IBM System z Technology Summit

Finding and managing your business rules using ILOG and Rational Asset Analyzer (RAA)

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Agenda

- **Business Rule Modernization Work flow**
- **Rule Mining Projects**
- **Business Rule Primer**
- **Rational Asset Analyzer Version 6**

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Why Business Rule Modernization & Why Now?

- Business need: Business application “decision making” needs to adapt to changes in the marketplace, in time to make a difference
- Application Development drivers
  - Cost savings
    More effective application development & maintenance with less business risk
    Consolidation/Restructure of existing applications, saving hardware & resources
  - Changing ratio of source inventory to development skills
    Forcing need for formal processes with an on line electronic repository
  - Be able to react to changes requested by business in days, not months
- Business Rule Modernization: Applying technology and process to gain increased “decision making” agility for business applications

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Rule Modernization: Business Perspective

- **Business and IT Value**
  - Re-align applications to support emerging business requirements
  - Manage the business rules to be visible and easily maintained by business analysts
  - Provides a knowledge base that is accessible for application understanding and ongoing management.
  - Enable decision services for SOA and other modernization strategies

- **Cost Optimization & Agility**
  - ROI from effective, accelerated change management and governance of the rules that run your business
  - Risk Reduction through reuse of proven, existing logic in a modernized architecture while rationalizing software assets that are misaligned with corporate priorities

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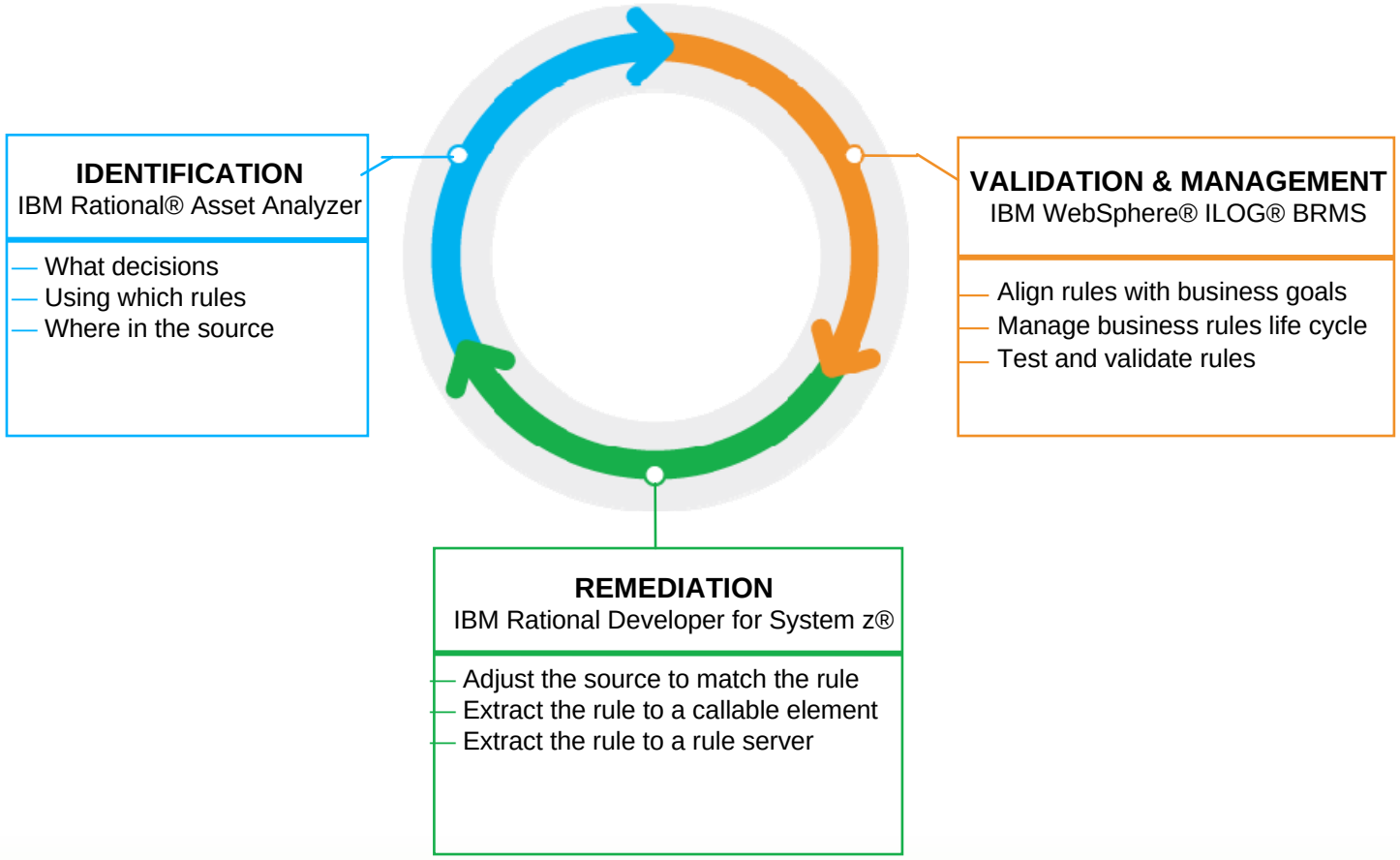
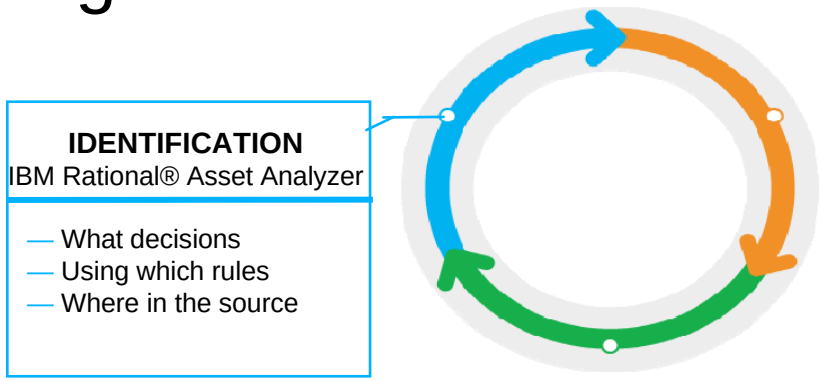
Business Rule Modernization



