Rational. software

Exploit your Assets:
An introduction to IBM(R) Rational(R) Asset Manager

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IBM Rational Software Development Conference UK 2007

What keeps me **Rational**?

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Objectives

- Define Asset Management
- Introduce IBM Rational Asset Manager
- Asset Management and SOA
- Demonstration
- Where to learn more

What is a Software Asset?

A Software Asset is

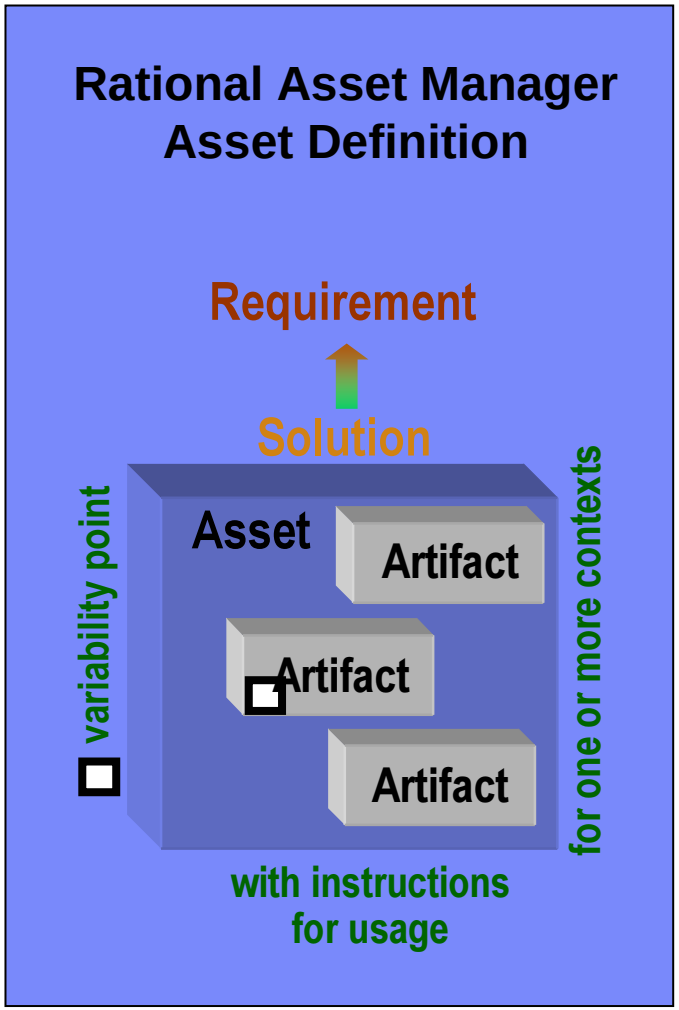
- ✓ a collection of artifacts
- ✓ which provide a solution to a requirement or business need
  - for one or more contexts
  - with instructions for usage
  - and variability points

What are Artifacts?

- ✓ Workproducts from the software process
  - Requirements, Designs, Models, Source code (Java, .Net, Cobol), Data, Tests, Documentation, Service Interfaces, Estimates and so on…

