



kepware® kepserverex®

CONNECTIVITY

# PLATFORM

FOR INDUSTRIAL AUTOMATION  
AND THE INTERNET OF THINGS

# IMPORTANCE OF INDUSTRIAL DATA ACCESS

Access to real-time plant floor data enables companies to improve processes, drive productivity, make better decisions, and maintain a competitive edge.

Control engineers and executives need access to real-time data from industrial control equipment through their MES, SCADA, Big Data, and analytics solutions.

A range of departments—including engineering, operations, quality assurance, IT, sales, supply chain, and accounting—can benefit from increased data access and visibility.

# COMMUNICATIONS CHALLENGES



Disparate, edge-based, and legacy devices are unable to connect to each other or to enterprise business systems.



Users must purchase, install, learn, maintain, and troubleshoot multiple communication solutions that have varying degrees of complexity.



Big Data and IoT platforms need to connect to industrial control systems remotely and securely.



Data may be poor quality, outdated, or lost.



Communication mediums between sources are often unreliable.

# A CONNECTIVITY PLATFORM

KEPServerEX® is a single solution for collecting, aggregating, and providing secure access to industrial operations data.

Its platform design allows users to connect, manage, monitor, and control diverse automation devices and software applications—from plant control systems to enterprise information systems.

KEPServerEX offers:

- Connectivity to an ever-growing list of devices and applications in a scalable, secure architecture
- A streamlined interface that provides the convenience of installation, configuration, and support in one solution from a single vendor
- Direct, simultaneous connections to clients, including ERP, MES, HMI, SCADA, mobile, Big Data, Enterprise Asset Management, analytics, and IoT platforms
- Secure, authenticated, and encrypted communications from client to device across various network topologies



# KEPServerEX FEATURES AND ARCHITECTURE



## Connectivity

KEPServerEX offers the broadest range of drivers available, supporting current and legacy devices across various verticals within the Industrial Automation Industry. Drivers support a variety of wired and wireless networks including Ethernet, serial, and proprietary networks and various telemetry mediums. KEPServerEX provides connectivity to databases, custom software applications, and other OPC servers, and supports simulation for implementation and testing prior to deployment.



## Optimization

Through data conditioning and reduction, customized load balancing, and protocol-specific communications optimization, KEPServerEX improves communications and reduces network and device load. It also features Machine-to-Machine linking and redundancy.



## Aggregation

KEPServerEX maximizes data applications by supporting connections to thousands of data sources and providing information to hundreds of applications through a single architecture. This eliminates the need to purchase, operate, and maintain disparate applications for discrete connectivity.



## Accessibility

KEPServerEX provides accessibility to leading automation, Big Data, and analytics software via OPC, proprietary protocols, and IT protocols (including MQTT, REST, ODBC, and SNMP). Historical data is accessed through OPC standards, trend logs, and Electronic Flow Measurement (EFM) for hydrocarbons.



