

**FactoryTalk® Linx v6.30, FactoryTalk® Linx
Gateway v6.30, FactoryTalk® Live Data v6.30,
FactoryTalk® Data Bridge v6.30,
RSLinx® Classic v4.30 (CPR9 SR13)**

What's NEW in Communication Software at Rockwell Automation



expanding human possibility™



PUBLIC

Significant v6.30 Capabilities Planned for Q1 CY2022

Linx

- CIP Security to CompactLogix™ and redundant ControlLogix®, standard and Safety
- Multiple IP addresses / NIC (co-exist with FactoryTalk® Logix Echo)
- Network browser 5015 duplex presentation and GuardLink®
- Options to close CIP Security port for devices and Linx
- Live Data subscriptions at 600 msec to 900 msec

Linx OPC UA Connector

- New base types supported
- Access UA server structures / complex types
- Option to include unsupported types as strings
- Deliver OPC UA Server alarms to FactoryTalk® Alarms and Events

Linx Gateway

- Array element access / enumeration
- Configuration backup / restore
- Limit Professional to 500K tags
- Namespace index per data source (shortcut / endpoint)
- Data Bridge – Option to limit destination updates to trigger tag changes

Linx v6.30 CPR9-SR13.0

Shared services

- Microsoft Windows
 - Validation with Windows 10 20H2, 21H1 and Windows 11
 - Stop supporting Win 7 and Win 10 32bit
 - Elevated DCOM Authorization level
- FactoryTalk® Linx
 - Released with Logix version 34 / FactoryTalk® View 13
 - CIP Security to redundant ControlLogix® and CompactLogix™ L3z (standard and safety)
 - CIP Security user option to disable port 2221
 - Multiple NIC IP addresses
 - Connect to device not previously browsed
 - New @TrackedState, @RedundancyEnabled and @RedundancyState pre-defined tags
 - Permit communications with L8 controllers containing new Time data types
- FactoryTalk® Linx Network Browser
 - 5015 single view for redundant modules
 - GuardLink® browsing
 - Browse through CompactLogix™ 1769-L36ERM networks
 - Display offline devices and options to remove
 - Option to disable device CIP Security
 - Option to disable LLDP detection
 - Improved local IP address and CIP port (44818) management
- FactoryTalk® Live Data
 - FactoryTalk® View SE client workstation local tags browse, read & write
 - FactoryTalk® View SE simultaneous writes to redundant HMI tag servers
 - Added 600,700,800,900 msec data subscription rate
 - Tag Browser leading zeros to sort array elements properly
 - OPC-DA client changed default authentication level to packet integrity

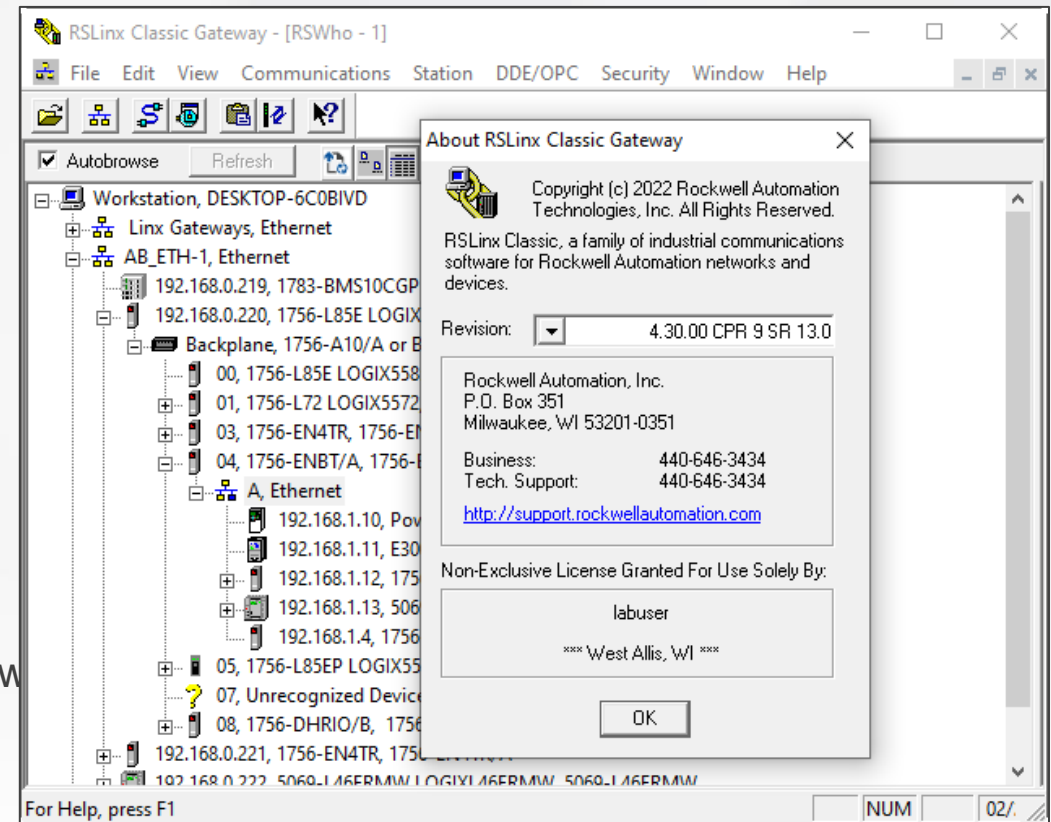
Linx v6.30 CPR9-SR13.0 Cont.

