

Tunneling and Secure Data Transfer via OPC UA Clients and Servers

KEPServerEX OPC UA Server
Free with KEPServerEX

KEPServerEX OPC UA Client
\$895.00

Application Connectivity Support

• Native Interfaces

FastDDE & Suitelink for
Wonderware, NIO for iFIX
Oracle MES/MOC

• Database Interfaces
ODBC

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support@kepware.com

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The OPC Foundation released its next generation interoperability standard OPC Unified Architecture (UA) in 2009. This technology delivers the latest capabilities in Automation Data Transfer and addresses the need for highly secure, cross-platform communications. The transmission of Information = Data + Context. The OPC UA interface unifies the earlier specifications of OPC into one interface for all forms of information, Data Access, Alarms and Events, and Historic Data Access.

KEPServerEX version 5.2 and greater delivers an OPC UA server capability in addition to the existing OPC DA, OPC AE, and native interfaces it has supported in the past. It also delivers an optional OPC UA Client Driver. KEPServerEX's OPC UA Client and UA Server combination provides users with new capabilities that were previously unavailable in the automation marketplace.



OPC UA Features and Benefits

Initially started in 2004 by the OPC Foundation and a group of its members, OPC UA was developed to address the current and projected needs for information transfer in the automation world. Its goals were to do the following:

- Deliver a technology capable of being ported to a wide range of operating systems and technology platforms.
- Adopt a security standard that would be familiar to IT professionals.
- Support the intelligent transfer of information (not just data).
- Enable communications in the broadest possible scenarios (such as across the Internet and in Business to Business) not just between computers in an automation facility.
- Be firewall-friendly and easy to manage.

These goals were integral to OPC UA specifications, and are accomplished and delivered through Kepware's KEPServerEX version 5.2 and above.

OPC UA Tunneling for Reliable and Secure Remote OPC Server Connectivity

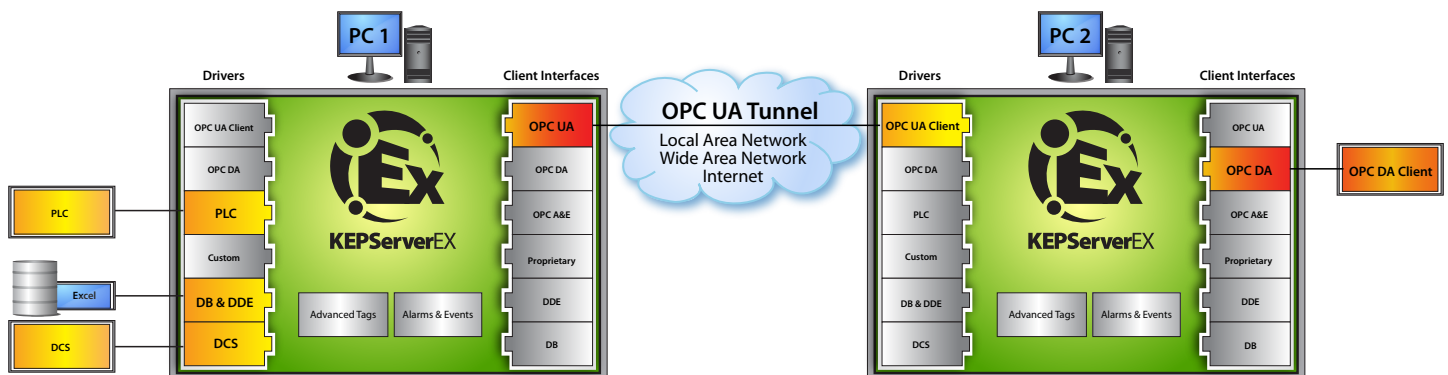
Since OPC's introduction in 1996, automation professionals have been using DCOM technology in distributed automation applications. Although OPC technology leveraged the best available Microsoft Technology of the day, the Component Object Model (COM) and its networking counterpart Distributed COM (DCOM) were not designed with the rigors of industrial automation or distributed operation in mind. As a result, "Tunnel" products have been developed as a replacement to DCOM for distributed applications. These products typically deliver proprietary technology (that is, a vendor-specific solution) that enables a departure from DCOM reliance.

By pairing an OPC UA Client with a Remote OPC UA Server, OPC UA communications have proven to be the ideal solution for connectivity between distributed OPC Classic Clients and Servers. KEServerEX, with its variety of connectivity options, has become the ideal "Gateway" between automation products that support OPC DA.

