

IBM Rational Software Development Conference 2008

WHERE TEAMS ARE **R-HEROES**



IBM Rational Asset Manager Governing the Assets of your Enterprise

Grant Larsen

STSM, Chief Architect – Asset Management, IBM Rational Software
gjlarsen@us.ibm.com

Carlos Ferreira

Product Manager – Rational Asset Manager, IBM Rational Software
carlos.ferreira@us.ibm.com

SDP09

Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
- Rational Asset Manager Modular Service Offering



Agenda

- Concepts
 - ▶ Governance
 - ▶ Community
 - ▶ Process
- Configuring Rational Asset Manager for Governance
- Rational Asset Manager Modular Service Offering



Asset Governance

- The establishment of
 - ▶ **Chains of responsibility** to empower people
 - ▶ **Measurement** to gauge effectiveness
 - ▶ **Policies** to guide the organization to meet their goals
 - ▶ **Control mechanisms** to ensure compliance
 - ▶ **Communication** to keep all required parties informed

 Rational Asset Manager capabilities enabling governance:

Communities, Review and Approval

Impact Analysis, Metrics, Reporting

Policies, Communities, Information Model, Asset Versioning, ANT

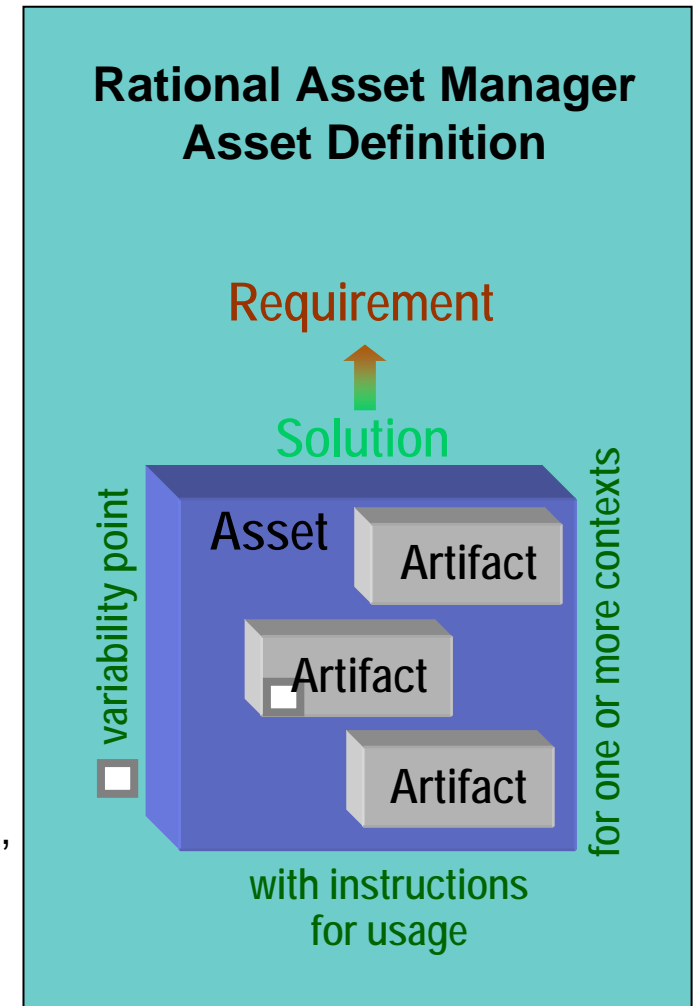
Access Control, Libraries

Notifications, Subscriptions, Discussion Forums, Integrations



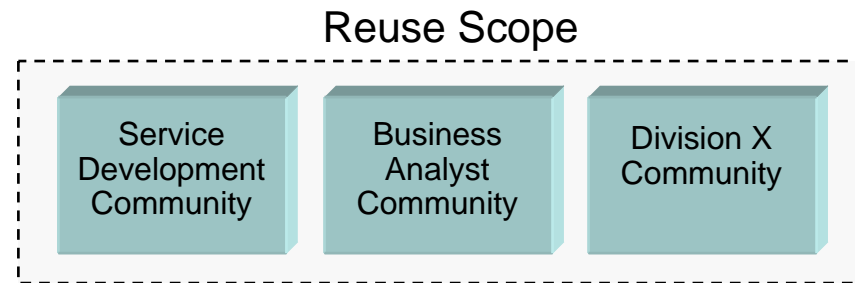
What is an Asset?

- An Asset is
 - ▶ a collection of Artifacts
 - ▶ which provides 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, XML, XSD, Source code, Data, Tests, User Interfaces, Documentation, Service Interfaces, Estimates and so on...
- Kinds of assets
 - ▶ Applications, components, business process, information model, patterns, services, frameworks, templates, ...



What is a Community?

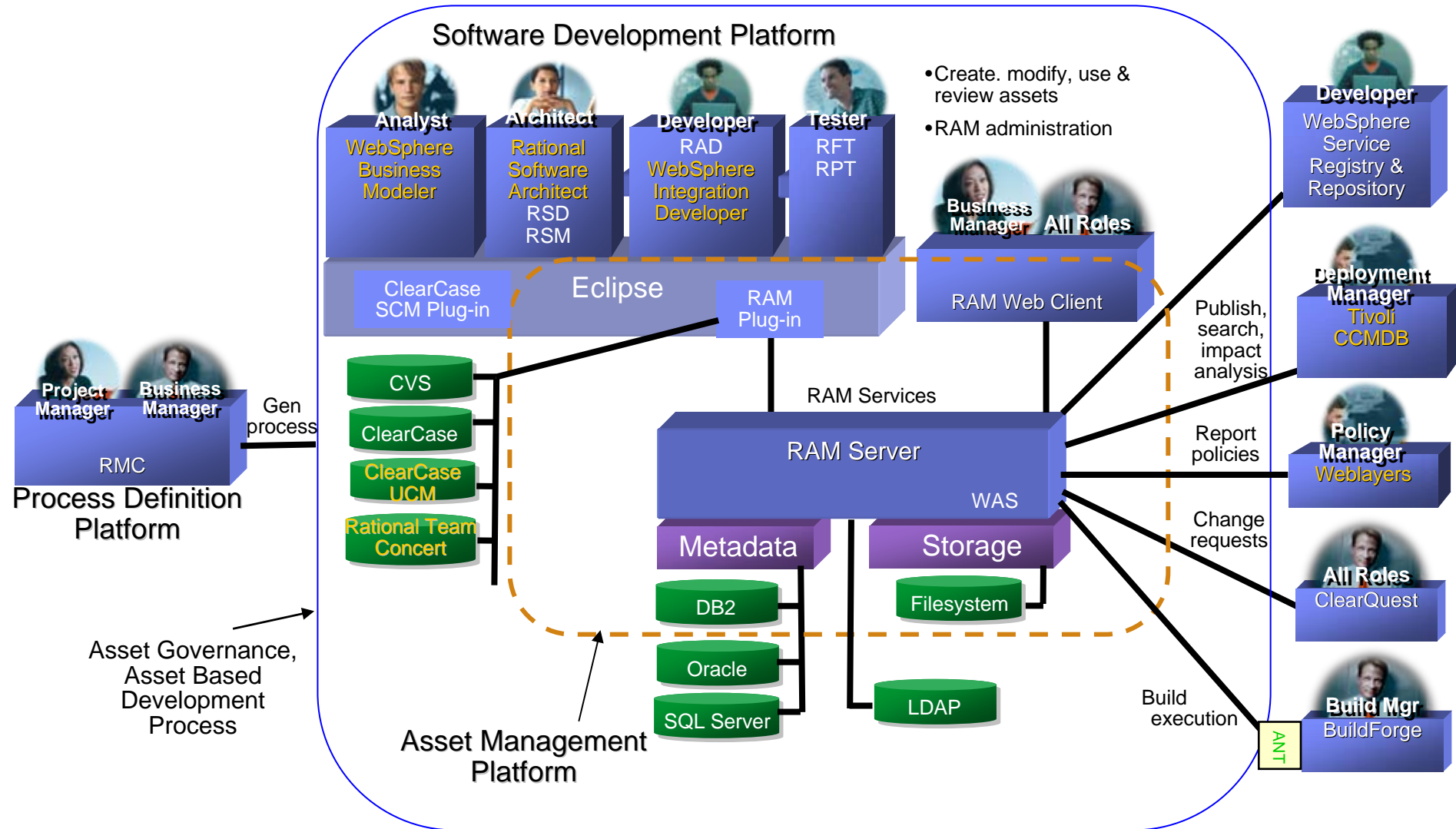
- A community
 - ▶ is a target audience for assets.
 - ▶ may produce, consume, and manage assets.
- A community may be aligned on organizational boundaries, or for a role, or a project, and so forth.
- Assets may be shared amongst communities



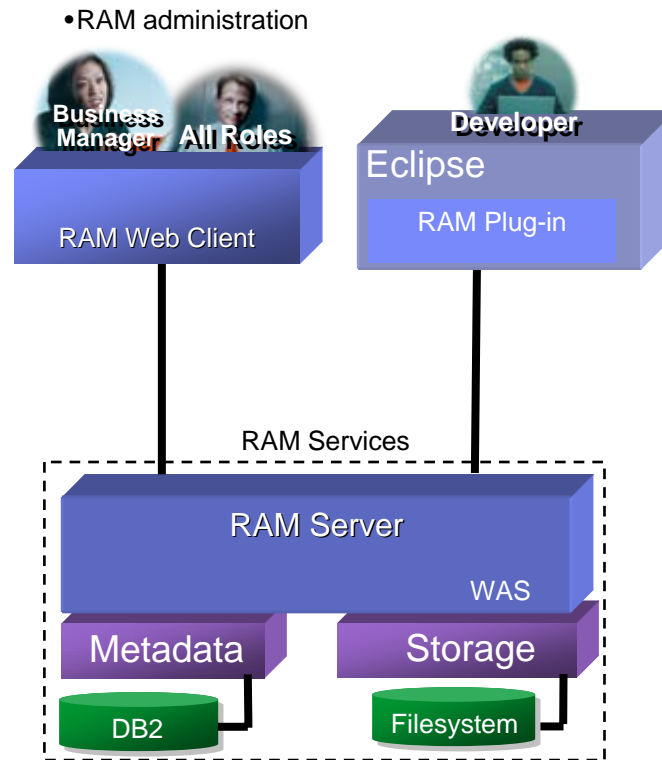
The repository is typically created for a reuse scope.