OPC UA and Tools

- FactoryTalk® Linx Gateway
 - Option for local and/or remote OPC-DA clients
 - Add Individual array elements into tag groups
 - Option to enumerate array elements in namespace
 - Configuration Backup / Restore
 - Configuration file hardening
 - Controlled access to certificate management
 - Professional edition limited to 500K tags (vs. unlimited)
 - Invalid scope configuration and workstation renamed warnings
 - Tag browser performance improvements
 - Individual names index for each shortcut / data source
 - OPC-DA server changed default authentication level to packet integrity
 - Chinese and French local language editions
- FactoryTalk® Linx OPC UA Connector
 - Access to data in structures
 - Additional OPC UA Types (option to convert some to strings)
 - OPC UA Server Alarms merged into FactoryTalk® Alarms and Events
 - Controlled access to certificate management
- FactoryTalk® Linx Data Bridge
 - Option to only refresh destination tags when trigger tag changes
- EtherNet/IP Address Commissioning tool v2.00
 - Many usability and productivity enhancements (for example, merge new MAC address into configuration list and check if port 67 is blocked by firewall)

Maintaining connectivity for legacy configurations

- Includes EDS files to support new hardware and firmware
- Improved resiliency
 - Incorporates changes from patches to previous release
 - Completed security ingress testing and resolutions
 - Updates for latest Rockwell Automation security requirements
- Elevated DCOM authorization level to support Microsoft change
- Enable communications with L8 version 34 controllers containing new time data types
 - Also patches to earlier version
 - New types not accessible to OPC Clients



Maintaining support for actively maintained Windows versions

- The FactoryTalk® Linx software portfolio v6.30 and RSLinx® Classic v4.30
 - Supporting the latest Windows 10 builds 20H2, 21H1
 - Added support for Windows 11
- **Blocking installation on Windows 7 and all Windows 10 32bit editions**
 - **Consistent with FactoryTalk® Service Platform and other Rockwell Automation software**

IMPORTANT

Staying current with
Microsoft's lead,
improving security and
performance



Microsoft Creates a More Secure Operating System Environment

Microsoft raising minimum DCOM Authentication Level

Microsoft change in minimum DCOM Authentication Level affects many Rockwell Automation software products in distributed systems

Please review Rockwell Automation Product Notice [PN-1581](#) to learn about **directly** and **indirectly** affected products

- Microsoft delivering DCOM patch in three phases Jun2021, Jun2022, Mar2023
- Deploying Microsoft's June 2022 or March 2023 cumulative update helps prevent Rockwell Automation products from establishing DCOM connections; **systems will no longer function properly**
 - Products using FactoryTalk® Services or FactoryTalk® Live Data are affected
 - Products with OPC-DA communications between computers are affected
 - Products using Windows DCOM APIs to establish connections are affected

Microsoft is addressing a vulnerability ([CVE-2021-26414](#)) as described in Microsoft [KB 5004442](#)

Microsoft's DCOM Hardening change effect is industry wide Any application attempting to establish DCOM connection not using the new minimum authentication level will experience failures

FactoryTalk® Service Platform,
FactoryTalk® Linx Gateway v6.30 and
RSLinx® Classic v4.30 default to DCOM
Packet Integrity

Enabling the latest system capabilities

- FactoryTalk® Linx v6.30 tested and released with Logix version 34 and FactoryTalk® View v13
- FactoryTalk® View V13 notable features
 - [Client local tags](#)
 - Duplicate writes to redundant HMI tag server
 - [Access to OPC UA Server Alarms](#)
 - [Elevated DCOM Authorization level](#)
- Logix version 34 notable features
 - [New time data types](#)
 - CIP Security for ControlLogix® L5580S, CompactLogix™ 5380, 5380P, 5380S2, 5380S3 families
 - [CIP Security to ControlLogix® redundant controllers](#)



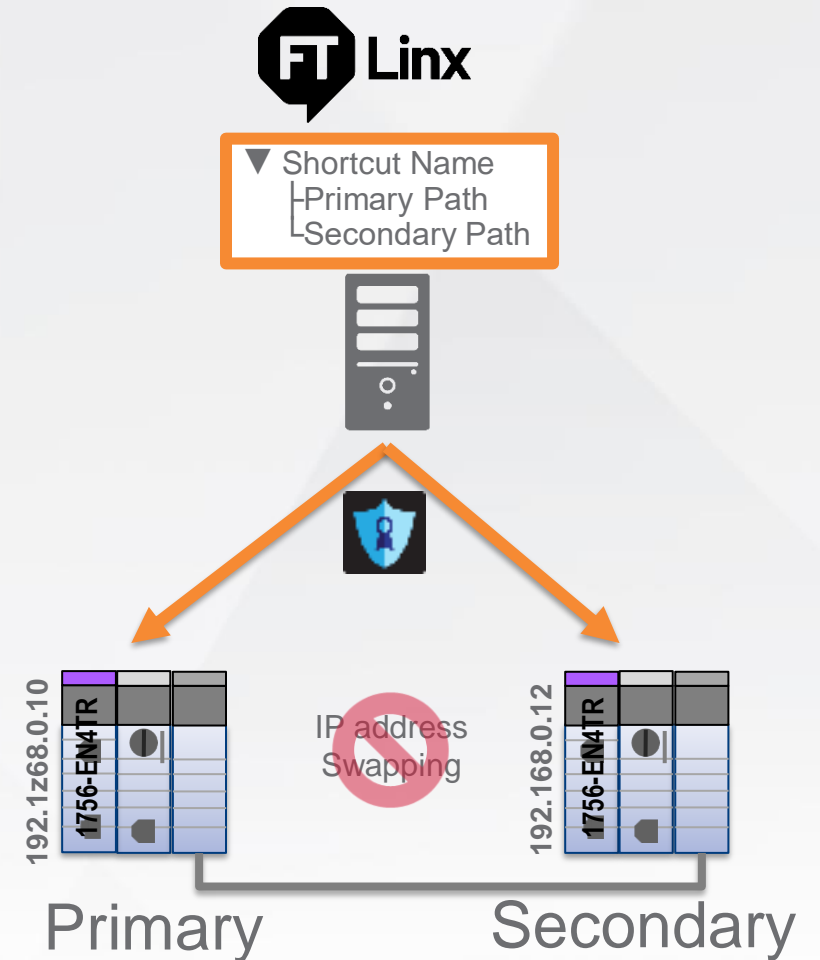


CIP Security to redundant ControlLogix® controllers

Enhances system security in high availability systems

- FactoryTalk® Linx v6.11 and Logix version 32 added support for CIP Security
 - Limited to single controller configurations
- ControlLogix® version 33 added support for ControlLogix L8 controllers in redundant configurations, but excluded CIP Security
- FactoryTalk® Linx v6.30, FactoryTalk® Policy Manager v6.30 and version 34 redundant ControlLogix L8 controllers add the ability to utilize CIP Security
 - Must utilize 1756-EN4TR v4.001 for communications
 - Supports Studio 5000® Logix Designer communications
 - Supports acquisition of Logix controller data
 - Utilize the FactoryTalk® Linx “Redundant ControlLogix®” shortcut to provide fast switchover recovery

