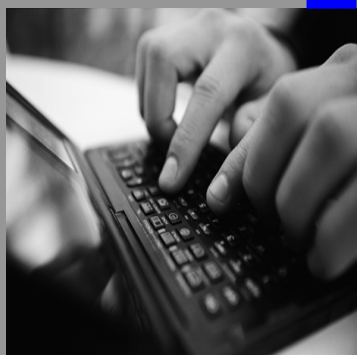

How-to Guide
SAP NetWeaver 2004
SAP NetWeaver 7.0 (2004s)

How To... Improve the Runtime of the OFI_GL_4 Extractor

Version 2.00 – September 2007

Applicable Releases:
SAP NetWeaver 7.0 (2004s)
Plug-In 2004.01 or higher
Business Information Management
Enterprise Data Warehousing

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1 Scenario

Due to large FI tables in the SAP ERP Central Component (ECC) or because of parallel running update processes for FI documents, you can sometimes experience long runtimes for the 0FI_GL_4 extractor.

The solution described in this document will help you improve the runtime of the delta extraction in the ECC system.

2 Prerequisites

SAP Note 991429 the minute-based-extraction enhancement for the 0FI_*_4 extractors has to be applied before going forward with this workaround. .

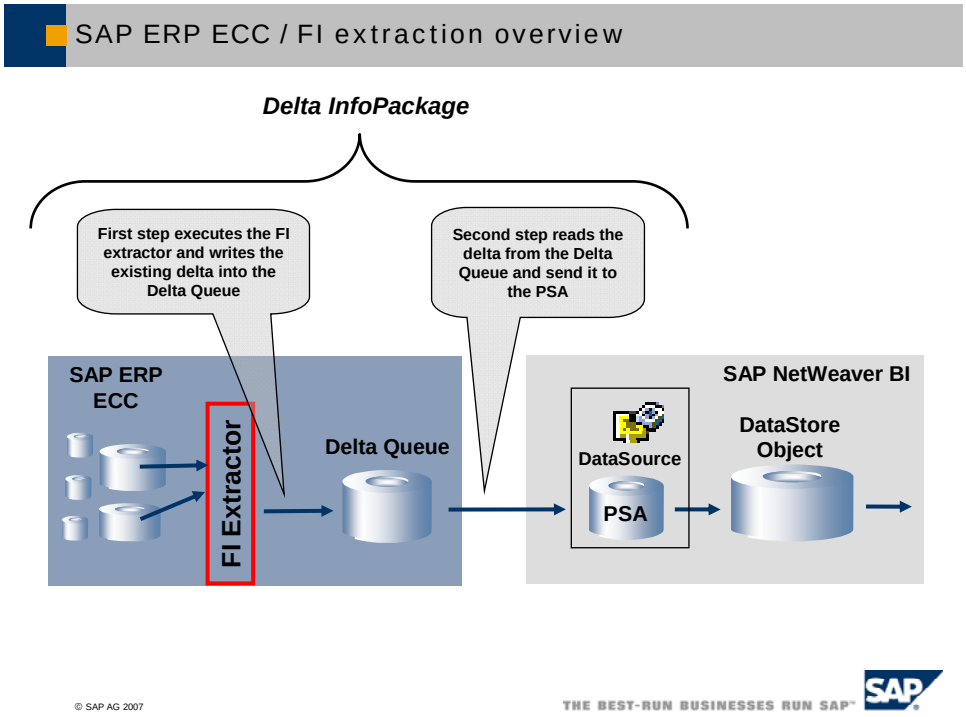
Prerequisite to implement the solution described in this document is Plug-In Version 2004.1 or higher.

3 Introduction

When a Delta InfoPackage for the DataSource 0FI_GL_4 is executed in SAP NetWeaver BI (BI), the extraction process in the ECC source system mainly consists of two activities:

- First the FI extractor calls a FI specific function module which reads the new and changed FI documents since the last delta request from the application tables and writes them into the Delta Queue.
- Secondly, the Service API reads the delta from the Delta Queue and sends the FI documents to BI.

