THE power OF PI

ENGINEERING

MANAGEMENT

Information

FINANCE

OPERATIONS

REAL-TIME INFORMATION THROUGHOUT THE ENTERPRISE

The best business decisions are made with real-time information in the right context. The PI System from OSIsoft delivers critical data to everyone in the enterprise for better decision making—and that means better profits. Harness the power of real-time data and events and profit from the power of PI.

Empowering Business in Real Time
PI Infrastructure for the Enterprise

OSIsoft™

THE power OF PI SYSTEM

The PI System from OSIsoft helps you transform data into information, and information into power.

Having accurate information at the time you need it is a must when making sound business decisions. The PI System (PI) from OSIsoft gives everyone in the enterprise instant access to critical, real-time data and events in a role-based context that can be immediately applied to real-world business problems and opportunities. With PI, data becomes information—powerful information – that helps managers and operators make the kind of decisions that increase profitability and move the enterprise ahead with full clarity. **That's the power of PI**.

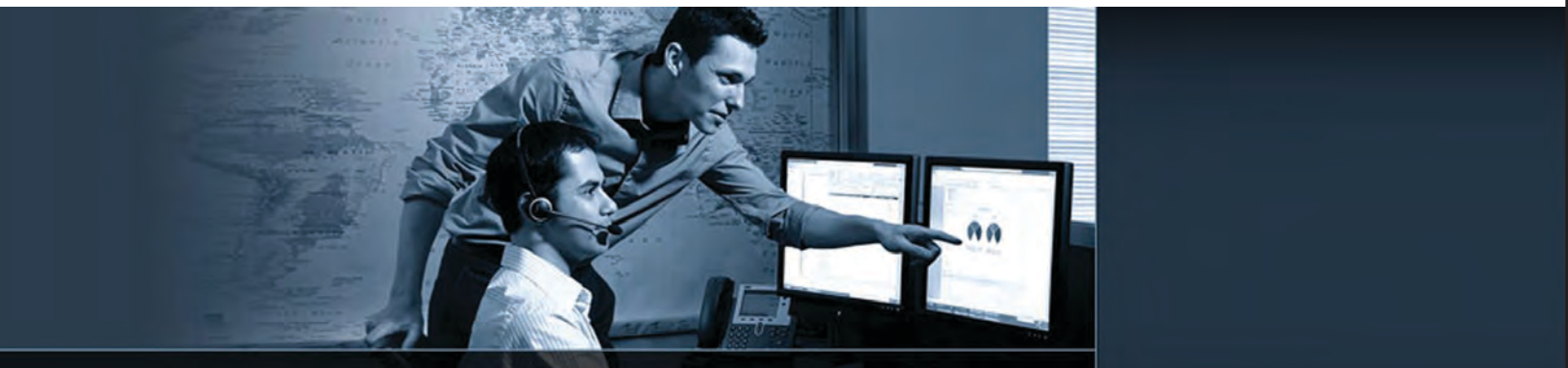
The PI System is the heart of an enterprise-wide information infrastructure that transforms real-time data and events into operations intelligence. It integrates production information with enterprise business systems. With over 14,000 PI installations, organizations in more than 110 countries, from Fortune 500 to individual companies, are achieving significant gains in productivity, product quality, and reliability. **That's the power of PI**.

PI captures your raw production data in real time from virtually any source and, through a suite of user-configurable reporting, analysis, and web software tools, displays current and past operating conditions on desktops throughout the global enterprise. This valuable information is stored online for decades at its original resolution, instantly available for deep and broad analysis, trending, and benchmarking for continuous process improvement and innovation. With real-time information at your fingertips, you can avoid costly losses and inefficiencies and streamline, automate, and improve operations at every level. **That's the power of PI**.

PI becomes a virtual window directly into your production process—as it is happening—that once you have, you can't imagine being without. It gives you the strategic advantage of running your operations based on information that's reliable, complete, and correlated with other pertinent data. Imagine the power of real-time data and events, available 24/7 wherever you are, capturing all aspects of your operations at the unit, facility, and enterprise level. **That's the power of PI**.

"Employing real-time performance management using OSIsoft's infrastructure has now become a global initiative, both as an operational improvement solution and for the enterprise value of its architecture. The power of having real-time data so pervasive within the organization is a great advantage. Making real-time and historical data available to every employee and providing the environment to make best use of that data is a perfect fit with our rule of high degree of empowerment of our local management."

Robert Fretz
Head of Process Automation & Manufacturing Execution Systems (MES)
Roche Pharmaceuticals



"I don't know of any other software that can positively impact every important business driver—environmental, safety, quality, and return on investment."

Dwight Stoffel
ATOFINA Chemicals, Inc.

Closing the information gap

The PI System provides operators, engineers, and management with direct access to one integrated source of information. It bridges the information gaps between process control, operations, and business management systems. PI takes inaccessible real-time process data—data locked away in a variety of automatic and manual sources—and captures it in one flexible, customizable hub where users transform data into actionable information.

Whatever your industry, you'll benefit from having all of the information and insight you need to navigate and micro-adjust through the dynamics of today's erratic business world, and achieve your key performance objectives.

PI delivers rapid return on investment

PI becomes an integral part of your organization, with guaranteed return on investment (ROI) and unending value at no risk—year after year. Highly scalable, easy to install, and without the major expenditure and uncertain return associated with monolithic application projects, PI enables you to truly leverage your most powerful corporate asset—real-time and historical operations information.

The PI System delivers immediate results and exponential growth in value to your business. The entire system delivers value out of the box and can be installed in just a few days. There is no need to modify your current systems when you add PI to your IT infrastructure.

Every year for the past three decades, OSIsoft has been expanding PI's library of standard interfaces that enable you to link to hundreds of different business, control, and automation systems.

The PI System's powerful server applications and intuitive client tools make PI easy to use and simple to deploy. From the outset, PI begins providing everyone in the enterprise with the accurate, timely information necessary to manage critical situations related to production, maintenance, cost, and quality control.

The PI System means security

Reliable security is just one of the many advantages when you choose the PI System as your information infrastructure. PI gives you built-in security that protects your data—assuring that the right data gets into the right hands. Point-by-point security checks every single data point in the PI System for proper user access permissions. The PI System is not only designed to secure your data, it's designed to help you meet security and compliance requirements.

If you're in business today, you need the power of PI.

CHIEF EXECUTIVE OFFICER

"Minimal training, up and running within days with no significant impact on production during installation.

Immediate results, fast payback, and low cost of ownership.

An infrastructure that works, that's reliable, and integrates with all of my business systems.

A focused, stable software development company committed to the long haul, the leader of the pack for nearly 30 years.

We can trust PI's security, so our valuable, confidential, and competitive data stays in the right hands."

THE DEVELOPERS

"We have never left a customer unsupported and promise to maintain your PI System on the cutting edge of technology with the tools you need to move your business ahead."

Jon Peterson
Vice President, Marketing, OSIsoft

PI System

A well-designed, reliable infrastructure is transparent to the user. It just works, all the time.

OSIsoft has maintained its impeccable reputation not only as the industry leader, but as the industry definer. Since the beginning almost 30 years ago, we have remained focused on our core business—developing software specifically for the unique, data-intensive needs of the process industries and delivering real-time data and events to every decision maker in the enterprise, from sensors to the boardroom.

Our software development team is totally dedicated to customer satisfaction and the continued success of the PI System. We constantly advance the industry with first-to-market technology. Our commitment to software research, development, collaboration with other innovative companies, plus round-the-clock product support means PI will continue to set the standard today and into the future.

OSIsoft has the flexibility to adopt emerging technologies, keeping the PI System aligned with current advancements across all disciplines. Our visionary leaders are conversant with industry, technology and market demand. They understand which technologies are right for PI and continue to uncover the different ways customers are using our products so that ongoing development can be adapted to address future environments and customer requirements. This enables OSIsoft to incorporate the best technology into the PI System and keep our customers on the cutting edge with tools that match their real-world business needs.

OSIsoft delivers PI's unique real-time information infrastructure and capabilities on top of standard Microsoft technology. PI also adopts strategic software technology like Microsoft's .NET and SAP's NetWeaver, and provides the bridge between real-time operations and enterprise business systems. This stable strategy, together with our commitment to every customer, guarantees that an investment in PI will return long-term value.

If you're in business today, you need the power of PI.

OSIsoft

Focus. Flexibility. Leadership.

A leading software industry analyst talks about OSIsoft as a successful software company:

"...successful software vendors share a few common characteristics. Here is my short list:

Focus. Companies that are not clear about what business they are in are destined for failure. System integrators, consultants, and non-software companies have rarely built successful software businesses because they try to be different things for different clients. Successful software companies have a laser-like focus on meeting a specific market need and, more significantly, on being profitable.

