IBM Software Group

An Architectural Approach to Solving Complexity:

Rational Software Architect

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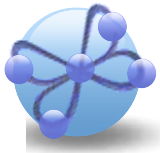
Rational Software Architect

What you need to design and construct today's sophisticated application architectures

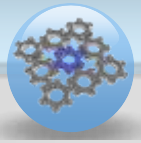


Deliver Robust Scalable SOA with confidence

- Guidance and best practices based on incomparable experience.

Tame Complexity

- Requirements-driven business aligned outcomes
- Architectural analysis and engineering of IT systems



Get Your Architecture Right!

- Test and validate the architecture to ensure high quality applications

Integrate Collaboration & Design into the Application lifecycle

- Maximize productivity with central design storage
- Faster and easier design reviews with web access to designs for stakeholders

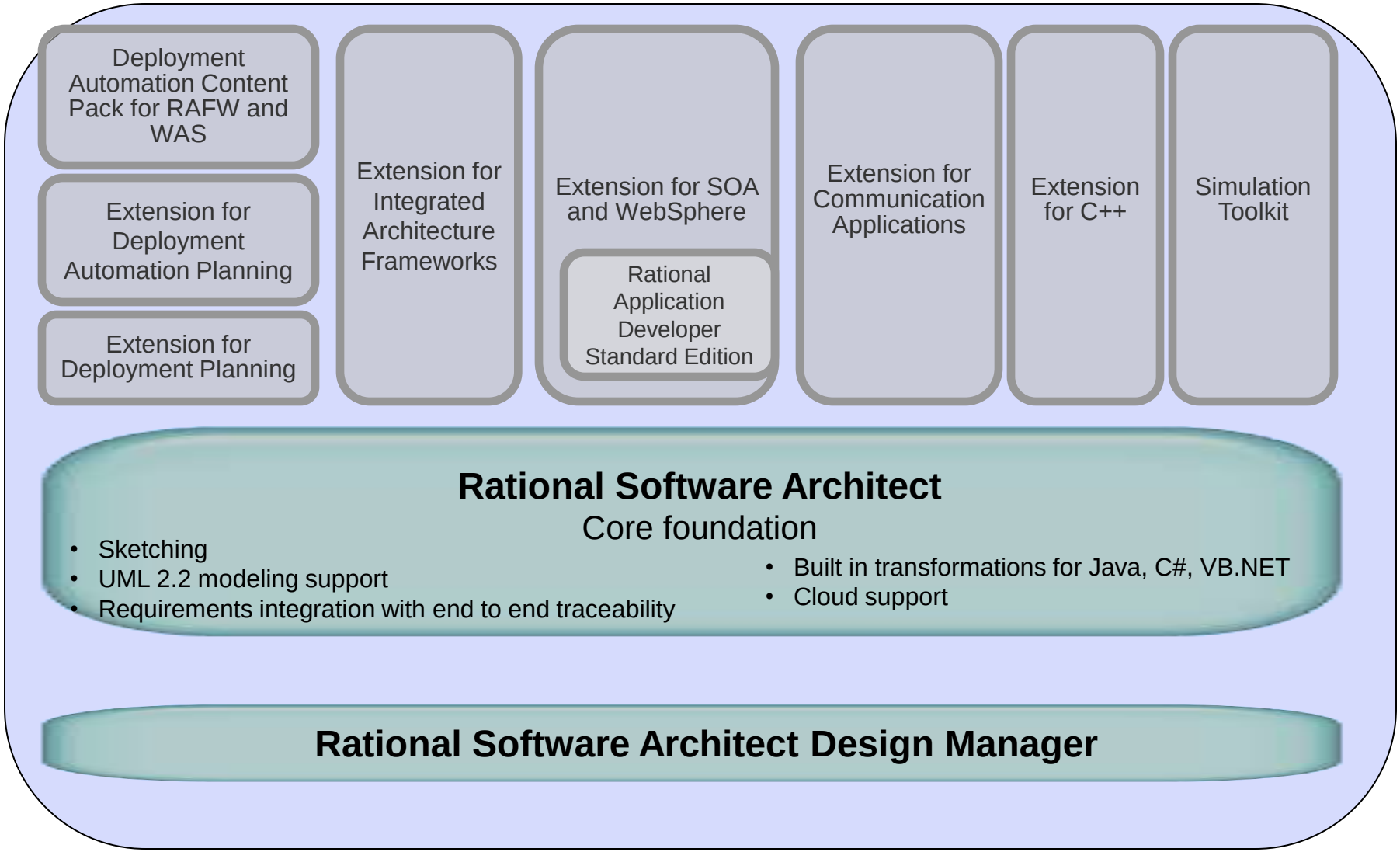
JAZZ TEAM SERVER

Open and extensible on

jazz™

- ✓ Collaborate in context
- ✓ Right-size governance
- ✓ Day one productivity

Rational Software Architect Family - Flexible Packaging, pick the combination that you need



