Achieving Business
Results From Your
Enterprise Architecture



Innovate2010

The Rational Software Conference

Let's build a smarter planet.

The premiere software and product delivery event. June 6–10 Orlando, Florida

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Agenda



- Vision for Architecture Management
- Portfolio evolution and roadmap





Customer Success: Align IT investment with business need Managing Technology Investments & Outsourcing

What's smart?

- Use enterprise architecture to guide technology investments
- Identify and retain intellectual property

Smarter business outcomes

- Reduce time and effort to complete analysis required for technology investment decisions
- Risk mitigation associated with loss of IP when transitioning to an outsourced IT support model

How Rational enables smarter products

- Align technology investments with business strategy
- Understand your As-Is state and To-Be scenarios

Think Rational

One of many ways Rational enables a smarter planet.



Energy in action®

Australia Gas and Light

"The challenge in any company is to do more with less," said Wayne Pales. "System Architect continues to enable us to achieve our goals at a relatively low cost compared with historic approaches."



European Aeronautic Defence and Space Company (EADS)

Faster time to market, lower risk and higher quality for products and services

What's smart?

- First ever automatic optical system for satellite navigation
- Innovative aircraft with state-of-the-art routing systems and noise abatement technology

Smarter business outcomes

- Jules Verne Automated Transfer Vehicle (ATV) docks automatically with International Space Station while orbiting earth at 28,000 km/h
- Airbus A350 reduces fuel usage and CO₂ emissions up to 25% compared with comparable aircraft

How Rational enables smarter products

- Requirements engineering solution to ensure final products meet customer requirements
- Enterprise architecture frameworks to manage complexity of large, complex system-of-systems



"Within EADS, the Rational System Architect and Rational DOORS products are core to our solution. The IBM platform enables us to differentiate ourselves in the market. We have increased our quality whilst reducing the time to market for our products.



Businesses are facing unprecedented challenges

Globalization

Differentiation

Business transformations

Market shifts

Continual customer innovation

Shifts from Operational to Strategic IT

> Seize business opportunities

Execute with reduced risk and cost

Achieve precision in desired business outcomes

Transparency, Regulatory Compliance

Mergers and **Acquisitions**

> **Business Continuity** Management

Regulatory mandates

IT Saturation





How can architecture help your business?

Understand What You Have

- Current state analysis
- Your IP and Assets

Satisfy Mandated Compliance

- Regulatory or contractual
- DoDAF, TOGAF, FEA (iRMA), etc.

Manage the Portfolio

- Applications/Products
- Improved reuse across organization

Visualize and Communicate

Beyond basic drawing tools

Manage Outsourcing

- Customer: Reg'ts, specs, testing
- Vendor: Actual architectures

Improve What You Have

- Find incremental improvements
- Manage business transformation

Pass an Audit

- Architecture & business transparency
- Repeatable, documented

Return on Assets

 Leverage elements across subsystems and product lines

Common Project Starting Points

Initiate new projects from a common starting point based on an EA model

Manage Packaged Applications

• Integrate with rest of architecture



Customers value architecture in different ways

CIO EA Portfolio Manager

Business

Analyst

- Cost reduction
- Risk reduction
- Time to value
- Time to market

Architecture drives the implementation

> Solution Architect

- Rework required
- Safety record

Architecture is

documentation of

deployed applications and

systems

Systems Manager Engineer

Project

Engineering

Architecture expresses my business needs and the collaboration between various stakeholders

