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Development and Operations (DevOps): Governance and Deployment Automation

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Agenda

- Typical challenges and solutions
- Solution architecture
- Role based activity
- Scenario: Environment Stand-up and Reconcile
- Questions



Typical Challenges and Solutions

- People, Process, and Tools integration
 - Decrease process variance
 - Increase data quality, governance, traceability
- Align architectural compliance objectives
 - Software implementation standards
 - Software modularity and dependency management
 - Automatic processing between development and operations
- Better tools to manage complexity
 - Multiple environments with increasing levels of complexity: see the big picture
- Design to Runtime alignment
 - Reconcile in-band and out-of-band changes to design

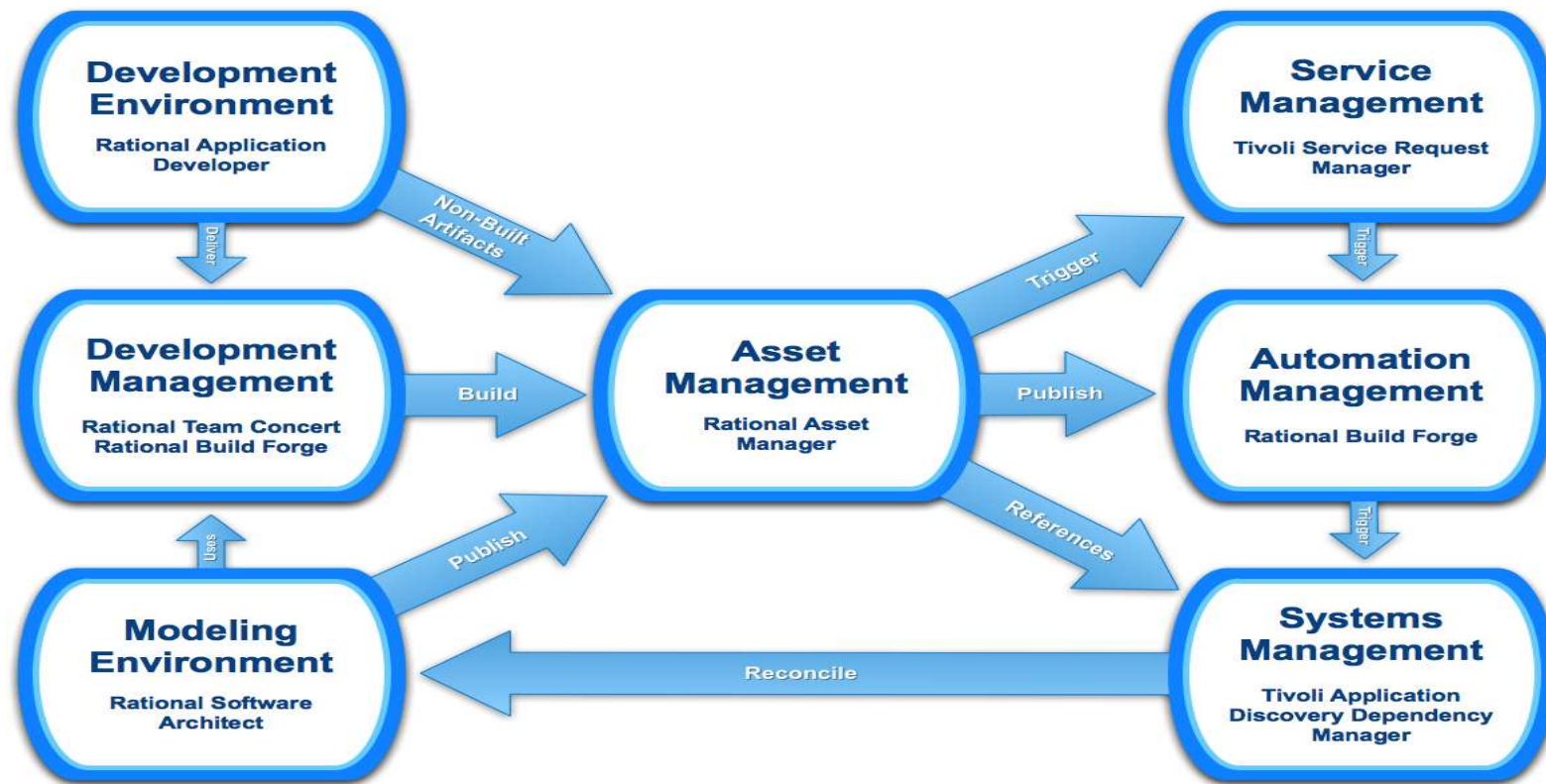


Key Solution Components

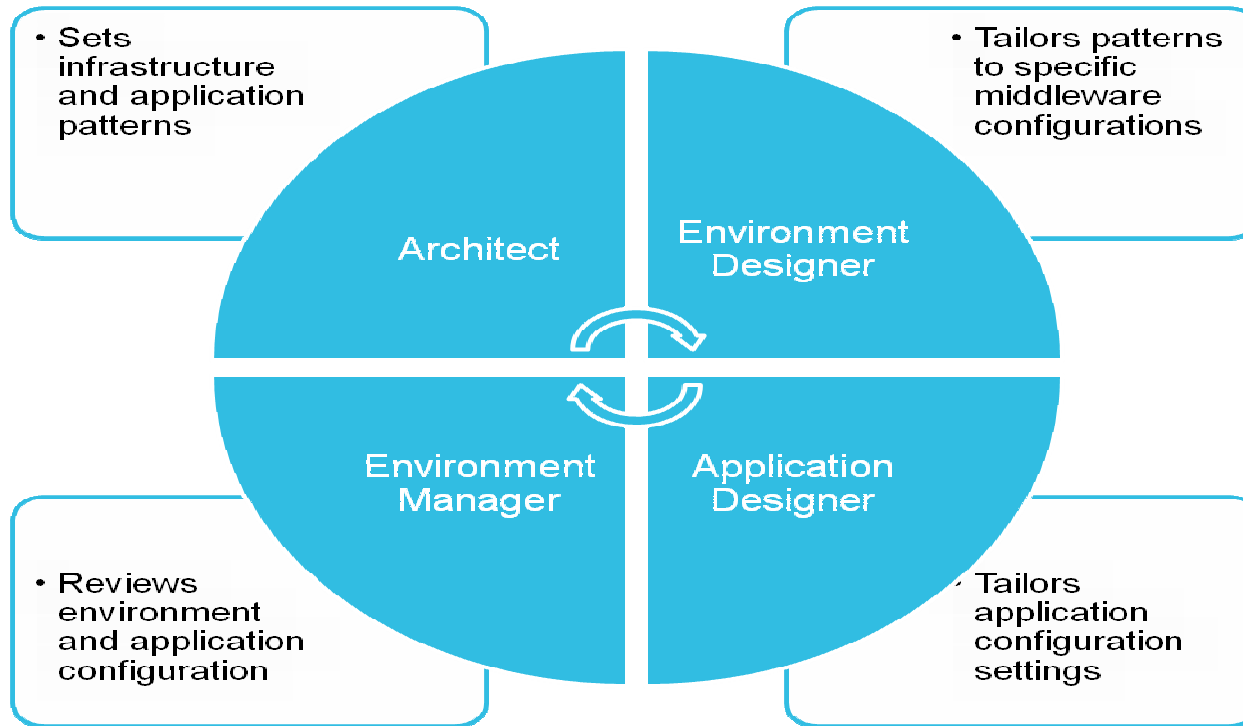
- Rational Software Architect (RSA)
 - Topological visualization, Workflow deployment
- Rational Asset Manager (RAM)
 - Governance, Architectural Compliance, dependency management (macro level)
- Rational Build Forge (RBF)
 - Automatic processing and Service Management integration
- Rational Team Concert (RTC/RTCz)
 - Modularity and dependency management (micro level)
- Tivoli Application Dependency Discovery Manager (TADDM), Tivoli Service Request Manager (TSRM)
 - Reconcile in-band and out-of-band changes to design



