USING BRF+ DECISION TABLES FOR DETERMINATION OF EMAIL RECEPIENTS AND INCIDENT PROCESSORS IN MAI

Description:
As of Solution Manager ST7.1 SP10 it is possible to use the Monitoring and Alerting Infrastructure (MAI) for displaying the BPOps alerts in a combined alert inbox together with the alerts resulting from the AppOps area (e.g. Technical Monitoring) In classical BPMon it was possible to determine the email recipients and incident processors based on the content of the alert (so called: notification routing):

1. A notification group had been defined which contained a list of email and SMS recipients and incident processors
2. In a BRF+ decision table the conditions based on the alert content had to be defined when this notification group should be selected.
3. The decision table was assigned to the monitoring object.

In classic BPMon we delivered two standard decision tables for job monitoring resp. application log monitoring. For application monitoring the decision table had to be generated based on the selected key figure.

In MAI the call of a BRF+ decision table (i.e. the dynamic determination of email recipients and/or incident processors) needs to be done by using a MAI text BAdI implementation. This feature is available with release ST7.1 SP12.

Since only one text BAdI implementation can be assigned to a single monitoring object and the text BAdI is used also in other cases for retaining the classical BPMon functionality, this document describes the different possibilities on how to integrate the notification routing in the coding of the MAI text BAdI implementation.

Preconditions:
- You are using Solution Manager ST7.1 SP12 or higher
- The monitoring objects in which you want to use notification routing based on BRF+ decision tables are in a solution which has been assigned to MAI:
Pre-configured Content:

- BRF+ content: As an example for a BRF+ application you should import the attached xml file into your Solution Manager system (see step 2 of the implementation chapter)

The BRF+ content consists of one application, one function and three decision table templates

After a successful import, the following decision table templates should exist in the productive client:

- **BPM_APPMON_TEMPLATE BPMON: APPMON Templ.**
  Decision table template for the application monitoring use case.
  Decision table columns:
  - Billing type
  - Billing category
  - Plant
  - Division
  - SD document category
  - Sales organization
  - Distribution channel
  - Company code

- **BPM_APPLOGMON_TEMPLATE BPMON: BALMON Templ.**
  Decision table template for the application log monitoring use case.
  Decision table columns:
  - Object
  - Subobject
  - Message Type
  - Message ID
  - Message No.

- **BPM_JOBMON_TEMPLATE BPMON: JOBMON Templ.**
  Decision table template for the job monitoring and job log monitoring use case.
  Decision table columns:
  - Job Name
  - Variant
  - Program
  - Chain ID
  - Message Type
  - Message ID
  - Message No.

- BAdI implementation: A BAdI implementation is part of SAP standard with ST 7.1 SP12 and higher which can be easily assigned to a monitoring object for a simple notification routing use case:

  Enhancement Spot ALERT_REACTION
  BAdI Definition BADI_DYN_INCI_NOTIF_MULTIPLE
Enhancement Implementation  AGS_BPM_NF_ENH
BAdI Implementation     AGS_BPM_NF_SUBJECT_BRF
Implementing Class       CL_AGS_BPM_NF_SUBJECT_BRF
BAdI Filter Value       BPMON_SUBJECT_AND_BRF

The BAdI implementation AGS_BPM_NF_SUBJECT_BRF consists of two methods:
- IF_ALERT_NOTIF_MULTI_CONF~GET_NOTIF_CONF_FOR_ALERT
- IF_ALERT_NOTIF_MULTI_CONF~GET_INCI_CONF_FOR_ALERT
Implementation

Step 1 – Maintain Notification Groups
If you need to create new notification groups, please refer to the document [service.sap.com/bpm](http://service.sap.com/bpm) ➔ Media Library ➔ Technical Information ➔ Setup Guide - Notification Routing using BRF+ 7.1 SP9+, chapter 3, for a detailed description. If you want to reuse existing notification groups, step 1 can be skipped.

- Open the Solution Manager work center Business Process Operations ➔ Choose Setup Business Process Monitoring ➔ In the upper right corner choose Notification Groups
To set up a new notification group, enter a unique name into the notification group name field and press the ‘Create’ button. Then press the ‘Edit’ button on the top to enter the edit mode.

- To add a new email or text recipient, press the ‘Add’ button in the email recipient list
  - The **Recipient Address**. The format of this entry depends on the Recipient Type. You can either enter the recipient address via the value help or type in any address you would like to use.
  - The **Recipient Type** defines whether an e-mail or text message will be sent out to one or more recipients. According to this Recipient Type the Recipient Address has to be chosen. The following possibilities exist:

    | Recipient Type | Description |
    |----------------|-------------|
    | U              | e-mail address; e.g. “bill.smith@ourcompany.com” |
    | K              | SMS; e.g. “SMS:6049123456789” |
    | C              | Shared distribution list; e.g. “SM_BPMU” |
    | E              | SAP user name; e.g. “SMITHB” |
    | R              | Remote SAP name; e.g. “PRD:001:SMITHB” |

If recipient type „C - Shared distribution list“ is used, specify a recipient address according to the distribution list name as configured in transaction SO23 in SAP Solution Manager.

- To add a new incident processor, press the ‘Add’ button in the incident processor list.
- The **Reporter Type**. Use the value help to assign a reporter for the messages. The reporter can be a business partner for the concerned managed system maintained in SAP Solution Manager (type “B”), or a user on SAP Solution Manager that has a corresponding business partner for the managed system assigned (type “U”).
- The reporter itself identified via its user ID or the business partner number.
- Enter the full name of the user or business partner.
- Don’t forget to save the notification group
Step 2a – Import the attached xml file to get the BRF+ decision table templates
If you want to reuse existing decision tables, please skip this step and proceed with step 3.

