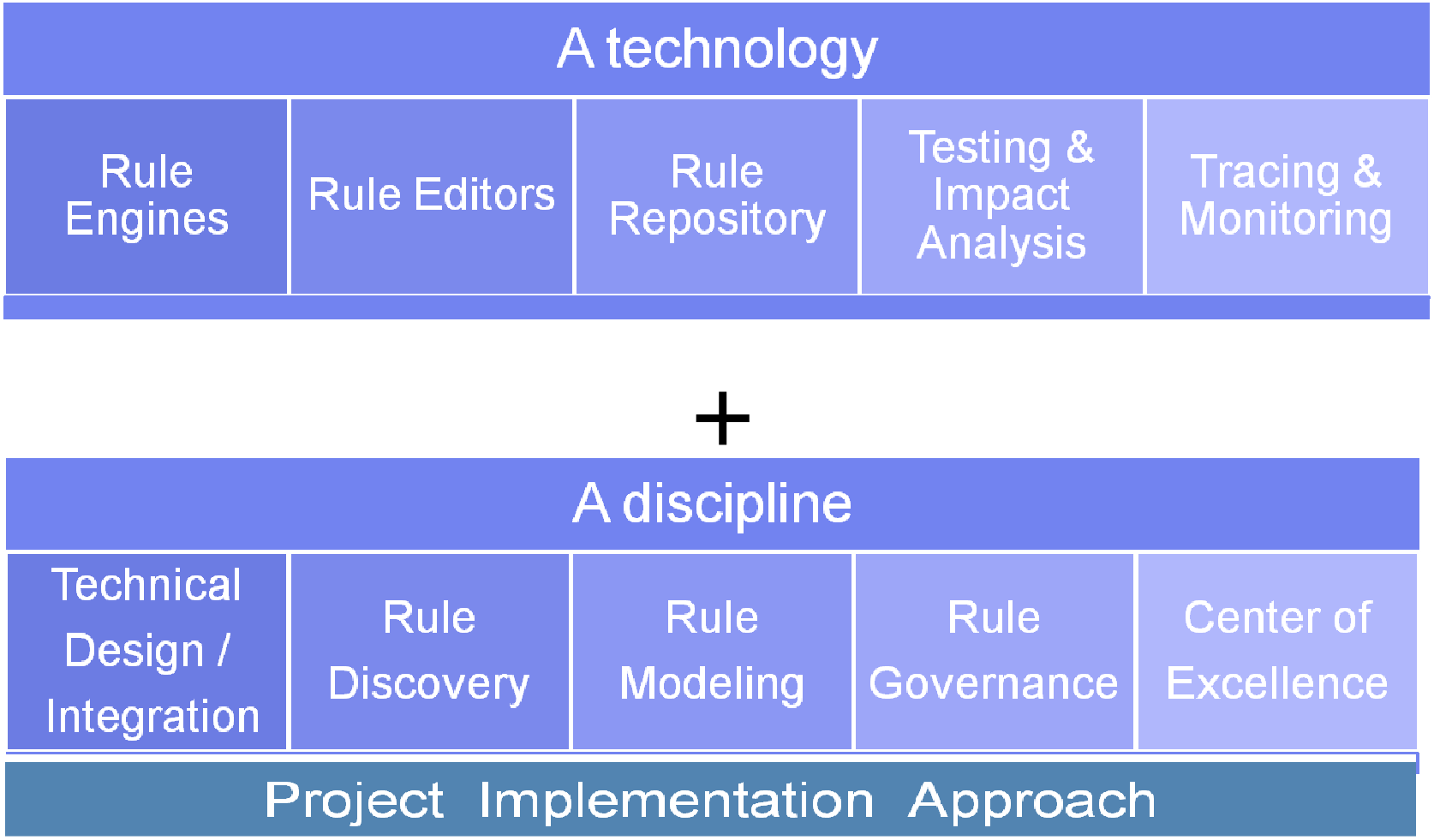
IBM System z Software

P3 – ILOG BRMS and CICS Working Together

Revitalizing Your WebSphere:
Business Rules with ILOG and Rational Software on System z

Agenda

- Improving CICS application agility
- Where to Deploy Business Rules
- Technical Integration Choices and Strategies



What Are Business Rules?

Example 1:

IF a person is a senior citizen,

THEN provide a 5% discount.

Example 2:

IF a person drives more than 150 miles a week to and from work,

THEN add $25 to their auto insurance premium.

Example 3:

IF a customer invests less than $5000

THEN place the customer in the bronze level.

OR

IF a customer invests $5000 or more but less than $10,000

THEN classify the customer as silver.