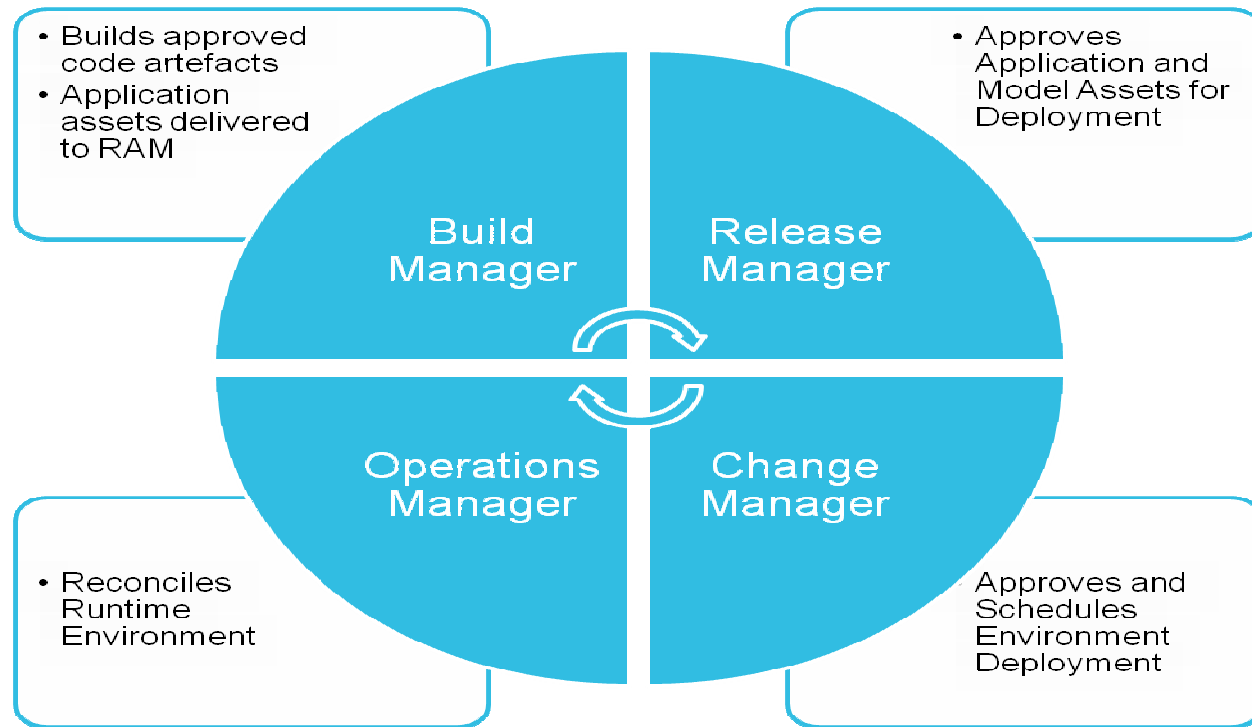
Solution Architecture



Environment Management Cycle



Governance Cycle

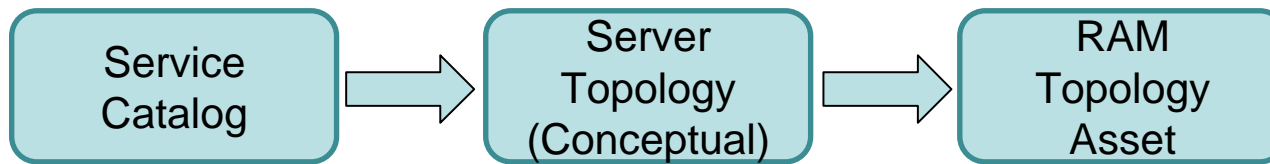


Scenario: Environment Stand-Up and Reconcile

- Hardware provisioning
 - Conceptual and physical topologies
 - Document generation for Service Provider
- Middleware provisioning
 - Conceptual and physical topologies
 - Document generation for Service Provider
- Application deployment
 - Conceptual and physical topologies
 - Generate workflows and effect change
- Discovery and Data Reconciliation



