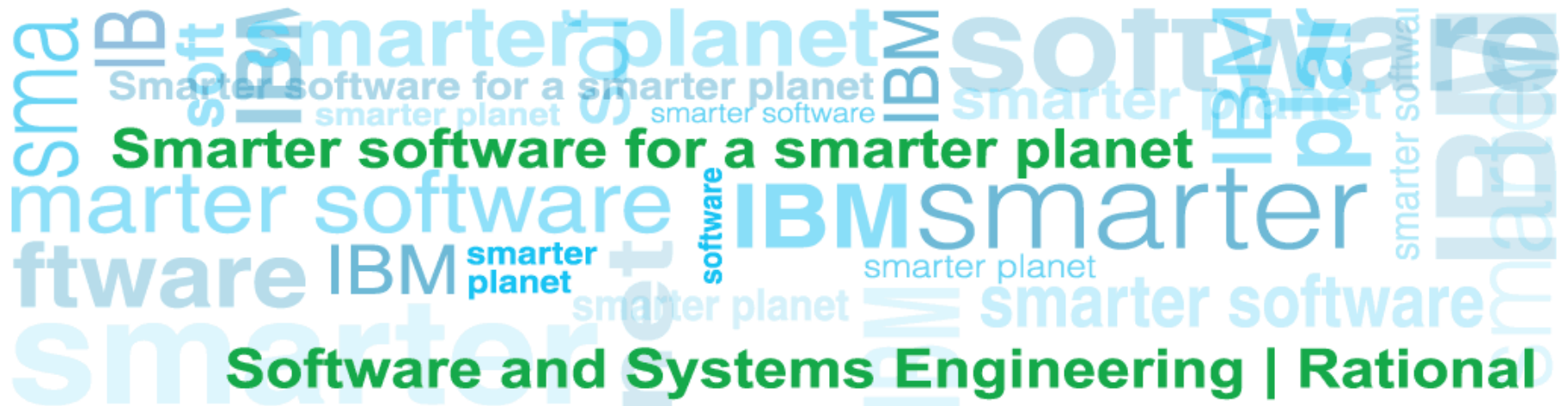


# Revolutionizing Design with Rational Software Architect (RSA) and RSA Design Manager.

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STSM and Product Lead for Rational Software Architect



# Your Dream House, to be designed !



## Assuming that you can architect, What would it take?

- A good tool to help you create and play with the design and requirements
  - Tools/Widgets to create floor plans
  - Object Organizer
  - 3D Simulation, Virtual Walk through
  - Interior lighting simulation
- A team of experts
  - Structural Stability
  - Electrical wiring
  - Legal
  - Vastu Compliance.



