SAP EM Integration with SAP NetWeaver BI

Purpose
Introduce SAP EM Integration with SAP NetWeaver BI.

Overview

Architecture

Data is uploaded into the SAP Business Information Warehouse (SAP BW) in two steps with the help of an event for the SAP BW upload:

- Initial upload either by using a transaction or by scheduling a report for selected event handlers.
- Switching from initial upload to delta upload using a parameter that makes it possible to automate the event for the SAP BW upload.
For each SAP BW upload from SAP EM into SAP BW you specify all the required objects, which the SAP BW system recreates.

- You specify the source system SAP Event Management system for each of the three DataSources and InfoArea 0SCEM with characteristics and indicators.
- You specify separately for each DataSource that the system:
  - Replicates the DataSources (0SCEM_1, 0SCEM_2, 0SCEM_3) that belong to the extraction structures activated in SAP EM in the corresponding InfoSources (0SCEM_1, 0SCEM_2, 0SCEM_3)
  - Recreates the InfoObjects (the corresponding characteristics and indicators necessary for the evaluations) in the SAP BW system, if required
  - Use the corresponding InfoObject catalogs 0SCEM_CHA01 (for characteristics) and 0SCEM_KYF01 (for indicators).
  - Uses InfoArea 0SCEM for the InfoSource
  - Uses the InfoSource 0SCEM_1, 0SCEM_2, or 0SCEM_3 to create transfer rules between the communication structure and the transfer structure
  - Uses 0EM_DS01, 0EM_DS02, or 0EM_DS03 as the Operational Data Storage
  - Uses InfoCube 0EM_C01

### Extraction Structures

/SAPTRX/BWTFSEH - EH Header
Event additional functions:

- Any target field in the extraction structure /SAPTRX/BWTFSEE can be filled:
  - The field to be filled is an export parameter of the function module
  - Input help in BW-Profile definition shows only the fields for which functions have been delivered. New field names have to be entered by hand!

- There are two functions delivered in standard:
  - Get the Reason Code for an Expected Event
  - Count how many Event Messages have been posted for an Expected Event

- The standard interface delivers the following information:
  - Expected Event table, Expected Event History table, Event Message table, Event Message Header table
  - Partially filled extraction structure /SAPTRX/BWTFSEE (Event Code, Event Message GUID, Location- and Partner information,...)
The purpose for a group of Expected Events is described as for calculation of durations between two Expected Events. However, it is not necessary to create one group for each pair of Expected Events.

As an example the following durations are of interest:

| Event Handler        | GRP01 | Dur 1 | Dur 2 | Dur 3 | Field ...
|----------------------|-------|-------|-------|-------|----------
| Arrival Carrier      |       |       |       |       |          
| Load Begin           |       |       |       |       |          
| Departure            |       |       |       |       |          
| Arrival Dest         |       |       |       |       |          
| Unload               |       |       |       |       |          

Create only one Group (GRP01) that includes all Expected Events and the duration calculation between all of them.

Extraction Process

- Check that all fields to be extracted have been stored in the fields of the extraction structures and that they can be extracted. If necessary, create the append structures for the extraction structures (transaction SE11) or extend the existing ones.
- Specify the DataSources and the selection parameters (for example, application object type, date and time of creating an event handler) that determine which data is extracted from SAP BW in transaction /SAPTRX/BWGS in the general settings for the SAP BW extraction.
- Create a new SAP BW profile that determines how all the information from the event handler tables is mapped onto the respective extraction structure.
- Assign the SAP BW profile to the corresponding event handler types.
- Set a blank space for parameter 1 for the initial upload.
- Set the update mode to V1 (direct delta) and activate the corresponding extraction structures.
- Execute the initial upload (transaction /SAPTRX/BWIU) for a particular selection of event handlers. The system first selects the event handlers and reports the event for the SAP BW upload, which is specified in the configuration, for each event handler selected, regardless of whether it is active or inactive. In accordance with the configuration, you have to specify the internal or external vent code set (default value for the internal event code set 0INT, for example) and the internal or external event code ID (default value for the internal event code ID BWUPLOAD, for example).
  Alternatively, you can call report /SAPTRX/R_BW_EXTRACTION_INIT for the initial upload of event handler data, or schedule it as a job.
- If required, initialize SAP BW by deleting all previous initialization packages.
- Create a new INIT package with the corresponding selection as defined in the DataSource in the source system. Ensure that for parallelization the selections are mutually exclusive.
- The system executes the initial upload and, if necessary, a data transfer (for example, in the Persistent Staging Area, InfoCube).
- If the initialization is complete, set up the delta upload in SAP EM by setting parameter SAPCE to any other value (except for blank).
  From now on, the system uses the event for the SAP BW upload to automatically upload data to SAP BW, if you have defined an overdue event BWUPLOAD in SAP EM that triggers the delta upload in SAPBW.
  In order that no event handlers are left without a SAP BW upload and the delta upload, you should switch to the delta upload at an upload-free time or, if necessary, manually report the event for the SAP BW upload, to ensure that the system carries out a delta upload for these event handlers.

Issues
During development and testing it might be necessary to do the initialisation of data again.

For the Delta queue a timestamp is set after initialisation. Only delta records that are posted at a later point of time are picked up! When doing a new initialisation all Event Handlers that exist in the system at the point of time of the new initialisation have to be selected if they are needed in BW.

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