Rational Asset Manager Architecture

Targeted for RAM V7.1

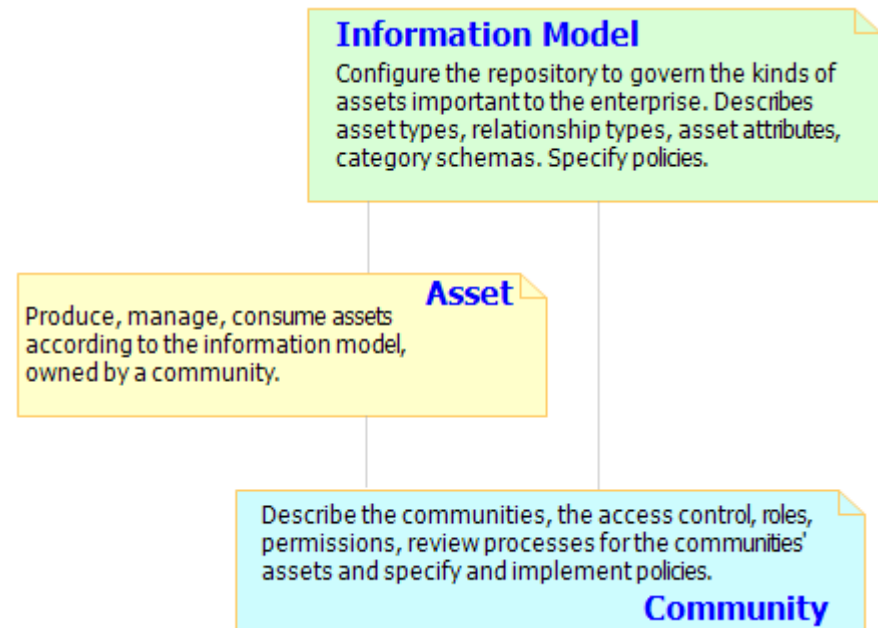


RAM Architecture – Minimal Components



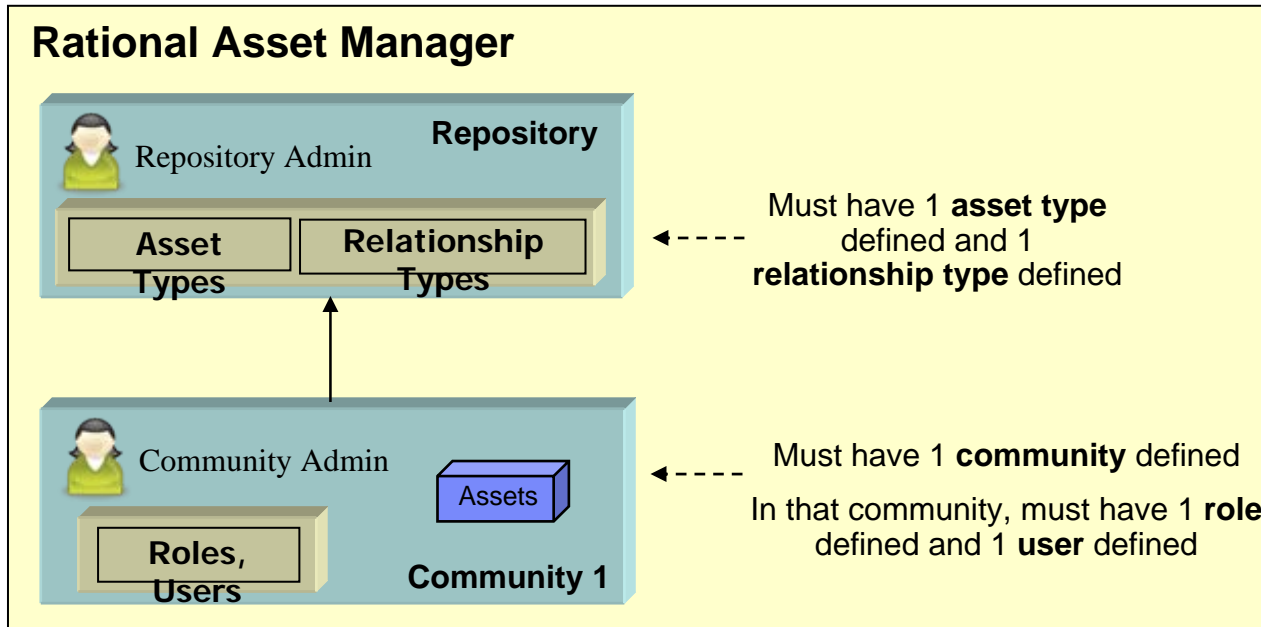
Major RAM Concepts

- The major RAM concepts include
 - ▶ Information Model
 - ▶ Assets
 - ▶ Communities
- Understanding these concepts and how they relate to each other, enables our ability to configure the repository



RAM – Minimal Configuration

- There are only a few required elements to be configured to use RAM
- RAM configuration scales to support many asset management scenarios



This will allow 1 user to work with assets of 1 type in 1 community. The assets will not be reviewed.

RAM Usage Templates

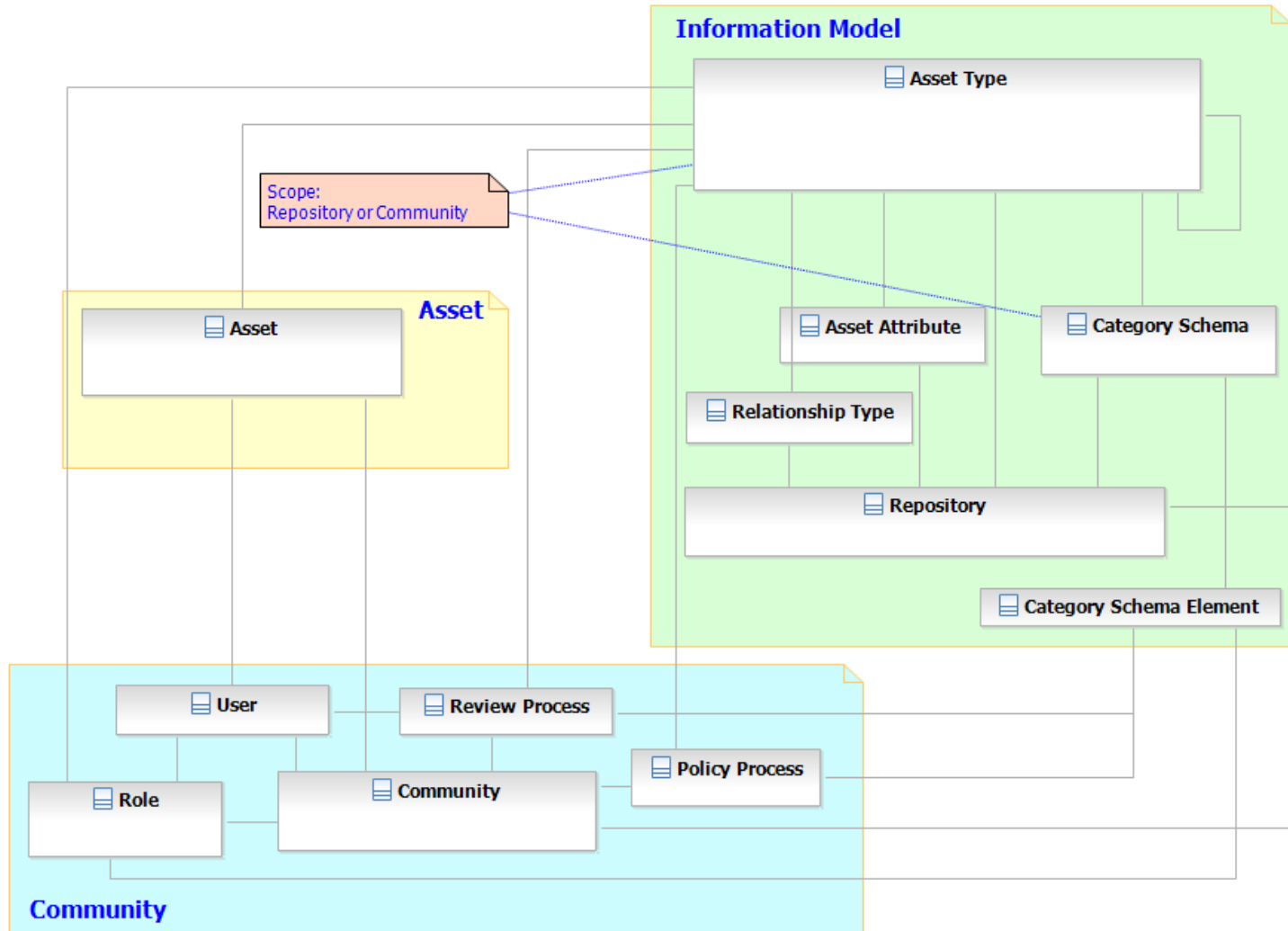
The RAM usage templates influence the RAM configuration

- Reuse
 - ▶ Harvest existing artifacts, build and share assets to mitigate costs and productivity concerns for analysis, development, testing
- Governance
 - ▶ Coordinate and control assets, intellectual property, determining what is shared, versioned, and visible for others to use
- Impact Analysis & Traceability
 - ▶ Understand the relationships and impact of assets, such as the relationship amongst development time assets and the relationship to infrastructure assets
 - ▶ Creating a map of the key assets of the enterprise
- Broker
 - ▶ Govern assets within and across communities, a community describing needs, another community realizing needs and submitting solutions to repository
- SOA / Services
 - ▶ Govern service development and publishing into service registry
- Catalog
 - ▶ Track assets with largely remote references to artifacts; often leaving them in their original place but using the repository as an entry point for discovery and navigation of references
- Business Intelligence
 - ▶ Custom reporting on asset activity, trends, financial impact
- Asset Planning & Roadmap
 - ▶ Align assets with requirements and features, defining asset development, rollout, and retirement



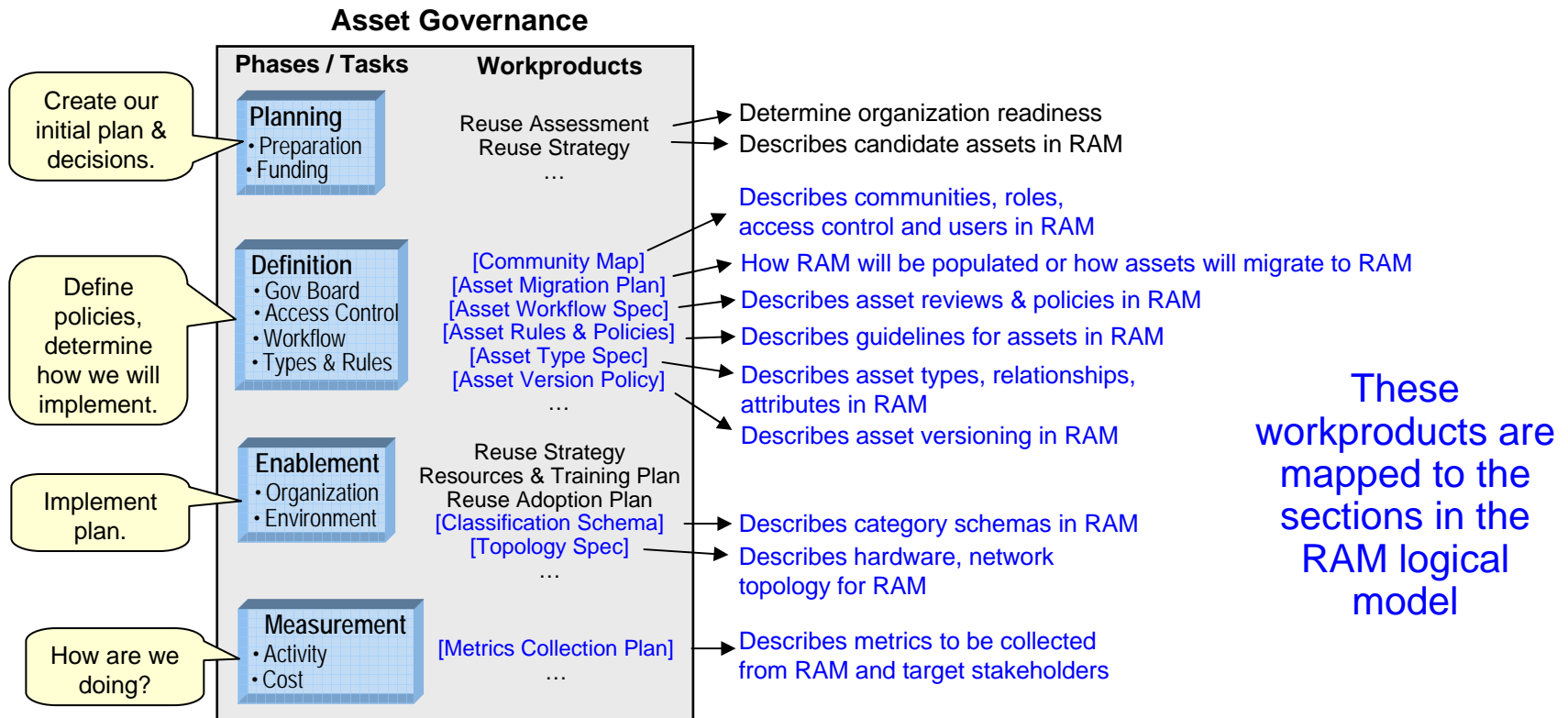
RAM Logical Model

- The RAM Logical Model can be configured to support multiple asset management scenarios/templates

