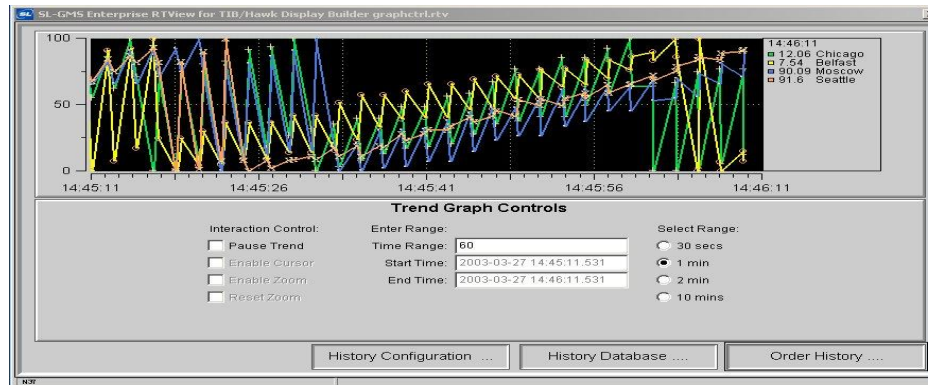


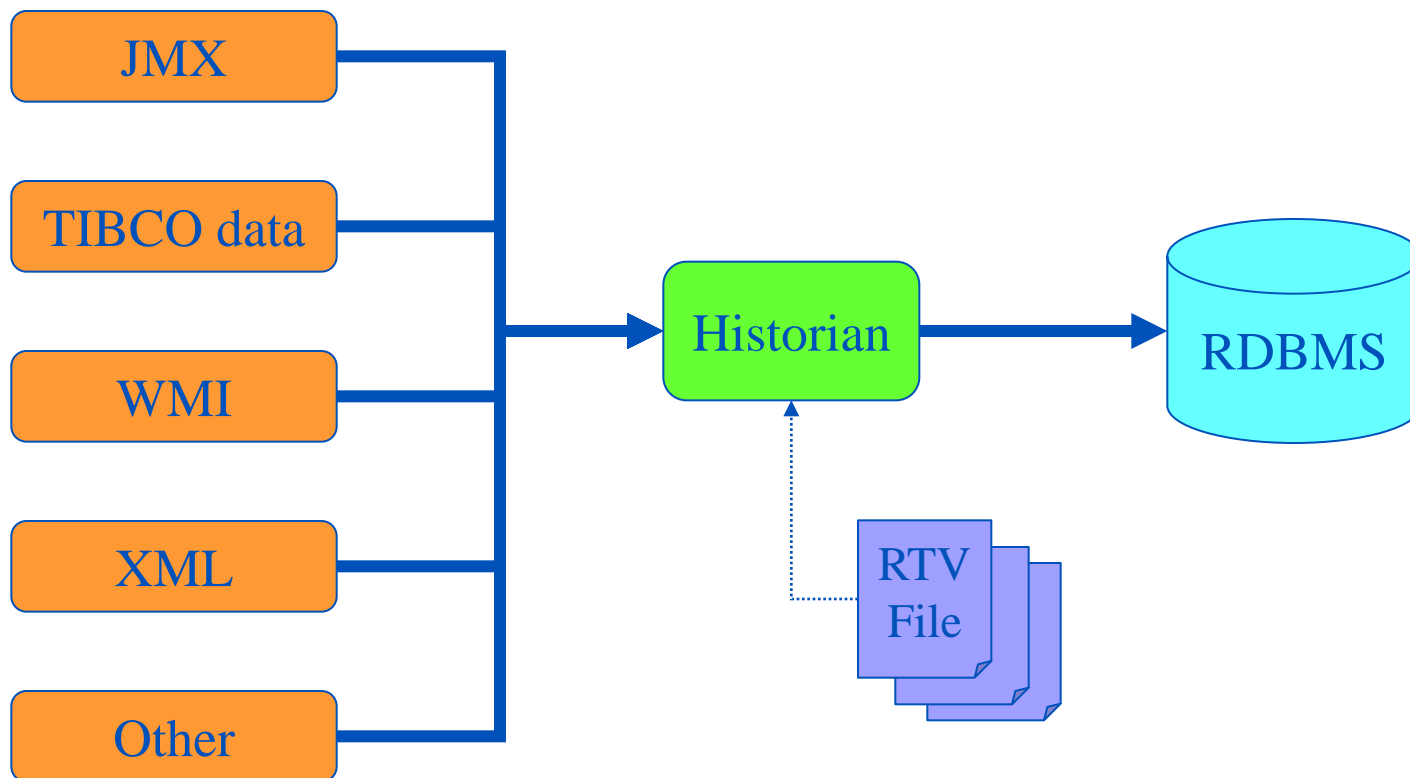
RTView Historian

Historian

- Archives data sources to a relational database
- Connects to database via JDBC/ODBC.
- Uses files created with the Display Builder to determine which data to archive, so configuration is done via the same displays you are using to view your data.
- Archived data can be compared to live data for trend analysis or comparison to other metrics.

