KEPServerEX™
OPC Server Software – Maximize the Promise of OPC™

KEPServerEX is an OPC server which provides direct connectivity between hundreds of different PLCs, devices, and systems, and a wide variety of OPC client applications, including HMI, SCADA, Historian, MES, ERP, and countless custom applications.

Employing the universally accepted OPC standard, KEPServerEX maximizes the promise of OPC and expedites project development through the use of a single server interface, regardless of the control system in use. Multiple device drivers can be “plugged in” to one application which centralizes communications and greatly reduces user learning curves.
Ease of Use
A single server interface that simplifies your projects

Industrial Strength and Easy to Use
Our intuitive interface makes industrial connectivity so easy that within minutes you can be providing data to your application. KEPServerEX maximizes the promise of OPC through the use of a single server interface, ensuring shorter product learning curves, reduced system training and maintenance costs, and improved network reliability, regardless of the control system in use!

Methods used to manage and configure 3rd party OPC servers may vary from one manufacturer to the next. This results in a continuous process of learning each new OPC server when a new PLC or device is used. If the goal of OPC technology is to provide a single, well defined and reliable interface to share data, then it would seem only natural that this goal should be matched with a single user interface to simplify configuration.

Unified User Interface for all drivers
This level of consistency comes from KEPServerEX's plug-in design. Each of the 100 plus drivers plug into the KEPServerEX OPC server core. In addition to housing all of the OPC functions, the server core also manages all interaction with users, thus ensuring a consistent style for each driver. The result is a streamlined configuration process regardless of the underlying control system or device. For users, it means only needing to learn a single configuration method and development tool.

The plug-in nature of KEPServerEX also simplifies the operational environment of the PC. With KEPServerEX, more than one driver can be plugged into the core at one time, thus allowing systems that collect data from a wide range of devices to be implemented with only a single OPC server.

Single Server Interface
Multiple device drivers can be "plugged in" to one application which centralizes communications and greatly reduces user learning curves.
Features
Real world features for real world applications

Application Connectivity Support:
- OPC Data Access Version 1.0a, 2.05a, 3.0
- Fastdee & Suitelink for Wonderware, PDB Interface for iFix
- DDE Format CF_Text, DDE Format Advanced DDE

Plug-in Device Driver Connectivity
KEPServerEX supports serial and Ethernet connectivity to the widest range of industrial control systems, including: Allen Bradley, AutomationDirect, BACnet, GE, Honeywell, Mitsubishi, Modicon, Omron, Siemens, Texas Instruments, Yokogawa and many more.

Modem Support:
The server supports the use of dial up modems to connect to remote devices. Special Modem Tags in KEPServerEX become available at the channel level when a dial-up network connection has been created. These tags can be used to dial a remote device, monitor the modem status while connected, and terminate the call. Modem support is enabled at the Channel level in the server project.

Ethernet Encapsulation:
This allows KEPServerEX serial drivers to communicate to devices with serial communication over Ethernet. The driver will communicate in Ethernet Encapsulation mode over Ethernet to a Terminal or Device Server, which then provides the serial communications to the device. This allows users to incorporate legacy serial devices into their Ethernet network. Ethernet Encapsulation is enabled at the Channel level of KEPServerEX.

Ethernet Encapsulation is supported directly in the KEPServerEX which enhances the reliability of the connection regardless of what terminal server is in use.

Quick Client:
We include an OPC Quick Client application to assist you with your initial connectivity testing. It is a full-featured OPC client application, included free with the KEPServerEX demo product suite from our website. Using Quick Client, you can access all data available to the server application, including System, Diagnostic, and User-defined tags. After you’ve created a simple KEPServerEX project, auto launch Quick Client from the server toolbar to test your device connection.

Auto Demotion:
This parameter allows a driver to temporarily place a KEPServerEX device off-scan in the event that a physical device is not responding. By placing a non-responsive device off-line, the driver can continue to optimize its communications with other devices on the same channel. The driver will stop communications with the non-responsive device for a time specified in your project, then when that period is finished, the driver will re-start communications with the device.
Features
Real world features for real world applications

Tag Creation & Management:
Tag Grouping, Drag and Drop editing, and CSV Import / Export are basic features provided to make it easier for you to organize your next project. A feature that users find most useful is **Automatic Tag Database Generation**. KEPServerEX supports automatic generation of tags for select communication drivers. Drivers that support this feature can either read tag information directly from a device or generate tags from stored tag data (like ladder logic files). The user no longer needs to enter OPC tags into the server.

On-Line Fulltime:
KEPServerEX is on-line all the time, allowing your application to be modified while the server is communicating with client applications. Almost all parameters can be changed while the server is running, including com port and baud rate configuration, along with tag editing and additions.

System & Diagnostic Tags
These tags exist in any KEPServerEX project. Although they cannot be seen in the server tag view, they are browseable and available to OPC clients. Use these tags to read as well as modify certain server parameters from their runtime application. **Examples include:** _Error, _Enabled, _SuccessfulWrites, _Deviceld, _EncapsulationIp, _AutoCreateTagDatabase, _NetworkAdapter, _ConnectTimeout

OPC & Device Diagnostics:
This window provides both real-time and historical views of OPC events between the client and server application. Device driver diagnostics provide real-time data on the performance of your plug-in driver. All read and write operations can be viewed in the diagnostic display window of the server, and can be tracked directly in your OPC client application. This diagnostic feature is useful to Kepware's support team on the occasions when connectivity problems occur during customer evaluations.

NT Service:
KEPServerEX runs as an NT Service under Windows NT/2000/XP/Server 2003. Service operation is completely user-configurable from the Tools|Options menu and can be changed at any time, allowing you to move from normal, stand-alone program operation to NT service mode. Running as an NT service is crucial for many applications where the server provides data to OPC clients via DCOM. While running as a service, the server can continue to supply OPC data across user log-in sessions and can be configured to interact with the desktop, allowing changes to your server project.
Experience High Performance Communications
KEPServerEX is designed for efficient operation throughout the entire product. Each driver plug-in is developed to take advantage of any operational gain that a given PLC or device offers for enhanced communication speed. Kepware’s development team has written drivers on nearly every Microsoft platform dating all the way back to DOS. This depth of development experience keeps us keenly aware of how to develop and maintain high performance connectivity without sacrificing quality.

Minimum Effort – Maximum Throughput
KEPServerEX is a truly multi-threaded application where drivers support up to 100 channels of communication and each channel is a separate task running inside the server application. By distributing the communication load across multiple channels, maximum throughput can be achieved. The use of multiple tasks to improve communication performance may immediately raise the concern about potential negative impacts on the host PC. Rest assured, KEPServerEX has been real-world tested in applications actively polling over one-hundred-thousand tags, producing only a negligible effect on the host PC’s CPU usage and memory.
Genuine Kepware Quality
Flawless 24/7 operations of your industrial application

Reliability through higher standards
Kepware recognizes that product quality assurance should be separate from product development. Developers build and maintain the software, and Quality Control personnel perform all testing. The QC team implements extensive testing methodologies to insure that products will meet the 24/7 performance and reliability needs of industrial applications. The goal is to eliminate troublesome issues so customers have a flawless experience in the field. Kepware’s Quality Control Team tests every KEPServerEX driver plug-in.

OPC Foundation Compliance Tested
As the leading OPC server provider, Kepware maintains close working relationships with major OPC client vendors so our QC Team can maintain compatibility with ongoing releases of 3rd party client products. Additionally, Kepware developers attend yearly Interoperability Workshops sponsored by the OPC Foundation to test Kepware products with products by other foundation members. Finally, the OPC Foundation offers a compliance certification that requires OPC servers to be tested using a special test application. Once passed, an OPC server can be listed as “Compliant”.

A Message From Our President
We take the quality of our products very seriously, and will not release a product until it has successfully completed all stages of our rigorous quality control process. We also post product updates and revision histories on our website so customers have instant access to the latest versions of our products once released. Please visit our website for free product downloads and don’t hesitate to contact us if you have any questions or feedback.

Mark Hensley, President
Support
World-Class Support Specialists

Technical Support:
207-775-1660 or 1-888-Kepware extension 211
technical.support@kepware.com

Product Updates:
Available for download from the Kepware website:
www.kepware.com

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207-775-1660 or 1-888-Kepware extension 208
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    Attn: Sales Dept.
P.O. Box 579
    Portland, ME 04112

Note: With all purchases please include Company Name, Your Name, Daytime Phone Number, Shipping and Billing Addresses, Your Email Address, Product Description, Product ID and Product Quantities.

Support Online
As with any Kepware product, technical support is available from before the purchase right through commissioning and beyond!
Upgrades and demo software are available for download directly from the Kepware website at: www.kepware.com
System Requirements:
Complete product and system requirements and recommendations available at: www.kepware.com

Supported Operating Systems:
- Windows 98
- Windows NT
- Windows 2000
- Windows Server 2003
- Windows XP

PC Hardware:
Minimum
- Pentium 200 MHz CPU
- 32 MB RAM
- 10 MB of Free Hard Drive Space

Recommended
- Pentium 400 MHz CPU
- 64 MB RAM
- 10 MB of Free Hard Drive Space

Driver-Specific
Hardware Requirements:
For specific hardware requirements and recommendations, please visit Kepware online at: www.kepware.com

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Your local Kepware Technologies Representative
Contact your local Kepware Representative/Distributor for more information:
KEPServerEX v5 OPC and Communications Server Features

KEPServerEX v5 is the next generation of Kepware communications technology and represents over 10 man year’s worth of development, delivering both architectural and feature enhancements. KEPServerEX v5 is the most advanced communication technology and OPC Server on the market and will remain the foundation for future Kepware development. As a result of our new licensing utility, Kepware is providing new vertical driver suites including Building Automation, Oil and Gas, and Water and Waste Water to name a few.

KEPServerEX v5 has been re-designed from the ground up to take advantage of new technology, and is positioned to move onto new automation platforms while delivering legacy compatibility.

Features:

OPC Connection Security

The Secure by Default feature enables users to select whether or not the server should respect the DCOM security settings as they appear in the DCOM Configuration Utility. When this setting is enabled, users can select the authentication, launch and access security requirements through the DCOM Configuration Utility. This allows users to specify the level of security they want to implement and also restrict access for certain users and/or applications.

When this setting is disabled, the server will override the DCOM settings set for the application and will not perform any authentication on the calls received from client applications. It will impersonate the security of the client when performing any actions on behalf of the client application.

Process Mode

KEPServerEX runtime Process features are used to specify how the servers runtime process mode will operate and utilize PC resources. It is used to specify whether the server will be running as System Service or Interactive.

KEPServerEX also allows you to set its own process priority giving the server priority access to resources.

Processor Affinity

This parameter allows the user to specify which CPUs the server can be executed on when it is run on PCs containing more than one.

Host Name Resolution

KEPServerEX allows for host name resolution which is an alias assigned to identify a TCP/IP host or its interfaces. Host names are used in all TCP/IP environments and user can specify host name instead of an IP address when using KEPServerEX v5.

