



AVEVA

PRODUCT DATASHEET

---

# Historian

**Capture and store high-fidelity industrial data.**

Historian is a high-performance process historian capable of storing huge volumes of data generated from today's industrial facilities. Historian easily retrieves and securely delivers information to desktop or mobile devices, enabling organizations to analyze processes anywhere at any time.

# Summary

---

Historian is the first, large volume plant data historian to unite a high-speed data acquisition and storage system with a traditional relational database management system, facilitating access to plant data using open database standards.

## Business Value

- A complete and accurate operational history provides a foundation for faster troubleshooting and easier discovery of high value process improvement opportunities.
- Flexible, scalable implementation options reduce IT costs and accelerate system ROI. High availability and disaster recovery options help ensure business continuity.
- Comprehensive reporting and data analysis options enable more team members to gain value from your process history and having access to data enhances collaboration.

Historian combines advanced data storage and compression techniques with an industry-standard query interface to ensure open access to all of your process, alarm and event data, enabling faster, more informed decisions while keeping your team fully informed on operational performance.

Historian is the perfect companion to the world's leading human machine interface (HMI) InTouch® HMI, System Platform, Citect SCADA, InTouch Edge HMI and ClearSCADA allowing you to easily store data coming from your HMI SCADA application. Historian is offered in a number of configurations to meet the needs of any industrial facility, from a single site to a multifacility global enterprise.

Data stored in Historian is easily accessible using a comprehensive set of integrated reporting and data analysis tools. From your desktop, laptop, tablet or smart phone, Historian data is available 24/7 helping you better manage and improve your process.

## Highly Scalable and Flexible

Historian offers greater scalability and more deployment options than ever before. AVEVA Historian can collect and store all of your vital process, alarm and event data up to 2 million tags.

Historian can be deployed to monitor a single process or an entire facility. It can expand as a tiered Historian, capable of storing data locally and aggregating data at the corporate level to simplify the most demanding data reporting and analysis requirements.



## Data Integrity

In many industries like Upstream Oil & Gas or Water & Wastewater, remote facilities are connected via low bandwidth data communications systems. Network efficiency is a key consideration. Historian has increased network efficiency by up to 92% so all of your high resolution data is captured accurately every time.

Data can also be intermittent, late, or come in bursts, straining the ability of a historian to keep up. The high performance Historian data storage engine can handle data bursts of late data without adversely affecting system loading. Historian can even handle data coming in from systems with mismatched system clocks, preserving the correct data sequence automatically.

Regardless of your industry, Historian delivers the high levels of data integrity required by today's most demanding companies.

## Business Continuity

Business continuity is a growing concern among leading industrial companies. How do you ensure that your plant historian keeps functioning if a computer system fails or if you experience a natural or man-made disaster?

With Historian, it is simple to create distributed configurations that address your business continuity concerns. Redundant Historians ensure reliable data access to data that has been reliably collected and stored by Historian. Tiered Historians can serve as a data repository for backup of critical information, consolidating data from diverse sites. They can also be used for bridging control networks (OT) and business networks (IT), providing access to detailed operational data that was previously inaccessible.

Data access and visualization is also ensured by our tiered Historian redundancy approach. Connected instances of Historian Client, automatically switch to a designated backup historian if the primary Historian goes down. When the primary Historian comes back online, all connected Historian Client instances automatically switch back to the primary server.

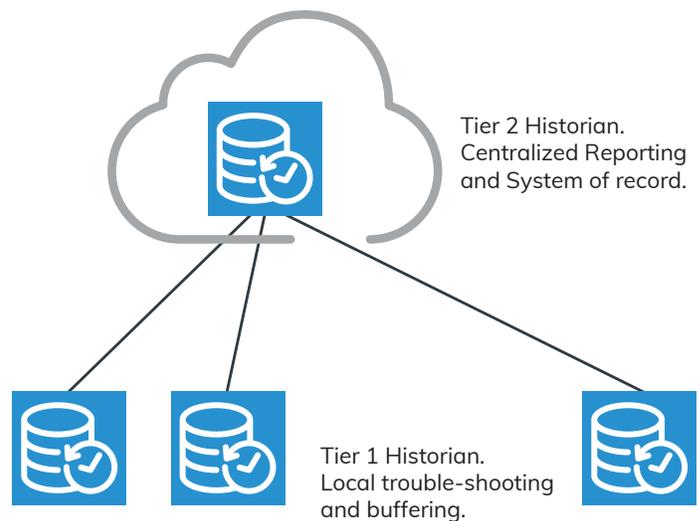
## High Performance Features

### Store Plant Data with Amazing Speed and Remarkable Efficiency

Historian captures plant data hundreds of times faster than a standard database system and saves data in a fraction of the space using our history block technology.

**“The Historian storage engine uses only 2% of the disk space the same volume data would require to be stored in a traditional relational database.”**

Because of the differences between time series information and conventional transactional data, conventional relational database technology is often not suited to the plant-floor environment. Historian is designed to manage the continuum of values experienced in time-series data, along with alarm and event data, providing a single data repository for your operational records. Our storage engine uses only 2% of the disk space the same volume data would require to be stored in a relational database. This means Historian can capture very high resolution data on a large number of data tags ensuring you have the data you need to understand and solve the most difficult process and equipment problems.