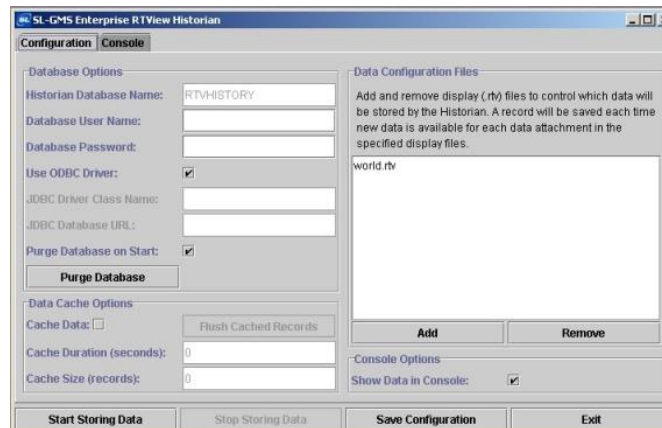


Historian Architecture



Historian - Setup

- Create Historian Database (if it doesn't exist)
- Configure ODBC or JDBC connectivity
- Create tables or let historian auto-create tables for storing archived data
 - Numeric data: HISTORY
 - String data: HISTORY_S
 - Tabular data: <user defined>
- If HISTORY, HISTORY_S tables do not exist, they will be created automatically



Historian Setup - Example

JDBC Setup Example: Oracle 10.2 driver setup

- Database Name
 - Set database name with historian GUI
 - Is not used to connect to the database
- Username and Password
 - Correct username and password is required for the historian database
- JDBC Driver Class Name
 - `oracle.jdbc.driver.OracleDriver`
- JDBC Database URL
 - `Jdbc:oracle:thin@hostname:port:SID`
 - `jdbc:oracle:thin:@greywolf:1521:orcl`
- RTV_USERPATH
 - `= %ORACLE_HOME%\jdbc\lib\ojdbc6.jar`

Historian – Default Tables

- Storing Numeric Data
 - Stored by default in table named HISTORY
 - Name of table can be specified on the historian command line

- Storing String Data
 - Stored by default in the table name HISTORY_S
 - Name of table can be changed, via command line option above
 - Changed table name will be for numeric data.
 - String data will use the new table name, with an “_S” appended

Historian – Custom Tables

Storing Tabular Data

- You can archive the contents of table objects within RTView
- Auto-archive RTView tables to historian database, or manually create the database table(s) to reflect RTView tables.
- Type the table name into the HistoryTableName property
 - Located on the property sheet, with the RTView Builder
- To archive the row name field:
 - check the HistoryTableRowNameFlag
- The archived historian table will include a column for each column stored.
- An optional timestamp column using the `-timestamp` command line option.
 - `-timestamp:none` `-timestamp:sql` `-timestamp:str *`

* `-timestamp:str` for backward compatability of pre-51c1 Historian

Historian

- To start the Historian
 - Type **run_historian** in an initialized command window.
- Set historian options
 - Database Options
 - Record Retention Options
 - Cache Data Options
- To begin storing data to your database
 - Click Start Storing Data.
- To stop storing data to your database:
 - Click Stop Storing Data.

- Historian related settings are stored in HISTORY.ini
- Historian can be run in daemon mode:
`run_historian -daemon`

Historian - Viewing Archived Data

- Archived data can be viewed from the Display Builder or Display Viewer.
- To attach an object to archived data you can:
 - Enable the **valueHistoryFlag** object property on the graph
 - or use standard SQL attachment

Using the **valueHistoryFlag** object property

- The first two graphs on the Graphs tab of the Object Palette (class names: obj_trendgraph01 and obj_trendgraph02) feature the object property **valueHistoryFlag**.
- If you select this checkbox, RTView will attempt to connect to the history database and load the archived data.
- Only data stored in the **numeric table** (HISTORY or the table name you specified) will be used to load historical data into your trend.

Historian - Viewing Archived Data

Viewing data via a SQL Data Attachment

- Provides the most flexibility for viewing archived data.
- Customize the SQL query to retrieve the data you are interested in.
- Custom table objects can be accessed by the SQL query

Exercises

Ex 1: Use the historian to archive scalar data from a sample screen

1. Create an Database named MyDatabase
2. Open the Builder: File>New
3. Add a meter. Connect to XML simulated data. For example, choose “element1_data” as the Data Key.
4. File>Save (save as hist_example1.rtv). Exit the Builder.

5. From the command prompt, bring up the historian by typing “run_historian.bat”
6. For “Data Configuration Files”, add “hist_example1.rtv”
6. Historian Database Name: “MyDatabase”
7. Check “Show Data in Console”
8. Save Historian Configuration.
9. Select “Start Storing Data” and open Console Tab.

Exercises

Ex 2: Use the historian to archive tabular data from a sample screen

1. From Display Builder, File>Open hist_example1.rtv
2. Add a table. Connect to XML simulated tabular data. Choose:
XML Source: update.xml (or your XML data source name)
Data Key: production_table
Column(s): *
3. Locate the “HistoryTableName” property on table and type in the name MYHISTORYTABLE.
4. File>Save. Quit Display Builder.
5. run_historian –timestamp:sql
6. Start the Display Builder, File>Open New. Add a table and attach to the Historian tabular data, MYHISTORYTABLE.
Note: a TIME_STAMP field has been added to the tabular data.
7. File> Save hist_example2.rtv
8. Exit the Display Builder and the Historian.