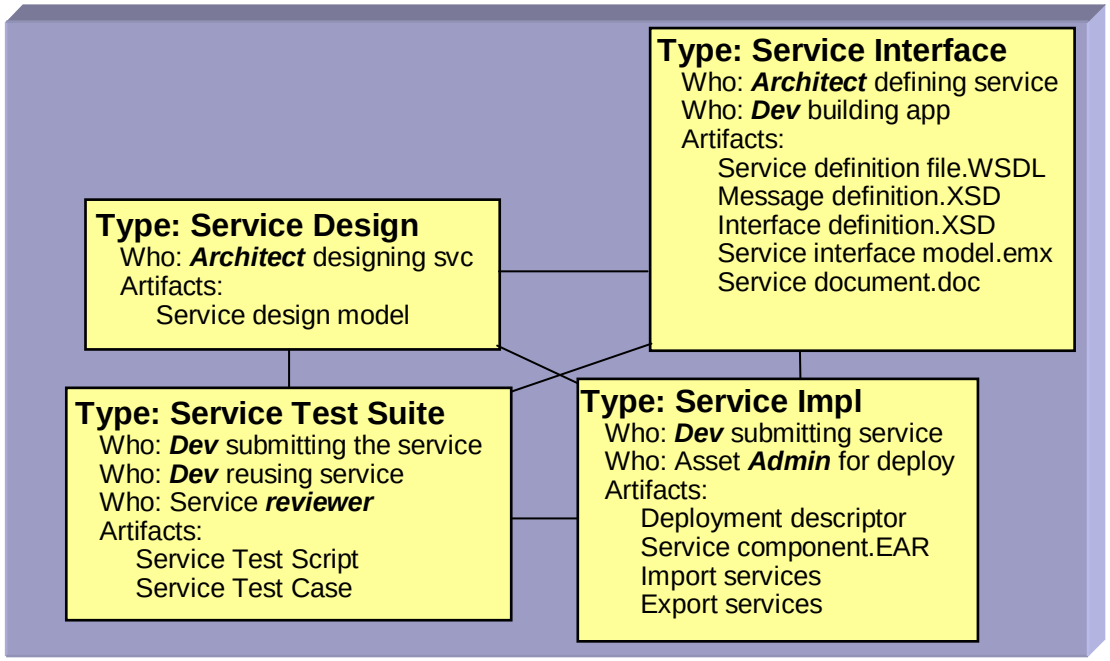
Kinds of software assets

- ✓ Applications, components, patterns, services, frameworks, templates, …



Asset Type Example: Service Asset

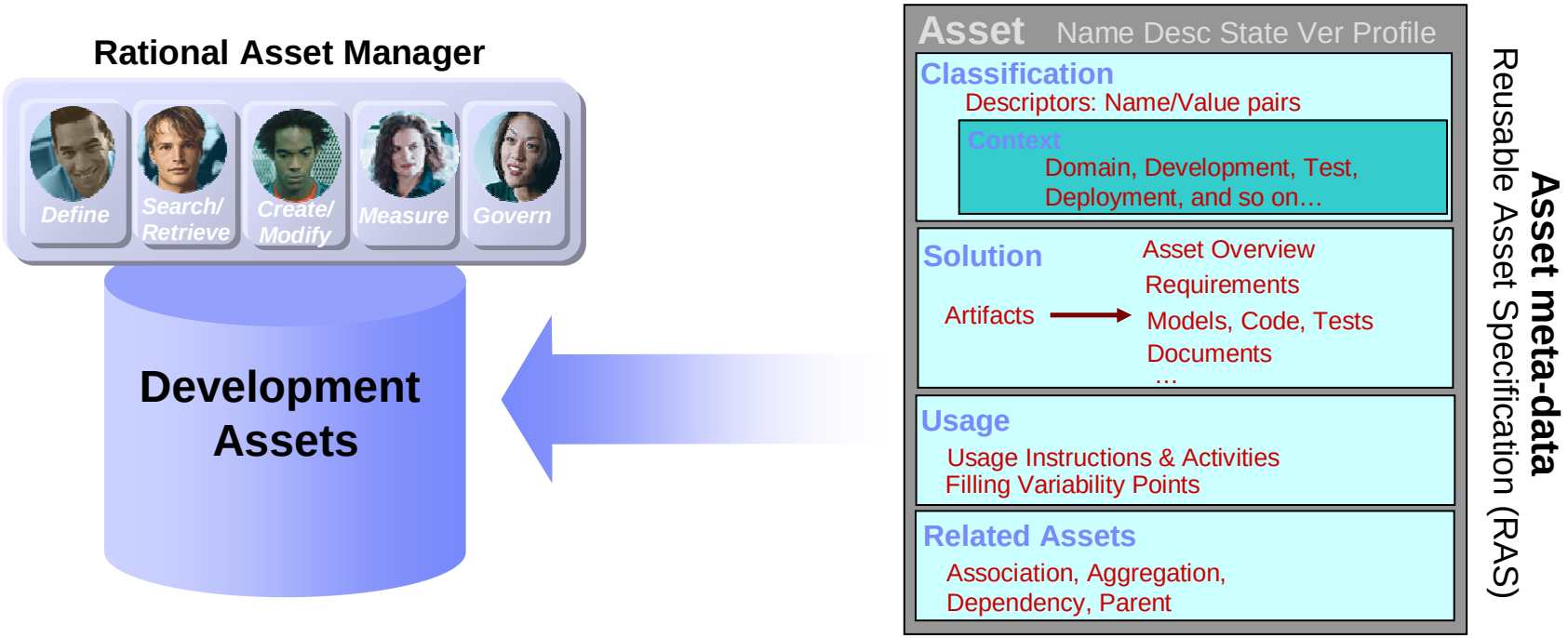
- ✓**Asset Types can be created to handle any asset**
- ✓**An Asset type specifies:**
  - Type name, description
  - Required artifacts
  - Required relationships
  - Attributes (optional or required)
  - Which categories are allowed
- ✓**Validation of asset type constraints will be run on asset submission**



Example Asset Types representing a Service

What is Software Asset Management?

Software Asset Management is all of the infrastructure and processes necessary for the effective management, control and protection of the software assets within an organization, throughout all stages of their lifecycle