IT Systems Analysis and Engineering

Tame Complexity

See the big picture; iterate to the details

Visualize structure & underlying architecture of existing applications

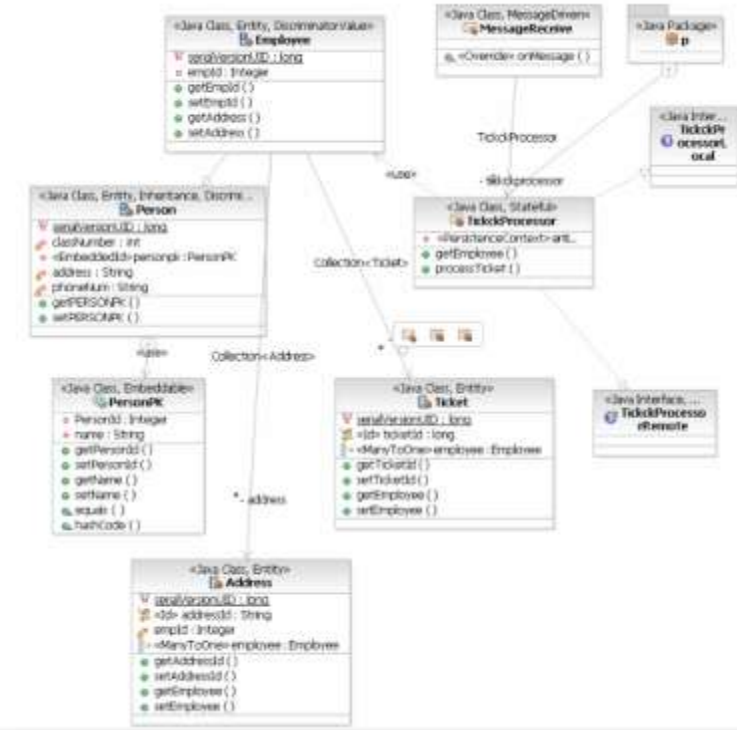
- Reverse engineering & inspection
- Incorporate functional and operational views of the IT system
- Understand current state, desired state, and how to get there

Automation, reuse and quicker time to market

- Custom software factories tailored to your needs
- Save time and money through industry extensions and patterns-based engineering

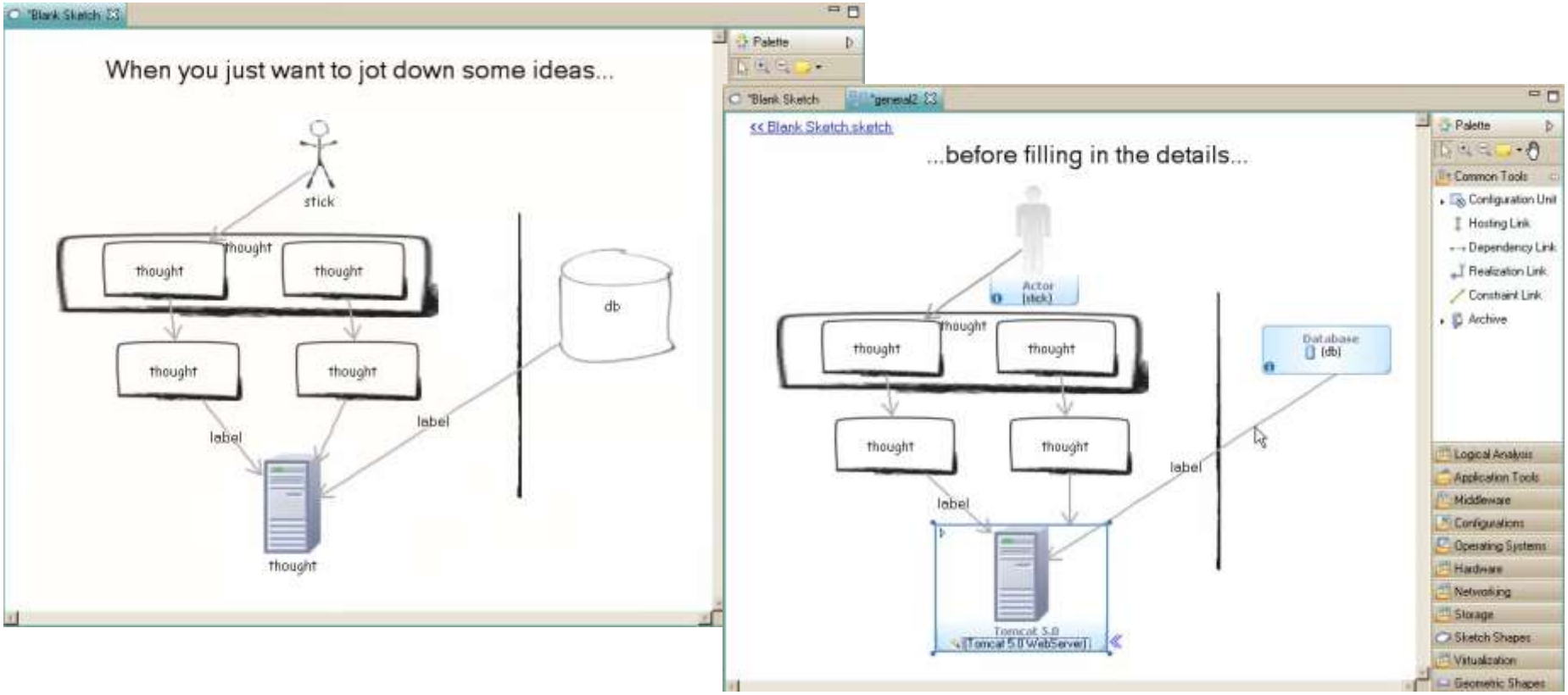
Leverage a fully integrated software development environment

- Combine the power of Eclipse and Rational Application Developer Standard Edition
- Create applications in Java EE, Java SE, C# and C++



Agile sketching with incremental formalization

Tame Complexity



- Quickly capture and express thoughts – work at “think speed”
- Selectively formalize as semantic model elements
- Extend this “actionable whiteboard” across space and time

