

# **Chapter 1 – Identify Performance Bottlenecks**

It is an agreed fact that accurate identification of the problem in itself is reaching half-way to the solution. In this context, identification of a potential performance issue in itself is half-way reaching to addressing it and having an optimal system performance. In the following sections we have attempted to run through some of the processes or tools to identify the performance bottlenecks and how to deal with.

### 1.1 BW - Statistics

One of the best tools to identify the performance bottlenecks in data loading/warehouse management and reporting is to use the Technical Content (TC) from delivered content in BW. There are many standard reports which will help you to identify the bottleneck areas.

Following Tables are useful to quickly note the information on the system performance.

RSDDSTAT

This table saves data on query times, size of the query, information on aggregates which provide details about different query execution steps. Information

	from this table helps pinpointing the problem area for poor performance of the query.
RSDDSTATAGGR	<p>Data for aggregate for BW selection &amp; accounting</p> <p>This table stores the data for the aggregates. The statistical information of New Setup, roll-up, Change run to the aggregates is recorded in this table. This information helps us understand the performance of aggregates in detail.</p>
RSDDSTATAGGRDEF	<p>Statistics data OLAP – Navigation step / aggregate definition</p> <p>Knowing the fact that one query navigation and use multiple aggregated, the details of usage of aggregates is stored in this table.</p>
RSDDSTATCOND	Statistics data - Data on compression for an info-cube

	Fields like CONDENSERATIO helps assess the effectiveness of compressing the info-cube towards improved performance.
RSDDSTATDELE	Deletion of data in info-cube  This table provides information on deletion of data from the data target with the deletion job time-stamp.
RSDDSTATEXTRACT	Extractor BW statistics, Time of last delta load  Stores the time-stamp and info-source information on the Statistics data loaded in the TC Cubes.
RSDDSTATLOG	Sequence of events for DBBUG user
RSDDSTATWHM	Data for Warehouse management  The details available in this table can be used to assess

the data upload performance to a data target.

RSDDSTATBCACT

Activate Business Content

Information on activation of Business Content Objects by different users in the system.

TC will not show updated information if you have not processed loading of data into TC info-cubes. Also you must note that the statistical information is collected only if Statistics is flagged for that cube. (refer to Figure 1)

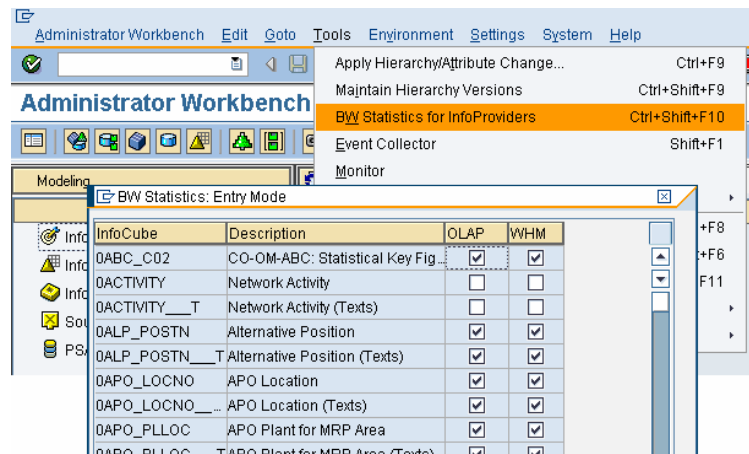



Figure 1: Activate BW Statistics for Info-providers

For more details and procedure to activate the BW statistics please refer to the BW statistics chapter of this book.

On activation of BW statistics, the data related to technical content is loaded into the Technical content cubes through info-packages. This means that all the technical navigations and activities taking place with respect to the selected Info-providers generate the data which is further extracted and loaded into Technical Content Cubes. This occupies the space in the database. It is advisable to delete the Old Statistics data from the TC Cubes/Tables if it is not needed for analysis when stored data is very large i.e. more than 1 million rows), it will improve the performance of process related to TC.

To carry out deletion use following menu path:

RSA1 → tools → BW Statistics →  icon → Select the date range.