Benefits to an OPC UA Based Tunneling Solution

- Two KEServerEX installations work together as a secure, high performance tunnel.
- Communication Encryption and Endpoint Authentication (based on current accepted industry standards of RSA and x509) uses technology that will be familiar to the IT community.
- Keep-Alive and Watchdog features ensure reliable connectivity.
- Tunneling for OPC DA 1.0., 2.05a, and 3.0.
- Users have the ability to tunnel to remote Kepware or Third-Party OPC servers.
- Users have the ability to integrate Third-Party tags with data from over 140 KEServerEX drivers.
- A solution based on an open standard – OPC UA.
- Users have the ability to work within the corporate network, through wide area networks and firewalls.

Reliably Sharing Real-Time Information in Business to Business (B2B) Applications



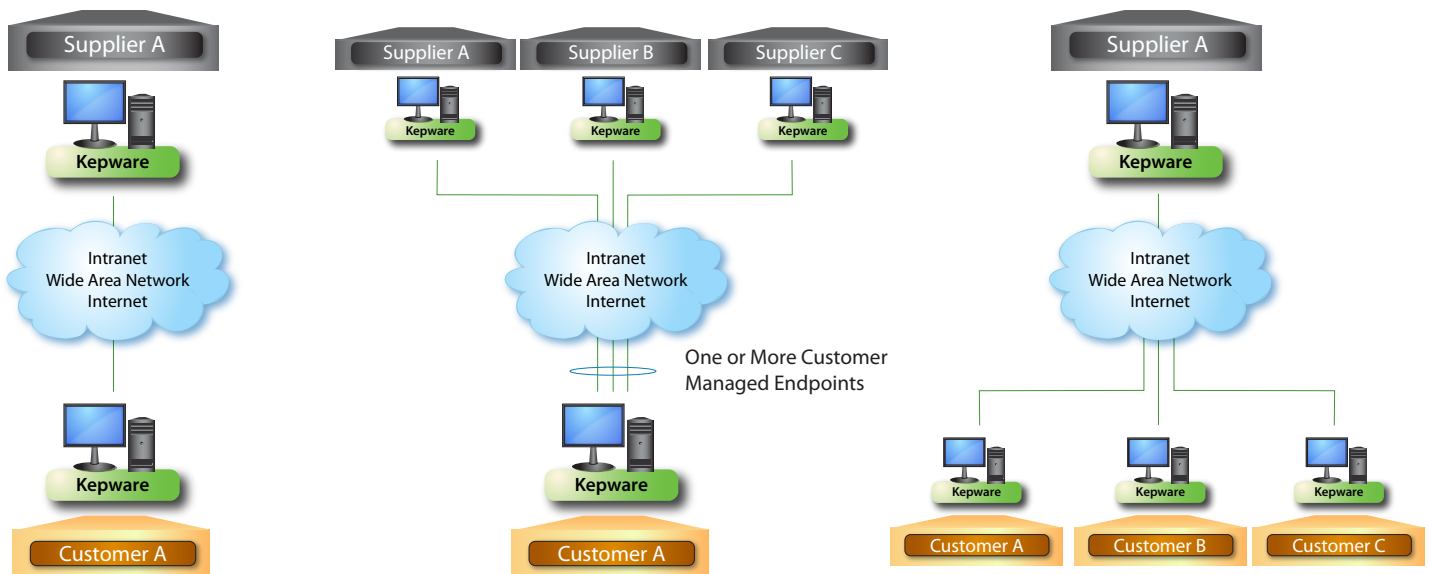
Two KEServerEX Installations Working Together as a Secure Tunnel

Sharing Real-Time Information in Business to Business (B2B) Applications

Sharing real-time production, inventory, and status information between organizations has always been an area of concern for companies, with questions of how to do it reliably and securely (and how to make it easy for IT Professionals to administer) abounding. KEPServerEX, with OPC UA Clients and Servers, is the ideal "Information Gateway" because it allows users to select and share information with suppliers or customers. Users decide the information to make available, the frequency with which it will be updated, and the level of user access. Furthermore, connectivity can be accomplished to remote companies through a single Gateway interface or managed separately through "Paired" endpoint configurations. This allows control over communications ports on a per user basis.

OPC UA B2B Applications

- Share Just In Time (JIT) production information with suppliers.
- Enable suppliers to manage remote inventories.
- Share maintenance information with equipment manufacturers.
- Deliver corporate metric information throughout the enterprise.
- Enable smarter operation of Distributed Systems (SmartGrid Communications).
- Manage applications through a Robust Tunnel solution.