Business-Aligned Outcomes

Tame Complexity

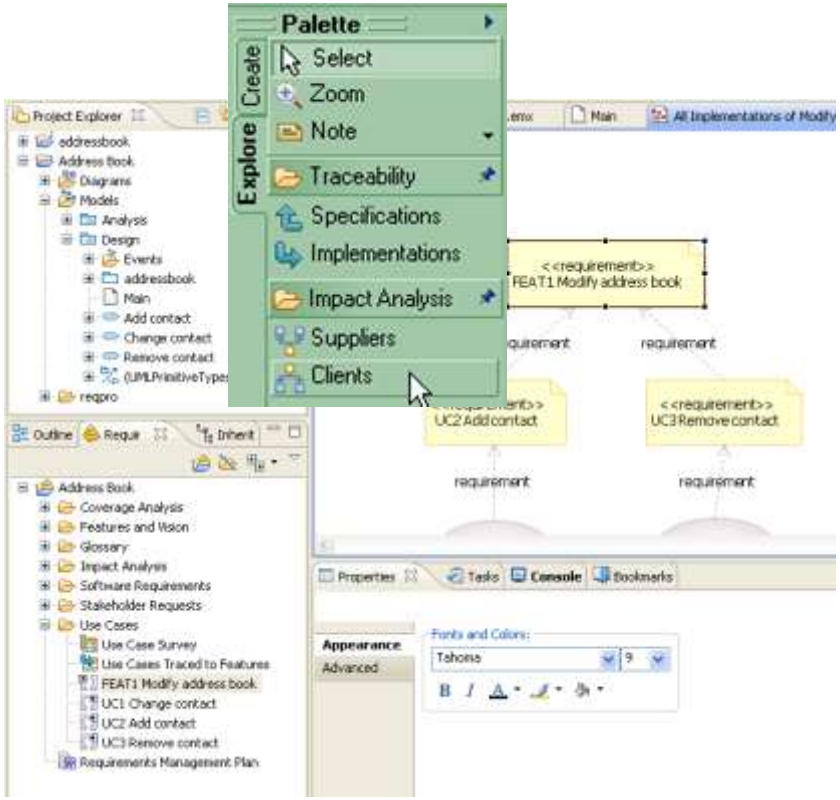
Build what the customer wants!

Align with business goals by iteratively transforming and tracing requirements to architectures

- Sketch ideas into architectural representations, then verify them as complete systems
- Use traceability to prove that final features meet project specifications

Manage risk

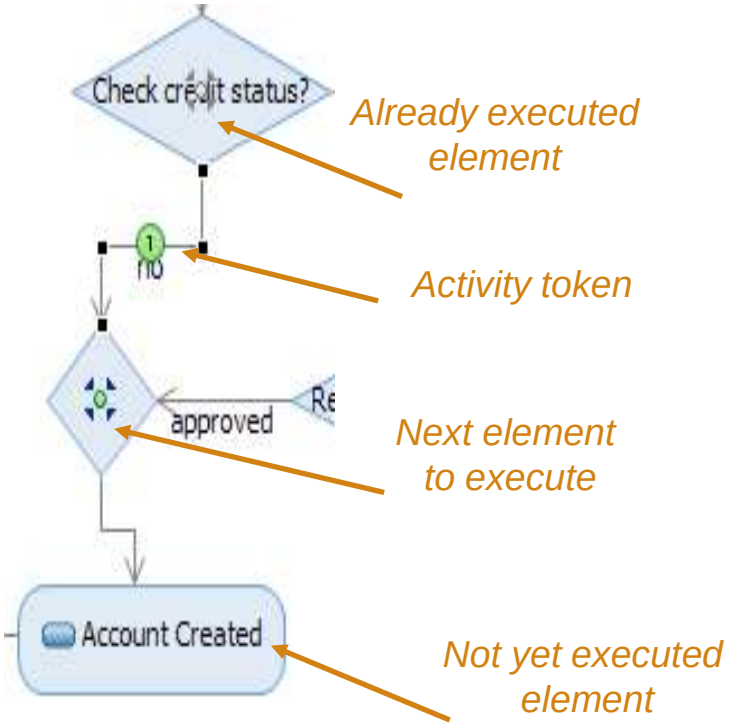
- Analyze impact from changing requirements throughout design and implementation



Test and Validate Your Designs

Get Your Architecture Right!

- Simulate your application's intended functionality and behavior
- Find and fix problems early, before implementation
- Animate the dynamic behavior of your architectures to expose run-time information
- Detailed control to debug your architecture
  - Breakpoints, stepping, suspend, resume, inject events
- Analyze how messages will flow across the planned deployment infrastructure to identify potential conflicts



RSA Simulation Toolkit

Leverage IBM for SOA Planning and Analysis

Deliver Robust Scalable SOA with confidence

WebSphere Business Modeler

System Architect

Import business process models or enterprise architectures

Discover existing or publish services

Rational Software Architect

Service Architecture – SOMA 2.9

BPMN2

Process Models

SoaML Service Models

Service Implementation

OSGi bundles

Java EE

J2C… JPA…

Web Services

IMS

DB2

Rich Service Clients

Build scalable SOA implementations for WAS (SCA), Portal or WPS (BPEL)

Service Deployment

Governed Service Assets

RAM

WSRR

UDDI

Collaborative Service Development

RTC

JAZZ TEAM SERVER

RSA Extension for SOA and WebSphere

Design Challenges

Integrate Collaboration & Design into the Application lifecycle

- **Design is a key phase of the software lifecycle. Our clients successfully use our design tools today to:**
  - Simplify application complexity
  - Analyze software for defects early in the lifecycle
  - Document and communicate to stakeholders