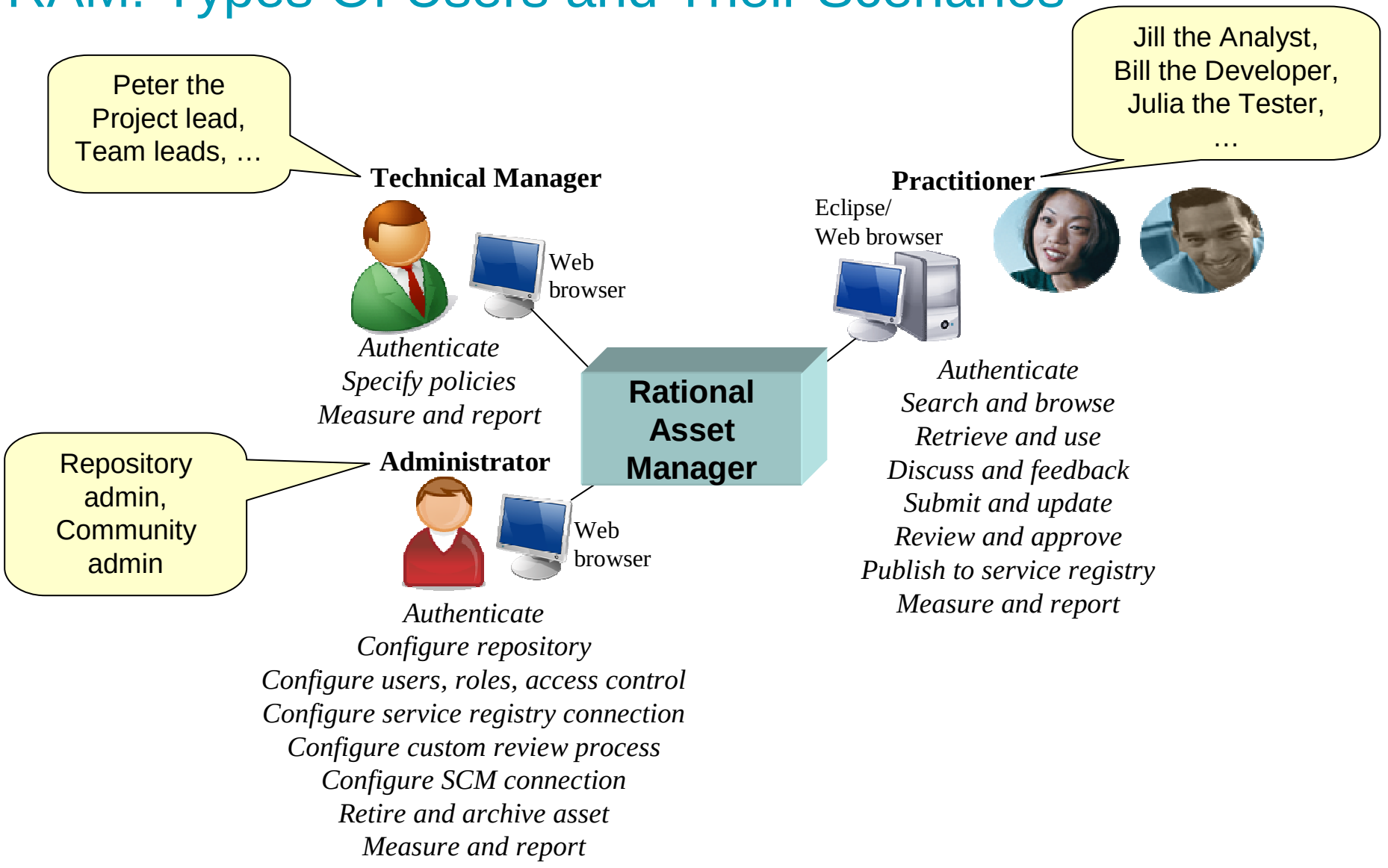
Business Challenges

- ✓ **Software Reuse**
  - How are my software assets being used? What cost savings are there?
  - How can I make sure that my developers have the right, high quality asset easily available?
- ✓ **Open Source Management**
  - What open source is in use across my company?
  - Are the legal approvals in place for all use of it? Is my exposure managed?
- ✓ **IT Governance**
  - How do I prescribe and enforce the use of certain architectural standards?
  - How do I link my project portfolio to my software assets and architecture?
- ✓ **Web Services / SOA transformation**
  - How do I control what projects can create new or access existing service assets?
  - What assets in my environment use this service?
  - How do I ensure alignment with architecture, standards and business goals?

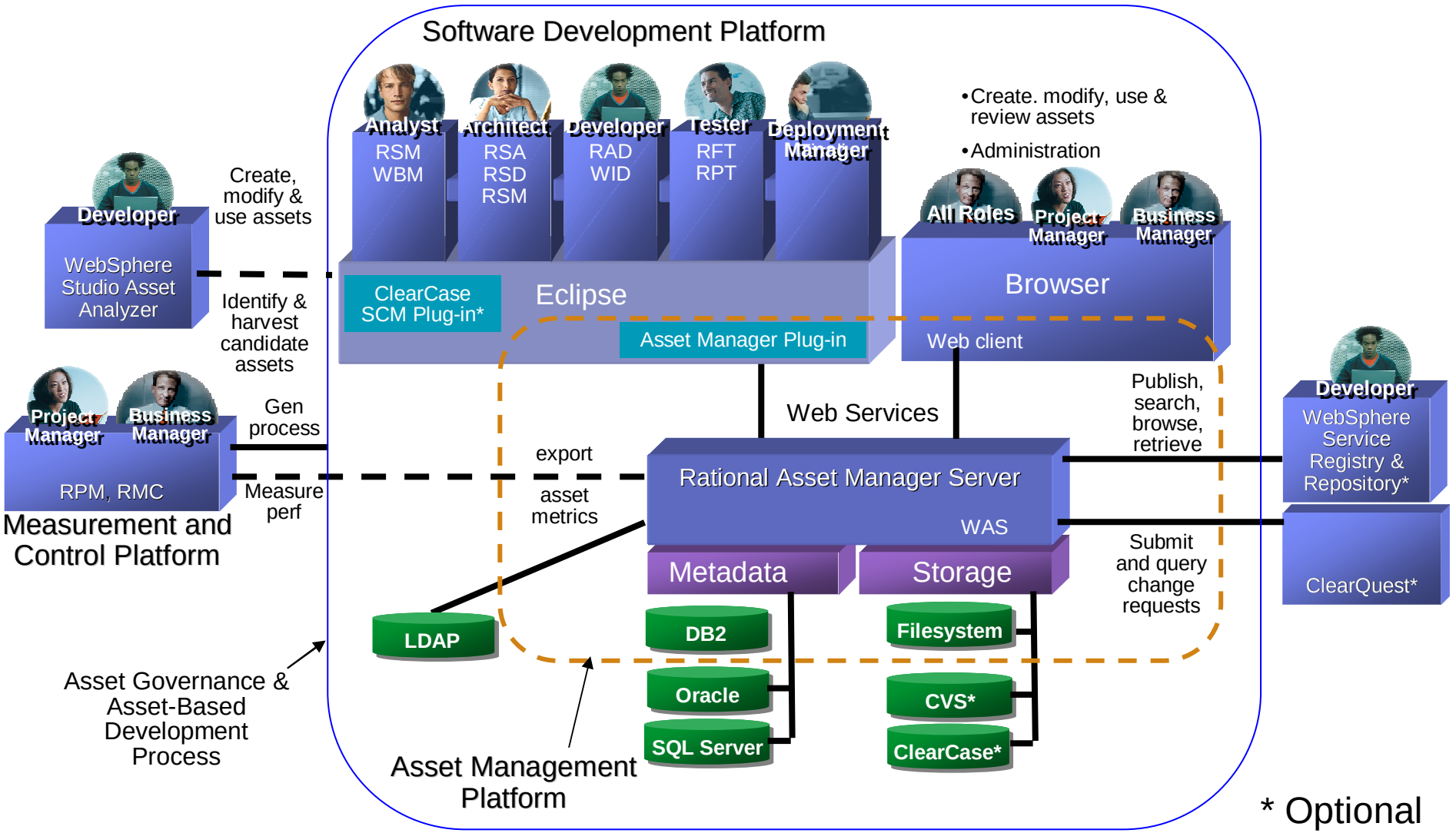
Introducing Rational Asset Manager

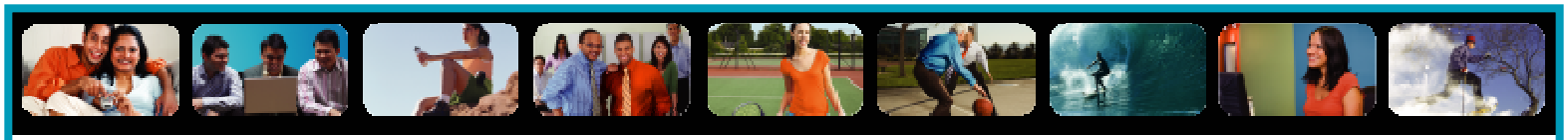
- ✓ **A development time software asset management repository**
  - Uses the Reusable Asset Specification to *define, create and modify assets*
  - Provides asset type specific *search & governance*
  - *Measures* asset reuse in development
- ✓ **Handles any kind of asset**
  - Applications, components, patterns, services, frameworks, templates, …
- ✓ **Benefits:**
  - Reduce software development and operational costs
  - Improve quality by facilitating the reuse of approved & proven assets
  - Integrated with other Rational and IBM Software Group tools