Flexibility. Focus does not imply a lack of responsiveness to change. Successful software vendors recognize that market conditions and technology change. They also acknowledge mistakes and know that they need to make adjustments to get back on track.

Leadership. Whether born or made, all successful software companies are run by strong leaders. Good leaders keep employee energies focused on a common goal. They create a sense of commitment and belonging in employees. And they treat employees with integrity.

Microsoft, OSIsoft, SAP, and SAS are just some of the solid software firms that share these traits..."

"The dollar savings to Dow Corning in the first two years of PI implementation were more than $5 million."

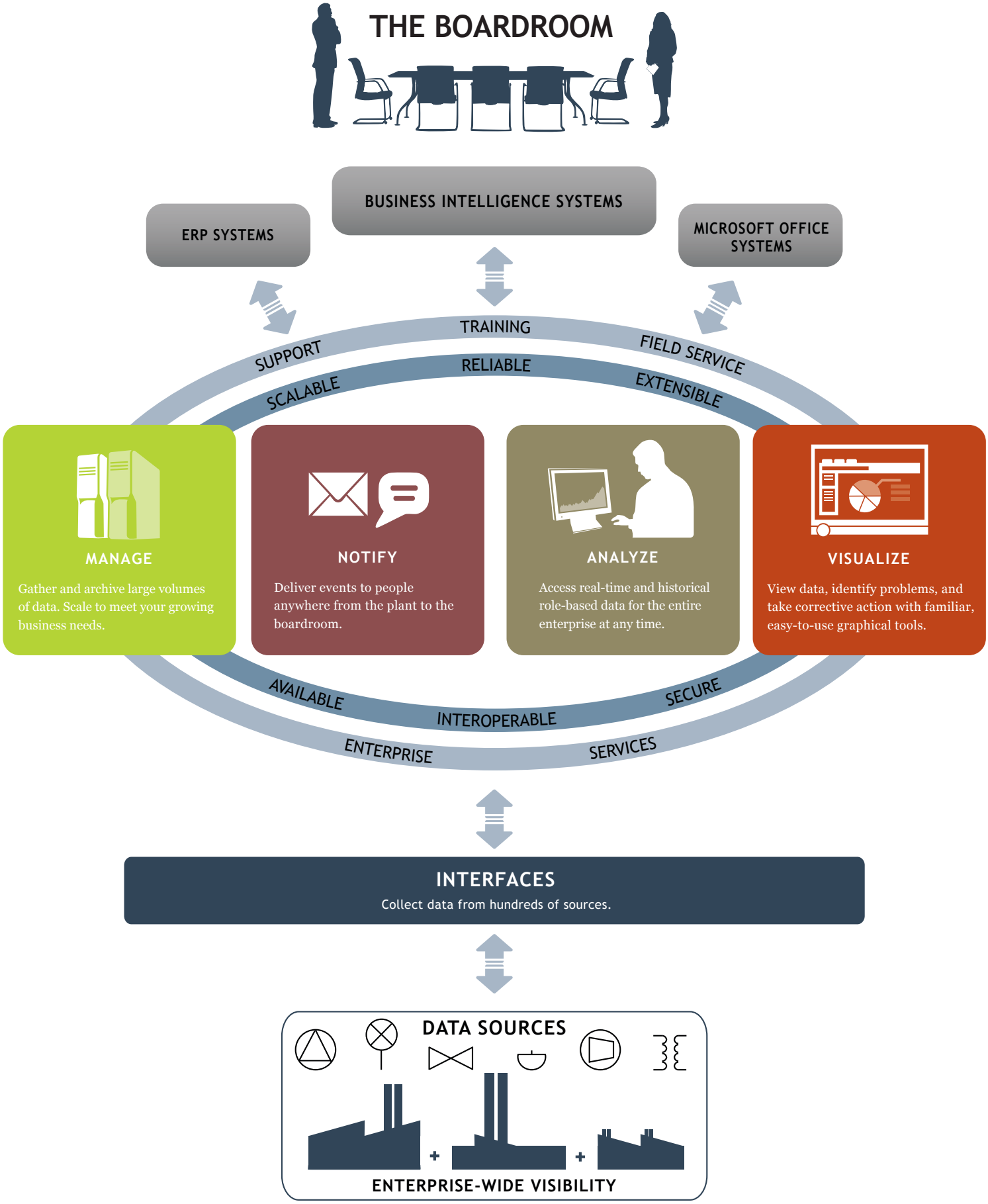
Barry MacGregor
Global PI System Manager
Dow Corning Corporation

THE VISION

"If you are going to buy software, buy it from a successful software company. That will ensure that you are buying the best.

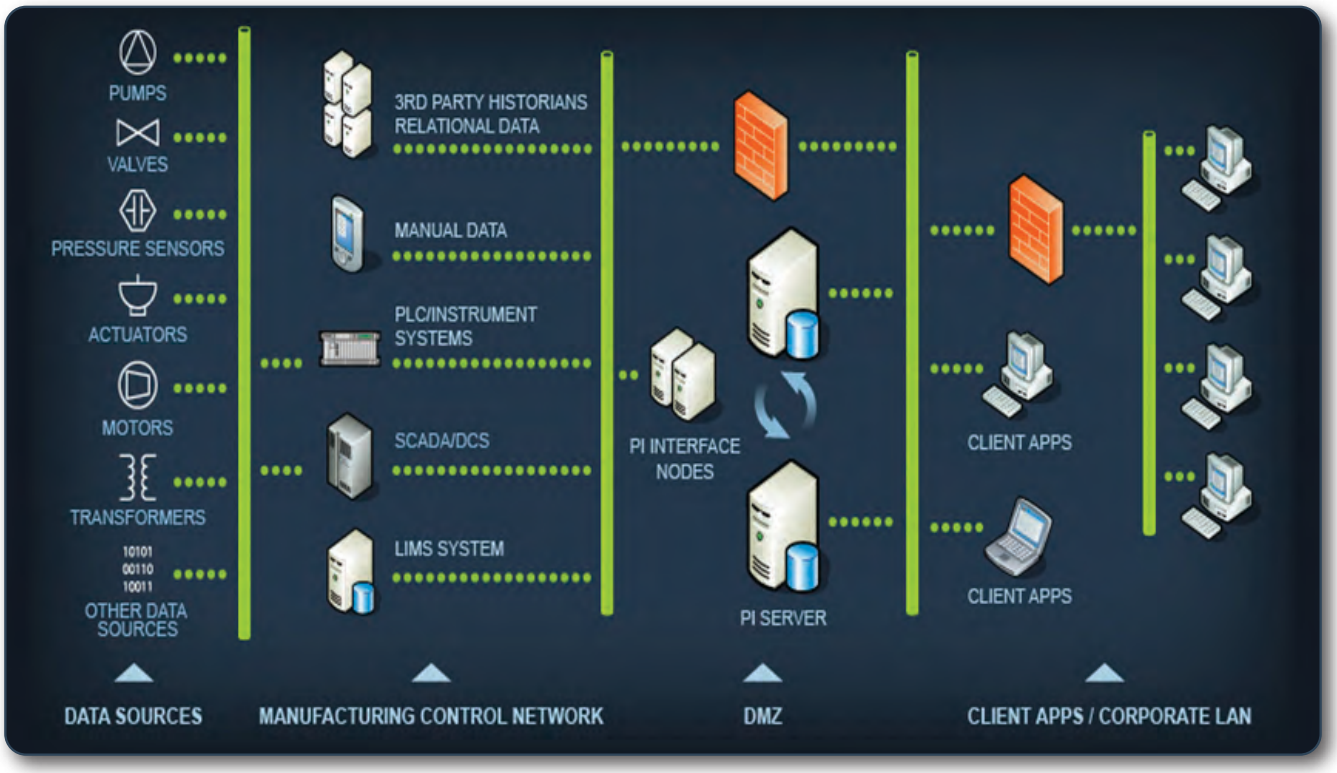
Above all, OSIsoft continues to grow technologically and financially, offering even more value to customers by reinvesting a large percentage of sales revenues back into product development and upgrades."