- **However design tools often focus on the practitioner 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.
  - Teams struggle to **incorporate design into Agile** software development practices
  - Difficult to **link designs** created by different tools
  - It takes too much time 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 they provide to other teams and the organization

RSA Design Manager
RSA Design Review

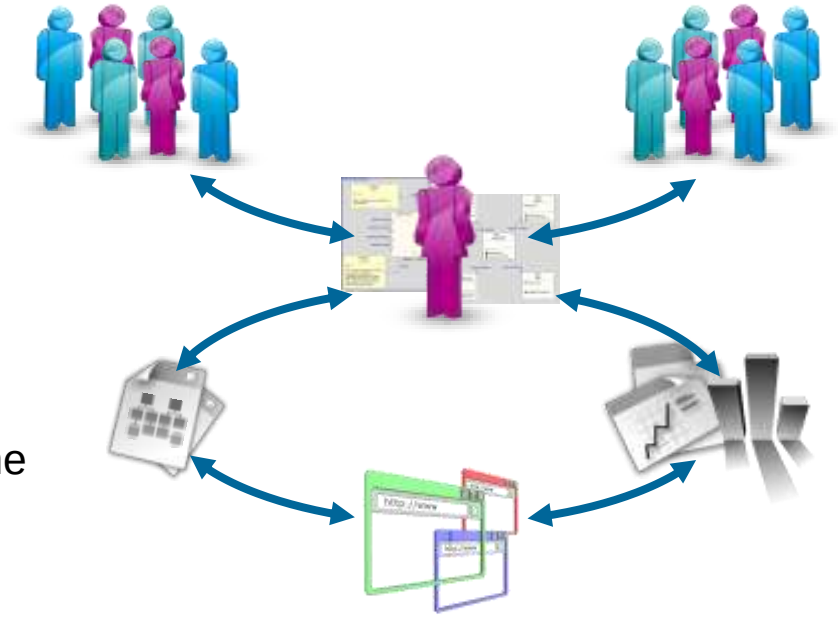
Collaborative Design Management for RSA

Introducing a new era in development team productivity

Integrate Collaboration & Design into the Application lifecycle

Take team collaboration to new heights by integrating design into the application lifecycle

- ✓ Maximize productivity and lower costs with a central location to store and access designs
- ✓ Collaborate among stakeholders on software architectures, and deployment plans
- ✓ Shorten time-to-market with faster design reviews
- ✓ Satisfy regulatory demands with multi-discipline document generation and reporting



"The ability to review and comment on models from the Web client encourages feedback from a wide array of stakeholders... leading to faster consensus and improved quality of solution designs."

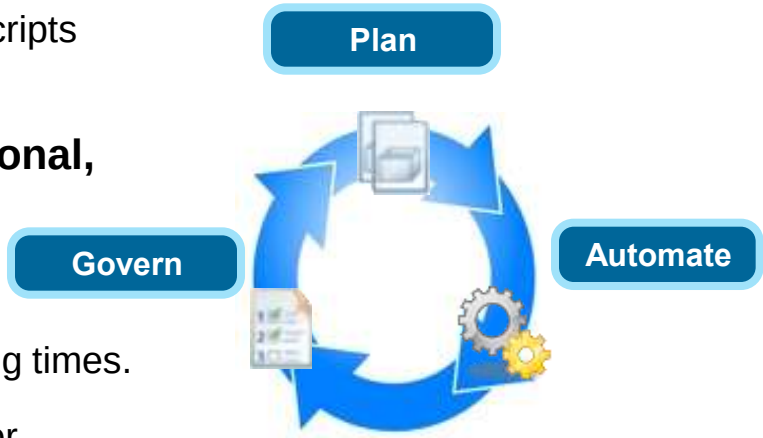
– Lars Tufvesson, Sellegi

RSA Design Manager
RSA Design Review

Solve complex deployment problems

IT application deployment is a complicated and costly task that is exacerbated by the knowledge gap between development and operations

- Applications are created that don't fit the infrastructure in which they must run.
- Known solutions cannot be properly re-used
- Organizations resort to manual deployments or home grown scripts



RSA Delivers an integrated solution leveraging IBM Rational, IBM WebSphere and IBM Tivoli capabilities

- Reduce time and errors
- Improve communication of deployment requirements.
- Remove costly manual tasks, and dramatically reduce provisioning times.

Plan your application deployment using discovered resources and/or standardized templates
Automate infrastructure provisioning, middleware configuration, and application installation and repeatedly setup deployment environments,
Govern and share application artifacts, templates, and deployment plans as well as trace development artifacts to deployed instances

