GENAPP Extension for Business Rules

Overview

This general insurance application (GENAPP) Extension for Business Rules demonstrates how you can integrate CICS® applications with business rule technology to create agile and flexible applications.

The core general insurance application (GENAPP) has been updated so that calls to the IBM Decision Server for z/OS, V8.0.1 (a product within the IBM® Operational Decision Manager for z/OS®, V8.0.1 offering) or IBM Business Rules for z/OS, V8.0.1, can optionally be implemented. This extension contains the rule projects that are imported and deployed to the zRule Execution Server (zRES) for z/OS, running under CICS Transaction Server, as a CICS Java Virtual Machine (JVM) deployment option. This document outlines the changes required to implement this extension, and therefore externalise new business rule functionality.

New assets that have been implemented in the core insurance application (GENAPP) include:

GENAPP.SOURCE(LGAPOL01)	Updated policy addition program
GENAPP.SOURCE(LGAPBR01)	New business rule processing program
GENAPP.SOURCE(LGCMARER)	New copybook for business rule processing
GENAPP.SOURCE(LINKHBRP)	New link parameters for program LGAPBR01
GENAPP.CNTL(COBOLBR)	Generic JCL to compile and link program LGAPBR01

Additionally, this extension contains business rule development projects that comprise the rule application:

genapp
GenAppDemo
GenAppDemoApp

This extension relates to the general insurance application (GENAPP) endowment insurance policy addition function. By default, when the user enters the SSP2 transaction (endowment insurance policy processing) and adds a policy, the fund name that was input is returned in upper case, with a new policy addition.

However, once this extension is implemented, on executing the SSP2 transaction again -- assuming the criteria of the validity rule is met (term length is greater than ten years) -- a fund name will be dynamically allocated based on the contents of a Decision Table, as defined in the Fund Selection rule.

By following the instructions in this document, the following is achieved:

- Business rule projects are imported into the Rule Designer
- The RuleApp containing the two rules is deployed to the zRule Execution Server
- Successful deployment of the RuleApp is confirmed by viewing the Rule Execution Server console

- The endowment insurance policy addition program (LGAPOL01) is amended to call the business rule program (LGAPBR01)
- The endowment insurance policy addition program (LGAPOL01) is recompiled and loaded in CICS
- The GENAPP endowment insurance policy addition transaction (SSP2) is rerun to execute the application and associated business rules.
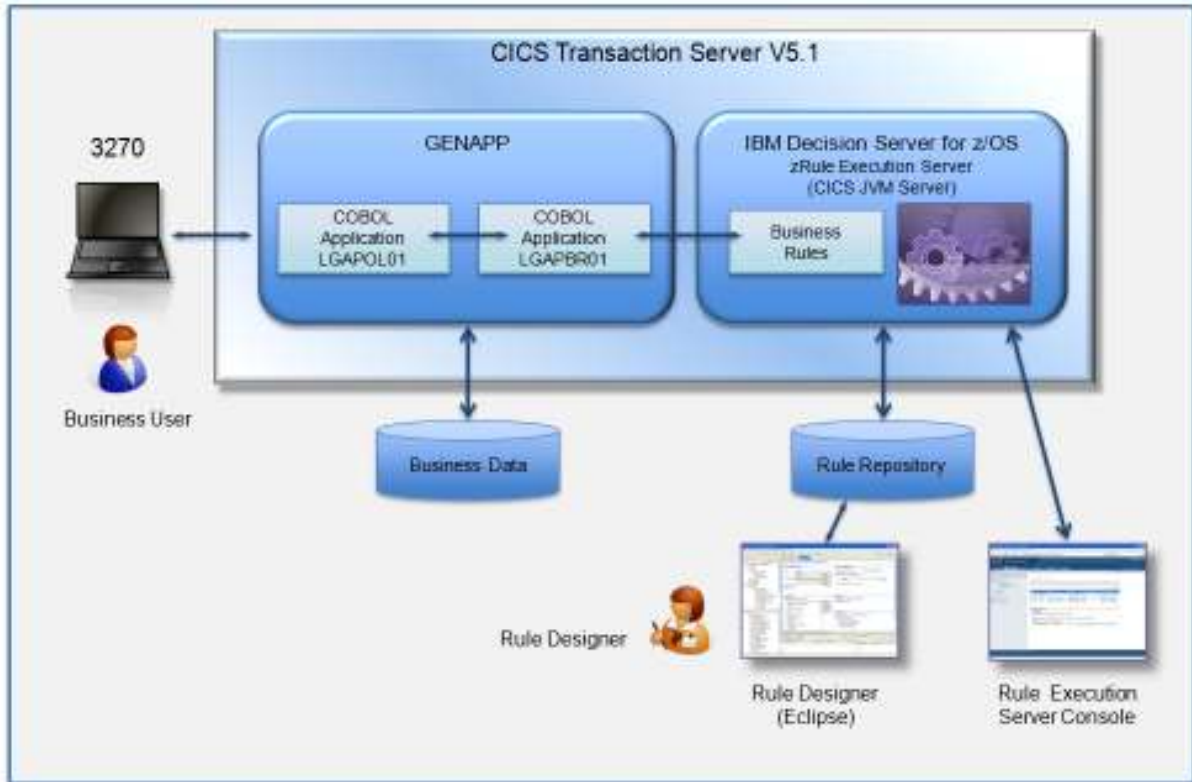

