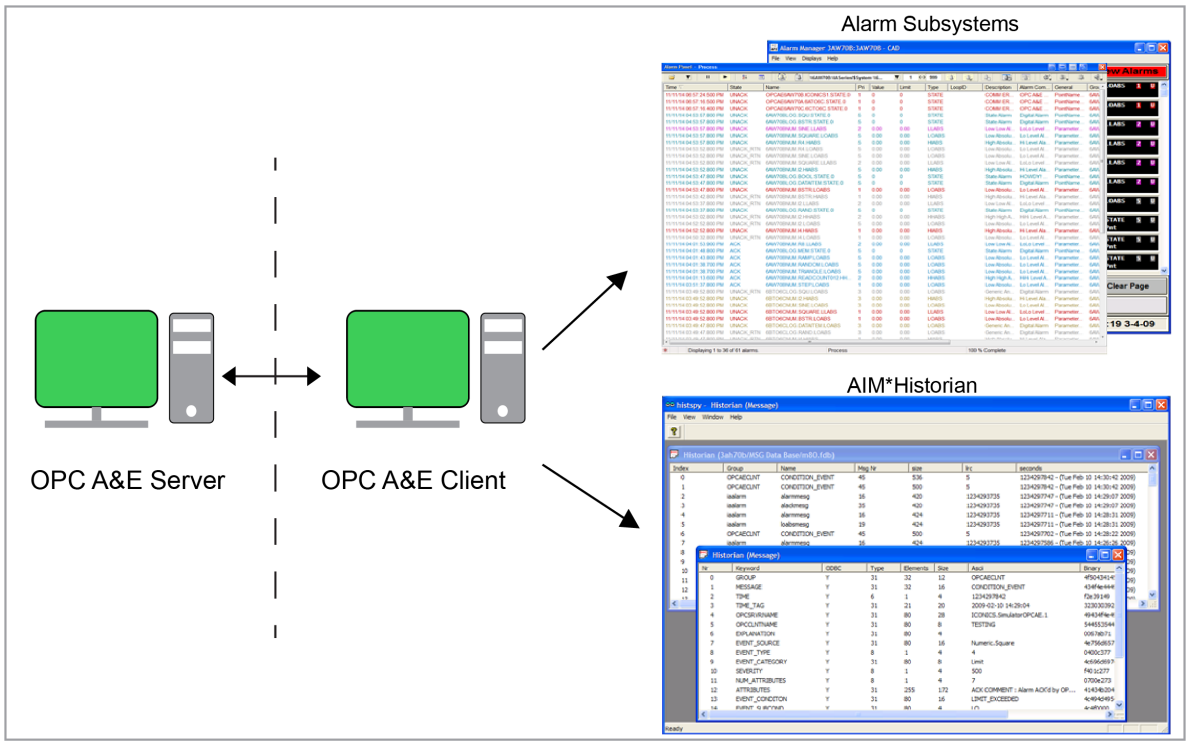
Foxboro™ DCS

OPC® Alarm and Events (A&E) Client Software

PSS 41S-7B5

Product Specification

November 2022



Legal Information

Overview

The OPC® Alarm and Events (A&E) Client software is a tool used to integrate selected OPC Alarm and Event messages into the EcoStruxure™ Foxboro™ DCS Control Core Services or I/A Series® system.

The OPC Alarm and Event messages generated from an OPC Server may be represented in the system as standard alarm messages. As standard alarms they may be sent to standard alarm destinations. For example, alarm messages may be sent to FoxAlert, Foxboro™ DCS Control Alarm Provider, EcoStruxure™ Foxboro™ DCS AIM* Historian, FoxPage, and printers.

The OPC A&E Client software includes alarm acknowledgement if supported by the OPC A&E Server. The OPC Server Event “tag names” are translated to acceptable control software tag names, and all relevant OPC alarm fields are translated to their control software equivalents.