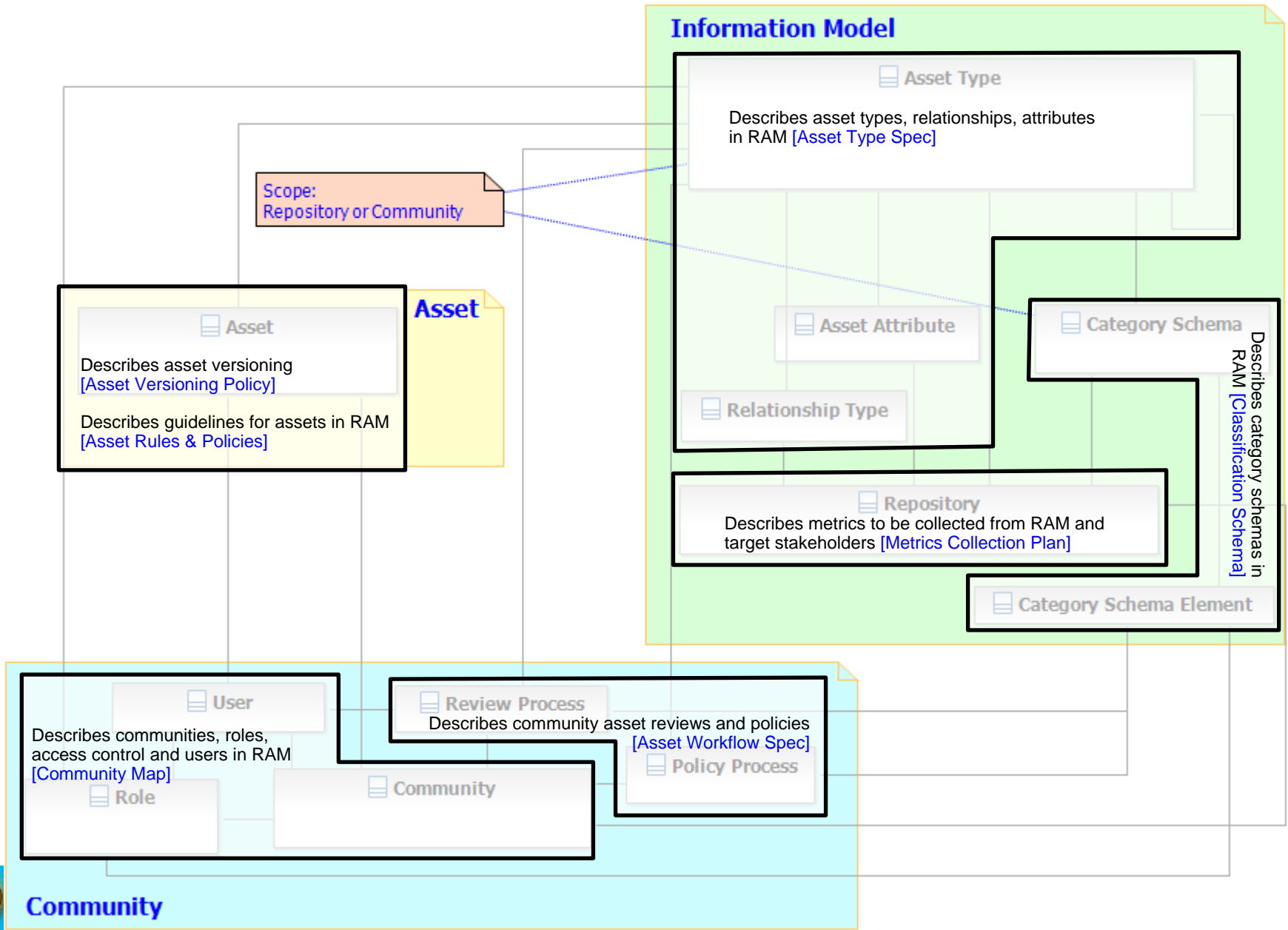


Asset Governance Process & Workproducts

- A process should be followed to configure RAM most asset management needs
- The Asset Governance workproducts capture the policies which are configured and enforced in RAM



Asset Governance Workproducts - RAM Logical Model



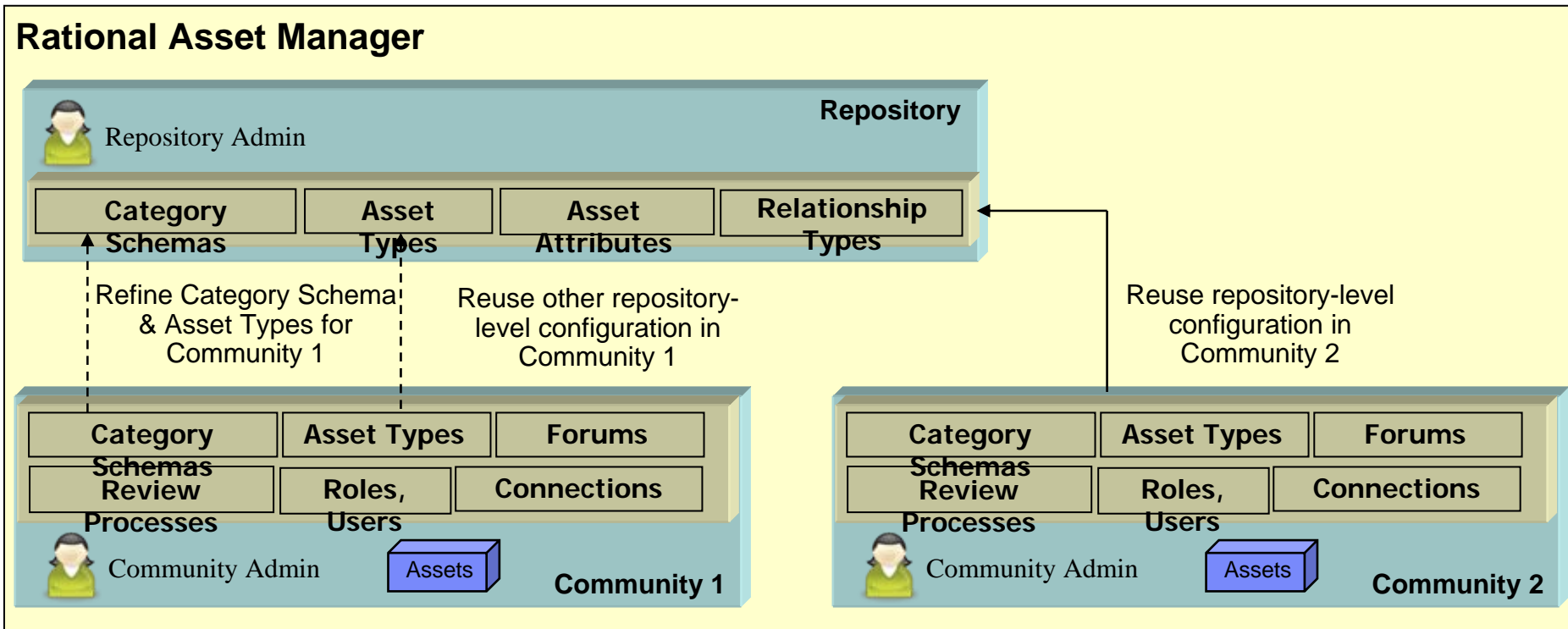
Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - Asset Types
 - Category Schemas
 - Relationship Types
 - Asset Attributes
 - Import / Export
 - ▶ Asset Versioning
 - ▶ Communities
 - ▶ Policies
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ Integrations
 - ▶ Libraries
- Rational Asset Manager Modular Service Offering



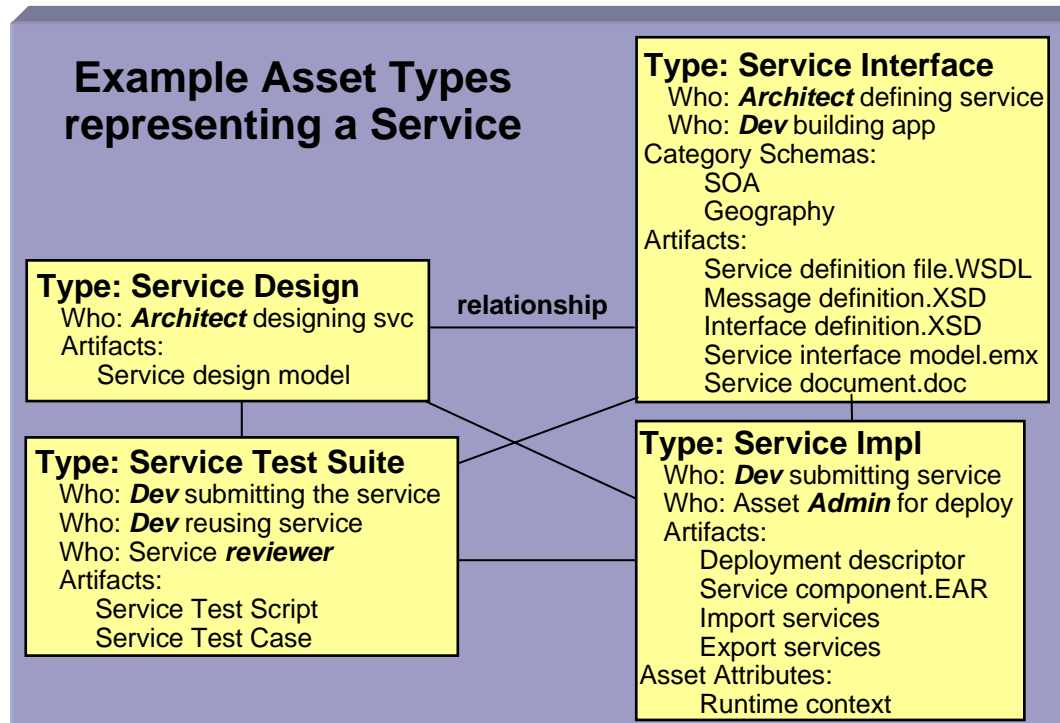
Information Model

- The information model is defined at the Repository level, and can be refined at the community level



Information Model: Asset Types

- An asset type describes the structure of assets
- An asset is of one asset type
- When defining asset types, do so from the perspective of the target asset consumer

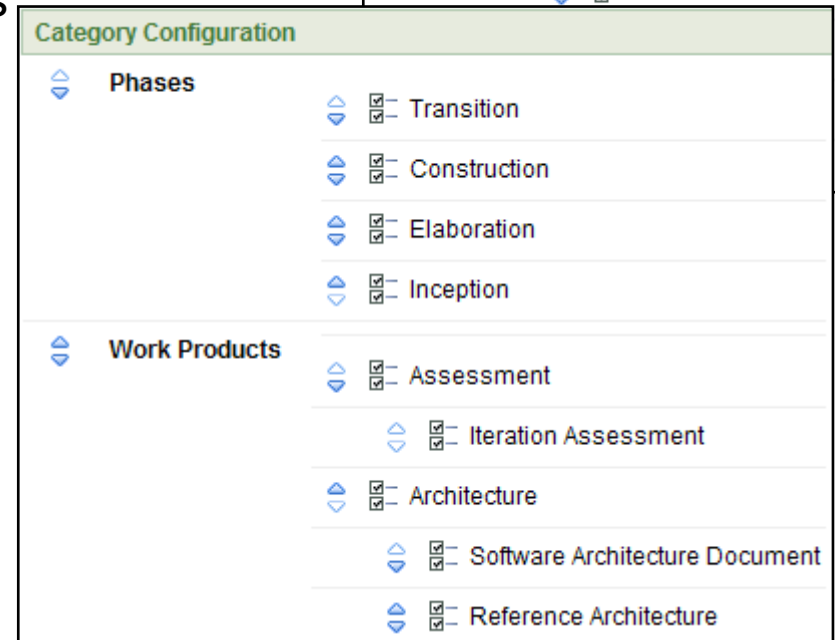
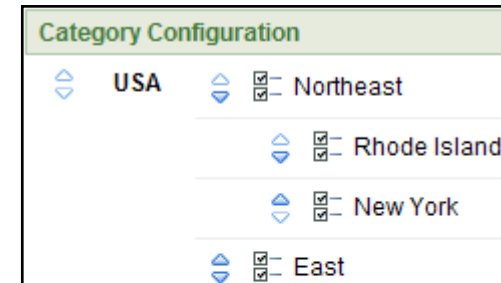


Information Model: Category Schemas

- Category schemas are a form of communication
- A perspective or the business or technical domain or ...
- Used by asset consumers to discover assets