FTL ≥ v6.30, Logix ≥ version
34, 1756-EN4TR ≥ v4.001,
FTPM ≥ v6.30

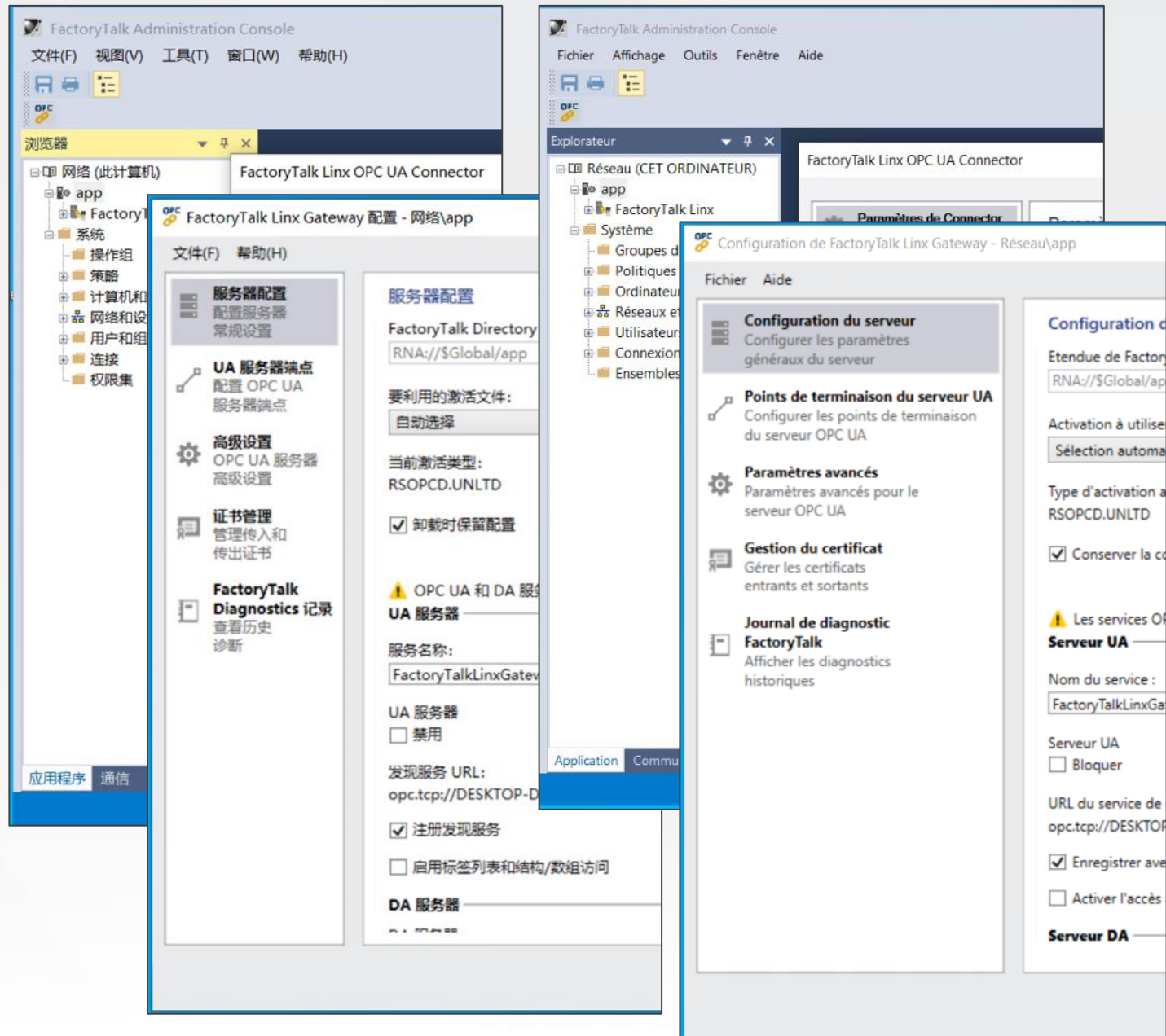




Localized languages

Increased productivity by working in local language

- Previous the FactoryTalk® Linx communications portfolio was limited to English user interface and documentation
- V6.30 adds Chinese and French localized versions
 - Catalog number references English (EN)
 - The Rockwell Automation software download site (PCDC) provides option for alternate languages
 - No additional cost
 - Uses same activation
 - One language installed per workstation
 - GUI, Help, Release notes
- Other languages planned TBD



