



Powering Interoperability.



Matrikon® FLEX™

OPC UA for CODESYS

IT
DT
OT

Complete OPC UA Development &
Configuration Tools For CODESYS Systems



www.MatrikonOPC.com/SDK

Matrikon® FLEX™ Suite for CODESYS® OPC UA Servers

The Matrikon FLEX OPC UA development suite delivers a complete set of tools for native CODESYS OPC UA server development and management.

The Matrikon FLEX based suite of tools for developing native CODESYS OPC UA servers enables controller manufacturers, machine builders, and application engineers to offer customers an unbeatable combination of best in class OPC UA connectivity running on the market-leading soft-PLC environment.

With a complete set of CODESYS native OPC UA development tools and a native CODESYS Editor plugin, vendors can easily provide customers with the latest OPC UA functionality (like Reverse Connect) out of the box- directly in the CODESYS environment.



**Deliver the best OPC UA has to offer
on CODESYS® with Matrikon® FLEX™**

Matrikon FLEX for CODESYS Benefits

True Platform independence

Matrikon FLEX can be used to create OPC UA servers that run with the CODESYS Control runtime system on most platforms. One SDK for all product lines.

Complete Scalability

Matrikon FLEX based OPC UA servers can be configured to run on all types of devices from embedded systems to large multitasking applications.

Highly Reliable

Tested on most major platforms, optimized for embedded and PC platforms.

Rapid Implementation

Clear documentation, evaluation kits, and accelerator code for CODESYS implementation help minimize prototype setup (within days), training, and product development.

Easy CODESYS Native Configuration

Configure all your OPC UA functionality using the native CODESYS Editor.

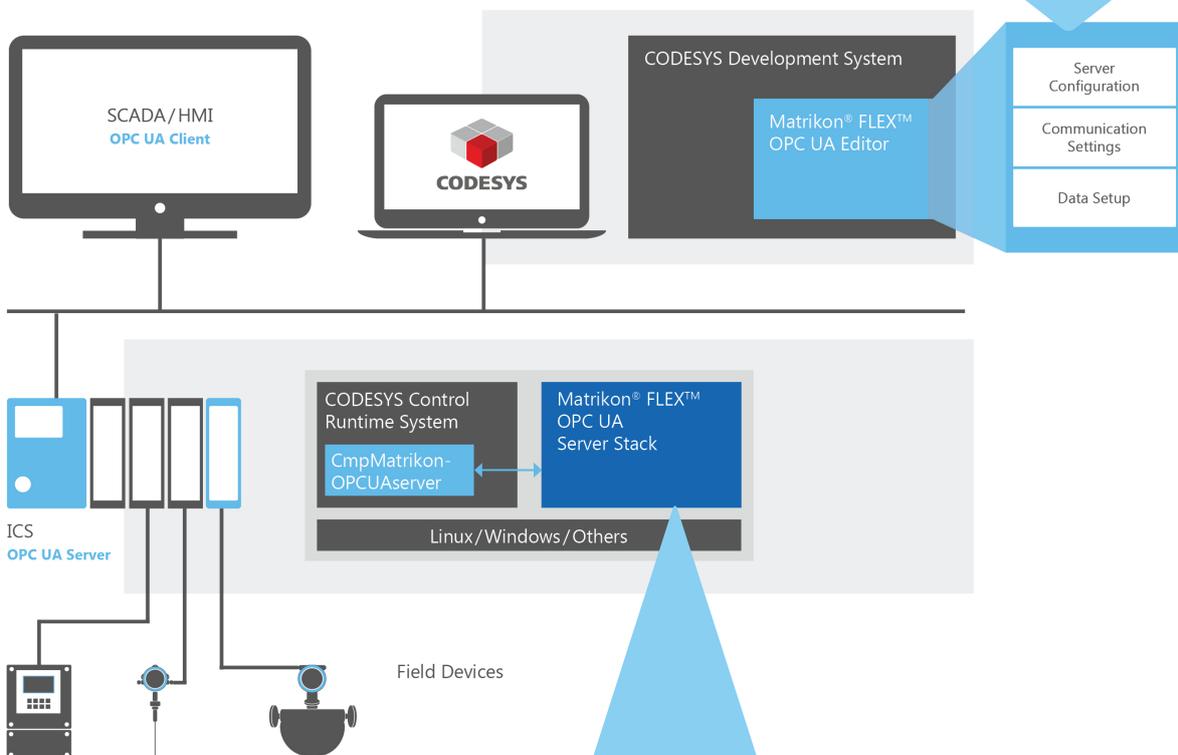
Expert Support and Development

BE.services can be contracted for development, extension or integration services - time and cost saving through 3rd-party expertise