Dr. J. Patrick Kennedy
Founder and CEO
OSIsoft

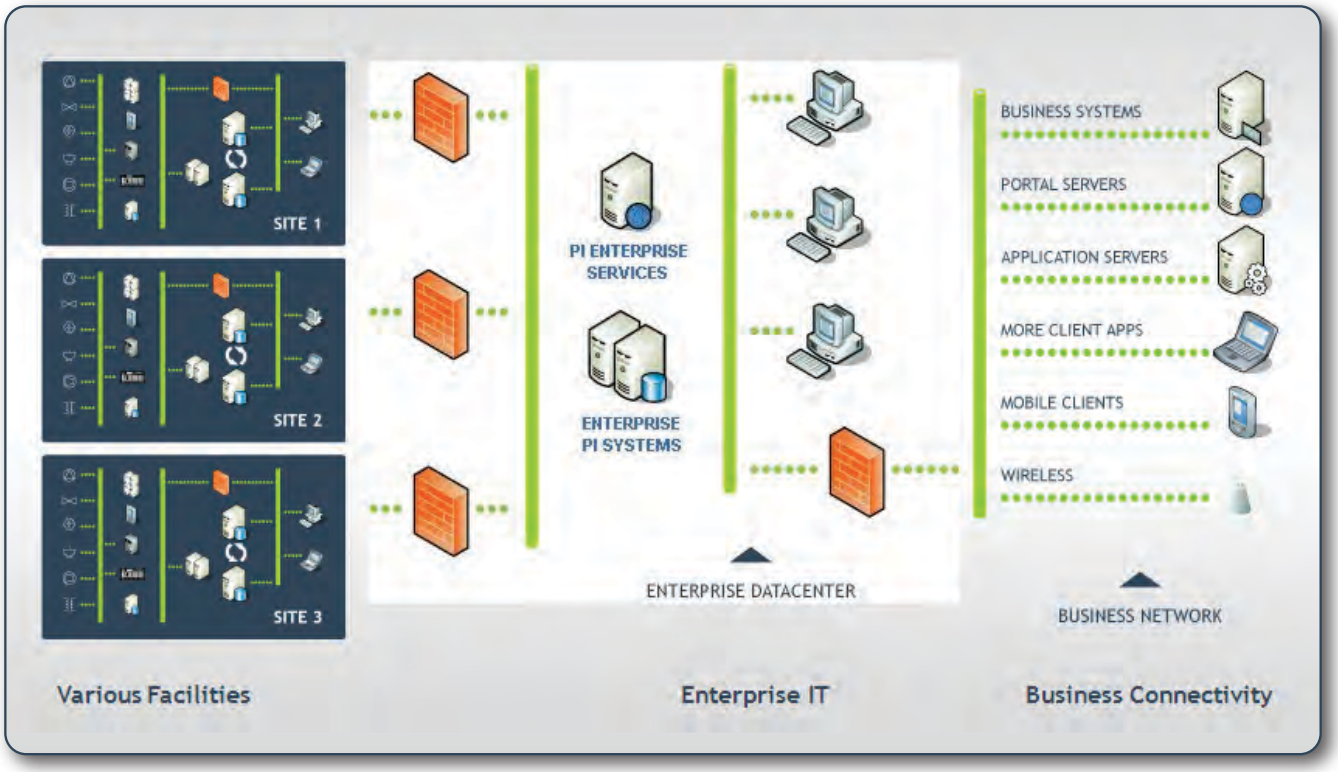

THE BOARDROOM
BUSINESS INTELLIGENCE SYSTEMS
ERP SYSTEMS
MICROSOFT OFFICE SYSTEMS
TRAINING
FIELD SERVICE
SUPPORT
RELIABLE
SCALABLE
EXTENSIBLE
MANAGE
Gather and archive large volumes of data. Scale to meet your growing business needs.
NOTIFY
Deliver events to people anywhere from the plant to the boardroom.
ANALYZE
Access real-time and historical role-based data for the entire enterprise at any time.
VISUALIZE
View data, identify problems, and take corrective action with familiar, easy-to-use graphical tools.
AVAILABLE
SECURE
INTEROPERABLE
ENTERPRISE
SERVICES
INTERFACES
Collect data from hundreds of sources.
DATA SOURCES
ENTERPRISE-WIDE VISIBILITY

PI System Architecture

Site



Enterprise



CHIEF OPERATIONS OFFICER

"PI represents the only software infrastructure of its kind on the market today.

PI integrates with systems we already have in place and ones we may add in the future throughout the enterprise.

We can get data from different sources, including control systems, relational databases, and business systems, even if they're not part of the PI System.

Our complete compilation of data can be stored at its original resolution for decades. That is a tremendous asset for planning, analysis, and operations management."

Real-time Information Throughout the Enterprise

PI Server

The PI Server is at the center of the PI System. It's the engine that acquires and delivers data—in real time—throughout the PI System and your entire information infrastructure, providing open and instant access to all data sources. This unique data infrastructure—which is specifically designed for processing and storing real-time data and events—has been refined with almost 30 years of development and experience from real-world use by thousands of customers in virtually every process industry.

The PI Server is the single repository where all of your critical operating data is stored online for years, affording you the real-time and historical information necessary to understand your operations. Its time-series database scales effortlessly and can store vast amounts of operations data online for years at resolutions down to microseconds—without degradation— for instant access of your historical data from one week to decades past within seconds. PI Server's storage algorithm assures that the real-time and historical data you retrieve represents accurate information by showing exact values that represent the process—not derived values that are, at best, only similar to the process.

The PI Server links real-time operations with business systems and seamlessly delivers integrated information to users in operations, engineering, administration, and management. You can connect the PI Server to virtually any external data source, including distributed control systems, SCADA, energy management systems, distribution management systems, lab, or other information systems; and to numerous disparate data sources including Oracle and Microsoft SQL Server, as well as proprietary and legacy data systems.

The PI System infrastructure includes a powerful High Availability (HA) option that allows PI to be set up as a system of collectives where real-time data and events collection, historical data, and metadata can be replicated across multiple servers. High availability provides redundancy for data collection, storage, and data access assisting the continuous operations of mission-critical processes in the event of local disasters, hardware or networking failures, as well as planned maintenance and upgrades.

The PI to PI Interface allows multiple PI Systems to be linked as one central system for enterprise-wide operating data. Data transfer can be accomplished either on the destination server by "pulling" the data, or on the source server by "pushing" the data. PI System functionality includes data caching, event queuing, and change notification queuing.

Asset-Centric Access to Operations Information

PI AF Server

PI AF Server—a component of the PI Server—enables organizations to define consistent representations of their assets and use these assets in simple or complex analyses that yield critical and actionable information. Through its intuitive user interface, PI AF allows application designers to:

- Identify the components or elements that make up a process
- Associate data—be it real-time or relational data—with these elements
- Organize elements into logical/physical groups (e.g., asset templates)
- Specify relationships or organizational structures, such as hierarchical or connectivity models
- Apply calculations, rules, or solvers
- Determine how results are to be displayed

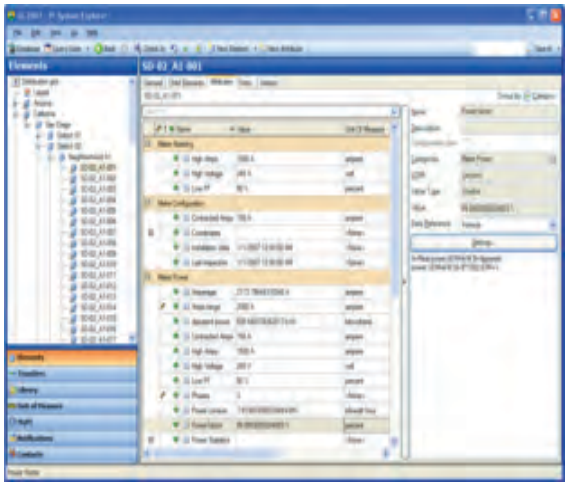
Once defined, individual assets can be organized and regrouped to drive meaningful analyses and enable rich presentation of data. The PI AF asset configuration can be driven programmatically or by the PI Explorer. The PI Explorer allows all configurations to be accomplished by one end-user tool. The building blocks of PI AF are templates, which enforce structure and standards in organizing the data. This simplifies management and propagation of changes over time. PI AF captures the evolution of your assets and structures over time such that your real-time information is always presented in the corresponding context.

CHIEF TECHNOLOGY OFFICER

"The PI System will give us the ability to map out configurations and linkages that span our enterprise for a clear view of how everything, from equipment to applications, products, and even personnel, is organized and connected.

When configurations change, PI will record every detail so we can review them later.

The PI System will help us keep track of the valuable parameters associated with anything in the enterprise."



Element Hierarchy and Attributes

Connectivity Model

PRODUCTION MANAGER

"With PI Batch we can reduce cycle times and process variability. We can find the bottlenecks faster and make a better product.

