iWD and GRS

Rule Evaluation by the IWD Business Process

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Rule Evaluation

After a rule package has been deployed to a Genesys Rules Engine, it can be invoked by a client. The standard client that invokes the Genesys Rules Engine is the iWD business process (IWDBP). For information about other ways to invoke rule packages, see the **Genesys Rules System Deployment Guide.**

It is important to understand how rules are evaluated, when an evaluation is requested from the IWDBP business process. IWDBP has the following two routing strategies that invoke rule evaluation from the Genesys Rules Engine.

- Classification—Calls the Genesys Rules Engine and requests an evaluation of all rules for the iWD Solution's associated rule package that belong to the Classification phase.

- Prioritization—Calls the Genesys Rules Engine and requests an evaluation of all rules that belong to the Prioritization phase.

Associating the iWD Solution with a Rule Package and Rules Engine

To ensure the IWDBP business process invokes the correct Genesys Rules Engine and the correct rule package, two List Objects must be properly configured:

- Iwd_Esp_List
- Iwd_Package_List

Important
Make sure that both of these List Objects are correctly configured, otherwise IWDBP will not work.

Iwd_Esp_List

The IWDBP uses the data from the `Iwd_Esp_List` List Object to correlate the `IWD_SolutionId` to the name of the Business Context Management Service (BCMS) application, and to correlate the `IWD_SolutionId` to the name of the Genesys Rules Engine. The BCMS is the External Service Protocol (ESP) server that the IWDBP business process uses to communicate with the Genesys Rules Engine.

`Iwd_Esp_List` is also used, optionally, to correlate the `IWD_SolutionId` to the name of a Genesys Universal Contact Server (UCS) that is connected to Interaction Server. If this association is configured in `Iwd_Esp_List`, the business logic in IWDBP will update the interaction history in the UCS database to mark the interaction as done (the value of the `Status` column in the `Interaction` table in the UCS database will be set to 3) when the interaction enters one of these queues: `iWD_Completed, iWD_Canceled`, or `iWD_Rejected`.

Iwd_Package_List

The `Iwd_Package_List` List Object is used to correlate the IWD Solution ID (`IWD_SolutionId`) to the name of the rule package that will be evaluated when requests are made to the Genesys Rules Engine from the IWDBP business process.

`Iwd_Package_List` contains a single list called, `RulePackageList`. Create a new key/value pair for each iWD Solution that you have configured under your Configuration Server tenant, where the key or option, is the IWD Solution ID and the value is the Package Name of the rules package.

> ### Important
> The user configures two names for a rule package in GRAT. There is the *Package Name* and the *Business Name.* The value that the user enters in the `RulePackageList` list, must reference the Package Name (not the Business Name) of the rule package.

Rule Evaluation Order

Within all the rules that are configured for a particular phase, the Genesys Rules Engine will evaluate rules in this order:

- Global rules (package-level)
- Department rules
- Process rules

To ensure the Genesys Rules Engine performs its evaluation in this order, the `sequential-mode` option (in the `settings` section in the Genesys Rules Engine Application) must be set to `false`.

This is the default setting.

To ensure the Genesys Rules Engine evaluates all rules within a particular phase, within a particular node of the business structure hierarchy, the `group-by-level` option (in the `settings` section in the Genesys Rules Authoring Tool server `Application`) must be set to `true`. This is the default setting.

Within the rules that are defined at a particular node of the business structure hierarchy (for example, `Department`), the Genesys Rules Engine will follow the salience (order) that is defined in the rule package. This is controlled by the rules author, who can move rules up and down in the Genesys Rules Authoring Tool. In the example in Controlling Rule Evaluation Order, Rule-265 will be evaluated prior to Rule-294. If the rules author preferred Rule-294 to be evaluated first, s/he could move that rule up in the evaluation order by using the arrow button on the right side of the rule.

Controlling Rule Evaluation Order

Within a set of rules for a particular phase, at a particular node in the business structure hierarchy, an action of one rule can influence a condition in a subsequent rule. To do this, it is necessary to include the `update($data)` parameter; in the `Rule Language Mapping` of the rule action or as a separate rule action. See the following example.

Example: Setting Rules at a Specific Phase

If you had one classification rule at the `Department` level that set the priority of a task to `100` and a second classification rule at the `Department` level that will increase the priority by `90`, but only if the priority has already been set to `100`:

The first classification rule would look like this:

```
WHEN

    Priority is not equal to 100

THEN

    Set Priority to 100

    Update
```

The second classification rule would look like this:

```
WHEN

    Priority is equal to 100

THEN
```

```
Increase Priority 90
```

In the first classification rule, it is important to specify that the priority be set to 100 only when it is not already equal to 100. This is to avoid a problem where the Genesys Rules Engine might get into a loop during rule evaluation. Also in the second classification rule, there is a rule action called Update. The Rule Language Mapping for this rule action is: update($data);

You could also modify the Rule Language Mapping of the Set Priority rule action, to add update($data); to the end of the Rule Language Mapping. For example:

```
setIntValue("Priority", {priority}, $data); update ($data);
```

In the latter case, however, you would want to create a new version of the Set Priority rule action and give it a different Language Expression to help differentiate it, such as Set extended Priority.