Matrikon® FLEX CODESYS Editor Plug-In

Access to the capabilities of your Matrikon FLEX based OPC UA server with the native Matrikon® FLEX CODESYS Editor.

Beyond simple OPC UA real-time data (OPC UA DA) variable selection, this native CODESYS Editor plug-in lets your customers configure, fine-tune, and monitor the OPC UA functionality built into your product.



Matrikon® FLEX OPC UA SDK + Accelerator Code

Matrikon FLEX, the leading OPC UA SDK runs natively in the CODESYS environment which gives your customers the best options for what they want to do with OPC UA.

Accelerator code helps your developers rapidly and easily integrate the Matrikon FLEX SDK into their CODESYS projects.

Secure OPC UA Network Traversal Made Easy

Open new solution possibilities with secure bi-directional OPC UA traffic across Firewalls

Empower your customers with expanded, Industrie 4.0/IIoT era connectivity options right out of the box regardless of where your product sits on their network - **With no extra development on your part.**

With a Matrikon FLEX based OPC UA server running natively in CODESYS, you can easily enable your device or application to call out to an OPC UA client to establish secure bi-directional connectivity across firewalls.

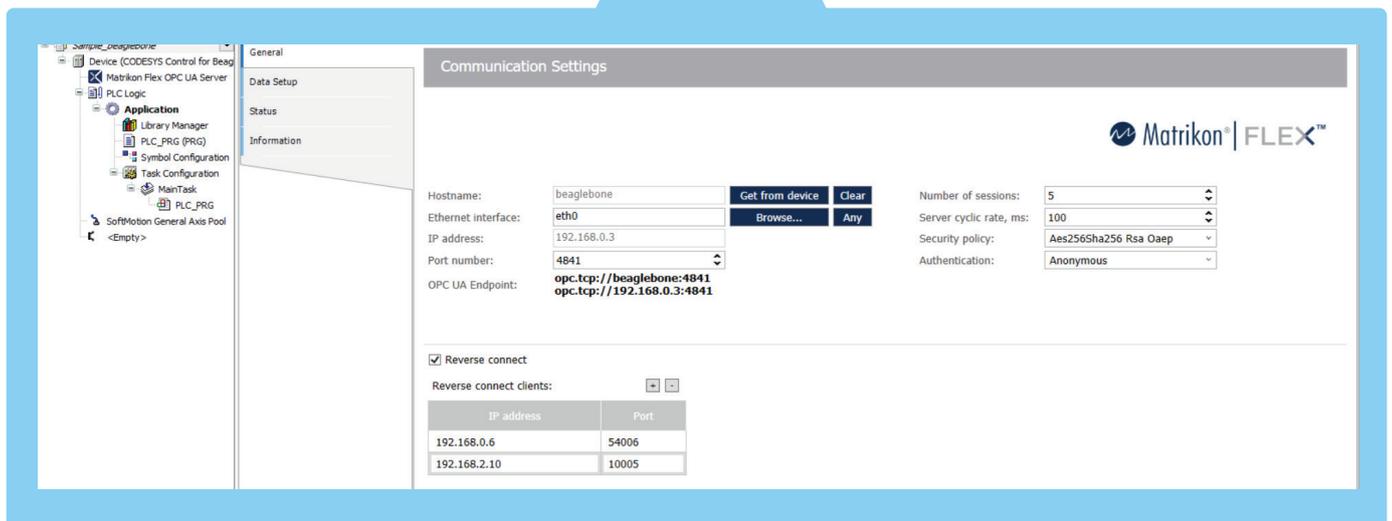
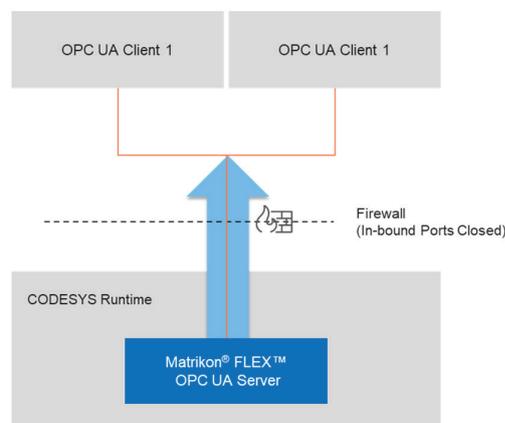


