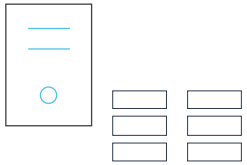
Historian

Considerations



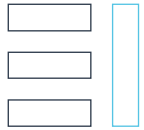
Separate Database

Using the Historian feature in TrakSYS will trigger the creation of a second database (along side the same location the main TrakSYS database resides).

The new database is called <main database name>_Historian and holds the historical Tags values captured by the TrakSYS Historian Service.

Capture Options

Tags to be recorded can be configured to be captured on a fixed interval (every N seconds), or by using a deviation setting that limits the number of points collected based on a logical compression threshold (SLIM3 algorithm).



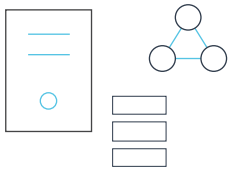
Simplified Structures

Within the Historian database, each Tag History Definition (Tag) that is configured to be captured will generate its own dedicated table (TagHistory_<Tag History Definition ID>).

The Tag data tables are extremely compact and simple, including only a Date/Time stamp, value and a quality attribute.

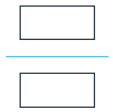
Historian

Advanced Capabilities



SQL Server Enterprise

The following Historian features are only available when using TrakSYS in conjunction with SQL Server Enterprise (not included with the standard TrakSYS licensing).



Physical Compression

Tag data stored in the Historian database is automatically compressed on disk when being saved to the tables and uncompressed when queried. This results in ~60% less disk usage.

Table Partitioning

Table partitioning allows for the Tag data to be stored by month, significantly improving retrieval performance on most Historian based queries (which are typically less than one month in range).

Logical Compression

The TrakSYS Historian offers a logical compression algorithm to “save disk space” when historizing Tag values that change very frequently but maintain the basic story the data is telling.

In essence, the logical compression is achieved by omitting data points that are trending along the slope established from the previous few points. When applied correctly, these omitted points do not typically add value to a trend and large amounts of storage space can be saved.

The specific compression is based on the SLIM3 algorithm, which is published and can be referenced for the mathematical details.