Event-Centric Access to Operations Information

PI Batch

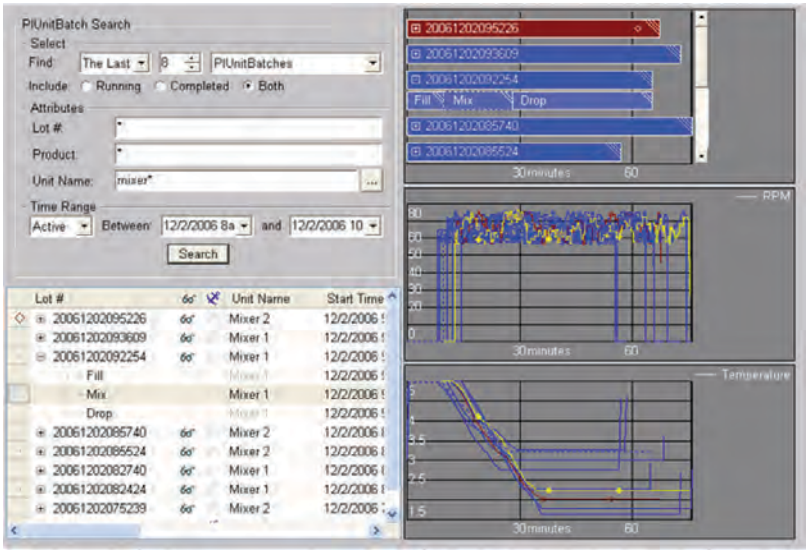
Track and analyze repeatable, sequenced processing steps and stages

Most processes have repeatable time segments or stages. Identifying these process stages and measuring their repeatability is the purpose of PI Batch. It provides the ability to track and store batch data and process-based events in the PI System for real-time and historical access.

With PI Batch, users can identify what made a process repeatable and what caused a significant event. These events can then be displayed for interpretation based on state transitions from PLCs and legacy control systems, or by collecting S95 models from Manufacturing Execution Systems and S88 models from Batch Execution Systems. PI can seamlessly integrate all these data sources for a complete history of any process order.

Track and analyze critical operational events

PI Batch is widely used to identify and track critical events. Users can increase efficiency within their operations by performing correlation analysis on events they track in order to determine root cause. Some of these applications include shift reports, downtime tracking, paper reels, steel coils, product and grade changes, turbine startups, lab runs, and events in discrete manufacturing.



PI BatchView provides four interactive components that let you compare multiple batch runs against a golden standard.

In the chemical and pharmaceutical industries, where adhering to batch recipes is critical to ensuring optimal product quality, PI Batch is used extensively to track and analyze batches. PI Batch helps production companies establish "golden" or standard batches that are used to compare cycle times and discover problems—even as the batch is executing—by using batch-to-batch comparisons.

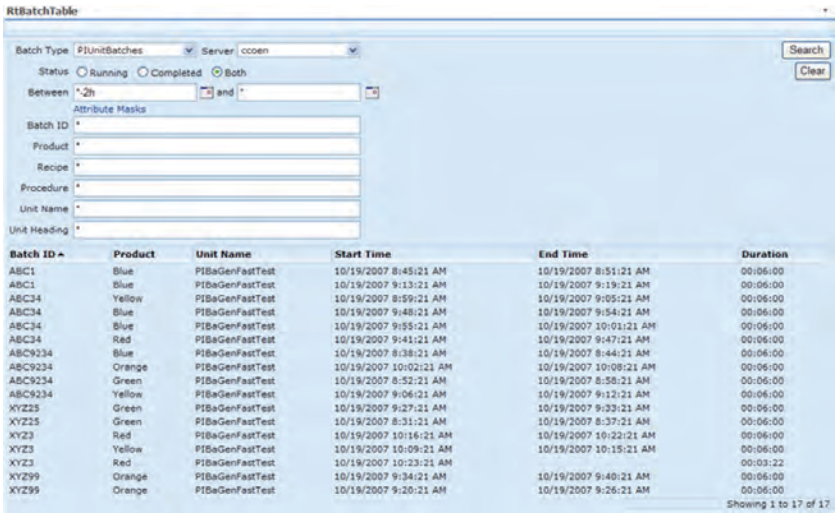
Visualize batch processing and critical operational events

PI Batch is used in conjunction with the PI BatchView, a presentation tool to view and compare events that have been collected by PI Batch and stored in the PI System.

The PI System visualization and reporting products provide a variety of methods to view critical event frames stored with the PI System via reports, tables, charts, and trends. PI Batch data can easily be combined with other PI System data for a comprehensive, real-time view into batch operations.

"We decreased batch cycle time and now produce 10 percent more batches per week. PI Batch also helped us reduce the number of process alarms and associated review times by 80 percent. We have decreased time-to-market because fewer pages of documentation are required to review for a release, and have moved towards full electronic batch reporting, which almost completely eliminated compliance complaints."

Robert Fretz
Head of Process Automation & Manufacturing Execution Systems (MES)
Roche Pharmaceuticals



The RtBatchTable web part provides a way to apply batch-related time ranges to other web parts on the page.

QUALITY CONTROL

"We can aggregate vast amounts of batch data into one place for easier monitoring and analysis.

We can build displays to help us better monitor conditions, anaylze processes, and perform complex calculations to improve batch productions."

SYSTEMS MANAGER

"The PI System can connect to just about everything.

PI has over 425 different interfaces that reliably acquire and combine data from disparate systems into a single, coordinated information system.

PI Interfaces will let us keep our legacy equipment online for as long as we want.

OSIsoft's ongoing interface development will assure us of optimal connectivity over the long run."

Capture Data From Virtually All Industrial Automation Systems

PI Interfaces

OSIsoft's standard PI Interface products provide real-time, fault-tolerant, high-speed links to and from virtually all industrial automated real-time data sources to the PI System.

A library of over 425 standard interfaces provides connectivity to most distributed control systems, SCADA systems, energy management systems, distribution management systems, Programmable Logic Controllers (PLCs), lab information systems, and other business systems, some manufactured as far back as 1980. OSIsoft's team of interface developers continuously builds new PI Interface products and enhances PI's existing interfaces.

PI Interfaces are built using standard, proven technology that assures consistent performance, and easy installation and configuration, regardless of the computer platform or target data source. Standard interface products include connectivity to all major industrial automation systems including Emerson, ABB, General Electric, Honeywell, Rockwell, Invensys, Siemens, and Yokogawa.

OSIsoft supports multiple OPC industry standards such as OPC DA, OPC HDA, OPC A&E, and HDA COM connector. OSIsoft has interface products compatible with DAS (1.0a and 2.0) compliant servers, DNP, ICCP, SQL, ODBC, DDE, Modbus, ASCII, text and OLEDB. Our complete list of PI System interfaces is listed at http://interfaces.osisoft.com.

The PI System supports configurations with no single point of failure, giving you the reliability to drive business-critical functions. Its fault-tolerant technology keeps collecting data even if PI System availability is interrupted. The interface will hold and automatically transmit the data back to PI once the connection has been re-established.

Major capabilities of PI Interfaces include high availability, automated failover, and distributed data collection and data buffering during communication failure. PI Interfaces can be configured to collect data from remote sources, perform startup/shutdown, messaging, auto point synching with data sources, and provide data and communication failure indications, making PI's infrastructure as flexible as your business needs it to be.

Industrial users with multi-generation or multi-vendor control systems are using PI to consolidate data from all of their manufacturing operations into a single, coordinated information system. One PI System can support multiple interfaces operating 24/7 at very high data rates.

Automate Data Entry from Remote Sources

PI Manual Logger

Not all data is automatically collected from sensor based systems. The instrumentation might not have been automated, tests might be performed manually, or some information might be sourced from bar codes. This information may still be key to the complete picture of operations and required for problem diagnosis or reporting in conjunction with the data collected automatically.

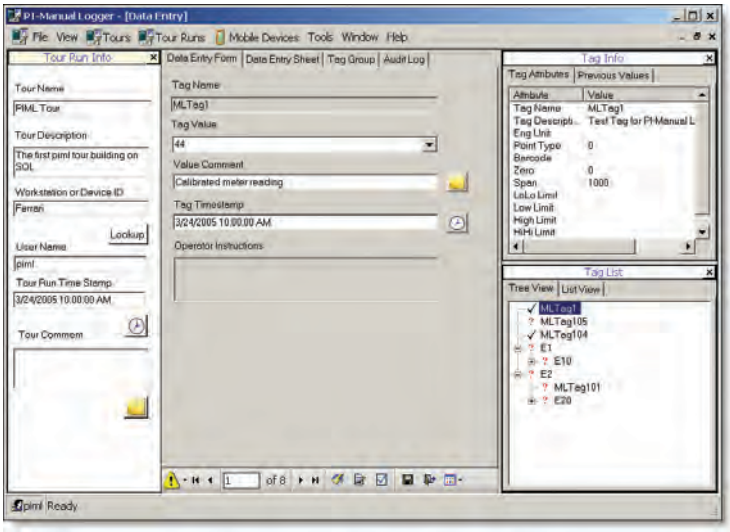
PI Manual Logger is OSIsoft's product that facilitates manual data entry into the PI System from your PC or from a handheld device. With a handheld device, data can be easily, securely, and reliably recorded from the field or off-site equipment onto PCs, other mobile devices, or wirelessly directly to PI.