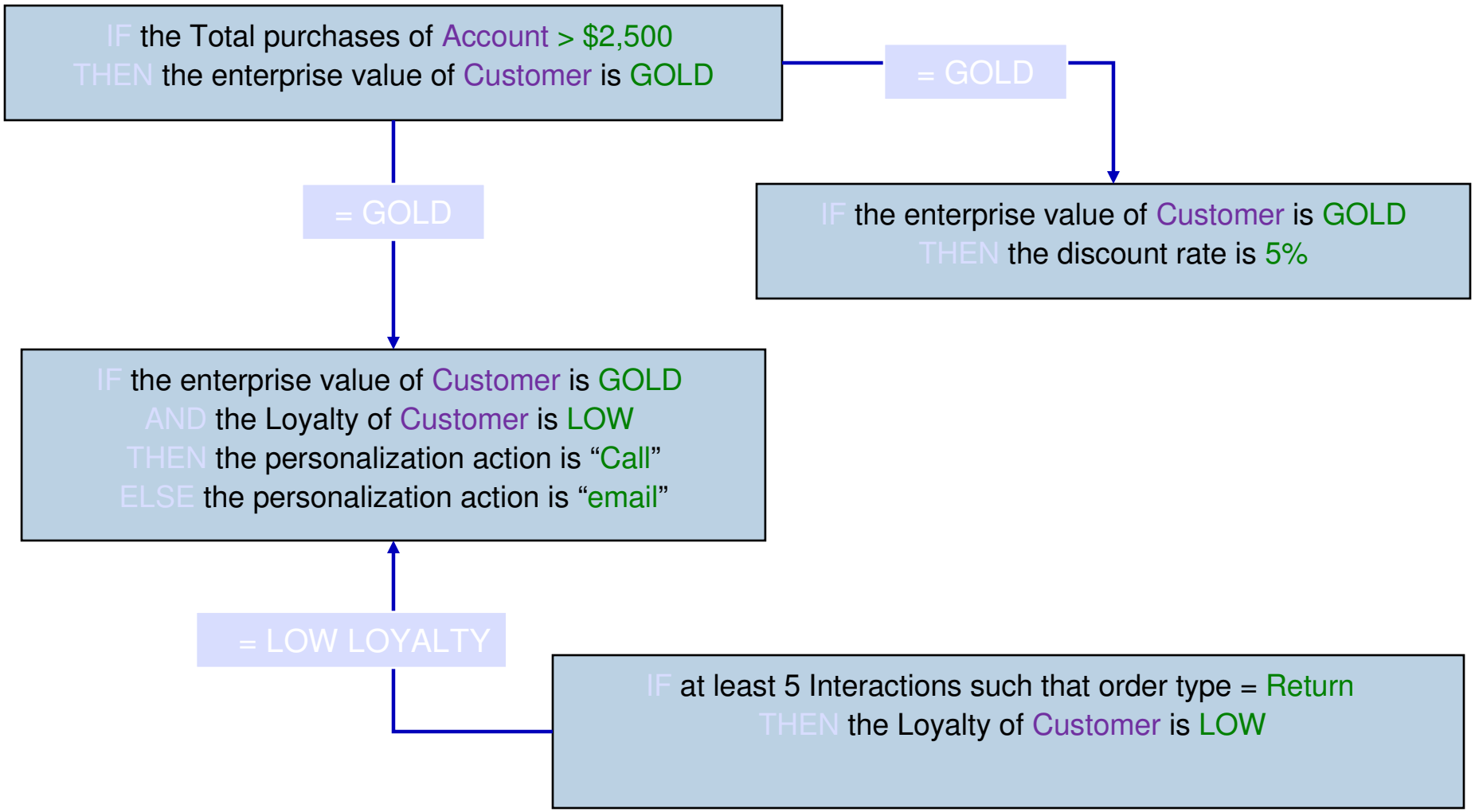
OR

IF a customer invests more than $10,000

THEN consider the customer as gold.

Policies & Procedures

What is a Business Decision?



WebSphere ILOG JRules BRMS

IT Development

Line Of Business

IT Operations

Rule Studio

Rule Solutions for Office

Rule Team Server

Decision Validation Services

Rule Repository

SOA

Rule Execution Server (SOA – Java)