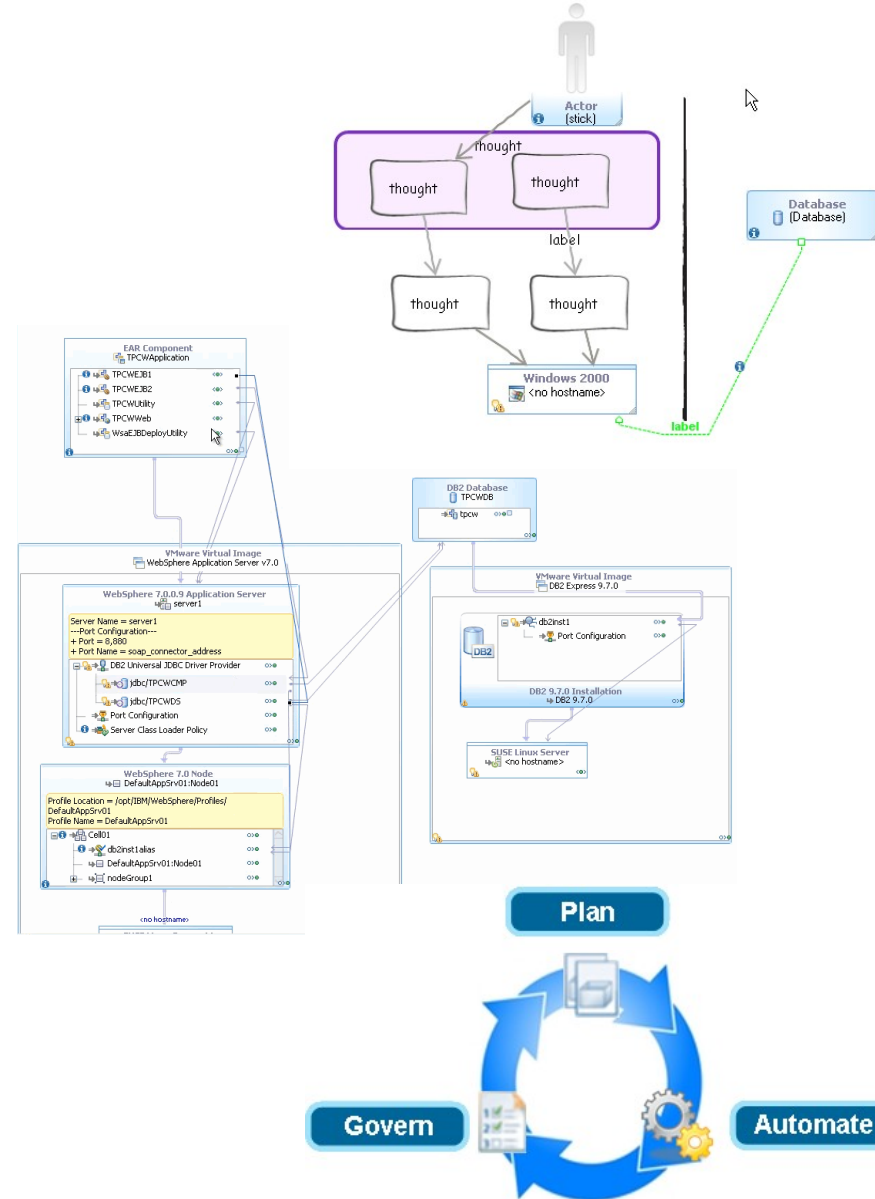
## Why Design and Why Design Management



- Design is a key phase of the software and systems lifecycle
  - Simplify application and systems complexity
  - Accelerate implementation through model-driven development
  - Identify issues and defects early in the lifecycle when they are cheapest to fix
  - Document designs and communicate with stakeholders
  
- However design tools often focus on the individual and lack team integration
  - ✗ Teams cannot easily **share designs and get feedback** from stakeholders
  - ✗ Linking designs to other lifecycle artifacts is difficult, leading to a **lack of traceability and understanding of the impact** of changes
  - ✗ Difficult to **link designs** created by different tools
  - ✗ It takes too long to create **reports across multiple designs and lifecycle elements** for specifications, communication, regulatory compliance, and auditing
  - ✗ Many development teams **work in silos**, which limits the value the designs provide to other teams and the organization

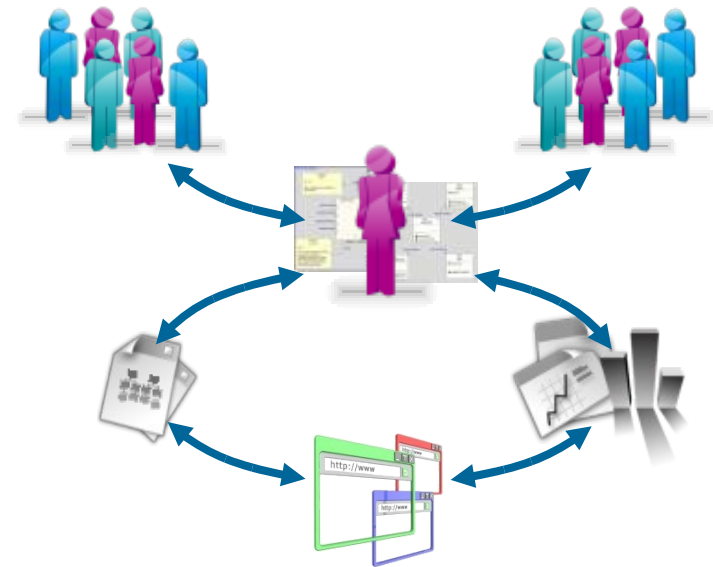
# IBM Rational Software Architect

- Agile Sketching** provides free form modeling capability enabling Agile development. Teams can quickly sketch out thoughts and convert to UML as more formality is needed.
- Software modeling and Model Driven Development with UML** allowing teams to communicate designs and generate code. Support for a variety of domains including UML2, BPMN2, Java/JEE, WSDL, XSD, SCA, SoaML, DoDAF 2, and more)
- Analyze and walk through scenarios** before implementation with **model simulation** that animates and simulates functionality and behavior.
- BPMN2** tooling allows business plans and goals to be directly incorporated into application architecture and design and the interchange of BPMN2 with other tools like WebSphere Lombardi and Rational System Architect
- Service modeling and SOA Support** allows architects to visualize SOA functionality plus guidance on process and pitfalls of candidate service identification and service and solution specification.
- Deployment Planning and Automation** Model software deployments and generate automation workflows from deployment plans for Rational BuildForge or Rational Automation Framework for WebSphere (RAFW) with



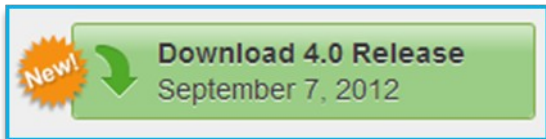
## What is Design Management?

- ✓ **Design Management** integrates software and systems design into the lifecycle
  
- ✓ Design Management helps teams to:
  - **Collaborate and iterate** on their software and systems designs
  - Produce **better quality designs with less time**
  - **Integrate designs and design process** with the rest of the lifecycle
  
- ✓ Design Management capabilities have been added to Rational's award winning software design solution **Rational Software Architect (RSA)** to enhance it's design capabilities with **new team collaboration and lifecycle capabilities**



