INTRODUCING

PI Core

System of record for critical operations data

Get your engineers the information they need to make data-driven decisions and increase operating efficiency.

![OSIsoft logo]

Engineers, operators, plant managers, and analysts all need a trustworthy system of record for real-time, high-fidelity operations data.

Empower your team with data-driven insights to help maintain quality and safety. Increase asset performance and uptime. Improve process efficiency and ensure regulatory compliance.
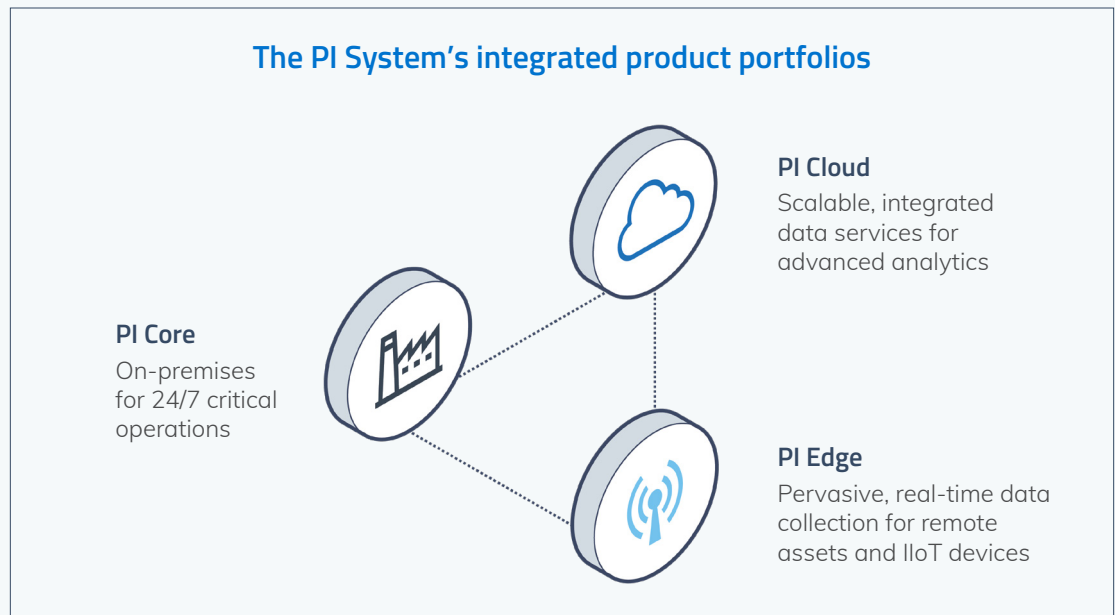
Optimized for operations data

The integrity and availability of critical data are vital to decisionmakers in industrial companies. But operations data isn't like other types of data. The hundreds or thousands of resulting data streams are difficult to understand and use without added context. And fast data access requires a database structure optimized for time-series rather than relational data. Most importantly, operations data needs to be available in real time to onsite engineers and technicians who may not have programming skills.

PI Core is a portfolio of off-the-shelf industrial-grade software products designed specifically to collect, enhance, visualize, and share operations data.

With PI Core, operations teams have secure, immediate access to the data they need to maximize uptime, maintain safety, and improve process efficiency.

The PI System's integrated product portfolios

PI Cloud
Scalable, integrated data services for advanced analytics

PI Core
On-premises for 24/7 critical operations

PI Edge
Pervasive, real-time data collection for remote assets and IIoT devices

PI Core is at the heart of the PI System, managing real-time operations data on-premises.

PI CORE

A portfolio of industrial-grade software products that collect, store, enhance, and deliver real-time data from onsite operations to people, platforms, and applications.

BENEFITS FOR OPERATIONS

- Reduce time and effort collecting operational data.
- Ensure integrity and availability of critical real-time data.
- Give operations staff self-service access to data for faster insight— no programming required.

BENEFITS FOR BUSINESS

- Make years of data easily accessible for predictive analysis.
- Drive business applications with curated, trustworthy data.
- Enable rapid integration of data into analytics platforms, enterprise applications, and business intelligence tools.

Gather time-series data from any source

PI Core offers a rich set of options for gathering high-fidelity, time-series data from diverse sources—whether they communicate using modern connectivity standards or proprietary, vendor-specific technology. We've developed hundreds of solutions for streaming data natively from legacy and proprietary assets, control systems, and sensors. These connectivity solutions give you immediate access to operations data right out of the box— eliminating time-consuming manual data collection.