For example, users can scan a barcode to identify a tag, enter data from the PI Manual Logger handheld device, including comments, and then wirelessly upload the data to PI. When data is entered and uploaded to the PI Server, it is instantly available throughout the enterprise.

PI Manual Logger users walk through a "tour" that allows them to easily schedule data collection, check for values that violate specified limits, and determine on-the-fly if a tag is due for collection. This process emulates operator rounds by gathering data as a tour, or group of tags, in any order and control is in place to have an approval process before committing data to PI storage.

ENVIRONMENTAL ENGINEER

"We have a significant amount of data from our instrumentation and control systems that we need for analysis. With PI, we can electronically collect it and get rid of paper reports and other forms of recording hand-collected data without installing an expensive automation system. It's simple to enter the data on our rounds, upload it to the PI System, and have it readily available on our PCs and mobile devices."



Transform Operations Data and Events into Actionable Information

PI Analytics are a family of server-based analysis products specifically designed to transform operations data and events into operational intelligence. They allow users to get the information they need, without having to perform complex calculations on the client side. These products include:

- PI Notifications
- PI Advanced Computing Engine (ACE)
- PI Performance Equations (PI PE)
- PI Alarm

PI Notifications

PI Notifications allow users to configure custom alarms and notifications through a standard user interface based on any data source. Utilizing the generic data access and template-driven capabilities of PI AF, users can leverage alarm and notification parameters in PI Notifications by redeploying them to similar assets across the enterprise. When operational excursions occur, PI Notifications can send alerts to a single recipient, a group of contacts, or an escalation team that reflects the organization's chain of command. Notifications and alarm events are stored for later access during excursion auditing, reporting, or alarm threshold tuning. Notification delivery can be programmatically extended to seamlessly integrate messaging with third-party applications such as workflow, ERP, and asset maintenance systems. PI Notifications can be linked to OSIsoft's powerful visualization tools including PI WebParts, PI ProcessBook, and PI DataLink to provide on-demand visualization of anomalous system behavior.

Advanced Computing Engine

OSIsoft's powerful Advanced Computing Engine is a managed interface to PI data within the Microsoft Visual Studio environment for application development. With minimal effort, users can write simple or complex equations, making PI ACE modules easy to write and deploy.

With PI ACE and the PI ACE Manager, users can create complex calculations, such as inventory calculations, energy usage, productivity analysis, data transfer programs, and almost any other application that must run reliably without user intervention. Calculations can be scheduled across the enterprise from just one PI ACE Manager.

Work can be leveraged by writing a single set of calculations and applying them to multiple units or processes, thus significantly reducing development time and maintenance costs.

All calculations are executed automatically via various flexible scheduling options, including clock, natural, event, equation ordering, and graceful degradation under resource limitations. Because PI ACE works in the Microsoft Visual Basic and .NET environments, data can be easily exposed to external applications or web services. PI ACE also supports the High Availability capabilities of the PI Server infrastructure.

"From all of this analysis, we get a detailed breakdown on equipment costs and man/hours to service that gives us important business benefits. This is information that was not readily accessible before because, without the use of the PI System, it would have taken us several months to gather and analyze the information. We've now developed conditional algorithms for use with 982 transformers, 400 load tap changers, and 1,500 breakers."

Angela Rothweiler
Principal Engineer
Pacific Service Enterprise Group (PSE&G)

PROCESS CONTROL

"We can centralize our analyses, perform complex calculations across multiple data sources, and leverage calulations by applying them to other assets or data.

PI Notifications delivers important events to our engineers no matter where we are."

PI Performance Equations

PI Performance Equations are used to build real-time calculations that are scheduled by time or event. They are widely used for validating raw data, deriving values that are a function of other tag values, performing logical operations, and calculating aggregates. Calculations can include unit performance, unit status, summaries, conversions, and totalizations from archived values.

PI SteamTables: PI SteamTables are an extension to PI Performance Equations that provides a complete set of functions for deriving the thermodynamic and transport properties of steam and water, based on ASME steam tables.

PI Totalizer: PI Totalizer is an extension to PI Performance Equations that calculates totals, averages, and other aggregates from real-time inputs, as opposed to archived values. Totalizers can be started and reset based on time and event, and ensure the highest accuracy in the calculation of flow volumes and other critical variables used to monitor product transfers or production performance. PI Totalizer also reduces the server load to recalculate variables for each request. PI Totals are the most accurate way to represent production summary data.

PI Real-Time Statistical Quality Control (SQC): The PI Real-Time SQC component makes it easy to apply the Western Electric Pattern Tests to all of your process or laboratory data collected by the PI System. PI Real-Time SQC runs on a real-time basis, storing the test results and a record of SQC control limits back into your PI System. When used in conjunction with PI ACE and PI AF, you can implement a powerful product-based SQC program that runs unattended; recording information around the clock.

The results of the PI Real-Time SQC component are available for viewing and analysis in PI ProcessBook via the PI SQC Add-In. PI ProcessBook displays can be customized to provide added value such as pareto analysis and operator comment entry on SQC Charts that use real-time SQC information.

PI Alarm

PI Alarm keeps a constant eye on process conditions when you can't, helping you to spend your time controlling situations, rather than fixing problems. PI Alarm allows users to track, manage, and acknowledge alarm conditions caused by processes that exceed user-specified parameters. It can monitor anything that is routed through the PI Server, such as temperatures, flow rates, or product quality. Users view alarm data through PI AlarmView, which is PI Alarm's graphical display interface. Alarms can be triggered by the duration of an event or deviation from norm. Alarm conditions are historized together with an acknowledgement.

PROCESS ENGINEER

"Using the sophisticated scheduling capabilities of PI ACE, our performance monitoring models can now run more promptly when their inputs change, and don't run repeatedly when they are not needed. The overall system is much more efficient.

PI ACE allows Visual Basic code to run as a Windows Service, ensuring that it will always be running, even if the server is rebooted.

With PI ACE, we get the ease of Visual Basic development combined with the robustness of the PI System."

OPERATIONS

"Using macros, we can schedule automated reports or generate them instantly, using accurate, real-time data. Now we can spend our time managing operations instead of rounding up and crunching numbers.

Since PI integrates with other Windows applications, we can embed reports in other documents."

Reporting Has Never Been Easier

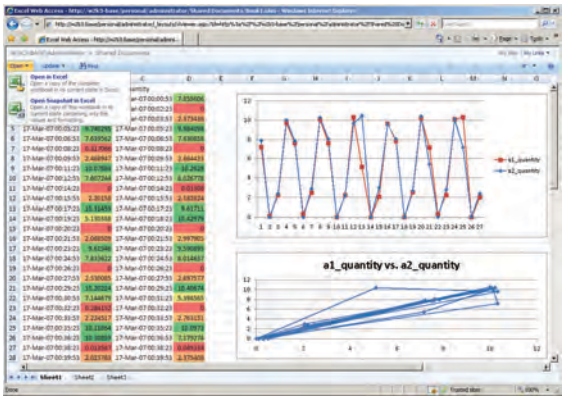
PI DataLink

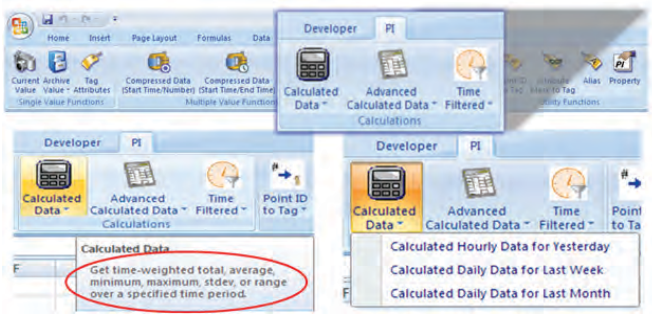
For over 25 years, PI DataLink has proved to be one of OSIsoft's most powerful, efficient, and popular software packages. It leverages the power and depth of PI data and automates the retrieval of data into Microsoft Excel, the most used, most familiar spreadsheet application.

PI DataLink doesn't just copy data—it transfers calculations. PI DataLink brings the power of PI's archive server calculations directly into a spreadsheet format with sub-second speed. And, because PI DataLink is so closely tied to your spreadsheet, any calculations you perform using a PI DataLink formula give you the power of flexible, "perpetual" reporting; meaning that you can reuse the same calculation by simply changing the desired date and time. Instantly, your spreadsheet is filled with new data.

You'll benefit from tremendous time savings by automating reporting tasks using PI DataLink and VBA macros. This automation also decreases the chance for costly errors. Retrieval functions work with the tags you choose and return stored, interpolated, and aggregated values. PI DataLink is also instrumental in successful compliance reporting. Reports can be printed, distributed by email, or published on the web.

Publishing a consistent view of calculations is even easier by combining Microsoft Excel Services and PI DataLink. With this technology, one copy of a spreadsheet can be published and accessed by many users over the web. This capability provides a reliable, efficient method to publish standard or custom reports to a wide audience while maintaining control over distribution.





PI DataLink turns your spreadsheet into an advanced reporting and analysis environment. Charts, macros, and statistical functions are ready to run using data from PI DataLink. Reports are reusable because PI DataLink formulas retrieve new data with a simple change of date.

Adapt to Your Business Needs as They Change

The PI System allows customers to use valuable PI System data in their own applications and exchange information with enterprise systems. OSIsoft offers a number of products to facilitate this data exchange and integration, including:

PI SDK (Software Development Kit) is a set of programming tools that provide access to PI servers and related subsystems. It comes with an ActiveX in-process server (an ActiveX control) and supporting code libraries, as well as online documentation, example code, and support files.

PI JDBC driver transforms the PI System into a relational database that accepts and processes SQL commands. It allows access to its vast content in an organized and familiar format that can be accessed from Java-based systems such as SAP NetWeaver.

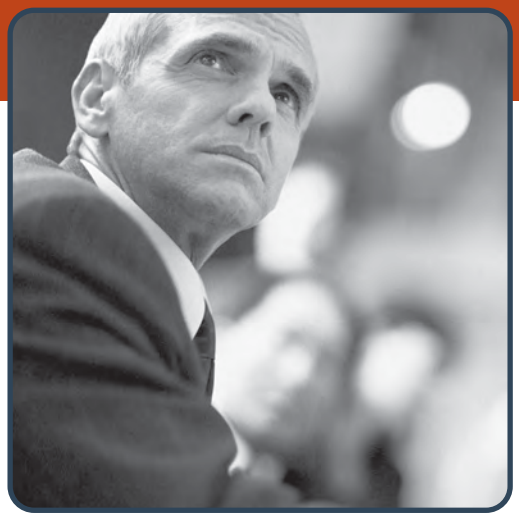
PI OLEDB Provider gives a relational view of the PI Server, the PI Point Database, and other configuration data. The PI OLEDB data provider uses Microsoft's OLEDB data access technology together with the PI Server's underlying PI SQL subsystem to support relational database queries.

PI Data Services provides access to the PI System via web services. These calls provide fundamental access to time-based data by providing the path and time for data retrieval. The data services also provide seamless integration between the PI System and an ERP system.

APPLICATIONS SPECIALIST

"We can develop applications that extend PI's functionality, with tools that our own advanced in-house users can use to tailor PI to meet our specific or changing business needs, without using expensive consultants.

We get access to the same programming tools that OSIsoft uses to develop the PI System. We also use VBA to add custom behavior to PI ProcessBook and PI DataLink. This is by far the richest development environment of any software product suite in the manufacturing and process industries."



ENTERPRISE-WIDE

"PI ProcessBook is our window into the process.

We can all see the process as it happens. We can share real-time information and build the screens that allow us to see what's important to us.

It's portable. I can check my part of the process from anywhere I can connect."

Dynamic Enterprise Visibility for Sound Decisions

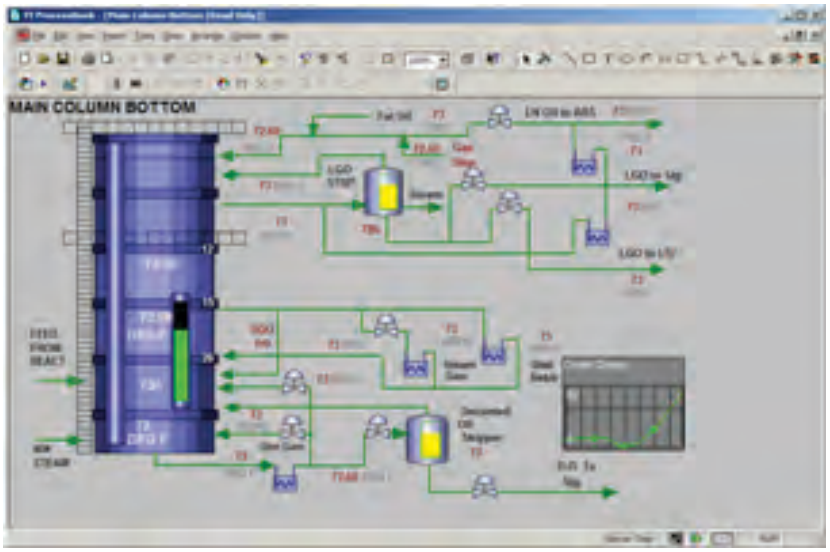
OSIsoft offers a range of visualization tools to meet every user's needs. Maybe you're a casual data user that needs a point measurement from the field; or a power user that needs to integrate and analyze data from multiple sources using PI WebParts; or the heavy engineering and operations user who needs to design graphics and configure analysis on-demand in PI ProcessBook; or a user who needs to see and analyze data in Microsoft Excel using PI DataLink.

Whatever and wherever the need for information, there's a product of choice from OSIsoft.

PI ProcessBook

PI ProcessBook is the PI System's main graphical user interface. It brings together and organizes all the information needed in the proper context so that the best possible decisions can be made quickly and competently. PI ProcessBook transforms every employee into a "knowledge worker" who has more insight from real-time data and event displays that are easily configured to pull in data according to his or her role. When data is instantly accessible and in the proper context, every user has the power to improve the process every day, and ultimately, affect the bottom line every year.

PI ProcessBook gains immediate popularity throughout the enterprise for its easy-to-use toolset which displays operations information stored in PI and other data sources, such as relational databases.



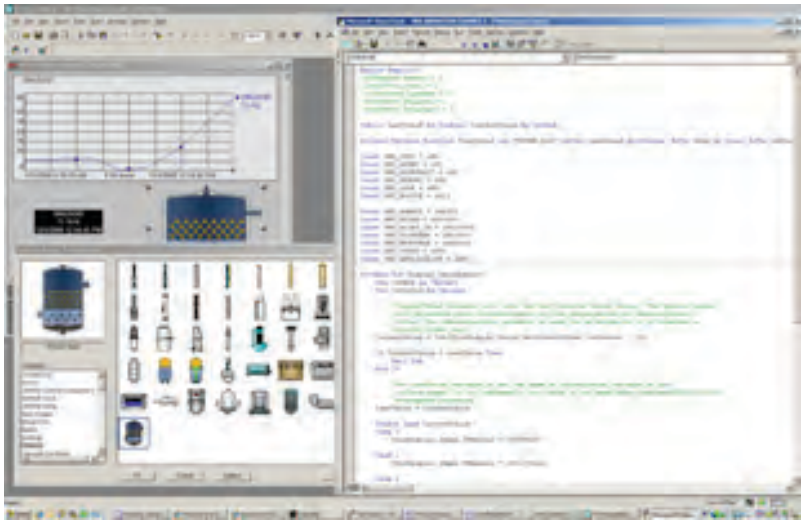
Business metrics are easy to calculate, trend, and analyze within the PI ProcessBook environment.

With PI ProcessBook, you can create real-time and historical process data displays, such as customizable equipment schematics and trends, for quick evaluation by the entire workforce.

With one click, users go from build to view mode. Premier drawing tools and the ability to incorporate trends based on real-time data and events give users an incredibly rich and robust view of operations. It's easy to zoom in on one particular spike on a trend display or a range of individual points—just drag the mouse. Point attributes "pop up" as you hover over the lines of your trend, providing quick information related to each data point. You can change data on a PI ProcessBook display using built-in tag search. Scroll backward and forward in time with the click of a button. Instantly, data is pulled from PI or other databases to give you yet another set of information. View years of online data to put today's issues in the context of similar issues from the past, such as comparing shifts, or looking at operating conditions that were run days, months, or years ago under similar conditions.