OPC UA (Unified Architecture)

KEPServerEX supports OPC UA Client Connections and the OPC DA data set.

OPC AE (Events)

KEPServerEX exposes event log data (Events) to OPC AE

Server Administration Properties

The User Management system of the server controls what actions a user can take within a server project. The User Properties dialog is used to configure the name, password and privileges available for each account.

Multiple Tag Generation Utility

Quickly and dynamically construct multiple tags using the KEPServerEX driver nomenclature. It will allow for a wide variety of address formats such as ranges utilizing hex, octal, decimal, and binary number systems. It will also include the ability to increment the user selected data-type to avoid data overlap.

Other Features:

1. More features: User and Tag Management, NIC Selection, Modem Support
2. Application Connectivity
3. Auto Demotion
4. Automatic Tag Database Generation
5. Communication Serialization
6. Ethernet Encapsulation
7. Modem Support (PDF)
8. Media Level Redundancy
9. Multiple Tag Generation
10. OPC Quick Client

KEPServerEX v5 is designed to allow quick and easy configuration of your communications.
Client applications. The Event server works in runtime and service modes supporting 3 Event categories (Information, Warning, Error). KEPServerEX also supports AE client filtering by event type, severity, and category and is OPC Compliant.

**ProgID (Program Identification) Redirect**

This feature allows users to map third-party servers' OPC registration to KEPServerEX, providing users with a quick solution mapping and reconfiguring OPC Client projects.

**Scan Floor Rate**

Ability to manage device and application read requests. Overrides client application read requests.

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**Minimum System Requirements:**

- 2.0 GHz Processor
- 1 GB installed RAM
- 180 MB available disk space
- Ethernet Card
- Super VGA (800x600) or Higher Resolution Video
- CD-ROM or DVD Drive

**Windows OS Requirements:**

- Windows 8
- Windows 7 Professional/Enterprise/Ultimate
- Windows Server 2012
- Windows Server 2008 and 2008 R2
- Windows Vista Business/Enterprise/Ultimate
- Windows Server 2003 SP2
- Windows XP Professional SP2

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**Additional Resources:**

- OPC Server List
- Product Price List
- Support and Maintenance Agreement
- Upgrade Pricing
- KEPServerEX v5 Licensing
- KEPServerEX Manual (PDF)
- KEPServerEX v5 vs V4 (PDF)

**Related Products:**

- Advanced Tag Option for KEPServerEX
- Alarm and Events Option for KEPServerEX
- DataLogger Option for KEPServerEX
- LinkMaster OPC Bridging Software
- OPC UA Client Driver
- Oracle MOC and MES Option for KEPServerEX
- RedundancyMaster OPC Redundancy Software
- Security Policies Plug-In
OPC Driver List for KEPServerEX

The single, consistent interface of KEPServerEX allows you to truly maximize the promise of OPC. You can add multiple OPC driver plug-ins all within a single communications server without worrying about learning new communication protocols or spending time understanding new applications. The list of drivers includes PLC and device drivers, database and application specific drivers.

Kepware has developed relationships with many hardware vendors to specify, develop, test, and maintain our product to their standards. We call these our "Vendor Integrated Protocols"; they are highlighted below with a "Vendor Endorsed" designation.

Search for Driver

Select a Driver Suite, choose a specific driver and then click "Go to Overview" for details.

Driver Suite: Please Select
Driver: Please Select

::Go to Overview::

OR - Select a letter to jump to the alphabetized driver list below.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Vertical Market OPC Server Suites

Manufacturing OPC Server Suite

Supported Devices

This is a collection of Kepware "Standard" Drivers, over 100 protocols, commonly found in the manufacturing and general automation marketplace. See the Driver designations, Standard Driver or Premium Driver, in the driver list below.

IT and Infrastructure OPC Server Suite

Supported Devices

SNMP
Ping
System Monitor
Custom Interface Driver - CID
Modbus Ethernet
Modbus RTU Serial
Modbus ASCII
U-CON

Building Automation OPC Server Suite

Supported Devices

BACnet/IP Driver
Custom Interface Driver - CID
Modbus RTU Serial
Modbus Ethernet
Modbus ASCII
U-CON

Power OPC Server Suite

Supported Devices
### Oil and Gas OPC Server Suite

- DNP3 Ethernet
- DNP3 Serial
- Custom Interface Driver - CID
- IEC 61850 MMS
- Modbus Ethernet
- Modbus RTU Serial
- Modbus ASCII
- U-CON

**Supported Devices**

- ABB Totalflow
- Bristol/IP
- Enron Modbus
- Fisher ROC Serial
- Fisher ROC Plus
- Custom Interface Driver - CID
- Lufkin Modbus
- Modbus Ethernet
- Modbus RTU Serial
- Modbus ASCII
- Omni Flow Computer
- U-CON
- Weatherford 8500

### OPC Driver Suites

#### ABB Totalflow

**ABB Totalflow OPC Server**

- **Supported Devices**
  - ABB Totalflow 6000 series FCU
  - ABB Totalflow 6000 series microFLO
  - ABB Totalflow 6000 XSeriesG4
  - ABB Totalflow 6000 XSeriesG3

**Premium Driver**

#### Allen-Bradley 1609 UPS Driver OPC Server - *Vendor Endorsed Protocol*

**Allen-Bradley 1609 UPS Driver OPC Server**

- **Supported Devices**
  - Allen-Bradley 1609-U500N Series A
  - Generic (Other devices supporting SNMP)

**Standard Driver**

#### Allen-Bradley Bulletin 900 OPC Server - *Vendor Endorsed Protocol*

**Allen-Bradley Bulletin 900 OPC Server**

- **Supported Devices**
  - TCB
  - TC16
  - TC32

**Standard Driver**

#### Allen-Bradley OPC Server Suite

**Allen-Bradley ControlLogix OPC Server**

- **Supported Devices**
  - ControlLogix 5550 / 5553 / 5555 / 5561 / 5562 / 5564 / 5565 / 5571 / 5572 / 5573 / 5574 / 5575 processors
  - CompactLogix 5320 / 5323 / 5330 / 5331 / 5332 / 5335 / 5343 / 5345 / 5370

**Standard Driver**

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[http://www.kepware.com/Products/products_OPCODEsers.asp](http://www.kepware.com/Products/products_OPCODEsers.asp)
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<tr>
<th>Allen-Bradley ControlLogix Unsolicited</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
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<td></td>
<td>ControlLogix 5000</td>
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<tr>
<th>Allen-Bradley DH+/DH485 OPC Server</th>
<th>Supported Devices</th>
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<td>PLC 5/10</td>
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<td>PLC 5/20C</td>
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<td>PLC 5/80C</td>
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<td>SLC 5/01</td>
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<td>SLC 5/04</td>
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<td>PLC 5/VCM is not supported.</td>
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<th>Allen-Bradley DF1 OPC Server</th>
<th>Supported Devices</th>
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<td>MicroLogix 1000</td>
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<td>MicroLogix 1100</td>
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<td>MicroLogix 1500</td>
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<td>SLC 500 Fixed I/O</td>
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<td>SLC 5/04</td>
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<td></td>
<td>PLC-5 Family excluding the PLC5/250 series</td>
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<th>Allen-Bradley Ethernet OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
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<tr>
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<td>PLC-5 Family excluding the PLC5/250 series</td>
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<td>SLC 5/05 Open</td>
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<td>Micro SoftPLC</td>
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<td>Smart SoftPLC</td>
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<td>Hardbook SoftPLC</td>
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<th>Allen-Bradley Micro800 Ethernet</th>
<th>Supported Devices</th>
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<td>Allen-Bradley Micro850</td>
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<tr>
<td>Device Type</td>
<td>Manufacturer</td>
<td>Supported Devices</td>
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<tr>
<td>Allen-Bradley Unsolicited Ethernet</td>
<td>Allen-Bradley PLCs programmed to send PLC-2 type commands. Devices need not be PLC-2's. Consult your hardware programming manual.</td>
<td>Standard Driver</td>
</tr>
<tr>
<td>Alstom Redundant Ethernet OPC Server</td>
<td>Alstom iVPI Controller</td>
<td>Premium Driver</td>
</tr>
<tr>
<td>Analog Devices OPC Server</td>
<td>6B11 Analog Input, 6B12 Analog Input, 6B13 Analog Input, 6B21 Analog Output, 6B50 Digital I/O</td>
<td>Standard Driver</td>
</tr>
<tr>
<td>Aromat OPC Server Suite</td>
<td>Any FP Model with optional ET-LAN unit</td>
<td>Standard Driver</td>
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<tr>
<td>Aromat Ethernet OPC Server</td>
<td>FP0 C10, FP0 C14, FP0 C16, FP0 C32, FP0 T32, FP1 C14, FP1 C16, FP1 C24, FP1 C40, FP1 C56, FP1 C72, FP2, FP2SH, FP3, FP10SH, FPM C20R, FPM C20T, FPM C32T</td>
<td>Standard Driver</td>
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<tr>
<td>AutomationDirect EBC OPC Server - Vendor Endorsed Protocol</td>
<td>H2 EBC or EBC-F, H4 EBC or EBC-F, Terminator I/O, GS1 Drive</td>
<td>Standard Driver</td>
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### AutomationDirect OPC Server Suite - Vendor Endorsed Protocols

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<th>AutomationDirect ECOM OPC Server</th>
<th>Supported Devices</th>
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<td>SG Series PLCs</td>
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<td>SL Series PLCs</td>
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<tr>
<td></td>
<td>DL-06</td>
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<td>DL-105</td>
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<td></td>
<td>DL-230</td>
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<td>DL-440</td>
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<td></td>
<td>DL-450</td>
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<table>
<thead>
<tr>
<th>AutomationDirect Productivity 3000 Ethernet OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>P3-550</td>
<td></td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>BACnet OPC Server</th>
<th>Supported Devices</th>
<th>Premium Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>BACnet OPC Server</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This driver can be used successfully with devices that use the BACnet/IP (Annex J) protocol, are visible on or from an Ethernet network, and support the objects.
properties, and services supported by this driver. You should consult the Protocol Implementation Conformance Statement (PICS), available from your hardware vendor.