Figure: Matrikon FLEX CODESYS Editor plugin makes it easy to configure your Matrikon FLEX based CODESYS OPC UA Server to call multiple OPC UA clients across firewalls (with no in-bound ports open). This enables bi-directional communications using the latest OPC UA standard's ReverseCall functionality.

Enhanced CODESYS Editor OPC UA Configuration

Native CODESYS Editor management of all your Matrikon FLEX based OPC UA Server

Enable users to manage every aspect of your Matrikon FLEX based OPC UA server right from their CODESYS Editor using the **free Matrikon FLEX CODESYS Editor plugin**.

Fully integrated into the CODESYS Editor, the Matrikon FLEX plugin allows users to:

- Configure ReverseConnect calls to multiple OPC UA Clients
- Manage every aspect of how all data from anywhere in the CODESYS environment is exposed via OPC UA
- Monitor a variety of OPC UA Server related statistics

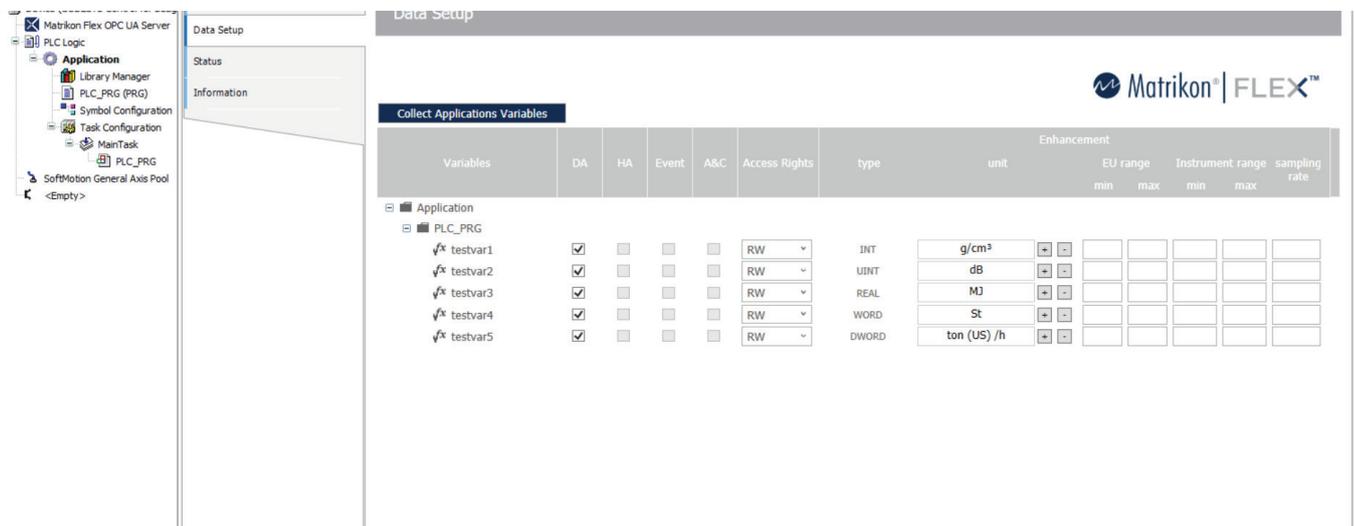


Figure: Matrikon FLEX CODESYS Editor plugin being used to select CODESYS values to be published with the ability to define additional mets-data (ex. Engineering Units) and the types of OPC UA facets to use.