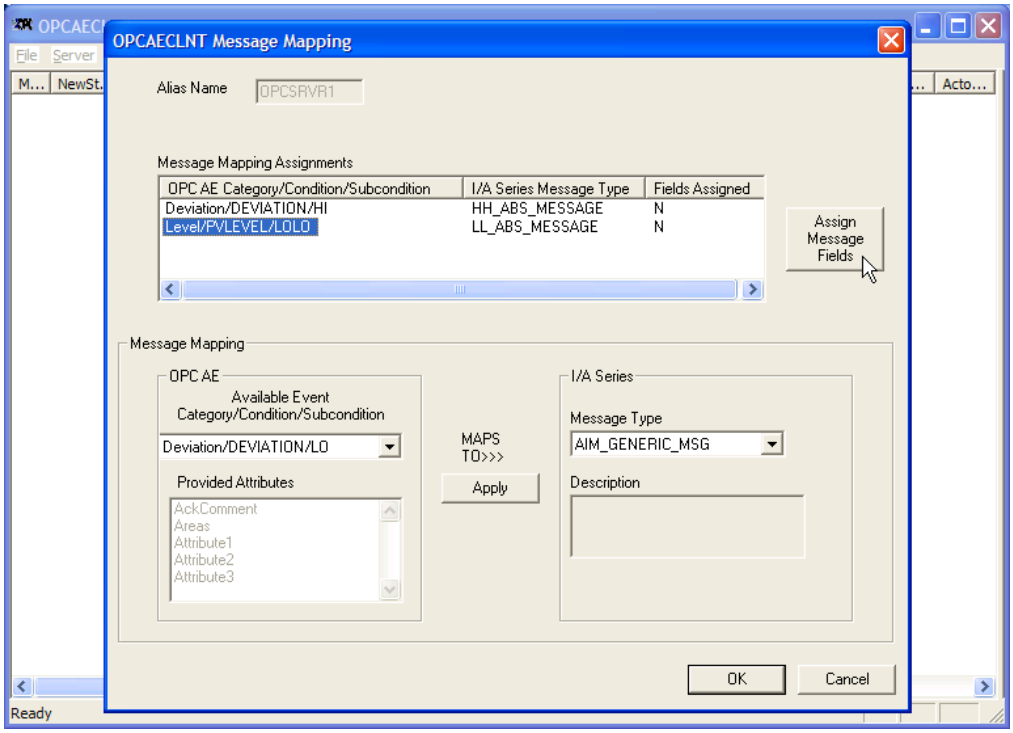
The OPC A&E Client software provides limited support for redundant operation.

For OPC A&E Client equipment and data flow configurations, see Equipment Configurations and Data Flow, page 7.

Features

The OPC A&E Client product consists of a configurator and a runtime message handler instance. The configurator assists with alarm and event message configuration.

Figure 1 - OPC Alarm and Events Client Configurator



The configurator is used to:

- Identify the OPC Alarm and Events Server.
- Determine the available OPC alarm and event messages.
- Define generic rules regarding the mapping of the OPC Event Category/ Conditions/Subconditions to the control software messages.
- Install/Remove an OPC A&E Client runtime instance.
- Optionally create Application:Objects which serve as the control software targets of OPC Server tag names.
- Modify Registry variables which support runtime operation.

The OPC A&E Client runtime instance communicates with a single OPC Alarm and Events Server and handles the configured Alarm Events, received from that server.

The Current Alarm Display and the Alarm Provider illustrate configured OPC Alarm Events represented as standard alarms.