The time consuming step is the first part. This step might take a long time to collect all the delta information, if the FI application tables in the ECC system contain many entries or when parallel running processes insert changed FI documents frequently.

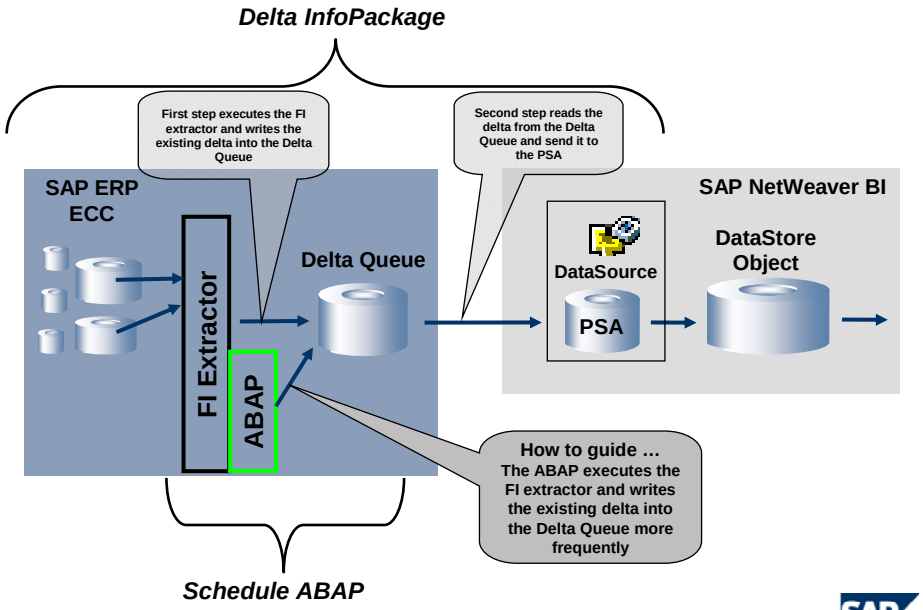


A solution might be to execute the Delta InfoPackage to BI more frequently to process smaller sets of delta records. However, this might not be feasible for several reasons: First, it is not recommended to load data with a high frequency using the normal extraction process into BI. Second, the new Real-Time Data Acquisition (RDA) functionality delivered with SAP NetWeaver 7.0 can only be used within the new Dataflow. This would make a complete migration of the Dataflow necessary. Third, as of now the DataSource 0FI_GL_4 is not officially released for RDA.

To be able to process the time consuming first step without executing the delta InfoPackage the ABAP report attached to this document will execute the first step of the extraction process encapsulated. The ABAP report reads all the new and changed documents from the FI tables and writes them into the BI delta queue. This report can be scheduled to run frequently, e.g. every 30 minutes.

The Delta InfoPackage can be scheduled independently of this report. Most of the delta information will be read from the delta queue then. This will greatly reduce the number of records the time consuming step (First part of the extraction) has to process from the FI application as shown in the picture below.

SAP ERP ECC / FI extraction overview incl. ABAP



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4 The Step By Step Solution

4.1 Implementation Details

To achieve an encapsulated first part of the original process, the attached ABAP report is creating a faked delta initialization for the logical system 'DUMMY_BW'. (This system can be named anything as long as it does not exist.) This will create two delta queues for the 0FI_GL_4 extractor in the SAP ERP ECC system: One for the ‘DUMMY_BW’ and the other for the 'real' BI system.

The second part of the report is executing a delta request for the ‘DUMMY_BW’ logical system. This request will read any new or changed records since the previous delta request and writes them into the delta queues of all connected BI systems.
The reason for the logical BI system ‘DUMMY_BW’ is that the function module used in the report writes the data into the Delta Queue and marks the delta as already sent to the ‘DUMMY_BW’ BI system.