# More on collaborative design management

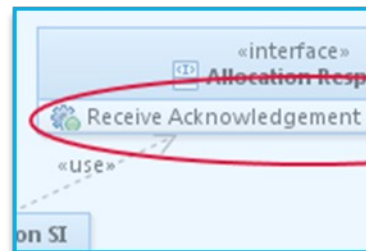
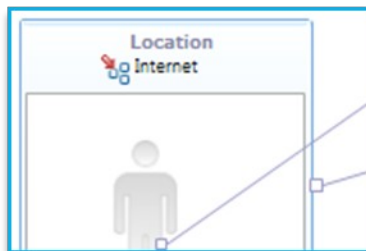
## Rational Software Architect with Design Management



### Features and capabilities

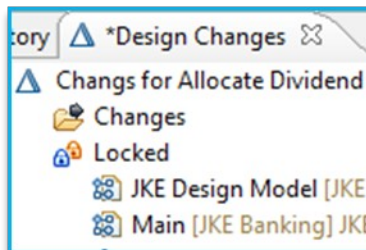
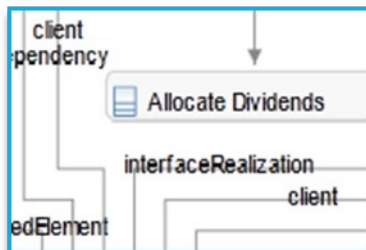
#### Design in context

Work seamlessly with analysts, developers, and testers using **RRC**, **RTC**, **RQM**, and **DOORS**. Make designs first class artifacts in your lifecycle projects.



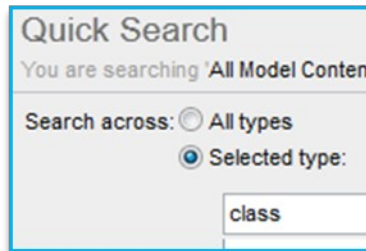
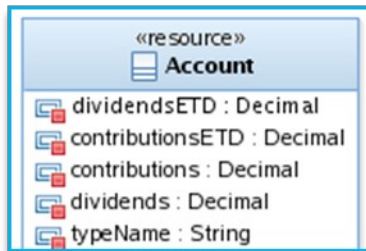
#### Traceability and impact analysis

Link designs to requirements, test artifacts, work items, and other designs. Visualize relationships within a design and with other lifecycle resources. Know the impact of a design change.



#### Publish design documents

Generate customized design documents from a template or create living design documents as part of your project.



#### Collaborate

Invite users and other experts to collaborate on your designs. Use threaded comments, design mark-up, and automated design reviews. Sketch out ideas before turning them into designs.

#### Manage change

Collaborate with your team on changes to the same designs without conflicts.

#### Designs at your finger tips

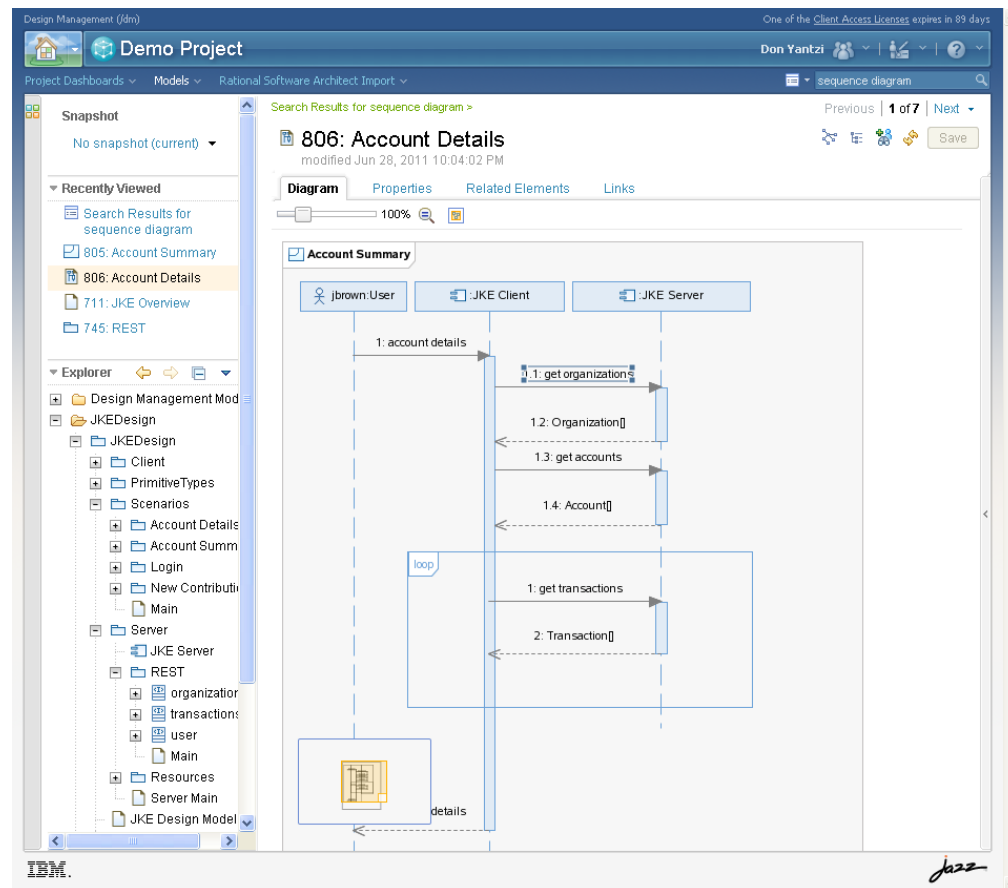
Quickly search across designs to learn from past projects and find reusable design components.