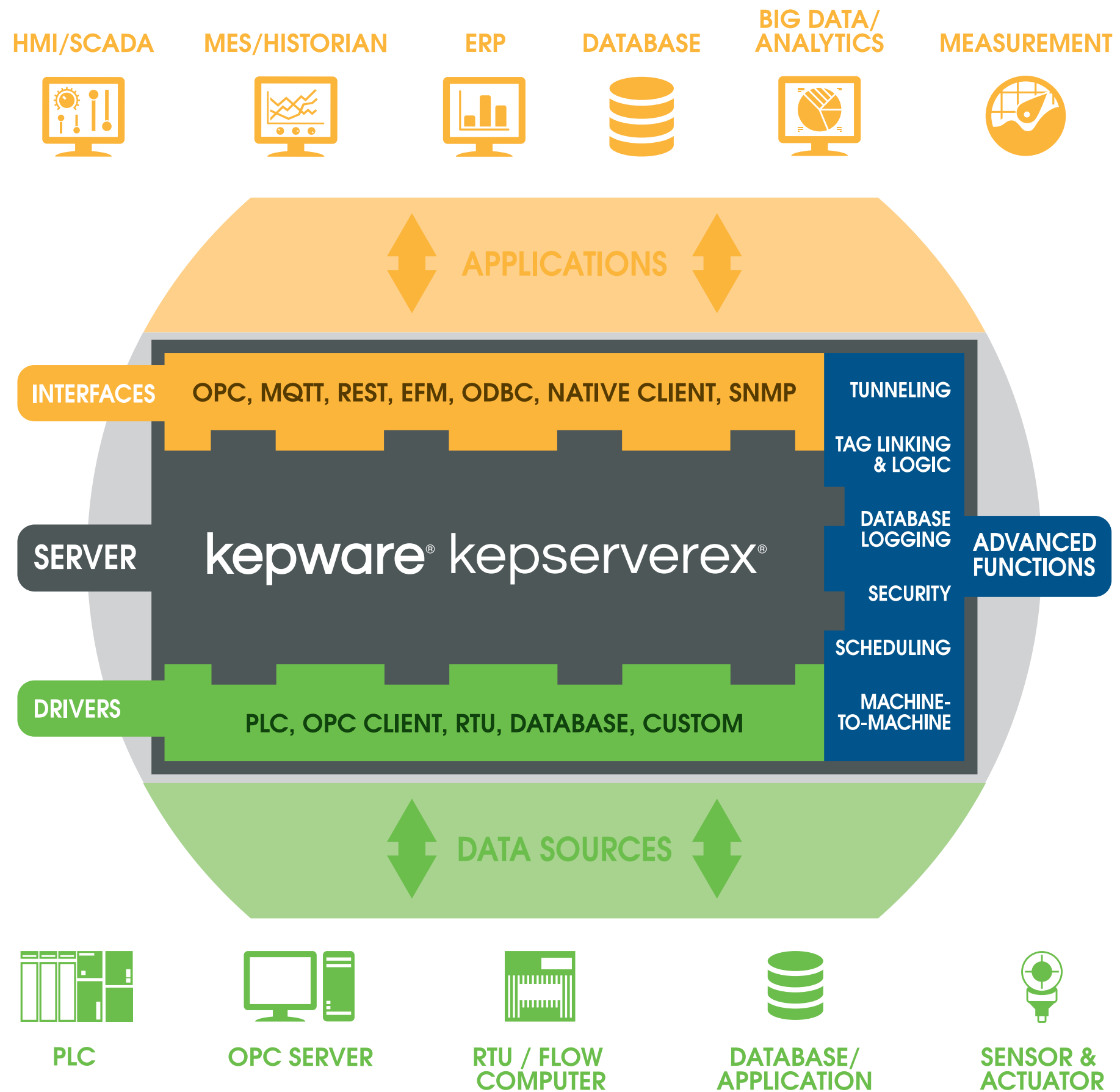
## Security

Tools within KEPServerEX expand administrators' abilities to control user access and regulate browse/read/write privileges for secure data communications. KEPServerEX supports a number of secure client standards including SNMP, OPC, and HTTPS to further restrict access to the server, as well as a number of secure device protocols to meet the requirements of DNP3, SNMP, and OPC UA data sources.



## Diagnostics

KEPServerEX provides robust communications diagnostics to easily isolate and troubleshoot device and application communications.



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## DOWNLOAD NOW

Kepware offers free, fully-functional demonstration software. Download, install, and configure KEPServerEX in under 5 minutes. Complimentary pre-sales consultations are available upon request.



For your free trial, visit  
[www.kepware.com/download](http://www.kepware.com/download)

## ABOUT KEPWARE

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.

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# Driver Options for KEPServerEX®

A driver is a software component that enables KEPServerEX to meet the connectivity requirements of a specific device, system, or other data source. The driver handles all proprietary communications to the data source for KEPServerEX; the client interfaces handle all supported OPC, proprietary, and open standards connectivity to applications that monitor or control the devices. Drivers may be licensed individually or in suites. Additional drivers can be licensed on demand as connectivity needs evolve. For a list of available drivers, please see below.