RAM: Types Of Users and Their Scenarios



Rational Asset Manager Architecture



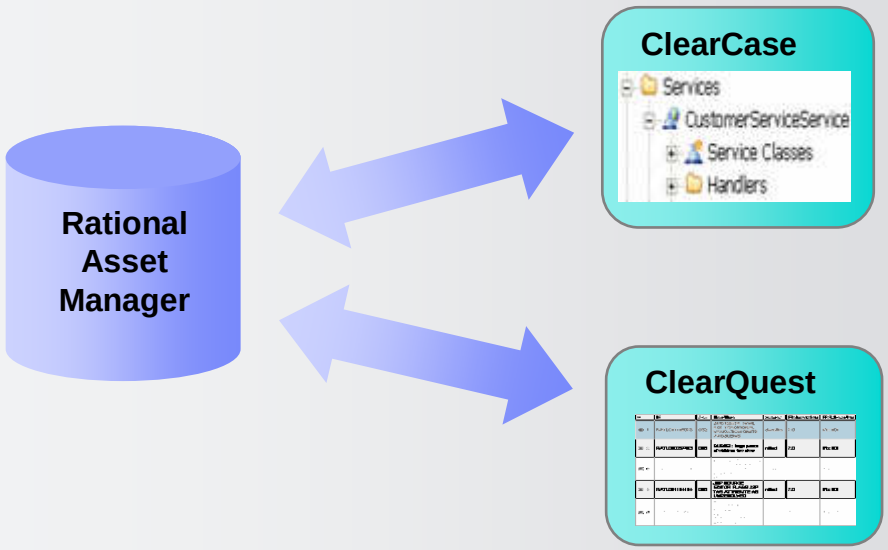


Demo

Integrates with Rational team products

Works seamlessly with Rational's class leading team products!

•Store or reference assets & artifacts in ClearCase

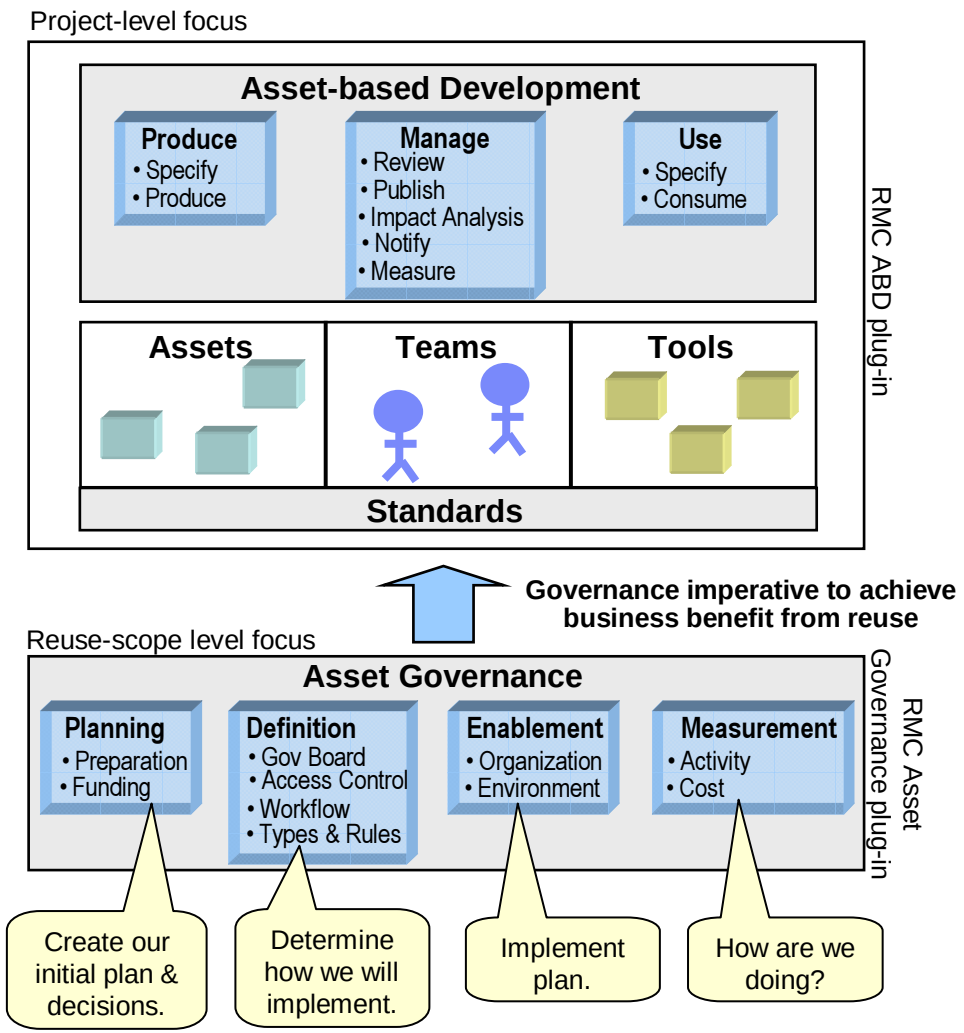


- **Develop asset code in a team environment**
- **Create and package assets**
- **Search for and reuse assets**
- **Track and fix problems** ***Seamlessly! All in the same IDE!***

•Submit asset change requests to ClearQuest from RAM
•Query asset change requests from RAM
•Create customizable Review Process using Clearquest

Asset Governance and Asset-based Development Process

- Developing the right assets for the business
  - Insert asset-based development workflows
  - Applying the governance on projects
  - Measurement to gauge effectiveness
- Establishing governance for assets
  - Chains of responsibility to empower people
  - Measurement to gauge effectiveness
  - Policies to guide organization
  - Control mechanisms to ensure compliance
  - Communication to inform



Service Lifecycle, SOA Governance Challenges

How do I eliminate "rogue services" and ensure control of my SOA?

How do I govern services as part of my SOA?

How do I manage the services lifecycle?

How do I increase service reuse?

How do I enable enforcement of policies across all internal and external services?

How can I help my ESB execute in the right context?

How do I help services interact efficiently and dynamically with each other?

How do I optimize service interactions to be better aligned with business process?