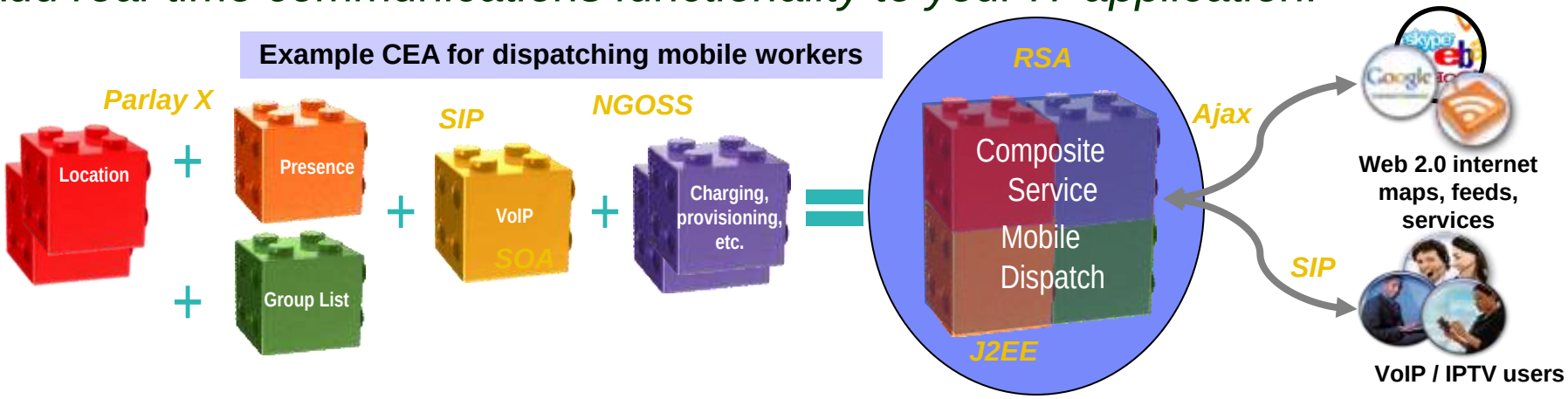
Applied to Cloud Technology

- Virtualize
- Standardize
- Automate

RSA Ext for Deployment Planning +
RSA Ext for Deployment Automation Planning +
RSA Content Pack for RAFW and WAS

Deliver Communications Enabled Applications

Add real-time communications functionality to your IT application:

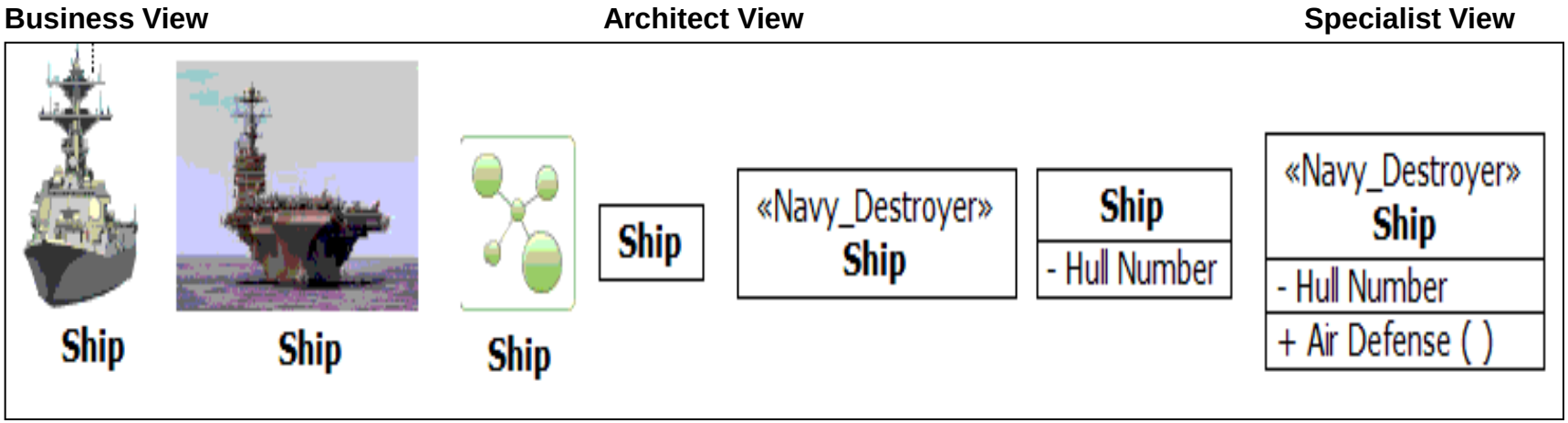


Extends Rational Software Architect to:

- Design call flows, generate servlets and tests, and visualize network traffic for **Session Initiation Protocol (SIP)** – used for IP-based communications such as VoIP and IPTV
- Incorporate telecom web services in your CEA architecture – a complete model of the **Parlay X specification** is provided, defining services such as *texting, location and presence*
- Design SOA solutions based on TM Forum Solution Frameworks (**NGOSS)** – jumpstart by exploring the sample model