Figure 2 - Current Alarm Display

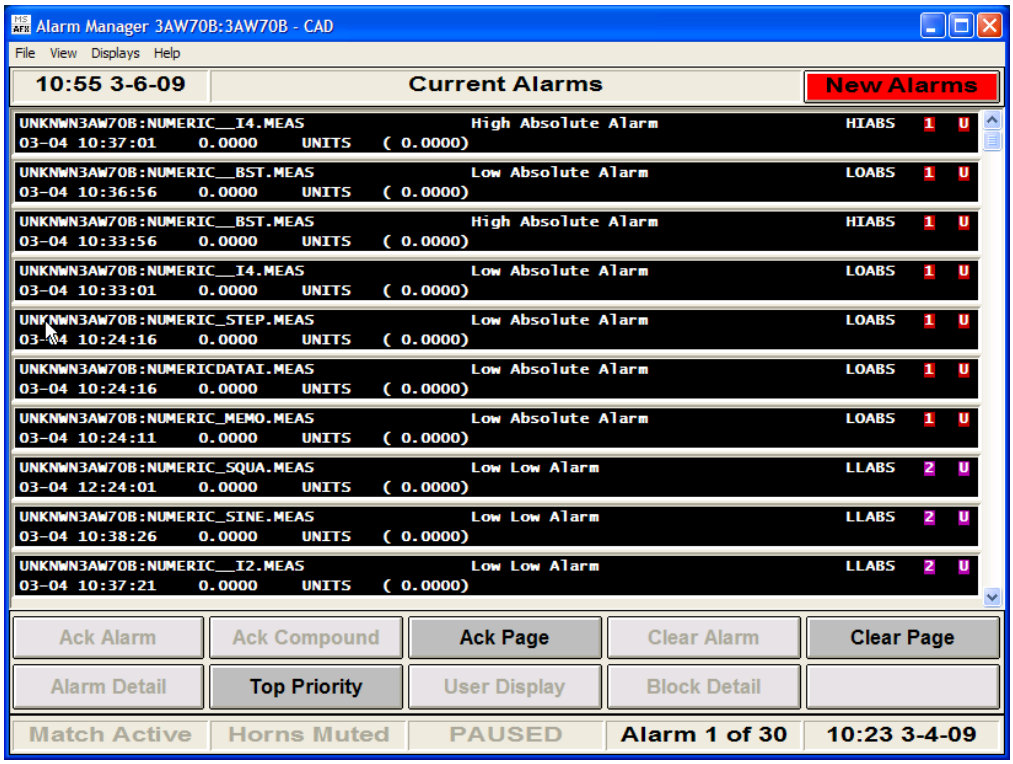
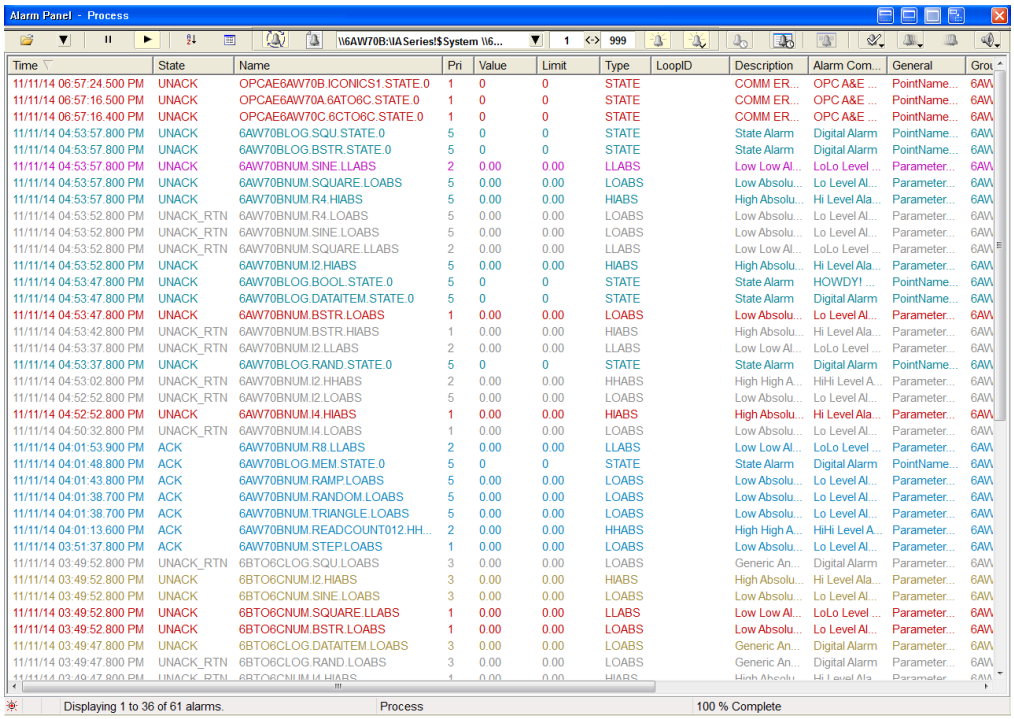