# Central Design Repository



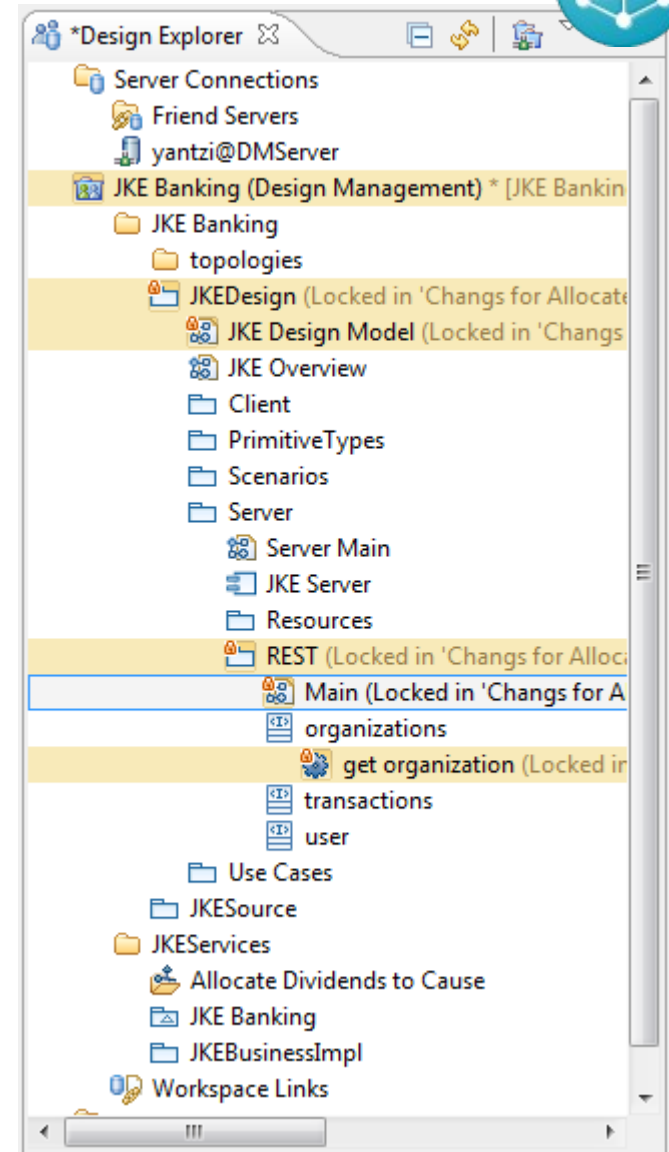
- Increase **team knowledge** through an enterprise and system-wide software design repository
- Analysts, SMEs, testers, and other extended team members can **access designs through a Web client**
- Designs become URL addressable
- **Search** for designs across projects
- Stay connected with ongoing design activities via **dashboards**
- Navigate designs and **visualize relationships**



# Simplified Design Change Control & Configuration Management



- **Designs directly editable** on Jazz from RSA and Rhapsody
- Locking, versioning, history, and change control on individual model elements
- **Parallel workspaces** and snapshots
- Changes grouped into change sets
- Design reviews on private changes prior to sharing



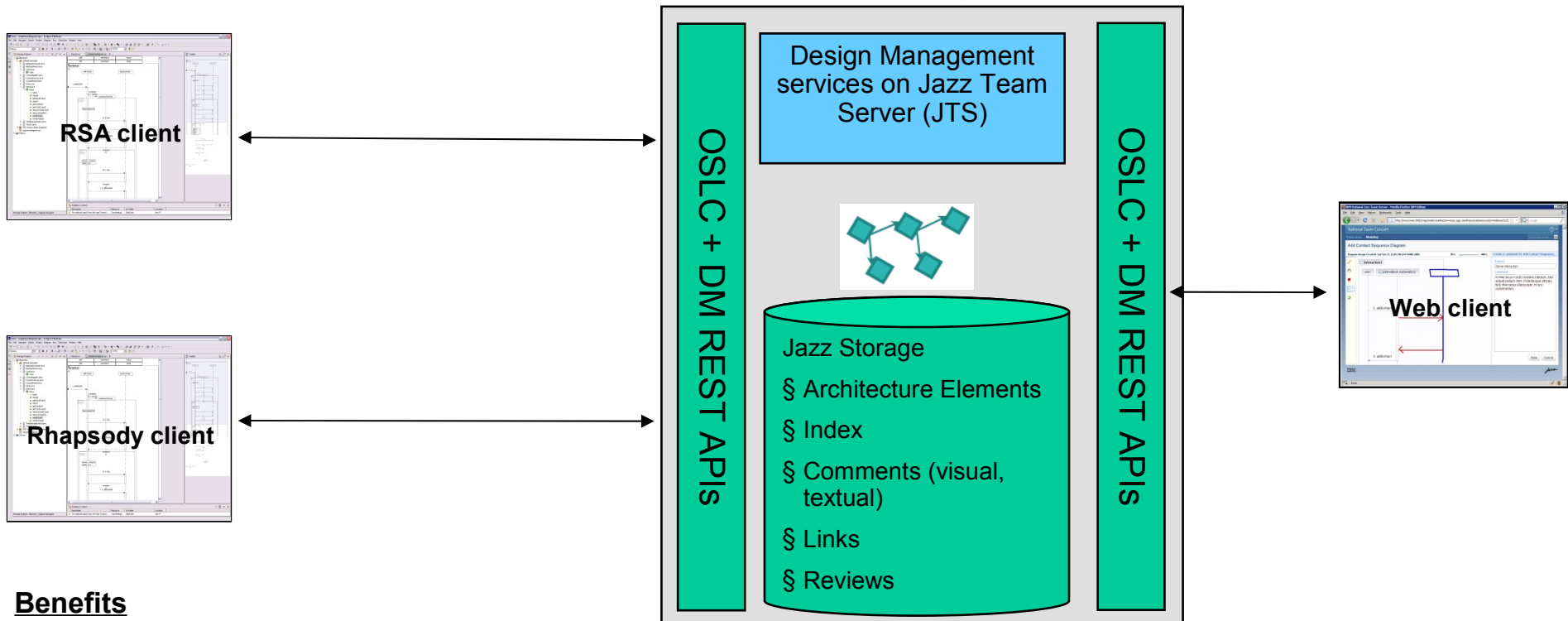
# Design Management v4.0 (New Mode)

Previous mode with import engine still supported

**Design creation, editing, MDD, search, query, validate, analyze, report**

**Design change control and versioning (model-based)**

**Design search, query, view, comment, review, link, report, validate, analyze**



## Benefits

- Direct editing of designs and change control on server providing a more simplified environment
- Change control (locking, history) at the model resource level providing more granularity and
- No duplication or design synchronization issues
- Use of SCM still available for users who need more powerful change control capabilities

# Lifecycle Integrations



- Bi-directional **traceability** between requirements (RRC & DOORS) and RSA design
- Bi-directional traceability between designs and work items
- Stakeholders can **easily find designs**
- Understand the **impact of changes** to requirements or designs

Change and Configuration Management (ccm)

**JKE Banking (Change Management)**

Project Dashboards ▾ Work Items ▾ Plans ▾ Source Control ▾ Builds ▾ Reports ▾

Work Items >

**Task 90** ?

Summary: \* Detail the Design for Allocating Dividends Service

Overview Links Approvals HI

**Attachments**

Add File:  Browse

No Attachments.

**Links**

Add: Related ▾

**Blocks**

- ↳ 91: Implement the Design for Allocating Dividends Service
- ↳ Elaborated by Architecture Element
- ↳ 2040: Logical Topology
- ↳ 2139: Service Interfaces - Overview

**Depends On**

- ↳ 89: Design Allocating Dividends Service

**Parent**

- ↳ 88: Allocate Dividends with Web Service

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**2139: Service Interfaces - Overview**

**Project Name:** JKE Banking (Design Management)  
**Long Name:** [JKE Banking (modeling)] JKE Banking::3 - Service Interfaces::Service Interfaces - Overview  
**Type:** UML2 Modeler - Freeform UMLDiagram  
**Modified:** Jan 26, 2012 8:56:38 AM  
**Last Comment:** Mar 12, 2012 12:11:21 PM

**Allocate Dividends to Cause**

donor:«WSDL»Allocation Resp...

donor:«WSDL»Allocation... bank:«WSDL»Dividend.

