

# MX-AOPC UA Suite

***Cohesive, secure, and reliable connection between device, database, and SCADA***



- > Create a secure data connection between OT and IT systems
- > Efficient data acquisition through push-type transmission (report by interval or exception method)
- > Automatic data updates from SD cards following network failures
- > On-demand and on-schedule data supplement as a complement to automatic data supplement

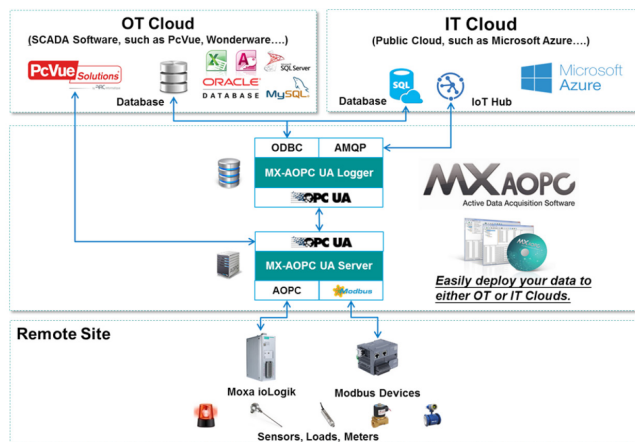
## Introduction

The MX-AOPC UA Suite includes MX-AOPC UA Server, Viewer, and Logger, which are all based on the OPC UA (Unified Architecture) standard. OPC UA is the next generation OPC standard (IEC 62541), which provides a cohesive, secure, and reliable framework for accessing real-time and historical data. MX-AOPC UA Server not only inherits Moxa's patented active monitoring technology, but also supports Modbus protocol for polling data, to provide a secure and

reliable gateway bridging edge devices to the SCADA system. MX-AOPC UA Viewer is an OPC UA client that allows users to easily view tag values and server statuses. MX-AOPC UA Logger is another handy client for converting and uploading data logs to the central database. With Moxa's MX-AOPC UA Suite, users can now instantly receive alarms, real-time updates, and save historical data, allowing for both timely risk prevention and solid maintenance response.

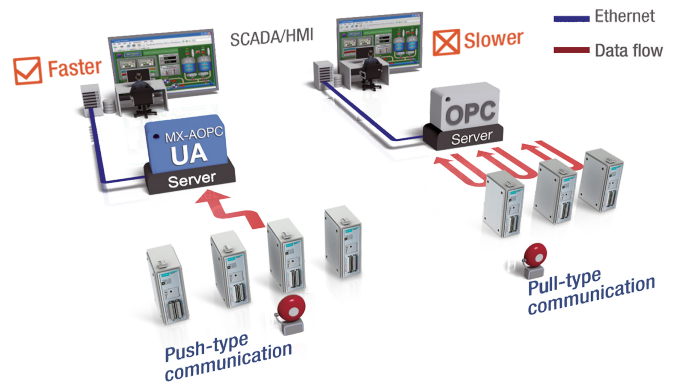
## Create a Secure Data Connection between OT and IT Systems

Traditionally, it has been difficult for OT and IT engineers to write agent programs to poll the thousands of registers used for shop floor data. The difficulty stems from the fact that shop floor data is handled using fieldbus protocols, but the data needs to be written to an IT database. The difficulties are compounded considerably when it comes time to scale up a facility, particularly since the additional load created can put a tremendous strain on systems that rely on legacy data acquisition methods. MX-AOPC UA Suite can be used to collect data from shop floor registers via a Modbus protocol. The data can then be provided to an OPC UA client such as a SCADA system, or MX-AOPC UA Logger can be used to write the data to an IT database, all without the need for additional programming effort. As an added benefit, MX-AOPC UA Suite provides security policy options for encryption and certificate exchange to ensure the security of data connections and transmissions.



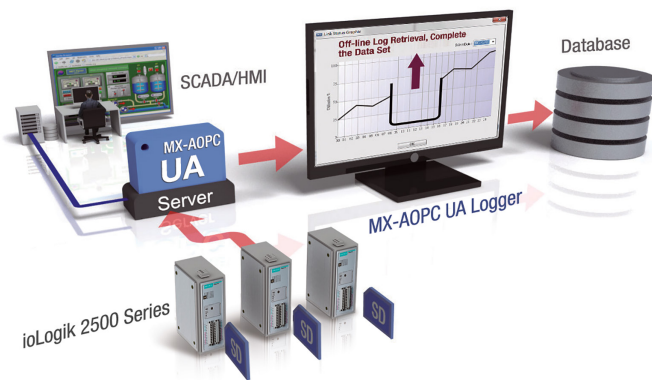
### Efficient Data Acquisition through Push-Type Transmission (report by interval or exception method)

Moxa has pioneered the concept of “active type” OPC software in the automation industry. The patented MX-AOPC UA Server offers both polling and non-polling architectures alongside the standard OPC UA protocol, giving users the alternative of pull- or push-based communication from Moxa’s devices. With push technology, I/O status is updated to MX-AOPC UA Server only when there is an I/O status change, a pre-configured interval is reached, or when a request is issued by a user. This application of push technology cuts metadata overhead, resulting in faster I/O response times and more accurate data collection than traditional pull-based architectures. With Moxa’s “active technology” advantage, users can now instantly receive alarms and real time updates, allowing for timely risk response.