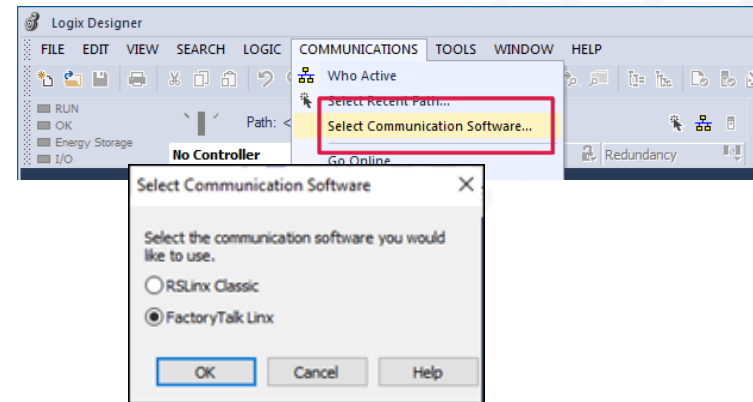
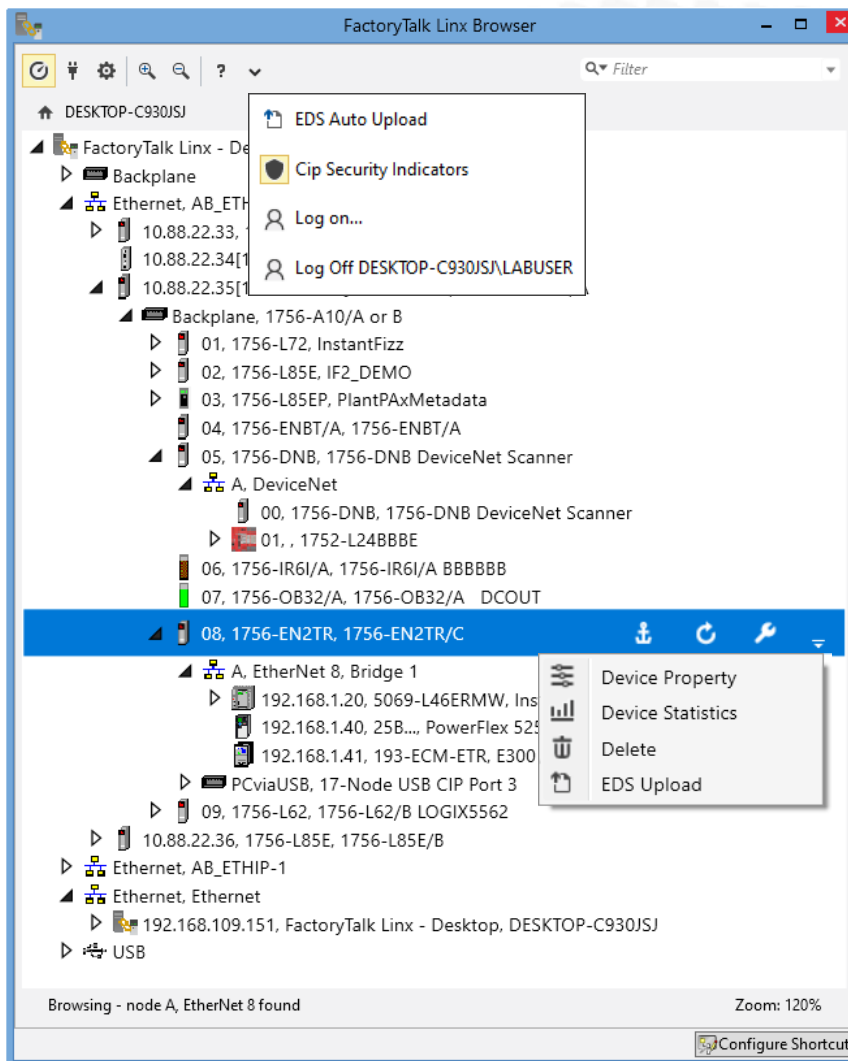
FT Linx Network Browser

More productive alternative to RSLinx® Classic browser



Enhanced Capabilities

- Configure Ethernet drivers in the browser
- Improved driver address management
- View topology and modify config while running
- Topology view ~200 more devices
- Tree zoom (60% to 200%)
- Filter
- Anchor view
- Automatic discovery of bridged devices
- Windows standalone Network Browser v6.10
- CIP Security state indicator v6.11
- Device commissioning v6.20
- Security authorization, audit logging v6.20
- Web user interface component v6.20
- Locate device (Blink LED) v6.21
- Faster Logix 5000™ ControlFLASH™ transfers v6.21
- Config import/export & backup/restore v6.21
- Communicate to device not browsed v6.30
- Option to disable CIP Security & LLDP v6.30
- New platforms: 5015, GuardLink® v6.30



Supported by

- Studio 5000® Launcher version 31
- Studio 5000® Logix Designer version 31
(version 33 defaults to FactoryTalk® Linx, version 34 faster download)
- PlantPAX® Process Object Config. tool v4.10.01
- PlantPAX® MPC v2.0
- ControlFLASH™ v14
- ControlFLASH™+ v1
- CCW v12
- FactoryTalk® AssetCentre v9
- FactoryTalk® Policy Manager v1.0
- FactoryTalk® Linx CommDTM v1
(v1.04.00 support for RSLinx® Classic removed)
- PowerFlex® eHIM v1.0
- Studio 5000 View Designer® v7
- FactoryTalk® Batch v14
- RMC Tool (v9.00)
- FactoryTalk® Logix Echo v1
- More to come...

FT Linx Network Browser

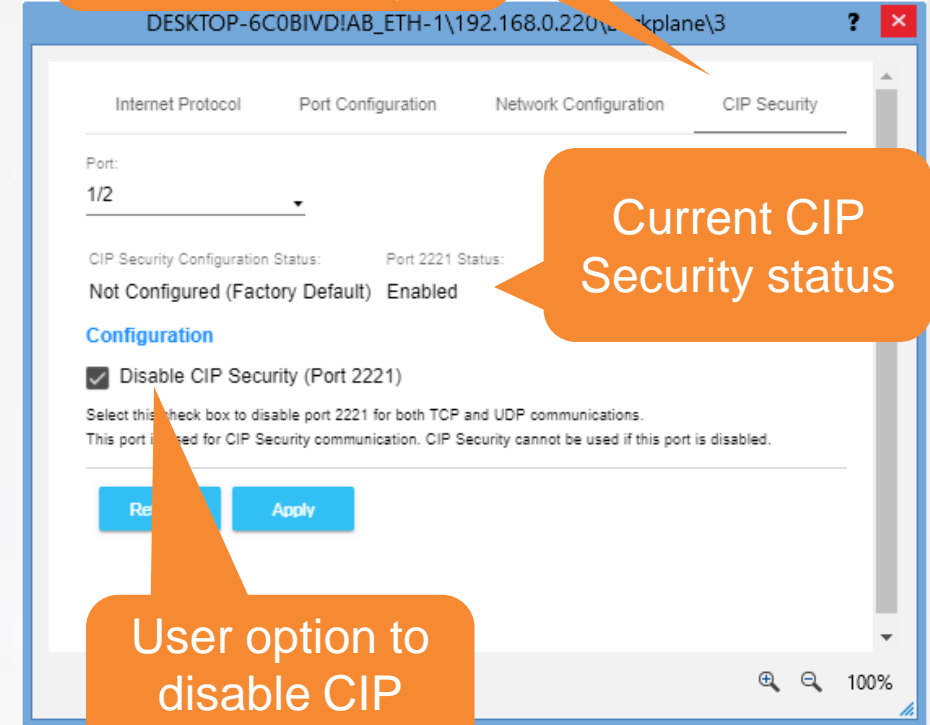
Device Configuration for CIP Secure capable devices