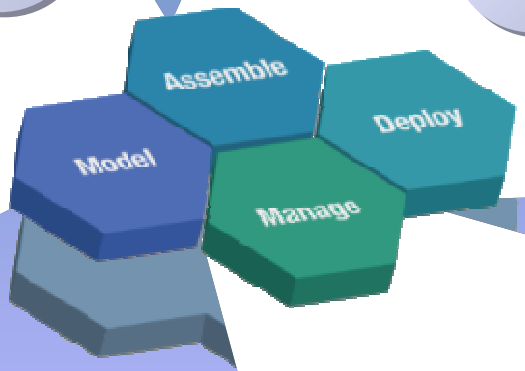
Managing the lifecycle of services helps maximize the business value of SOA

Service Development

- Provide visibility of and access to services assets for reuse
- Manage asset lifecycle

Discover

Model
Construct
Assemble



Test
Deploy

Service Deployment

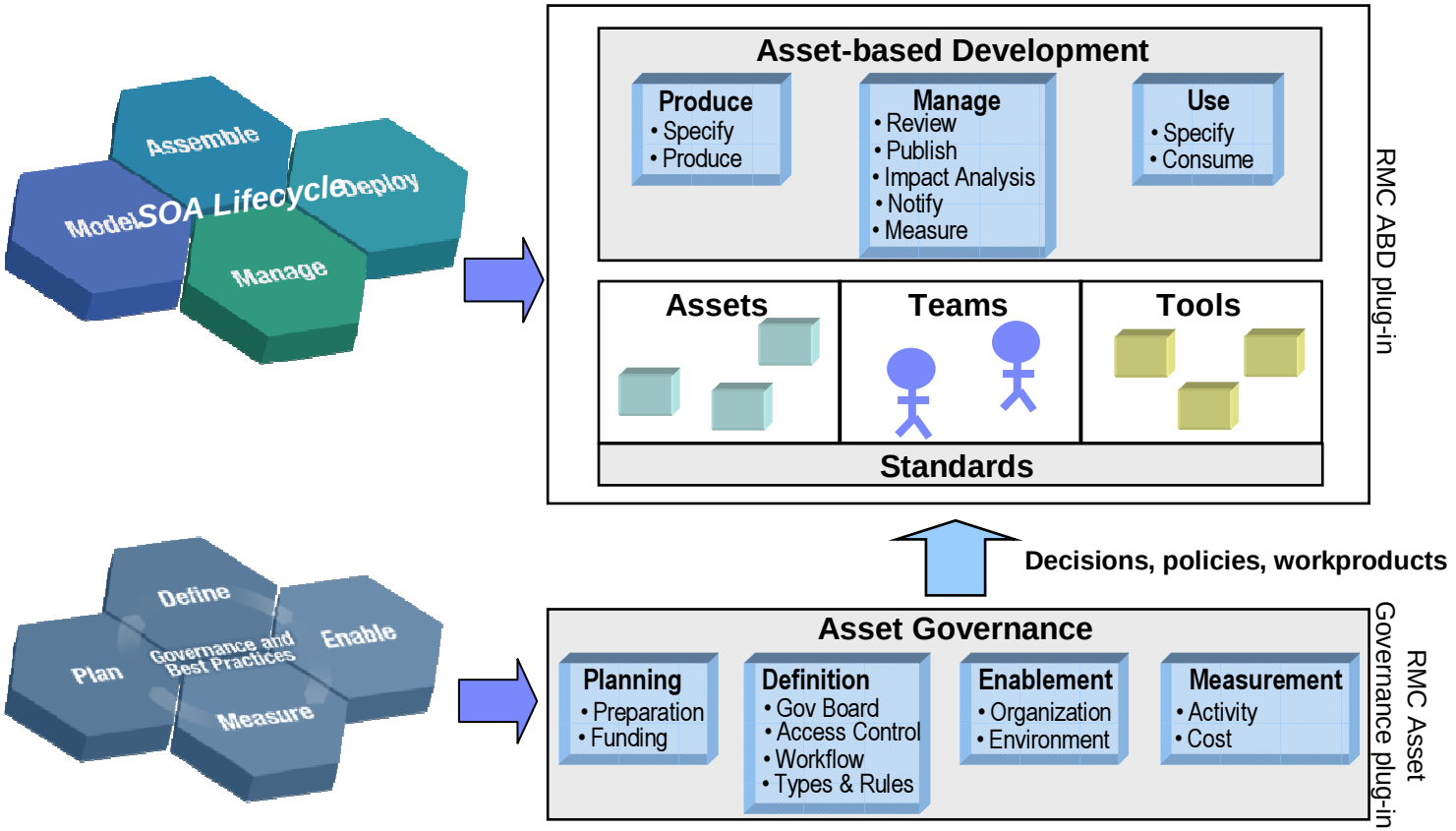
- Manage promotion of service
- Manage system of record for deployed services
- Manage metadata to support runtimes
- Manage service relationships and interactions
- Enable impact analysis