This is the reason why the data in the delta queue of the ‘DUMMY_BW’ system is not needed for further processing. The data gets deleted in the last part of the report.

The different delta levels for different BI systems are handled by the delta queue and are independent from the logical system.

Thus, the delta is available in the queue of the 'real' BI system, ready to be sent during the next Delta InfoPackage execution.

This methodology can be applied to any BI extractors that use the delta queue functionality.

As this report is using standard functionality of the Plug-In component, the handling of data request for BI has not changed. If the second part fails, it can be repeated. The creation & deletion of delta-initializations is unchanged also.

The ABAP and the normal FI extractor activity reads delta sequential. The data is sent to BI parallel.

If the report is scheduled to be executed every 30 minutes, it might happen that it coincides with the BI Delta InfoPackage execution. In that case some records will be written to the delta queues twice from both processes.
This is not an issue, as further processing in the BI system using a DataStore Object with delta handling capabilities will automatically filter out the duplicated records during the data activation. Therefore the parallel execution of this encapsulated report with the BI delta InfoPackage does not cause any data inconsistencies in BI. (Please refer also to SAP Note 844222.)

4.2 Step by Step Guide

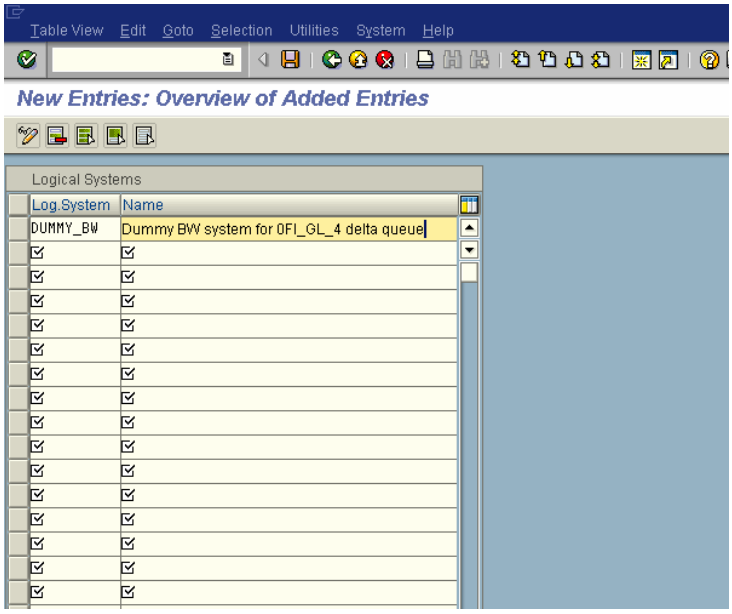
1. Create a new Logical System using the transaction BD54.

   This Logical System name is used in the report as a constant:

   ```
   c_dlogsys TYPE logsys VALUE 'DUMMY_BW'
   ```

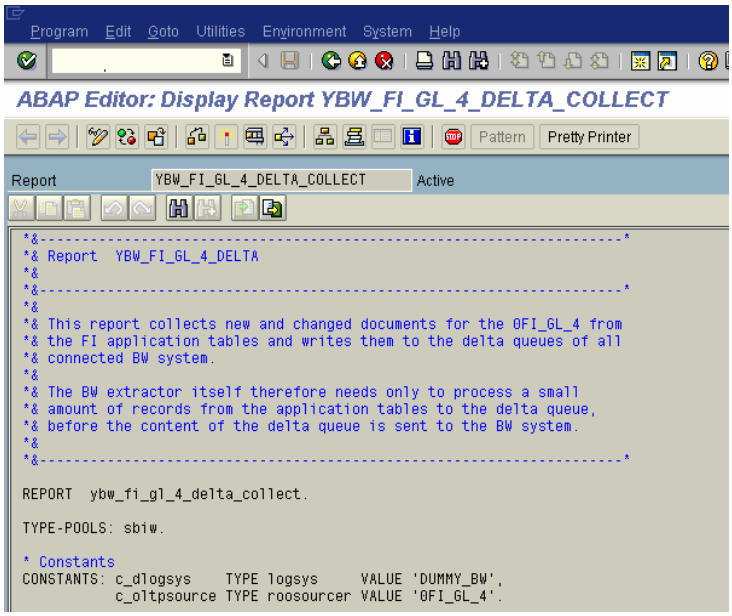
   In this example, the name of the Logical System is ‘DUMMY_BW’.