DOWNLOAD
THE CODESYS
EDITOR

Support and service experts for CODESYS related FLEX development



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T: +49-831-9606-9991

Matrikon FLEX OPC UA SDK Overview

Technical Specifications & Requirements				
Supported Profiles	Supported Facets	Supported Services	Other	
Server <ul style="list-style-type: none"> Nano Embedded Device Server Profile Micro Embedded Device Server Profile Embedded UA Server Profile Standard UA Server Profile Client <ul style="list-style-type: none"> Standard UA Client Profile 	Facet List <ul style="list-style-type: none"> Method Server Facet Auditing Server Facet Data Access <ul style="list-style-type: none"> Embedded DataChange Subscription Server Facet Standard DataChange Subscription Server Facet Enhanced DataChange Subscription Server Facet DataAccess Server Facet Core Characteristics <ul style="list-style-type: none"> Documentation Server Facet Core Server Facet Base Server Behavior Facet Attribute WriteMask Server Facet File Access Server Facet Auditing Server Facet Global Certificate Management Server Facet Transport <ul style="list-style-type: none"> UA-TCP UA_SC UA Binary Facet Security <ul style="list-style-type: none"> Security User Access Control Full Facet Security User Access Control Base Facet Best Practice - Audit Events Best Practice - Alarm Handling Best Practices - Random Numbers Best Practices - Timeouts Best Practices - Strict Message Handling User Token <ul style="list-style-type: none"> User Token - Anonymous Facet User Token - User Name Password Server Facet User Token - X509 Certificate Server Facet Events <ul style="list-style-type: none"> Standard Event Subscription Server Facet Address Space Notifier Server Facet 	<ul style="list-style-type: none"> Alarms and Conditions <ul style="list-style-type: none"> A&C Base Conditions Server Facet A&C Refresh2 Serer Facet A&C Address Space Instance Server Facet A&C Enable Server Facet A&C Alarm Server Facet Historical Access <ul style="list-style-type: none"> Historical Raw Data Server Facet Historical Data AtTime Server Facet Historical Access Modified Data ServerFacet Historical Data Insert Server Facet Historical Data Update Server Facet Historical Data Replace Server Facet Historical Data Delete Server Facet Base Historical Events Server Facet Historical Event Update Server Facet Historical Event Replace Server Facet Historical Event Insert Server Facet Historical Event Delete Server Facet Client <ul style="list-style-type: none"> Core Client Facet Base Client Behavior Facet Discovery Client Facet Subnet Discovery Client Facet Global Discovery Client Facet Global Certificate Management Client Facet AddressSpace Lookup Client Server Facet Entry Level Support 2015 Client Facet Attribute Read Client Facet Attribute Write Client Facet DataChange Subscriber Client Facet DataChange Client Facet UA-TCP UA-SC UA Binary User Token - Anonymous Facet Method Client Facet Event Subscriber Client Facet Base Event Processing Client Facet Notifier and Source Hierarchy Client Facet Advanced Type Programming Client Facet Diagnostic Client Facet User Token - User Name Password Client Facet User Token - X509 Certificate Server Facet 	Service List <ul style="list-style-type: none"> Discovery Service Set <ul style="list-style-type: none"> FindServer GetEndpoint Secure Channel Service Set <ul style="list-style-type: none"> OpenSecureChannel CloseSecureChannel Session Service Set <ul style="list-style-type: none"> CreateSession ActivateSession CloseSession ReverseConnect View Service Set <ul style="list-style-type: none"> Browse BrowseNext TranslateBrowsePath RegisterNodes UnregisterNodes Attribute Service Set <ul style="list-style-type: none"> Read HistoryRead Write HistoryUpdate Method Service Set <ul style="list-style-type: none"> Call MonitoredItem Service Set <ul style="list-style-type: none"> CreateMonitoredItems ModifyMonitoredItems SetMonitoringMode SetTriggering DeleteMonitoredItems Subscription <ul style="list-style-type: none"> CreateSubscription ModifySubscription SetPublishingMode Publish Republish TransferSubscription 	Address Space <ul style="list-style-type: none"> Supports dynamic creation and deletion of the following node and reference types: <ul style="list-style-type: none"> Folders Views Base Data Variables All Data Access Node Types Hierarchical References Complex Object Type and Variable Types (Vendor Specific) Hierarchical and Non-hierarchical References Multi-dimensional Arrays Storing Address Space in ROM (Flash) Address Space Creation Using XML Import SDK Features <ul style="list-style-type: none"> Synchronous and Asynchronous Data Source I/O Localization Multi-dimensional Arrays Store Address Space in ROM (Flash) Single- or Multi-threaded Support Security Support with Wrappers (MbedTLS, NanoSSL and OpenSSL) Address Space Creation with Help of XML Nodeset Files (using Tinyxml2 Library or Libxml2 Library) Security Policy <ul style="list-style-type: none"> Security Policy - None Security Policy - Basic128Rsa15 Security Policy - Basic256 Security Policy - Basic256Sha256 Distribution <ul style="list-style-type: none"> Obfuscated ANSI C++98 Source Code with C++ API Clear ANSI C++98 Source Code with C++ API