Business

Planning

Developer Tester

- Time to release
- SLOC productivity

Agile development

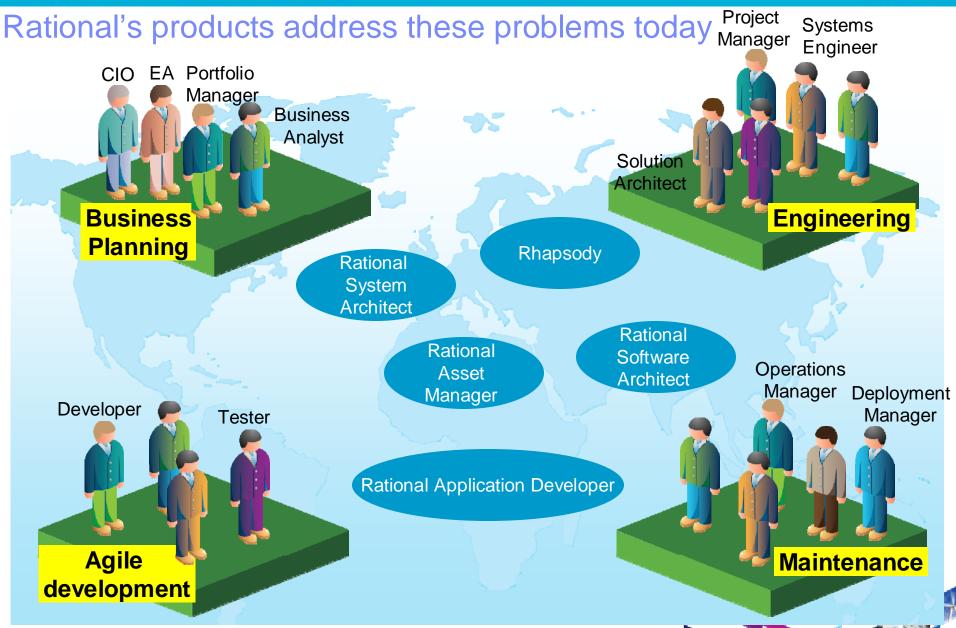
Architecture is in the code

- Problem determination efficiency
- Defect closure rate

Operations Manager Deployment Manager

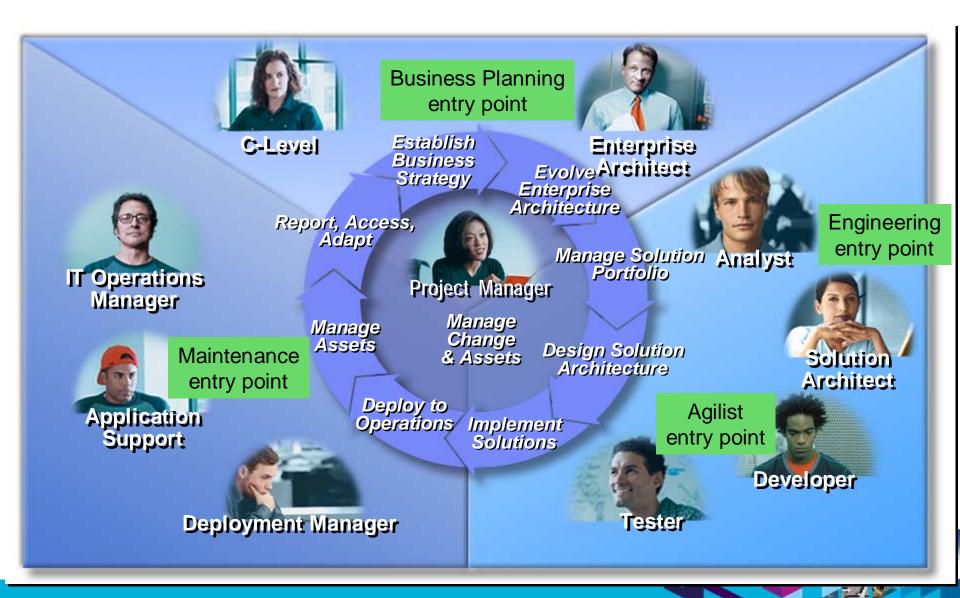
Maintenance





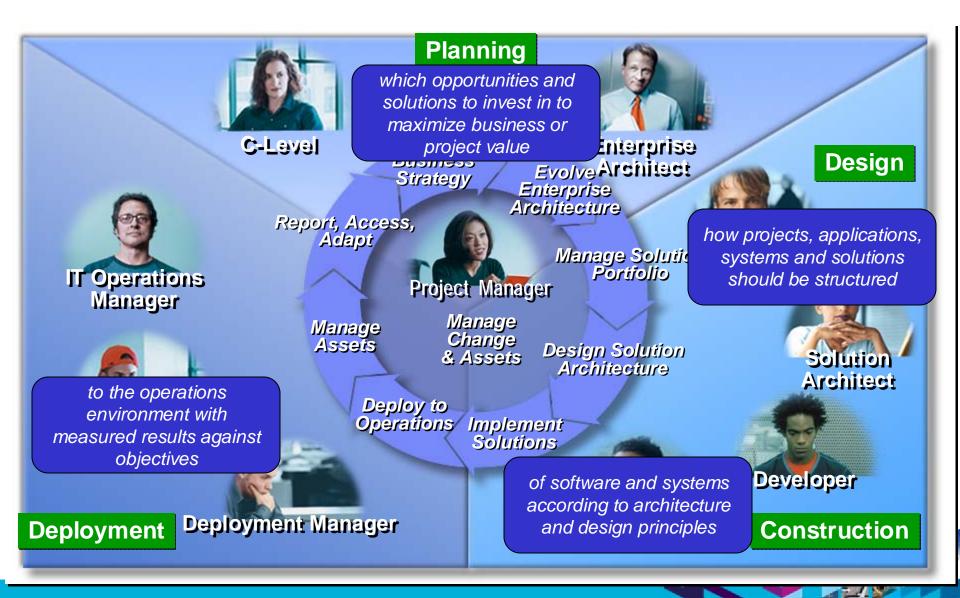


Where do I start? How can I grow to a larger scope of solution?





Organizing starting points around disciplines





Portfolio evolution guiding principles















Architecture Management

Rational's Architecture Management strategy takes the <u>core disciplines</u> of <u>enterprise architecture</u> and <u>model-based design & development</u> and <u>integrates</u> them with the management services of <u>asset management</u> & <u>lifecycle management</u> to create a more <u>collaborative</u> approach to <u>creating and managing</u> the architecture for software applications & systems

Architecture Management value to customers:

- ✓ Improves communication, integration and governance across the stakeholder community
- ✓ Better aligns business objectives & strategy with workbench implementation & deployment
- ✓ Faster time-to-value and overall cost savings





Architecture Management

Asset Management

Governance and reuse of architecture, design and implementation assets

Strategic Planning



Solution Design



Solution Construction



Solution Deployment

Align portfolio investments with business priorities and customer needs

Understand the structure and behavior for systems and software solutions

Implementing the systems and software

