

Description: An introduction to Hyper Historian: what it is and why you should use it.

OS Requirement: Windows Server 2003 x64/Vista x64/ Server 2008 x64/Windows 7 x64/ Server 2008 R2 x64

General Requirement: Hyper Historian.

Introduction

The ICONICS Hyper Historian is a high performance, robust, scalable, secure, enterprise-wide, real-time data historian. The Hyper Historian leverages the latest operating systems such as Windows 7 and Server 2008 R2, in addition to 64-bit processors. Some of the added features include:

- Designed from the ground up using 64-bit and .NET
- Web-based configuration and administration
- Robust, high performance, and scalable
- Industry standard connectivity:
 - OPC-UA, OPC DA, OPC HDA
 - SNMP, BACnet
 - Databases
- Integrated redundancy with store and forward
- Unattended data archiving and backup
- Multiple remote collectors
- Integration with ICONICS BizViz Solutions

This application note will introduce you to the Hyper Historian. It includes examples of why it should be used and an overview of its design.

Why You Should Use Hyper Historian

There is a wide variety of reasons why customers have chosen the ICONICS Hyper Historian as their enterprise-wide data historian. ICONICS Hyper Historian is right for your project if the historian must do one or more of the following.

Maintain High Quality Data Integrity

In many industries, historical data must be available at all times. Using Store-and-Forward technology and Redundancy, Hyper Historian can store and preserve data in the event of a disruption in communication.

Be Scalable in a Changing Environment

Some projects are always evolving and increasing in size. With ICONICS Hyper Historian, you can easily adapt to changes in your system such as the addition of new devices. With optimistic concurrency through web-based configuration, updating a system is now easier than ever. Certified for Windows 7 and Windows Server 2008 R2, Hyper Historian is compatible with the latest operating systems.

Optimize Space Used for Storage

While the cost of storage is decreasing, the amount of time spent maintaining storage can add up over time. The Hyper Historian uses a swinging door algorithm to optimize disk space. Furthermore, the Hyper Historian does not log to a relational database for improved efficiency. Instead, data can be stored in memory for a specified period or written to a flat file format. Hyper Historian also provides automatic archiving, which detaches older data and moves it to a remote location for long-term storage.

Provide High Resolution Data

Some processes require fast data collection rates for later data analysis. Using the processing power of 64-bit processors and additional memory capacity, Hyper Historian can handle over 50,000 data events per second.

Integrate with Other Software

Once you have a wealth of data, you will want a way to utilize it. The ICONICS Hyper Historian provides many possibilities of integrating with other software. Using its OPC-UA and OPC HDA interfaces you can replay data using ICONICS TrendWorX products.

Additionally, the Hyper Historian integrates smoothly with the BizViz suite of products such as BridgeWorX and ReportWorX. The SQL Query Engine provides access to logged data from relational databases such as Microsoft SQL Server.

Hyper Historian Architecture

The Hyper Historian architecture consists of the logger and collector modules. Under the **Standard** license, the Hyper Historian Logger and Collector run within the same service.

The **Enterprise** license has additional features including redundant collectors and loggers with Store-and-Forward technology, utilization of multiple CPUs, and remote collectors. There is a separate service for the logger and the collectors.

Loggers

The loggers receive data from one or more collectors, which take incoming data and efficiently log it to memory or hard disk.

Collectors

The collectors actually connect to your OPC-UA, OPC DA, BACnet, SNMP, etc., to receive data. These collectors can run remotely from the logger and, on a specified interval, they will send the data to the logger service to be stored.