Delivering…

The essentials for business rule mining of existing software assets enhancing the ability to capture, maintain and take advantage of application knowledge that can provide insight into an application's structure and its interactions with business data.

Business Rule Mining with RAA V6



- **Scope the effort**
  - Defined Business Goal: specific set of business decisions
  - Deliver incremental value: Keep a manageable size with timely deliverables
- **Establish the vocabulary**
  - Import Business Terms from ILOG BRMS or define them with RAA dialogs
  - Map Business Terms to developer “terms”, code variables and data elements
- **Define the candidate business rules**
  - RAA will identify source statements that “act” on the business terms via the variables, etc
  - Consider source statements that act on the terms for candidate rules
  - Map source statements to rule definitions using ILOG Editor within RAA
- **Export Rules to ILOG BRMS**

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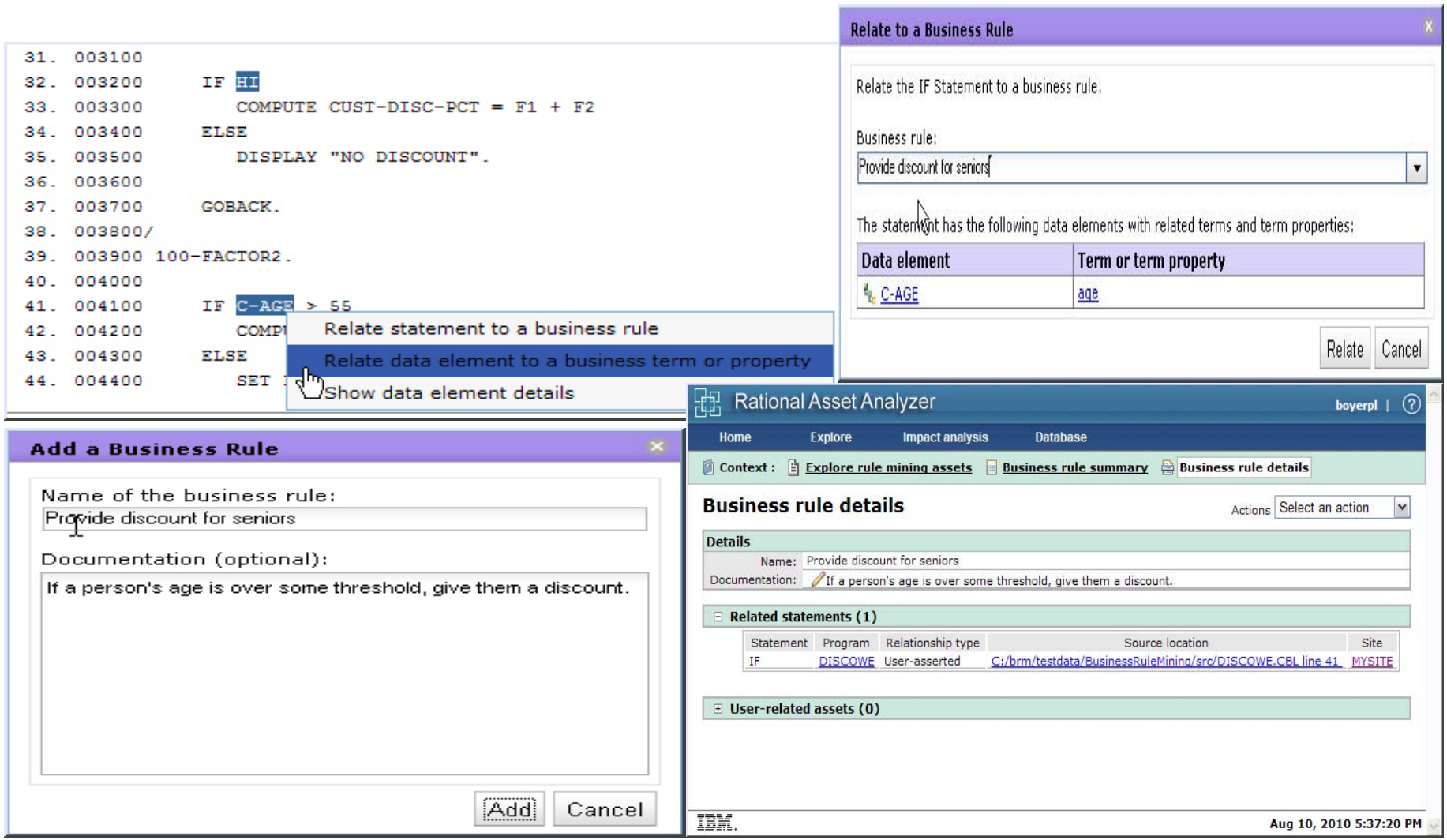
Business Rule Modernization: Identification...