   The constant in the report needs to be changed accordingly to the defined Logical System name in this Step.



2. Implement an executable ABAP report YBW_FI_GL_4_DELTA_COLLECT in transaction SE38.

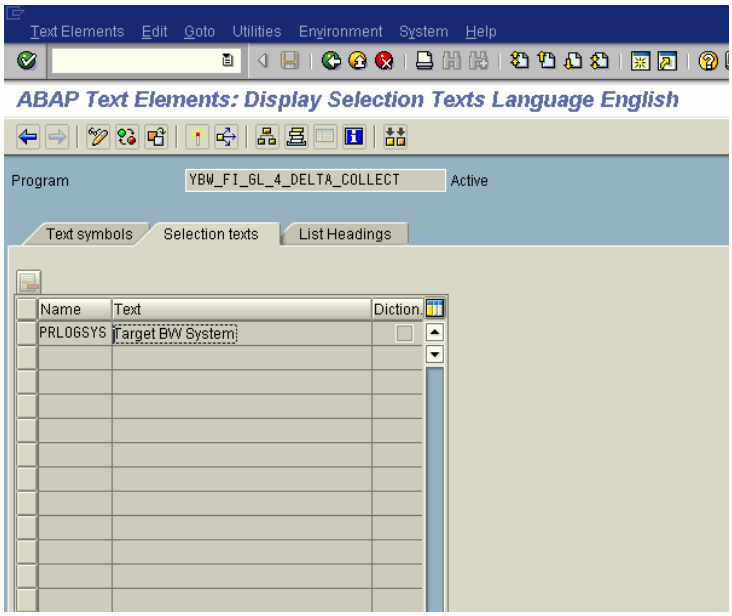
   The code for this ABAP report can be found it the appendix.



3. Maintain the selection texts of the report.

   In the ABAP editor

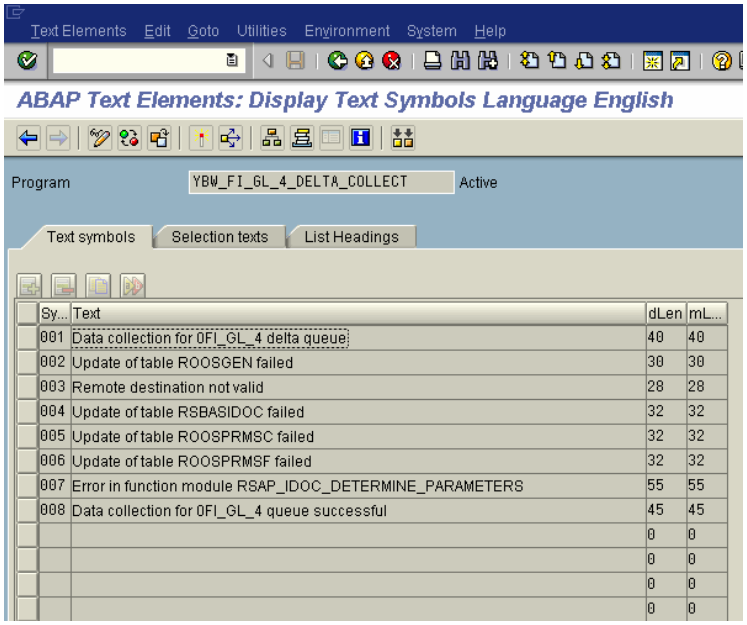
   In the menu, choose Goto → Text Elements → Selection Texts



