



IBM Software Group

IBM WebSphere® Data Interchange V3.3

Management Reporting



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This presentation will describe the management reporting feature provided by the WebSphere Data Interchange Product.

Agenda

- Management Reporting Component
- Management Reporting Extract Formats
- Management Reporting Data Tables



The three topics we wish to cover are:

- 1) The **Management Reporting Component**
- 2) The use of **Management Reporting Extract Formats**
- 3) A description of the **Management Reporting Data Tables**

Management Reporting Component

- Management Reporting is a WDI component
- Collect, store, and allow extract of operational information
- Requires user-written programs to sort, format, and print the data.



Management Reporting is a component of WebSphere Data Interchange (WDI).

Its purpose is to collect, store, and allow extract of operational information that can be used to manage Networks, Transactions, and Trading Partner Activity.

Information is provided by way of extract formats, and requires user-written programs to sort, format, and print the data.

Control

- Two sets of tables with Management Report data
 - ▶ pending tables
 - ▶ reporting tables
- Statistics are collected during a translation
- Pending tables are updated at the end of the translation
- Can be turned off in the Application Defaults (APPDEFS) Profile



There are two sets of tables with Management Report data. These are called the 'pending tables' and the 'reporting tables'.

Statistics are collected during a translation for example the PERFORM TRANSLATE TO STANDARD utility command.

The Management Reporting pending tables are updated at the end of the translation.

Updating of Management Reporting pending tables can be turned off in the Application Defaults (APPDEFS) Profile.

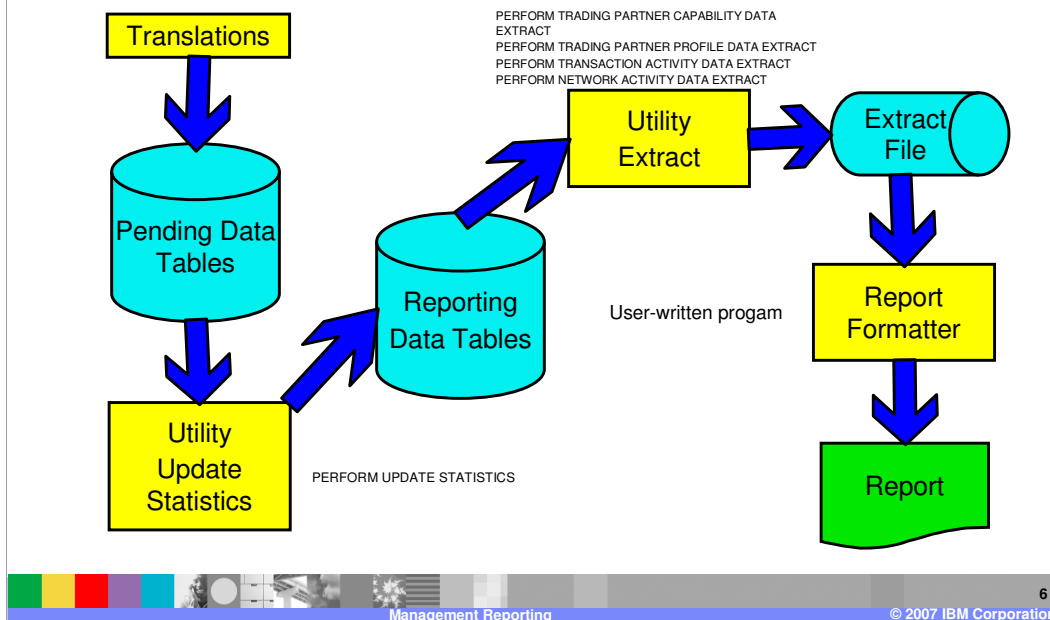
Update Statistics

- Data is moved from the pending tables to the reporting tables
 - ▶ PERFORM UPDATE STATISTICS
- Data is summarized and organized for reporting



Management reporting data is moved from the pending tables to the reporting tables using the PERFORM UPDATE STATISTICS utility command. During this move, data is summarized and organized for reporting.

