

Leading Data Center Infrastructure Management Platform Integrates KEPServerEX® to Expand Connectivity

The Customer

ABB is a global leader in power and automation technologies with headquarters in Zürich, Switzerland. ABB has five lines of business: Power Products, Power Systems, Discrete Automation and Motion, Low Voltage Products, and Process Automation. The Process Automation line of business is home to Decathlon® for Data Centers, a leading Data Center Infrastructure Management (DCIM) solution. Decathlon for Data Centers is an industrial-grade tool set that provides users with the visibility, decision support, and centralized controls needed to effectively automate and manage data center infrastructure (such as power, cooling, and IT systems).

“We take pride in our extensibility—that is, our ability to massively scale, integrate, and future-proof,” said Eric Olson, Data Center Project Specialist for Decathlon at ABB. “Working with power systems and power delivery for more than 100 years has helped ABB become the largest Enterprise Asset Management and Distributed Control System Supplier in the world. It is this knowledge that helps us establish expertise in understanding and forecasting our customers’ requirements relative to data center automation.”

The Challenge

The data center is arguably the most crucial asset for a 21st century enterprise. The infrastructure for these highly-optimized facilities requires industrial-grade components that can support intelligent, efficient, and flexible operations.

Data centers typically begin as a single facility housing power equipment, cooling equipment, building infrastructure, and IT. This integration results in diverse infrastructure systems independently communicating via a multitude of protocols. As data center requirements grow, the number of facilities often increase and become more geographically dispersed. This expansion exacerbates the challenge of supporting communications protocols across the enterprise.

In many cases, the systems and equipment used in data centers were not originally designed to meet the specific needs of that mission-critical environment. In fact, many were built for commercial environments and lack the redundancy and controls required for high-availability applications.

Furthermore, many data centers face challenges simply because the industry has existed in its current hyper-scale state for such a short period. Until Decathlon, there were no unified control systems that presented energy, server operations, and environmental information in a single operating environment. Operators often had a difficult time learning and keeping up with complex, constantly changing, and disparate systems. The challenge grew increasingly cumbersome with the Cloud enabling connectivity to bandwidth-hungry edge devices—many of which depend on or have the ability to interact with data centers.

Wanting to create a DCIM solution that would break down legacy silos between facilities and IT, ABB needed to develop a platform capable of supporting a wide range of protocols typically encountered in data center environments. ABB needed a comprehensive and intuitive solution that would serve as an intelligent data aggregator and connect all of the equipment and systems within the data center.

“In order to address these hurdles, we needed a solution that could extend the reach of Decathlon, and a big part of that would come in the form of a holistic and flexible communications platform,” Olson said.

The Approach

Many customers select the DCIM platform from ABB because they are looking for a unified system that brings all of the components of data center management together under one umbrella. ABB developed Decathlon to communicate with nearly any standard or proprietary communications protocol and provide a common, consistent interface for data from all data center assets—including IT equipment.

ABB approached Kepware because of the breadth of communications protocols offered in the company’s flagship product, KEPServerEX. With over 150 drivers and a single, consistent interface, KEPServerEX provided ABB all of the connectivity tools they required in one easy-to-use package. Its design allowed engineers to install the platform and implement drivers without learning new communications protocols or utilizing other applications. By leveraging the User-Configurable (U-CON) and Custom Interface drivers for KEPServerEX, ABB engineers were able to quickly and easily connect to legacy and custom equipment (for which off-the-shelf drivers were not available)

Organization

ABB Process Automation is home to Decathlon® for Data Centers, which provides users the visibility, decision support, and centralized controls needed to effectively automate and manage data center infrastructure.

Industry:

Data Center Infrastructure Management

Solution:

KEPServerEX

- Building Automation Suite
- SNMP Suite
- User-Configurable (U-CON) driver
- Custom Interface driver

ABB Decathlon for Data Centers



Organization Impact & Benefits

- Creates a single data set, which reduces the opportunity for calculation errors
- Provides controls to automate workflow and physical infrastructure processes
- Enables customers to continuously optimize their data centers for the highest levels of performance
- Enables informed decision making and increases cost savings by providing greater visibility across the data center
- Improves data center capacity planning through greater accuracy of asset, power, and environmental data

through serial, Ethernet, or shared memory. Furthermore, Kepware's prompt and thorough technical support enabled ABB to be more responsive to its customers.