Service Catalog Alignment



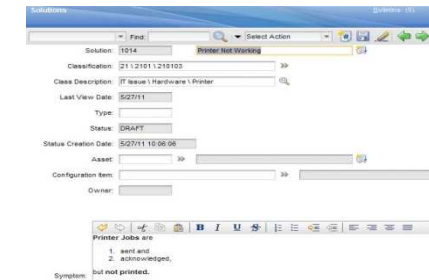
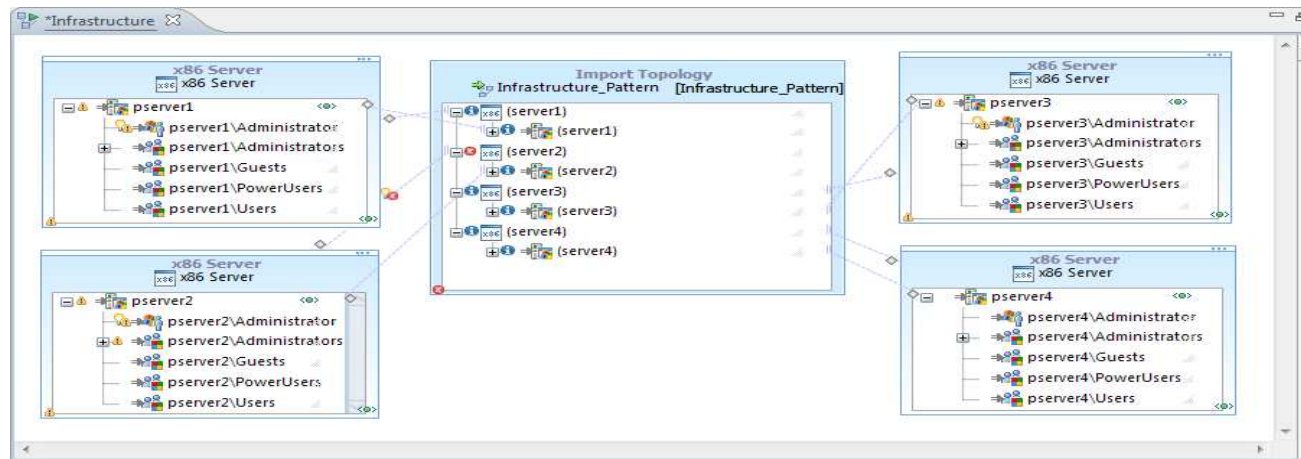
The image displays two screenshots illustrating the integration of service catalogs with server topology.

The left screenshot shows the **Tivoli Service Request Manager 7.1 Service Catalog**. It features a tree view on the left with categories like "IT Environment", "IT Services", and "IT Support". The main area displays a table of service requests with columns for ID, Description, and Status. A central window titled **Standard Small Development Configuration** shows a hierarchical tree structure for a **Windows Server 2008 (server1)**, including roles like **Administrators**, **Guests**, **PowerUsers**, and **Users**, all connected to an **x86 Server (server1)**.