Figure 3 - Alarm Provider



Assumptions and Limitations

- The OPC A&E Client product can send messages to any APRINT destination, for example, Historians, FoxPage, and Alarm Provider in APRINT mode.
- The OPC A&E Client software does not emulate the Message Delivery Service used by the Message Manager and the Alarm Provider in Message Manager mode.
- The messages that the OPC A&E Client software passes to the Alarm System are not limited to equivalent destinations. For example, an I/A Series v6.x/v7.x station could display and acknowledge alarms received from an OPC A&E Client running I/A Series software v8.8.
- The OPC A&E Client product requires an AIM*Historian instance configured on the same station for diagnostic messages and native format OPC Alarm and Event messages storage. The FCS Alarm Repository cannot be used to replace AIM* Historian for this service.
- The OPC A&E Client software supports a limited form of redundancy. Two instances may be run; each associated with different Object Manager (OM) variable tag names. Each instance will send its alarms and messages to the same destinations. Current Alarm Display (CAD) alarm filters must be used so that only one alarm is shown. Operator intervention is required to switch to the other set.
- Because of Microsoft Windows operating system updates, OPC A&E Client connections to an OPC A&E Server across a network will stop working when security hardening is enabled. The Distributed Component Object Model (DCOM) connections used by OPC Servers might stop working after applying a Microsoft Windows security update. For more information, search for Schneider Electric Priority Customer Alert CCA000233228 on Global Customer Support at https://pasupport.schneider-electric.com (registration required).