Manage

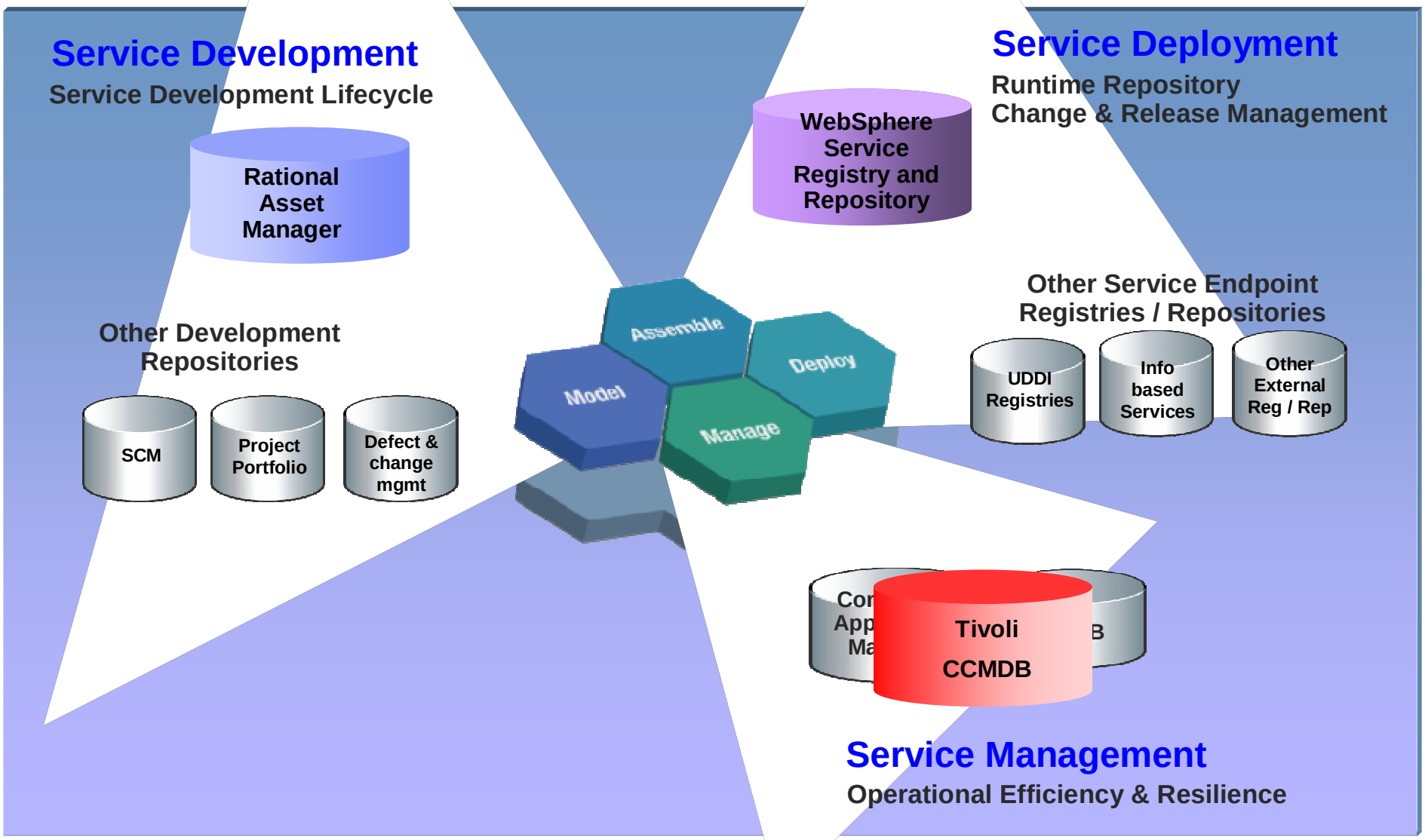
Service Management

- Monitor service performance
- Manage and enforce policies

Relationship to SOA Governance and Lifecycle



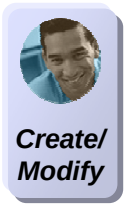
A federated set of capabilities enable service lifecycle management



Rational Asset Manager provides value throughout the SOA lifecycle

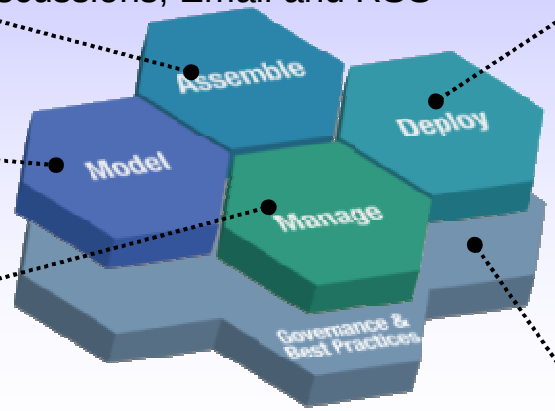
Encourage Reuse
- Flexible search
- Reuse WSRR deployed services

Simplify development & collaboration
- Change and version assets and artifacts via ClearCase and ClearQuest integrations
- Discussions, Email and RSS



Enhance Traceability
- Enables linkages between deployed service and related assets

Ensure reusable services
- Asset types and relationships
- Categorization
- Attributes



Enable Service Asset Governance
- Asset review boards
- Workflow, customizable via ClearQuest
- Access controls based on groups, roles, users, asset types

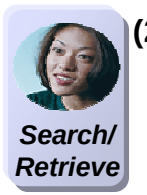
Quantify Asset Reuse
- Metrics and reporting

Example: RAM Define, Create, Modify and Review Asset Interactions

Service Development

(4) Managers review and approve asset using a customizable development workflow from ClearQuest. RAM enforces asset types and relationships.
[Julia & Peter review asset]

(3) Developer creates, modifies or learns about assets in Eclipse workspace using RAM with ClearCase & ClearQuest
[Bill alters asset]

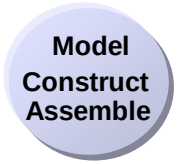


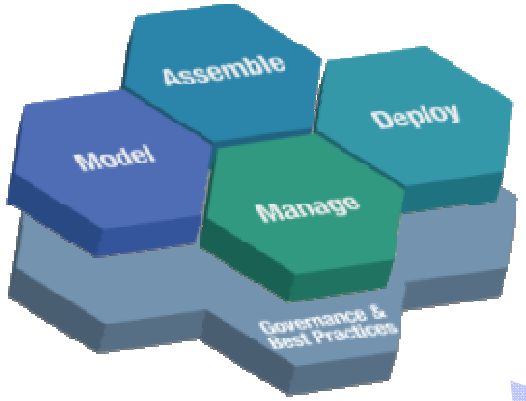
(2) Analyst searches RAM for business case/processes and impacted services
[Jill Searches for assets]

(1) Administrator defines asset types, categorizations and review boards in RAM for asset reuse
[Admin configures repository]

(5) Technical manager publishes service asset interface from RAM to WSRR
[Peter publishes service]