Figure 1. Application Overview

Two business rules are provided in this extension as part of a RuleFlow:

- A Validity rule, which checks the value of the Term of the endowment insurance policy being added
- Depending on the value of the Term entered, a Fund Selection rule, which comprises a Decision Table, is processed. Specified values for the Fund Name are returned depending on the Sum Assured value that has been entered.
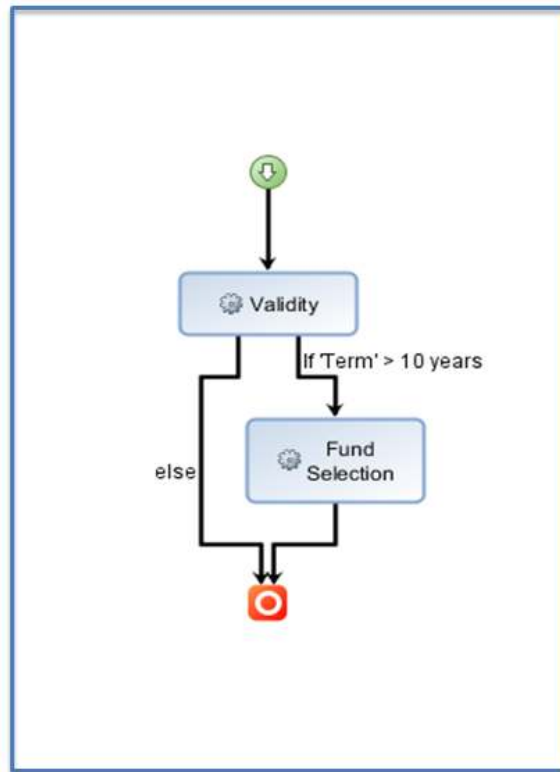
Figure 2. Business Rule Structure

Related information:
General insurance application (GENAPP) for IBM CICS Transaction Server
IBM Operational Decision Manager for z/OS

Business Rule enablement

Overview

Business Rules can be used with CICS Transaction Server V5.1 to facilitate greater agility.

Smarter business outcomes require the ability to quickly adapt to change. Organisations are under continual pressure to adapt the business logic in the applications. Business rules, which are fundamentally pieces of business design logic, are present at the core of most CICS Transaction Server applications. As an example, business rules may contain logic for processing the allocation of a financial fund name, or returning a credit score.

The integration of CICS Transaction Server with IBM Business Rules technology can help address the agility needed within an organisation's CICS application portfolio, with a number of benefits:

- Organisations can extend the life -- and derive more value -- from existing investments they've made in their CICS application portfolio, and make those applications more responsive, flexible and efficient.
- The time taken to process and deploy CICS application changes can be dramatically reduced. And, since rules are stored within a repository, they are more visible and can be reused -- within a governance framework.

This extension to GENAPP demonstrates how the integration of Business Rules technology -- via the IBM Decision Server for z/OS, a product within the IBM Operational Decision Manager for z/OS software offering -- with CICS Transaction Server, can be achieved to realise these benefits.

Using additional capability, such as the IBM Decision Center for z/OS®, another product within the IBM Operational Decision Manager for z/OS, a user could change the fund name dynamically, without requiring change to the underlying general insurance application (GENAPP) CICS-based application. This facilitates a more flexible and responsive model for creating and maintaining CICS applications.

Prerequisites

There are a number of actions that must be completed before the GENAPP Extension for Business Rules can be executed:

- IBM® Operational Decision Manager for z/OS®, V8.0.1, includes a separately orderable product, IBM Decision Server for z/OS, V8.0.1, that provides a business rule execution environment. A separate product offering, IBM Business Rules for z/OS, V8.0.1, provides the same business rule execution capabilities that are packaged within IBM Decision Server for z/OS, V8.0.1. To execute this GENAPP Extension for Business Rules, the zRule Execution Server (zRES) component, available with IBM Decision Server for z/OS , V8.0.1 (or later) or IBM Business Rules for z/OS, V8.0.1 (or later) is required to be installed, configured and started as a deployment option hosted within a CICS® 4.x or CICS 5.x region. See http://pic.dhe.ibm.com/infocenter/dmanager/v8r0m1/index.jsp?topic=%2Fcom.ibm.wodm.family.config.zos%2Ftopics%2Ftsk_dsz_config_zres.html .

- The Rule Execution Server console, available with available with IBM Decision Server for z/OS, V8.0.1 (or later) or IBM Business Rules for z/OS, V8.0.1 (or later), is required to be configured and started. See http://pic.dhe.ibm.com/infocenter/dmanager/v8r0m1/index.jsp?topic=%2Fcom.ibm.wodm.zos.dserver.zres.admin%2Ftopics%2Ftpc_zres_admin_and_monitor.html .