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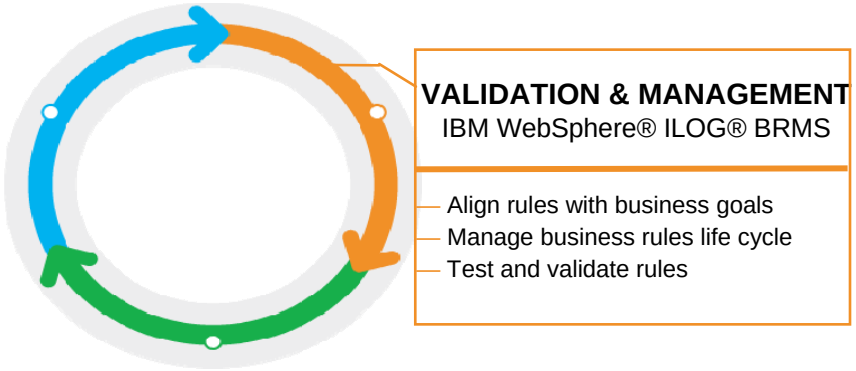
Business Rule Mining with RAA V6 ...



- **Validate the Rules**
  - Source derived rules create an objective basis for discussion
  - Establish what the rule “should be” vs “what it is” in the source
  - Within ILOG BRMS, capture any rule revisions
- **Integrate and Reconcile Rules with broader Rule policies**
  - Identify and reconcile any conflicting rules
  - Consider value/impact of sharing rules in common
  - Within ILOG BRMS, capture any rule revisions
- **Select Source Code Remediation Options**
  - Update application source to conform to ILOG rule(s)
  - Update application source to call ILOG generated rules in COBOL
  - Update application source to call ILOG Rule Server, directly or via web service

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Business Rules Modernization: Remediation

Bring the source code into compliance with business rule decisions

- **Assess the complexity of the effort**
  - a) Small changes or the rules do not change frequently
  - b) Need to modularize the rule code but constrained by performance requirements
  - c) Need to move rule management to the business teams
- **Select the compliance approach based on the complexity**
  - a) Adjust the source code
  - b) Extract the rule execution code into a callable module
  - c) Extract the rule execution code and replace it with calls to a Rule Server

Note: Compliance choices will drive how on-going rule updates will be handled

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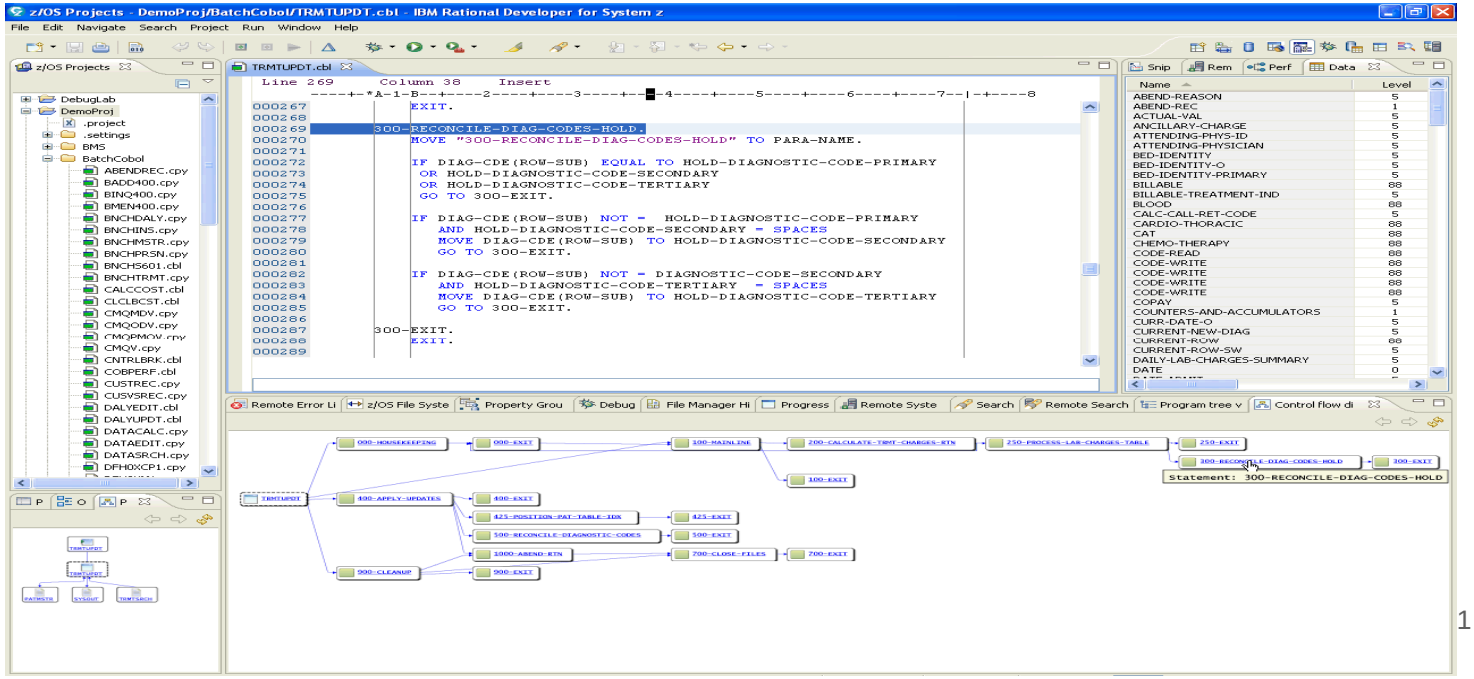
Business Rules Modernization: Remediation

