thingworx®

BUILD

Simplify the Creation of Connected Applications
to Fast-Track Digital Transformation

ptc

Building and implementing Industrial IoT (IIoT) solutions for the enterprise is a mission with wide-reaching impacts. ThingWorx provides the tools and technologies required to simplify the creation of complete IIoT applications that are also configurable and customizable—critical factors to the success of any digital transformation strategy.

The role of the ThingWorx IIoT platform is to provide the foundation and building blocks for specific industrial use cases, provide the capabilities to tailor applications as needed, and facilitate a repeatable process that minimizes time and effort required to build future applications.

Robust in infrastructure and interoperability, ThingWorx simplifies the development of applications with real-time, bi-directional connectivity to devices, systems, and processes, enabling seamless integration of IIoT data throughout the organization.

By digitally transforming assets, people, and processes, ThingWorx empowers industrial organizations to be uniquely innovative – to think outside the box, create new solutions, enhance current product offerings, establish new business models, and set and achieve new revenue and performance goals across the enterprise.

ThingWorx Makes It Possible to:

- Create and deploy industrial IoT solutions that speed time to market using model-driven application design

- Operationalize insights, predictions, and recommendations across enterprise functions with automated IoT data to enhance decision-making

- Detect changes in behavior and operating conditions in real-time, minimizing time to resolution, if a problem was to occur

- Optimize performance outcomes using prescriptive and simulative analytics that diagnose problems and generate recommendations across functions
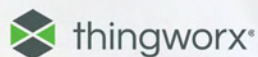
Build with ThingWorx

The ThingWorx Industrial IoT Solutions Platform provides an architecture that drives successful digital transformation, allowing enterprises to create, scale, customize, and implement solutions that meet their needs.

Platform Capabilities

Application Development

Visual application modeling and templates increase efficiency and reuse, enabling the rapid creation of IIoT applications, visualizations, workspaces, and mobile interfaces. Drag-and-drop tools empower users to add robust capabilities, such as analytics or augmented reality, without needing to be an expert in those technologies.

Deployment

ThingWorx can be deployed on premise and/or in public or private clouds, allowing enterprises to leverage existing cloud investments or combine componets from multiple cloud providers. Modern architecture enables enterprise-level scalability to millions of connected devices quickly and cost-effectively.

Integration

Applications can readily interact with virtually any other source that supports a RESTful interface. Built-in capabilities substantially reduce the time to connect to third-party applications, such as CRM, ERP, and PLM. Once integrated, ThingWorx transparently exposes the data obtained from external sources and makes it accessible to all related tools and applications.

Connection Services

Connection servers, device cloud adapters, out-of-the-box industrial connectivity, and integration framework connectors are available to connect devices and systems to ThingWorx-powered applications across any network topology and any communication scenario.

Solution Building Blocks

ThingWorx applications are built on solution building blocks, which are pre-defined configurations of connectors, domain models, business logic, and UI elements that simplify development of IIoT solutions for specific use cases.

Over years of extensive industrial experience, PTC has identified user trends in IIoT and defined common use cases that enable continuity. The ThingWorx solution building blocks provide a foundation while giving users the modular flexibility to customize aspects of an existing application to better meet their own needs.

Applications

ThingWorx provides a selection of role-based, starter IIoT applications that are web-enabled and accessible in any browser, enabling users to view, understand, and act on IIoT data in real time. Applications are pre-built building blocks—grouped together based on use case—that accelerate digital transformation and expedite time to market.

ThingWorx encapsulates decades of IIoT domain expertise into applications that solve specific business problems for a range of operations functions and roles within industrial enterprises. ThingWorx applications provide connectivity, visibility, analytics, and collaborative work tools that foster productivity, enhance performance outcomes, and drive maximum business impact.

PTC Strategic Alliance Microsoft:

ThingWorx provides a rich application enablement environment and seamless interaction with Microsoft Azure, speeding time to value for companies that choose to implement industrial IoT solutions on Azure. ThingWorx sources data from Azure that can be combined with IoT data and other digital content, including 3D models and engineering data, enabling the bi-directional communication with IoT assets.

- User-friendly interfaces enable quick creation of smart, connected solutions, speeding time to market
- Cloud delivery simplifies the deployment of industrial IoT applications
- Drag-and-drop tools eliminate the need for complex manual coding
- Global scalability accommodates existing and emerging needs

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Security

The ThingWorx platform, which is open and extensible in nature, utilizes a shared responsibility model for security. ThingWorx enables users to create applications that are flexible and provides a range of extensions from partners to build additional security measures into their ThingWorx-powered solutions as they see fit.

The ThingWorx platform enables enterprises to build secure IIoT solutions by supporting:

- Extremely flexible permissions and visibility capabilities, including access control lists and robust user and group management

- Design and runtime permissions down to the property level

- Ability to remotely update edge devices for security

- Integration with Active Directory and Single Sign-on (via Ping Federate)

- Transport Layer Security (TLS) encryption

- Audit trail of all actions in the development environment