Data integrity and availability

To ensure critical data is not dropped during a network disruption, all PI Core's data collection options include data buffering. You can also opt for fail-over and auto-discovery of data sources to ensure clean and reliable data.

Store, manage, and enhance data

The heart of the PI Core portfolio is **PI Server**, the industry's most reliable and hardened data historian. PI Server maintains the full original fidelity of time-series data, giving you immediate, real-time retrieval and data visualization— whenever you need it.

PI Server runs on Microsoft Windows and Windows Core OS to ensure the best possible performance. You can also deploy a containerized version of PI Server on private cloud infrastructure to benefit from the cost savings of the cloud.

Data Archive stores years worth of operations data with maximum efficiency, so engineers and analysts can discover patterns and trends, and visualize data relationships.
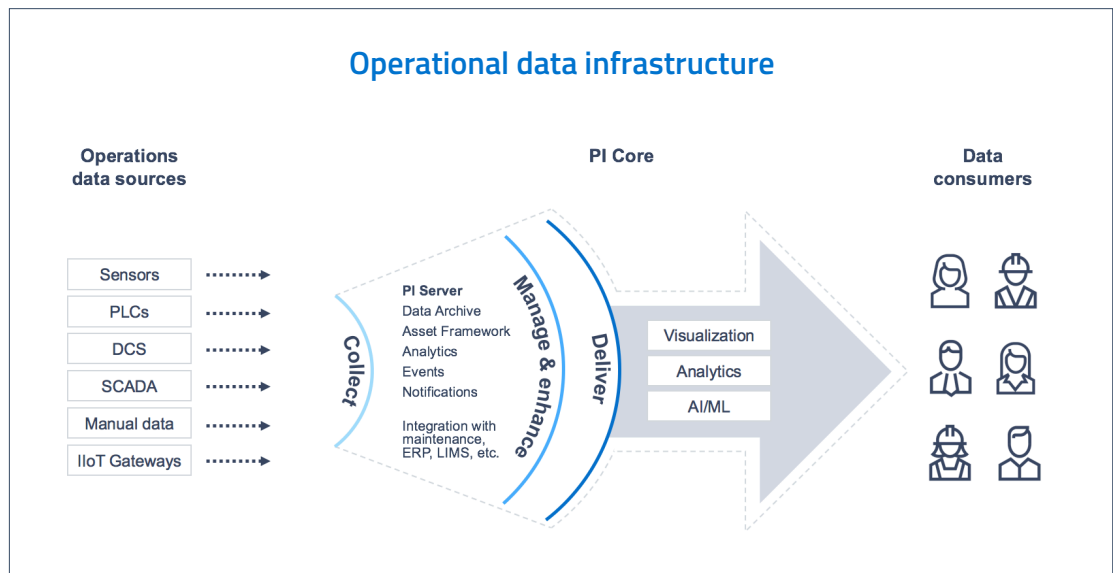
Data context and organization

It's hard to understand millions of data streams if they have zero context. PI Server includes features that make it easier for organizations to use, interpret, and share operations data. With **Asset Framework**, you can label, aggregate, and organize data into logical, reusable structures that provide context and reveal the bigger picture. For example, you can group data by asset type, location, process, or any other meaningful category.

Data calculations

Simply collecting raw data has enormous value. But processing raw data in real-time can provide transformational insights. PI Server includes a suite of calculation tools to perform everything from simple averages and unit conversions, to more complex calculations like total energy used or days of raw material remaining.

Event tracking and notification

The impact of different shifts, batches, equipment startups, and process

The PI Core software portfolio collects, enhances, and delivers real-time operatios data in mission-critical environments.

changeovers are easier to analyze when you can compare them to similar industrial events. PI Server **Event Frames** lets you identify and analyze data within the context of events that you define. For example, you can conduct comparisons, perform root cause analysis, ensure consistency, and replicate best practices throughout your environment.

Should conditions require intervention, PI Server **Notifications** can alert appropriate team members or systems in real time.

Visualize your data

The PI Core portfolio also includes self-service tools that let engineers and operators access data in familiar formats, to enable real-time decision making and immediate action.

Self-service, mobile displays

PI Vision is an intuitive, web-based tool you can use to create real-time, mobile-friendly data displays.

A simple drag-and-drop interface lets you choose the data you want to see and how you want to display it: trendline, numerical value, or gauge. You can create dashboards in seconds, display them on any connected device, and share them with colleagues to facilitate collaboration and get everyone on the same page. PI Vision uses Windows Integrated Security to keep your data secure.