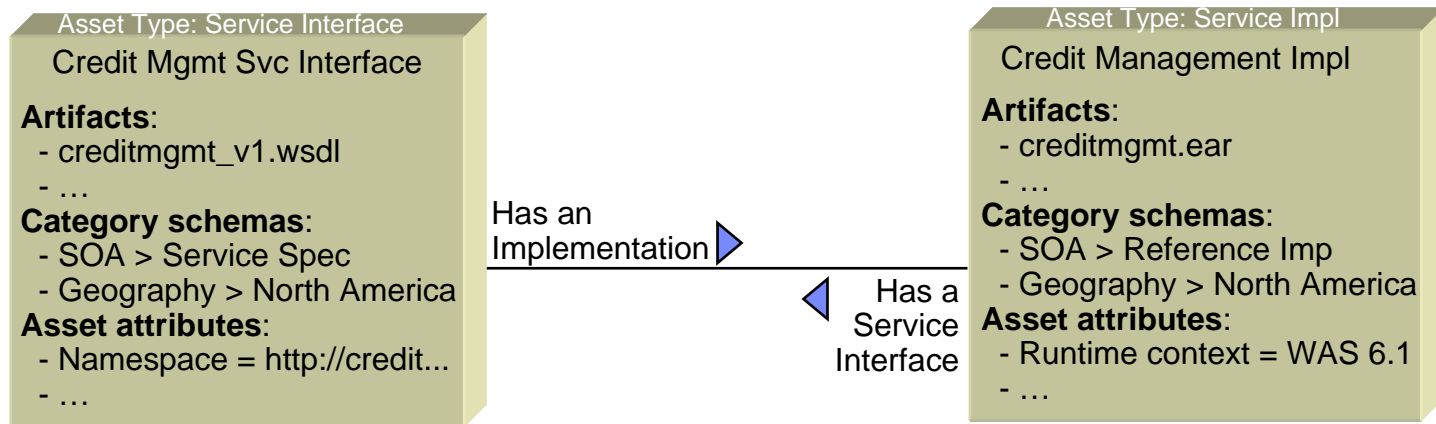
- Used to constrain
 - ▶ Asset Types
 - ▶ Review Processes
 - ▶ Roles

- When defining category schemas, do so from the perspective of
 - ▶ asset consumers
 - ▶ intended reports
 - ▶ other stakeholders



Information Model: Relationship Types

- Asset relationships are bi-directional



- When defining the relationship type in the repository, define both ends
- Relationship Types can be used as constraints on Asset Types

Information Model: Asset Attributes

- The core metadata elements for assets in the repository are defined by RAS (Reusable Asset Specification)
- Asset Attributes are associated with Asset Types
- Asset Attributes are metadata elements which contain either strings or pre-defined lists

Defined at repository level

Name	Description
Contact name	

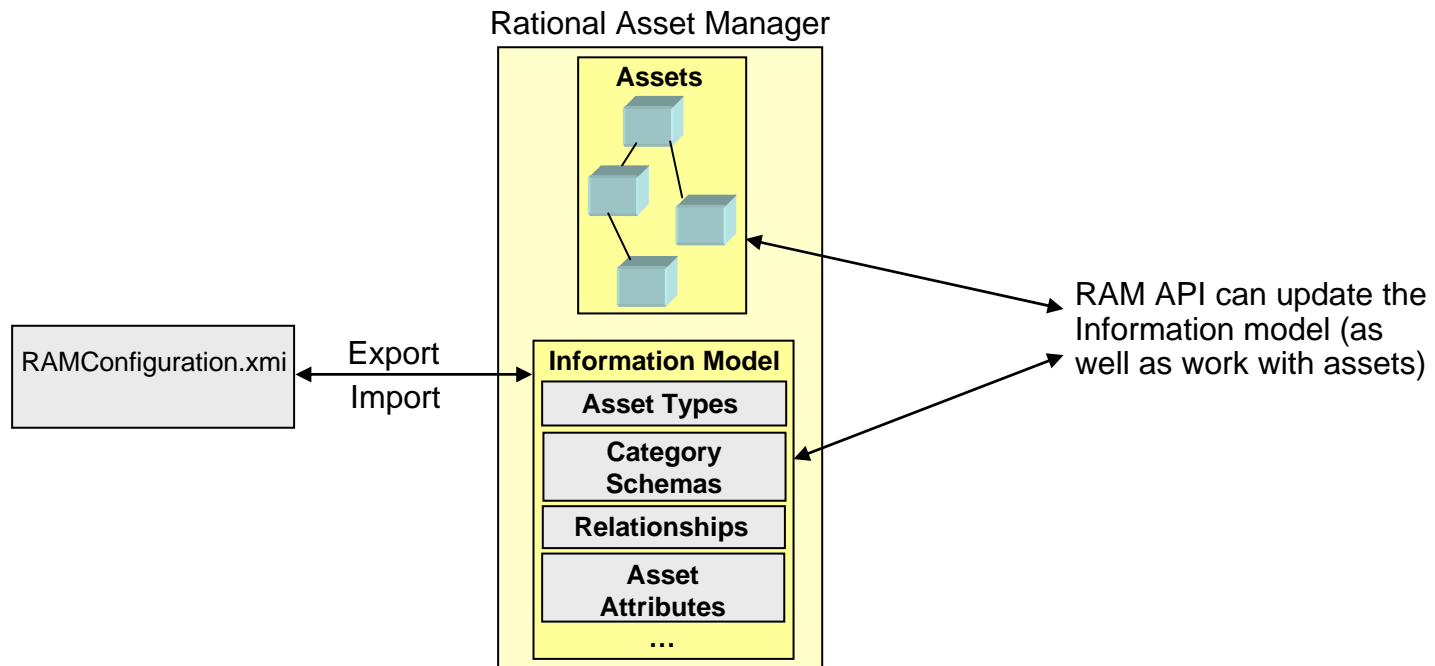
New Attribute...

Associated with Asset Types,
as required or optional

<input checked="" type="checkbox"/> <input type="checkbox"/>	Name	Required
<input checked="" type="checkbox"/>	Contact name	<input type="checkbox"/>

Information Model: Import / Export

- The key elements of the information model can be imported and exported
- The repository administrator performs the import/export
- This allows for exchanging and external manipulation of the information model



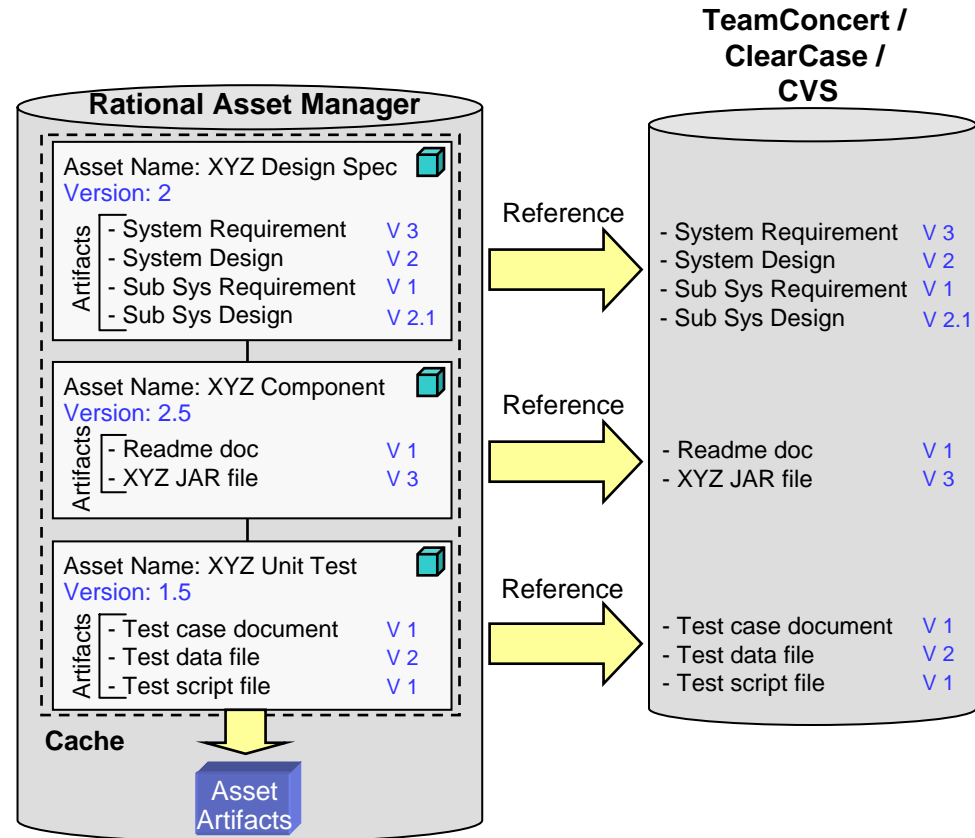
Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ **Asset Versioning**
 - ▶ Communities
 - ▶ Policies
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ Integrations
 - ▶ Libraries
- Rational Asset Manager Modular Service Offering



Asset Versioning

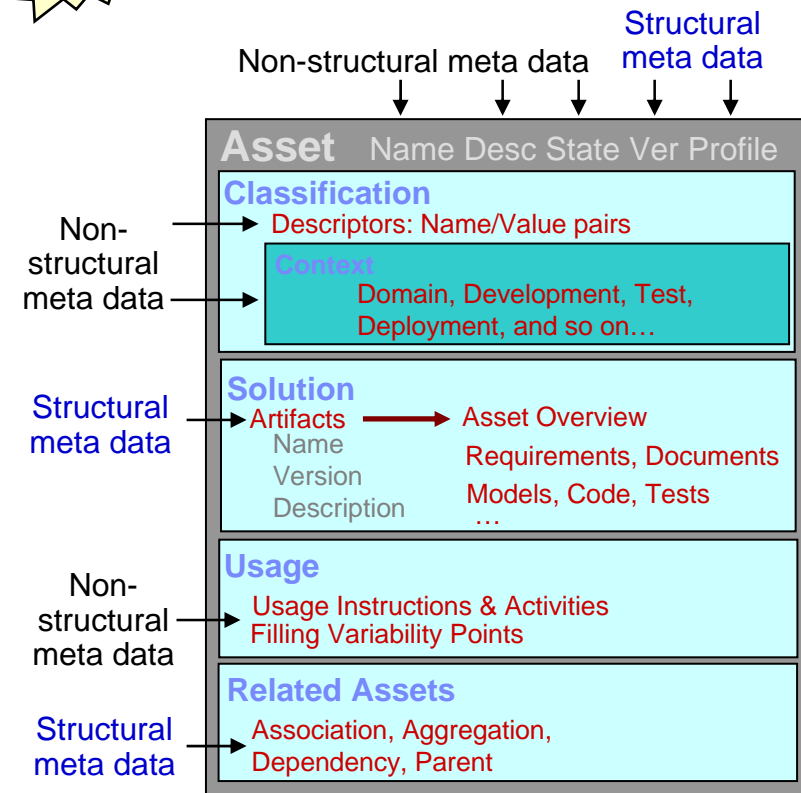
- Every asset's artifacts are cached in the repository
- Versioning is handled at two levels
 - ▶ Asset
 - ▶ Artifact
- Asset
 - ▶ Each asset can be versioned in the repository
 - ▶ Asset versioning is dictated by the policies of the organization
- Artifact
 - ▶ Artifacts can be located and versioned in Rational Team Concert, ClearCase, CVS



Asset Versioning Policy



- Identify what kinds of changes to an asset require a new asset version to be created
- For example, one approach to consider is to define structural changes versus non-structural changes
- Structural changes would **require** a new asset version, non-structural changes would not require a new asset version
- Example: Structural changes
 - ▶ Asset name(?), version, changes to artifacts or new artifacts, relationships
- Example: Non-structural changes
 - ▶ Asset name(?), description, classification, and supporting artifacts (readme files, ...)
- Determine these policies early and communicate them



Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ Asset Versioning
 - ▶ **Communities**
 - Customizable community home page
 - Access control and roles
 - Review and approval
 - Repository Configuration Community
 - Policy Adapters
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ Integrations
 - ▶ Libraries
- Rational Asset Manager Modular Service Offering



Criteria For Creating A Community



- You create a community when you identify a target audience which has (or wants to use) assets which need to be governed.

- The community may be built along many different boundaries.
 - ▶ *Organization*: you may create a community based on the organization chart.
 - ▶ *Role*: you may create a community based on some common role (Analyst) that crosses organizational boundaries.
 - ▶ *Project*: you may create a community based on a project, or initiative, although this is often a less permanent boundary, the overhead and organization may be justified.



Customizable Community Home Pages

- When users come to the repository they often don't understand many things about the repository
- Guide community users attention to
 - ▶ Key assets to use
 - ▶ Discussion forums
 - ▶ Community overviews
 - ▶ Tags
 - ▶ Configuration
 - Asset types
 - Category schemas
 - ▶ Asset version policy
 - ▶ Workflows and review processes



Welcome to the **Credit Management Community**

Provides the designs, components and tests for credit reporting, credit scoring, and other credit management functions.

Overview | **Configuration** | **Forums**

Administrators

Master Administrator

Tags

rebrand_solution

Your Roles

Administrator
Administrator

Popular Downloads

International address formatting	0
c a	0
Rebrand UI Component	0
UI Rebrand Test Case	0
Rebrand Server Component	0
Server Rebrand Test Case	0
Rebrand Application Solution	0

Recent Submissions

Rebrand Server Component
Server Rebrand Test Case
Rebrand UI Component

Getting Starting for Community Users

Welcome to the Credit Management Community!