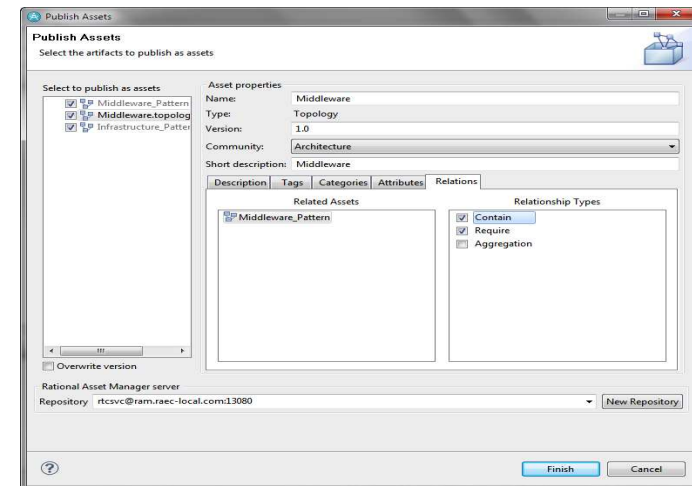
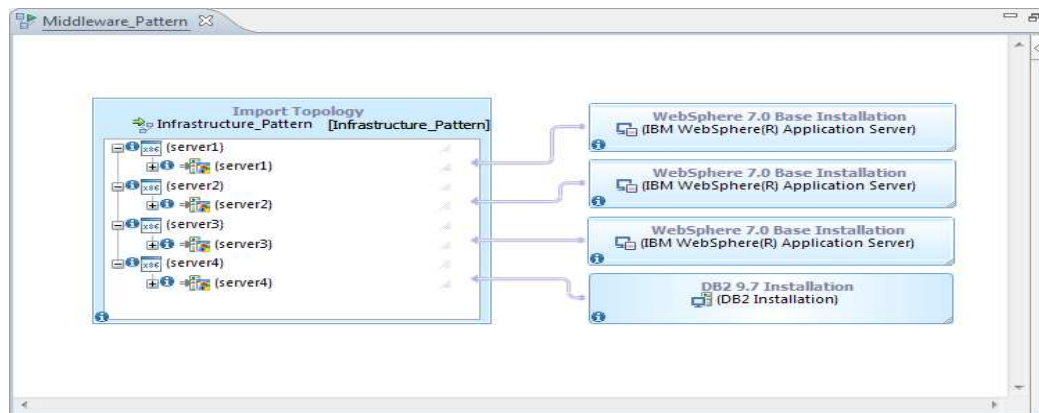
The right screenshot shows the **Rational Asset Manager** interface. The browser address bar indicates the URL: `http://ram.raec-local.com:13080/ram/assetDetail/generalDetails.faces?guid=6EAC4401-8F03-4...`. The page title is **Rational Asset Manager**. The main content area displays details for the **Infrastructure_Pattern [1.0]** asset, including a "Download this Asset" button, "General Details" (Content, Collaboration, Ratings, Forums, Statistics), "Attributes" (Owners: RTC Service, Community: Service Management, Type: Topology, Unique ID: 6EAC4401-8F03-6510-0E75-B48D31DC420C, Primary Artifact: Infrastructure_Pattern.topology), and a "Versions" section showing **Infrastructure_Pattern [1.0]** as **Approved**. A log at the bottom shows activity: "RTC Service changed the state to Approved - 7/12/11 4:17 PM" and "RTC Service subscribed - 7/12/11 4:14 PM".



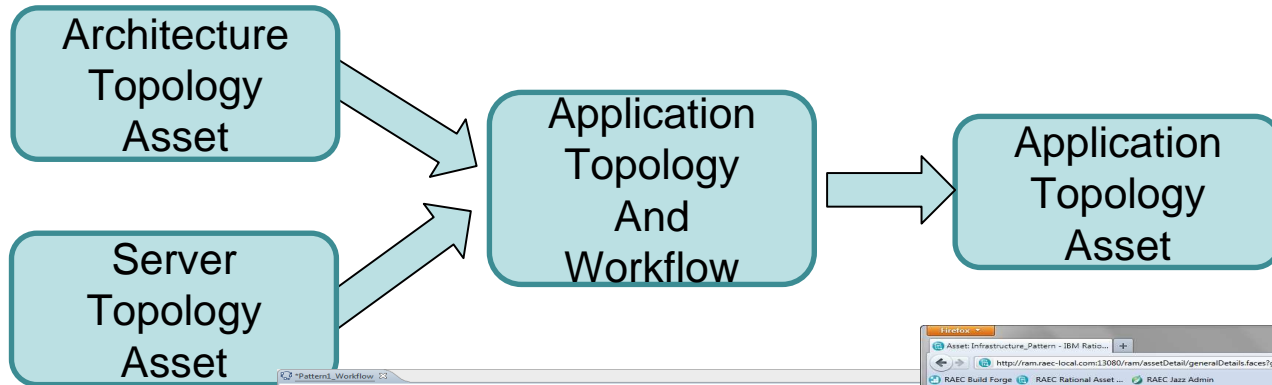
Generating the Provisioning Service Request