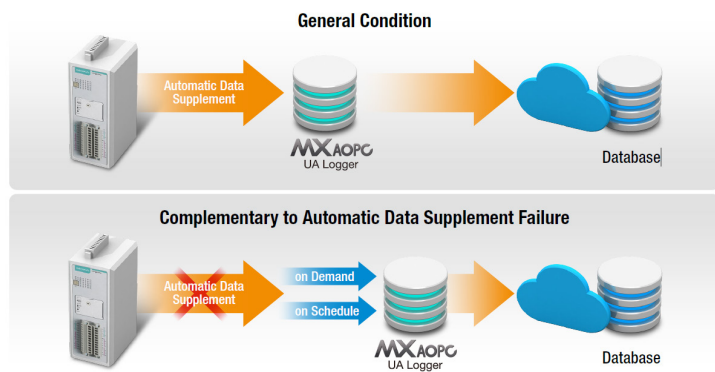
### Automatic Data Supplement from SD Cards Following Network Failures

One of the benefits of using RTUs is that data can be collected over a network from a central site. In an ideal operation, following a network failure RTUs should be able to transmit data logs that were collected while the network was offline. Moxa’s MX-AOPC UA Logger makes this not only possible, but easy. MX-AOPC UA Logger provides a standard OPC interface that interacts with MX-AOPC UA Server for real-time data collection. After each network connection, MX-AOPC UA Logger will compare historical data stored on the SD cards located in individual devices with the real time data it has already stored locally, and then supplement any missing data by requesting that the RTU retransmit the lost data.



### On-Demand and On-Schedule Data Supplement as a Complement to Automatic Data Supplement

Automatic data supplement can fail due to unstable network conditions or a failure to access the database. To help avoid these problems, MX-AOPC Logger supports “on demand” and “on schedule” data supplement. “On demand data supplement” allows users to manually trigger data supplement at any time, whereas “on schedule data supplement” allow users to configure Logger to automatically execute a data supplement at the same time every day.



## Specifications

### Hardware Requirements

**CPU:** Intel Pentium 4 or above

**RAM:** 512 MB (1024 MB recommended)

**Communication Interface:** Ethernet or serial

### Software Requirements

**Operating System:** Microsoft Windows 7/8/10, Microsoft Windows Server 2003/2008/2012

**Microsoft .NET Framework:** v3.5 Service Pack 1

**Editor (optional):** Microsoft Office 2003 (Access or Excel) or later

**Database (optional):** Oracle database (x86), Microsoft SQL Server (x86), MySQL (x86)

**Cloud (optional):** Microsoft Azure

### OPC UA Server Specifications

**OPC Unified Architecture:** 1.01

**OPC Data Access:** 1.0a, 2.0, 2.05a, 3.0

**Device Protocols:** Moxa AOPC, Modbus/TCP (master), Modbus/RTU (master)

### OPC UA Logger Specifications

**OPC Unified Architecture:** 1.02

### Products that Support the AOPC Protocol

**Series Names:** ioLogik 2500 Series, ioLogik E1200 Series, ioLogik E1500 Series, ioLogik E2200 Series, ioLogik E4200, ioLogik W5300 Series, ioPAC 8500 Series, ioPAC 8600 Series

### Products that Support Data Supplement Auto Mode, on Schedule, and on Demand

**Series Names:** ioLogik 2500 Series

**Note:** Please check Moxa's website for the most up-to-date list of supported products.

## Ordering Information

### Available Versions

**MX-AOPC UA Server (trial version):** 30-day trial version that supports up to 30 device connections (now available for download from Moxa's website)

**MX-AOPC UA Server (free version):** Free version that supports up to 30 device connections, with unlimited runtime operations (download trial version first; requires registering your PC User Code\* on Moxa's website at <http://license.moxa.com/>)

**MX-AOPC UA Server (paid version):** Unlimited device connections and runtime operations (requires purchasing a registration code from Moxa)

**MX-AOPC UA Logger (trial version):** 30-day trial version that supports up to 1 MX-AOPC UA Server connection and up to 1 data logger (now available for download from Moxa's website)

**MX-AOPC UA Logger (free version):** Free version that supports up to 1 MX-AOPC UA Server connection and up to 1 data logger, with unlimited runtime operations (download trial version first; requires registering your PC User Code\* on Moxa's website at <http://license.moxa.com/>)

#### \*How to Obtain a PC User Code:

1. Select the Help menu from MX-AOPC UA Server or Logger, and then click Licensing > License Info
2. After registering, save the license file to your PC.
3. Unzip the file and then import it into MX-AOPC UA Server or Logger from Help > Licensing > Add License File