- Prioritize and drive the application update projects
- Exploit RDz – RAA synergy using RAA Integration Eclipse Plug-in
- Leverage the “breadcrumbs” left by the Analysis (*expanded future effort*)
- Redesign rules using ILOG JRules Rule Editors
- Governance and change management of rules using ILOG JRules



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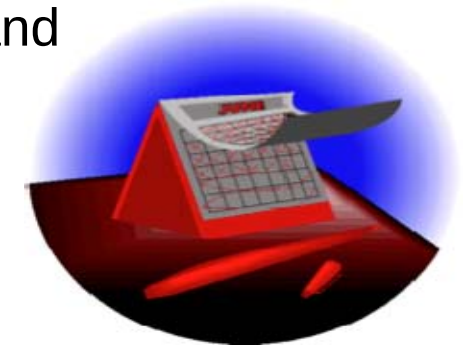
How to Identify a First BRM Project?

COBOL application projects in which there is a need to “open up the application”

- Add new functionality; new product; new business policy
- Maintenance project with massive changes
- Consolidate existing application

Business rule mining is the process of extracting essential intellectual business logic from packaged or application software, recasting them in a formal language, and managing them in a BRMS.



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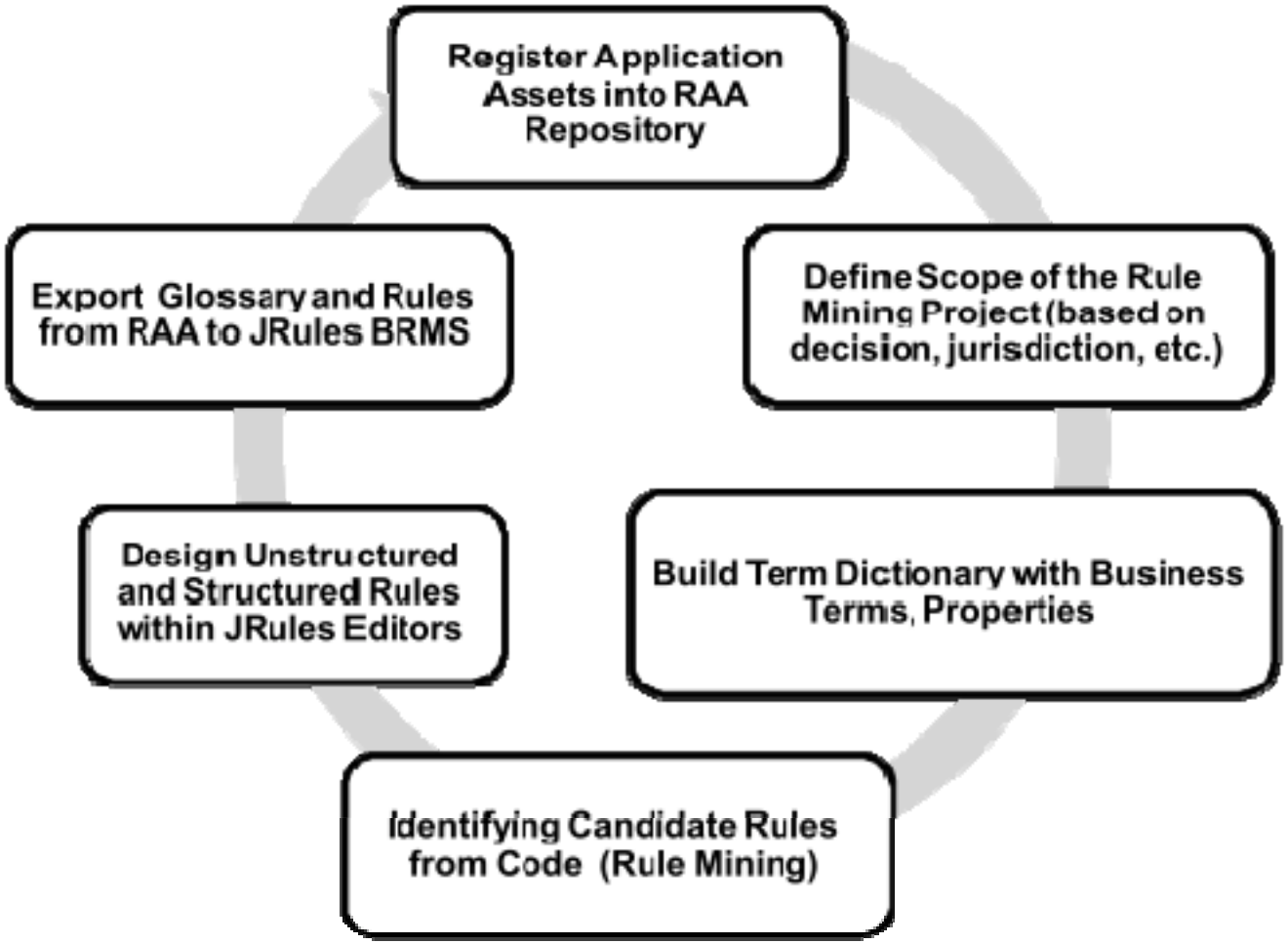
Business Rules Modernization Project Flow