- ABB Totalflow
- Advanced Simulator
- Allen-Bradley 1609 UPS
- Allen-Bradley Bulletin 900
- Allen-Bradley ControlLogix Ethernet
- Allen-Bradley ControlLogix Unsolicited
- Allen-Bradley Data Highway Plus
- Allen-Bradley DF1
- Allen-Bradley Ethernet
- Allen-Bradley Micro800 Ethernet
- Allen-Bradley Micro800 Serial
- Allen-Bradley Unsolicited Ethernet
- Alstom Redundant Ethernet
- Analog Devices
- Aromat Ethernet
- Aromat Serial
- AutomationDirect DirectNET
- AutomationDirect EBC
- AutomationDirect ECOM
- AutomationDirect K Sequence
- AutomationDirect Productivity Series Ethernet
- BACnet/IP
- Beckhoff TwinCAT
- Bristol/IP
- BUSWARE Ethernet
- Contrex M-Series
- Contrex Serial
- Custom Interface
- Cutler-Hammer D50/D300
- Cutler-Hammer ELC Ethernet
- Cutler-Hammer ELC Serial
- Dataforth isoLynx
- DDE Client
- DNP3 Master Ethernet
- DNP3 Master Serial
- Enron Modbus
- Fanuc Focas Ethernet
- Fanuc Focas HSSB
- Fisher ROC Ethernet
- Fisher ROC Plus Ethernet
- Fisher ROC Plus Serial
- Fisher ROC Serial
- Fuji Flex
- GE CCM
- GE EGD
- GE Ethernet
- GE SNP
- GE SNPX
- Hilscher Universal
- Honeywell HC900 Ethernet
- Honeywell UDC Ethernet
- Honeywell UDC Serial
- IDEC Serial
- IEC 60870-5-101 Master
- IEC 60870-5-104 Master
- IEC 61850 MMS Client
- Intelligent Actuator (IA) Super SEL
- InTouch Client
- IOtech PointScan 100
- Krauss Maffei MC4 Ethernet
- Lufkin Modbus
- Memory Based
- Mettler Toledo
- Micro-DCI
- Mitsubishi CNC Ethernet
- Mitsubishi Ethernet
- Mitsubishi FX
- Mitsubishi FX Net
- Mitsubishi Serial
- Modbus ASCII
- Modbus Ethernet
- Modbus Plus
- Modbus Serial
- Modbus Unsolicited Serial
- MTConnect
- ODBC Client
- OMNI Flow Computer
- Omron FINS Ethernet
- Omron FINS Serial
- Omron Host Link
- Omron NJ Ethernet
- Omron Process Suite
- Omron Toolbus
- OPC DA Client
- OPC UA Client
- OPC XML-DA Client
- Optimization OptiLogic
- Opto 22 Ethernet
- Partlow ASCII
- Philips P8/PC20
- Ping
- SattBus Ethernet
- SattBus Serial
- Scanivalve Ethernet
- Siemens S5
- Siemens S5 3964R
- Siemens S7 MPI
- Siemens S7-200
- Siemens TCP/IP Ethernet
- Siemens TCP/IP Unsolicited Ethernet
- Simatic/TI 505 Ethernet
- Simatic/TI 505 Serial
- SIXNET EtherTRAK
- SIXNET UDR
- SNMP
- Square D
- System Monitor
- Telemecanique Uni-Telway
- Thermo Westronics Ethernet
- Thermo Westronics Serial
- TIWAY Host Adapter
- Torque Tool Ethernet
- Toshiba Ethernet
- Toshiba Serial
- Toyopuc PC3/PC2 Ethernet
- Toyopuc Serial
- Triconex Ethernet
- User Configurable (U-CON®)
- WAGO Ethernet
- Weatherford 8500
- WITS Level 0 Active
- WITS Level 0 Passive
- Yaskawa Memobus Plus
- Yaskawa MP Series Ethernet
- Yaskawa MP Series Serial
- Yokogawa Controller
- Yokogawa CX
- Yokogawa Darwin Ethernet
- Yokogawa Darwin Serial
- Yokogawa DX Ethernet
- Yokogawa DX Serial
- Yokogawa DXP
- Yokogawa HR
- Yokogawa MW
- Yokogawa MX
- Yokogawa YS100