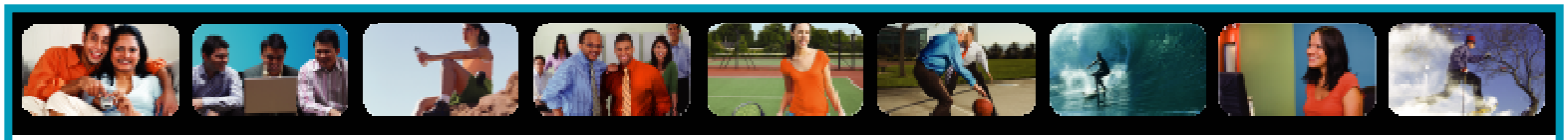
Service Deployment





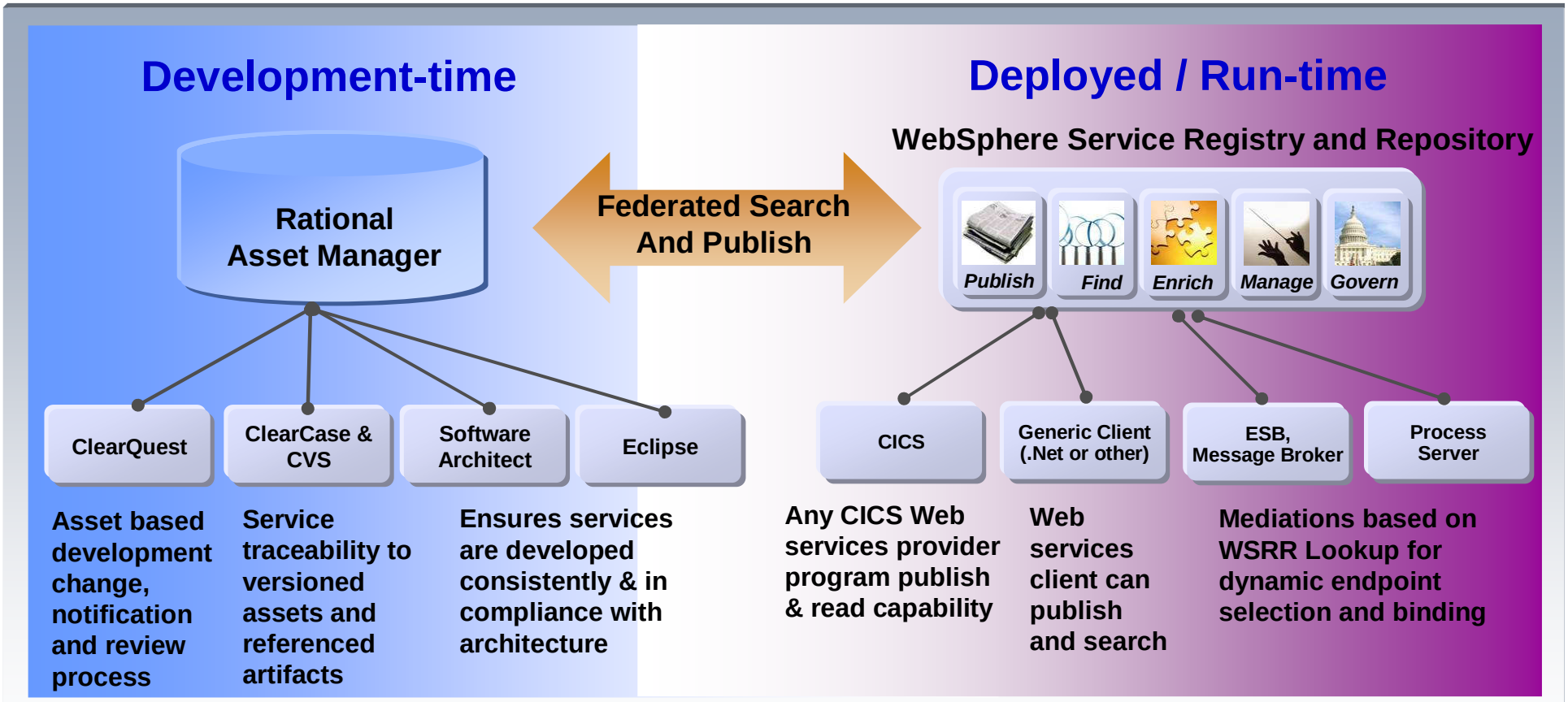
(6) RAM links WSRR services to versioned asset details & artifacts
[Monitor asset, Measure asset]

(7) RAM discovers WSRR services and classifications for asset reuse
[Monitor asset, Measure asset]



Demo

Bridging Development and Runtime Services with RAM and WSRR

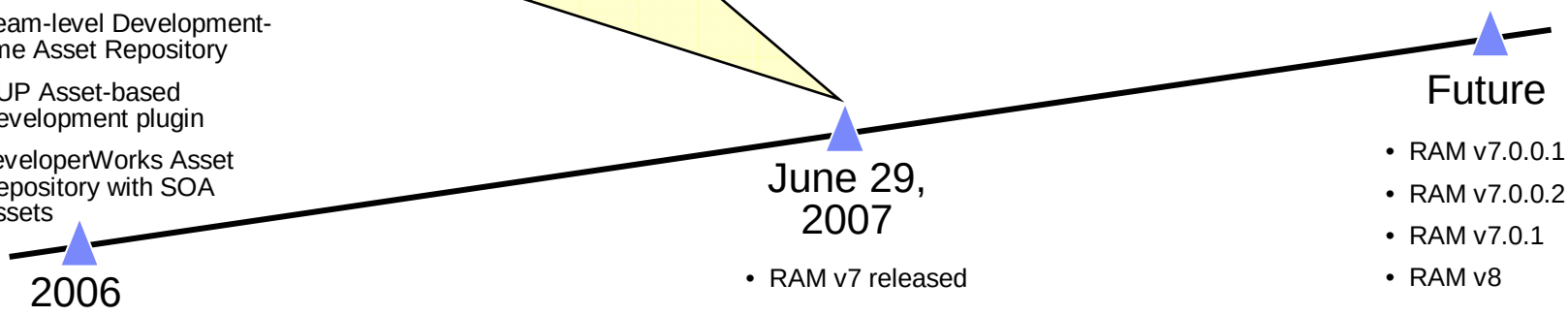


- Not every deployed service is a reusable asset and not every reusable asset is a deployed service
- Managing development of assets vs. operational metadata for services
- A service is one of many types of assets managed by Rational Asset Manager

Rational Asset Manager Features

- Asset upload, download, update, packaging
  - Asset Types, categorization, attributes and relationships between assets are all supported
- Security and access control
  - Permissions based on groups, roles, users, asset types
- Search
  - Search using categories/facets/keywords
  - File contents search, text, word, & power point, ear, war, zip files
- Workflow & Review Boards
  - Basic review/approval flow built in with configuration
- Metrics and reporting
  - Record usage, feedback
  - Export delimited file
- Collaboration
  - Discussions, Email and RSS
- User interface
  - Eclipse client
  - Web UI
- Process guidance
  - Asset-based development guidance in Rational Method Composer
- Create and update asset versions
  - ClearCase, ClearQuest & WebSphere Service Registry

What are your requirements?