Legacy System & Migration Friendly

Empower customers with a phased OPC Classic to OPC UA migration Path

Maximize ROI

Enable customers with infrastructure that relies on OPC Classic components to easily integrate your OPC UA based CODESYS solutions without the need to replace existing systems with Matrikon Dispatch (FireBridge) and Matrikon OPC UA Tunneller.

Connect Today

Simply pair Matrikon Dispatch FireBridge with Matrikon OPC UA Tunneller™ nodes

and watch your OPC Classic Server data show up at your OPC Classic Client without having to change either of the OPC Classic components!

Be Future Ready

In the future, when you are ready to migrate some or all of your infrastructure to a fully OPC UA based solution, start using the new OPC UA components with FireBridge alongside the rest of your components systems.

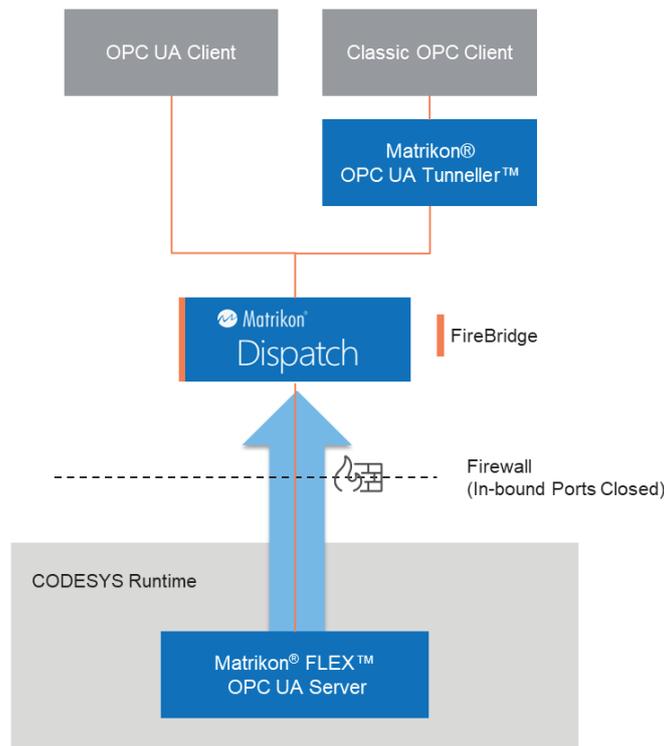


Figure: Many production environments are still using OPC Classic based applications, customers while others have OPC UA clients that do not support ReverseConnect. Customers using your Matrikon FLEX based CODESYS OPC UA server can take advantage of powerful features like Reverse connect by using Matrikon Dispatch and Matrikon OPC UA Tunneler which, enable ReverseConnect and convert between OPC UA and OPC Classic respectively.



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