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Business Rules Mining and BRMS: Before and After

- Agility
  - Business managers held back by long system change waiting periods, often measured in months
- Usage of IT resources
  - Typically, 40–50% of IT resources are deployed on application maintenance
- Consistency
  - Business logic reuse is impossible across applications, enterprise consistency suffers
- Transparency
  - Inability for managers and users to understand or trust the systems they depend upon, reducing competitiveness, efficiency and quality of customer service
- Auditability
  - Difficult to track what decisions were made and why

- Agility
  - Change request implemented in a matter of hours or days
- Usage of IT resources
  - Changes can be enacted by business organizations
- Consistency
  - Rule services can be reused across channel and organization
- Transparency
  - Business rules are accessible to anybody; what you see is what you get – traceability
- Auditability
  - Built-in auditability at management time and at run time

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Business Policies and Business Rules

Business Policies

Business Rules

Formal statements of business policies that define or constrain some aspect of the business

Business Applications

Pricing / Quoting
Underwriting
Commissioning
Claim Processing
Order Management
Risk
Fraud Detection
Accounting…

Example:

Only prime loans are eligible for purchase

If loan amount is less than or equal to prime loan limit Then loan type is prime

If loan type is not prime Then reject loan

Point of Sale

Servicing

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Traditional Approach for Managing Decision Change

- The traditional (ad hoc) approach of dealing with rule changes leads to…

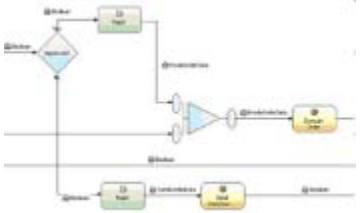
Reduced organizational agility
Reduced employee productivity
Increased load on IT

Where Business Rules Typically Exist

Applications

Documents

People



Processes

Issues

Rules are hidden in code or isolated within the organization

Changes are hard to track and maintain over time

Rules used by systems have to be programmed and require IT resources

Duplication and multiple versions of the same rules

Lack of audibility, traceability

Decision changes cannot be easily tested or simulated

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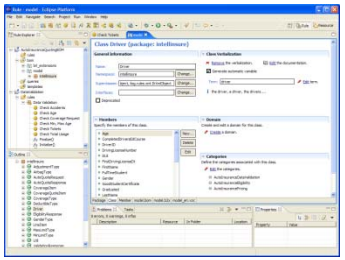
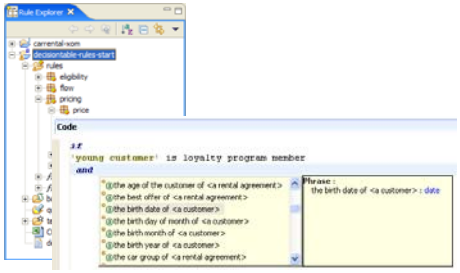
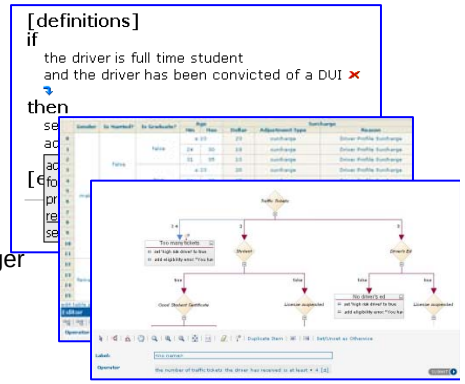
Business Rules Management System (BRMS)

Provides complete functionality and tooling to fully maintain and manage an organization's business rules through the complete business rule life cycle by multiple roles.