RSA Extension for Communications Applications

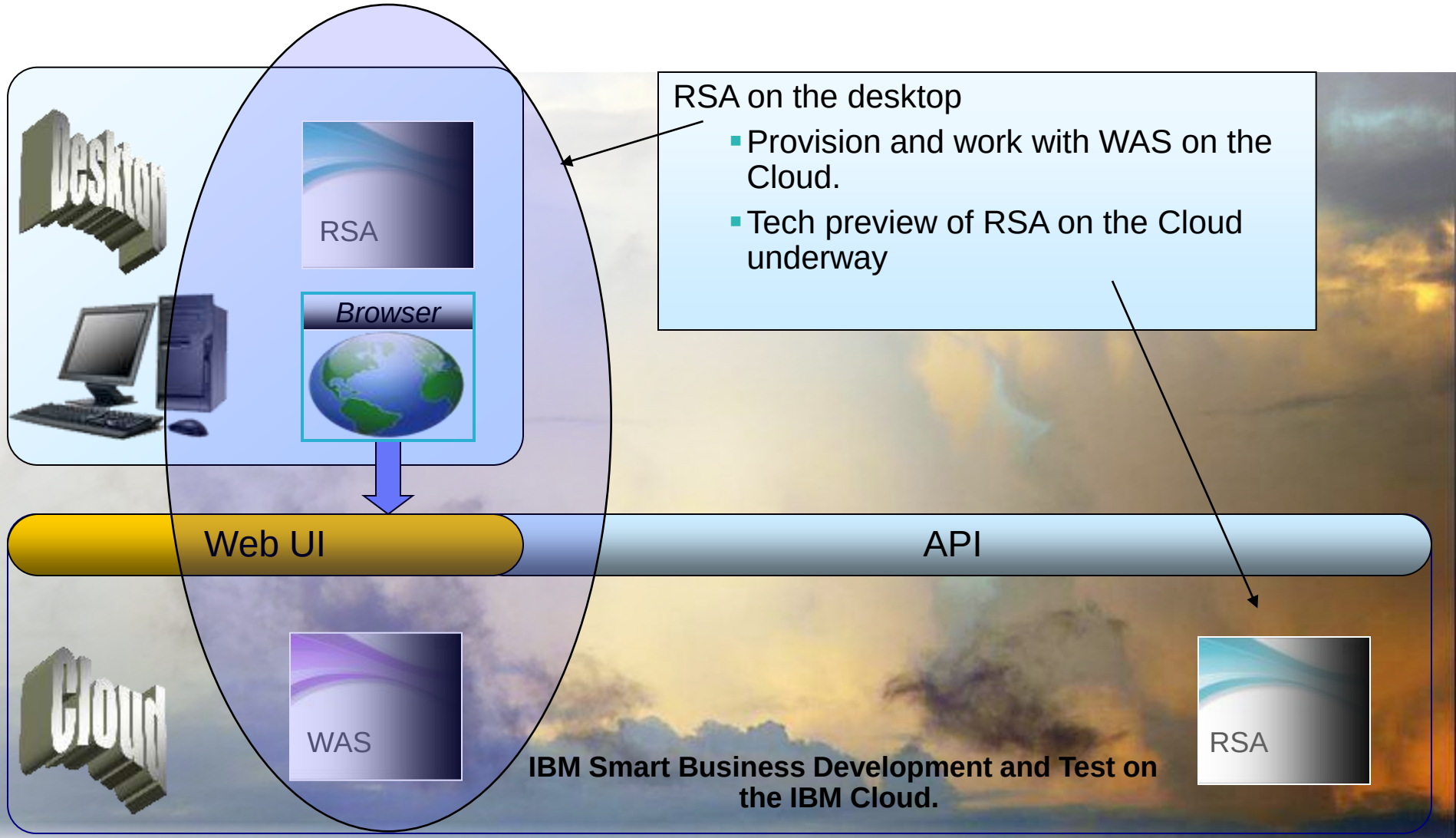
Ensure Business Aligned Outcomes



- Leverage Integrated Architecture Frameworks
  - Fully represent business concerns in the design
  - Interconnect them to requirements and solution architectures
- Communicate frameworks more effectively
  - Import and translate business and enterprise architecture data
  - Support rich graphical representations of business-level and environmental concerns'
- Address U.S Department of Defense Architecture Framework (DoDAF 2)
  - Interchange via DoD-mandated Physical Exchange Specification (PES)
- Scalable to support additional architecture frameworks
  - Including their associated iconographies, queries, views, and reports

RSA Extension for Integrated Architecture Frameworks

Introducing - Support for the Cloud



More Information

- RSA Family Home Page
  - Product Editions and Extensions
  - Trials
  - Features and Benefits, System Requirements
- RSA WIKI on developerWorks
  - Technical Resources:
    - Demos, Documentation, Whitepapers, Sample models

