Appendix: RiversideDB Data Store

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Overview

The RiversideDB database has been developed by Riverside Technology, inc. to store real-time and historical time series data. The database generically handles time series properties including data type, units, interval, source, etc., which are used with time series objects. The RiversideDB database can be accessed using TSTool or Riverside Technology's RiverTrak® software.

RiversideDB and Standard Time Series Properties

The standard time series identifier for RiversideDB time series is of the form:

```
Location.DataSource.DataType.Interval.Scenario~DataStoreName
```

Because RiversideDB and the basic time series objects used by software like TSTool have been developed in parallel, standard time series properties are consistent with the RiversideDB design. This allows software applications like TSTool to be totally data-driven, with no need to hard-code interpretation of data types or other information.

RiversideDB is treated as a *Data Store*, which means that the right-most part of the identifier is a use-specified data store name. The software will determine from the data store configuration information that the input type is RiversideDB and will handle processing accordingly. Using a data store name allows the database configuration to change without needing to change the references to the time series.

Limitations

A wide variety of time series data types, interval, units, etc. have been successfully stored in RiversideDB. No major limitations are known at this time; however, not all time series table formats are supported in TSTool – commonly used table formats are supported.

Data Store Configuration Files

A data store is configured by enabling a RiversideDB data store in the main *TSTool.cfg* configuration file, and creating a data store configuration file for each connection. Configurations are processed at software startup to enable data stores. An example of the TSTool configuration file is shown below. Multiple data stores can be defined using the `[DataStore:DataStoreName]` syntax. Properties for each data store are specified in an accompanying configuration file described after the following example.

```
# Configuration file for TSTool

[TSTool]

RiversideDBEnabled = true

# Startup data stores (note that data store name in config file takes precedence)

[DataStore:RiversideDB1]

ConfigFile = "RiversideDB1.cfg"
```

```
# The following legacy syntax will result in a data store named "RiversideDB"
# Definition of data stores using the above approach is preferred

[RiversideDB]

Database = RiversideDB_NCWCD
DatabaseServer = lonetree\TWOKFIVE
DatabaseEngine = SQLServer2000
# Read-only streamlined login
ShowLoginDialog = false
```

TSTool Configuration File with RiversideDB Properties

The following illustrates the RiversideDB data store configuration file format, which in this example is located in the same folder as the TSTool configuration file and configures the "RiversideDB1" data store. The SQL Server database in this example is a named instance. A default service account is used for authentication and allows read-only access to the database.

```
# Configuration information for "RiversideDB1" data store (connection).
#
# The user will see the following when interacting with the data store:
#
# Name - database identifier for use in applications, for example as the
#     input type/name information for time series identifiers (usually a short string)
# Description - database description for reports and user interfaces (a sentence)
#
# The following are needed to make the low-level data connection:
#
# DatabaseEngine - the database software (SqlServer)
# DatabaseServer - IP or string address for database server
# DatabaseName - database name used by the server

Type = "RiversideDBDataStore"
Name = "RiversideDB1"
Description = "Real-time system data"
DatabaseEngine = "SqlServer"
DatabaseServer = "lonetree\TWOKFIVE"
DatabaseName = "RiversideDB_NCWCD"
```

RiversideDB Data Store Configuration File

The following legacy *TSTool.cfg* properties control the start-up connection to a RiversideDB – **this method of defining the RiversideDB connection will be phased out at some point and is discouraged. Instead, use the new data store configuration file as shown above**. A connection defined with the legacy approach can be reset interactively by browsing to a data store configuration file.

Property	Description	Default
`Database`	The database name.	No default.
`Database Engine`	Indicates the database engine that is being used (same as the RiverTrak® software database connection properties). For example, use SQLServer2000 for SQL Server.	No default.
`DataBase Server`	The database server name or IP address.	No default.
`ShowLogin Dialog`	Indicate whether the login dialog should be shown at startup. The login information allows the software to determine whether a user has permissions to read and write to various database tables.	`True`