IS11: Installing the sample program and flows for displaying WBIMB statistics and accounting

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Take Note!

Before using this report be sure to read the general information under "Notices".

Notices

This document describes the steps you need to take to install the WBIMB flow, DB2 definitions and the z/OS sample program to allow you to report WBIMB statistics and accounting.

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4. DB2

5. z/OS

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- Windows

- Excel

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Introduction

Statistics and accounting can be written to an WMQ Queue in XML, to user trace, or on z/OS written to SMF.
The following materials are provided with this SupportPac to report on WBIMB statistics and accounting.

- For z/OS a program to format SMF records
- A flow which reads from an MQ queue, and has a compute node which inserts data from the XML into tables in a database.
- Definitions for the tables used by the flow.
- Sample data to load into the databases to illustrate how the reports can be displayed
- Another document in this SupportPac shows how to use Excel Pivot tables to display data. Some Excel spread sheets are provided to go with this documentation
- Other spread sheets are provided to report on different views of the database tables.

The documentation assumes that DB2 is used for the databases.

Unterse the IS11.ZIP file. This contains the following:

1. DB2Tables.txt – definitions for the DB2 tables
2. DB2Views.txt – definitions of DB2 views on the above tables – these simplify the the analysis of the data.
3. nodesampledata.txt – this is sample data for the node table, used in the using Excel and pivot tables document.
4. flowdesampledata.txt – this is sample data for the flow table, used in the using Excel and pivot tables document
5. ZOSLOAD.XMIT.BIN – this contains the program for printing SMF records
6. ZOSJCL.XMIT.BIN – this contains a JCL with JCL for collecting and processing the SMF data.
7. STATS.XML – a flow which takes Statistics and Accounting data in XML format and inserts it into DB2 tables.

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Creating DB2 definitions on Windows

Create a database for storing the Statistics and Accounting data.

Open the DB2 Control Center (IBM DB2 -> General Administration Tools ->
Control Centre).
Expand the tree, expand your DB2 instance, expand instances
9. Select Databases
10. Right click and select create, Database using Wizard
11. Database Name WBI
12. Click on Finish
13. Choose to not select to run the Configuration Advisor Wizard if asked.

Define the database name to ODBC so the flow can use the database name

14. From Control Pane select Administrative tools -> Data Sources (ODBC)
15. System DSN
16. Add
17. Select IBM DB2 ODBC Driver. Click Finish.
18. Data Source name WBI
19. Database Alias WBI
20. Click OK
21. Click OK again to exit ODBC settings.

The flow uses a database name of WBI, which is the Data Source name
created above.

Define the DB2 tables for storing the accounting and statistics data

Open the DB2 Command line tools (IBM DB2 -> Command line tools ->
Command centre).
1. Select Script Tab
2. Select Script menu option, import
3. Enter *DB2Tables.txt* and click OK.
4. Select Script menu option, execute
5. Check it worked successfully.

Define the DB2 views

From the DB2 command line tools,
1. Select the Script Tab
2. Select the Script menu option -> import
3. Enter *DB2Views.txt* and click OK
4. Select Script menu option, execute
5. Check it worked successfully.

Close the command centre window. Reply *yes* to the prompt *Do you want to discard all your changes to the script, and exit from the Command Centre?*
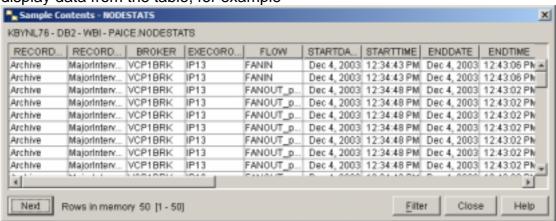
Populate the tables with example data

This step puts sample data into the tables, so the document which describes how to use EXCEL pivot tables has some sample data to use.

Open the DB2 Control Centre (IBM DB2 -> General Administration Tools -> Control Centre)

1. Expand the tree until the WBI database is visible
2. Expand the WBI database
3. Select tables
4. From the list of tables select nodestats, right click and select import…
5. Enter *nodesampledata.txt* into the *import file* field
6. Select the delimited ascii radio button
7. Give a file name where you would like any messages logged in the Message file box, such as c:\db2msg.txt

Select the OK button

Select table nodestats, right click, and select *sample contents.* This will display data from the table, for example

Click on the close button.

1. Select the flowstats table, right click and select import
2. Enter *flowsampledata.txt* into the *import file* field
3. Select the delimited ascii radio button
4. Give a file name where you would like any messages logged in the Message file box, such as c:\db2msg.txt
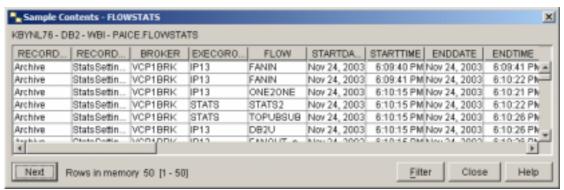5. Select the OK button

Select table flowstats, right click, sample contents. This will display data from the table, for example

Sample Contents - FLOWSTATS

KBYNL76 - DB2 - WBI - PAICE.FLOWSTATS

RECORD...	RECORD...	BROKER	EXECGRO...	FLOW	STARTDA...	STARTTIME	ENDDATE	ENDTIME
Archive	StatsSettin...	VCP1BRK	IP13	FANIN	Nov 24, 2003	6:09:40 PM	Nov 24, 2003	6:09:41 PM
Archive	StatsSettin...	VCP1BRK	IP13	FANIN	Nov 24, 2003	6:09:41 PM	Nov 24, 2003	6:10:22 PM
Archive	StatsSettin...	VCP1BRK	IP13	ONE2ONE	Nov 24, 2003	6:10:15 PM	Nov 24, 2003	6:10:21 PM
Archive	StatsSettin...	VCP1BRK	STATS	STATS2	Nov 24, 2003	6:10:15 PM	Nov 24, 2003	6:10:22 PM
Archive	StatsSettin...	VCP1BRK	STATS	TOPUBSUB	Nov 24, 2003	6:10:15 PM	Nov 24, 2003	6:10:26 PM
Archive	StatsSettin...	VCP1BRK	IP13	DB2U	Nov 24, 2003	6:10:15 PM	Nov 24, 2003	6:10:26 PM
Archive	StatsSettin...	VCP1BRK	IP13	FANOUT...	Nov 24, 2003	6:10:15 PM	Nov 24, 2003	6:10:26 PM

Next   Rows in memory 50 [1 - 50]   **Filter**   **Close**   **Help**

Click on the close button.

Leave the control centre.

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Install the flow

You need to decide where to collect the statistics and accounting data.
The best way is for brokers to subscribe to the Statistics and accounting data,
and use a remote queue defined on a central remote queue manager.
You can then process the data from all of the brokers on one system.
Another way is to have each broker update a remote database, but this
means you have to configure the flow for each broker, and have to set up the
remote database access.

Defining the flow to your broker

1. For MQSI V2.1 import the STATS.XML file into your control centre.
2. For WBI V5.0 use mqsimigratemsgflow to import the flow into the
   tooling.
3. The MQInputNode uses a queue called STATS. You can change this if
   you wish.
4. Define the queue to your queue manager
5. The compute node uses databases. If you are not using the WBI
   database defined above then you will need to delete and redefine the
   tables. You will need to define FLOWSTATS, NODESTATS,
   THREADSTATS and TERMSTATS tables.
6. Check in the flow and deploy it to the broker you will be using to collect
   statistics.

What you need to do once the flow is installed

1. To test the flow works, you could collect statistics from the broker
   where the flow is defined, but issuing a subscription to the local queue,
   and activating and inactivating the collect statistics.
2. Once you are collecting data successfully, you should delete the
   example data from the node and flow tables. You can do this from the
   DB2 command centre.   You can issue delete all rows from the tables,
   or delete and redefine the tables and views.
3. You should also decide on your long term strategy for managing the
   data. For example every week, you might want to summarise the data
   into another DB2 table, and delete the rows from the original table.
   This means detailed data is held for up to a week, but summarised data
   is collected, for long term analysis.

Running the z/OS program for formatting SMF records

Two files ZOSLOAD.XMIT.BIN and ZOSJCL.XMIT.BIN need to be transerred to your z/OS system
The easiest way is as following
1) FTP the two files to your z/OS system, making sure you use BINary transfer mode
2) For the ZOSLOAD.XMIT.BIN , from a TSO command line issue *TSO RECEIVE INDSN(xxx)* where xxx is the name of the file you have transferred. This will prompt for a data set name, enter something like IS11.LOAD
3) For the ZOSJCL.XMIT.BIN , from a TSO command line issue *TSO RECEIVE INDSN(xxx)* where xxx is the name of the file you have transferred. This will prompt for a data set name, enter something like IS11.JCL
4) Edit the IS11.JCL(WBI117) job and change
   a) The job card
   b) The names of your SMF input datasets
   c) The steplib to the load library you just created
5) Submit the job.