Spreadsheet analysis

PI DataLink pulls PI Server data directly into Microsoft Excel, so you can analyze operations data with familiar spreadsheet functionality. Create live, interactive spreadsheet-based models that compare and analyze assets and processes in real time. Summarize years of historical data, view it alongside current values, and forecast data using regression analysis.

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Share data

You can easily share operations data to another PI Server inside or outside your organization. **PI Cloud Connect** is a software-as-a-service tool that lets you publish your PI Server data and grant access to other subscribers. Inside your company, use the software to share data between your upstream and downstream business units. Outside your company, use it to share data with suppliers and joint venture partners. PI Cloud Connect lets you transfer data between PI Servers natively and with full integrity, eliminating the need for a virtual private network.

Integrate data seamlessly

The more you share your operations data across your business, the more valuable it becomes. To share data securely across organizations and functions, the PI Core portfolio includes products that ensure fast and secure data transfer to a broad set of tools, applications, and platforms.

Transfer data to analysis tools

Because of differences in the underlying database design, sensor-based and time-series data require special preparation for integration with relational databases and tools. **PI Integrators** reduce this preparation burden with an intuitive interface that

lets you select and shape the PI Server data you need into a clean, interpolated row-column format—no programming required. This makes it easy for you to transfer analysis-ready operations data into business intelligence tools, machine-learning algorithms, and cloud platforms.

PI Integrator for Business Analytics lets you transfer data to other platforms for convenient analysis. Easily fill data lakes built on Azure, AWS, and Google Cloud Platform. Analyze large, complex datasets using familiar tools such as IBM Cognos, Power BI, Qlik, SAP, SAS, Tableau, TIBCO Spotfire, or any tool that accesses data using Open Database Connectivity (ODBC) or SQL standards.

PI Integrator for Esri ArcGIS brings maps to life by combining visualization and geo-analytics with real-time operations data. Many companies use this combination as the foundation for real-time situational awareness.

Programmatic data access

In addition to pre-built integration tools, you can also access PI Server data programmatically by tapping a rich library of APIs and SDKs. These developer tools make it easy to add high-quality operations data into your own custom applications and systems.

PI Core: industrial-grade data management for the operations core

For data collection:

PI Interfaces, PI Connectors, and PI Adapters

Hundreds of off-the-shelf connectivity options collect high-frequency data from control systems, assets, and sensors and send it to PI Server. The best choice will depend on your specific data source and collection preferences.

For data storage and processing:

PI Server

Data storage and processing software for managing large volumes of time-series operations data and associated contextual information.

For data visualization and integration:

PI Vision

Self-service, web-based visualization tool for creating real-time dashboards and process monitoring displays with PI Server data.

PI DataLink

Add-on to Microsoft Excel that pulls data from PI Server into familiar spreadsheets for analysis or creation of compliance reports.

PI Integrators

Software that transforms raw PI Server data into cleansed, row-column data sets for business intelligence tools, AI/machine-learning platforms, or geospatial maps.

PI Cloud Connect

Software-as-a-service tool that securely transmits data from one PI Server to another, within a single enterprise or between companies.

Summary

PI Core is a portfolio of off-the-shelf industrial-grade software products designed specifically to collect, enhance, visualize and share operations data.

With PI Core, your engineers, operators, and analysts have the data they need to optimize efficiency, productivity, asset performance, safety, and regulatory compliance.

PI Core products are optimized to:

- Collect and store real-time sensor and time-series data with full integrity.
- Enhance data streams with context to increase usability.
- Provide fast easy, self-service data access without programming.
- Enable fast and secure transfer of trusted, high-fidelity operations data to people, applications, and platforms.

About OSIsoft

The world's most essential and complex industries rely on OSIsoft to manage the lifeblood of the industrial enterprise: operational data.

OSIsoft is a pioneer in data infrastructure strategy and a global leader in operations data management software. The company brings over 40 years of experience helping industrial organizations meet next-generation demands for efficiency, reliability, security, sustainability, and resilience.

OSIsoft's market-leading PI System is the proven system of record for operational data in essential sectors such as power generation and utilities, water, oil and gas, mining, metals, manufacturing, pharmaceutical, facilities, transportation, food and beverage, and more. Every day, industrial professionals in 146 countries rely on the PI System to improve performance, protect health and safety, keep the lights on, and make the world run more smoothly.

Learn why two-thirds of Fortune 500 industrial organizations choose PI System at **www.osisoft.com**.

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