



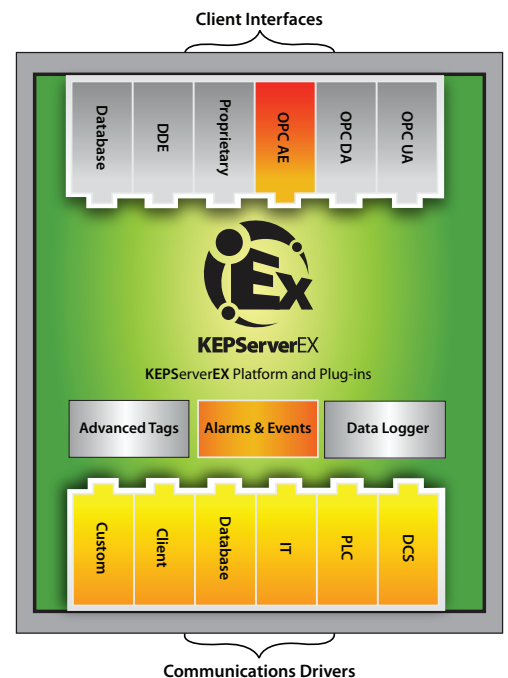
# OPC Alarms and Events Plug-In

## KEPServerEX – Communications Platform

Kepware’s OPC Alarms and Events Plug-In for KEPServerEX can help users reduce costs and improve performance by allowing OPC AE clients receive and monitor process alarms, operator actions, informational messages, and to track and audit messages directly. Users can now monitor areas of a process that require operator attention when defined thresholds are met (such as event detection, abnormal situations, and the equipment’s safety limits). The Alarms and Events Plug-In can also be used to identify faulty equipment, create maintenance work orders, improve operators’ effectiveness, and collect and record alarm and event information for audits to use with other historical data.

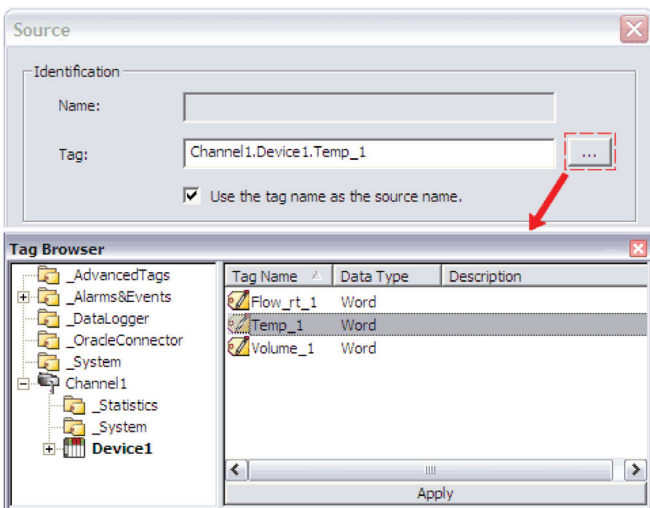
### OPC Alarms and Events Features

OPC Alarms and Events is a plug-in module to Kepware’s industry leading communications server, KEPServerEX. It works in conjunction with KEPServerEX’s free Alarm and Events (AE) Client Interfaces. Users start by creating an alarm, which is as simple as browsing KEPServerEX’s tags and then selecting an item that will be used as the alarm. Once an item is chosen, users must set its condition and sub-condition. A trigger can be then be specify to compare the current data value with the threshold. When the condition’s trigger is met, an alarm will be sent to the corresponding Alarms and Events client application that provides the user with unique alarm input, output, and acknowledgement messages.