- Copy the attached xml file BPM_NOTIF_GROUPING_xxx.XML on your local disk.
- Start transaction BRFPLUS on the Solution Manager system
- In the menu choose Tools → XML Import
- Use the Browse button to select your locally stored xml file
- Start the upload by pressing the button Upload File

XML Import

A workbench transport request is required if the XML file contains system objects. A customizing transport request is required if the XML file contains customizing objects. If the objects are local then no transport request is required.

- Go Back to workbench
- Refresh the BRF+ entry screen
  ➔ The new application Notification Routing (BPM_NOTIF_ROUTING) is now available in your application repository (use the ‘Search’ button to search for the application and user *)
Step 2b – Use imported decision table templates for notification routing
If you want to reuse existing decision tables, please skip this step and proceed with step 3.

Depending on the monitoring type, you can use one of the delivered decision table templates:
- **BPM_APPMON_TEMPLATE** for monitors of type application monitoring
- **BPM_APPLOGMON_TEMPLATE** for monitors of type application log monitoring
- **BPM_JOBMON_TEMPLATE** for monitors of type job monitoring

Copy table template to working decision table (e.g. for job monitoring):
- Start transaction BRFplus
- In the selection tree on the left choose the desired table template (here: **BPM_JOBMON_TEMPLATE**) in application **BPM_NOTIF_ROUTING**:
  - Right-click on the template name in the selection tree
  - Choose **Copy**
  - In the appearing popup choose the target application and press the **Select** button
  - Change **New Name** to **BPM_JOBMON** and optionally also change the **Short Text**
  - **Don’t** mark the checkbox **Include Referenced Objects**
  - Press **OK**
  - Decision table **BPM_JOBMON** is opened; switch to change mode, if necessary
- You can maintain your selection criteria by pressing the **Table Settings** button

![Decision Table BPM Job Monitoring](image)

- Add the desired notification group in the last column (result column) **Notif. Group**
- Save and **Activate** the table

After you have assigned the delivered BAdI implementation to the monitoring object in step 4, this decision table is **automatically** used if the monitoring type matches with the decision table type:

- **Decision table BPM_JOBMON** is used for monitoring types JOBMON, JOBMOC (job monitoring) and JOBLOG (job log monitoring)
- **Decision table BPM_APPMON** is used for monitoring type APPMON (application monitoring)
- **Decision table BPM_APPLOGMON** is used for monitoring type BALMON (application log monitoring)

This automatic assignment can be overruled by setting a dedicated decision table in a customize table. This procedure is described in the next step 3.
Step 3 (optional) – Reuse existing decision table and assign it to monitoring object:
Instead of using the standard decision tables BPM_JOBMON, BPM_APPMON or BPM_APPLOGMON, you can also reuse existing decision tables. The BAdI implementation will first check for these custom decision tables and only if no reuse table can be found, one of the standard decision tables is assigned to the monitoring object according to the monitoring type (as described in step 2)

- Get the context ID of your monitoring object:
  In the maintenance screen of your monitoring object, go to Technical Information. In the appearing popup, copy the context ID

- Open the table maintenance for table DSWP_BPM_MAI_BRF with transaction SE11
- Choose in the menu Utilities(M) → Table Contents → Create Entries
- Insert the context ID and the name of the decision table which should be used in the corresponding monitoring object.
- Save the table entry.
Step 4 – Assign the pre-delivered MAI BAdi Implementation to the monitoring object:

Open the Solution Manager work center Business Process Operations → Choose Setup Business Process Monitoring → Select the monitoring object in the solution of interest. → Go to tab Notifications → Set Automatic Notification to Active → Open the sub-screen Advanced Settings → Select BPMON_SUBJECT_AND_BRF in the filter-value list on the bottom of the screen:

![Edit Monitoring Object "Sales Documents" - Solution](image)

- **Automatic Notification**: Active
- **Send Notification for**: Red and Yellow Alerts
- **Sender**: SOLMAN_BTC
- **Notification Mode**: Email and SMS

**Recipients and Recipient Lists**

- No Recipients/Recipient Lists found

**Advanced Settings**

- Send notification for closed alerts
- Send first notification after: 0 Minutes
- Send additional notification after every: 0 Minutes
- Override default subject text with the following custom subject:
- Add the following introductory text to the notification long text:

Use implementation of BADI_DYN_INCL_NOTIF_MULTIPLE, with filter-value: BPMON_SUBJECT_AND_BRF

The custom subject and / or introductory texts could be used without BAdi implementation.

If BAdi implementation was used, however, the subject and / or long text returned by that would take precedence.
Testing the BRF+ Decision Tables

If you want to test the behaviour of the BRF+ decision table, you can use the BRF+ simulation tool:

1. Select the decision table in which you have created selection criteria and which should be tested, e.g. BPMON: JOBMON, technical name: BPM_JOBMON. Copy the decision table ID (GUID, 32-character) which can be found in the General section of the decision table header. (Use Show more, if the ID is hidden)

2. In the tree on the left side choose the BRF+ function to be tested (e.g. Notification Routing, technical name BPM_NOTIF_ROUT_FUNC)

3. Push button Start Simulation
4. Fill the copied decision table ID in field 'Dec. Table ID'. Fill the other fields according to your selection criteria.

5. Check, whether the correct notification group is found.

Using BRF+ for Application Monitoring

For job monitoring and application log monitoring the necessary fields for decision criteria are already automatically filled. For application log those fields are only filled, if you are using a monitor which is a reference to an existing analytics monitor. Only the selected group by fields can be used as decision criteria. This ‘group by field’ must be marked in the analytics monitor AND in the referencing monitor:
In this example you can only use the company code as decision criterion in the BRF+ decision table: