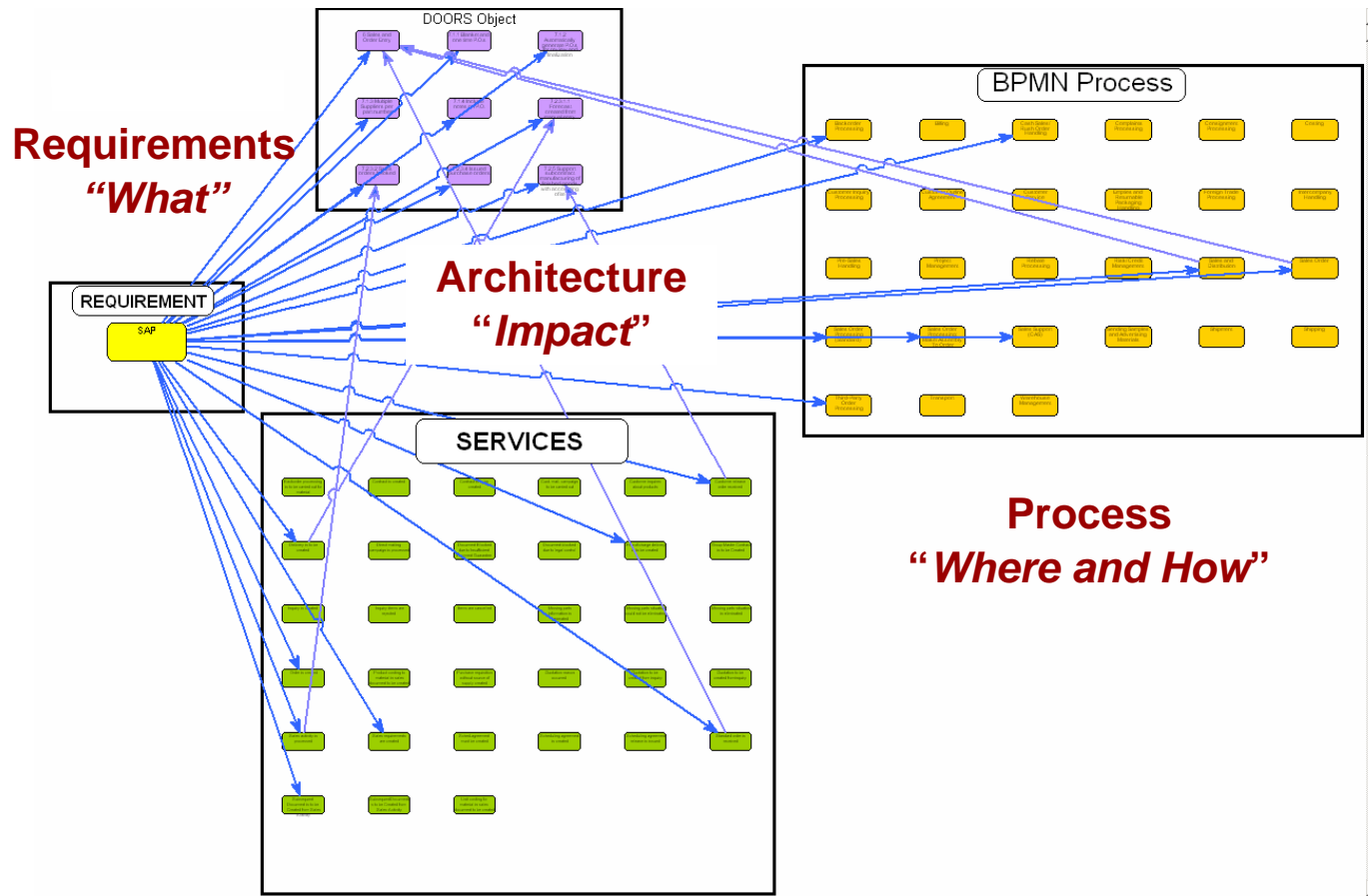
Graphically “Explore” the Integration

- **What** is tied to Requirements?
- **What** is driving Requirements?
- **Where** may we have inconsistencies?
- **Where** do we have redundancies?
- **How** does a change in Requirements affect Enterprise Architecture
- **How** does a change in the Architecture affect Requirements



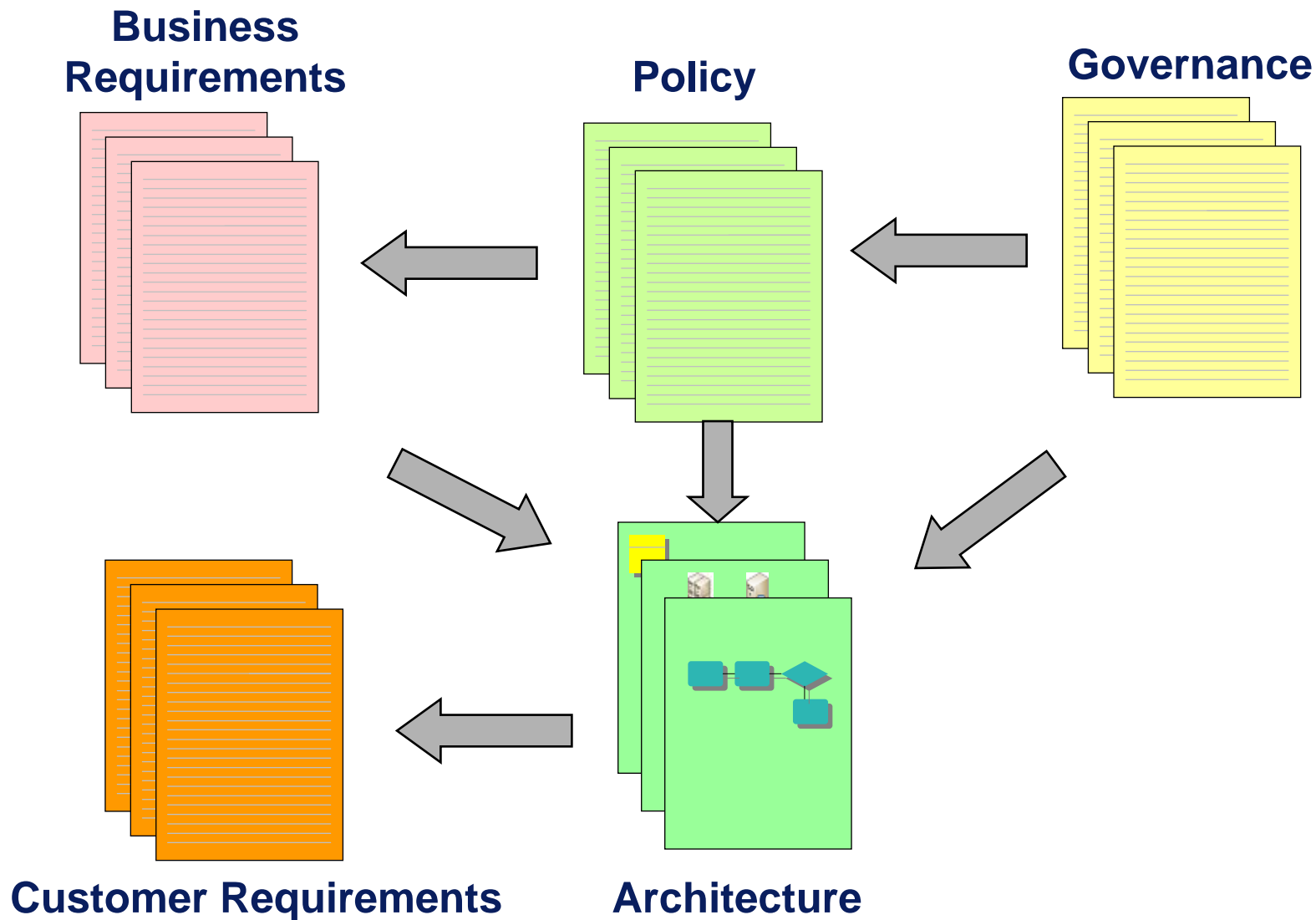
Requirements and Enterprise Architecture Drive an Actionable Architecture

Actionable Architecture takes requirements and molds it into a communication platform allowing organizations to move from analysis paralysis into action.



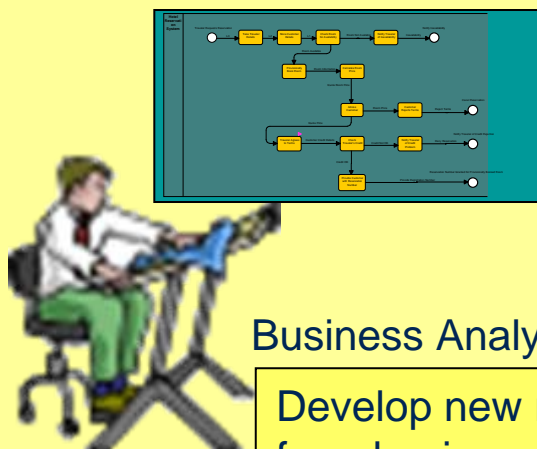
Provide the ability to **visualize relationships** among requirements, systems, applications, data and business processes and an integrated strategic information base for **powerful decision-making**.

Enable Collaboration



Workflow Scenario

In Rational System Architect



1 Business Analysts

Develop new requirements from business models.

1

Send new model artifacts to DOORS

In Rational DOORS

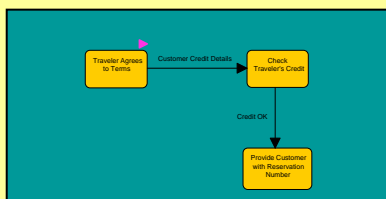


2

Requirements Engineers

Add new requirements. Link new requirements to model artifacts.

3



View requirements linked with model artifacts.

Publish Models and Requirements

In SA Publisher



Screenshot sample

The screenshot displays the IBM Rational software interface. On the left, the Explorer pane shows a project structure including Business Process, Process Chart, and Definitions. The main workspace shows a BPMN diagram for a 'Passenger Check-in' process. A dialog box titled 'Set DOORS Filters' is open, showing the following options:

- Not sent and not to be sent to DOORS
- Sent to DOORS
- To be sent to DOORS

Below the options, a red text box states: **Only those objects which have been sent to DOORS or are to be sent to DOORS**. The dialog has buttons for 'Set Filter', 'Defaults', 'Cancel', and 'Help'. Two blue arrows point from the dialog to the BPMN diagram and the requirements table on the right.

The requirements table on the right lists several requirements (TRQ-SR-21 to TRQ-SR-26) and includes a bar chart showing the distribution of requirements across different categories. The chart has four bars with heights approximately 10, 20, 30, and 40.

Below the requirements table, there are sections for '1.2.4 Control direction' and '1.2.4.1 Straight line'. A legend at the bottom left of the screenshot explains link notations:

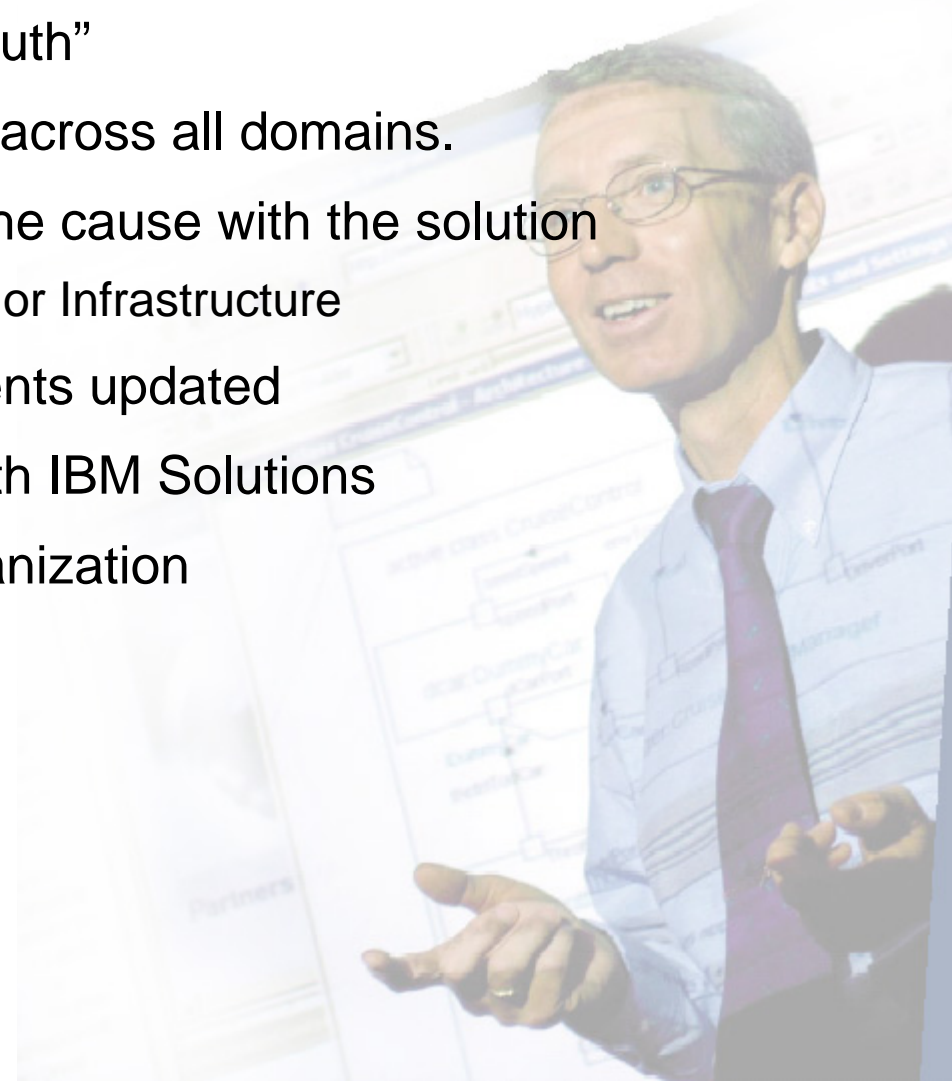
- Incoming Link Denoted by Orange, Left-Facing Triangle
- Outgoing Link Denoted by Purple, Right-Facing Triangle

Agenda

- Introduction
- Enterprise Architecture Definition
- What is Rational System Architect
- Enterprise Architecture Repository Population
- Enterprise Architecture and Portfolio Management
- Enterprise Architecture – How to manage changes
- Enterprise Architecture and Requirements
- Conclusion

In Conclusion

- Finally have “One version of the truth”
- Understand the impact of change across all domains.
- Address complex issues, linking the cause with the solution
 - ▶ Governance, Compliance, Process or Infrastructure
- Keep Architecture and Requirements updated
- Create Actionable Architecture with IBM Solutions
- Create and Support an Agile Organization



Market Leadership in BPA and EA

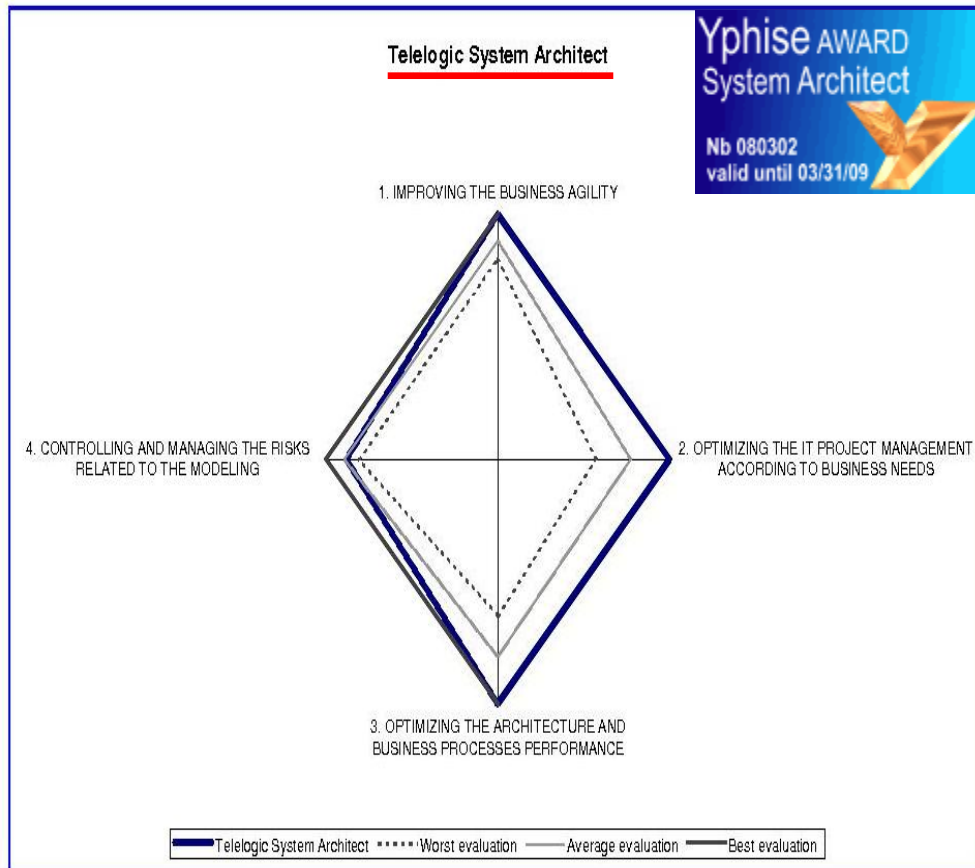
Selezionato #1 da Yphise e Gartner nel 2008

BPA

(Processi di Business)

EA

Figure 1. Magic Quadrant for Enterprise Architecture Tools



Source: Gartner (June 2008)

Questions

Thank You

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