Rule Execution Server .NET

COBOL

Rules for COBOL

Custom Web Applications

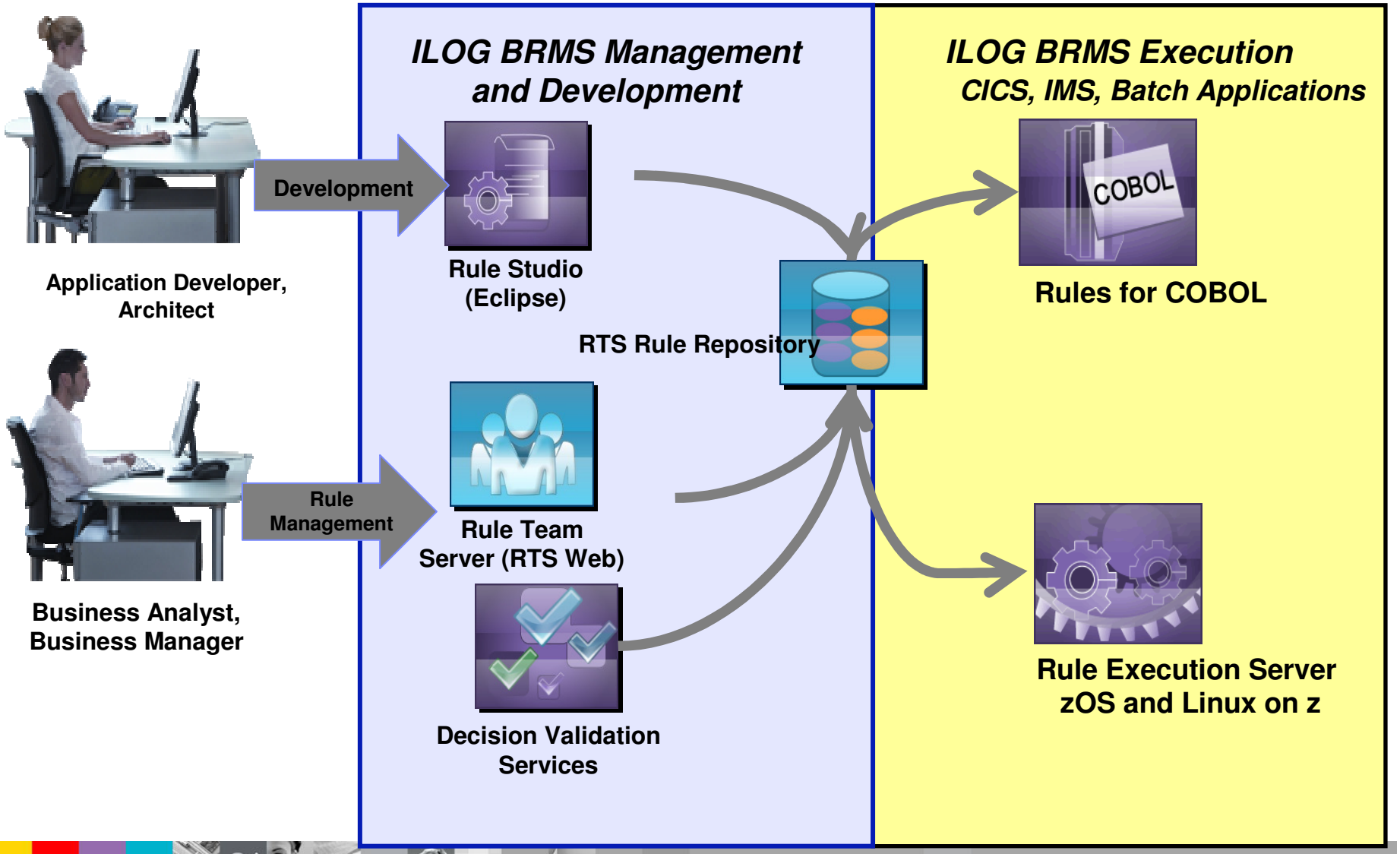
Design

Maintain

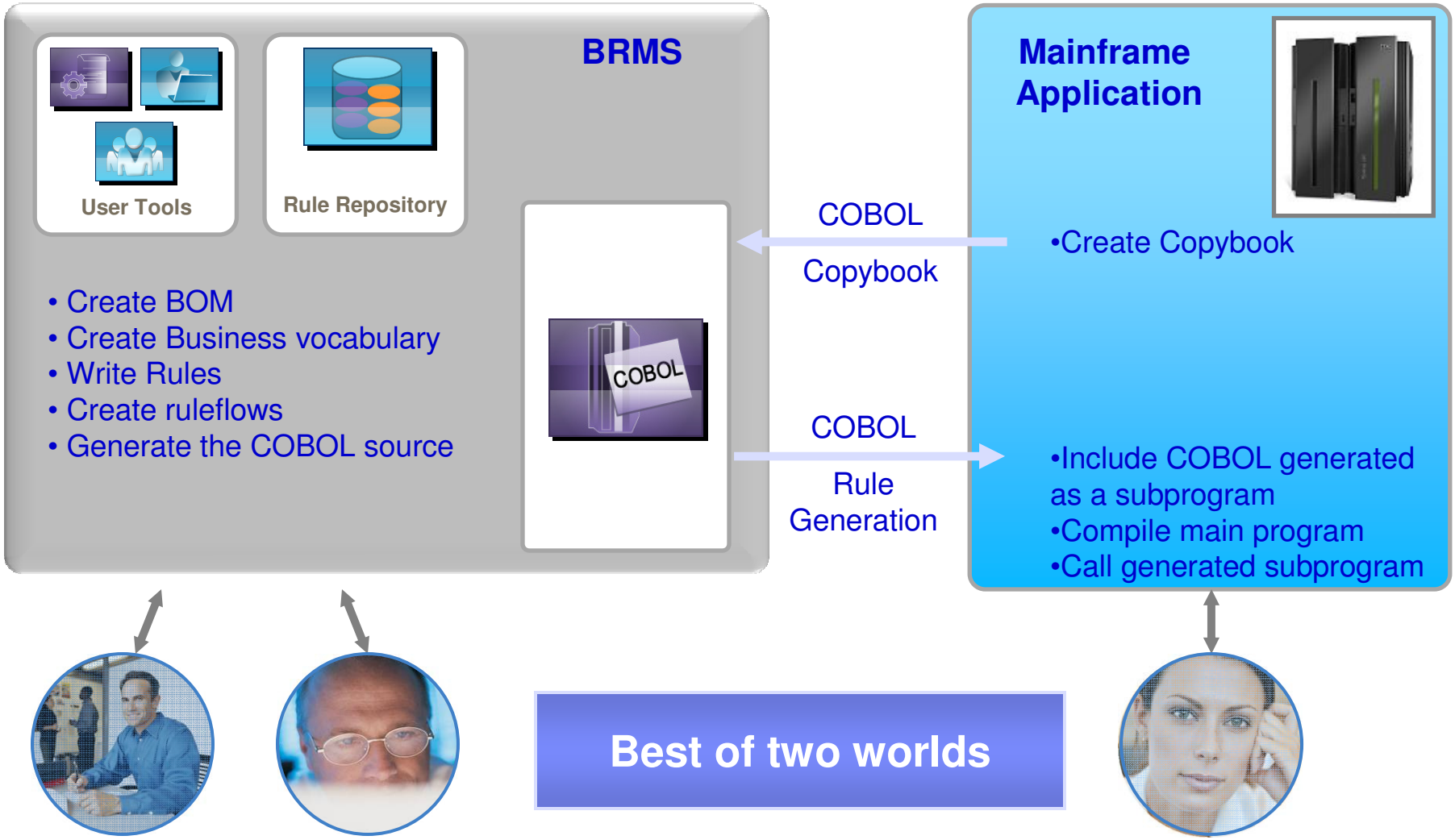
Share

Deploy

ILOG Business Rule Management Solutions for System z

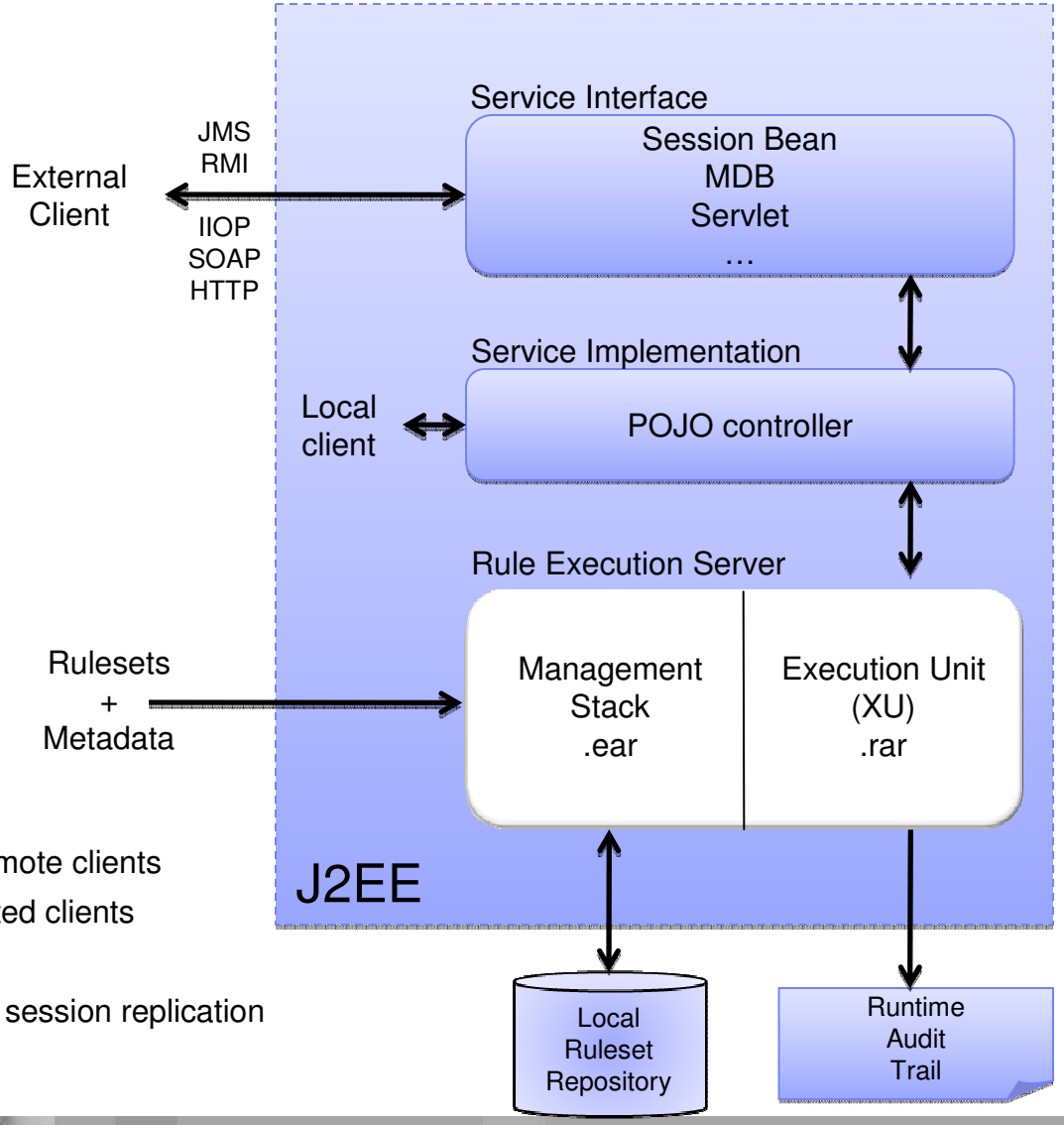


Overview of Rules for COBOL



RES deployment options