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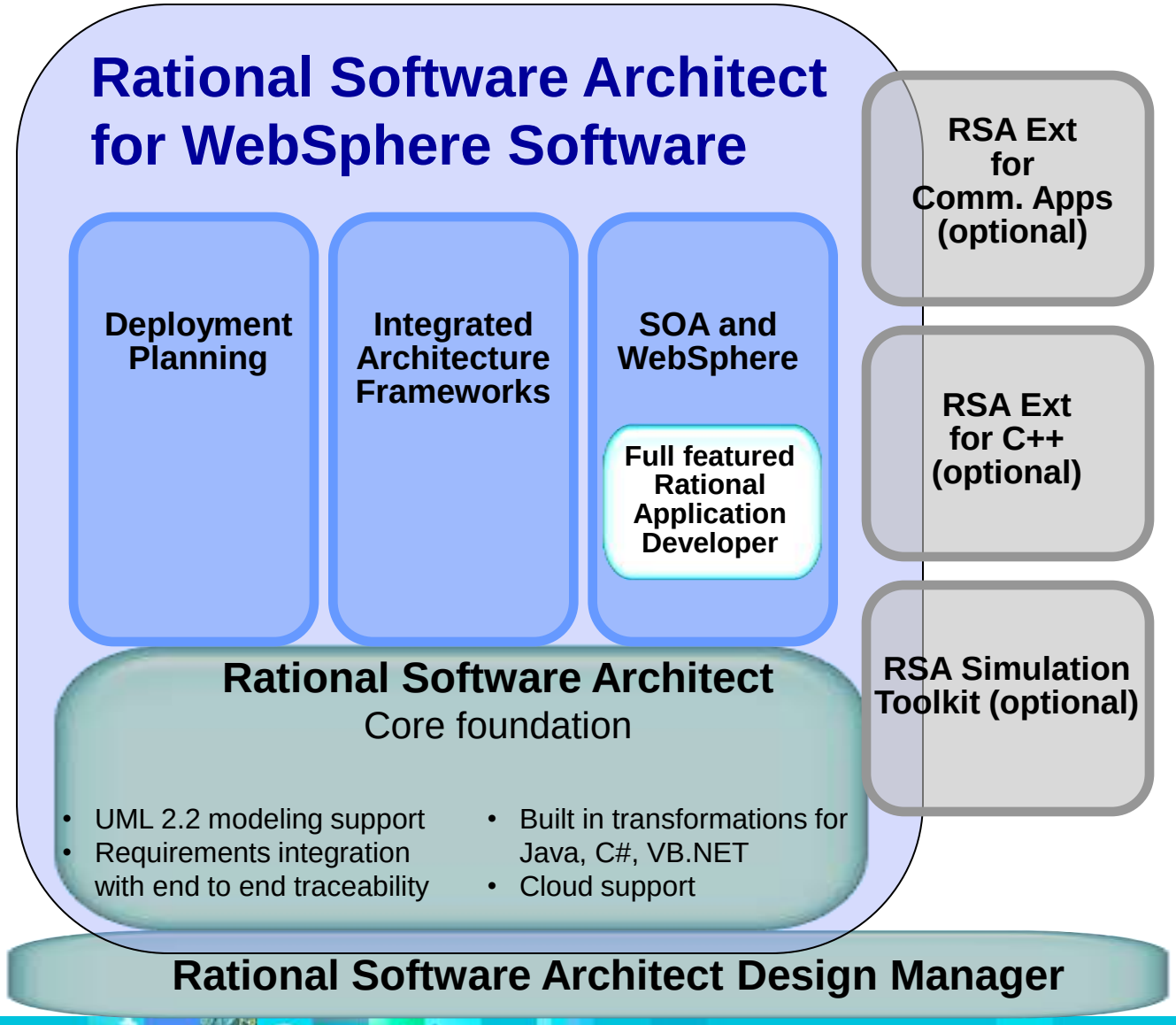
Added Content on RSA Design Manager

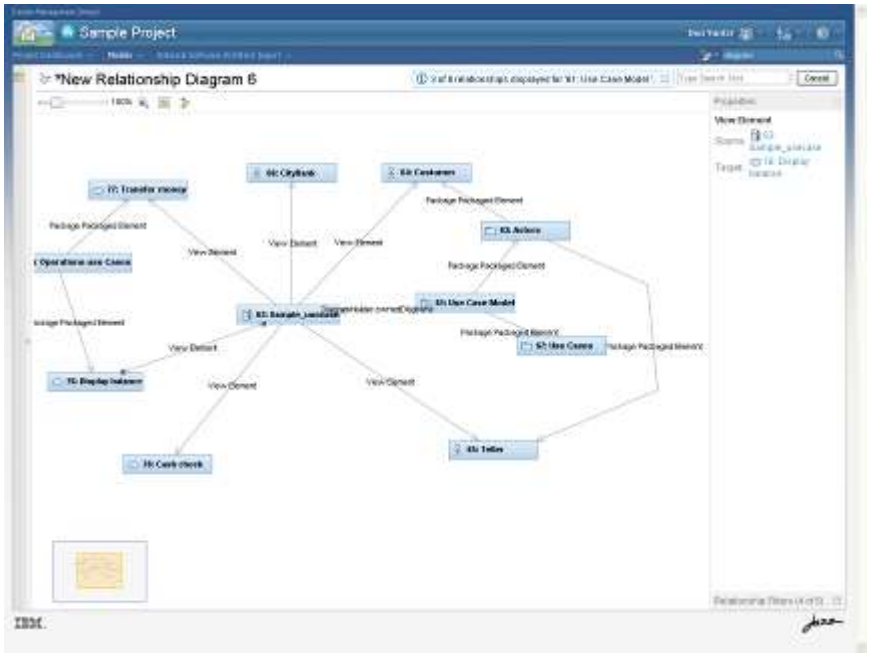
The complete WebSphere offering



Design Server

Maximize productivity and lower costs

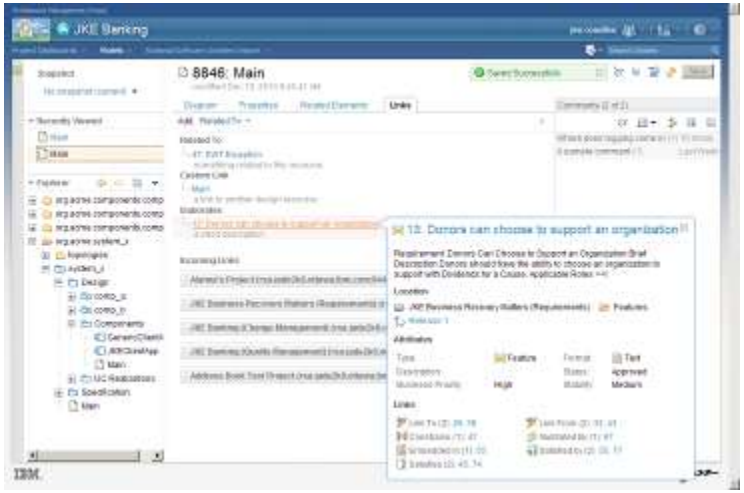
- ✓ *Increase team knowledge through an enterprise and system-wide repository with Web-based access*
- ✓ *Leverage Jazz to quickly search across designs for review, analysis and potential reuse*
- ✓ *Analyze the impact of design changes*