**Beckhoff TwinCAT I/O OPC Server**

**Beckhoff TwinCAT I/O OPC Server**

**Supported Devices**

- Beckhoff TwinCAT PLC
- BC9xxx Coupler Controller
- BX9xxx Coupler Controller

**Bristol/IP OPC Server**

**Bristol/IP OPC Server**

**Supported Devices**

- ControlWave Micro Series (CWP/LPS/CWR 02.00 or above firmware)
- Network 3000 Series (DPC 33xx Models)

**BUSWARE OPC Server**

**BUSWARE Ethernet OPC Server**

**Supported Devices**

- E200-FB00
- E201-8B00
- E290-FB00
- E151-FB00
- E190-8B00
- E250-FB00
- E300-FB00
- E191-CB00
- M200-FB00
- M290-FB00
- M151-FB00
- M190-8B00
- M181-4B00
- M250-8B00
- M300-8B00

**Contrex OPC Server Suite**

**Contrex Serial OPC Server**

**Supported Devices**

- Contrex CX-1000 Motion Controller

**Contrex M-Series OPC Server**

**Supported Devices**

- M-Cut
- M-Drive
- M-Rotary
- M-Shuttle
- M-Track
- M-Traversal
- M-Trim
- ML-Drive
- ML-Trim

**Custom Interface Driver - CID**

**Custom Interface Driver - CID**

**Requirements**

- Develop in Any Language that Supports the Windows API
<table>
<thead>
<tr>
<th><strong>Cutler-Hammer OPC Server Suite</strong> - <strong>Vendor Endorsed Protocol</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cutler-Hammer D50/D300 OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>D50</td>
</tr>
<tr>
<td></td>
<td>D300</td>
</tr>
<tr>
<td><strong>Cutler-Hammer ELC Ethernet OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>ELC models (PA, PB and PC series)</td>
</tr>
<tr>
<td></td>
<td>ELC-PB</td>
</tr>
<tr>
<td></td>
<td>ELC-PC</td>
</tr>
<tr>
<td></td>
<td>ELC-PV</td>
</tr>
<tr>
<td></td>
<td>Any ELC Series Controller</td>
</tr>
<tr>
<td><strong>Cutler-Hammer ELC Serial OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>ELC models (PA, PB and PC series)</td>
</tr>
<tr>
<td></td>
<td>ELC-PB</td>
</tr>
<tr>
<td></td>
<td>ELC-PC</td>
</tr>
<tr>
<td></td>
<td>ELC-PV</td>
</tr>
<tr>
<td></td>
<td>Any ELC Series Controller</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Dataforth isoLynx Driver</strong> - <strong>Vendor Endorsed Protocol</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dataforth isoLynx OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>All ISOLYNX SLX100 data acquisition systems that support the ISOLYNX protocol.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DDE Client Driver</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DDE Client Driver</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>The DDE Client Driver is capable of communicating with any server that supports standard &quot;CF TEXT&quot; DDE Data Format.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>DNP3 OPC Server Suite</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DNP3 Master Ethernet OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>Any DNP3 slave device using the Distributed Network Protocol (DNP3)</td>
</tr>
<tr>
<td><strong>DNP3 Master Serial OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>Any DNP3 slave device using the Distributed Network Protocol (DNP3)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Enron Modbus</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Enron Modbus OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>Devices supporting the Enron Modbus protocol</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Fisher ROC OPC Server Suite</strong></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fisher ROC Serial OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>FloBoss 100 Series</td>
</tr>
<tr>
<td></td>
<td>FloBoss 407</td>
</tr>
<tr>
<td></td>
<td>FloBoss 500 Series</td>
</tr>
<tr>
<td></td>
<td>ROC 300 Series - ROCPAC</td>
</tr>
<tr>
<td></td>
<td>ROC 300 Series - FlashPAC</td>
</tr>
<tr>
<td></td>
<td>RegFlo</td>
</tr>
<tr>
<td><strong>Fisher ROC Plus Serial OPC Server</strong></td>
<td>Supported Devices</td>
</tr>
<tr>
<td></td>
<td>ROC809</td>
</tr>
</tbody>
</table>

http://www.kepware.com/Products/products_OPCServers.asp
**Fuji Flex OPC Server**

<table>
<thead>
<tr>
<th>Fuji Flex OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flex-PC N Series Open</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flex-PC NB0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flex-PC NB1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flex-PC NB2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flex-PC NB3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flex-PC NBJ</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flex-PC NBS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**GE Intelligent Platforms (GE Fanuc) OPC Server Suite - Vendor Endorsed Protocol**

<table>
<thead>
<tr>
<th>GE CCM OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>9030-311</td>
<td>9030-313</td>
<td>9030-331</td>
</tr>
<tr>
<td>9030-341</td>
<td>9070-731</td>
<td>9070-732</td>
</tr>
<tr>
<td>9070-771</td>
<td>9070-772</td>
<td>9070-781</td>
</tr>
<tr>
<td>9070-782</td>
<td>Series Five</td>
<td>Series Six</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GE Ethernet OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>9030-311</td>
<td>9030-313</td>
<td>9030-331</td>
</tr>
<tr>
<td>9030-341</td>
<td>9030-350</td>
<td>9030-360</td>
</tr>
<tr>
<td>9070-731</td>
<td>9070-732</td>
<td>9070-771</td>
</tr>
<tr>
<td>9070-772</td>
<td>9070-772</td>
<td>9070-781</td>
</tr>
<tr>
<td>9070-782</td>
<td>GE OPEN</td>
<td>Horner OCS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Versamax Family</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PACSystem RX3i</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PACSystem RX7i</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GE Ethernet Global Data (EGD)</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE devices equipped to handle EGD transactions.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GE SNP OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
</table>
## GE SNPX OPC Server

### Supported Devices
9030-311
9030-313
9030-331
9030-341
9030-350
9030-360
9070-731
9070-732
9070-771
9070-772
9070-781
9070-782
GE Micro
GE OPEN

## GE Intelligent Platforms (GE Fanuc) Focas OPC Server Suite

### GE Focas Ethernet OPC Server

#### Supported Devices
- FANUC Series 0i
- FANUC Series 15
- FANUC Series 15i
- FANUC Series 16
- FANUC Series 16i
- FANUC Series 18
- FANUC Series 18i
- FANUC Series 21
- FANUC Series 21i
- FANUC Series 30i
- FANUC Series 31i
- FANUC Series 32i
- FANUC Power Mate i
- Open Addressing

### GE Focas HSSB OPC Server

#### Supported Devices
- FANUC Series 0i
- FANUC Series 15
- FANUC Series 15i
FANUC Series 16
FANUC Series 16i
FANUC Series 18
FANUC Series 18i
FANUC Series 21
FANUC Series 21i
FANUC Series 30i
FANUC Series 31i
FANUC Series 32i
FANUC Power Mate i

Open Addressing

Hilscher Universal Driver

Hilscher Universal Driver Supported Devices
DeviceNet and Profibus DP compliant devices

Honeywell OPC Server Suite

Honeywell UDC Ethernet Supported Devices
Honeywell UDC 2500
Honeywell UDC 3200
Honeywell UDC 3500

Honeywell HC900 Ethernet OPC Server Supported Devices
HC Hybrid Controller

Honeywell UDC OPC Server Supported Devices
Honeywell UDC 3000
Honeywell UDC 3300 (MODB3K mode)

IA Super SEL OPC Server

IA Super SEL OPC Server Supported Devices
Super SEL (Type E and G)
X - SEL

Idec OPC Server - Vendor Endorsed Protocol

Idec OPC Server Supported Devices
Micro1
Micro3
MicroSmart
OpenNet Controller
Fa2
Fa2j
Fa3s-cp11
Fa3s-cp12

IEC 60870-5 Suite

IEC 60870-5-101 Master Driver Supported Devices
Any device supporting the IEC 60870-5-101 Slave Protocol.

IEC 60870-5-104 Master Driver Supported Devices
Any device supporting the IEC 60870-5-104 Slave Protocol.
<table>
<thead>
<tr>
<th>Device Type</th>
<th>Device Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>IEC 61850 MMS Client</td>
<td>Supported Devices: Any IEC 61850 MMS capable device.</td>
</tr>
<tr>
<td>IOtech PointScan OPC Server</td>
<td>Supported Devices: IOtech PointScan 100 modules, IOtech PointScan 200 modules via 100 module.</td>
</tr>
<tr>
<td>Krauss Maffei MC4 Ethernet OPC Server</td>
<td>Supported Devices: MC4-Injection Molding Machine</td>
</tr>
<tr>
<td>Lufkin Modbus OPC Server</td>
<td>Supported Devices: RPC (Rod Pump Controller), VSD (Variable Speed Drive), IWC (Injection Well Controller), PCP (Progressive Cavity Pump)</td>
</tr>
<tr>
<td>Mettler Toledo OPC Server - Vendor Endorsed Protocol</td>
<td>Supported Devices: IND780, IND560, IND560x, IND131/331, IND310, IND690, IND226, IND135, Lynx, Jaguar / JagXtreme</td>
</tr>
<tr>
<td>Micro-DCI OPC Server</td>
<td>Supported Devices: S3MC1000, S3MC2000, S3MC2002, S3MC4000, S3MC5000</td>
</tr>
<tr>
<td>Mitsubishi OPC Server Suite</td>
<td>Mitsubishi CNC Ethernet: C64 CNC Controller</td>
</tr>
<tr>
<td>Mitsubishi Serial OPC Server</td>
<td>Supported Devices: All A Series PLCs</td>
</tr>
</tbody>
</table>
### Mitsubishi Ethernet OPC Server

**Supported Devices**
- A Series Ethernet
- Q Series Ethernet
- FX3U

**Standard Driver**

### Mitsubishi FX OPC Server

**Supported Devices**
- FX
- FX0
- FX0N
- FX2N
- FX3U

**Standard Driver**

### Mitsubishi FX Net OPC Server

**Supported Devices**
- FX
- FX2C
- FX0N
- FX2N

**Standard Driver**

### Modicon Modbus OPC Server Suite

#### Modbus ASCII Serial OPC Server

**Supported Devices**
- Modbus ASCII
- Flow Computers
- Flow Automation

**Standard Driver**

#### Modbus Ethernet OPC Server

**Supported Devices**
- Applicom: Generic Modbus, TSX Premium, TSX Quantum
- Modbus
- Mailbox
- Fluenta FGM
- Roxar RFM
- Instromet

**Standard Driver**

#### Modbus Plus OPC Server

**Supported Devices**
- Modbus
- TIO Module

**Standard Driver**

#### Modbus Serial OPC Server

**Supported Devices**
- Modbus Compatible Devices
- Elliot Flow Computer
- Magnetek GPD 515 Drive
- Omni Flow Computer (Enron Modbus)
- Daniel S500 Flow Computer
- Dynamic Fluid Meter

**Standard Driver**

#### Modbus Unsolicited OPC Server

**Supported Devices**
- Modbus Compatible Devices
- Flow Computers
- Flow Automation

**Standard Driver**

### MTConnect OPC Server

**Standard Driver**

[http://www.kepware.com/Products/products_OPCServers.asp](http://www.kepware.com/Products/products_OPCServers.asp)
<table>
<thead>
<tr>
<th>MTConnect OPC Server</th>
<th>Supported Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any Machine Tool supporting the MTConnect Protocol</td>
<td></td>
</tr>
</tbody>
</table>

**ODBC Client Driver**

<table>
<thead>
<tr>
<th>ODBC Client Driver</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microsoft Access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Microsoft SQL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oracle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sybase</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MySql</td>
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</tr>
</tbody>
</table>

The ODBC Client Driver is capable of communicating with any application that supports the standard "ODBC" data source format.

**Required:** MDAC - Microsoft Data Access Components (it consists of several core components that provide various database technologies; including ODBC and its drivers).