- Application Integration Options
  - J2SE with direct API control
  - J2SE managed service
  - J2EE managed service
  - SCA components
  - Web Service
- Data Integration Options
  - Java
  - XML
- Operating Systems
  - Windows
  - Unix/Linux
  - Mainframe (z/OS)
- J2EE architecture
  - J2EE RES
  - Leverage std J2EE service interface for remote clients
  - Use in-memory/local invocation for co-hosted clients
  - POJO application controller
  - App Server handles security, transactions, session replication



What is a Decision Service/Decision Point?

Is this a valid Trade?

Is the loan approved?

Is this a valid application?

What is the "Risk"?

Rating?

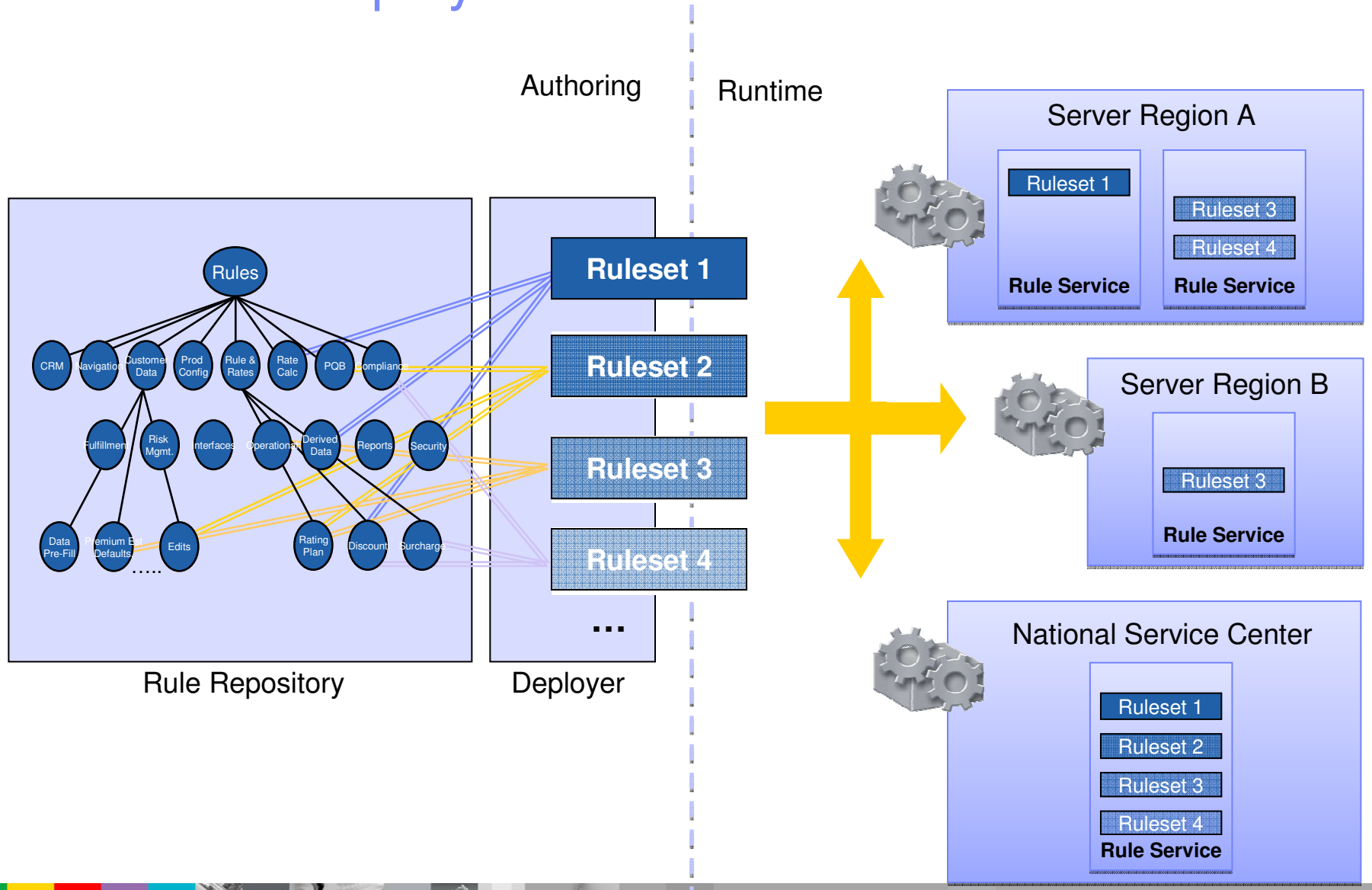
Score?