4. Maintain the text symbols of the report.

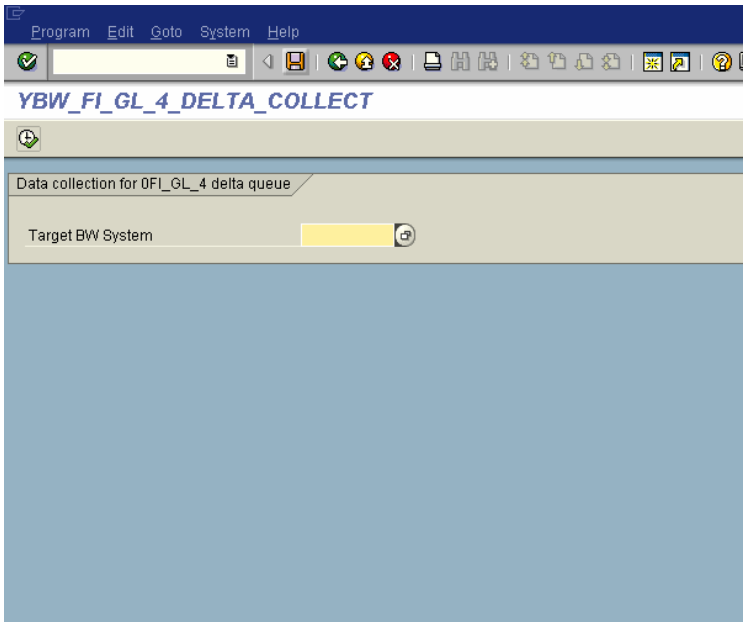
   In the ABAP editor

   In the menu, choose Goto → Text Elements → Text Symbols

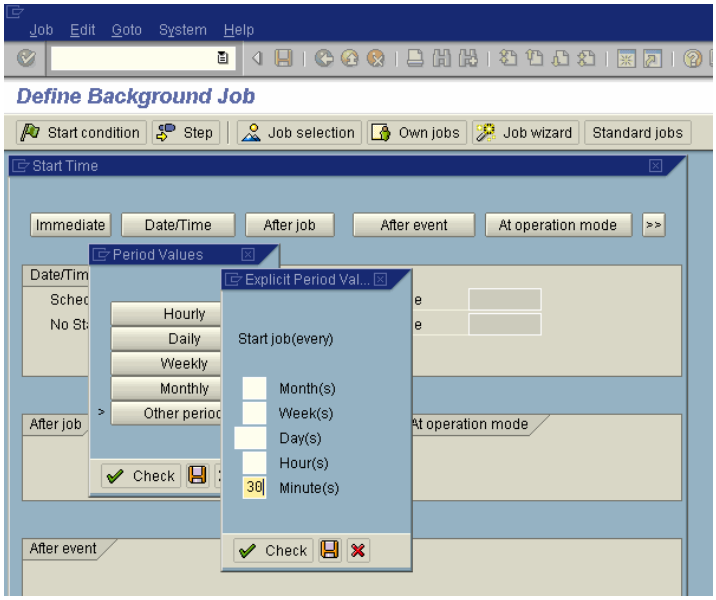


5. Create a variant for the report. The "Target BW System" has to be an existing BI system for which a delta initialization exists.

   In transaction SE38, click Variants



6. Schedule the report via transaction SM36 to be executed every 30 minutes, using the variant created in step 5.



5 Appendix

5.1 ABAP Coding for report YBW_FI_GL_4_DELTA_COLLECT

The ABAP coding can be found in the SDN:

https://wiki.sdn.sap.com/wiki/display/Snippets/How+to+Improve+the+runtime+of+the+0FI_GL_4+extractor

Additional information and feedback can be given in the related blog:
https://www.sdn.sap.com/irj/sdn/weblogs?blog=/pub/wlg/7444

www.sdn.sap.com/irj/sdn/howtoguides

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