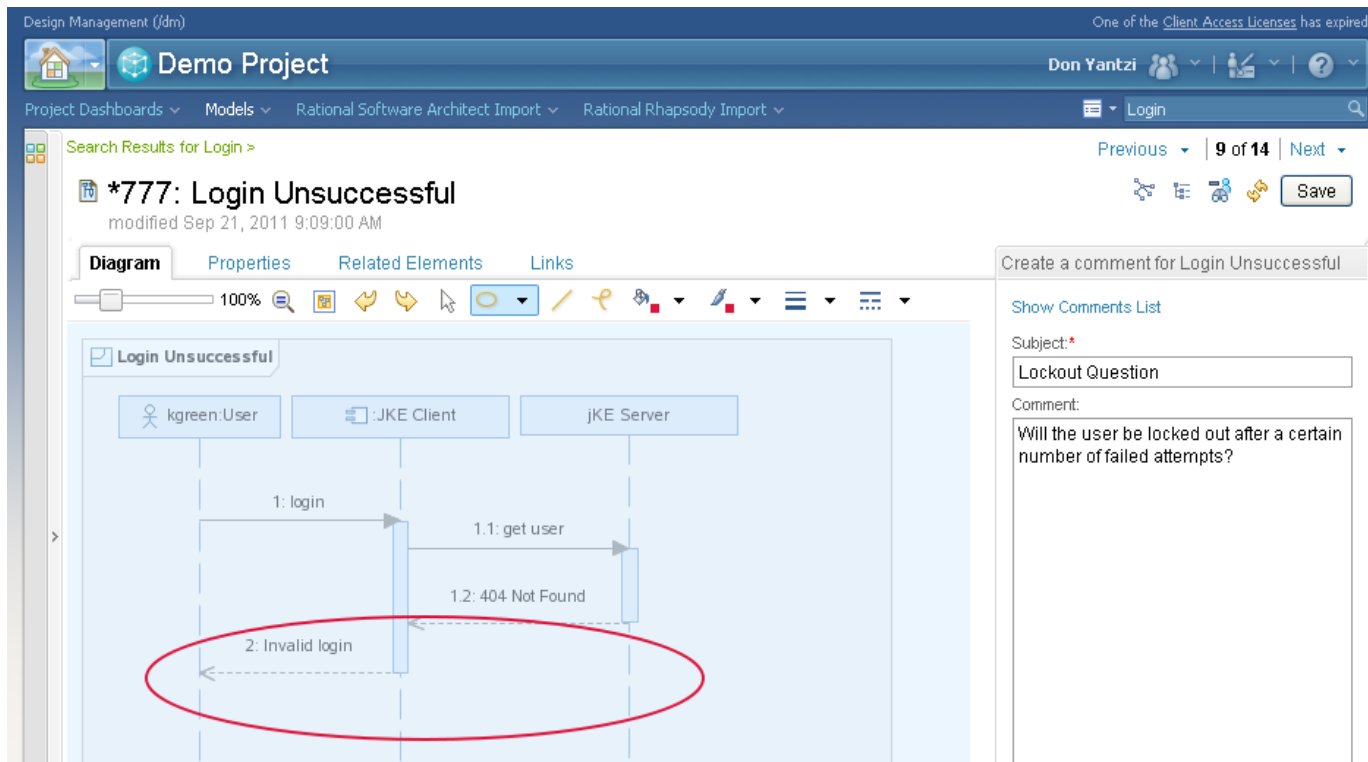
1: Allocate Dividends to Cause

1.1: Receive Acknowledgement

# Design Collaboration



- Improve quality with ongoing stakeholder involvement in the design process
- In-context **design collaboration through commenting and visual markup**
- **Automate manual and time consuming design reviews** with a more guided process
- Comments can be posted and accessed from Web client and RSA desktop client



# Design Collaboration from the RSA client

The screenshot displays the Rational Software Architect (RSA) client interface. The main workspace shows a UML diagram with a 'client' actor connected to a 'logic' component, which in turn connects to 'beans' and 'persistence' components. The 'persistence' component is linked to a 'DB2' database. A red circle highlights a specific area in the diagram, with a callout pointing to it. The interface includes a Project Explorer on the left, a Properties window at the bottom, and a Comments window on the right. A search window is also visible at the bottom right, showing search results for 'Account class'.

**View design comments**

**View markup associated with comments**

**Connect to DM servers, navigate server projects, and preview designs from server**

**View OSLC link information including pop-up previews**

**Search across design projects**

**Comments Window Content:**

- Need server logging ( 2 )
- Joe Stakeholder 14 minutes ago: The sketch should include a component for server side logging with persistence to DB2.
- Don Yantzi 7 minutes ago: Okay, will add this for next milestone.