- **Teams need to quickly find existing designs to review, analyze, and identify reuse, but…**
  - Information may be stored in multiple designs or models
  - Desktop client installation is required to view the design information
  - Access to SCM system also may be required to access the information
- **With RSA Design Manager…**
  - All designs for an organization or system can be stored and accessed from a central location
  - All known designs can be searched, viewed, analyzed on the server from RSA, or Web client
  - The new *Relationship diagram* supports impact analysis and discovery of related design elements and resources

Stakeholder Collaboration

Easily share software architectures, deployment plans and system designs



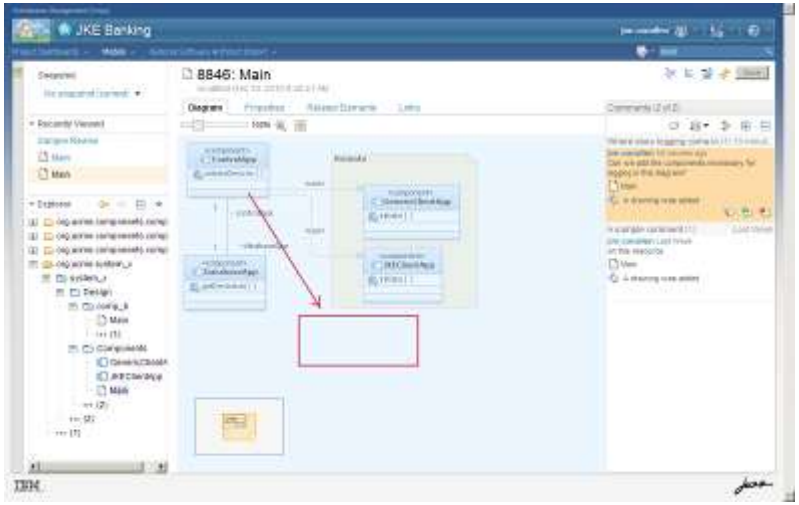
- ✓ *Improve quality by enabling the extended team to easily access and review designs and trace analysis*
- ✓ *Keep stakeholders informed on how their work relates to designs*

- **Teams need to collaborate on designs and incorporate design into the workflow, but…**
  - × Stakeholders cannot easily access the latest design information
  - × It's not clear to stakeholders which designs are related to their work
  - × Design dependencies are mismanaged, resulting in data duplication and inefficient workflows
- **With RSA Design Manager…**
  - Stakeholders have self-serve access to design milestones, improving collaboration and quality of designs
  - Stakeholders can determine how their task relates to designs with traceable links to work items, requirements and test cases

Faster Design Reviews

Shorten time-to-market and improve quality

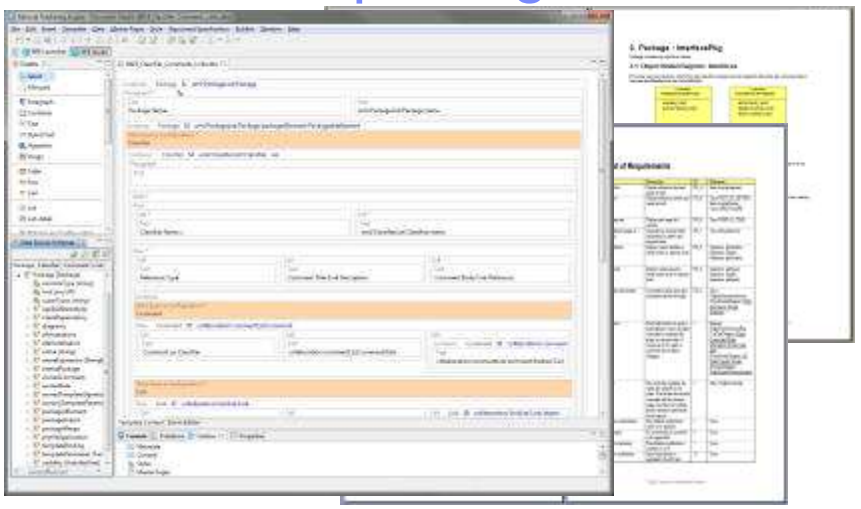
- ✓ *Speed up decision-making by keeping people informed as decisions are made*
- ✓ *Improve quality by ensuring that the extended team has direct input into updates and corrections*
- ✓ *Automate the design review process*



- **Teams need to collaborate with stakeholders on software architectures, deployment plans, and system designs, but..**
  - Design reviews are painful, tedious, and time consuming
  - Stakeholders do not have direct access to designs so reviews need to be handled outside of the design tools; feedback is difficult to communicate and confirm
- **With RSA Design Manager…**
  - Designers automate reviews, specifying which designs and stakeholders participate
  - Stakeholders can view the design and attach comments and mark-up via the Web or rich client
  - Design reviews can be linked to RTC work items for planning and tracking

Multi-discipline Document Generation and Reporting

Satisfy regulatory and customer demands



- ✓ *Easily create comprehensive documentation for specifications, communication, compliance and auditing*
- ✓ *Help prove compliance by including OSLC link information and design review information*

- **Teams must document for specifications, communication, regulatory compliance, and auditing, but…**
  - Documents need to contain information from different domains (requirements, design, change management); individual products have separate reporting solutions
  - Existing solutions are difficult to use for designs and limited in the types of information they can access
- **With RSA Design Manager and Rational Publishing Engine…**
  - Users create templates and generate documents and reports pulling data from all relevant sources using open interfaces
  - Documents can show the impact of design changes on other lifecycle resources leveraging the OSLC linking data
  - Reports can include comments and details from design reviews