# Advanced Plug-Ins

An advanced plug-in extends the capabilities of the KEPServerEX connectivity platform. It provides enhanced server functionality, increasing the usefulness of data by transforming it beyond raw data in a device register. Advanced plug-ins may be licensed individually or as part of suites, and can be licensed on demand as connectivity needs evolve.

## Advanced Tags

Advanced Tags enables Machine to Machine (M2M) tag linking, logic, and math functions for operational communications and analysis. It can link two data tags, set a trigger based on logical states, and calculate new values from raw measures. Executing math, logic, or analysis at the connectivity platform level brings data closer to the source.

## Alarms and Events

Alarms and Events provides a complete framework for defining alarms, enabling users to select the monitored tag, define the conditions, and trigger thresholds. When a condition's trigger is met, an alarm is sent to the corresponding Alarms and Events client application—providing users unique alarm input, output, and acknowledgement messages.

## DataLogger

DataLogger is an easy-to-configure application that logs data from KEPServerEX to ODBC-compliant databases (including SQL Server, Oracle, and Access). DataLogger's seamless integration with KEPServerEX provides substantial, unique benefits such as simple installation, high-efficiency performance, easy tag browsing, advanced triggering, and store and forward capabilities.

## EFM Exporter

The EFM Exporter collects historical Electronic Flow Measurement (EFM) data from leading flow computers and RTU devices used in the Oil & Gas Industry primarily for custody transfer and remote asset monitoring. It works hand-in-hand with flow computer drivers to schedule the retrieval and export of EFM data to common industry formats (like FLOWCAL and PGAS) and customizable formats (like CSV and SQL).

## Industrial Data Forwarder for Splunk

The Industrial Data Forwarder for Splunk streams real-time device and sensor data into the Splunk software platform for real-time Operational Intelligence. Splunk software and Cloud services enable organizations to search, monitor, analyze, and visualize machine-generated Big Data coming from websites, applications, servers, networks, sensors, and mobile devices.

## IoT Gateway

The IoT Gateway seamlessly streams real-time industrial control data from KEPServerEX into IT or IoT applications (including Big Data and analytics software applications and custom application development platforms) for Business Intelligence and Operational Excellence. The IoT Gateway streams data over MQTT, HTTP/REST, and the ThingWorx® binary protocols.

## Local Historian

The Local Historian moves data collection, storage, and access closer to the data source to prevent data loss and improve operational efficiency via open access and a single product solution. The Local Historian's plug-in architecture simplifies configuration, provides flexibility, and makes the information accessible across OPC HDA (an open standard).

## Scheduler

The Scheduler advanced plug-in enables users to move the scheduling of data requests from the client to the server to optimize device communications across networks with limited bandwidth. It can define polling schedules for specific tags from multiple devices by the time of day or frequency.

## Security Policies

The Security Policies advanced plug-in allows administrators to assign security access permissions on individual objects (such as channels, devices, and tags) based on the role of a user interacting with the Runtime project. It is used in conjunction with the server's User Manager, which allows management of user groups, users, and default security settings.

## SNMP Agent

The SNMP Agent advanced plug-in provides an easy to use platform for IT professionals to access automation systems and devices. It enables most Network Management Systems (NMS) to communicate with automation devices and automation systems and allows IT professionals to monitor network-attached devices for conditions, avert and remedy failed internal processes, and fix unexpected external events.

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