thingworx®

One Platform. Unlimited Innovation.

CONNECT

THE INDUSTRIAL IoT BEGINS WITH CONNECTIVITY

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The "things" that make up an industrial enterprise – factory equipment, tools, devices, field assets – represent a rich source of valuable data that has remained largely untapped. But faced with obstacles like disparate systems, legacy devices, or ad hoc solutions, data access and visibility in an industrial setting is wrought with challenges. Connectivity, communications, and security are unreliable – or nonexistent.

Many forward-thinking enterprises have begun to implement strategies for digital transformation to maximize the value of their assets and operations. Connecting the physical world of industry and the digital realm of business, industrial IoT empowers enterprises to access, analyze, act upon, and monetize that data by connecting machines, devices, workers, facilities, and other systems.

ThingWorx quickly connects industrial assets to source data directly from devices, applications, and enterprise systems – providing a single source for collecting, aggregating, and enabling secure access to industrial operations data.

Powered by Kepware®, and with a library more than 150 device drivers, client drivers and advanced plug-ins, ThingWorx enables connectivity to thousands of devices and operations data sources.

>>> With ThingWorx, enterprises easily:

- ○ Access industrial IoT and application data from on-premise web servers, off premise cloud applications, and hybrid environments

- ○ Eliminate issues with latency, cost, and security using edge computing capabilities to collect and aggregate data at the source

- ○ Transform plant floor data into actionable visualizations, analytics, and augmented reality (AR) experiences within minutes via integration with platform components and third-party systems

- ○ Meet site security requirements with secure, authenticated, and encrypted communications across varying network topologies via SSL and TLS

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ThingWorx includes the following functionality:

Connectivity
ThingWorx offers the broadest range of drivers available, supporting current and legacy devices, wired and wireless network mediums, and connectivity to databases, software applications, and other OPC servers.

Aggregation
A single point of entry connects to thousands of data sources and provides information to hundreds of applications, eliminating the need for multiple, disparate applications to enable discrete connectivity.

Optimization
ThingWorx uses data conditioning and reduction, customized load balancing, and protocol-specific communication optimization to improve communications and reduce network and device load.

Accessibility
Access to platform components, client applications (like MES and SCADA), IoT, and other big data and analytics software is enabled through ThingWorx AlwaysOn protocol, OPC, proprietary protocols, and IT protocols.

Security
Secure, authenticated, and encrypted communications across various network topologies are in compliance with a range of secure client or device standards, as well as the configuration of secure data tunnels.

Diagnostics
Robust communication diagnostics isolate device and application communications for troubleshooting, including OPC diagnostics for real-time and historical views of OPC events and communications diagnostics to capture the protocol frames transferred between the server and a device.

Integration
User-friendly, out-of-the-box connectors in ThingWorx Flow enable more roles to connect and integrate devices and systems with drag-and-drop ease.

Azure IoT Hub Connector
Out-of-the-box functionality connects to Microsoft® Azure® IoT Edge devices and provides access to Azure services directly from ThingWorx - including the ability to remotely update software for connected devices - creating a single, seamless user experience.

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Solving Data Communications Challenges

ThingWorx serves as the communications bridge between diverse hardware and software applications, providing visibility across the enterprise for improved decision-making from the shop floor to the top floor. ThingWorx enables industrial enterprises to tackle the most commonly-faced challenges:

Connectivity	Offers the broadest range of drivers available, and provides connectivity to a growing list of devices and applications through a single, unified configuration for managing connectivity to any data source - simplifying installation, configuration, maintenance, and support
Data quantity, quality, and reliability	Enables deployments to scale as needed without degradation in data quality, accommodating the smallest edge deployments with a single device to the largest enterprise implementations comprising thousands of devices and millions of tags
System security	Enables secure, authenticated, and encrypted communications across various network topologies
Usability	Provides a unified configuration for managing connectivity to any data source – simplifying installation, configuration, maintenance, and support – with tools that simplify mapping of tags from devices
Changing technology	Future-proofs projects with market-driven product development - expanding, enhancing, and maintaining solution portfolio with frequent releases and updates

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