Secure OPC UA Connectivity

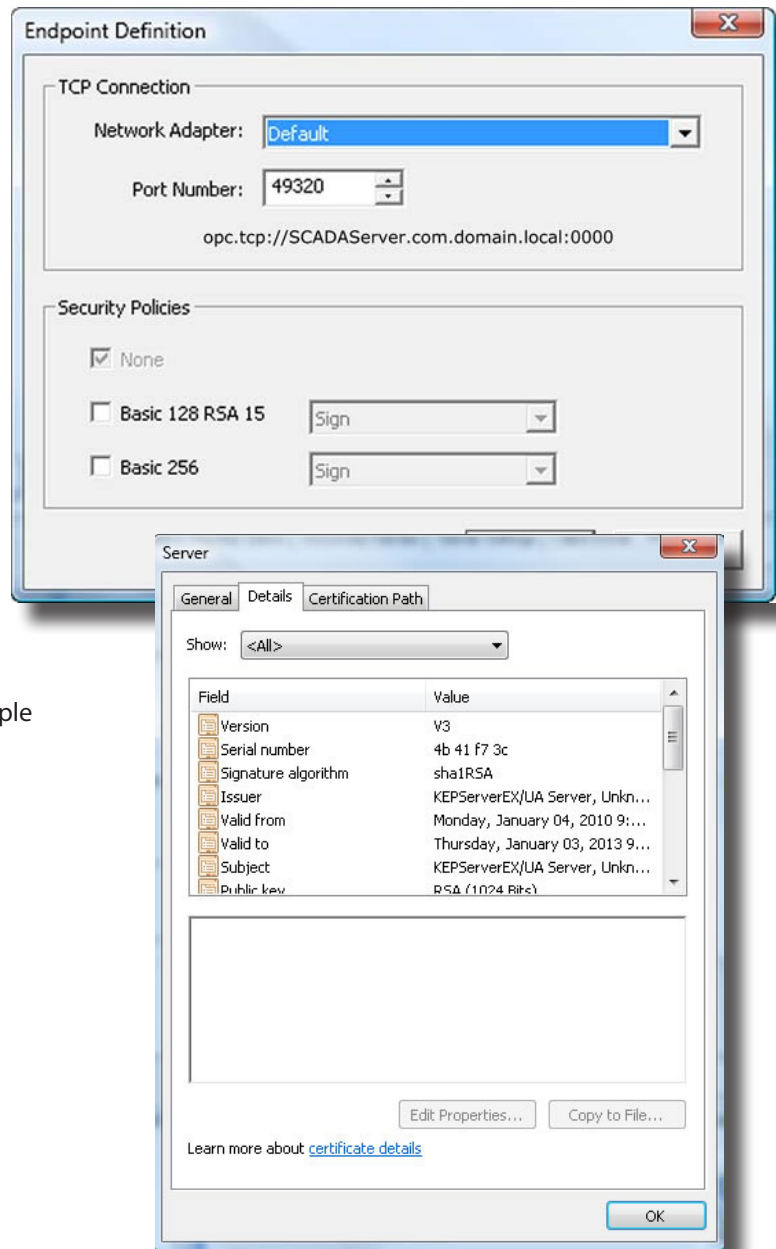


KEPServerEX's OPC UA Server

The OPC UA Server enables communications to OPC UA Clients. As a free, additional KEPServerEX interface, it can be used in parallel with all KEPServerEX server interfaces (including OPC DA, OPC AE, GE NIO, Wonderware SuiteLink, DDE, and Oracle) for connectivity to Third-Party clients.

OPC UA Server Capabilities

- Serves OPC UA data to Kepware or Third-Party OPC UA Clients.
- Uses Kepware protocols (or OPC DA and OPC UA) as a gateway between Third-Party products.
- Supports Server Discovery services.
- Supports Binary TCP connectivity for the highest level of performance.
- Has the ability to define multiple endpoints with different levels of security and encryption.
- Has encryption based on RSA Standards (whose options include None, 128, and 256 Bit Encryption).
- Can identity certificates based on x509 standards (Valid From and To Date Support, Support for multiple Certificates – Certificate per Client).
- Max connections control.
- Session timeout control.
- Certificate Manager application.