Report Process Flow



In considering how data is collected and used in the Management Reporting component, the start or trigger for the process is a translation. This can be a Send Translation, Receive Translation or Data Transform translation. During the translation data is collected – for example, the name of the map, the number of translation using the map, the number of bytes sent to a network destination. At the end of each translation, the statistics are stored in the “pending” tables. Periodically, the customer will execute a PERFORM UPDATE STATISTICS. This command summarizes the existing data, and accumulates it in the Reporting Tables. Once in the reporting tables, the customer can extract desired information with a number of extract commands. The result is a file of records with the requested information. A customer written program then can be executed against the extract data to produce a custom report. Sample programs are provided in the WDI Programmer’s Reference manual.

Management Reporting Extract Formats

Trading partner

- Data extract - last transmission date

- Data extract capability

Network Activity data

Transaction Activity data

Document Store data extract

- Interchange data

- Group data

- Transaction data

- Transaction image / acknowledgment image



There are several formats which make up the extract data. The format provided depends on the command requesting the extract. When trading partner information is requested, there is a record for each transmission (last transmission date) and a record about trading partner characteristics (also called capability). If data about a network is requested, the Network Activity format is used. If data about a map is asked, the Transaction Activity format is used. If information about Document Store data (interchanges or messages) is desired, then the interchange, group, transaction, or image format is used – depending on the data.

Purpose of Formats

DataInterchange determines the best way to provide data

DataInterchange combines data from multiple tables into a single, flat file format

Formats are produced by Utility PERFORM commands

Layouts protected across releases, tables are not



Some may ask “Why use extract formats? Why not just provide a layout of the Data Tables?” Extracts allow WDI to determine the best way to provide data. WDI can combine data from multiple tables into a single, flat file format, where meaningful. Specific extract formats can be associated with specific Utility PERFORM commands. Extract Layouts can be protected across releases, helping with migration requirements. Data tables can change from release to release.

Format PERFORM Commands

PERFORM TRADING PARTNER CAPABILITY DATA EXTRACT

PERFORM TRADING PARTNER PROFILE DATA EXTRACT

PERFORM TRANSACTION ACTIVITY DATA EXTRACT

PERFORM NETWORK ACTIVITY DATA EXTRACT



This is a list of PERFORM commands used to extract management reporting. These are:

The PERFORM TRADING PARTNER CAPABILITY DATA EXTRACT,
The PERFORM TRADING PARTNER PROFILE DATA EXTRACT,
The PERFORM TRANSACTION ACTIVITY DATA EXTRACT, and
The PERFORM NETWORK ACTIVITY DATA EXTRACT.

Report Samples

Trading Partner capability Extract Report

See sample program EDISAMS1

Network Activity Extract Report

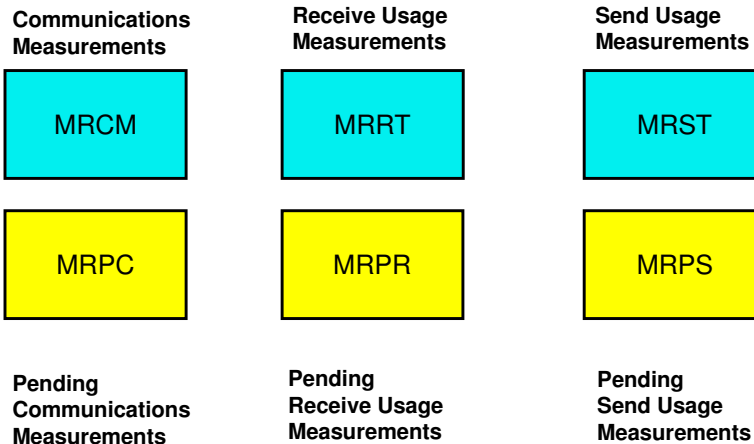
See sample program EDISAMT1

Sample program source is in user1.V3R3M0.SEDICBL1 library



WDI provides some sample programs which use the extract formats. These samples are provided one of the distribution libraries. Two samples are one using the Trading Partner capability extract data, and another which uses the Network Activity extract data.