Decathlon for Data Centers can collect data (such as temperature and humidity) from any device or system (including a Building Management System [BMS]) within a data center, normalize it, and include it in the analysis of a more comprehensive data set. Using KEPServerEX, the DCIM platform expands its reach to a multitude of devices and systems. This enables organizations to see a single data set from multiple sources within the data center, minimizing calculation errors and providing a single, real-time operation environment for the data center.

The Results

With Kepware's KEPServerEX communications platform, ABB's Decathlon for Data Centers is the only DCIM system that provides controls to automate both workflow and physical infrastructure processes. Its breadth of functionality enables customers to continuously optimize their data centers for the highest levels of performance. Decathlon provides industrial-grade tools to help organizations automate and manage a flexible network of power, cooling, and IT so they can deliver data services faster and in the most reliable, efficient, cost-effective, and sustainable way possible.

One of North America's largest insurance companies is using Decathlon to manage all building, power, and IT systems across five of its data centers that account for a combined 20+ megawatts of energy. Using the Decathlon system, they expect to improve their understanding of day-to-day operations and capacity planning, which will allow them to extend the life of their existing data centers. They also anticipate lowering operational costs by improving energy and HVAC efficiency. By reducing data center costs, ABB's customer can pass those savings on to their customers in the form of lower rates.

In another installation, Telx, a major provider of data center colocation services, uses the DCIM solution to optimize energy consumption and cooling in one of its multiple New York City facilities. The company operates 20 data centers in 13 U.S. markets, and serves more than 1,200 customers. With the help of KEPServerEX, Decathlon monitors all the control room air conditioning, uninterruptible power supplies, automatic transfer switches, generators, fuel systems, water leak protection,



KEPServerEX is a key component of our product strategy because it helps us accelerate our ability to interface with a multitude of ever-expanding infrastructure systems and their applications. This helps us bring our customers new capabilities faster, while continually expanding the depth and breadth of visibility across their organizations, so that they can make more informed business decisions today and into the future."

Eric Olson

breaker positions, and fire alarm systems in the main portion of the data center. It also interacts with chiller systems and performs automated tasks (such as turning on circulation pumps and opening or closing dampers). By using Decathlon with KEPServerEX, businesses will be able to more accurately determine the true cost of delivering comprehensive data center services.

All ABB customers using the ABB Decathlon DCIM solution benefit from the connectivity provided in Kepware's KEPServerEX communications platform. The connectivity provided by the Building Automation Suite for KEPServerEX enables Decathlon's customers to monitor and control lighting, HVAC, power, safety, and security—increasing efficiency and reducing energy costs. The SNMP Suite for KEPServerEX seamlessly integrates the monitoring and analysis of Managed and Unmanaged SNMP-supported Ethernet network devices into Decathlon. KEPServerEX also enables ABB to accelerate time to market. The platform's ability to communicate with key protocols prevents ABB from spending time and money developing individual solutions when customers need to deploy products using different protocols.

"ABB Decathlon for Data Centers is selected for some of the world's biggest data center projects because of its reputation as a leading, all-encompassing, and reliable solution," said Olson.

Kepware Technologies is a software development business of PTC Inc., headquartered in Portland, Maine. Kepware provides a portfolio of software solutions to help businesses connect diverse automation devices and software applications and enable the Industrial Internet of Things. From plant floor to wellsite to windfarm, Kepware serves a wide range of customers in a variety of vertical markets including Manufacturing, Oil & Gas, Building Automation, Power & Utilities, and more. Established in 1995 and now distributed in more than 100 countries, Kepware's software solutions help thousands of businesses improve operations and decision making.

© 2016, 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, or offer by PTC. PTC, the PTC logo, and all 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.

J7856-LeadingDataCenterInfrastructureManagementPlatform-EN-1016