Automating solution delivery & operations management

Application Lifecycle Management

Enact and govern process, change, build and release management



A vision for supporting Architecture Management in the future

Asset Management

- Organize, categorize, describe and manage enterprise assets
- Reuse, repurpose and remanufacture of business and software assets
- Automated workflow for approval, publish and audit

Strategic Planning



Solution Design



Solution Construction



Solution **Deployment**

- Business motivation & strategy
- **Business Architecture**
- Application, Data, Service Architecture
- **Technical Architecture**
- Opportunity and Solution **Analysis**
- **Project Portfolio** Management

- **Business Motivation &** Strategy
- **Project Definition**
- **System Context**
- **Use Case Model**
- Component, Service & **Operational Model**
- **Architectural Decisions**
- Viability Assessment

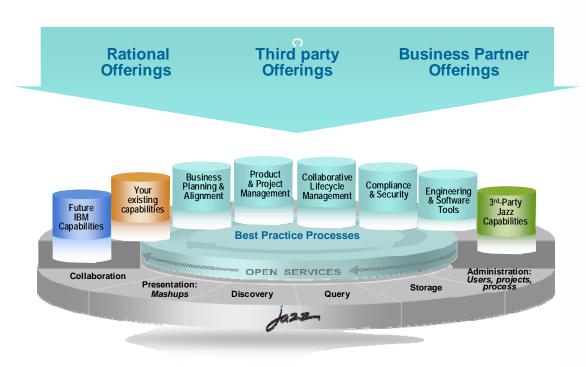
- Service Identification, specification & realization
- Model Driven Development
- Process and service Portfolio Mat
- JEE, Web 2.0,
- **Product Line** Engineering
- **Systems Modeling**

- Technical Architecture
- Operations Modeling
- Logical and physical deployment model
- Deployment provisioning and automation
- Operations management
- CCMDB

"Collaborative Application Lifecycle Management" Rational Software and Systems Delivery Platform powered by Jazz



Jazz is a platform for transforming software delivery



Jazz is a platform for transforming how people work together to deliver greater value and performance from their software investments.