What is the next step in the process?

What is the price?

What Discount should apply?

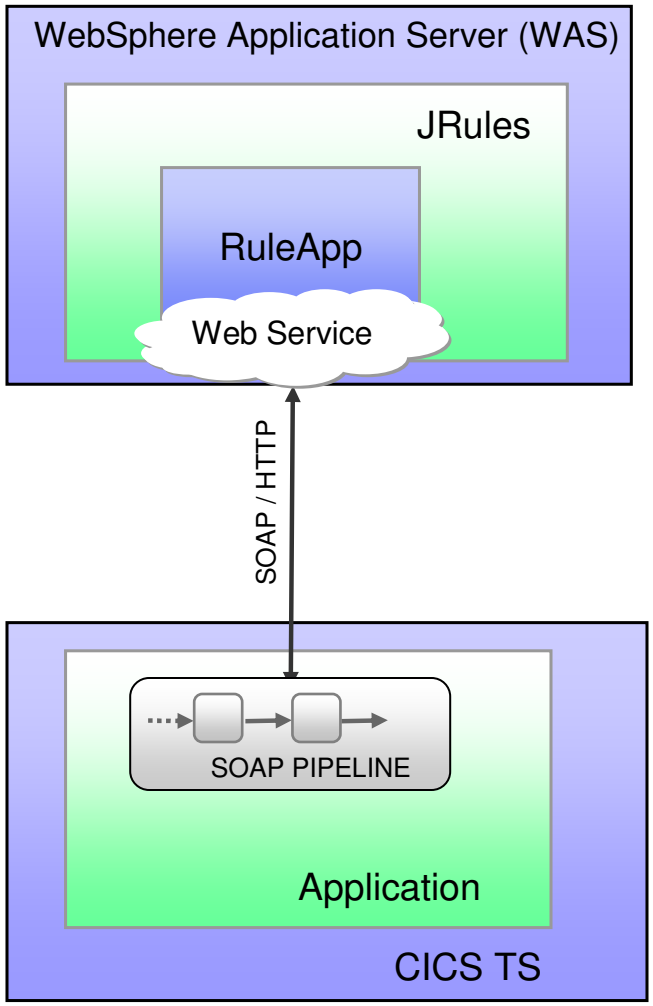
Flexible rule deployments



Options for Integrating CICS & JRules / Rules for COBOL

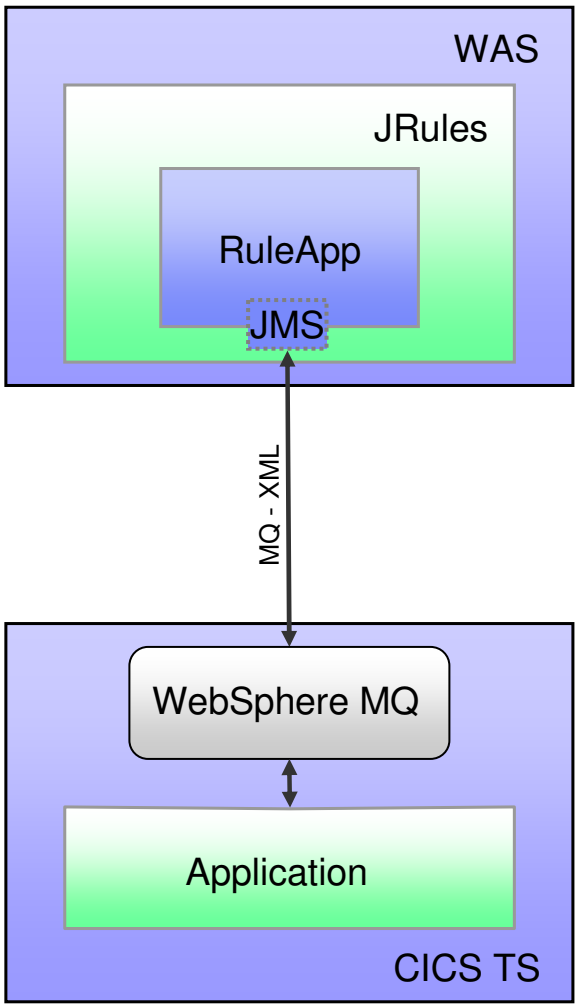
JRules via Web service	Use CICS support for Web services to make an external call out to a Rule Execution Server
JRules via MQ	Use CICS and MQ to make a JMS call out to a Rule Execution Server
JRules Java SE engine	Deploy a core JRules rule engine in a CICS JVM and access the rule engine directly with the JRules API
JRules Java SE Rule Execution Server	Deploy J2SE rule execution server in a CICS JVM and access via RES API
Rules for COBOL	Deploy rules as a COBOL sub-program using either static links or using EXEC CICS Link with Channel and Container.

CICS calling JRules via Web Service



- **Scenario**
  Use CICS Web Services to call JRules hosted in WAS via a Web service
  - Full capability JRules Execution Server
    - e.g. hot deployment from Rule Team Server, Decision Warehousing, Web Management console, etc.
  - Allows CICS to share rules with other platforms
  - Requires knowledge of XML & Web service integration