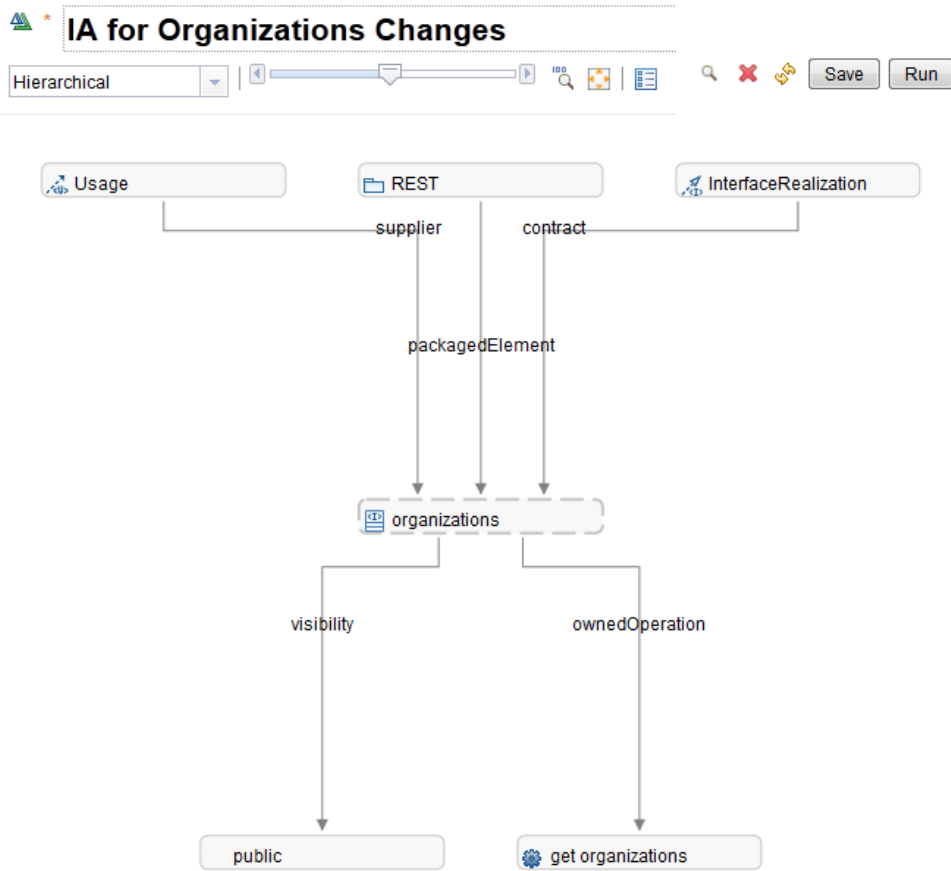
**Search Window Content:**

Location	Match	Long name	Type
Repository	Account	[banking activity diagram] Analysis Model::Telle...	<Entity
Repository	Account	[banking class diagram] Design Model::itso.ad.b...	Class
Repository	Account	[banking sequence diagram] Analysis Model::Tel...	<Entity
Repository	Account	[JKEDesign] JKEDesign::Server::Resources::Ac...	Class
Repository	AccountBean	[JKEDesign] JKESource::com.jke.beans::Accou...	Class
Repository	AccountInfoWidget	[JKEDesign] JKESource::com.jke.ui::AccountInf...	Class
Repository	AccountInfo	[JKEDesign] JKESource::com.jke.logic::Account...	Class

# Impact Analysis



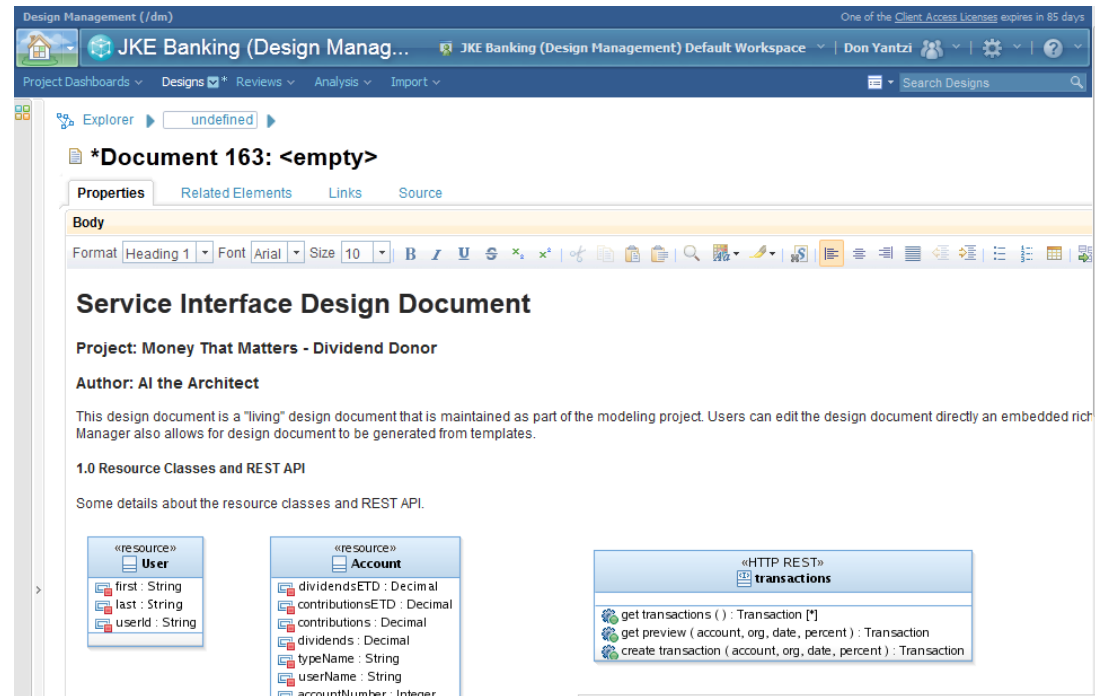
- New graphical impact analysis diagram that includes **design and linked lifecycle** artifacts
  
- **Analysis Configuration** defines the parameters for the analysis
  - **Upstream** level, **downstream** level, which links types to include
  - Can be used be shared by multiple analysis
  
- **Analysis** applies the configuration to a selected element to perform the impact analysis
  - Save and re-run at a later time



# Document Your Designs



- Generate **documents from templates**
  - Author templates with RPE Document Studio
  - Configure and generate documents from templates in Design Manager
  
- Create **living design documents**
  - Rich text documents with embedded design links
  - Add to any design project
  - Keep current as designs change
  - Editable from the Web client
  - All the features of Design Management: linking, change control, searching, commenting, and design reviews



