

Deliver Industrial IoT Analytics with ThingWorx

AUTOMATE COMPLEX ANALYTICAL PROCESSES FOR THE IOT - DELIVERING REAL-TIME INSIGHTS, PREDICTIONS, AND RECOMMENDATIONS

The Internet of Things (IoT) is driving a massive increase in data as billions of new devices are connected every year. Each device generates potentially millions of new data points daily – unprecedented in both volume and pace. For the growing number of enterprises implementing smart, connected strategies and solutions, this data holds invaluable insights.

With the number of connected devices expected to reach 30 billion by 2020, managing and extracting value from IoT data poses real and significant challenges for the enterprise. Decisions are increasingly made in real-time, increasing the need for enterprises to quickly, easily, and proactively automate complex analytical processes that enhance IoT solutions with reliable, actionable information, and insights.

Traditional reporting and visualization approaches are not well-suited for IoT data analysis. They are difficult and time-consuming to adapt and use for high volumes of complex IoT data in new and varying formats.

Meet ThingWorx Analytics

ThingWorx Analytics is designed to specifically tackle the challenges associated with the volume, velocity, and variety of IoT data. ThingWorx Analytics uses sophisticated artificial intelligence and machine learning technology to deliver reliable, actionable insights in real time to ThingWorx-powered solutions.

Integrated with the ThingWorx platform, ThingWorx Analytics automates complex analytical processes and seamlessly delivers powerful, operationalized insights to ThingWorx-powered solutions.



With ThingWorx Analytics, enterprises easily:

- Transform data into insight via intuitive, user-friendly interfaces that enable complex analytics capabilities for non-expert users
- 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
- Optimize performance outcomes using prescriptive and simulative analytics that diagnose problems and generate recommendations

Key Benefits

- Operationalize insights, predictions, and recommendations across enterprise functions with automated IoT data to enhance decision-making
- Enable complex analytical capabilities for those who are not data experts with user-friendly interfaces, tools, and applications
- Enables analysis of historical data and forensic investigation of data after an incident through replay functionality
- Production-ready deployment enables enterprises to get up and running quickly – at the edge, on premise, or in the cloud

How It Works

ThingWorx Analytics delivers powerful, automated analytics capabilities to ThingWorx-powered solutions – including real-time pattern and anomaly detection, automated predictive analytics, and contextualized recommendations.

Utilizing simple user-friendly interfaces, visualizations, and easy-to-use tools, ThingWorx Analytics eliminates the need for expertise in data modeling, complex mathematics, statistical analysis, artificial intelligence, or machine learning.

ThingWorx Analytics includes the following functionality:

- **Predictive Modeling** – Incorporates supervised machine learning into industrial IoT solutions and extends data science practices with automated predictive and prescriptive modeling – without the need for algorithm expertise by users
- **Explanatory Analytics** – Enables better understanding of industrial IoT data, providing a variety of advanced algorithms that allows users to discover useful patterns and correlations within data
- **Real-Time Monitoring** – Monitors data streams using a variety of statistical and machine learning techniques to learn “normal” conditions and identify unexpected changes in behavior
- **Predictive Scoring** – Anticipates future outcomes and offers the ability to make relevant outcome-based predictions based on data within ThingWorx

- **Prescriptive Scoring** – Improves future performance and results by automatically executing simulations to generate recommendations that will optimize the product and process performance
- **Digital Simulation** – Uses integrated models and other computational providers within the application to simulate behavior of physical products in the digital world

ThingWorx Platform Integration

The ThingWorx platform enables innovators to rapidly develop and deploy smart, connected solutions for industrial IoT. The platform contains the industry's most complete set of integrated IoT-specific development tools and capabilities - simplifying solution development, accelerating time-to-market, and making end-user solutions more compelling.

ThingWorx Analytics is tightly integrated into the ThingWorx platform, enabling organizations to build smart, connected solutions faster, at a lower cost, and using fewer resources. ThingWorx Analytics monitors data streams from connected devices directly via connectivity to the underlying ThingModel. Each piece of ThingWorx Analytics works in conjunction with other modules of the ThingWorx platform to automate the creation and delivery of proactive intelligence to ThingWorx-powered solutions.

© 2018, PTC Inc. (PTC). All rights reserved. Information described herein is furnished for informational use only, is subject to change without notice, and should not be taken as a guarantee, commitment, condition or offer by PTC. PTC, the PTC logo, Product & Service Advantage, Creo, Elements/Direct, Windchill, Mathcad and all other PTC product names and logos are trademarks or registered trademarks of PTC and/or its subsidiaries in the United States and other countries. All other product or company names are property of their respective owners. The timing of any product release, including any features or functionality, is subject to change at PTC's discretion.

J7441-ThingWorxAnalytics -EN-0518