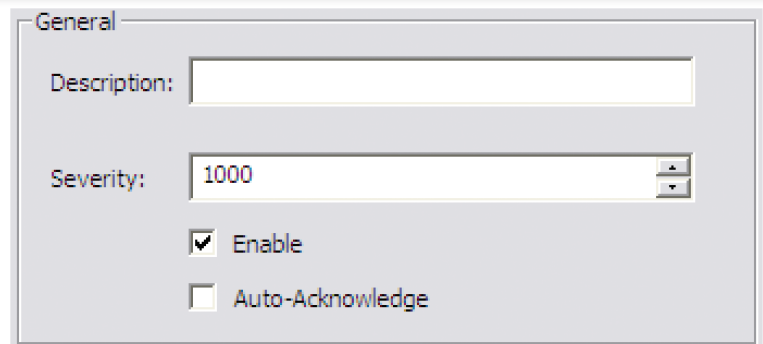
### OPC Alarm and Events Plug-In Features

The OPC Alarms and Events Plug-In allows users to browse KEPServerEX’s available tags, and then import the items to be tested. Tags can represent specific areas and equipment on the plant floor. To make Third-Party OPC DA and OPC UA servers available for use with the Alarm and Event Plug-In, users must both use and configure the OPC DA Driver and/or the OPC UA Client Driver.



### Full OPC AE Client Severity Support

The severity value (which is commonly called the “Priority” in relation to process alarms) is an indication of the sub-condition’s urgency. The valid range is 1 to 1000, with 1 being the lowest severity and 1000 being the highest. Typically, a severity of 1 indicates an informational event, whereas a value of 1000 indicates a disastrous event.



General

Description:

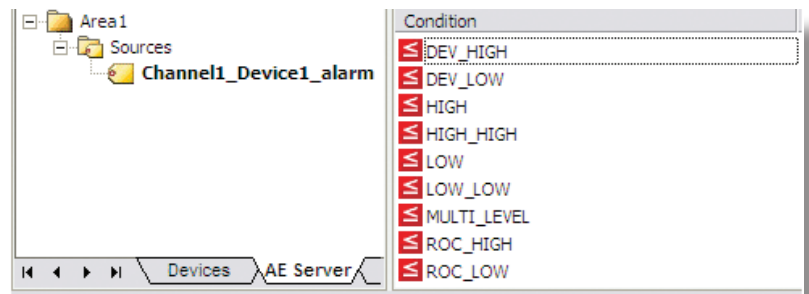
Severity:

Enable

Auto-Acknowledge

### Extensive Alarm Condition Support

KEPServerEX supports nine OPC AE standard conditions, thus providing users flexibility when calculating and prioritizing the Alarms and Events conditions. Each condition has a unique name and a unique set of sub-conditions. For more information, refer to the list below.



- **MULTI\_LEVEL**

MULTI\_LEVEL conditions support multiple sub-conditions, which include HI\_HI, LO\_LO, HI, and LO. This condition should be used if the source has multiple states of interest (and if users want to know when the condition transitions between states). For example, this condition should be used if utilizing a temperature tag with multiple temperatures of interest is being used.

The sub-conditions’ priorities are as follows from highest to lowest: HI\_HI, LO\_LO, HI, and LO. The priority is not configurable, and controls the active state of the condition if multiple sub-conditions are true. For example, if both HI\_HI and HI are true, the condition will be in the HI\_HI state because it has a higher priority.

- **HI\_HI, HI, LO, LO\_LO**

These single level conditions contain a sub-condition that matches the condition name. They should be used if there is a single state of interest for the source. For example, this condition should be used if utilizing a temperature tag with a single temperature of interest. Because the conditions are the same functionally, user should select one with a name that makes the most sense for the application.

- **ROC\_HI, ROC\_LO**

Rate of Change (ROC) conditions have a single sub-condition that matches the condition name. They are used to compare the source data to a static or dynamic ROC. For example, this condition should be used if utilizing a source tag that represents production output, and when users want to trigger the condition if the output falls below 100 units a minute. Because the conditions are the same functionally, users should select one with a name that makes the most sense for the application.