This community includes assets for credit solutions. The kinds of assets available are described in the image below.
Solution assets aggregate components to solve coarse-grained problems. Component assets include code and templates for solving software engineering problems. Test Case assets provide scripts and data for validating Components.

Searching for assets in this community is best performed by looking for assets of type "Solution" on the "Search for Assets" page. As always, please provide feedback on your experience.

RAM Asset Types

- Solution**
 - Rebrand Application Solution
 - Contents
 - Overview
 - Effort Estimate
 - Intended reuse context
- Component**
 - Rebrand UI Component
 - Contents
 - Rebrand UI forms
 - Rebrand UI help
 - Code templates
 - Doc templates
 - Rebrand Server Component
 - Contents
 - Rebrand logging
 - Rebrand error handling
 - Code templates
- Test Case**
 - UI Rebrand Test Case
 - Contents
 - Test script
 - Server Rebrand Test Case
 - Contents
 - Test script

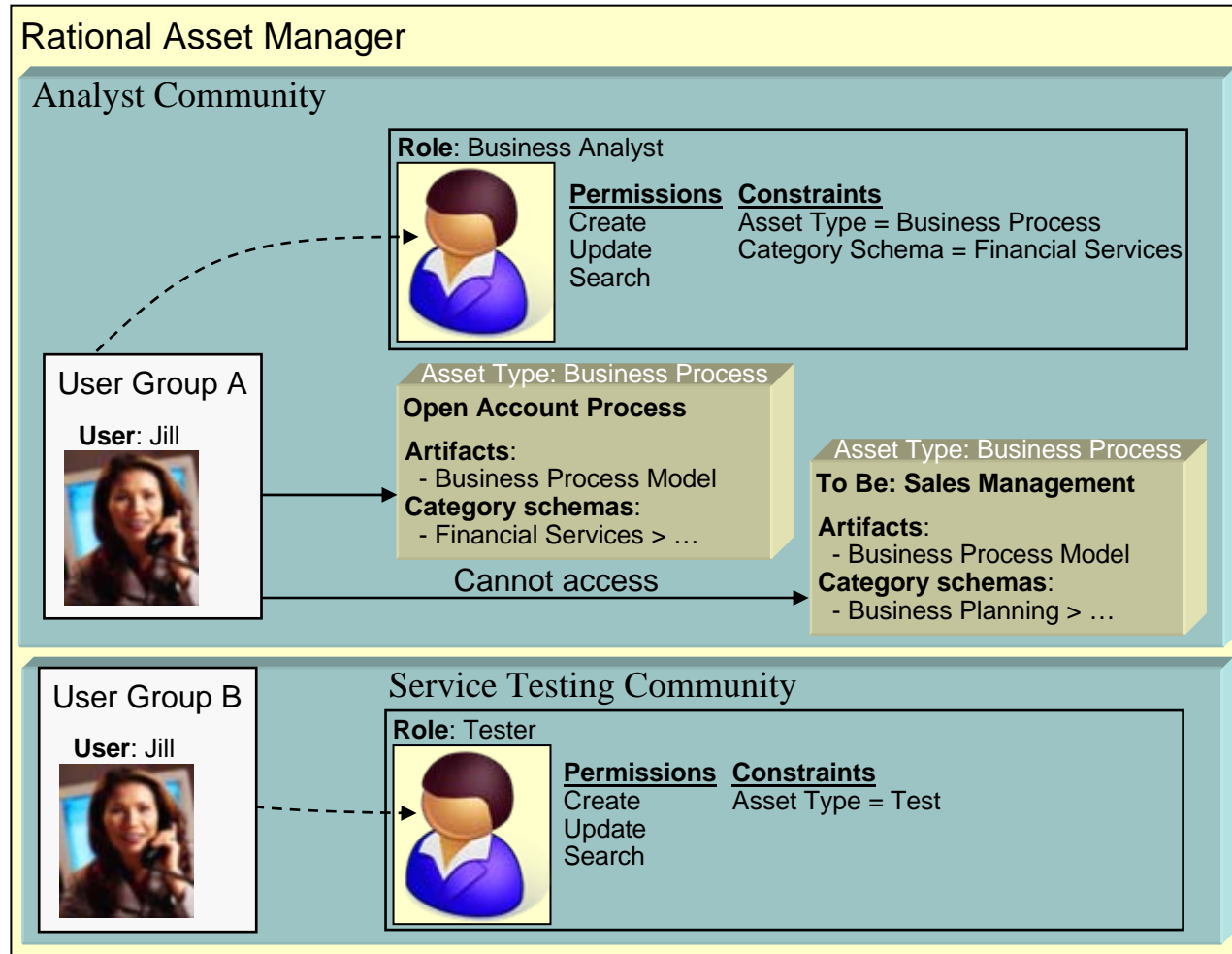


Access Control

Access control defines what you can do in the repository and with what assets you can work.

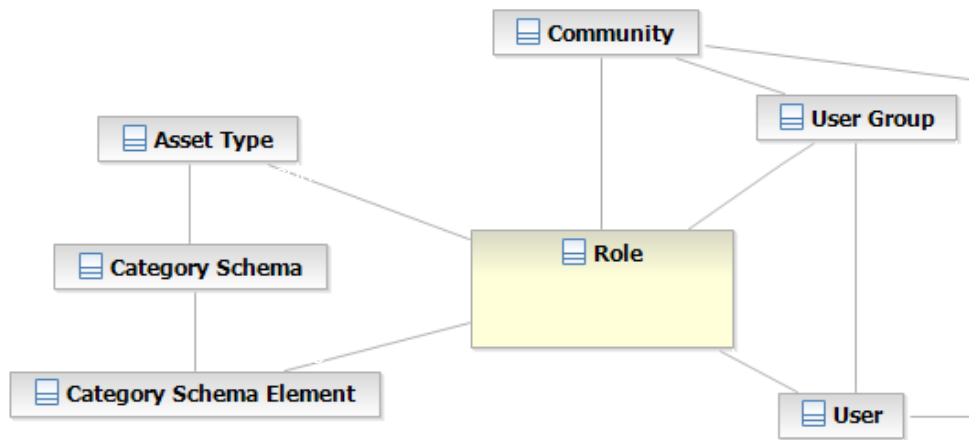
Jill in the Role of Business Analyst in the Analyst Community

Jill in the Role of Tester in the Service Testing Community can access assets of type Test



Role

- The metamodel for roles is illustrated below, and supports the following semantics
 - ▶ A Community owns Roles
 - ▶ A Role has permissions in RAM
 - ▶ A Role may be constrained to one or more Asset Types
 - ▶ A Role may be constrained to one or more Category Schema Elements
 - ▶ A User Group is assigned one or more Roles
 - ▶ A User is assigned one or more Roles



Single Asset Entitlement

- Provides fine grained access controls to individual assets
 - Which individuals can do what with the asset?

Rational Asset Manager CARLOS M. FERREIRA | Log Out

Home My Asset Manager Communities **Search for Assets** Administration Help ▾

< Back to Search for Assets

Asset: RAM Support Training [2] ?

General Details Content Ratings Forums Statistics Download

View or modify the specific permissions provided to specific users and user groups. These permissions provide a finer granularity permission over the roles. These should be used when the roles cannot give the specific permission required. There is a limited set of permissions provided on this page.

Filter users/user groups:

Filter by permission: Download ▾

Name	Permission		
Paula J. Cox	Download	Edit permission	Remove

Asset Detail Tools ?

- Modify
- Create new version
- Delete
- Duplicate
-
- Change owner
- Manage explicit permissions
-
- E-mail
- Rate

Tags ?

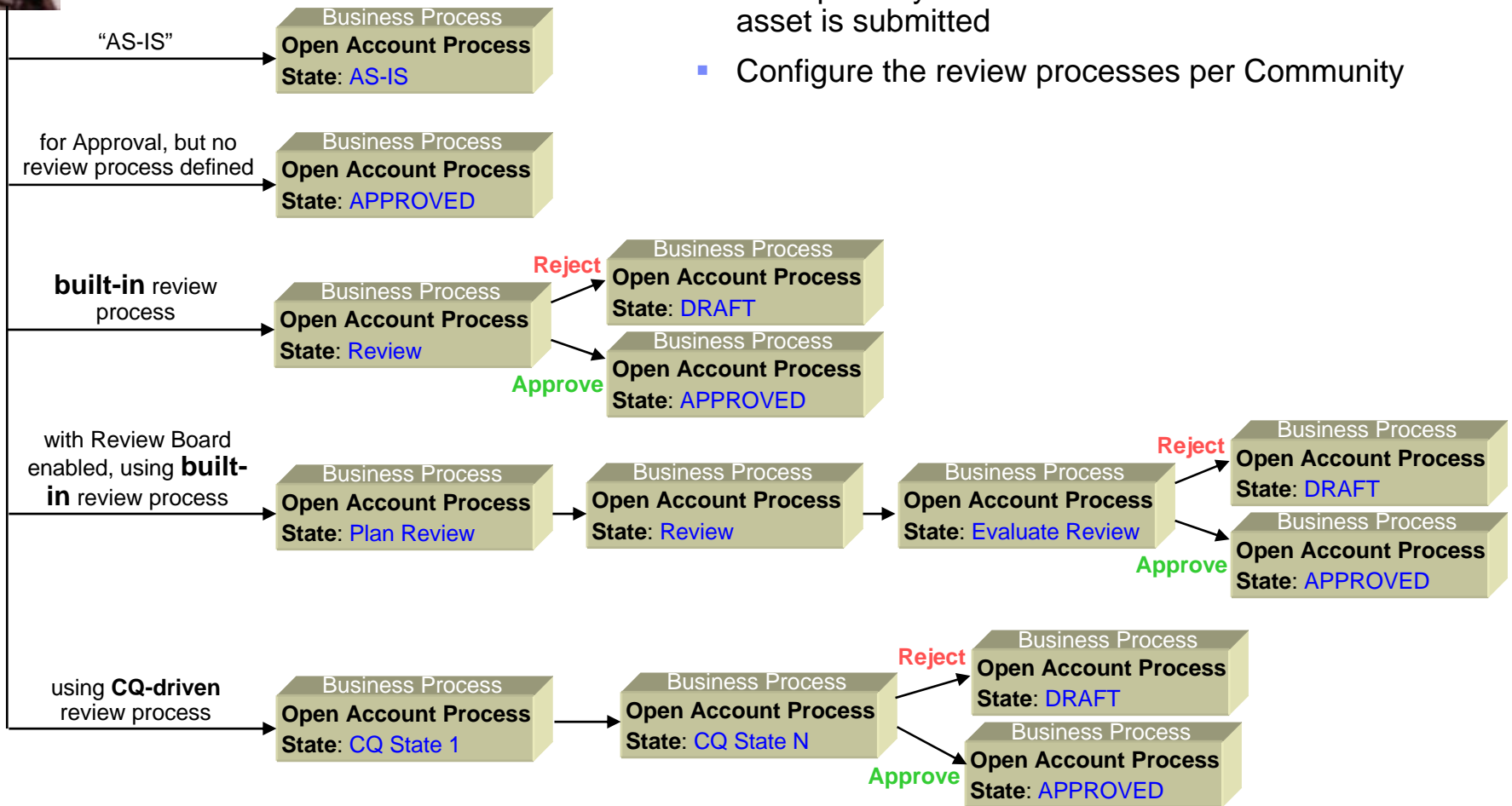
Asset Review Processes

User: Jill



Submit asset...