IBM Rational Asset Manager Modular Service Offering

- IBM Rational Software Services engagement to quickly deploy RAM in a customer's environment
- Serves as a first iteration of an enterprise rollout of RAM
- Includes 10 days of consulting to do:
  - Asset based readiness assessment
  - Mentoring and training
  - Deployment planning
  - Product installation
  - Define and implement a customer's specific RAM information model for a pilot team
    - Asset types, communities, roles, review processes & categorizations

Targeted Platforms

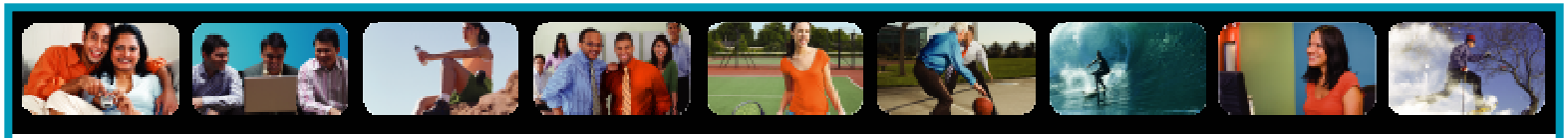
- Operating Systems
  - Windows XP Profession SP2
  - Windows Server 2003 Standard Edition
  - Windows Server 2003 Enterprise Edition
  - SuSE Linux 10 (Intel 32 bit)
  - Red Hat Linux Enterprise AS4
- Database
  - DB2 Enterprise Server Edition 8.2, includes 9.1
  - Oracle 9.2.0 (9i), 10g
  - SQL Server 2005
- Integrations
  - ClearCase v7.0.0.1
  - ClearQuest v7.0.0.1
  - WebSphere Service Registry and Repository v6.0.0.1 or later
  - CVS 1.11.22 or later
- Browsers
  - Microsoft Internet Explorer 6 SP1, 7
  - FireFox 1.5.x, 2
- IDE
  - Eclipse 3.2.2
  - IBM Rational Software Development Platform v7 products (RAD, RSA etc)
- Application Server
  - WebSphere Application Server V6.0.2 and Fix Pack 11
  - WebSphere Application Server v6.1
  - Tomcat v5.0 & v5.5
  - Includes WebSphere Application Server embeddable v6.1
- LDAP
  - Microsoft Active Directory Server 2003

Where to learn more

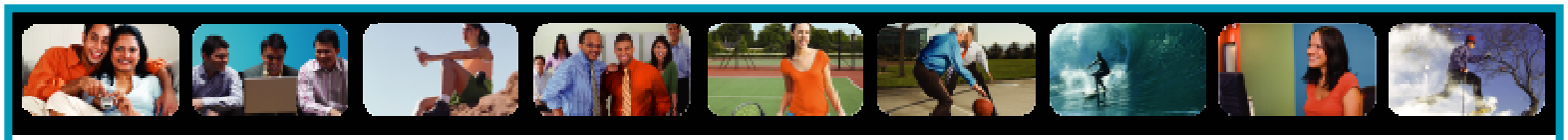
- CRM8 *Governing the Assets of Your Enterprise* - Wednesday, Sept 12, 4:15 pm - 5:15 pm, Grant Larsen, Chief Architect - Asset Management

Where to learn more later

- IBM Rational Asset Manager product Web page
  http://www-306.ibm.com/software/awdtools/ram/
- IBM DeveloperWorks
  - *Asset Based Development Process Guidance Eclipse Plug-in*
  - *"Federated Metadata Management with Rational Asset Manager and WSRR"* Whitepaper
  - *"SOA Governance with IBM Rational Asset Manager"* Whitepaper
  - *Batch utility to transfer assets between RAM repositories*
  - *Rational Software Architect plug-in for Modeling Rational Asset Manager configurations*
- Redbook – Soon to be published *"Accelerate Software Delivery with Asset Based Development"*



Questions



Thank You

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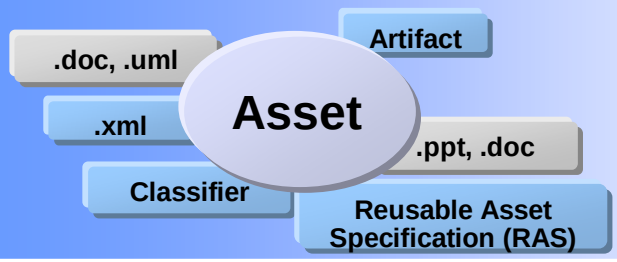
RAM and WSRR Functionality

Development-time
➢ **Design / Architecture Governance**

Rational Asset Manager

Manages information that is useful for <u>developing, re-using and managing</u> all types of *<u>reusable assets</u>*

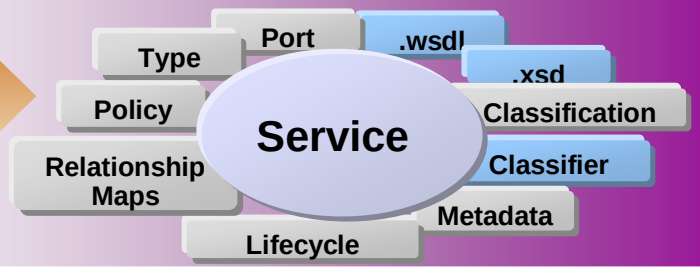
- ✓Define asset types
- ✓Creates and manage all types of assets
- ✓Provide asset traceability and details
- ✓Collaborate on asset development



Federated Search And Publish

Deployed / Run-time
➢ **Service Lifecycle Governance**

WebSphere Service Registry and Repository

Manages information that is useful for the <u>runtime operation, management and development</u> use of *<u>services</u>*

- ✓Select service endpoints dynamically in a SOA runtime
- ✓Govern runtime changes to service metadata
- ✓Set and get runtime policies for service execution
- ✓Get deployed service details like endpoints, relationships and service definitions