



AIC OpcUa Extender Server



The Information Hub for gathering OT data from industrial field to IT systems

AIC OpcUa Extender Server is a utility within the OPC UA Server that gathers PLC data and information from SCADA/HMI systems. It subsequently uploads this data to IT systems and SQL databases through a configured UI.

The key functions include collecting PLC tags, converting tags to nodes, accessing the data of these nodes, and logging historical data, alarms, events, and storing node data in SQL database format.

AIC OpcUa Extender supports standard and customized Information models, while ensuring low latency throughput. Users can directly access PLC/HMI tags by Modbus RTU and Modbus TCP drivers, or by importing nodes/tags from *.csv file.

AIC OpcUa Extender facilitates the storage of tags/nodes in MySQL, Microsoft SQL Server, and Microsoft SQL Azure. This process requires no prior SQL coding experience, as data can be appended or updated. Thus, this utility enables effective communication between OT and IT systems, fostering integrated applications.

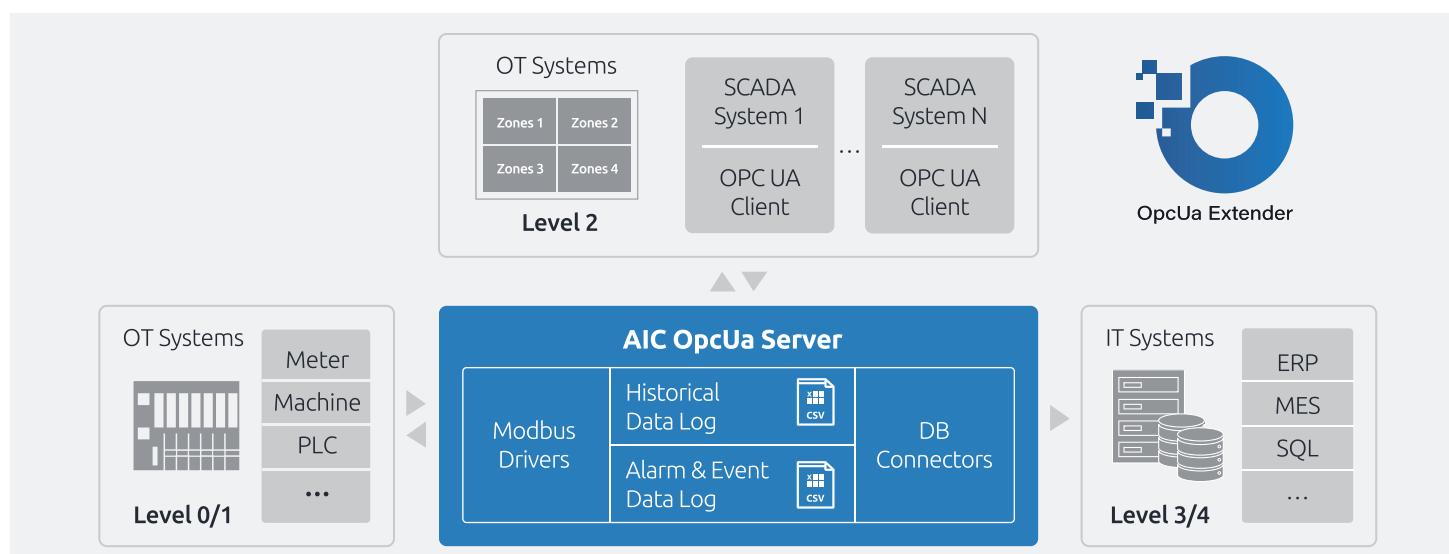


freedownload



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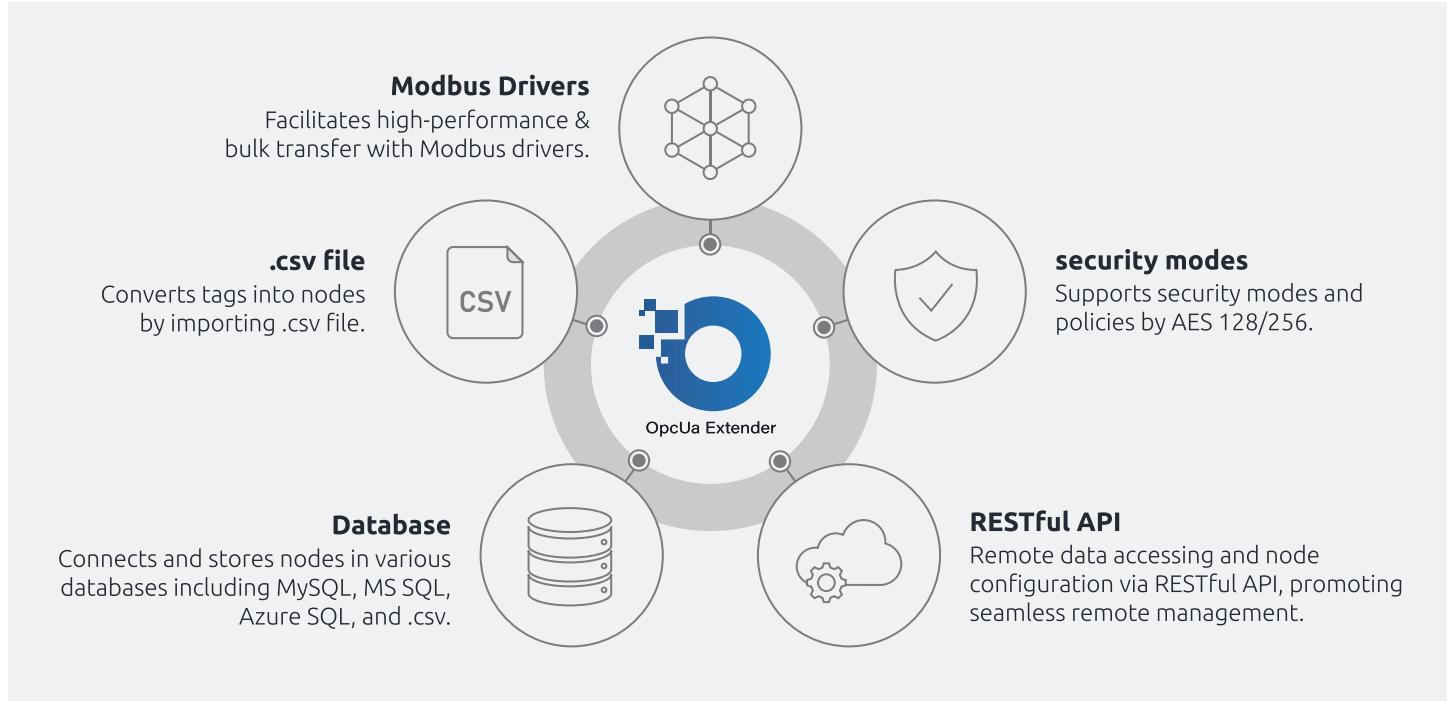
AIC OpcUa Extender System Architecture





AIC OpcUa Extender Server

AIC OpcUa Extender Key Features



AIC OpcUa Extender Specifications

Function	Description
Status	<ul style="list-style-type: none">- Provides control to run, stop, or restart the services of the OPC UA Server.- Allows viewing the address of the OPC UA Server.- Facilitates configuration of tags and nodes for customized functionality.- Offers the ability to configure auto-run options.