Microsoft Visual Basic for Applications (VBA) is built into PI ProcessBook, providing a powerful development environment that allows you to build displays based on all or part of your process. You decide what you want to see and how you want to see it.

PI ProcessBook also functions as the authoring tool for graphics used in the PI WebParts product for process graphics that are readily accessible on Microsoft's Internet Explorer browser.



PI ProcessBook (above showing VBA code) enables you to display data from every area of your business and operations. Displays can be linked together for immediate drill down to more data, helping you to identify and solve production issues quickly.

THE KNOWLEDGE WORKER

"I can jump into the process from any place to troubleshoot, watch what I need to, manage alarms, and check production and equipment status.

I can save displays in scalable vector graphics (SVG) format so others can use them on the internet."

The Power of PI Enriches Collaboration

Microsoft Office SharePoint Server (MOSS) and SAP Enterprise Portal provides the ability to combine multiple applications into one web environment. This gives the user a single interface to work from as well as the ability to have disparate applications appear as a single application that can exchange data between component parts. OSIsoft offers solutions for two of the leading portals: PI WebParts for the Microsoft Office SharePoint Server and PI RtPM Business Package for the SAP Enterprise Portal.

PI WebParts for Microsoft Office SharePoint Server

PI WebParts are a set of highly flexible, configurable interfaces that enable the end-user to customize views and the enterprise to architect security so that the appropriate information appears on each user display.

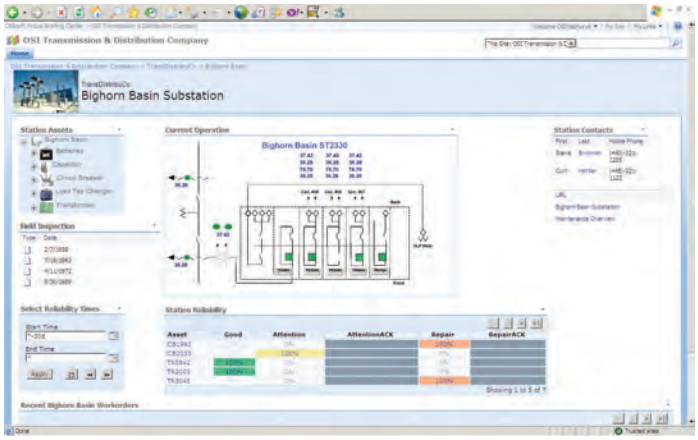
The PI WebParts product is used within the MOSS that supports sophisticated web-based applications. The use of the MOSS in cooperation with PI DataLink for Excel Services creates a very powerful display, analysis, and reporting environment that are all web based.

Users can investigate real-time information including time-series, transactional, and web services information within a familiar web-based environment. Data can be combined from many different sources, such as real-time maintenance systems, production planning systems, and financial systems, in addition to the PI System.

The packaged portal contents include displays such as trends, schematics, gauges, and tables, among others, for real-time and historical data from your plant floor, SCADA, and other manufacturing data.

"OSIsoft has been a staple in all my plants as a process historian for decades. Building on that success and reliability, they now have introduced a complete package with their innovative approaches to infrastructure. By leveraging Microsoft's SharePoint platform and OSIsoft's integrated product suite, we can now get complete visibility into all data, regardless of source, which is invaluable to our industry."

Dr. Paul McKenzie
Vice President
Biologics Pharmaceutical Development and Marketed Product Support, Johnson & Johnson/Centocor



synthesize

WORLDWIDE

"The PI WebParts environment can be used to securely publish our production data to the internet. We can personalize our pages, view PI ProcessBook displays, create tables and trends, or include other information and share worldwide."

CollaborationTechnology in the Corporate Environment

PI RtPM Business Package for SAP Enterprise Portal

The PI RtPM Business Package is a collection of iViews for the SAP Enterprise Portal. The OSIsoft Business Package brings real-time manufacturing data into the corporate portal environment so it can be combined with other portal iViews to create applications that cross multiple products.

OSIsoft iViews specialize in the representation of real-time data and events with live updates streaming into the display. Each iView supports SAP's eventing language which makes it possible to combine the OSIsoft iViews with others created in SAP's Visual Composer and SAP NetWeaver Developer Studio. The combination of the OSIsoft iViews and custom-developed iViews using the SAP toolset makes it easy to use performance and operational data, such as inventory, equipment alarms, quality measurements, and others for real-time decision support and analysis for continuous business improvement. iViews can be collected into pages and based on roles to deliver specific business functionality.

The packaged portal contents include displays such as trends, schematics, gauges, KPI alerts, tickers, manual entry, and tables, among others, for real-time and historical data from your plant floor, SCADA, and other manufacturing data. Tight integration with the host portal environment ensures that every employee has access to a consistent view of operational data based on role.

The PI RtPM Business Package is used to display the status of a meter for AMI in the SAP Portal. Meter details can be seen in the PI Graphic part, key variables are trended in the PI Trend and the user can change between meters using either a PI TreeView or PI Table.

GLOBAL

"We made collaboration on energy usage a corporate-wide objective by using our corporate SAP Portal and the OSIsoft RtPM Business Package to put detailed energy data on every desktop. This enabled many small projects over time that resulted in major utilities savings. We saw immediate payback and insight into managing our business better."

OPERATIONS MANAGER

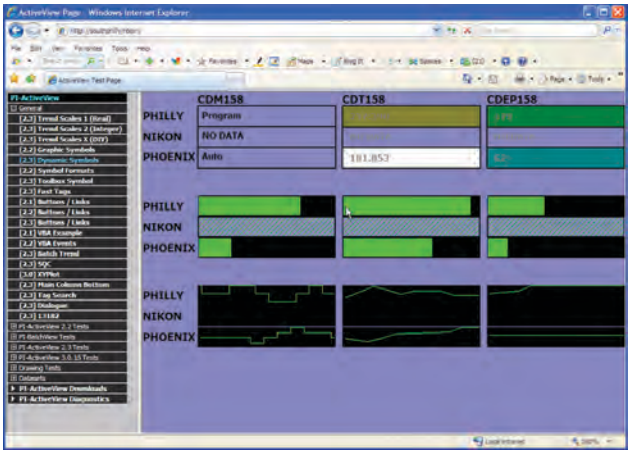
"We now have a secure way to leverage our PI ProcessBook display content on the web. This will give our off-site managers and workers the ability to stay on top of all areas of their production via the web, but with the same rich displays of information and interactivity that workers in the office have."

Rich Interaction on the Web

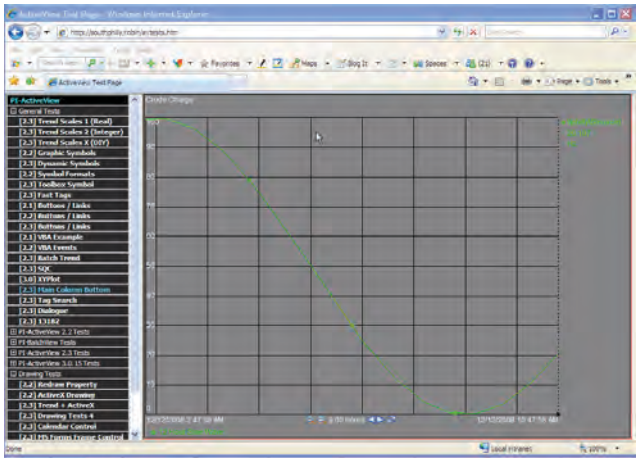
PI ActiveView

PI ActiveView technology allows the familiar and rich interaction capabilities of PI ProcessBook to be available on the web or any other ActiveX control container. It enables PI ProcessBook displays to be leveraged across the company in a read-only environment—with all of their embedded Visual Basic scripting—and with full user interaction while maintaining the displays integrity.

Often users take advantage of the scripting capability within PI ProcessBook to design custom features and application richness to their displays. Using PI ActiveView, this level of richness can be made available on the web. The PI ActiveView control is loaded on the desktop, which supports the functionality required to display the complete depth of PI ProcessBook screens, even their embedded coding.



PI ActiveView shows PI ProcessBook files in a web browser. PI ActiveView also builds the table of context on the left to provide a means to navigate the displays.



PI ActiveView showing a maximized trend from a PI ProcessBook display in a web browser. PI ActiveView also builds the table of context on the left to provide a means to navigate the displays.

PI System Security Protects Your Data

The PI System has built-in facilities to secure access to your data throughout the enterprise and beyond. Each point, asset, or event frame that is configured in PI is associated with a set of permissions that allow read, write, and modify access to PI user accounts. You choose which user accounts you'd like to apply permissions.