Jazz is...

- Our vision of the future of systems and software delivery
- A scalable, extensible team collaboration platform
- An integration architecture enabling mashups and non-Jazz products to participate
- A community at Jazz.net where Jazz products are built
- An evolution of our portfolio over time





Building on the Foundation

Extending Jazz for supporting Architecture Management

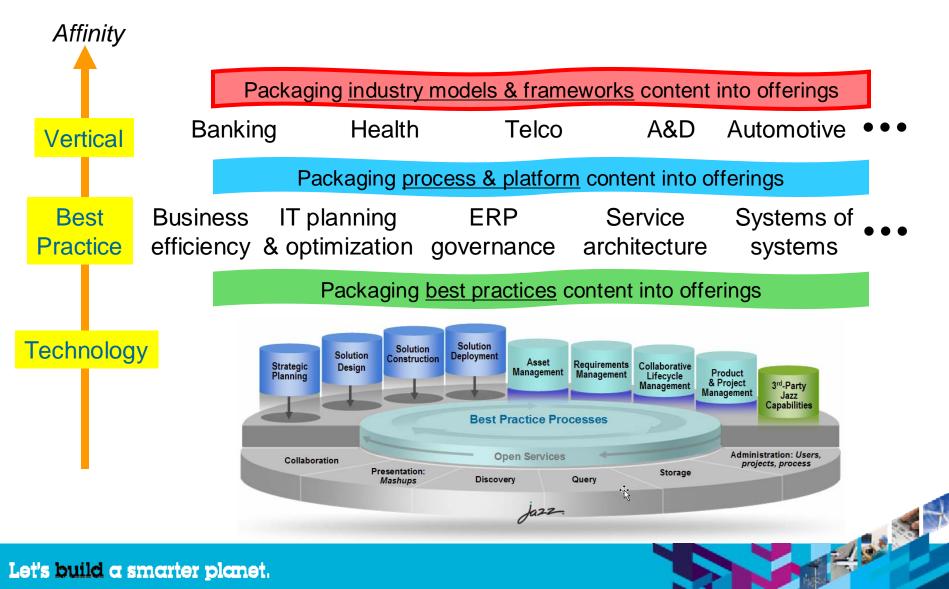


Collaborative Architecture Management provides:

Improved communication, integration and governance across the stakeholder community to align business objectives and strategy with solution implementation and deployment



Higher-level workbenches offer greater customer affinity





Agenda

Vision for Architecture Management



Portfolio evolution and roadmap





Evolution of Rational's Enterprise Architecture (EA) solutions

- Principles of the EA Strategic Roadmap
- EA Portfolio
- Rational System Architect Roadmap
- Rational Asset Manager Roadmap





Principles of the EA strategic roadmap

- Product Family comprised of scalable, Enterprise Planning, Architecture and **Management** solutions
- Address **multiple stakeholders** in an organization with user interfaces that suit their own needs
 - Decision makers
 - Architects
 - Governance teams
 - Domain experts
- Provide platform using Jazz architecture to leverage integrations and other Rational/SWG technologies
 - Greater Business Intelligence Reporting, Governance, & Asset Management
- Improve out-of-box **usability** experience for heritage and new users
- Increase acceptability of roll out and **install** through **web** deployment





Enterprise Architecture maturity model

Tactical, opportunistic

Strategic, systematic



- What do we have?
- Need all of it?
- Consolidate to reduce costs?
- Desire for impact analysis

Standardization

- Develop standards and recommended best practices (e.g. technology stacks, server platforms)
- Seeking repeatability
- Encourage IT evolution
- Focusing on IT scope only

Broaden Scope

- Meet business needs by linking IT to business
- Managing architectures outside IT
- Increasing focus on business architecture and business processes