Equipment Configurations and Data Flow

Figure 4 - OPC A&E Server and Client on the Same Control Station

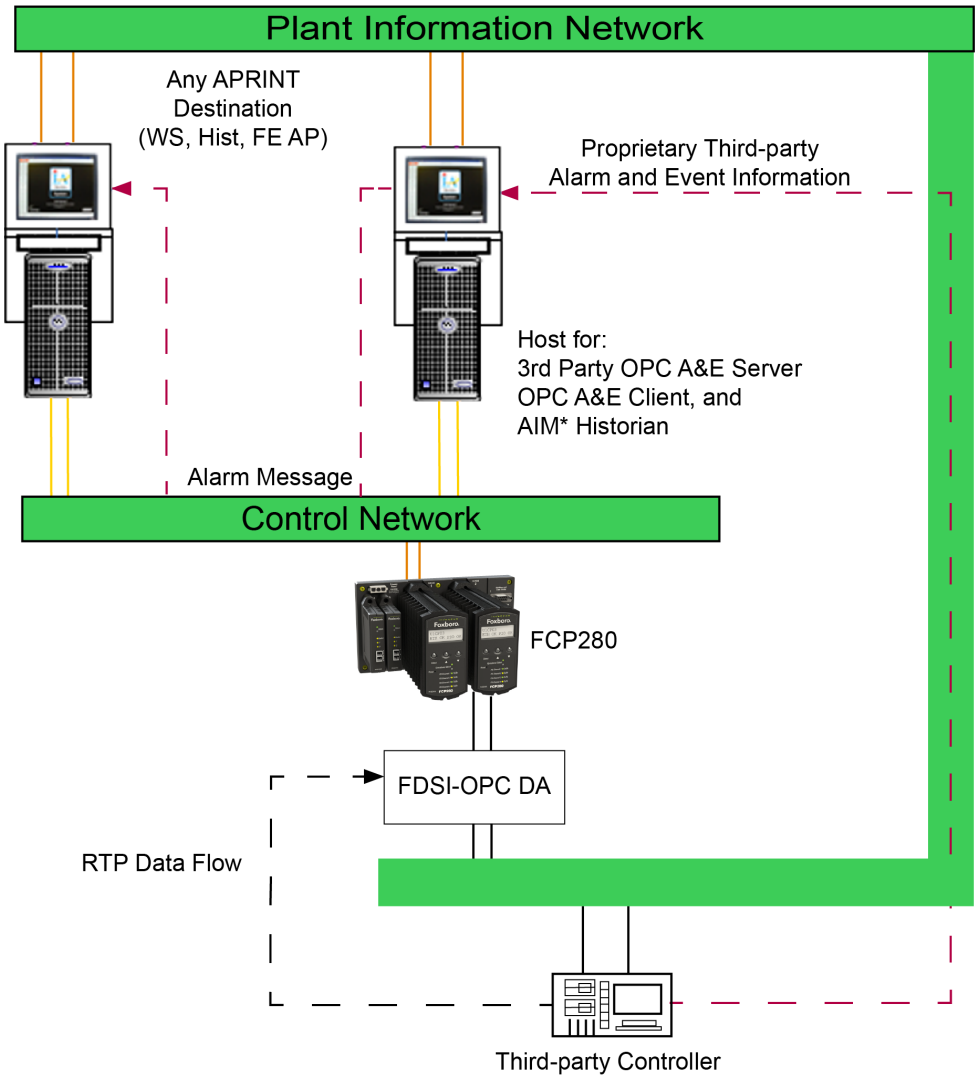


Figure 5 - OPC A&E Server and Client on Different Machines

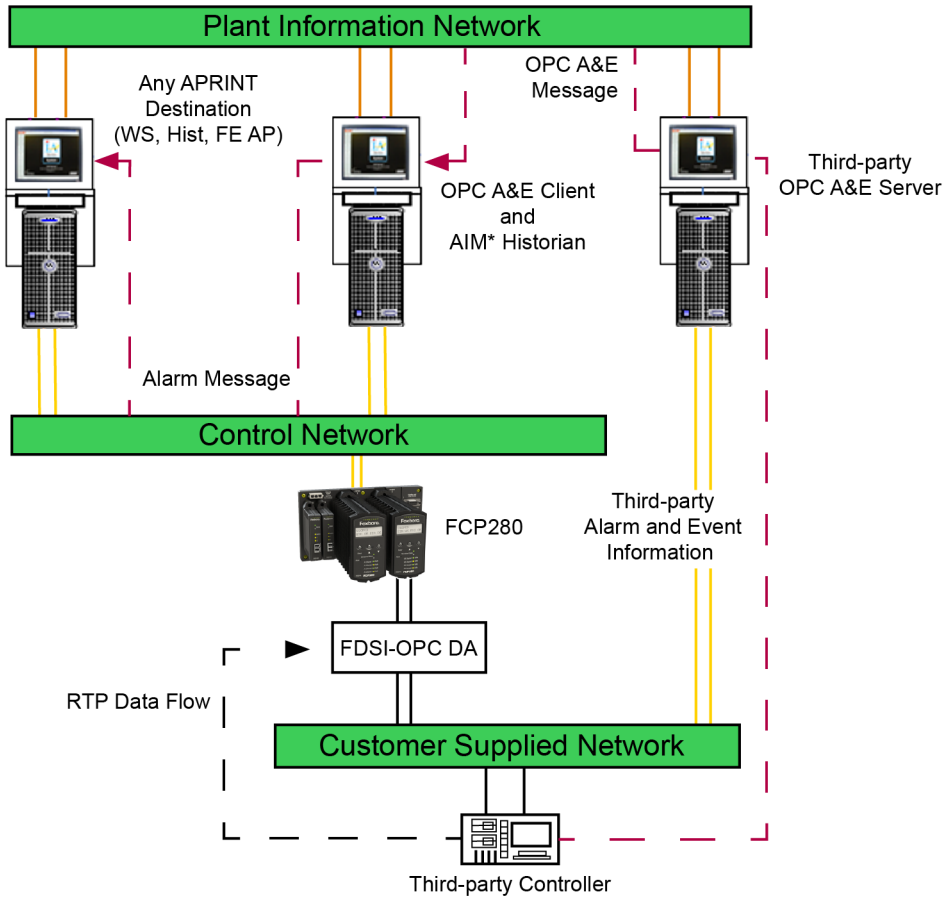
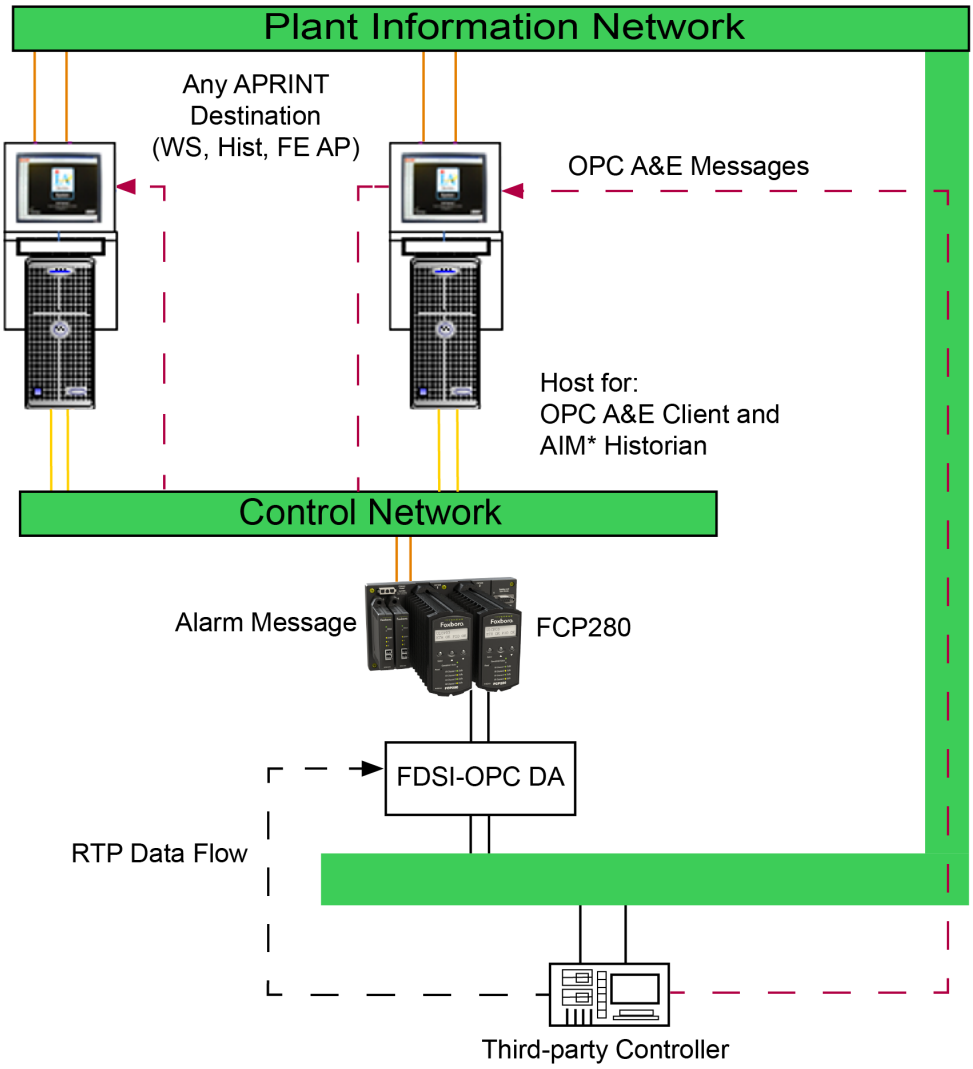