**Omni Flow Computer**

<table>
<thead>
<tr>
<th>Omni Flow Computer OPC Server</th>
<th>Supported Devices</th>
<th>Premium Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Omni Flow Computer 3000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omni Flow Computer 6000</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Omron OPC Server Suite**

<table>
<thead>
<tr>
<th>Omron FINS Ethernet OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>C200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HE-Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200H-Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HG</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HG-Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C200HX-Z</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1000H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C2000H</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CJ1G</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CJ1H</td>
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</tr>
<tr>
<td>CJ1M</td>
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<tr>
<td>CV500</td>
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<td>CV1000</td>
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<tr>
<td>CV2000</td>
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<tr>
<td>CVM1-CPU01 v2</td>
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<tr>
<td>CVM1-CPU11 v2</td>
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<tr>
<td>CVM1-CPU21 v2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CS1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Omron FINS Serial OPC Server**

<table>
<thead>
<tr>
<th>Omron FINS Serial OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
</table>

http://www.kepware.com/Products/products_OPCServers.asp
### Omron Host Link OPC Server

**Supported Devices**

- C200
- C200H
- C200HE
- C200H-Z
- C200HG
- C200HG-Z
- C200HS
- C200HX
- C200HX-Z
- C500
- C1000H
- CJ1G
- CJ1H
- CJ1M
- CS1G
- CS1H
- CV500
- CV1000
- CV2000
- CVM1-CPU01
- CVM1-CPU11
- CVM1-CPU21

### Omron NJ Ethernet OPC Server

**Supported Devices**

Omron Sysmac NJ Series of controllers
- Omron NJ301
- Omron NJ501

CJ1W-EIP21 - Supports routing through the CJ1W-EIP21 module to supported Omron Sysmac NJ devices.

### Omron Process Suite OPC Server

**Supported Devices**

- E5AX-A
- E5AX-AH
- E5AX-DAA
- E5AX-PRR
- E5AX-VAA
- E5AF-A
- E5AF-AH
- E5AJ-A
- E5EJ-A
- E5CN-PT
- E5CN-TC
- E5GN-PT

[http://www.kepware.com/Products/products_OPC_servers.asp](http://www.kepware.com/Products/products_OPC_servers.asp)
<table>
<thead>
<tr>
<th>Omron Toolbus OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>E5GN-TC</td>
<td>CJ1G-H</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CJ1H-H</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CJ1M</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CJ1G</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CS1G</td>
<td></td>
</tr>
<tr>
<td></td>
<td>CS1H</td>
<td></td>
</tr>
</tbody>
</table>

**OPC Connectivity Suite**

<table>
<thead>
<tr>
<th>OPC DA Client Driver</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The OPC DA Client Driver provide an easy and reliable way to connect disparate 3rd Party OPC DA Servers to your Client applications, including HMI, SCADA, Historian, MES, ERP, and countless custom applications.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>OPC UA Client Driver</th>
<th>Standard Driver</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>OPC XML-DA Client Driver</th>
<th>Standard Driver</th>
</tr>
</thead>
</table>

**Optimation OptiLogic OPC Server**

<table>
<thead>
<tr>
<th>Optimation OptiLogic OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
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<tbody>
<tr>
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**Opto 22 Ethernet OPC Server**

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<tr>
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<td>SNAP Industrial Controllers</td>
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<td>SNAP PAC S-Series</td>
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<td>SNAP PAC R-Series</td>
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<td>SNAP-LCE</td>
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<td>SNAP Brains SNAP PAC EB-Series</td>
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<td>SNAP Ultimate I/O</td>
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<td>SNAP Ethernet I/O</td>
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<td>SNAP Simple I/O</td>
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<td>Brain Boards</td>
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<td>E1 Brain Board</td>
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<tr>
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<td>E2 Brain Board</td>
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http://www.kepware.com/Products/products_OPCServers.asp
<table>
<thead>
<tr>
<th>Partlow ASCII OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Partlow ASCII OPC Server</td>
<td>Partlow ASCII Devices</td>
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<table>
<thead>
<tr>
<th>Philips OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Philips P8/PC20 OPC Server</td>
<td>Philips P8, MC30 (using the CI30 card), MC31, MC41, ISCOS 10, ISCOS 60, ISCOS 70, Philips PC20</td>
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<table>
<thead>
<tr>
<th>SattBus OPC Server Suite</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
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</thead>
<tbody>
<tr>
<td>SattBus Ethernet OPC Server</td>
<td>SattCon 200, SC05-25SB</td>
<td></td>
</tr>
<tr>
<td>SattBus Serial OPC Server</td>
<td>SattCon 05, SattCon 15, SattCon 31, SattCon 35, SattCon 200, Satt Control OP45</td>
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</tr>
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</table>

<table>
<thead>
<tr>
<th>SattBus Ethernet OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any device that supports the application protocol &quot;SattBus&quot; and has the SattBus Ethernet interface/module present will be supported.</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Scanivalve OPC Server - Vendor Endorsed Protocol</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
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<tbody>
<tr>
<td>Scanivalve Ethernet OPC Server</td>
<td>DSA3200, DTS3250</td>
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<table>
<thead>
<tr>
<th>Siemens OPC Server Suite</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Siemens S5 (3964R) OPC Server</strong></td>
<td><strong>Supported Devices</strong></td>
<td><strong>Standard Driver</strong></td>
</tr>
<tr>
<td>-----------------------------------</td>
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</tr>
<tr>
<td>15SU-946</td>
<td>Any device that supports 3964 or 3964R protocol and uses the RK 512 computer link program.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Siemens S7-200 OPC Server</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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<tbody>
<tr>
<td>Siemen S7-212</td>
<td>Siemen S7-214</td>
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<tr>
<td>Siemen S7-215</td>
<td>Siemen S7-216</td>
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<tr>
<td>Siemen S7-224</td>
<td>Any Siemen S7-200</td>
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<table>
<thead>
<tr>
<th><strong>Siemens S7 MPI OPC Server</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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</thead>
<tbody>
<tr>
<td>Siemen S7-300</td>
<td>Siemen S7-400</td>
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<table>
<thead>
<tr>
<th><strong>Siemens TCP/IP Ethernet OPC Server</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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</thead>
<tbody>
<tr>
<td>Siemen S7-200</td>
<td>Siemen S7-300</td>
<td></td>
</tr>
<tr>
<td>Siemen S7-400</td>
<td>Siemen S7-1200</td>
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<tr>
<td>Siemen S7-1500</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Siemens TCP/IP Unsolicited OPC Server</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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</thead>
<tbody>
<tr>
<td>Simulated S7-300</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Simatic OPC Server Suite</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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<table>
<thead>
<tr>
<th><strong>Simatic 505 Serial - CTI 2500 Series</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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</thead>
<tbody>
<tr>
<td>CTI 2500 Series Processors</td>
<td>Ti 500/505 - NITP</td>
<td></td>
</tr>
<tr>
<td>Ti-500/505 - Transparent Byte</td>
<td>Ti-520</td>
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<tr>
<td>Ti-525</td>
<td>Ti-535</td>
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<td>Ti-545</td>
<td>Ti-555</td>
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<tr>
<td>Ti-565</td>
<td>Ti-575</td>
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</table>

<table>
<thead>
<tr>
<th><strong>Simulation Suite</strong></th>
<th><strong>Supported Devices</strong></th>
<th><strong>Standard Driver</strong></th>
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<tbody>
<tr>
<td>Advanced Simulator OPC Server</td>
<td></td>
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</tbody>
</table>
The Advanced Simulator Driver is capable of communicating with any application that supports the standard "ODBC" data source format.

**Required:** MDAC - Microsoft Data Access Components (it consists of several core components that provide various database technologies; including ODBC and its drivers).

### Memory Based OPC Server

**Supported Devices**

- Standard Driver

Acts as Device database or Memory Map container on the PC.

The Memory Based Device Driver enables you to retain tag values between server runs. When the driver’s Item Persistence is activated, all D register addresses and string values will be saved when the OPC server shuts down. The values are restored the next time you open the project.

### SIXNET OPC Server Suite - Vendor Endorsed Protocols

**SIXNET EtherTRAK OPC Server**

**Supported Devices**

- Standard Driver

SIXNET EtherTRAK I/O modules (firmware version 2.10 or later)
SIXNET RemoteTRAK I/O connected through EtherTRAK I/O module. (Both the RemoteTRAK and EtherTRAK must have firmware version 2.01 or later)
SIXNET VersaTRAK RTUs (firmware version 2.12 or later)
SIXNET SIXTRAK gateways (firmware version 2.12 or later)

**SIXNET UDR OPC Server**

**Supported Devices**

- Standard Driver

Master Open
Slave
SIXNET EtherTRAK I/O modules (firmware version 2.10 or later)
SIXNET RemoteTRAK I/O modules (firmware version 2.01 or later)
SIXNET RemoteTRAK I/O connected through an EtherTRAK I/O module. (Both the RemoteTRAK and EtherTRAK must have firmware version 2.01 or later.)
SIXNET VersaTRAK RTUs (firmware version 2.12 or later)
SIXNET SIXTRAK gateways (firmware version 2.12 or later)

### SNMP OPC Server Suite

**Ping OPC Server**

**Supported Devices**

- Premium Driver

ICMP protocol (Ping)

**SNMP OPC Server**

**Supported Devices**

- Premium Driver

Simple Network Management Protocol (SNMP) versions 1 and 2c

### SquareD OPC Server

**Supported Devices**

- Standard Driver

SY/MAX Programmable Controllers
SquareD PowerLogic monitors

### System Monitor OPC Server

**Supported Devices**

- Standard Driver

Windows Based Operating Systems supporting the Performance Data Helper application interface

### Telemecanique Uni-Telway OPC Server
<table>
<thead>
<tr>
<th>OPC Server</th>
<th>Supported Devices</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uni-Telway OPC Server</td>
<td>TSX 07, TSX 17, TSX 37, TSX 47, TSX 57, Small Frame, Large Frame</td>
</tr>
<tr>
<td>Thermo Westronics OPC Server Suite</td>
<td>Thermo Westronics Ethernet OPC Server: SV100, SV180, SV180 (2.0)</td>
</tr>
<tr>
<td></td>
<td>Thermo Westronics Serial OPC Server: Series 1200, Series 1600, Series 3000, SM100, SV100, SV180, SV180 (2.0)</td>
</tr>
<tr>
<td>TIIWAY OPC Server</td>
<td>TIIWAY Host Adapter OPC Server: TIIWAY Secondary Device</td>
</tr>
<tr>
<td>Toshiba OPC Server Suite</td>
<td>Toshiba Ethernet OPC Server: T2, T3, S2, S3</td>
</tr>
<tr>
<td></td>
<td>Toshiba Serial OPC Server: EX100, EX200, T1-16, T1-28, T1-40</td>
</tr>
</tbody>
</table>
Toypuc OPC Server Suite

Toypuc Ethernet PC3/PC2 OPC Server

Supported Devices

Standard Driver

PC3/PC2 Interchange
PC3
PC10G

Toypuc Serial OPC Server

Supported Devices

Standard Driver

PC2 Series or any Computer Link compatible device.