- **DEV\_HI, DEV\_LO**

Deviation conditions have a single sub-condition that matches the condition name. They are used to monitor the deviation of the source, and to trigger the condition if the source exceeds the limits set by the deviation. For example, this condition should be used if utilizing a source that monitors power consumption, and when users want to trigger the condition if the power consumption is outside of  $100W \pm 20\%$ . Because the conditions are the same functionally, users should select one with a name that makes the most sense for the application.

### Event Log Data Support

Event Log Data (Events) is a standard KEPServerEX feature that is exposed to OPC AE Client applications. The Event server works in both Runtime Mode and Service Mode, and supports three event categories: Information, Warning, and Error. The Alarm and Event Condition Plug-in expands this interface to include Alarm and Event Conditions.

### OPC AE Client Filtering

Users can filter by area, source, event type (simple and conditional), severity, and category.

### Enabling/Disabling Sources and Conditions

Users have the ability to enable and disable communication areas, sources, and conditions through the Alarms and Events Plug-In user interface.

### Defining Alarm Inputs, Outputs, and Acknowledgements

Users can create unique alarm input, output, and acknowledgement messages in addition to acknowledgement rules for Alarms.

### Defining Alarms and Events Plug-In Terms

1. An alarm is an abnormal condition. As such, it is a special case of a condition.
2. A condition is a named state of the Event Server. If it is also an OPC Data Access Server, a condition may be a contained Item that is of interest to its Client. An alarm is merely a special case of a condition that is considered abnormal and requires special attention.
3. An event is a detectable occurrence that is significant 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).
4. An area is a grouping of plant equipment that has been configured by the user according to areas of operator responsibility.

## Proven Interoperability

- 150+ Communication Drivers with More than 250 Unique Protocols.
- Supports Open Standard Interfaces:
  - DDE Formats: CF\_Text, XL\_Table, Advanced DDE, and Network DDE.
  - OPC Alarms and Events (OPC AE): 1.0 and 1.10.
  - OPC Data Access (OPC DA): 1.0a, 2.0, 2.05a, and 3.0.
  - OPC .NET: 1.20.2.
  - OPC Unified Architecture (OPC UA): 1.01.
  - Thin-Client Terminal Server: Windows Remote Desktop.
- Supports Native Vendor Interfaces:
  - Wonderware FastDDE & SuiteLink.
  - GE NIO for iFIX.
  - Oracle.
- Advanced OPC and Channel Diagnostics.

## Centralized Communications

- Single Server Platform for All Communications.
- Consistent, User-Friendly Interface.
- Automatic Tag Generation.
- CSV Import/Export.
- Advanced Tags for Linking and Computations.
- Write Optimization and Error Recovery.
- Advanced User Management.

## On-Demand Scalability

- Plug and Play Device Drivers and Communication Options.
- Parallel Configuration and Live Operation via Separate Configuration and Runtime.
- Multi-Threaded Channel Architecture.

## Industrial Strength

- OPC Certified Compliance.
- Strict Internal Quality and Control Standards.
- Endorsed by 15 Top OEMs.

## Requirements

### Supported Operating Systems

- ✓ Windows 7
- ✓ Windows Server 2008
- ✓ Windows Vista Business/Ultimate
- ✓ Windows Server 2003 SP2
- ✓ Windows XP SP2

### Minimum PC Hardware Requirements

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

## About Kepware

Kepware Technologies, established in 1995, develops a wide range of communication and interoperability software solutions for the Automation industry. Our reliable, user-friendly, high-performing applications connect disparate software and hardware systems. Communications are managed through robust software platforms that support an array of open standards, propriety communication protocols, APIs, and automation systems' interfaces. We strive to deliver ideal-fit solutions that are designed and tested to meet the demands of industrial automation applications. Our quality software applications improve operations and decision-making throughout all levels of an organization. Kepware Technologies' mission is to become "Your Standard for Connectivity."

## Contact Information

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