Realizing Strategy

- **Develop business** strategy
- Value propositions, capabilities, resources?
- Refine into to-be
- Compare to as-is
- Create transition plan
- Execute

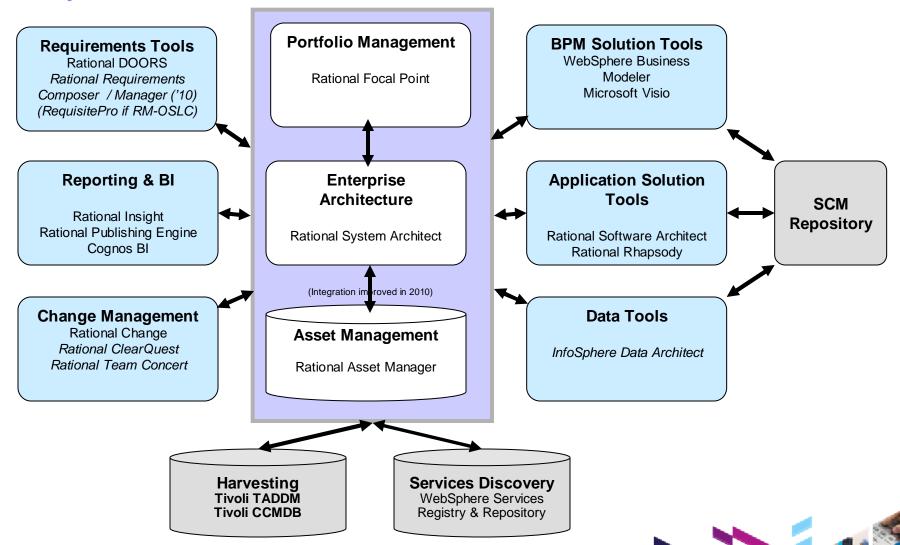
Cost focus

Value focus

Organizations often move through a set of phases as they adopt EA



Strategic planning and EA Management integrations: Today and future





Rational System Architect themes and priorities

- Support Visualization and Modeling of EA
- **Support Analysis and Decision Support**
- **Provide Usability**
- **Enable Communication**
- **Provide 'How To' Solutions**
- Focus on Business Solutions
- **Provide Scalability**
- **Support Jazz**
- **Support Standards**
- **Support Defense Frameworks**
- **Enable Globalization**
- **Provide relevant Integrations**





Phased evolution to Jazz for System Architect

Core SA Features

New System Architect features

Integrations with IBM Portfolio

- More integrations with IBM portfolio
- Prioritize by market strategy & customer demand

Drive an Enterprise Architecture platform based on IBM/Rational common modelling technology and integration strategy (Jazz Integration Architecture). Design with lifecycle integrations in mind. Leverage lifecycle integrations to differentiate IBM EA solution. Enhance XT platform to cover Jazz capabilities.

EA Platform Evolution

Jazz Integration Architecture

Powered by jazz

Initial Near-term

Longer-term



System Architect 11.3.1

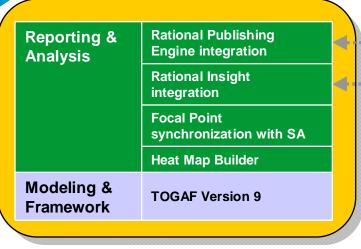
Team Collaboration / Large Scale Modelling	Reportable REST APIs
Usability	Advanced Search
	Partial BiDi support (Arabic/Hebrew for text entry but e.g. no spell checking)