Management Reporting Data Tables



There are six Data Tables used by the Management Reporting component. Three are pending tables. These are tables used to store statistics captured during translation. Three are almost mirror images of the pending tables, but are reporting tables. They are used when extract records are requested. The reason for this structure is to protect the translation from being impacted by a reporting request. It also gives the user control as to when the reporting numbers change. There are tables for collecting network statistics or communications measurements, receive measurements, or incoming message statistics, and send measurements, that is, outgoing message statistics.

Communications Measurements

Tables

MRCM - Reporting Communications Measurements
MRPC - Pending Communications Measurements

Measurement keys

By requester ID (Mailbox)
For specific measurement and effective date
Sequence
Direction

Data collected

Envelope count
Envelope byte count



Information collected in the communication measurement tables are number of messages or envelopes and the number of bytes in these envelopes. The data is collected by Mailbox ID, also known as requestor id, by date, and by direction – incoming or outgoing.

Receive Usage Measurements

Tables

MRRT - Reporting Receive Usage Measurements

MRPR - Pending Receive Usage Measurements

Measurement keys

By trading partner nickname

For transaction (map)

mapname

sequence

sender / receiver ID

sender / receiver ID flag

measurement ID

measurement date

Data collected

count of transactions translated

count of transactions translated with errors



Receive usage measurements collect statistics about a map and the trading partner involved. Statistics captured are number of messages translated using this map for a trading partner, and of that number, how many translated with an error.

Send Usage Measurements

Tables

MRST - Reporting Send Usage Measurements

MRPS - Pending Send Usage Measurements

Measurement keys

By internal trading partner ID, Data Format (DF) name, map name

For transaction (map)

Map name

sequence

internal trading partner ID

DF name

measurement ID

measurement date

Data collected

count of transactions translated

count of transactions translated with errors



The Send Usage measurements are similar to the receive usage measurements. The major difference is that this describes the format from which the Electronic Data Interchange (EDI) output is generated. It gives information about how many transactions are being sent to a Trading Partner using a specific format.

Management Reporting for Non-EDI Documents

- The statistics table that non-EDI documents get written to is determined by the envelope component.
 - ▶ XML and DF documents are processed in the enveloper and de-enveloper nodes.
 - The enveloper generates data for the send statistics table
 - The de-enveloper generates statistics for the receive statistics table



The primary processing change that was done in management reporting for WDI 3.3 was to add code into the envelope nodes to generate statistics and populate the appropriate pending tables. The selection routines were modified to reflect the fact that the map rules have to be referenced as well as the map usages in order to retrieve those statistics for Data Transformation (DT) maps.

Management Reporting for Non-EDI Documents

Source based maps or Target based map

- XML -> EDI Send usage
- DF -> EDI Send usage
- EDI -> EDI Send usage
- XML -> XML Send usage
- DF -> XML Send usage
- EDI -> XML Receive usage
- XML -> DF Send usage
- DF -> DF Send usage
- EDI -> DF Receive usage



A table of source based and target based map types and how they are accounted is shown above.

Maintenance PERFORM Commands

PERFORM UPDATE STATISTICS

WHERE NUMUPDTS ...

Move data from pending tables to reporting tables
Clean out pending tables before executing
Management Reporting (MR) data extract
Number of updates between syncpoints

PERFORM REMOVE STATISTICS

WHERE PRIORTO NUMDEL ...

Remove any statistics over 6 months old from reporting tables
Number of deletes between syncpoints



In maintaining the management reporting tables, two commands are primary. The PERFORM UPDATE STATISTICS summarizes and collects daily data into the reporting tables. Entries in the pending tables are erased. The second command, PERFORM REMOVE STATISTICS cleans out the reporting tables. Purge criteria is established such that summaries over 6 months old are affected – others remain.

In both commands, the operator can control the number of updates / deletes between COMMITs.

Summary

The Management Reporting component

- Collects statistics during translations
- Summarizes data into reporting tables
- Provides information in extract formats
- Allows the user to turn on and turn off via the Application Default profile



To summarize, the WDI Management Reporting component collects statistics during translations and stores them in the pending tables.

It also summarizes individual collections by date into reporting table entries by request. Information is provided to the customer in extract formats, depending on the command used. Lastly, the customer can determine whether these statistics are to be collected or not. The Application Default profile used during the translation specifies whether management reporting is on or off.

This concludes the presentation on WDI management reporting.

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