



July 30, 2007

Historis

DB Optimized Specifically for Time Series Data

Historis is a database application geared specifically for the storage and retrieval of time-series data. According to the vendor, while traditional relational DBs focus on the flexible storage of various types of data, Historis excels by optimizing for and accepting only time-series information; optimizing its data storage and retrieval algorithms for this specific data set. Target markets and industries for the database include financial analysis, energy, and vehicle, healthcare, and equipment monitoring.

The key feature of the DB is its overall performance. The vendor notes that over 250,000 records can be inserted per second, while records can be retrieved at a clip of 220,000 records per second--both numbers generated using the new 64-bit version of the DB on a Sun Fire X4200 with 2 dual-core AMD Opteron 2218 processors and 16 GB RAM. This performance is achieved via the combination of multiple technologies embedded within the DB, including lossless compression; a specialized subsystem for the handling of descriptive data (enabling random access) that behaves like content-addressed storage; and specialized handling of date data such that every date associated with values in the DB needn't be explicitly stored (dates are dynamically inserted into positions where they are not physically stored). Further, the storage algorithm leverages a pre-derived tree structure schema--itself always residing directly in server RAM--for the loading of each relation's dimensional data on disk; a method that then facilitates the use of memory mapping techniques when retrieving the data. Because the DB is pre-tuned for the storage of time-stamped data, this "temporal interpretation" technique enables the pre-association of all values within a relation's time series for query comparisons.

Other features of the DB include:

- Access via multiple provided APIs, including those for C, C++, C#, Java, VB, and XML
- Support for the vendor's "MQL," an English-like descriptive query language
- Algorithms for the manipulation of date stamps within the database
- The vendor's own XMIM, MIMIC, and XCEL add-ins for the modeling and evaluating of time series data
- Links to the S-PLUS and MATLAB analysis tools

The 64-bit version of Historis is new; with the vendor now boasting the above-mentioned performance, unlimited capacity, and support for milliseconds (time stamps can be entered and retrieved to one thousandth of a second).

Historis is available now. Contact Logical Information Machines (LIM) for further information.