There are also assurances from file system security built into the main operating system that runs the PI System. Each data archive used by PI can have specific permissions that ensure only the system administrator can change PI configuration options.

The PI System has the ability to join the permissions of user accounts or groups maintained by PI with those that already exist within your Windows network. Now, one login can deliver the right data to those that need it.

Need to make data available to people outside your enterprise or traveling employees? OSIsoft's products integrate with your existing security policies and firewalls. You decide who gets to see which parts of your operations and the PI System.

Now everyone can help you profit from operations information without risking data security.

IT ADMINISTRATOR

"We can have accurate, reliable, and immediate knowledge of how our entire manufacturing network is running.

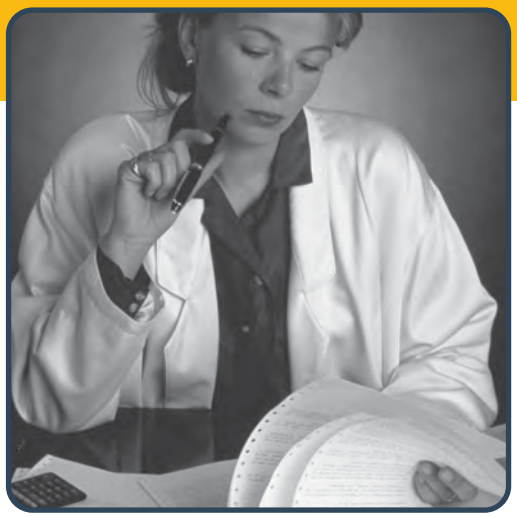
We can have performance data from our network, operating systems, even our security system and printers. We can also have advance knowledge should anything start to fail, which allows us to fix minor issues before they become detrimental to the performance of the company."

Monitor your IT infrastructures

Manufacturing Control Network

Manufacturing Control Network (MCN) extends the PI System's capability to monitor critical points in your manufacturing control network and IT asset infrastructure, which in turn reduces the cost and complexity of monitoring these infrastructures. Specially designed interfaces facilitate the retrieval of performance data from a wide range of applications, operating systems, devices, and infrastructure components.

MCN detects potential issues, threats to performance, network problems, and network bottlenecks within the manufacturing IT infrastructure, and alerts managers to potential issues as they arise so corrections can be made to maintain consistently high performance levels. MCN provides the ability to drill down into detailed event and performance data to identify the causes and historical progression of continuous or intermittent problems, such as memory leaks, viruses, network failures, and network bottlenecks. Automatic displays can be created in minutes with contextual data that allows users to analyze performance details and resolve problems.



INTERNAL AUDIT

"With PI, we can finally automate our comliance reporting based on 21 CFR Part 11."

Standards and Compliance

Virtually every manufacturer must report on one or more regulatory requirements. Whether it's Sarbanes-Oxley (SOX), NERC, 21 CFR Part 11, or any other compliance area, our customers realize that the PI System is a sustainable architecture that allows them to achieve a competitive advantage through complete and efficient compliance.

The PI System supports regulated environments by monitoring the entire manufacturing process, including environmental monitoring, security monitoring, the production process, recipe download, process profiling, and automated batch reporting, to name a few. The PI System enforces stringent login security and secure audit trails for any manual data change, which ensures processes run as expected and makes compliance reporting easier and more reliable.

Across industries, the risk of noncompliance is driving investment, protocol, and product now more than ever before. The Sarbanes-Oxley Act (SOX) has proved that compliance is not a one-time event and smart companies are building compliant processes into the culture of their organizations. SOX, however, is just one of many initiatives that corporations must prioritize.

Internationalization

OSIsoft supports your global business by providing language localization for PI products in English, German, French, Japanese, Chinese, Korean, Spanish, Russian, and Portuguese. This allows each country to experience the power of PI in their local language.

"As business and IT recognize the overlapping requirements of individual compliance mandates, leaders are taking steps to build out a sustainable architecture that minimizes time and cost while maximizing future reuse. The PI System from OSIsoft accomplishes all of this very well."

John Hagerty
AMR Research Staff

Protect Your Investment with Continuous Product Improvement and 24X7 Support

Software Reliance Program

The Software Reliance Program (SRP) preserves your PI System investment, keeps it running on current, standard technologies, and helps your enterprise realize its long-term value. With SRP, you get complete maintenance and continuous improvement for your PI System within a predictable budget. For the same low cost, your users benefit from immediate access to product releases containing enhancements, new features, and patches, and 24/7, follow-the-sun, world-class technical support in seven languages.

- New product releases, including patches and enhancements
- New product features
- 24X7 technical support

Field Service

From planning to deployment, our Field Service engineers coordinate all implementation aspects to ensure best-practices system installation—with minimal disruption to your operations. This one-on-one services is the fastest way to complete installation and training that ensures a successful PI System implementation across your enterprise.

Standard service packages include:

- Base PI System installation
- PI Interface installation
- Import of foreign historical data
- PI System upgrades
- PI High Availability upgrades

In additional, your users will get the skills and knowledge they need to put the PI System to work right away. Our Field Service group provides on-site, customized, hands-on training—using your own data from PI—for groups of up to 12 people. OSIsoft also offers public classes at training facilities across the world, private, on-site courses, webinars, self-paced study materials, computer-based training, and learning labs (in conjunction with our annual Users Conference).

"At Aughinish Alumina, we continuously update the PI System to have the latest version. That way, we interpret and exploit our 20 years worth of historical data using the most modern technology and best tools. It only makes sense to always have the latest and best version of the PI System to give us an edge."

Justus de Hooge
Aughinish Alumina Ltd.
PI System customer since 1984

IT MANAGER

"OSIsoft keeps up with the latest computing trends such as .NET, web services, and portal technologies so I can too. The incorporation of the latest technology standards will give my company the most modern system with the best features and ensure compatibility with software and operating systems as they evolve."

confidence

PI USER COMMUNITY

"Our PI power users and developers can go online to get PI development and applications tips from OSIsoft and other companies that are part of a global PI user community.

I can easily find resources that show me how to expand the PI System and build other displays to better manage processes."

OSIsoft's Ultimate Resource for PI Developers

vCampus

http://vCampus.osisoft.com

OSIsoft's Virtual Campus (vCampus) is a community-oriented website that provides everything PI users need to develop solutions on the PI System, with a focus on 'doing it right.' The vCampus program provides each of its subscribers with software (a personal PI System for development purposes) and an 'identity' on the community. vCampus is your gateway to support and resources such as public discussion forums, blogs published by OSIsoft representatives, technical webinars, a library of PI applications, and more.

The "facilities" available on the vCampus include:

- Library: An online library where users can find documentation, white papers, tutorials, and other PI-based material, including vCampus-exclusive material on PI development topics
- Discussion Hall: Various topic-centric discussion forums
- Auditorium: Where users can view recorded webinars or register for upcoming webinars (these are vCampus-exclusive webinars, typically on PI development/integration topics)
- Bloggers' Place: Blogs published by various OSIsoft individual users or teams
- Training Center: Anytime/Anywhere training via five OSIsoft standard Computer-Based Training (CBTs) modules available online
- Download Center: Where vCampus subscribers can download their personal development PI System and other elements that are exclusive to vCampus subscribers

Discover the Power of the PI System

Take the next step towards increasing your enterprise-wide profitability.

Visit our Web site at www.osisoft.com for more informatio and to contact your local sales representative, or email MarketingRequest@osisoft.com.

Attend the OSIsoft Users Conference or a Regional Seminar and discover how customers find value in PI.

The annual OSIsoft Users Conference is an exciting, valuable exchange of ideas and PI applications that helps you get the most out of your PI System. Hundreds of customers from all over the world in every industry come to share how they use PI to make their enterprises efficient, connected, and more profitable.

www.osisoft.com

THE DECISION MAKERS

"Over 14,000 installed PI systems in over 110 countries are helping companies profit from the power of PI. We should be one.

The PI System pays for itself within the first year with immediate, measurable, company-wide benefits.

A low cost up-front with a typically high long-term payback makes PI a high-value investment.

We should align with OSIsoft, a successful company that will be there for us with upgrades and support over the long haul, actually adding value to our PI System and our bottom line."

THE power OF PI

ENGINEERING

MANAGEMENT

Information

FINANCE

OPERATIONS

Real-time Information Throughout the Enterprise

Automotive & Discrete Manufacturing
Chemicals & Petrochemicals
Food & Beverage
Metals, Materials & Mining
Nuclear
Oil & Gas
Pharmaceuticals & Biotechnology
Power & Utilities
Pulp & Paper
Transmission & Distribution
Water Management

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