ABB Ability™ History

Collect, process, contextualize and integrate industry data on one platform

For more information, please visit https://docs.cpmplus.net/

For product queries, please contact in-abilityhistorysupport@abb.com
ABB Ability™ History

Data quality for increased production efficiency and asset utilization

1. ABB Ability™ History - Data Collector Node
   - Collect data from devices and control systems using industry standard protocols
     - OPC UA
     - OPC Classic DA, HDA, AE
     - Modbus Master
   - The ability to collect data accurately and forward securely close to real-time from the data collector nodes to plant historian and further to Cloud as well as 3rd party systems, and ensuring data consistency between systems is the essence of digitalization.

2. ABB Ability™ History - Plant Historian
   - High performance and reliability, together with maintenance-free operation, provide a solid platform for mission-critical systems
     - Manufacturing operations management
     - Process information management
     - Asset management
     - Modern tools and services for efficient application development
     - Industry standard APIs OPC UA, ODBC (JDBC)/SQL and OData
     - Tooling to integrate with other plant and enterprise systems
     - Multiplatform: Windows, Linux and Docker
   - Analytics & Visualization
   - Condition Monitoring
   - Emission Monitoring
   - Energy Management
   - Performance Optimization
   - Predictive maintenance

3. ABB Ability™ History - Cloud Historian
   - High performance data platform for enterprise level applications and support for AI/ML developments
     - Information models to describe the semantics and enable easy access to time series data
     - Rich set of functionalities for industrial applications and data analytics to enable efficient application development
     - Simple and reliable architecture to ensure cost efficient operation
     - Fully automated data collection and backfilling from plant systems
     - Allows writing data and actions back to plant and to device level
   - Analytics & Visualization
   - Condition Monitoring
   - Emission Monitoring
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   - Performance Optimization
   - Predictive maintenance

Applications
- Analytics & Visualization
- Condition Monitoring
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- Predictive maintenance

Push with standard APIs:
- OPC UA and classic servers
- OData
- ODBC/SQL
- Secure Websocket with JSON payload
- Embedded device C++ SDK
- .NET EqM API

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Equipment modeling

Equipment model is a predefined meta information model in ABB Ability™ History that makes it easy to model industrial assets and processes, and to organize instances in functional hierarchies. Although the traditional Tag/Variable concept is still supported and in use with many of the brown-field control systems, the Equipment model brings the semantical modelling to a new level. Moreover, the time series properties of the equipment model can be used together with the Tag/Variables.

One of the big benefits of the Equipment model is the improvement in engineering efficiency. The Equipment model describes all the functionalities for the data acquisition, data processing, storing, aggregation, presentation, analytics, and finally collaboration with other systems.

Tools & Services

What makes ABB Ability™ History the preferred time series database for implementing industrial applications is its wide range of tools and services that are easy to use and powerful to meet industry requirements.

Visualization

UI SDK also known as VIEW - is a high productivity tool to implement mobile and web UIs from simple panel applications to enterprise level systems with thousands of users. You can create industrial quality desktop like UX in browser with the UI SDK editor without programming. Rich set of widgets to build real-time dashboards are included and can be extended with 3rd party widgets.

Analytics

Calculation tool is used to implement and run large scale close-to-realtime calculations with time series data. The entire workflow happens on web browser with intuitive navigation to calculation modules, parameter mapping and scheduling in a user-friendly manner. When implemented against an equipment model, calculation can be deployed to any history system with minimum engineering work.

Calculation tool enables efficient connectivity for integrating machine learning to process calculations.

Collaboration

All the data from engineering up to time series are available for external use and systems integration with industry standard APIs - OData, OPC UA, ODBC/SQL, .NET and Javascript APIs.

Automated bidirectional data transfer service Netsync is used to built hierarchical and networked History systems. Same service can also be used to integrate and feed data to external systems at factory and Cloud levels.
Ability™ History is a high performance time series data platform that incorporates tools to implement high quality industrial applications for manufacturing operations and asset management. Its open standard APIs and tooling promote integration with other plant and enterprise systems.

1. **Connect & Collect**
   Equipped with industrial-standard protocols to connect to devices and collect data.

2. **Process & Store**
   Eliminates the challenges of fragmented, inaccurate, or incomplete information, and ensures that the information you rely on is comprehensive, and of the highest quality at all times.

3. **Contextualize**
   Increase data usability and empower users with rich information models of the real-world assets and processes.

4. **Integrate**
   Incorporate tools and services to present and interpret data in meaningful and relevant ways, in addition to facilitating the deployment of more sophisticated applications.

**ABB Ability™ History**