- **Benefits**
  - Required support is available today
  - Standards-based integration
  - Decisions can be re-used/shared with other systems
  - Connection pooling to execution engine
- Considerations
  - Overhead of XML marshalling & network connection
  - Additional runtime to administer and maintain as the application processing is now split across multiple application servers

CICS calling JRules via MQ

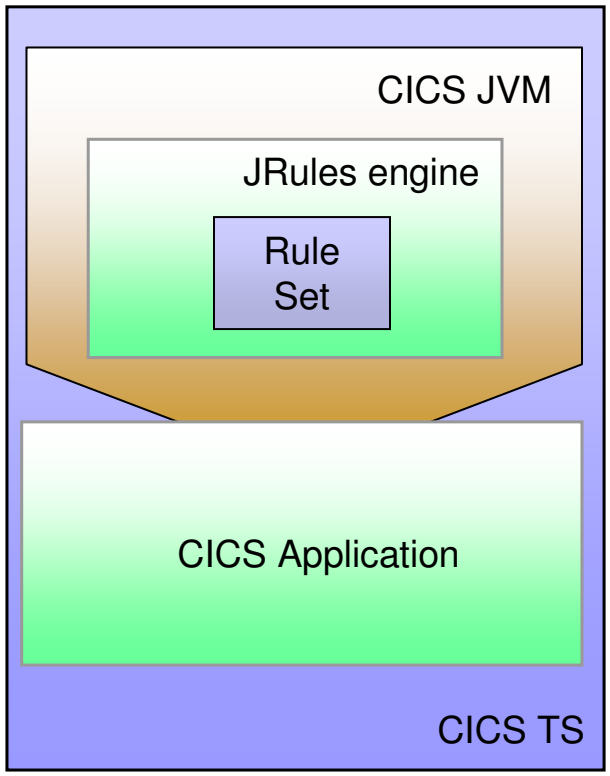


- **Scenario**
  Call a message-driven bean on WAS by sending a message from CICS via MQ.
  - Full capability JRules Execution Server
  - Allows CICS to share rules with other platforms
  - Requires knowledge of XML and JMS integration

- **Benefits**
  - Required support is available today
  - Standards-based integration (JMS)
  - Decisions can be re-used/shared with other systems
  - Connection pooling to execution engine

- Considerations|
  - Overhead of XML marshalling & network connection
  - May potentially require custom code in the hosting environment
  - Custom XML handling code is required
  - Additional runtime to administer and maintain as the application processing is now split across multiple application servers