Security Certificate Details Dialog

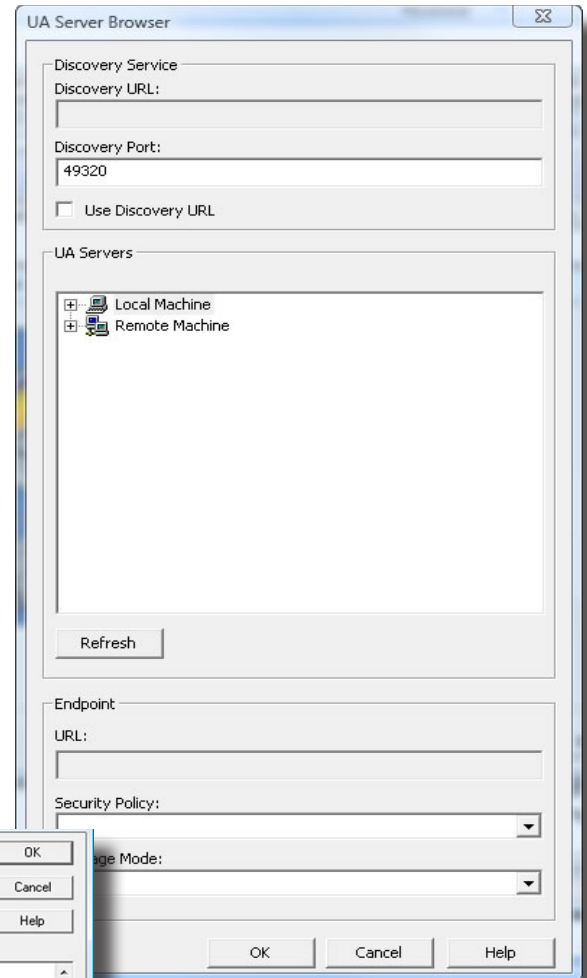


KEPServerEX OPC UA Client Option

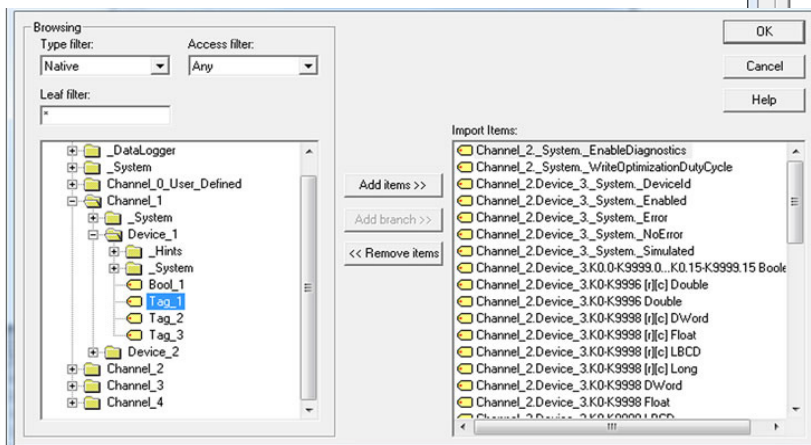
The KEPServerEX OPC UA Client Driver can connect to local or remote OPC UA Servers through Kepware or a Third-Party, and has the ability to aggregate information from multiple OPC UA servers. When coupled with the KEPServerEX OPC UA Server, customers will enjoy the additional benefits of ease of use through the KEPServerEX Certificate Management application and tools that enable quick and easy installation and configuration.

OPC UA Client Driver Features

- Ability to connect to Kepware or Third-Party OPC UA Servers.
- Ability to integrate OPC UA Server information within the KEPServerEX namespace.
- Ability to translate OPC UA Server Data to any KEPServerEX Client Interface.
- Remote Server Discovery.
- Endpoint Authorization through Security Certificates.
- User and Password Endpoint Authorization.
- Remote Server Tag Browsing.
- Heartbeat and Keep Alive Settings.
- Publish Rate control and Exception vs. Poll updates.
- Deadband (Percent vs. Absolute) Controls.



OPC UA Endpoint Browsing



OPC UA Client Tag Import from an OPC UA Server Dialog



Interoperability Between Standards

Let KEPServerEX be your interoperability solution between industry standards like OPC DA, OPC UA, DDE, ODBC, and Native Interfaces for Wonderware, GE Intelligent Platforms, Oracle, and others. With over 140 protocols, client interfaces, and server interfaces, KEPServerEX is the ideal solution to bridge various automation solutions for Machine to Machine (M2M) or Plant to Enterprise (P2E) applications.

- A purpose-built solution for Automation Interoperability that directly addresses today's interoperability challenges.
- SmartGrid
 - H2G - Home to Grid, B2G - Business to Grid, I2G - Industry to Grid
- SmartGrid Demand Response Controls
- SmartGrid Price Controls
- M2M - Machine to Machine Communications
- B2B - Business to Business Communications
- P2E - Plant to Enterprise Communications
- OMAC PackML



Kepware is the world leader in communication software for automation and offers unique experience in both OPC and embedded device communications. Since 1995, Kepware has focused on the development of communication drivers to automation controllers, I/O and field devices. Operating system support includes; Microsoft Windows Desktop, Server and Embedded (Windows CE and Windows NT/XP Embedded). Today, with over 140 communication protocols, and through the efforts of our direct sales, distribution and embedded partners, Kepware is the leading provider of communications with annual shipments exceeding 100,000 units.



Let Kepware be your supplier for field-proven and reliable interoperability. For more information, contact Kepware www.kepware.com.

Delivered with KEPServerEX as a standard interface.

www.kepware.com