Endpoints	<ul style="list-style-type: none">- Configure all affiliated settings of the OPC UA Server address.- Configure security modes and security policies by AES 128/256.
Users	<ul style="list-style-type: none">- Provides role management capabilities, including the ability to authorize and manage various roles such as Observer, Operator, Configure Admin, and Security Admin.
Industry Protocols	<ul style="list-style-type: none">- Support various drivers, including Modbus RTU, Modbus ASCII, and Modbus TCP.
Historical	<ul style="list-style-type: none">- Configure the queue size, sampling rate and log policy, with the ability to save in .csv format.
Alarms & Events	<ul style="list-style-type: none">- Set the alarm points and threshold values, including High, High High, Low, Low Low.
Database	<ul style="list-style-type: none">- Connect to databases, enabling the storage of historical data in MySQL, Microsoft SQL Server and Microsoft SQL Azure.
Options	<ul style="list-style-type: none">- Support RESTful API to accessing and operating the OPC UA Server.
Support	<ul style="list-style-type: none">- Windows 10, Windows 11, Windows Server



AIC OpcUa Extender Server

AIC OpcUa Extender Functions & UI

Server Status & Settings

OpcUa Ext. Server Utility: Enterprise Edition

Status Database Endpoints Users Option Industrial Protocols Historical License Alarm & Event

OpcUa Extender Server Status

Status: Running
UA TCP: opc.tcp://3096-CL-NB2:48010

Configuration

Server Config: ServerConfig.xml
Node Config: NodeConfig.xml
Tag Config: TagConfig.csv

Run OpcUa Extender server automatically at startup in Windows.
 Enable OpcUa Extender server system logging.