- There are several flows for review processes
- The flow selected depends on the configuration of the repository and on the stated intention when the asset is submitted
- Configure the review processes per Community



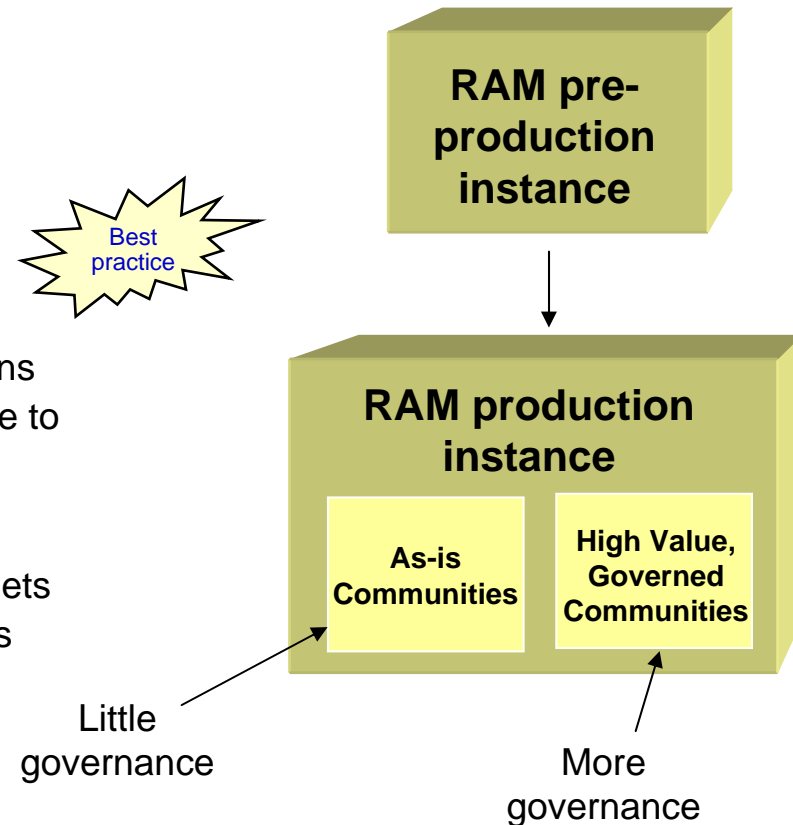
Policy Adapters

- Allows automation of policy enforcement
- Programming interfaces to implement a policy
- Administrate a policy
 - ▶ What policy
 - ▶ Runs when
 - During a review
 - Asset Submission
 - Asset Publish
 - Time
 - ▶ Other scoping conditions
 - Asset Type
 - Category
- Report on policy compliance
- Integrates with external policy management tools like WebLayers

The screenshot shows the IBM Rational Asset Manager Administration interface in Mozilla Firefox. The main page is titled 'Community: Delta Project Team' and is in the 'Review Processes' section. A 'Configure a Policy' dialog box is open, showing a table with 'Record Field' and 'Value' columns. The 'Minute modulo: even=2' field is set to '2'. Below the dialog, the 'Conditions' section shows a table with 'Conditions' and 'Action' columns, containing one entry: 'Asset type = Test Result' with a 'Remove' action. The 'Customization' section shows a list of policies, including 'Company X Policy Enforcement > Assets may only be submitted or modified during odd minutes'.

Communities – Low Governance and High Governance

- Start with RAM instance for practice, learning
 - ▶ Test out repository policies and governance assumptions
 - ▶ Give a place for people to learn
 - ▶ Watch where they “walk”
 - What asset types they create
 - What communities they create
 - What category schemas they create
 - ...
- Create a production RAM instance
 - ▶ Refine repository policies and governance assumptions
 - ▶ Migrate “good” assets from on-boarding RAM instance to production RAM instance
 - ▶ Create communities which support as-is, open marketplace asset
 - Let the rating systems bubble up high-value assets
 - ▶ Transition high-value assets to governed communities
 - Provide support for assets
 - Track asset consumers
 - Conduct impact analysis



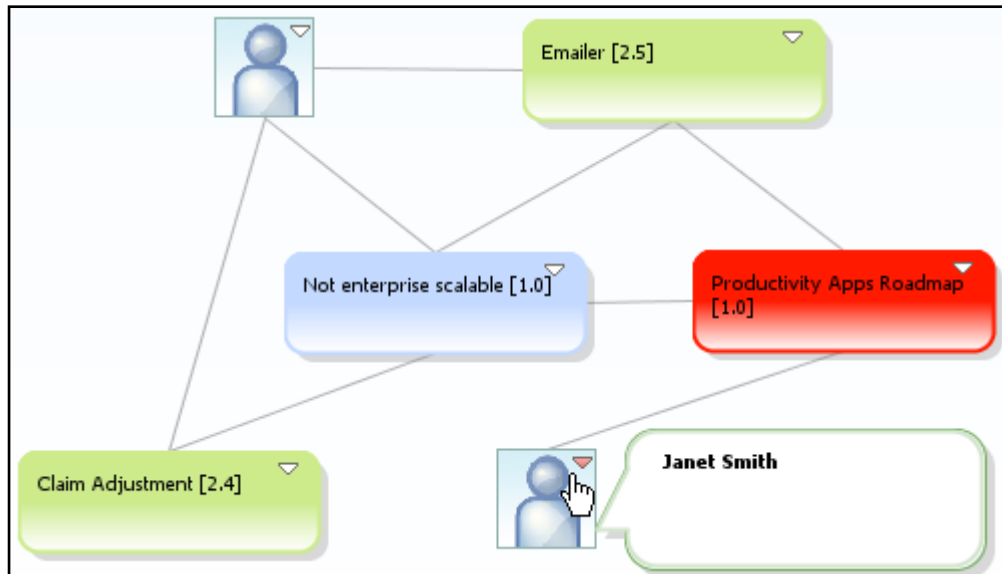
Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ Communities
 - ▶ **Impact Analysis, Metrics, Reporting**
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ Integrations
 - ▶ Libraries
- Rational Asset Manager Modular Service Offering



Visual Browse and Impact Analysis

- A critical part of governance is to understand the impact of a change
- RAM illustrates what assets are impacted and what people are impacted



Related Assets

Depth:

Has Risk

Risk For

Has Direction

▼Has Risk

▼Not enterprise scalable [1.0]

 ▼Risk For

 Productivity Apps Roadmap [1.0]

 Claim Adjustment [2.4]

▼Has Direction

 ▼Productivity Apps Roadmap [1.0]

 ▼Has Risk

 Not enterprise scalable [1.0]

Metrics and Reporting

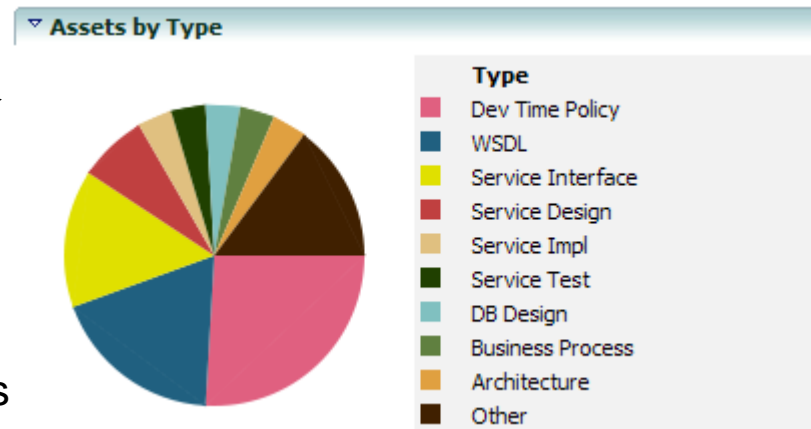
- Rational Asset Manager manages usage metrics at two levels
 - ▶ Asset
 - ▶ Repository

- Asset metrics are viewed in Eclipse and Web clients by administrators and other users
 - ▶ Amount of time to produce an asset
 - ▶ Expected time to reuse and asset
 - ▶ Total downloads
 - ▶ Average downloads for assets of given type
 - ▶ Unique downloads
 - ▶ Artifact browses



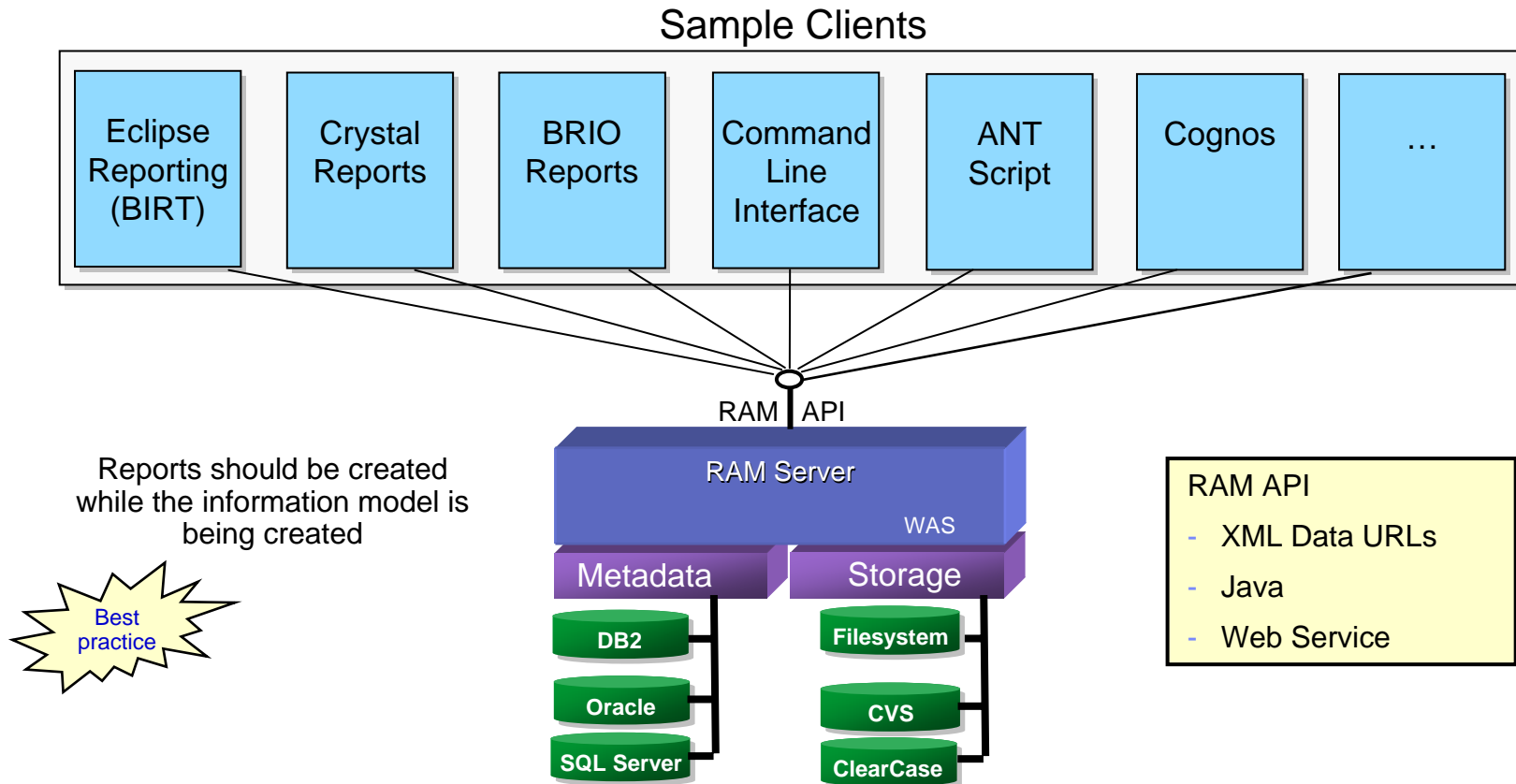
Metrics and Reporting (2)

- Repository statistics
 - ▶ Reports are viewed in Web client by administrators
 - ▶ Reports can be downloaded into .csv file formats
- Reports
 - ▶ Repository Contents
 - ▶ Asset Activity
 - ▶ User Activity
 - ▶ Search History
 - ▶ Activity Audit
 - Generate audit for up to 22 activities
 - Who did what, when, on what asset



RAM v7.1 Reporting

- It is anticipated that the majority of reports produced with RAM will be created using report writing tools accessing the RAM API



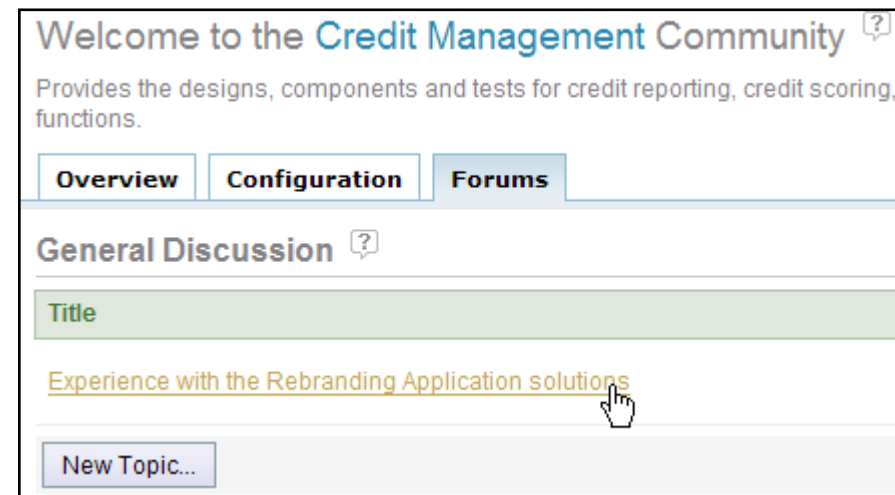
Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ Communities
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ **Notifications, Subscriptions, Discussion Forums**
 - ▶ Integrations
 - ▶ Libraries
- Rational Asset Manager Modular Service Offering