Helps prevent use of CIP Security for DoS attack and avoids IT network scans detection of open port when CIP Security is not being utilized

- Port 2221 is enabled on all CIP Security capable devices
 - IT Network scans detect open port and cypher suites
 - If not using CIP Security, a user could enable it and lock down a portion of the system
 - Explicit messages to devices could be used to disable CIP Security and port 2221
- FactoryTalk® Linx Network Browser v6.30 provides a user interface option to disable CIP Security on devices
 - Device configuration tab provides new option for devices that support CIP Security
 - Security authorization and generates audit message
 - Closes CIP Security port 2221
 - Device requires factory reset to re-enable

FTL ≥ v6.30

Tab appears when device can support CIP Security



Current CIP Security status

User option to disable CIP Security

CIP Security

⚠ Once this port is disabled, it can only be re-enabled by resetting the device to its factory default configuration. Do you want to continue?

Yes

No

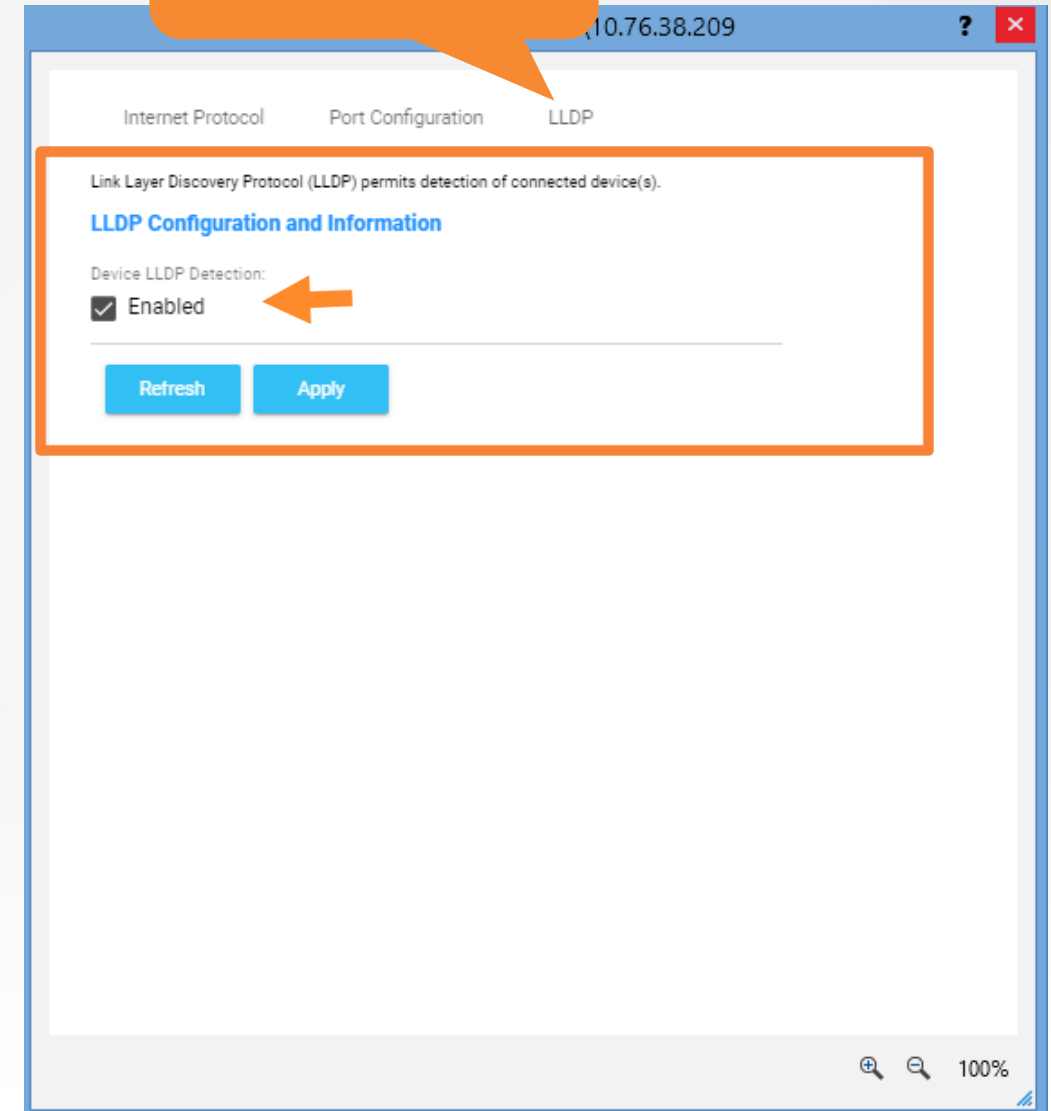
FT Linx Network Browser

User option to disable LLDP

FTL ≥ v6.30

Reduce network traffic and help prevent protocol detection by IT network scans

- Link Layer Discovery Protocol (LLDP) added to ODVA EtherNet/IP specification v1.25 effective 12/2021
 - Permits a device to detect connected neighbor devices
 - EtherNet/IP products required to support starting March 2022
- FactoryTalk® Linx v6.30 Network Browser adds an LLDP option
 - When detected in a device a new tab appears in the device configuration dialog
 - Provides option to enable/disable a device's LLDP discovery service