Triconex OPC Server

Triconex Ethernet OPC Server

Supported Devices

Premium Driver

Tricon
Trident

User-Configurable Driver (U-CON) OPC Server

User Configurable Driver OPC Server

Supported Devices

Standard Driver

The U-CON driver enables you to quickly and easily develop communications drivers for any serial device or Ethernet device.

Wago OPC Server

Wago Ethernet OPC Server

Supported Devices

Standard Driver

750-342
750-842

Weatherford OPC Server

Weatherford 8500 OPC Server

Supported Devices

Premium Driver

WellPilot RPOC
WellPilot/ePIC VSD
ePIC RPC
M2000
8800
8750
8500/8650

WITS Level 0 OPC Server

WITS Level 0 Active OPC Server

Supported Devices

Premium Driver

EDR, LWD, MWD, and other integrated systems

WITS Level 0 Passive OPC Server

Supported Devices

Premium Driver

EDR, LWD, MWD, and other integrated systems

Wonderware InTouch Client Driver - Vendor Endorsed Protocol

InTouch Client Driver

Supported Devices

Standard Driver

This driver can import tags defined in a Wonderware InTouch project. Devices are dependent on the Wonderware InTouch application.
### Yaskawa Memobus Plus OPC Server
Yaskawa Memobus Plus (SA85) OPC Server
- **Supported Devices**: Yaskawa Memobus Plus Devices on a Network.
- **Standard Driver**

### Yaskawa MP Series Ethernet OPC Server
- **Supported Devices**: Yaskawa MP 920 Series CPU
- **Standard Driver**

### Yaskawa MP Series Serial OPC Server
- **Supported Devices**: Yaskawa MP 900 Series CPU
- **Standard Driver**

### Yokogawa Controller Serial OPC Server - Vendor Endorsed Protocol
Yokogawa Controller Serial OPC Server
- **Supported Devices**
  - UT37
  - UT38
  - UP27
  - UT130
  - UT150
  - UT150L
  - UT152
  - UT155
  - UT320
  - UT350
  - UT351
  - UT350L
  - UT420
  - UT450
  - UT520
  - UT550
  - UT750
  - US1000
  - UP150
  - UP350
  - UP550
  - UP750
- **Standard Driver**

Any Yokogawa Device that supports the standard PCLink communications protocol.

### Yokogawa OPC Server Suite - Vendor Endorsed Protocols
Yokogawa CX OPC Server
- **Supported Devices**
  - CX1006
  - CX1206
  - CX2010
  - CX2020
  - CX2210
  - CX2220
  - CX2410
  - CX2420
  - CX2610
  - CX2620
- **Standard Driver**

[http://www.kepware.com/Products/products_OPCServers.asp](http://www.kepware.com/Products/products_OPCServers.asp)
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<th>Yokogawa Darwin Ethernet OPC Server</th>
<th>Supported Devices</th>
<th>Standard Driver</th>
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<tr>
<th>Yokogawa DX Serial OPC Server</th>
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<td></td>
<td>DX104</td>
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<tr>
<td>Yokogawa DXP OPC Server</td>
<td>Supported Devices</td>
<td>Standard Driver</td>
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<tr>
<td></td>
<td>DXP100</td>
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<td>Yokogawa HR OPC Server</td>
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<td>Standard Driver</td>
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<tr>
<td></td>
<td>HR2400(10 Channels)</td>
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<td>HR2400(20 Channels)</td>
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</tr>
<tr>
<td></td>
<td>HR2400(30 Channels)</td>
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<tr>
<td>Yokogawa MW OPC Server</td>
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<td>Yokogawa MX OPC Server</td>
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<td></td>
<td>MX100</td>
<td></td>
</tr>
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</table>

**Yokogawa YS100 OPC Server - Vendor Endorsed Protocol**

**Yokogawa YS100 OPC Server**

- Supported Devices
- Yokogawa YS100 Series
**DataLogger Plug-In for KEPServerEX OPC Server**

**Product #: EX5-DLOGR-NA00 - $1,095.00**  
Support & Maintenance within Warranty - $199.00  
Support & Maintenance out of Warranty - $547.50  
**Buy Now**

The DataLogger is an easy-to-configure application that logs data from an OPC server to any ODBC-compliant database. DataLogger's tight integration with KEPServerEX provides substantial, unique benefits such as simple installation, high-efficiency performance, and easy browsing of tags in the OPC browse space.

- [DataLogger Manual](#) (PDF)  
- [DataLogger Tips and Tricks](#) (PDF)  
- [DataLogger Datasheet](#) (PDF)  
- [DataLogger Plug-In Made Easy](#) (PDF)

### Plug-In Features:

- Support for any ODBC-compliant database management system  
- User-friendly installation and configuration  
- Drag and drop support for adding OPC data items (tags)  
- Support for dynamically created tags  
- Flexible triggering  
- Deadband support for logged items  
- Support for an optional NumericID field for logged items  
- Ability to use Start/Stop Snapshots without requiring that the Log on Static Interval or Log on Data Change Trigger behaviors be enabled  
- Contains a "_LogDataBit" system tag that allows client applications to trigger DataLogger  
- Support for the CSV Import/Export for logged items  
- Support for store and forward, which prevents data loss when the SQL server is unavailable  
- Simulator Driver for simulating live data  
- Two-hour demo for evaluation

### Runtime Performance Features:

- Runs as a Windows Service and Interactive User  
- Scalability through support of multiple concurrent logging processes (threads)  
- Supports both automatic table creation and the ability to append data to an existing table  
- Data is logged directly from the local item list, no reliance on external OPC servers  
- Error recovery: Auto reconnect if a DSN connection is lost  
- Optional automatic configuration backup (most recent copy of configuration file is saved)

### Additional Information and Resources:

- [DataLogger Revision History](#)  
- KEPServerEX Revision History  
- System Requirements  
- KEPServerEX v5 Licensing  
- Support and Maintenance Agreement  
- Upgrade Pricing

### Related Products:

- [LinkMaster OPC Bridging Software](#)  
- [OPC Servers for KEPServerEX](#)  
- [Advanced Tag Option for KEPServerEX](#)  
- [RedundancyMaster OPC Redundancy Software](#)
Security Policies Plug-In

Product # EX5-SECPO-NA00 - $395.00
Support & Maintenance within Warranty - $59.00
Support & Maintenance out of Warranty/Expired - $197.50

Buy Now

The Security Policies 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 you to manage users groups, users, and default security settings.

Security Policies Plug-In Manual (PDF)
Security Policies Plug-In Datasheet (PDF)

Plug-In Features:

- Allow and Deny Dynamic Tag Addressing
- Organize Security Policies by User Groups
- User Group Access Categories:
  - Dynamic Addressing
  - I/O Tags
  - System Tags
  - Internal Tags
  - Browsing
- User Group Permissions Types:
  - Read
  - Write
  - Browse
- View and locate prior changes through the plug-in interface's font styling hierarchy and color scheme.
- Copy permissions for the current access category to/from a user group.
- Move permissions for the current access category to/from a user group.
- Clear all custom permissions from an access category

Requirements and Restrictions:

Client Application Support:

- User Level Support: OPC UA
- Anonymous Login Support: OPC DA, OPC .NET, OPC AE, Wonderware Suitelink, GE IP NIO

Project Files:

Once security permissions have been applied in the Security Policies tab, the project can only be saved as a .opf file (.xml is no longer an option). Furthermore, a project that contains security permissions will require the Security Policies Plug-In to be installed in order to load the file.

Additional Information and Resources:

- KEPServerEX Home
- KEPServerEX OPC Server Features
- Security Policies Plug-In Revision History
- Kepware Blog
- Whitepapers
- Connecting Visual Basic to Security Policies Plug-In
- System Requirements
- OPC Compliancy Testing
- KEPServerEX v5 Licensing
- Upgrade Pricing

Related Products:

- LinkMaster OPC Bridging Software
- Datalogger Option for KEPServerEX
- Advanced Tag Option for KEPServerEX
- RedundancyMaster OPC Redundancy Software
- Support and Maintenance Agreement
- Support and Maintenance Agreement Pricing
- Legacy Pricing Policy
- Security Policies Plug-In
Kepware’s Alarms and Events plug-in for KEPServerEX can help reduce costs and improve performance. OPC AE clients can receive and monitor process alarms, operator actions, informational messages and tracking/auditing messages directly from KEPServerEX’s Alarms and Events Plug-in. Monitor areas of a process that may require operator attention when defined thresholds are met, such as; safety limits of equipment, event detection, and abnormal situations. The Alarms and Events plug-in can also be used to help identify faulty equipment, create maintenance work orders and improve on operator’s effectiveness. In addition to the operators handling of Alarms and Events, the plug-in can also be used to collect and record alarm and event information for audits or used in correlation with other historical data.

The OPC Alarms and Events is a plug-in module to our industry leading communications server, KEPServerEX and works in conjunction with KEPServerEX’s free AE (Alarms and Events) Client Interface. Creating an alarm is as simple as browsing the existing tags within KEPServerEX and selecting the item that will be used as the alarm. Once an item is chosen, a condition and sub condition need to be set for the item. A trigger is then set comparing the current data value and the threshold. When the condition’s trigger is met an alarm will be sent to the corresponding Alarms and Events Client application providing the user with unique alarm input, output and acknowledgement messages.

Alarms and Events Manual (PDF)
Alarms and Events DataSheet (PDF)

Utilizes Full OPC AE Client Severity Support

The severity value is an indication of the urgency of the sub-condition. This is also commonly called ‘priority’, especially in relation to process alarms. Values range from 1 to 1000, with 1 being the lowest severity and 1000 being the highest. Typically, a severity of 1 would indicate an event which is informational in nature, while a value of 1000 would indicate a disastrous event.

Plug-in Option Features

Item Browsing and importing
Browse KEPServerEX and the available tags and import the items to be tested. Tags can represent specific areas and equipment on the plant floor. To make 3rd party OPC DA and OPC UA Servers available for use with the Alarm and Event plug-in you will need to use and configure the OPC DA and/or OPC UA Client drivers.
Extensive Alarms and Events Condition Support

KEPServerEX supports nine OPC AE standard conditions providing flexibility in how Alarms and Events Conditions are calculated and prioritized. Each condition has a unique name and unique set of sub-conditions.

- **MULTI_LEVEL**
  The multilevel condition supports multiple sub-conditions. This condition is used if the source has multiple states of interest and there is a need to know the transition between the condition states. For example, if you have a temperature tag with multiple temperatures of interest, use this condition. The HIGH_HIGH sub-condition has the highest priority and the LOW_LOW sub-condition has the lowest.

- **HIGH_HIGH, HIGH, LOW, LOW_LOW**
  These are single level conditions with a sub-condition that matches the condition name. These conditions are used if a single state of a source is of interest. For example, if you have a temperature tag with a single temperature of interest, use this condition. Note: use HIGH_HIGH for higher priority states and LOW_LOW for lower priority states.

- **ROC_HIGH, ROC_LOW**
  The Rate of Change (ROC) condition compares the source data to a static or dynamic ROC. For example, if you have a source tag that represents production output and you want to trigger the condition if the output falls below 100 units a minute, use this condition. Note: use ROC_HIGH for high priority conditions and ROC_LOW for low.

- **DEV_HIGH, DEV_LOW**
  The Deviation conditions are used to monitor the deviation of the source data. The condition is triggered if the condition of the source is outside the limits set. The limits can be either a percentage or a static value. For example if you have a source that monitors power consumption and you want to trigger the condition if the power consumption is outside of 100W ±20%, use a deviation condition.

Event Log Data Support
Delivered as a standard feature, KEPServerEX exposes event log data (Events) to OPC AE Client applications. The Event server works in runtime and service modes supporting 3 Event categories (Information, Warning, Error). The Alarm and Event Condition Plug-in expands this interface to include Alarm and Event Conditions.

CSV Import/Export
Import and export tag data into a Comma Separated Variable (CSV) file. When using CSV import and export, tags are created quickly in the desired application.

OPC AE Client Filtering
Filter by area, source, event type (simple and conditional), severity, and category.

Enabling/Disabling Sources and Conditions
Ability to enable and disable communication areas, sources and conditions through the AE user interface.

Define Alarm Inputs, Outputs and Acknowledgements
Create unique alarm input, output and acknowledgement messages. Also create acknowledgment rules for Alarms.

Definitions:
An **alarm** is an abnormal condition and is thus a special case of a condition.
A **condition** is a named state of the Event Server, or of one of its contained Items (if it is also an OPC Data Access Server), which is of interest to its Client. An alarm is merely a special case of a condition, which is deemed to be abnormal and requiring special attention.

An **event** is a detectable occurrence which is of significance to the Event Server, the device it represents, and its OPC Clients. An event may or may not be associated with a condition, such as set point changes, informational messages, logins and operator requests.

An **area** is a grouping of plant equipment configured by the user, typically according to areas of operator responsibility.

**Protocol**

OPC AE v1.10

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**Additional Information and Resources:**
- KEPServerEX Home
- KEPServerEX OPC Server Features
- OPC AE Plug-in Revision History
- KEPServerEX Revision History
- Connecting Visual Basic to Alarms and Events
- System Requirements
- OPC Compliancy Testing
- KEPServerEX v5 Licensing
- Upgrade Pricing

**Related Products:**
- Manufacturing Suite
- OPC UA Client Driver
- OPC DA Client Driver
- LinkMaster OPC Bridging Software
- DataLogger Option for KEPServerEX
- Advanced Tag Option for KEPServerEX
- RedundacyMaster OPC Redundancy Software
- Support and Maintenance Agreement
- Support and Maintenance Pricing

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**Drivers "Plug In" to KEPServerEX**

The Alarms and Events OPC Server is a plug-in device driver for KEPServerEX. A "Plug-in" is a software program (.dll) that extends the capabilities of KEPServerEX to fit the communication requirements of a specific device or system. The plug-in driver handles all of the proprietary communications between the device/system and the OPC layer, KEPServerEX. The KEPServerEX core then handles all OPC and Proprietary Client communications between the plug-in driver and the Client application. For a complete list of features and capabilities please visit the KEPServerEX overview page.

- OPC Foundation Certified: The best of OPC on the market
- High Performance: Multi-threaded and Runtime Configurable
- Detailed Protocol and OPC Diagnostics with communications trace
- Native Interfaces: Client Connectivity Beyond the OPC Standards
- Certified Stratus High Availability Computing
- Certified Marathon High Availability Computing
- 2 Hour Demonstration Mode on all Kepware products

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OPC UA Client Driver and OPC UA Server - OPC Tunneling

**OPC Tunneling - Leveraging OPC UA**
The OPC UA Client Driver and the free OPC UA Server for KepServerEX provide an ideal OPC Tunneling solution. The OPC UA Client Driver provides a communications tunnel between two or more computers, allowing data to be transferred securely and reliably. This eliminates reliance on Microsoft COM and DCOM technology, and provides higher performance and deterministic failure modes.

The OPC Tunnel uses Client/Server architecture to transfer data over an Intranet, Internet or WAN. It also creates a secure OPC Tunnel through firewalls and complements existing OPC DA applications. The OPC Tunnel provides end-users, integrators and automation suppliers with a favorable solution for remote connectivity to OPC applications. In comparison to remote OPC Connectivity via DCOM, the OPC Tunneler boasts security, ease of use and maintainability. Furthermore, there is no need to expose applications to unauthorized or anonymous users since OPC UA does not require a VPN connection for security.

**KEPServerEX - Single Server and Tunneling Solution**
The Kepware OPC Tunneling solution can be used with a mix of products including Kepware and Third-Party OPC Clients and OPC Servers. In addition to the OPC UA Client Driver and the OPC UA Server interface, KEPServerEX also provides OPC DA, OPC AE, DDE and several vendor-specific interfaces. KEPServerEX’s breadth of connectivity options ensures a complete and robust system regardless of the hardware and software vendor mix.

**OPC UA Client Driver - Aggregation and Gateway**
The OPC Client Driver allows the aggregation of data from Third-Party OPC servers and any other data that KEPServerEX may be monitoring. KEPServerEX also has the ability to act as a gateway by converting existing OPC DA servers to OPC UA servers (or enabling OPC DA clients to connect to OPC UA data sources). The Kepware OPC Tunnel solution is an ideal way to share information in real-time B2B applications for automation.

**OPC UA - The Latest and Most Capable Specification**
OPC UA is the most capable OPC specification for interoperability between automation software products. It unifies previous OPC “Classic” specifications, data encryption to RSA standards and authentication based on the x509 Certificate standard. Its firewall friendliness allows communications within the automation environment, across the enterprise and through public network segments with high security and performance.

The OPC UA Client Driver is also included in the Manufacturing Suite.

**The OPC Connectivity Suite includes:**
- OPC DA Client Driver
- OPC XML-DA Client

Watch the OPC Tunneling with KEPServerEX Webinar

**OPC UA/OPC Tunnel Manual (PDF)**
**OPC UA/OPC Tunnel Data Sheet (PDF)**
**OPC UA Configuration Manager (PDF)**
**OPC UA Connectivity Guide (PDF)**
**OPC UA Made Easy (PDF)**

**Benefits**
- Eliminate DCOM Configurations

**Features**
- OPC Tunneling for OPC DA 1.0, 2.05a and 3.0
Drivers "Plug In" to KEPServerEX

The OPC UA Client Driver OPC Server is a plug-in device driver for KEPServerEX. A "Plug-in" is a software program (.dll) that extends the capabilities of KEPServerEX to fit the communication requirements of a specific device or system. The plug-in driver handles all of the proprietary communications between the device/system and the OPC layer, KEPServerEX. The KEPServerEX core then handles all OPC and Proprietary Client communications between the plug-in driver and the Client application. For a complete list of features and capabilities please visit the KEPServerEX overview page.

- OPC Foundation Certified: The best of OPC on the market
- High Performance: Multi-threaded and Runtime Configurable
- Detailed Protocol and OPC Diagnostics with communications trace
- Native Interfaces: Client Connectivity Beyond the OPC Standards
- Certified Stratus High Availability Computing
- Certified Marathon High Availability Computing

Use Case 1: OPC UA Client and OPC UA Servers
Aggregate Data from Multiple Remote Systems

The OPC UA Client Driver provides data access between OPC UA Servers and Client products such as HMI, SCADA, Historian, and MES solutions.

Use Case 2: OPC Tunneling
Remove the need for DCOM

Two KEPServerEX Installations working together as a Secure OPC Tunnel. The Client/Server architecture allows users to transfer data over an Intranet, Internet or WAN.

Additional Information and Resources:
- KEPServerEX Home
- KEPServerEX OPC Server Features
- OPC UA Client Driver Revision History
- KEPServerEX Revision History
- Connecting Visual Basic to OPC UA Client Driver
- System Requirements
- OPC Compliancy Testing
- KEPServerEX v5 Licensing
- Upgrade Pricing

Related Products:
- Manufacturing Suite
- OPC DA Client Driver
- LinkMaster OPC Bridging Software
- DataLogger Option for KEPServerEX
- Advanced Tag Option for KEPServerEX
- RedundancyMaster OPC Redundancy Software
- Support and Maintenance Agreement
- Support and Maintenance Agreement Pricing
• 2 Hour Demonstration Mode on all Kepware products
LinkMaster OPC Bridging Software

**Product # LM3-LNKMS-NA00 - $1,095.00**
- Support & Maintenance within Warranty - $199.00
- Support & Maintenance out of Warranty - $547.50

**Buy Now**

LinkMaster provides the means of linking data between OPC Servers, thus acting as a universal bridge for OPC Systems. Additionally, LinkMaster is an OPC and DDE server allowing it to act as a bridge between legacy DDE systems and new OPC enabled applications.

**Industrial Strength Reliability**
A few of the industries that rely on LinkMaster include: Aerospace, Automotive, Building Automation, Material Handling, Medical, Power Generation, Primary Metals, Pulp & Paper, Refining, Timber, Utilities.

**Programming Knowledge Optional**
LinkMaster is a fast and robust Windows application that requires no programming knowledge, simply "Drag and Drop" to create your links. Built-in scaling, user-access manager, error tracking, and write optimization capabilities, provide total control of your data flow and application access.

**Control Data Transfers with Link Groups**
Link Groups are used to form collections of OPC items that will be moved between OPC servers at a specified rate. Using multiple Link Groups, LinkMaster allows you to control how fast data is transferred from one OPC server to another. By using Link Groups with different update rates you can tailor your data transfers to fit the needs of the application. While one item may need to be sent at high speed, other items in the application may need slower update rates. Link Groups gives you that control. The benefit is reduced network traffic and increased reliability.

**LinkMaster Manual** (PDF)

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**LinkMaster Features:**
- **Built-in Redundancy**
- Fully featured data "bridging"
- Supports both COM & DCOM
- OPC1.0.a/2.0 compliant
- Runs as Windows NT/2000 Service
- "Drag & Drop" link creation.
- Error Logging.
- Supports direct scaling of link item data.
- LinkMaster's link management system allows you to create a Link database structure that fits the nature of your application.
- Includes a built-in User Manager that allows complete control over what types of functionality each individual user can access.
- Support for creating Custom Remote Machine references.
- Includes a stand alone event monitoring application called the EventViewer.
- OPC Data Access Version 1.0a
- OPC Data Access Version 2.0
- DDE Format CF_Text
- DDE Format AdvancedDDE

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**Diagrams:**

http://www.kepware.com/Products/products_linkmaster.asp
**OPC Server to OPC Server Bridging**
The most common scenario for LinkMaster is to link data between two (or more) OPC Servers. An example might be a customer using RSLogix for connectivity to Allen Bradley PLCs and Kepware’s U-CON Protocol Server for connectivity to a checkweigher. In this example the customer wants to easily send scale data to the PLC.

**OPC Server Collector or Gateway**
Another interesting application scenario for LinkMaster is to function as a single OPC server which serves data from multiple OPC servers. This approach demonstrates LinkMaster’s capability of acting as both a client and server. An example might be when a customer has a single OPC connection available from an OPC client application but multiple OPC servers that they want to acquire data from.

**OPC Server within Server bridging**
This scenario is commonly used when a customer wants to route data between two PLCs connected to the same server. Using LinkMaster to define the tag data routing can be much easier than creating new ladder logic in your PLCs (especially for legacy systems). An example might be a customer using KEPServerEX to connect to an Allen Bradley ControlLogix PLC as well as a Yokogawa DX Data Recorder.

**LinkMaster Internal Flow**
**Server to Server Linking**

**Related Products:**
- RedundancyMaster OPC Redundancy Software
- DataLogger Option for KEPServerEX
- Advanced Tag Option for KEPServerEX
- OPC Servers for KEPServerEX

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Additional Information and Resources:
- System Requirements
- LinkMaster Revision History
- Support and Maintenance Agreement
- Upgrade Pricing

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**Oracle Connectivity Suite for KEPServerEX OPC Server**

**Free Demo**

Today's businesses demand higher throughput, intelligent scheduling, reduced inventories and information automation to reduce errors and enhance productivity. This can only be accomplished by connecting your manufacturing automation systems with enterprise business solutions. Oracle has selected Kepware specifically for this purpose. All Oracle business and operations management solutions can be connected, in real-time, with equipment and operations on the plant floor, by leveraging Kepware's suite of communication products combined with analytic and connectivity tools tailored for Oracle business solution products. These products include the Oracle MES (Manufacturing Execution System) and the Oracle MOC (Manufacturing Operation Center).

**Important Note:** In order to use KEPServerEX and the Oracle Connectivity Suite for remote connections, a separate installation is required. Download both KEPServerEX and Oracle Instant Client from the MyKepware download portal. The Oracle Instant Client is used for remote connections to Oracle databases when using the Oracle Connectivity Suite.

Download the Data Sheet

Read the Geometric Case Study - Oracle MOC Performance Testing and Certification

Oracle's MOC Datasheet

Oracle Connectivity Suite Manual (PDF)

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<tr>
<th>Options</th>
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<tr>
<td>Additional Driver</td>
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<td>optional</td>
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</table>

**Note:** One standard KEPServerEX driver and Advanced Tags are required with the use of the Oracle MOC Option. One standard KEPServerEX driver is required with the use of the Oracle MES Option.

**Plug-in Driver Features: Feature Highlights**

- Connectivity to 1,000s of Devices Over 130 Protocols
- Data Aggregation
- Data Analytics
- Basic RDB Connectivity
- Oracle MES Connectivity
- Oracle MOC Connectivity

**Data Analytics**

- Powerful Math - collect and aggregate plant floor data into the key parameters forming the foundation of your business analytics. Basic math operators, counters, timers, accumulators, etc. Advanced Tags in KEPServerEX will generate the exact data you need for Oracle analytics.
- Powerful Logic - Logic operators and data test enable you to generate and store variables based on times or conditions ensuring you have the exact parameters, collected under the exact circumstances necessary for Oracle analytics.

**Plant Floor Communications**

- Standard Communications to thousands of devices via over 130 protocols

- Custom Communications to virtually any simple serial or Ethernet protocol through the use of the UCON (User Configurable) Device Driver.
- OPC Client Driver to enable data collection from any third party OPC Servers.

- Oracle MES Connector - provides a direct interface into Oracle's MES solution. No configuration necessary other than the selection of variables to send.
- Oracle MOC (Manufacturing Operations Center) Connector - provides a direct interface into the Oracle MOC solution. No configuration is necessary other than the selection of variables and the selection of the MOC interface table.

**Additional Information and Resources:**
- KEPServerEX Home
- KEPServerEX OPC Server Features
- Oracle Connectivity Suite Revision History
- Kepware Blog
- Whitepapers
- Connecting Visual Basic to Oracle Connectivity Suite
- System Requirements
- OPC Compliancy Testing
- KEPServerEX v5 Licensing
- Upgrade Pricing

**Related Products:**
- Manufacturing Suite
- LinkMaster OPC Bridging Software
- DataLogger Option for KEPServerEX
- Advanced Tag Option for KEPServerEX
- RedundancyMaster OPC Redundancy Software
- Support and Maintenance Agreement
- Support and Maintenance Agreement Pricing
- Legacy Pricing Policy
- Security Policies Plug-In

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**Drivers "Plug In" to KEPServerEX**

The Oracle Connectivity Suite is a plug-in device driver for KEPServerEX. A "Plug-in" is a software program (.dll) that extends the capabilities of KEPServerEX to fit the communication requirements of a specific device or system. The plug-in driver handles all of the proprietary communications between the device/system and the OPC layer, KEPServerEX. The KEPServerEX core then handles all OPC and Proprietary Client communications between the plug-in driver and the Client application. For a complete list of features and capabilities please visit the KEPServerEX overview page.

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- 2 Hour Demonstration Mode on all Kepware products

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http://www.kepware.com/Products/Oracle_Connectivity_Suite.asp
RedundancyMaster - OPC Redundancy Software

Product # RM2-RDNMS-NA00 - $1,495.00  
Support & Maintenance within Warranty - $259.00  
Support & Maintenance out of Warranty - $747.50  
Buy Now

RedundancyMaster Manual (PDF)  
RedundancyMaster DataSheet (PDF)

RedundancyMaster  
Increases the reliability and availability of OPC data by allowing multiple OPC Servers to be configured into redundant pairs. Each redundant pair seamlessly appears as a single OPC Server to any OPC Client application. RedundancyMaster can be added to an existing server/client application without any reconfiguration of the application, keeping your processes going with out any down time.

Industrial Strength Reliability  
OPC Data Access (OPC DA) technology has proven to be reliable in virtually every possible situation requiring consistent data access to devices and systems. However, there are other factors that can jeopardize the integrity of a system, some being software, hardware, and even the human element. By using OPC redundancy technology you can make these systems more reliable and efficient.

Increase ROI & Reduce System Down-time  
To fill this need for added system reliability, Kepware has developed RedundancyMaster. RedundancyMaster resides on your OPC client machine and facilitates connections to a Primary and Secondary OPC server on the system’s networks by ‘hooking’ into the OPC calls made between the client and the server. If for any reason the OPC client loses its communications link with the primary OPC server or a user-specified condition is met (e.g. An item is not receiving updates, a specific item value is met, or the quality of an item set to bad) RedundancyMaster will drop the primary and promote the secondary OPC server on your network - reducing system down-time and saving you money.

Ease of Use  
RedundancyMaster can be a drop-in application that does not require you to make any changes to your OPC client or server applications. Its intuitive configuration takes only minutes and will allow you to have a Redundant OPC system running with no headaches. Simply browse and select your primary and secondary OPC servers, and the system is up and running. We have built in features such as email notification, object and link monitoring, and diagnostics logging. In the situation where you need multiple redundant OPC server pairs that utilize the same OPC server vendor, we have added the capability to alias* the ProgID (Program ID) of the OPC server.

*Note: Aliasing may require minor OPC client modifications

Reliability  
There are a many variables that could impact the quality and reliability of your data and even more ways an OPC system can lose a connection to an OPC server. The most common are:

- The PC running the OPC server is shut down
- User errors cause the OPC server to exit
- The Network connection to OPC server is lost or unreliable
- The Network setting is changed causing link failure
- The OPC server itself fails for any reason, known or otherwise

In these situations, the virtual connection between the OPC server and the client may be perfectly intact but the physical link to the underlying device or system may be broken. These types of failures are what we call "link-based" failures. Link-based failures occur when the connection to the target device or system has been lost. In most cases, the OPC server is still completely operational, but simply cannot supply the data to the rest of the system.

Single Point of Failure  
The diagram below demonstrates how a typical OPC system is configured and how it is susceptible to failure. As can be seen, the OPC DA client applications are all accessing a single OPC server. In this case, the potential exists for both an object-based failure and a link-based failure. If for any reason the single OPC server fails to operate, then we will have an object-based failure. Additionally, since this single PC is responsible for data collection from the underlying devices, a single point of failure exists for the device connection as well. To increase the reliability of your OPC system, you need to remove these single points of failure.

To eliminate the single point of failure, you can redesign your OPC system to use more than one OPC server by seamlessly adding RedundancyMaster.

Two OPC Servers Paired with RedundancyMaster  
As can be seen in the diagram below, the original OPC system has been redesigned using two OPC servers instead of a single OPC server. To facilitate the redundant operation of the OPC servers, each OPC client has been paired with RedundancyMaster.

Using the configurable options within RedundancyMaster, the use of either the Primary or Secondary OPC server can be controlled directly. Based on the modes selected, RedundancyMaster will keep both servers active or if configured to do so, start the secondary server only when the primary server fails.

In regard to object-based failures or link-based failures, RedundancyMaster can be configured to monitor these conditions and prevent unnecessary down-time in your system saving you time and money.

http://www.kepware.com/Products/RedundancyMaster.asp  
4/27/2015
• The Log-in account is changed on the OPC server’s PC

In most of the cases above, the OPC DA server fails to provide data due to an actual failure underlying the OPC server or the connection to that server. These types of failures are what we call “object-based” failures. Object-based failures occur when the actual link between your OPC client application and the target OPC server breaks down. Considering for a moment the ways an industrial application can lose data, we must keep a number of factors in mind. In the previous examples, software was the culprit. However, physical hardware breakdowns within an application can dramatically affect reliability as well. Some of these physical factors are:

• Physical Connection Failure (the cable is pulled)
• Hardware Failure (router failure)
• Electrical Interference (high current discharge)
• Delays due to signal propagation (radio links)
• Environmental factors (lightning)
• Random accidents

RedundancyMaster Features:
Explore the features that will change how you think of OPC redundancy. The innovations in RedundancyMaster can work together seamlessly with your current OPC application to give you a more reliable solution.

Primary/Secondary Machine Names
Browse for the primary machine which specifies the preferred connection that should be made to an OPC server and the secondary machine which specifies the failback connection that should be made to an OPC server when communications to the primary machine are unavailable. Every time a new client connection is made to the underlying server, the application will first attempt to make a connection to the server running on the primary machine. In the event that the connection to the primary fails or communications to the primary is lost, a connection to the secondary server will be attempted and, if available, established. Depending on the connection mode, you can configure the application to automatically establish communications with the primary machine when it becomes available.