System Architect
11.3.1

System Architect
11.3

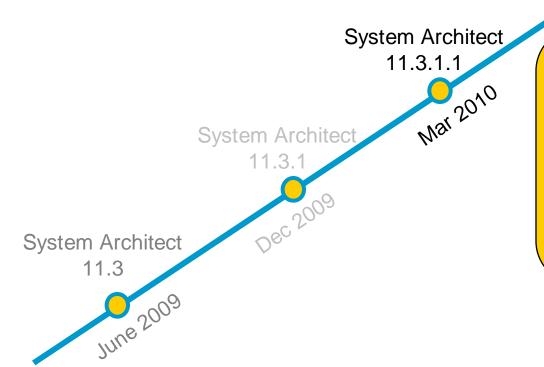
Oecember 2009

June 2009





System Architect 11.3.1.1

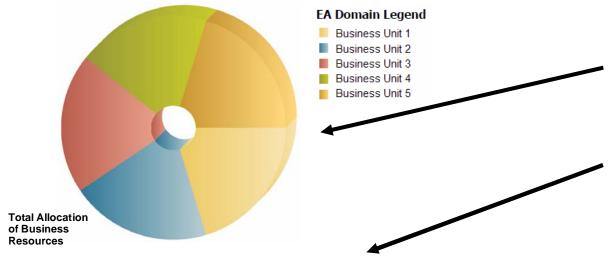


Reporting & Analysis	Cognos Business Intelligence 8.4.1 integration
	Bundled Cognos BI 8.4.1 System Architect data reporting only
Team Collaboration / Large Scale Modelling	Cross-tool navigation and traceability via URLs to SA Publisher Output



System Architect 11.3.1.1

Enhanced reporting using bundled Cognos reporting



Report on business status, and build a change plan

Drill down into specific details in the business architecture

Business Is Owned by Is Governed Consumed by Actor Description Stereotype Service Name Organization Unit by Organization Unit Business Service Customer Services Account Accounts Administration Depiction Representative Archive Business Service Accounts Depiction Account Sales Assess Risk Business Service Finance Depiction Manager, Customer Services Representative Campaign Business Service Marketing Marketing Manager launch control Depiction Campaign Business Service Marketing Management Depiction

Map business functions to supporting roles, locations & technologies

Business service dependency on Technology Components WorkspaceId WorkspaceId Hosted at Location Name Identity Description Identity Description Name BS1 1 1 1 1



System Architect roadmap - Highlights

System Architect – 2010 Q3 Methods & Frameworks

- DoDAF 2.0
- BPMN 2.0 ("Descriptive" subset)

Reporting & Analysis

PowerPoint Integration

Harvesting / Integrations

- Rational Asset Manager
- Tivoli CCMDB/TADDM, SAP

SA XT Enhancements

 Live URLs to SA/XT, Matrix Viewers, URLs (e.g. ref docs), diagram undo, rename, definition reuse picker

"CAM for SA" - 2010 Q4

- Jazz discussion, review & markup for models & reports
- C/ALM integrations
- Browsing of Jazz-based tool resources
- Jazz access to Evans data

System Architect – 2011 Candidates

Methods & Frameworks

- IBM Industry Reference model workflow support (e.g. IFW / IAA)
- Jazz workflow engine support

Reporting & Analysis

Cloud Planner Add-on

Harvesting / Integrations

- InfoSphere Data Architect, CBM
- InfoSphere Business Glossary
- WebSphere Business Modeler

Web Platform

Web diagramming

More Content TBD

System Architect - 2012

Web Platform

Web-based EA toolingMore Content TBD

2010 2011 2012



Rational Asset Manager themes and priorities

Enterprise Scalability and Security

- Rock solid look and feel
- Scaling up with vertical clustering, scaling out with horizontal clustering

Part of the Jazz Product Family

- Rational Asset Manager as an extension of a Jazz Team Server
- Components should expose data and services through REST APIs consistent with the Open Services for Lifecycle Collaboration (OSLC) initiative

Web Access

- Key functionality available through a web UI that provides direct access to the server without having to install a desktop client
- ▶ Enables better integrations with other products that only have web-based UIs