Notifications, Subscriptions, Discussion Forums

- Rational Asset Manager generates notifications for review processes
- Subscriptions
 - ▶ Per asset
 - ▶ Per search criteria
 - ▶ Notifications sent on periodic basis
- RSS Feeds
 - ▶ Per asset
 - ▶ Per search criteria
 - ▶ Notifications sent per event to RSS reader
- Discussion Forums
 - ▶ Per asset
 - ▶ Per community



Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ Communities
 - ▶ Policies
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ **Integrations**
 - Tivoli CCMDB
 - WebSphere Service Registry & Repository
 - ClearCase, CVS
 - ClearQuest
 - ▶ Libraries
- Rational Asset Manager Modular Service Offering



RAM Integrations Today

- **Current RAM 7.0.0.2 Non-Published, Web service API**
 - ▶ Provides asset creation, searching, update, download and other capabilities
 - ▶ RAM / Eclipse integration
 - RAM Eclipse client uses RAM Web Service API to provide asset development scenarios
 - ▶ RAM / WSRR integration
 - Background process uses RAM and WSRR Web Service APIs to keep the repositories in synch
 - ▶ RAM / ClearCase integration
 - RAM Eclipse client uses ClearCase API and RAM Web Service API to provide asset versioning
 - ▶ RAM / CVS integration
 - RAM Eclipse client uses CVS API and RAM Web Service API to provide asset versioning
 - ▶ RAM / ClearQuest integration
 - RAM Server uses ClearQuest API and RAM services to provide asset change management and synchronize CQ schema for asset review process



RAM Integration Future

■ **Potential RAM 7.1 REST, Data URLs, POJOs**

- ▶ Provide asset creation, searching, update, download
- ▶ Workflow extension points
- ▶ Source control/management extension points
- ▶ Enforce policies
- ▶ Retrieve metrics and reporting
- ▶ Repository configuration: Asset types, category schemas, relationships, attributes
- ▶ Integrations could be invoked from command line, ANT, or programmatically
- ▶ Kinds of integrations the Planned Published API can support
 - Verify asset compliance to policies at any point in asset lifecycle
 - Extend asset workflow and states using workflow tool
 - Map asset artifacts to source control systems such as Visual Source Safe
 - Generate formatted reports from RAM metrics using reporting tools
 - Modify repository configuration to support new asset types or classifications
 - Create references to assets managed in other tools such as CMDB, RPM, ...
 - ...



IBM Registries/Repositories

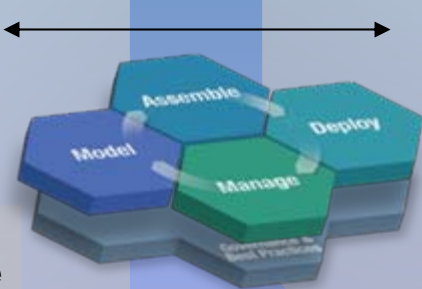
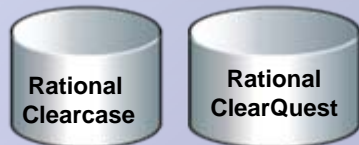
Service Development

- Service Discovery
- Service Development Lifecycle



Publish Synchronize

Development Registries

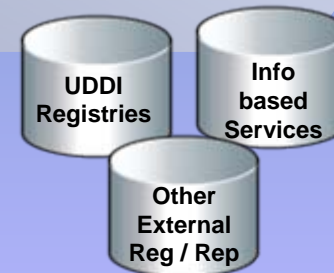


Service Deployment

- Runtime Repository
- Runtime Service Discovery



Other Service Endpoint Registries / Repositories



Service Management



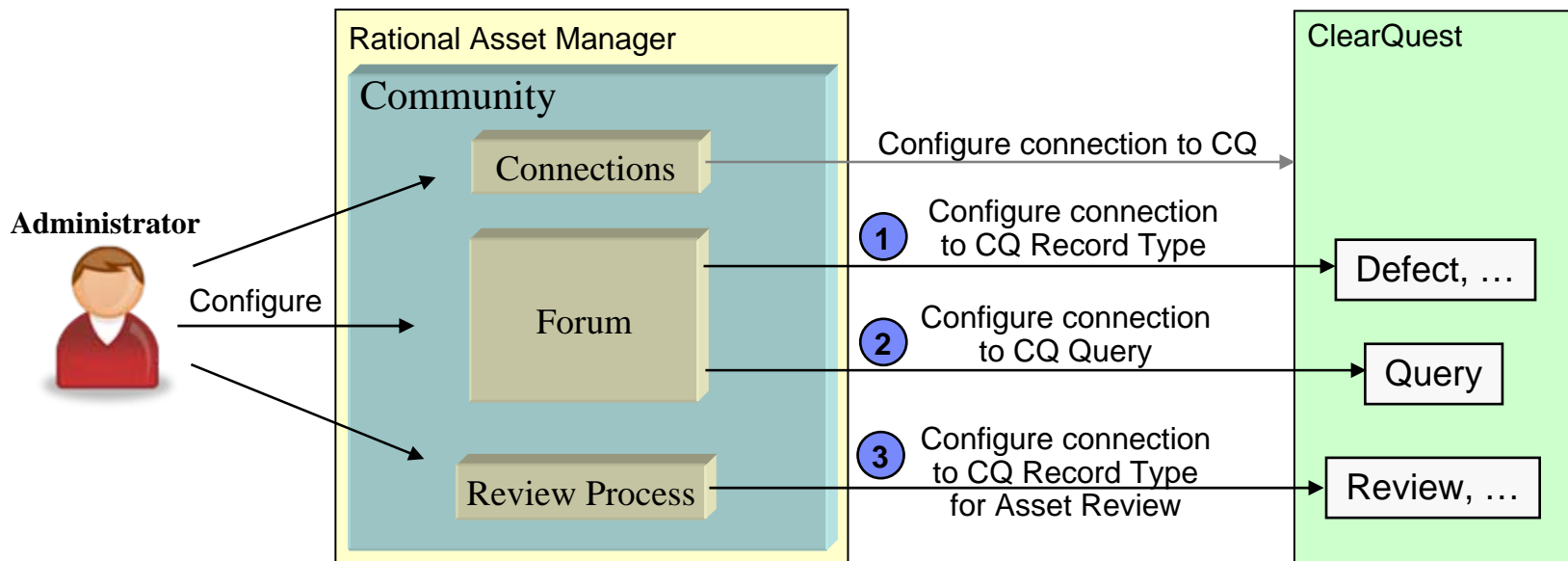
- Operational Efficiency & Resilience
- Configuration Data Discovery
- Managing change

"IBM's federated metadata management strategy is visionary"



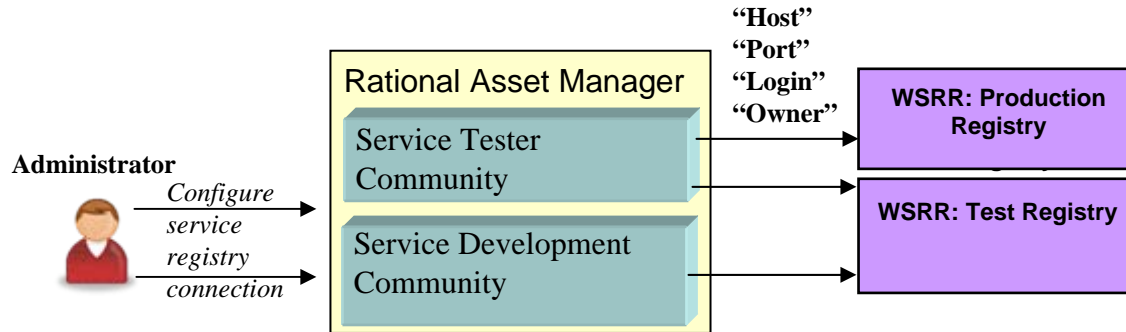
Change Management

- Integrates with ClearQuest (CQ) to track defects on assets
- CQ connections are configured per community
- CQ fields are mapped to RAM fields

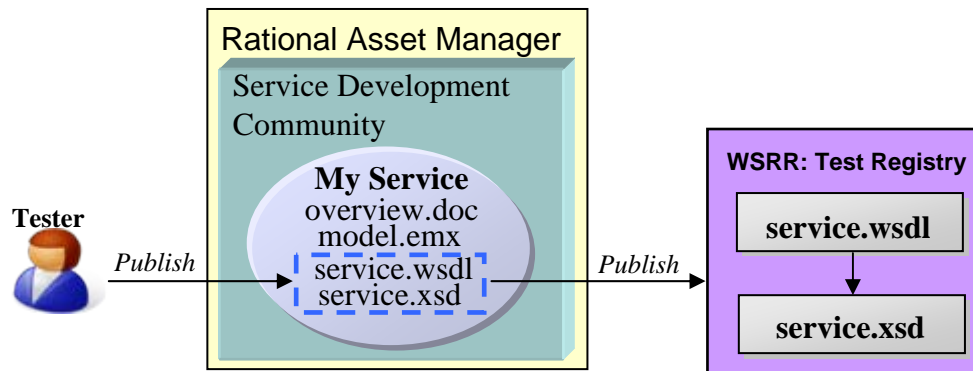


Service Registry

- The connection to WebSphere Service Registry and Repository (WSRR) is configured in the community



- The service documents are published from RAM to WSRR



RAM / WSRR Synchronization

▪ The synchronization is for a set of scenarios

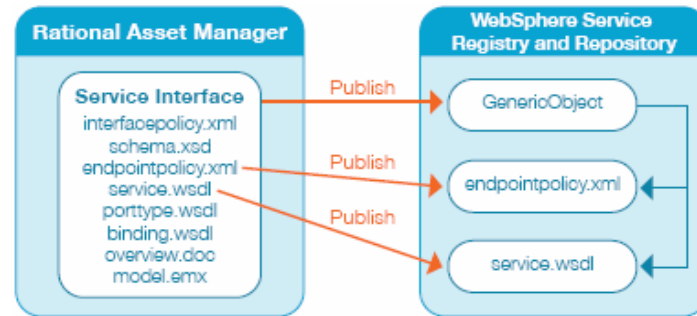
▪ Scenario 1

Development has prepared a service asset (new or updated) which needs to be published/deployed.

▪ Scenario 2

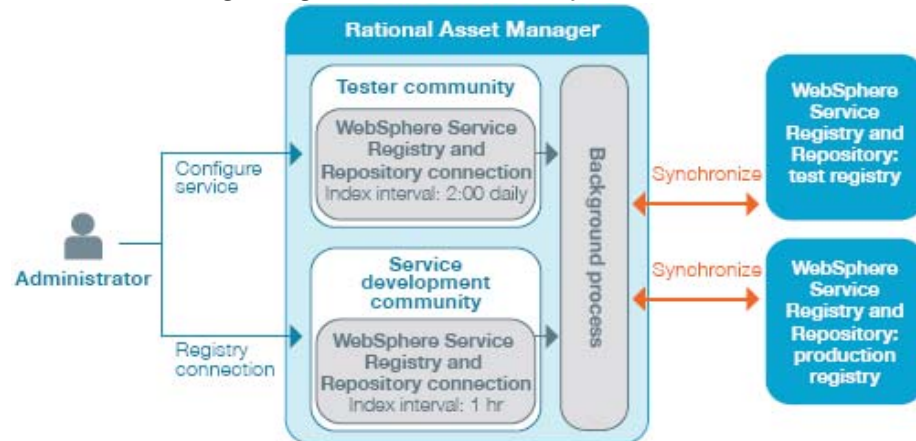
Operations has entered a third party service into WSRR, which needs development assets built around it.

Upon invoking the Publish function, a WSRR “GenericObject” is created for the service asset. This contains service metadata (RAM asset ID) which points back to the RAM service asset.



Configuring RAM / WSRR Synchronization

While publication of the service from RAM to WSRR is initiated by a user, the synchronization of WSRR to RAM is an automated, background process.