CICS calling JRules Java SE engine



- **Scenario**

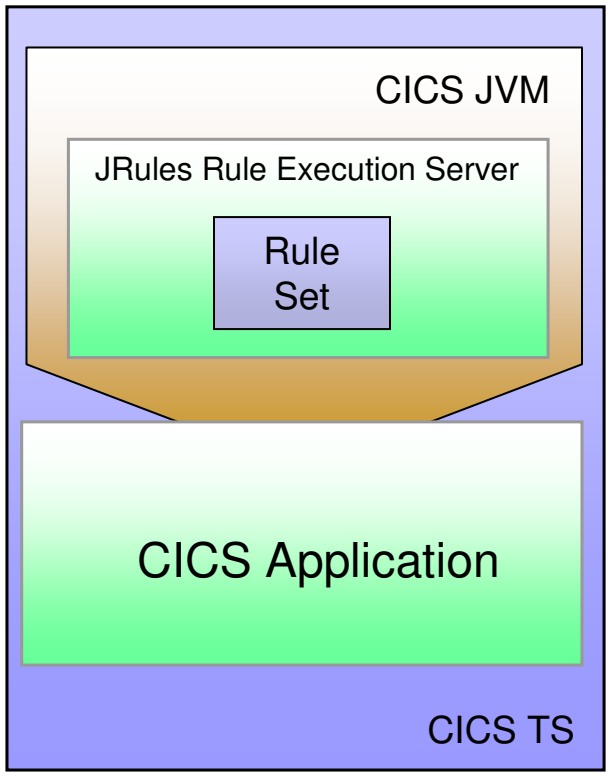
  CICS calls a JRules J2SE engine running inside a CICS JVM

  - Reduced capability from JRules Execution Server
  - Rules are deployed to the Rules Engine by setting Java properties files, profile, classpaths and JAR files.

- **Benefits**
  - Better performance due to co-location of rule execution
  - All administration contained within CICS
  - Normal execution of J2SE Rule engine

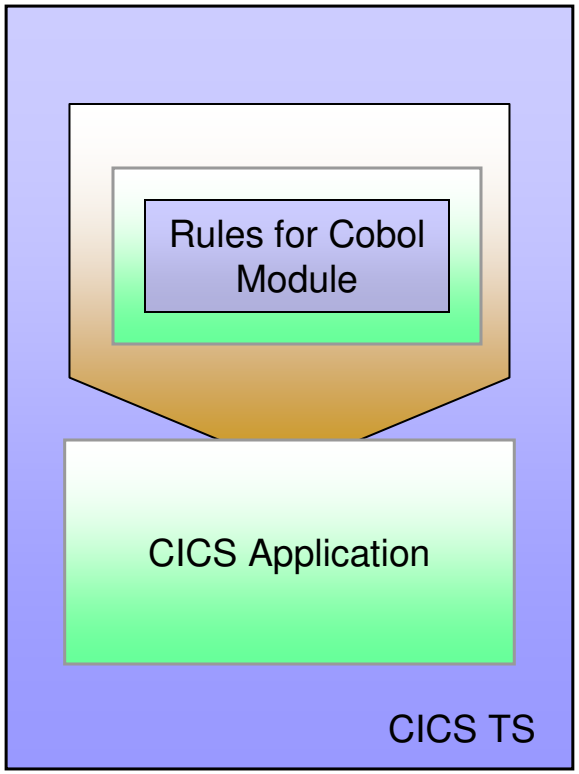
- Considerations
  - Limitations to JRules rule management capabilities
    - No rules engine pooling
    - No hot deployment from Rule Team Server
    - No connection pooling to execution engine
    - No Web management console
  - No externally shared decisions
  - Non-standard installation & maintenance of JRules

CICS calling JRules Java SE Rule Execution Server (RES)



- **Scenario**
  CICS calls a JRules J2SE Rule Execution Server running inside a CICS JVM
  - Full capability JRules Execution Server
- **Benefits**
  - Better performance due to co-location of rule execution
  - All administration contained within CICS
  - Normal execution of J2SE Rule engine
- Considerations
  - Non-standard installation & maintenance of JRules
  - Requires external Web container for management functionality
  - No externally shared decisions

Rules for COBOL



- **Scenario**

  Use Rules for COBOL to generate a COBOL module that embodies the rules and executes within the CICS region

  - CICS app can call the module via static or dynamic linking
  - Can be invoked via EXEC CICS LINK
    - Redpaper: http://www.redbooks.ibm.com/abstracts/redp4589.html?Open
    - SupportPac: CA0A

- **Benefits**
  - Fits in easily with COBOL application architecture
  - Better performance due to co-location of rule execution
  - Easy to reuse the COBOL rules in batch as well as CICS environments

- **Considerations**
  - No Rule Execution Server management capabilities
  - No Decision Warehousing functionality
  - No externally shared decisions

CICS / Rules Integration Recommendations

1. Use Rules for COBOL when:

- A solution that integrates with existing application architecture is required
- Performance is of paramount importance
  - E.g. For rules called with high frequency

2. Integrate CICS with JRules on WAS (via Web services) when:

- Already an existing WAS installation
- End to end execution time is not critical
- Benefit from deployment flexibility & full functionality of RES
- Rules need to be shared with other platforms

Questions