Business Analyst

Developer

Policy Manager

System Administrator

Model

Author

Validate

Test

Deploy

Execute

Monitor

Analyze

Enterprise Rule Repository

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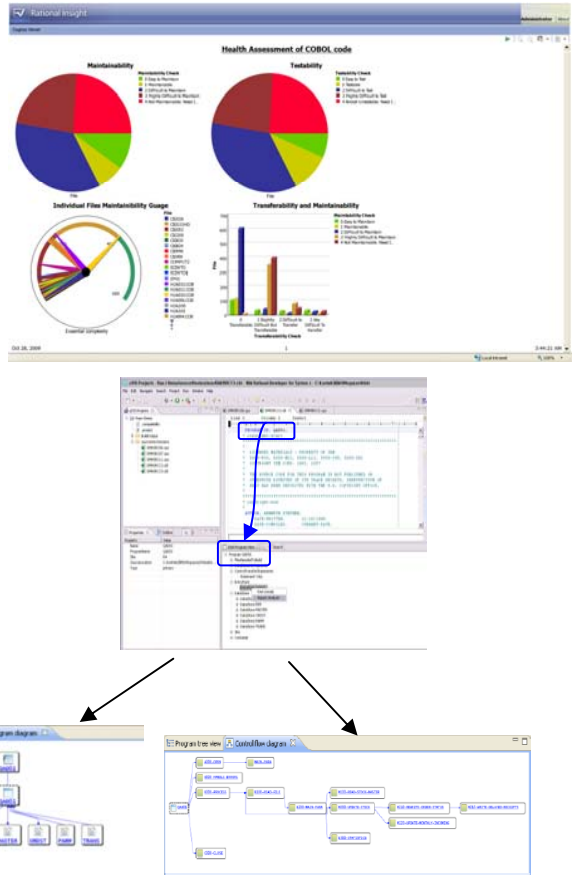
Rational Asset Analyzer V6

- Infrastructure Optimization
  - Install, license management, etc.
  - Support in RAA for Windows 7 – replace Compilers with Importers (Compiler Front-ends)
  - Comprehensive RESTful access to RAA information, deprecating Web Services code
  - Symbol Scanner for expanded artifact analysis
- User Interface Enhancements
  - RAA User Interface Enhancements
  - Practical guidance White Paper for Insight based Reporting
- RAAi and RDz Effectiveness
  - RDz Remote Project Support
  - RAAi provided in both z/OS and Windows packages
- RAA and Business Rule Mining
  - Extend RAA “vocabulary” to include business rule terms consistent with ILOG
  - Leverage RAA's capabilities to identify and capture candidate business rules
  - Interoperate w/ILOG BRMS technologies – Vocabulary and Rules



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RAA Version 6 & RAA for System z: Sibling Products

- Independent offerings
- Common metadata schema
- Consistent results for common functions

RAA for System z

- Installs on z/OS
- Scans artifacts “in place”
- z/OS source & “resources of interest”
- Data retained in DB2 for z/OS
- Provides a remote component for Windows or AIX server for scan of Java assets
- Same functionality as RAA on Windows
- Supports “shared knowledge” use case

RAA

- Installs on Windows, including Windows 7
- Scans offloaded to Windows
- COBOL,PL/I,JCL downloaded to RAA
- Java EE on Windows only
- Data retained on DB2 on Windows
- Provides a light z/OS component for
  - CICS/IMS/DB2 “resources of interest”
- High Level Assembler
- Same functionality as RAA for System z
- Supports the “shared knowledge” and “individual (with RDz)” use cases

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Business Rule Mining Capabilities

- **New functionality to assist clients in their business rule mining efforts**
- **Allows you to identify, capture and relate business rule assets to its existing set of IT assets.**
- **Introducing new asset types:**
  - Business term (term)
  - Business term property (property)
  - Business rule (rule)
  - Business category (category)
  - Business process model (process model)
  - Business activity (activity)

- **New dialogs, Source views and relationship detection**
- **Leveraging Web 2.0 technologies**
- **Import/Export function with WebSphere ILOG JRules**

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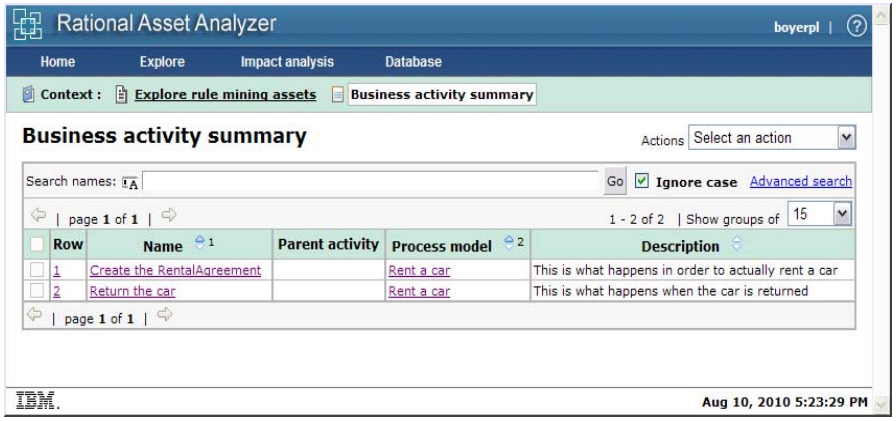
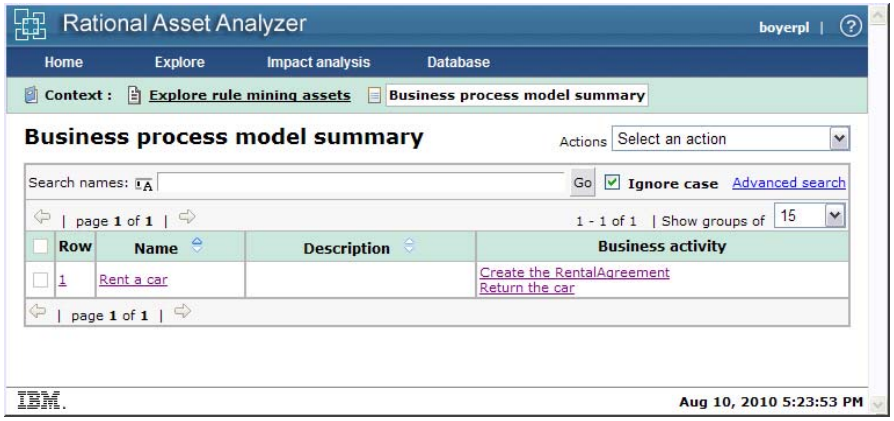
Business Rule Mining Asset Types