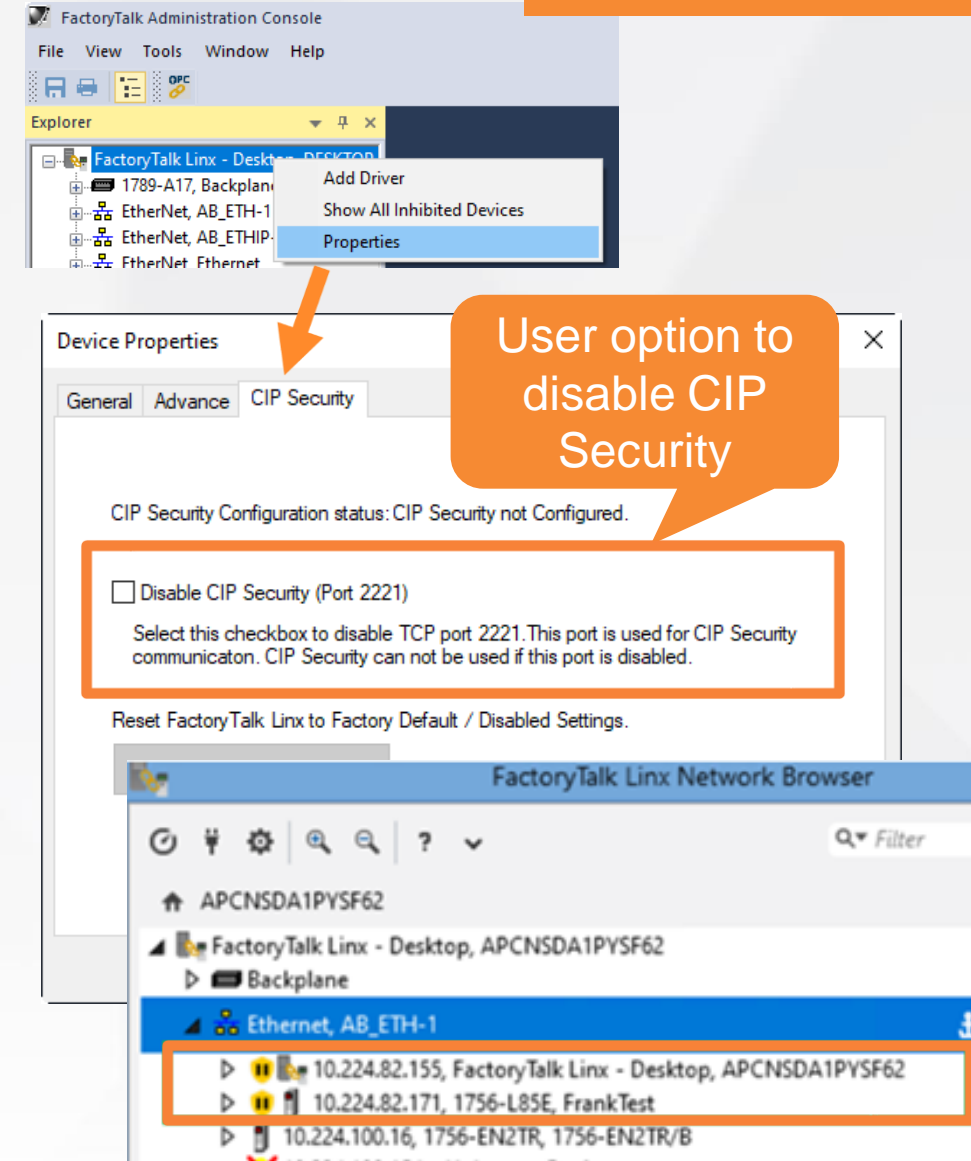




User option to disable CIP Security

Helps prevent use of CIP Security for DoS attack and avoids IT computer network security scan issues when CIP Security is not being utilized

- FactoryTalk® Linx added CIP Security with v6.11
 - Utilized a new port (2221) and incorporated cypher suites
 - The open port / suites can be detected by IT network and computer scans leading to erroneous vulnerability reports
- FactoryTalk® Linx v6.30 adds an option to disable CIP Security
 - Releases the port, help prevent open port detection
 - Device must be reset to factory defaults to re-enable
 - Network Browser displays disabled shield icon
- Patch for v6.21 available
 - Rockwell Automation support Knowledgebase ID TBD



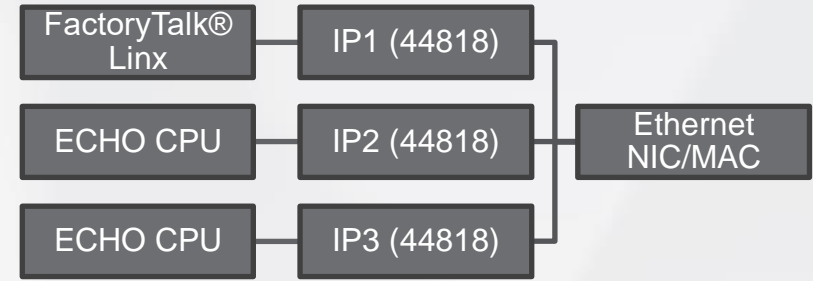


Improved local IP address and CIP port (44818) management

Enables multiple FactoryTalk® Logix Echo controllers to operate on the same workstation with fully functioning FactoryTalk® Linx

- Previously FactoryTalk® Linx experienced conflicts when working with FactoryTalk® Logix Echo
 - Limited to one local IP address per NIC/MAC
 - Network Browser inconsistent CIP port (44818) enables / disable
 - FactoryTalk® Linx Unsolicited messaging or CIP Security could not be used with FactoryTalk® Logix Echo on same workstation
- FactoryTalk® Linx v6.30 enhanced to work with FactoryTalk® Logix Echo
 - Driver configuration option to support multiple local IP addresses
 - CIP Port enable/disable managed on individual IP addresses
 - Consistent CIP Port configuration in FactoryTalk® Admin Console and Network Browser driver configuration
- Note: use Windows Ethernet adapter configuration to support multiple local IP addresses