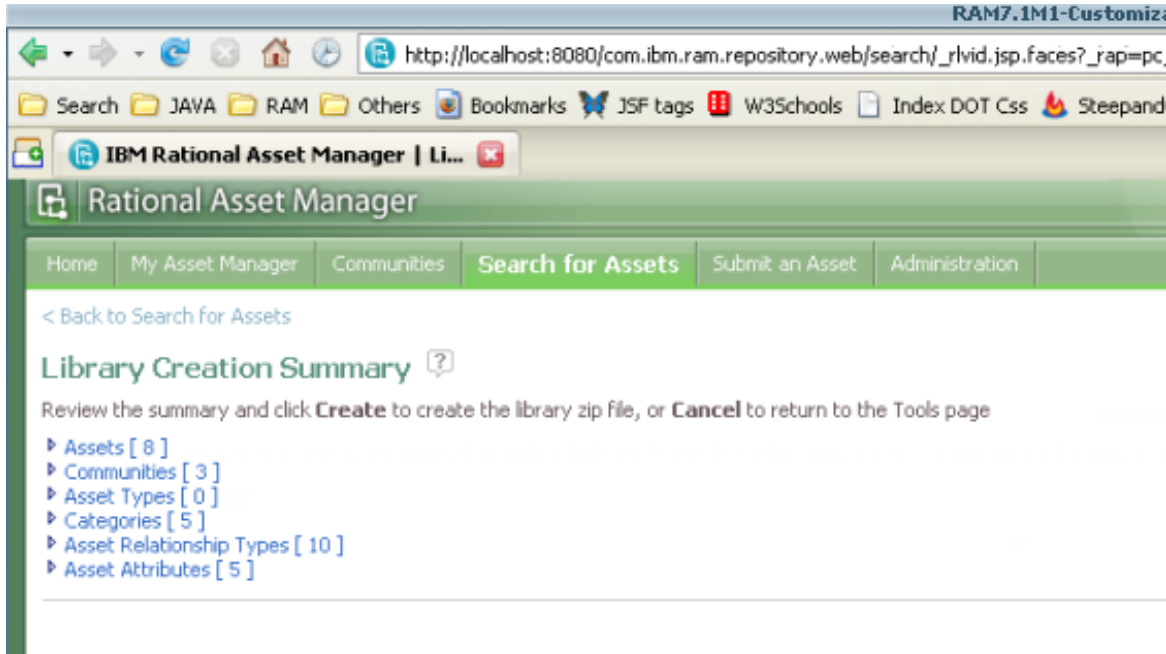
Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ Communities
 - ▶ Policies
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ Integrations
 - ▶ Libraries
 - Import / Export
 - SOA Asset Library
- Rational Asset Manager Modular Service Offering



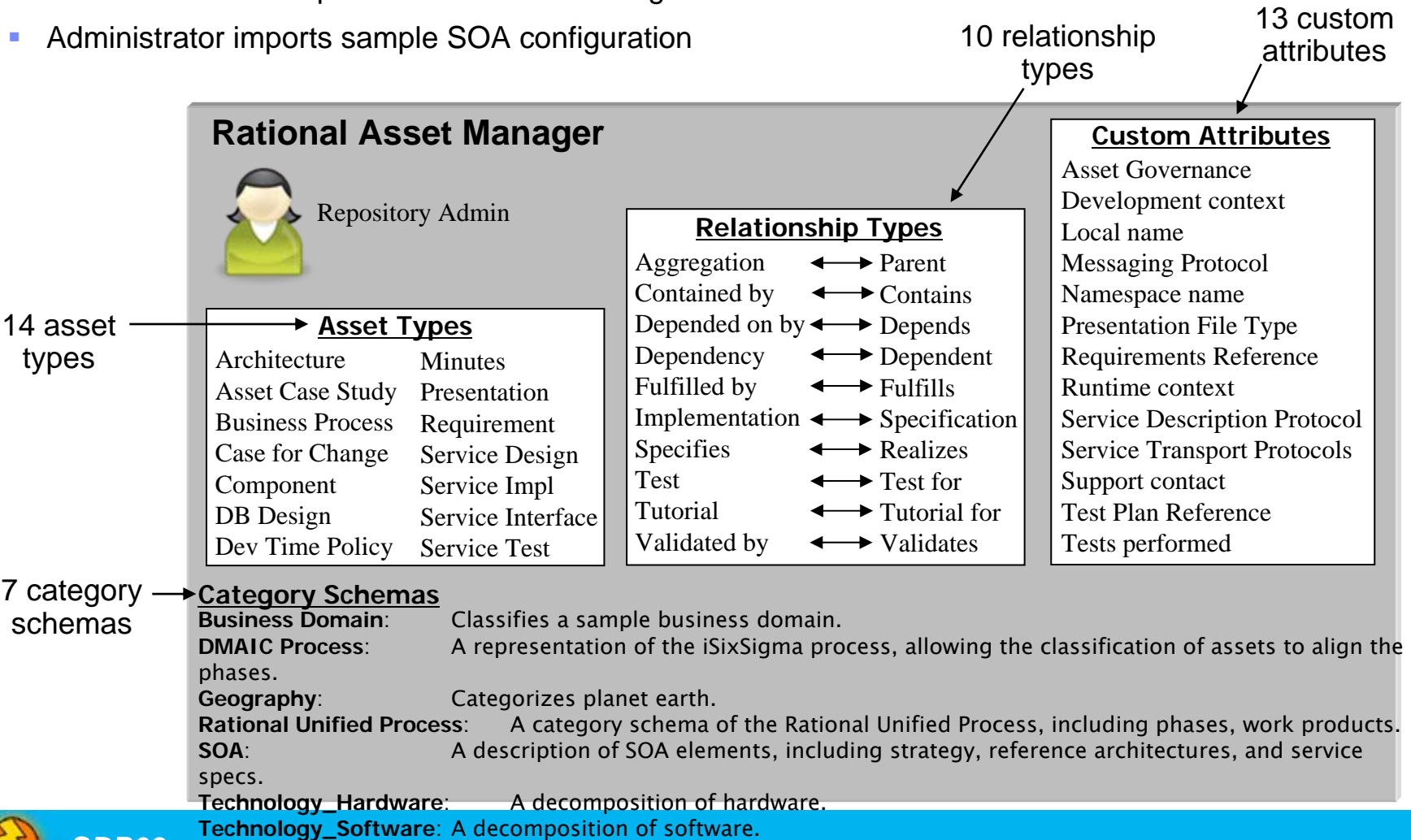
Create and share asset and libraries

- Export Asset Libraries
 - ▶ Search & select assets for export
 - ▶ Exports assets and their associated meta data including
 - Assets
 - Communities
 - Categories
 - Asset Relationships Types
 - Asset Attributes
- Import Asset Libraries
 - ▶ RAM comes with a SOA Asset Library



Sample SOA Asset Library

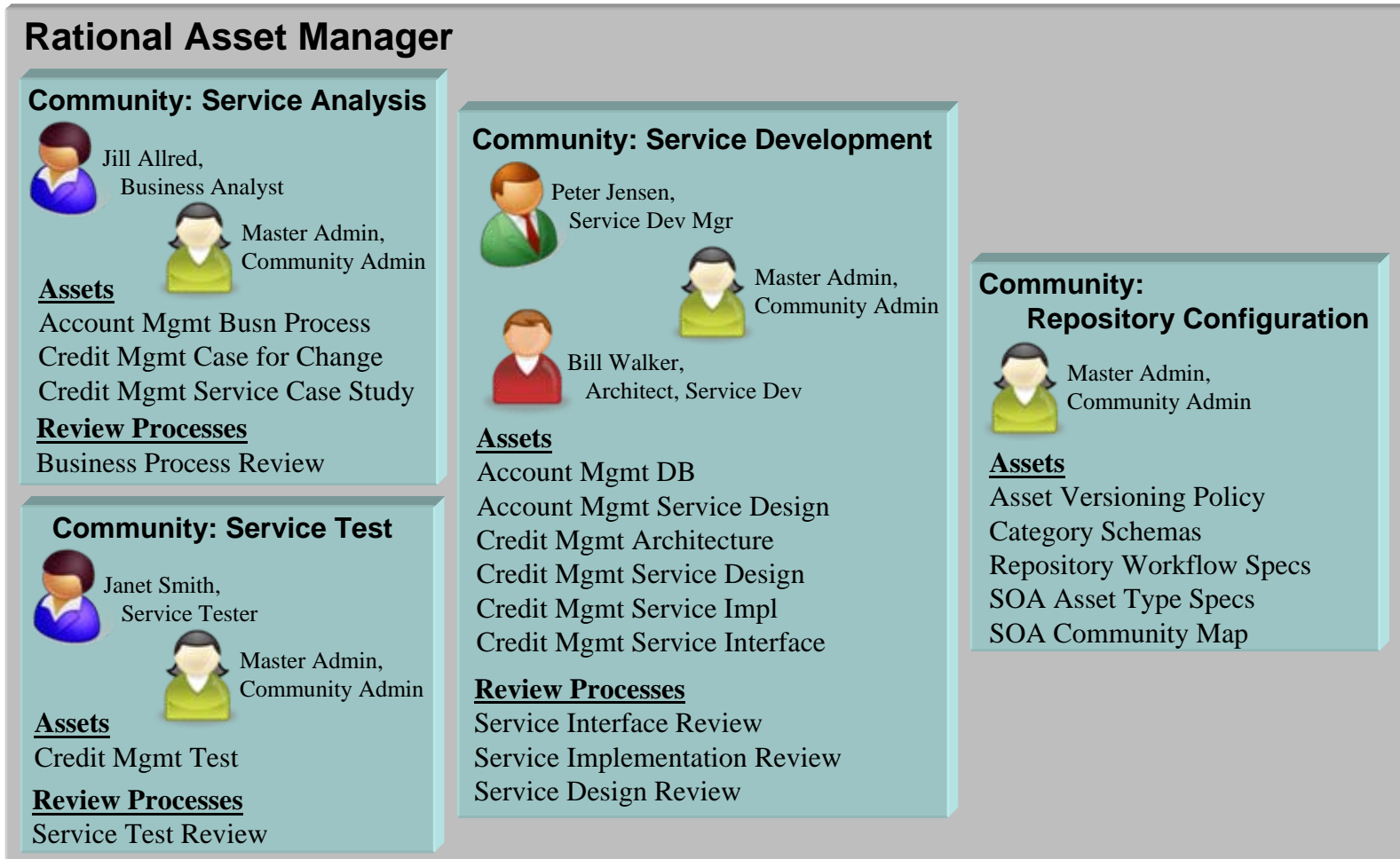
- The catalog contains repository configuration and assets
- Saves time deploying Rational Asset Manager for SOA
- Can be used as template to determine asset governance
- Administrator imports sample SOA configuration



Sample SOA Asset Library

4 communities

15 assets



Agenda

- Concepts
- Configuring Rational Asset Manager for Governance
 - ▶ Information Model
 - ▶ Communities
 - ▶ Policies
 - ▶ Impact Analysis, Metrics, Reporting
 - ▶ Notifications, Subscriptions, Discussion Forums
 - ▶ Integrations
 - ▶ Libraries



Rational Asset Manager Modular Service Offering



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





DEMO





QUESTIONS





THANK YOU

Learn more at:

- [IBM Rational software](#)
- [IBM Rational Software Delivery Platform](#)
- [Process and portfolio management](#)
- [Change and release management](#)
- [Quality management](#)
- [Architecture management](#)
- [Rational trial downloads](#)
- [Leading Innovation Web site](#)
- [developerWorks Rational](#)
- [IBM Rational TV](#)
- [IBM Rational Business Partners](#)

© Copyright IBM Corporation 2008. All rights reserved. The information contained in these materials is provided for informational purposes only, and is provided AS IS without warranty of any kind, express or implied. IBM shall not be responsible for any damages arising out of the use of, or otherwise related to, these materials. Nothing contained in these materials is intended to, nor shall have the effect of, creating any warranties or representations from IBM or its suppliers or licensors, or altering the terms and conditions of the applicable license agreement governing the use of IBM software. References in these materials to IBM products, programs, or services do not imply that they will be available in all countries in which IBM operates. Product release dates and/or capabilities referenced in these materials may change at any time at IBM's sole discretion based on market opportunities or other factors, and are not intended to be a commitment to future product or feature availability in any way. IBM, the IBM logo, the on-demand business logo, Rational, the Rational logo, and other IBM products and services are trademarks of the International Business Machines Corporation, in the United States, other countries or both. Other company, product, or service names may be trademarks or service marks of others.