Platform Architecture Standards



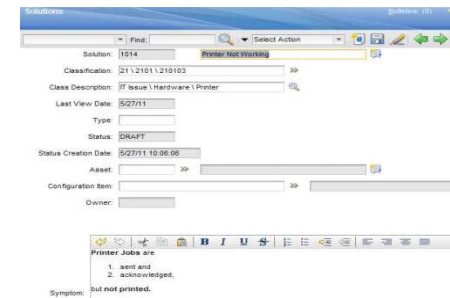
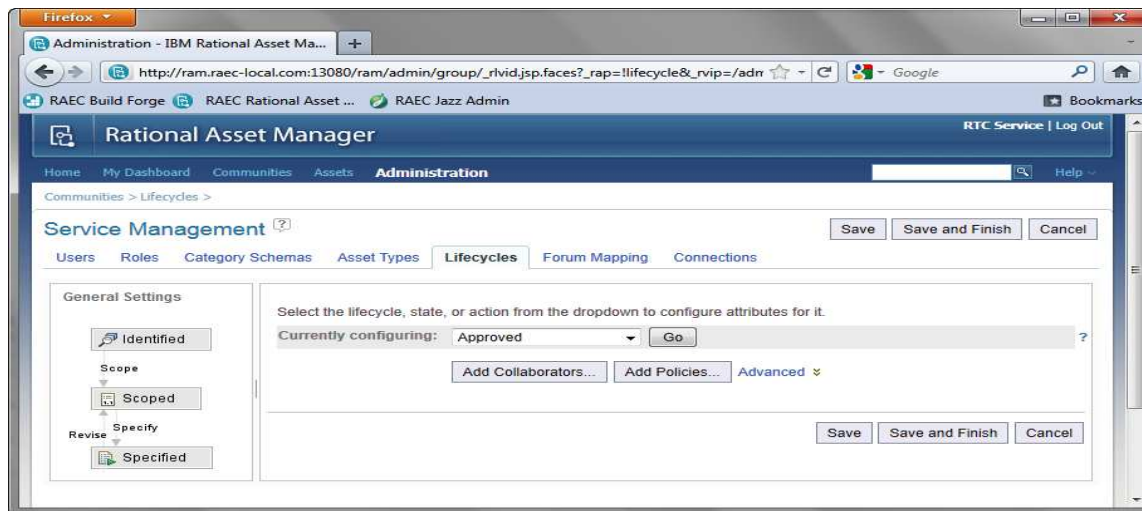
Middleware and Application Configuration