Server Operation: Restart Start Stop

確定 取消 套用(A)

Security Settings

OpcUa Ext. Server Utility: Enterprise Edition

Endpoints Database Options Industrial Protocols Historical License Alarm & Event

Opc UA Information

Application URI: urn:OpcUa:OpcUaServer
UA TCP Address: opc.tcp://3096-CL-NB2:48010
Port: 48010
Server Name: 3096-CL-NB2
Security Modes: None Sign SignEncrypt
Security Policies: Basic256Sha256 (uatcp-uasc-uabinary)
 Aes128_Sha256_RsaOaep (uatcp-uasc-uabinary)
 Aes256_Sha256_RsaPass (uatcp-uasc-uabinary)

Get Server Cert. Renew Server Cert. Open trusted Location.

確定 取消 套用(A)

User Management

OpcUa Ext. Server Utility: Enterprise Edition

Users Database Options Industrial Protocols Historical License Alarm & Event

Administrator

Name: root Password: Reset

Server Users

#	Name	Roles
01	Guest	Observer
02	Operator	Observer, Operator, Configure Admin

Enable Windows Logon Enable Certification Anonymous

確定 取消 套用(A)

Configure the Modbus Drivers

OpcUa Ext. Server Utility: Enterprise Edition

Protocols Database Options Industrial Protocols Historical Alarm & Event

Protocol Config:

#	Protocols	Parameters	Slave ID
01	Modbus ...	IP: 127.0.0.1:502	1

Add Modbus TCP
Add Modbus RTU
Add Modbus ASCII
Edit
Delete
Delete All
Restore

確定 取消 套用(A)

Historical Data Settings and Logs

OpcUa Ext. Server Utility: Enterprise Edition

Historical Database Options Industrial Protocols Historical Alarm & Event

Settings

Historical Config: HistDef.cfg
Queue Size: 1000
Default Sampling: 600 ms
 Run Historical function automatically at service

Log Config

Historical Log Folder: HistLog
Log Policy: Data Update
Number of Records: 2000

Max. Node Len: 500 Historical Config: HistDef.cfg
Min. Sampling Rate: 500

Apply Exit

Alarms & Events Setting and Logs

OpcUa Ext. Server Utility: Enterprise Edition

Alarm & Event Database Options Industrial Protocols Historical Alarm & Event

Settings

Alarm & Event Config: AlmEvtDef.cfg
 Run Alarm & Event function automatically

Default Limit Setting

High Limit: 80.0003
Low Limit: 20.0001

Max. Node Len: 500 Alarm_Event Config: AlmEvtDef.cfg

Apply Exit

Store OPC UA nodes to Database

OpcUa Ext. Server Utility: Enterprise Edition

Database Database Options Industrial Protocols Historical Alarm & Event

Connection Settings

Database: Microsoft SQL Server 2019
Hostname:
Username:
Password:
Confirm Password:
Log Config
Default Schema: OpcUaExtDb Log Policy: Data Update
Default Table: Historical

Init. Database Test Connection 確定 取消 套用(A)





AIC OpcUa Extender Server

AIC OpcUa Extender Software Building Blocks

Client								
	HMI	SCADA		OPC UA Client		OPC UA Subscriber		
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OPC UA Service	Tag Conf.	Modbus/RTU	Security Policy	Observer	MySQL 8	MS SQL 2019	Azure SQL	Editor
	Node Conf.	Modbus/ASCII		Operator		MS SQL 2017		Log Policy
	Running/Stop	Modbus/TCP		Configure Admin	MySQL 5	MS SQL 2016		Limits Setting
Service	Status	Industry Protocols	Endpoints	User	Database		Queue Size	Configurator
Operation System	Windows 10 IoT		Windows 11		Windows Server			

AIC OpcUa Extender Editions

Functions/Edition	Community	Standard	Professional	Enterprise
Max Connection Sessions of OPC UA Client	1	2	Unlimited	Unlimited
Max Objects/Nodes	5/50	10/100	Unlimited	Unlimited
Status	v	v	v	v
Endpoints	v	v	v	v
Users	1	2	Unlimited	Unlimited
Industrial Protocol	v	v	v	v
Historical	v	v	v	v
- Max Historical Queue Size	100	1,000	20,000	20,000
- Log size per file (.csv)	1,000	60,000	60,000	60,000
- min Historical Sampling Rate	5,000 ms	1,000 ms	500 ms	500 ms
Alarms & Events	--	v	v	v
Database	--	--	v	v
- Connection Sessions	--	--	2	Unlimited
Option (Remote Control by RESTful API)	v	v	v	v
Authorization	--	Permanent License	Permanent License	Permanent License
P/N	--	PAICH10060024	PAICH10060025	PAICH10060026