- **Business activity (activity) -** a named, structured process or task that produces a specific service or product for a particular customer or customers of a business. A business activity may be a collection of related business activities.



- **Business process model (process model) -** a named collector of business activities used to represent a core aspect of a business.



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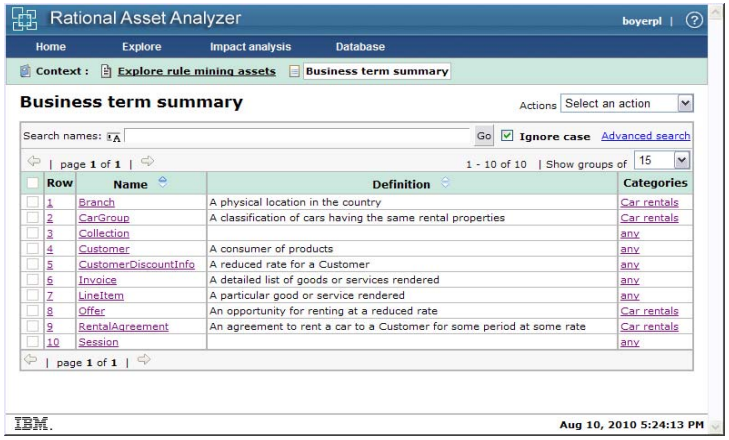
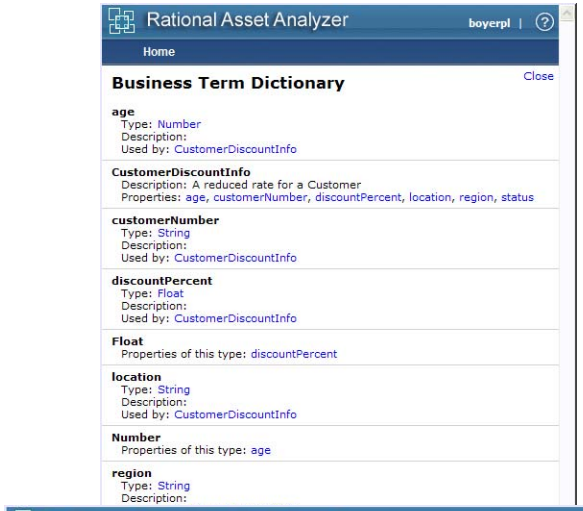
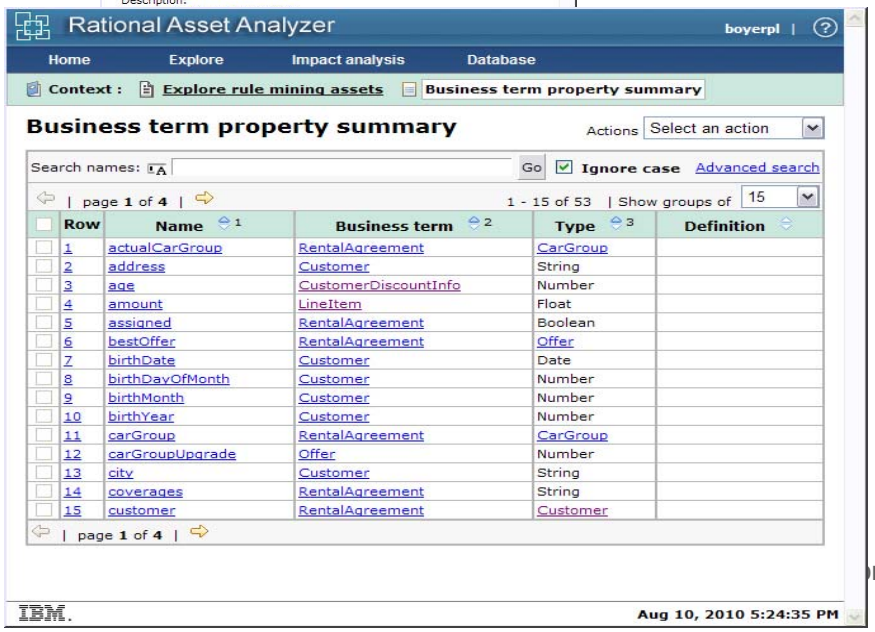
Business Rule Mining Asset Types

- **Business term (term) -** a noun representing a concept used in the business.