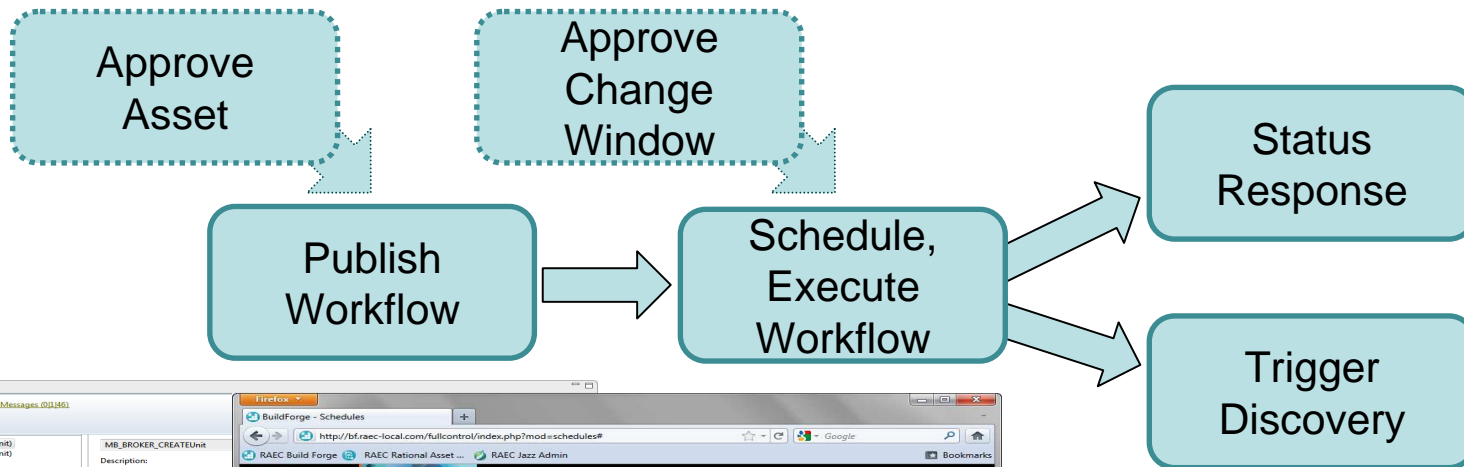
The image displays two screenshots from IBM Rational software. The left screenshot shows the Rational Software Architect (RSA) interface with a context menu open over a project. The menu options are: Import Asset With, Import Asset, Browse Asset, Open Asset in Web Client, Batch Update, Toggle Push Pin, Create subscription, and Request Permission... The right screenshot shows the Rational Asset Manager (RAM) web client interface. It displays the details for an asset named 'Infrastructure_Pattern [1.0]'. The 'Attributes' section includes: Owners: RTC Service, Community: Service Management, Type: Topology, Unique ID: 6EAC4401-8F03-9510-0E75-B48D31DC420C, and Primary Artifact: Infrastructure_Pattern.topology. The 'Versions' section shows 'Infrastructure_Pattern [1.0]' with an 'Approved' status.



Connecting Asset Management with Service Management



Automation Signatures, Workflow Publishing, Execution



The screenshot displays the Rational Asset Forge interface. On the left, a 'Topology: Pattern1.topology' tree lists various components like 'MB_BROKER_CREATE (BrokerUnit)', 'MQ_QUEUE_REMOTE_ALTER (SRC:LAJ.GETCLIENTP)', and 'MQ_QUEUE_LOCAL_CREATE (ESB.GETCLIENTP)'. The main window shows a 'Schedules' view with a table of execution steps:

Step	Step Name	Result
1	MQ_QUEUE_REMOTE_ALTER (DOCROUTE)	Passed
2	mq_aremote	Passed
3	MQ_QUEUE_LOCAL_ALTER (_INCOMING)	Passed
4	mq_glocal	Passed
5	MQ_QUEUE_REMOTE_ALTER (DOCROUTE) (2)	Passed
6	mq_aremote	Passed
7	MQ_QUEUE_LOCAL_ALTER (_INCOMING) (2)	Passed
8	mq_glocal	Passed
9	MQ_QUEUE_ALIAS_ALTER (_ROUTE.ALIAS)	Passed
10	mq_galias	Passed
11	MQ_QUEUE_LOCAL_ALTER (DOCROUTE)	Passed
12	mq_glocal	Passed

The screenshot shows a 'Job Execution' window for 'Pattern1.Job1'. It displays the following details:

- Classification: 0104
- Status: **Pattern1.Job1 Working**
- Last View Date: 02/21/11
- Type: Job
- Status Creation Date: 02/21/11 12:08:04
- Configuration Item: Job
- Owner:

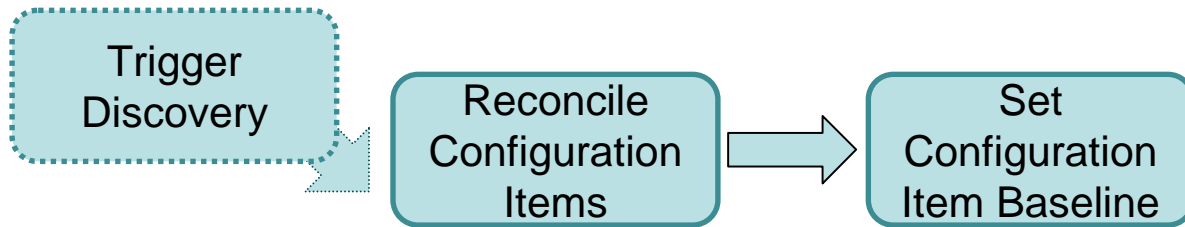
Below the details, there is a 'Messages' section with a list of messages:

1. send mail
2. send message

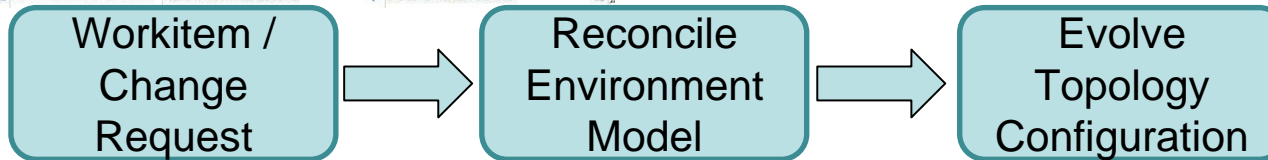
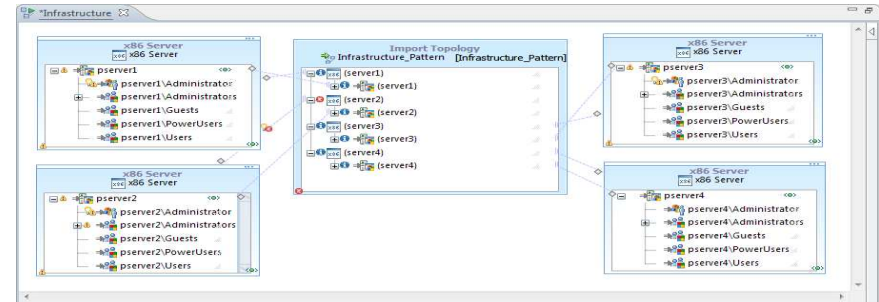
The status 'not not printed.' is also visible.



Operational Execution, Configuration Item (CI) Reconcile

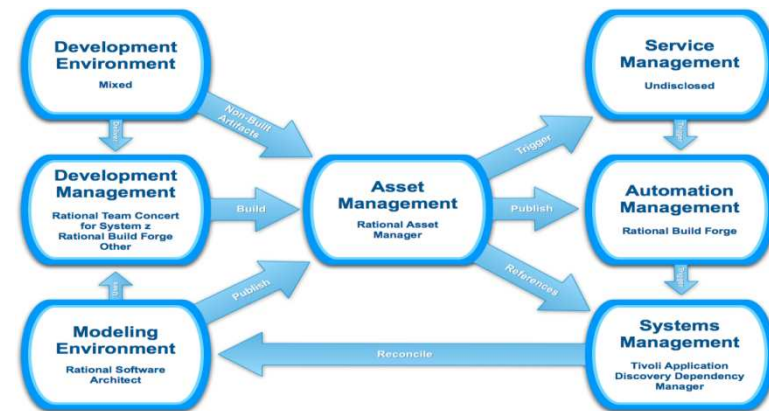


Source Actual Configuration Item	Classification	Relation	Target Actual Configuration Item
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_ACCESSESVIA	10.3.100.102:10.3.100.102:0:FORCEDSERVER
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_RUNSON	10.3.100.102
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_USES	10.3.100.102:10.3.100.102:0:POF
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_CONFIGUREDUSING	EXECUTION GROUP SOAP
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_CONFIGUREDUSING	FLOW MQSIRESPONSE
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_CONFIGUREDUSING	FLOW CUSTRIFOURDATEFLOW
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_CONFIGUREDUSING	FLOW_BACKEND
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_CONFIGUREDUSING	FLOW MQSIREQUEST
10.3.100.102:MB7BROKER	ACTCICLASS \ APPAPPSERVER	RELATION_CONFIGUREDUSING	EXECUTION GROUP DEFAULT



Wrap-Up

- Elegant bridging between development and operations
- Asset governance oversees asset usage and promotion
- Asset policies seamlessly tie finished work products to execution
- Data driven design to runtime traceability and execution



Thank you! Questions?

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