Connection Mode
The connection mode defines how and when the redundancy application should connect to the underlying primary and secondary servers. The mode in which you operate affects the amount of time it takes to fail over from one OPC server to the other. Some modes allow you to automatically promote communications to the primary when it is available. The following summarizes connection modes:

Cold (Active machine only):
In this mode, the application will only connect to one underlying server at a time. On startup, a connection to the primary server will be made and all client related requests will be forwarded onto the primary. In the event that the connection to the primary fails, or communications to the primary is lost, a connection to the secondary will be made. If the redundancy application is unable to obtain a connection to the secondary, it will continue to ping-pong between the two servers until it makes a successful connection.

The 'cold' connection mode minimizes the amount of system resources that are allocated since there will only be one connection to one server at any given time. It also reduces network traffic since there is no need to poll the inactive machine in addition to the active machine, as in other modes. The drawback to this setting is the amount of time it takes to fail-over to the inactive server. When communications loss is detected with the active server, the application needs to establish the connection to the inactive server, subscribe to all items on behalf of the client and initiate the appropriate callback mechanisms.

Diagnostics Settings: Preserve events to disk on shutdown: Events will be preserved to disk when the application is shutdown. The next time the application is started, the events will be displayed and any new events will be concatenated to the end of the view.

Maximum number of events to capture: Since diagnostics utilizes memory and storage resources, you may want to limit the number of diagnostics that are preserved at any given time. Once the maximum number of events has been reached, the oldest events will be discarded as necessary.

Notifications Settings: This feature allows you to configure one or more recipients to receive email notifications for one or more diagnostics events. The events that are available to send as email notifications are the same events visible to the local Diagnostics Settings event view.

RedundancyMaster Diagrams:

Broadcasting Proprietary Ethernet IP Data
This diagram above shows how the proprietary Ethernet IP data is manipulated within the plug-in device driver of KEPServerEX to become OPC Data, which is then served out to the OPC Client in a basic redundant system.

http://www.kepware.com/Products/RedundancyMaster.asp
Warm (Both machines, subscribe to items on active machine):
In this mode, the application will attempt to maintain a connection to both the primary and secondary servers at all times. Only items in the primary server will be active and polled. In the event that the connection to the primary fails, or communications to the primary is lost, the identical items in the primary server will be set to active in secondary server. Periodically, both servers will be pinged to determine if the connection is still valid.

The 'warm' connection increases the amount of system resources that are allocated, since there will be two server connections made on behalf of the client. There is also a minimal increase in network traffic due to periodically pinging two servers instead of one, as in 'Cold' mode operation. The benefits are that fail-over time is minimized over 'Cold' mode operation, since the redundancy application will only have to initialize data callbacks to the inactive server to begin receiving data. If you need to minimize the loss of data in your application, and at the same time want to minimize network traffic, you should use this connection mode.

Hot (Both machines, subscribe to items on both machines):
In this mode, the application will attempt to maintain a connection to both the primary and secondary servers at all times. On startup, the application will initialize data callbacks for both primary and secondary servers so that both servers will send data change notifications. The data received from the primary server will be forwarded onto the client. In the event that the connection to the primary fails, or communications to the primary is lost, data received for the secondary will immediately be forwarded onto the client. In either case, writes will only be forwarded to the active server. Periodically, both servers will be pinged to determine if the connections are still valid. If at anytime the redundancy application loses communications to either server, it will periodically attempt to reconnect to the failed server. This setting increases the amount of system resources that are allocated, since there will be two server connections made on behalf of the client. There is also an increase in network traffic due to receiving data change notifications from both underlying servers, as well as periodically pinging both servers to determine if they are still available. The benefit of this setting is that fail-over time occurs immediately after detecting the loss of the active server. If loss of data is very crucial to your application, you should use this connection mode.

OPC Server Aliasing:
This feature will allow you to configure multiple pairs of OPC Servers with the same ProgID (KEPware.KEPServerEX.V5). This feature permits you to use one OPC Server vendor if you have multiple OPC Server nodes on your network. This will allow OPC clients to connect to a specific redundant pair by referring to the aliased ProgID of that redundant pair.

Always connect to primary machine upon availability
This setting enables RedundancyMaster to automatically promote communications back to the primary machine when the OPC server becomes available.

Query Server Status Interval
This interval (specified in milliseconds) determines how often RedundancyMaster will ping the underlying servers to determine if there has been a loss of communications. By querying at a faster rate, you can minimize fail-over time since failure detection occurs more frequently.

Query Server Status Timeout
This interval (specified in milliseconds) determines how long the redundancy application will wait for a ping response from the underlying servers before considering there to be a loss of communications.

Monitoring Settings: This feature allows you to configure
certain conditions which will initiate a fail-over to the inactive server. These conditions allow you to monitor server items for specific states to determine the health of the underlying servers/devices, above and beyond the automatic fail-over that will occur due to the loss of communications.

**Additional Information and Resources:**
- RedundancyMaster Revision History
- System Requirements
- Licensing Agreement Program
- Upgrade Pricing

**Related Products:**
- LinkMaster OPC Bridging Software
- DataLogger Option for KEPServerEX
- OPC Servers for KEPServerEX

**Multiple OPC Server Pair Redundancy**
RedundancyMaster can be configured to have multiple OPC Server Pairs. In this diagram there are two pairs of OPC Servers which are gathering data from two separate device networks. If the multiple OPC Server Pairs are all of the same ProgID (KEPware.KEPServerEX.V4), then you will need to use the Aliasing feature; if the two pairs have different OPC Servers with different ProgIDs then you will not need the Aliasing feature.

**RedundancyMaster Client Interfaces**
Application Connectivity Support:
OPC Data Access: 1.0, 2.05a, and 3.0
ClientAce - OPC .NET Toolkit

Product # CA4-CLACE-NA00 - $2,195
Support & Maintenance within Warranty - $399*

Unlimited applications with each license, per development seat.

*First year of Support and Maintenance is required for ClientAce Purchases

Call to Purchase

OPC-enable your .NET applications with ClientAce. ClientAce provides a drag-and-drop interface to quickly and easily attach OPC items to any property or custom control built in Visual Studio. Furthermore, its full-featured .NET API provides effortless access to OPC UA, OPC DA, and OPC XML-DA server applications without previous knowledge of the OPC standard.

ClientAce Manual (PDF)
ClientAce Datasheet (PDF)

DA Junction Control

The DA Junction control is a customized .NET control that enables Visual Basic .NET and C# programmers to easily develop OPC client applications that access any OPC UA, OPC DA, and XML DA servers. No detailed knowledge of OPC Data Access interfaces is required. The DA Junction will perform the connection handling procedure between your custom client application and the OPC server, as well as monitor and reconnect when necessary.

ClientAce DA Junction Features:

• The component completely covers the connection handling procedure for one or multiple OPC servers.
• Conversion of OPC data from different OPC Data Access interfaces into .NET data types.

Server Browser Control

The Server Browser control provides functionality to browse OPC Data Access servers on local and remote machines. The Server URL is returned in an event to be used in the application for establishing connections and data acquisition.

Channel Settings Control

The Channel Settings control provides functionality to view and make certain changes to the properties of a channel and devices within an OPC server provided by Kepware Technologies. The ability to write to System level tags must be enabled in the server.

Server State Control

The Server State control provides functionality to view the properties of a Kepware OPC Server project. The Properties include, the number of Clients connected to the server, total number of tags added by the clients and the total number of tags that are actively being polled.

ClientAce .NET API

The ClientAce .NET Application Programming Interface (API) provides users of languages such as C# and Visual Basic .NET with a simple, intuitive and optimized class library to quickly...
Item Browser Control

The Item Browser control provides functionality to browse Tags/Items in an OPC Data Access server on local or remote machines. Items/Tags are selected and their information is returned to the application. The selections are used to request updated data from the server.

ClientAce .NET API Features:

- A simple, intuitive .NET interface.
- The OPC UA, DA, and XML DA interfaces have been simplified down to the major functions.
- No detailed knowledge of the different OPC Data Access interfaces is required.
- The API covers the different base technologies of OPC, for example, COM and DCOM.
- The API completely covers the connection handling to one OPC Server.
- The development of OPC Client applications with C# or Visual Basic .NET becomes very simple using ClientAce.
- Conversion of OPC data from different OPC Data Access interfaces into .NET data types.
- Fast and simple search for OPC COM Servers, both local and remote.
- High performance and optimized Client-Server communication by using kernel functionality implemented in C++.

Licensing:

- Design-time license per development seat
- Applications are subject to a 1-hour demo timeout (with reminder pop-ups)
- After purchase of a license, the application can be signed to avoid the timeout & pop-ups
- The signing utility is included with ClientAce

Free tools included with ClientAce install:

- C# and VB.NET sample client applications
- 1-hour demo

Quick Links

- Configuring Secured UA Communications (PDF)
- Creating a ClientAce Service Application (PDF)
- Creating a Project with the DA Junction (PDF)
- Creating a Simple Windows Form Application (PDF)

Development Environment Support

- .NET 4.0
- Visual Studio 2010 and higher

For information on supporting Visual Studio 2008, please contact Kepware Technical Support at +1 (207) 775-1660 x211.

PC Hardware Requirements

Refer to Microsoft’s .NET Framework hardware requirements for the version that will be used in the Visual Studio project:

- 100 MB available disk space
- Microsoft Visual Studio Requirements

When deploying the custom client applications created using ClientAce, the .NET Framework requirements depend on the version of Visual Studio that was used for development. For more information, refer to the appropriate section in Deploying Your Client Application.

PC Software Requirements

The following requirements must be met in order for the application to operate as designed:

- Microsoft Windows operating system requirements are the same for both ClientAce and the Microsoft Visual Studio development environment that is used to develop ClientAce applications. If the operating system’s requirements for the version of Visual Studio being used does not list the operating system

Runtime Requirements

Visual Studio 2010 C++ Runtime Redistributables

- Part of the low-level OPC layer for ClientAce is written using C++ in Visual Studio 2010. As such, ClientAce has a dependency on the redistributables for that version. It is important that these files be present when deploying a custom client application created using ClientAce. The installer for the redistributables can be found in the ClientAce Install folder.

OPC Foundation Core Redistributables

- OPC DA client/server connectivity requires the OPC Foundation Core Redistributables, which are usually installed when an OPC client or server is installed to an operating system. When deploying a custom client application created using ClientAce to a PC that has never had an OPC client or server installed, the components must be installed for it to work. The installer for the OPC Foundation Core Redistributables can be found in the ClientAce Install folder.
intended for use, then ClientAce is not supported for use on that operating system.

- UAC on Windows Vista and Windows 7
- To ensure that all components function correctly in the design environment, turn UAC off on machines being used to develop applications with ClientAce.
- UAC limits access to folders and files in the design environment, which will affect some objects in the design environment. UAC does not affect these objects in the Runtime environment.

**Additional Information and Resources:**

- [ClientAce Revision History](#)
- [ClientAce Tips and Tricks](#)
- [Support and Maintenance Agreement](#)
- [Kepware Knowledge Base](#)

**Related Products:**

- [KEPServerEx OPC Server](#)
- [DataLogger Option for KEPServerEX](#)
- [Advanced Tag Option for KEPServerEX](#)
- [RedundancyMaster OPC Redundancy Software](#)