FTL ≥ v6.30



```
Windows IP Configuration

Ethernet adapter Ethernet0:

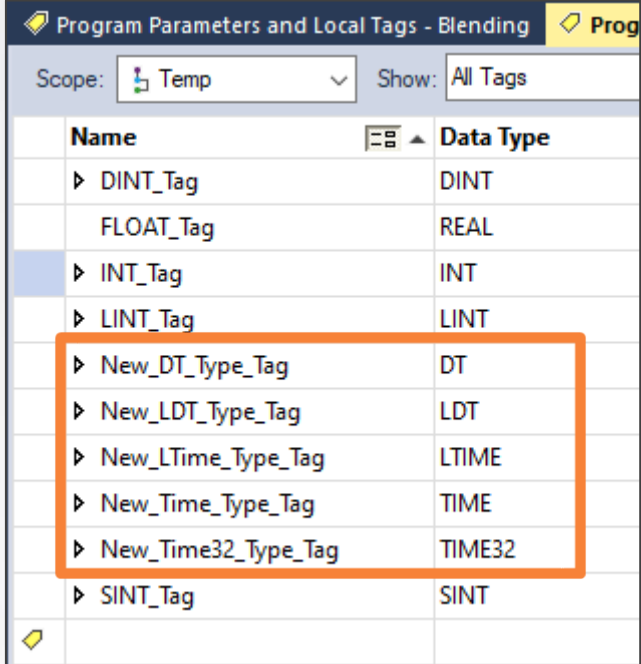
    Connection-specific DNS Suffix . . . : 
    Link-local IPv6 Address . . . . . : fe80::f5ce:f520:b8a4:9a58%4
    IPv4 Address. . . . . : 192.168.21.184
    Subnet Mask . . . . . : 255.255.255.0
    IPv4 Address. . . . . : 192.168.21.185
    Subnet Mask . . . . . : 255.255.255.0
    IPv4 Address. . . . . : 192.168.21.186
    Subnet Mask . . . . . : 255.255.255.0
    Default Gateway . . . . . : 192.168.21.2
```

Interface	IP Address
Windows Default	
Intel(R) 82574L Gigabit Network Connection	192.168.21.184
Intel(R) 82574L Gigabit Network Connection	192.168.21.185
Intel(R) 82574L Gigabit Network Connection	192.168.21.186



Permit communications with L8 controllers containing new Time data types

- Logix L8 series controller version 34 firmware adds five new time data types
 - TIME, LTIME, TIME32, LDT, DT
- FactoryTalk® Linx v6.30 and RSLinx® Classic v4.30 updated to recognize the new types
 - Initially tags using the new types are hidden from the namespace
 - Support to use the types is TBD
- Patches to earlier versions released
 - FactoryTalk® Linx v6.21, 6.11, 6.10, 6.00 and 5.90
https://rockwellautomation.custhelp.com/app/answers/answer_view/a_id/1132822
 - RSLinx® Classic v4.21, 4.12, 4.11, 4.10, 4.00.01, 3.90.01
https://rockwellautomation.custhelp.com/app/answers/answer_view/a_id/1133799
- Without these updates FactoryTalk® Linx and RSLinx® Classic are not able to connect to the controller if the new types are used in a Logix application