- The Eclipse-based Rule Designer component, available with IBM Decision Server for z/OS, V8.0.1 (or later) or IBM Business Rules for z/OS, V8.0.1 (or later) is required to import the business rules supplied with the GENAPP Business Rules Extension and deploy them to the zRule Execution Server (zRES). See http://pic.dhe.ibm.com/infocenter/dmanager/v8r0m1/index.jsp?topic=%2Fcom.ibm.wodm.zos.dserver.zres%2Ftopics%2Fcon_zres_deploy_ruleapps_xoms.html .

- A connection between CICS Explorer and your CICS systems must be established by providing details about the system connection, its location, and authentication requirements. By default, CICS Explorer attempts to connect by using the SSL protocol. If the SSL connection is not successful, the connection is attempted without SSL. For more information about configuring z/OS and CICS SM connections, see http://pic.dhe.ibm.com/infocenter/cicsts/v5r1/topic/com.ibm.cics.ts.installation.doc/topics/explorer_configure_connection.html .

- It is recommended that the base general insurance application (GENAPP) is configured prior to the installation and configuration of the Extension for Business Rules. Specifically, the endowment insurance policy addition process should be successfully tested via CICS transaction SSP2. See http://www-01.ibm.com/support/docview.wss?uid=swg24031760 .

Importing the Rule projects

Procedure

1. Start Rule Designer with an appropriate workspace.

2. In the `Rule` perspective, individually import the following projects from the archive into the required workspace:

   - `genapp`
   - `GenAppDemo`
   - `GenAppDemoApp`

Deploying the RuleApp

Procedure

Deploy the RuleApp by executing the following steps:

1. In the `Rule Explorer` view of the `Rule` perspective, expand the `GenAppDemoApp` project, and right click on `archive.xml`.

2. Select **RuleApp > Deploy.**

3. Click **Next** to select the default `Increment RuleApp major version` option

4. Specify the `URL` of the appropriate zRule Execution Server for z/OS, and enter the appropriate security credentials.

5. Click **Finish**.

6. Confirm the RuleApp has been successfully deployed by checking the Explorer view within the Rule Execution Server console

For more information about this step, see
http://pic.dhe.ibm.com/infocenter/dmanager/v8r0m1/index.jsp?topic=%2Fcom.ibm.wodm.zos.dserver.zres%2Ftopics%2Fcon_zres_deploy_ruleapps_xoms.html

Configuring the GENAPP COBOL programs

Procedure

Configure the supplied GENAPP COBOL programs to execute business rule processing:

1. Edit `GENAPP.SOURCE(LGAPOL01)`, search for the line `MOVE 'Y' TO BUSINESS-RULES` and uncomment it so this statement is now executed.

```
*----------------------------------------------------------------*
*     Perform Business Rule processing via ODM                   *
*----------------------------------------------------------------*
*     If an Endowment policy is being added, and if Business
*     Rule processing is required, then call the Business Rule
*     program.
*     Note: uncomment the following 'MOVE' statement to apply
*           Business Rule processing (default=no)
      MOVE 'Y' TO BUSINESS-RULES
```

2. Edit `GENAPP.CNTL(@COBOL)` to specify compile for `LGAPOL01` only, submit the job and check for successful completion. You may choose not to save the amended `@COBOL` member following job submission so that the original content is maintained.

3. Using CICS Explorer, execute the **Operations > Programs > LGAPOL01 > Phase In** operation to newcopy the updated `LGAPOL01` program.

4. Edit `GENAPP.CNTL(@COBOLBR)` and replace the two instances of the `[[ODM]]` tag with the correct ODM datasets qualifiers, e.g. `SYS2.ODM801.TLIB`. Submit the job and check for successful completion.

```
//COBL      EXEC PGM=IGYCRCTL,
// PARM='NODYNAM,LIB,RENT,APOST,LIB,CICS(''SP''),SIZE(4000K)'
//STEPLIB   DD DSN=PP.COBOL390.V420.SIGYCOMP,DISP=SHR
//          DD DSN=CTS510.CICS680.SDFHLOAD,DISP=SHR
//SYSLIB    DD DSN=CTS510.CICS680.SDFHCOB,DISP=SHR
//          DD DSN=[[ODM]].SHBRCOBC,DISP=SHR
//          DD DSN=CTS510.CICS680.SDFHMAC,DISP=SHR
//          DD DSN=CTS510.CICS680.SDFHSAMP,DISP=SHR
```

Running the updated GENAPP application

Procedure

To execute the updated GENAPP application:

1. Run transaction `SSP2` in the 3270 terminal.

2. Enter input for `Term` greater than `10`, and a `Sum Assured` value of `40,000`.

3. Check the returned values, noting that the `Fund Name` has been dynamically allocated, as a result of the successful invocation of the business rules.

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