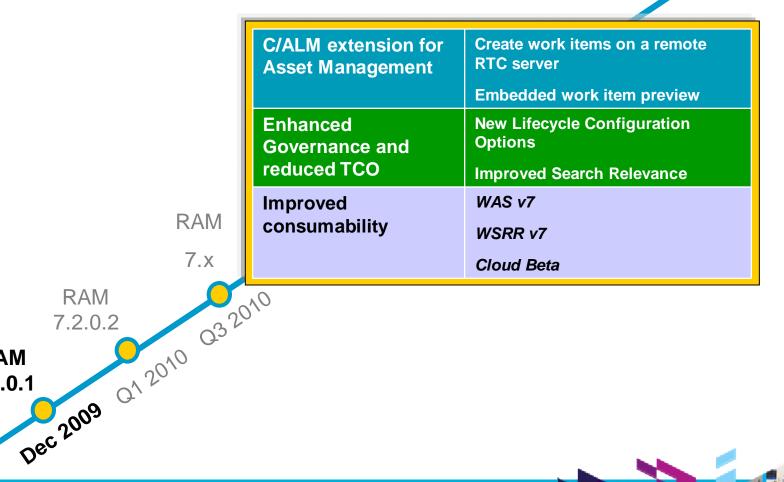
Setup and Maintenance

- Straightforward to install, setup, maintain, and administer
- New projects should have quick initial setup and later evolve and restructure

Ease of Use

- Easy to use by a broad range of users
- Easy to install and have a good "out of the box experience"
- UI should be intuitive and polished, with helpful error messages and user assistance where required





RAM 7.2.0.1





C/ALM extension for **OSLC API for Asset Mgt – build** scenario **Asset Management** RAM as a project on Jazz.net **Enhanced** Improved RTC link from attribute/forum **Governance and** reduced TCO New lifecycle policies SDS image in Cloud **Improved** consumability Russian Language

RAM

7.x Dec 2009 Q1 2010 RAM 7.2.0.1





C/ALM extension for Asset Management	OSLC API for Asset Mgt
	OSLC common approvals
	OpenSocial / oAuth RAM gadgets/rendering
	Support for Insight reporting
Enterprise Architecture	OSLC support for RAM integration with Rational System Architect
Enhanced	MCIF practices for Asset Management
Governance and reduced TCO	SDS image for/in Cloud
Improved consumability	eWAS v7, IE8, FF 3.6, RHEL 5.5

RAM

7.x





Open Services for Lifecycle Collaboration open community. open interfaces. open possibilities.

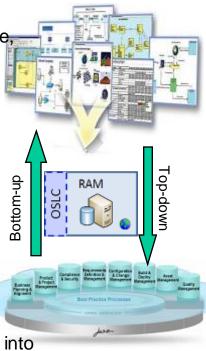




System Architect and RAM integration

Enterprise Architecture Management

- **Problem:** Without an Asset approach to the EA, it becomes very hard to share, reuse, enforce, and govern the published EA
 - SA/RAM enables a library of the Enterprise Architecture based on the published/baselined assets of the enterprise:
 - Discover the assets of the enterprise through advanced search
 - Relate the solution assets to the enterprise assets
 - Manage permissions, communities of users, reporting and metrics
 - Publish and Consume assets in context
- Problem: Solution Assets propagate with no compliance nor association to the EA Assets, resulting in technical solutions that may not solve business problems
 - SA/RAM enables EA Governance by giving all the necessary stakeholders input into the decision making; reviews, approvals, lifecycle, policies, audit trail
 - Lifecycles to manage reviews and approvals
 - Policies to ensure solution architectures comply with EA
 - Reporting and metrics to measure and audit asset use





RAM

2017

Customer-driven and product architecture enhancements

- Workbench support plug RAM into various IBM workbench offerings
- Industry frameworks prebuilt libraries and lifecycles
- Systems engineering support and integration
- Further Jazz evolution: JIA/OSLC

RAM 7.2.0.2 RAM 7.2.0.1 Oec 2009



Open Services for Lifecycle Collaboration open community. open interfaces. open possibilities.



Summary of the EA strategic roadmap

- Product Family comprised of scalable, Enterprise Planning, Architecture and **Management** solutions
- Address **multiple stakeholders** in an organization with user interfaces that suit their own needs
 - Decision makers
 - Architects
 - Governance teams
 - Domain experts
- Provide platform using Jazz architecture to leverage integrations and other Rational/SWG technologies
 - Greater Business Intelligence Reporting, Governance, & Asset Management
- Improve out-of-box **usability** experience for heritage and new users
- Increase acceptability of roll out and install through web deployment











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