Figure 6 - OPC A&E Third-party Device with Embedded Server



Requirements

- EcoStruxure™ Foxboro™ DCS Control Core Services v9.0 or later or I/A Series software v8.8.
- Earlier versions of the I/A Series software cannot host the OPC A&E Client. However, the OPC A&E Client can send messages to alarm destinations that are Nodebus based.
- EcoStruxure™ Foxboro™ DCS AIM*API software installed, configured and running.
- AIM*AT™ v3.2.4 or later, installed and configured with an instance running on the workstation where the OPC A&E Client software will be installed. AIM* Historian is licensed by real-time points recorded. Therefore, if AIM* Historian is already licensed for use on the system, the OPC A&E Client required AIM* Historian instance does not require a new AIM* Historian license because it records messages and not real-time points. If AIM* Historian is not already licensed, purchase the smallest AIM* license available.
- The station may require resource resizing.
- The DCOM settings may require adjustments to the authentication level.
- OPC A&E specification v1.1 is supported.

Ordering Information

The OPC A&E Client software is licensed per workstation. The OPC A&E Client license permits the use of as many instances on the workstation as the machine will support.

- Q0303AR - OPC A&E Client Software
- Q0303AS - OPC A&E Client Software Upgrade

WARNING: This product can expose you to chemicals including lead and lead compounds, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to www.p65warnings.ca.gov/.

Schneider Electric Systems USA, Inc.
70 Mechanic Street
Foxboro, Massachusetts 02035–2040
United States of America

Global Customer Support: https://pasupport.schneider-electric.com

As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.

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