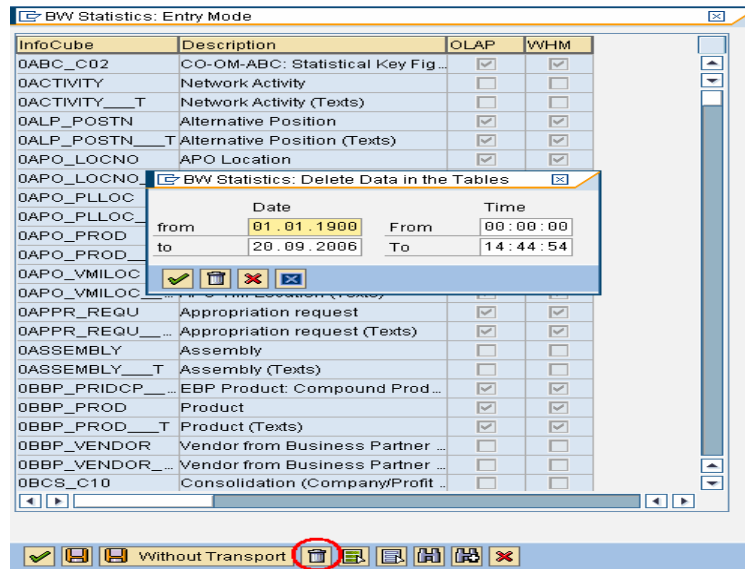


Figure 2: Delete excess data from BW Statistics

There are some more tasks that have to be done routinely by users like deletion of logs

## 1.2 Extraction

You can check upload performance with the help of Monitor by using the transaction code RSMO.

One of the factors which hamper the extraction performance is the data packet size. When the

extraction time is very high, you have to check data packet size.

Please note that the data packet size depends on following factors:

1. Server (number of CPUs, RAM)
2. RDBMS – database system
3. Customization / settings made in the transaction SBIW (max lines, data packet)

For example, if you use ORACLE database and you have several CPUs on your server, you can define the following settings with the transaction SBIW:

max lines = 30,000

packet size = 100,000 bytes

These settings must be implemented on your R/3-source system and SAP BW-system.

The speed of extraction very much depends on the efficiency of your SQL statement.

### **1.3 Loading**

Quick details of how to use the Load Monitor workbench: The performance related issues related with extraction/transformation/loading can also be located

using the information from Monitor workbench (T-Code-RSMO). The “Details” tab on the monitoring screen provides detailed level information (See Figure 3). The messages at different stages of the ETL are recorded in this log. This includes information regarding the IDocs exchanged between the systems, the time when a particular step was completed. Just by analyzing the time the system took for each of the step (Extraction, Transfer, Update Rules, Post-processing) can help us locate the pain area from performance point of view.

Header					Status	Details
Overall status: Everything OK						
Requests (messages): Everything OK						
Extraction (messages): Everything OK						
Transfer (IDocs and TRFC): Everything OK						
Data Package 1 : 3 Records arrived in BW						
Info IDoc 1 : Application document posted						
Info IDoc 2 : Application document posted						
Info IDoc 3 : Application document posted						
Info IDoc 4 : Application document posted						
Processing (data packet): Everything OK						
Data Package 1 ( 3 Records ) : Everything OK						
Transfer rules ( 3 -> 3 Records ) : No errors						
Transaction data received. Processing being started.						
Transfer 3 data records in communication structure						
Update rules ( 3 -> 2 Records ) : No errors						
InfoCubes to be updated: 1 Cube(s)						
InfoCube IC_SALDAT will be updated						
Start of processing update rules for data target IC_SALDAT						
End of processing update rules for data target IC_SALDAT						
Update ( 2 new / 0 changed ) : No errors						
2 records added to fact table IC_SALDAT						
Processing end : No errors						
Processing 2 finished						
Processing 1 finished						
Date	Time	C...	Target table	Description		
4.09.2006	10:16:13	55	IC_SALDAT	Start of...		

Figure 3: Time Stamp information from Monitor Details