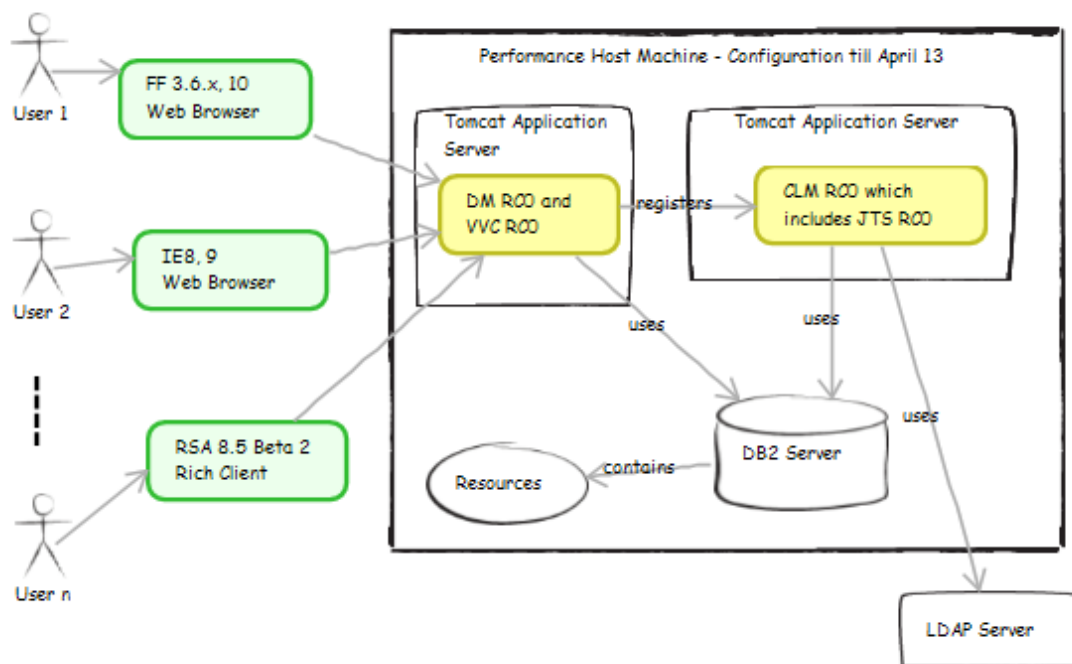


# Sketching



## Quickly capture and collaborate on ideas with design sketching

- Sketches are simple, independent diagrams
- Add to any design project
- Editable from the Web client
- All the features of Design Management: linking, change control, searching, commenting, and design reviews



# Common Administration with CLM



- Less infrastructure to manage with a **shared Jazz Team Server**
- One place to define and administer users
- **Lifecycle projects** including design
- Design included with **Money That Matters** sample application

## Lifecycle Project Members <sup>?</sup>

The members page provides an easy way to manage the members of a Lifecycle Project. From this page, you can add or remove roles assigned to a member in each artifact container.

Select Project:

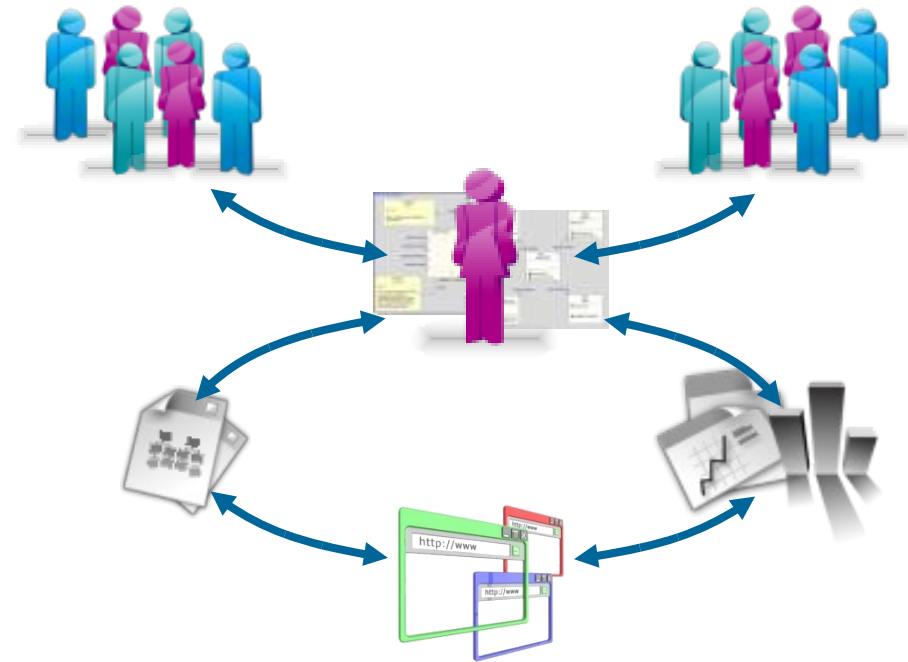
Items Per Page

◀ Previous | 1 - 13 of 13 | Next ▶

Name	User ID	CCM	AM	QM	RM	Status
Al	al	✓	✓	✓	✓	Ok
Bob	bob	✓	✓	✓	✓	Ok
Build	build	✓				Ok
Curtis	curtis		✓		✓	Ok
Dave	dave	✓	✓	✓	✓	Ok

## Summary

- Design Management helps teams to:
  - Collaborate and iterate on their software and systems designs
  - Integrate their designs and design process with the rest of the lifecycle
  - Produce better quality designs with less time
  
- Rational Software Architect Design Manager contain lots of new and enhanced capabilities
  - Model configuration management
  - Lifecycle traceability
  - Common administration with CLM
  - Impact Analysis
  - Documenting designs
  - Design sketching
  - In-context design collaboration
  - Searching





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