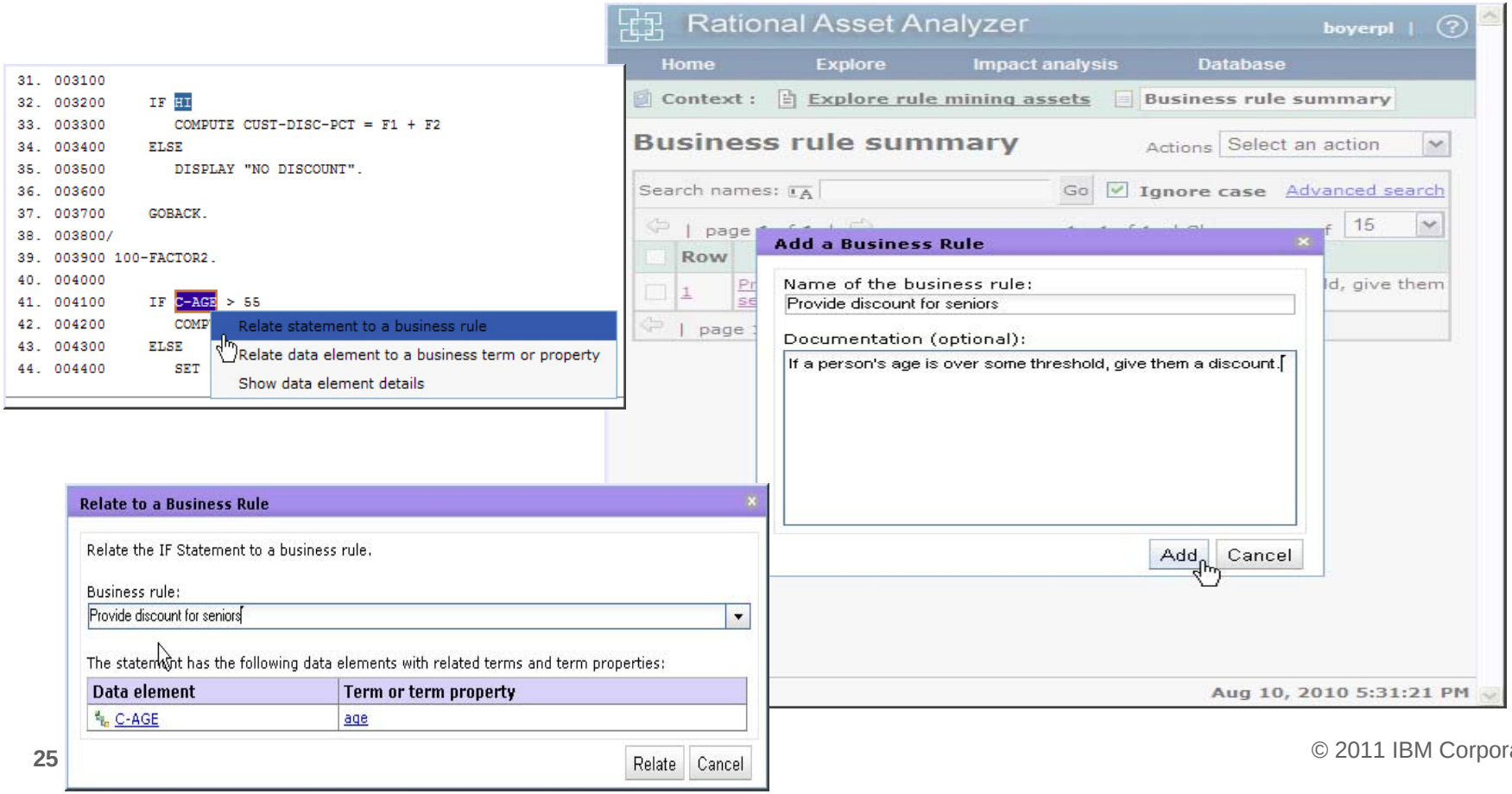
- **Business term property (property) -** a noun, of a specific type, representing an attribute or abstract quality associated with a business term. The relationships between business terms and business term properties are most often stated with the verb ***has*** (for example, *car has driver*) or the preposition ***of*** (for example, *driver of car)*.





Business Rule Mining Asset Types

- **Business rule (rule) -** a named statement, or set of statements, that defines or constrains some aspect of a business. Business rules can be captured in RAA in either an unstructured or structured form, or both.



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For more information on Rational Asset Analyzer

- **ibm.com product web pages:**
  - http://www.ibm.com/software/rational/products/raa/
- **developerWorks pages:**
  - http://www.ibm.com/developerworks/rational/products/raa/
- **Data Sheet:**
  - http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=PM&subtype=SP&appname=SWGE_RA_RA_USEN&htmlfid=RAD14021USEN&attachment=RAD14021USEN.PDF
- **Enterprise Modernization Sandbox:**
  - http://www.ibm.com/developerworks/downloads/emsandbox_systemz/index.html
- **Business Rule Modernization Brochure:**
  - http://www.ibm.com/common/ssi/cgi-bin/ssialias?infotype=PM&subtype=BR&appname=SWGE_RA_ZV_USEN&htmlfid=RAB14042USEN&attachment=RAB14042USEN.PDF
- **Trial download:**
  - http://www.ibm.com/developerworks/downloads/r/assetanalyzer/?S_CMP=rnav

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