Tiered architectures guard against possible data loss and provide valuable summary data for system performance analysis.

Historian combines front-end, high-speed data collection with time series extensions to an embedded Microsoft® SQL Server® relational database to optimize both storage and retrieval performance. Historian does not store data directly in Microsoft SQL Server tables, but instead utilizes highly optimized “history blocks” technology. This means that you don’t have to purge your database as the size of your database grows – ever. You can move or transfer history blocks using Windows Explorer®. History block setup is improved so system management is easier than ever.

Additionally, our patented “swinging door” data storage algorithm greatly reduces data storage requirements while preserving important data features.

## Capture Complete Data Records, Even from Slow or Intermittent Networks

Historian captures the complete data record (process, alarm, events) with its fault-tolerant data acquisition system. It is ideal for SCADA, geographically dispersed facilities or other applications that use slow or intermittent data networks. Historian can acquire and store data collected by remote terminal units (RTUs), providing more complete data records for SCADA operations.

## Transform Data into Useful Information with Advanced Retrieval Modes

Historian has built-in advanced data retrieval modes that help you easily transform your data into meaningful, actionable information. Historian makes data report queries easier to build, more efficient and more powerful with the following advanced data retrieval modes:

- **State Summary** data summarizes the states of a tag value. State Summary simplifies the analysis of process variables with a limited number of states, such as a machine’s state of running/starting/stopping/off or a string that represents a downtime reason.
- **Analog Summary** retrieves summary data to regularly track your plant’s productivity. You can use a variety of available summary statistics, such as:
  1. Time-weighted average
  2. Standard deviation, and
  3. First, last, minimum, or maximum value for a timestamped period
- **Integral** helps you convert a rate into a quantity, such as totalizing a flow. For example, you can answer questions such as “How much orange soda did we bottle yesterday?”
- Use **Counter** to calculate production rates and totals or keep track of how much liquid or gas a process uses.
- **Round trip** enables you to analyze cycle time or calculate periodic downtime. Quickly find answers to questions like “How long does it take between starting to fill one bag and starting to fill the next one?” or “What is the mean time between failures for my operation?”
- **Optimistic Retrieval** helps you fill data gaps in case of interruptions. You can use this feature to make a “best guess” for information lost because of a communication failure between equipment and the application server.
- **Summary Statistics** can give you key information for
  1. A set of tags grouped by batch, or other unique event
  2. By state (one per occurrence), or
  3. Overall summary statistics for a state (across multiple occurrences) Easily find information such as: peak temperature by batch, average flow rate each time a pump was running, total flow while a valve was open, amongst others.
- Other data retrieval modes include:
  - Slope
  - Interpolated
  - Best fit
  - Cyclic and delta
  - Full
  - Value state
  - Round trip

## History Replay

The history replay feature allows any process graphic hosted in the InTouch HMI industrial visualization platform to easily be redirected from real-time data to historical data for improved analysis of your process through the SCADA Playback feature.



## Choices for Data Analysis and Reporting

Being able to use data is just as important as storing it. AVEVA provides many ways to access and visualize your process data. Historian Client provides a great desktop tool for viewing data trends and basic reports. Historian Insight is a browser client for quick data query and trending. Intelligence leverages Tableau® business analytics for powerful self service process analysis capabilities. Dream Report is a configuration based reporting application that anyone can use out the box to create production or regulatory compliance reports. AVEVA Insight makes information accessible through the cloud for any modern browser or mobile device. AVEVA Insight allows you to monitor your critical information, KPIs, and alerts on-the-go.

AVEVA has all your data analysis and reporting needs covered.

## Data in the Cloud

AVEVA Insight is a simple SaaS solution that can save money and resources. It can be a cost-effective solution for small applications, reducing the total life cycle cost.

Whether you are looking to move your industrial data storage to the cloud as a managed Software as a Service (SaaS), or to complement and extend existing on-premises investments, AVEVA Insight is an affordable option.

For customers wishing to host their Historian architecture in the cloud, AVEVA Insight makes data accessibility and analysis simple. Anywhere, anytime and on any device.

Another feature enabled by AVEVA Insight is the ability to send key data to a mobile device. This allows users to access KPIs on the go and create personalized alerts. Do you want to know when the line has stopped for more than five minutes? What about a critical asset that is in a high temperature state? Simply ask the question and get the answer.

## Customer Support and Services

The Customer FIRST Services Program makes it easy to receive the latest AVEVA software and associated applications. To learn more about this valuable program, which maintains and often increases the value of your industrial software applications, please contact your local sales representative.

Discover how industrial information solutions such as Historian and AVEVA Insight can benefit your business. Contact your AVEVA distributor today, or visit [sw.aveva.com/monitor-and-control/industrial-information-management/historian](http://sw.aveva.com/monitor-and-control/industrial-information-management/historian)