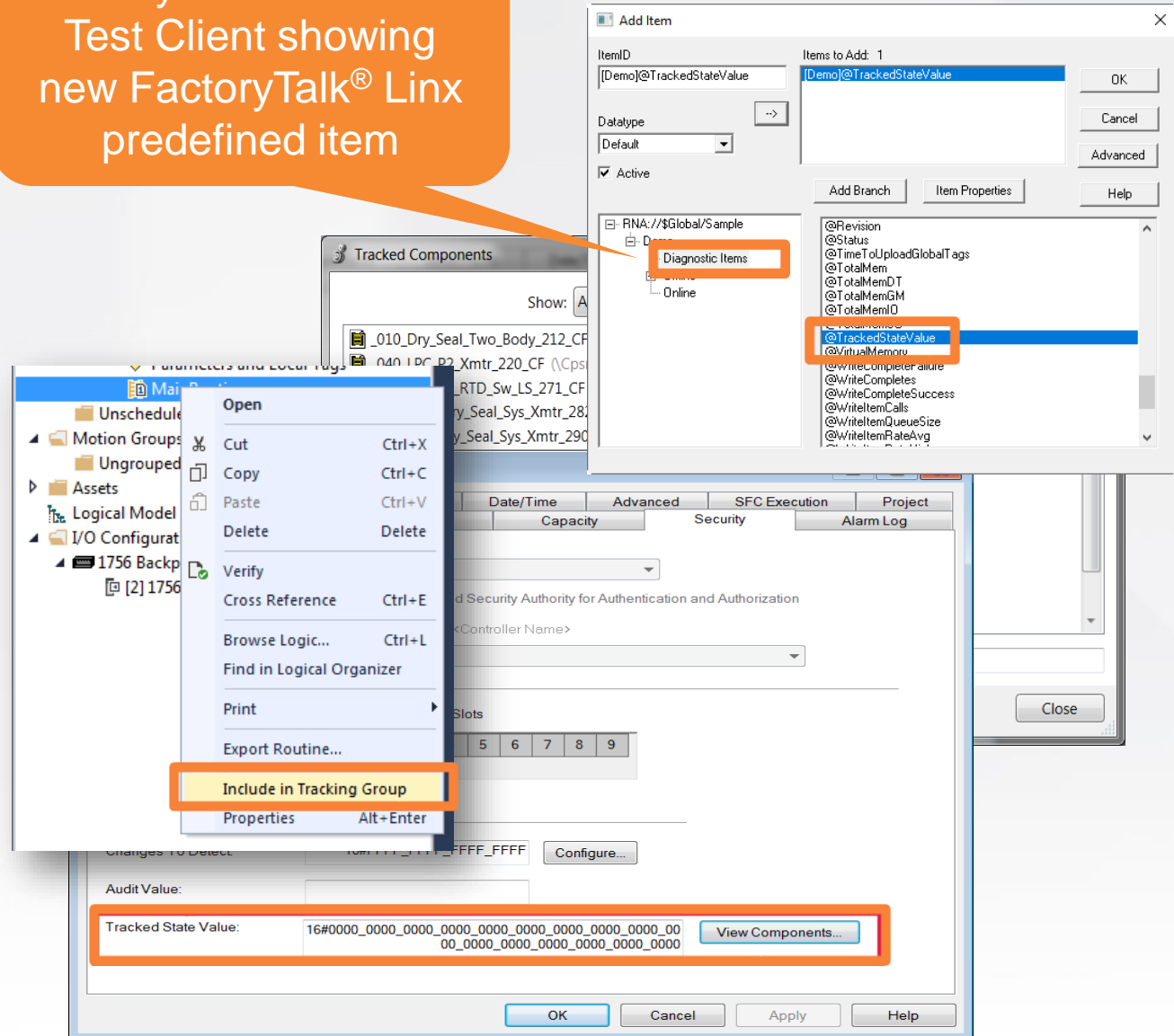


Name	Data Type
▶ DINT_Tag	DINT
FLOAT_Tag	REAL
▶ INT_Tag	INT
▶ LINT_Tag	LINT
▶ New_DT_Type_Tag	DT
▶ New_LDT_Type_Tag	LDT
▶ New_LTime_Type_Tag	LTIME
▶ New_Time_Type_Tag	TIME
▶ New_Time32_Type_Tag	TIME32
▶ SINT_Tag	SINT

FactoryTalk® Live Data Test Client showing new FactoryTalk® Linx predefined item

Determine if the state of key components in a Logix application has changed

- Logix 5000™ L7 controllers added “Tracked State Value” with version 30
 - Scans user-selected portion of the application to generate a unique code
 - Routine logic changes
 - Add-On Instruction changes
 - I/O module configuration
 - Constant tag value changes
- Eliminates application code to read the value
- Utilize the value in displays or for historical change tracking

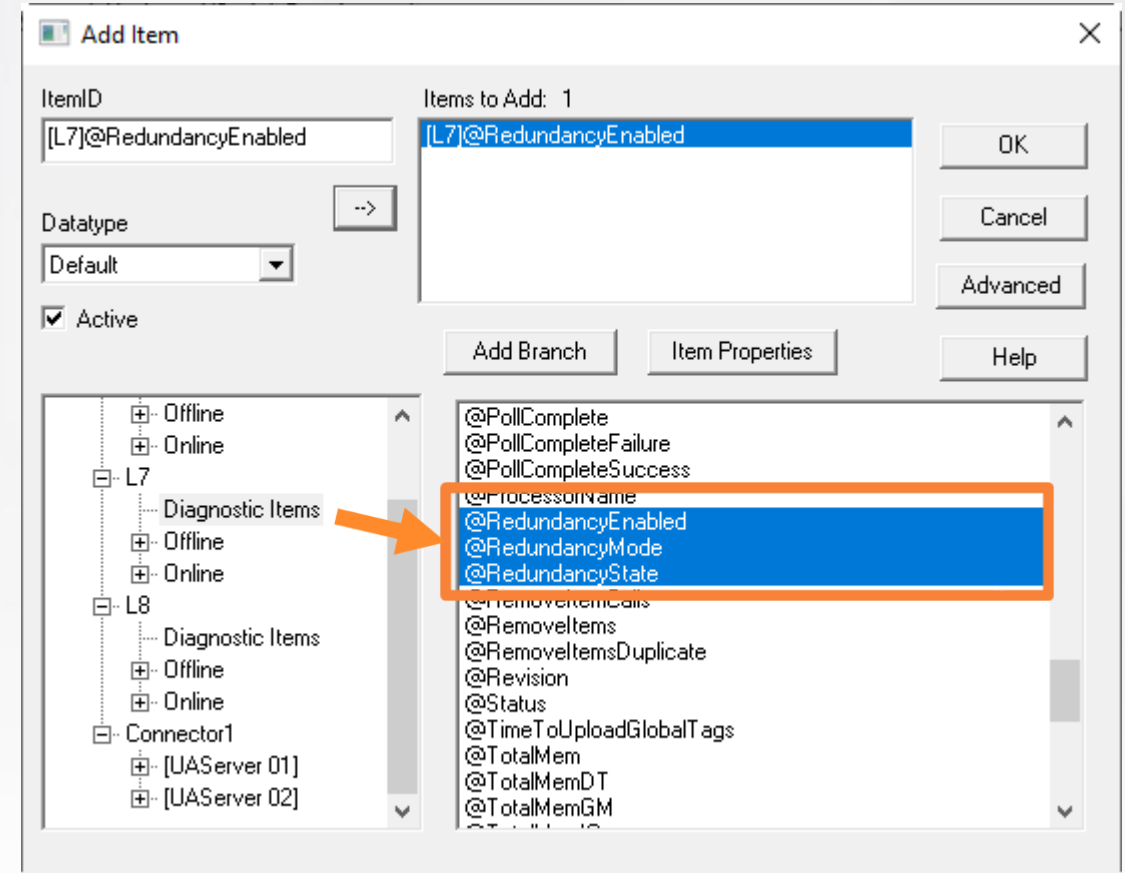


The screenshot shows the FactoryTalk Live Data Test Client interface. An orange callout bubble points to the 'Add Item' dialog box, which has 'ItemID' set to '[Demo]@TrackedStateValue' and 'Datatype' set to 'Default'. The 'Items to Add' list contains '[Demo]@TrackedStateValue'. Below the dialog, the 'Tracked Components' tree is visible, with 'Diagnostics' and '@TrackedStateValue' highlighted. A context menu is open over the tree, with 'Include in Tracking Group' highlighted in yellow. At the bottom, the 'Tracked State Value' field displays the hexadecimal value '16#0000_0000_0000_0000_0000_0000_0000_0000_0000_0000_0000_0000_0000_0000_0000_0000' and a 'View Components...' button is visible.

New ControlLogix® Redundancy predefined diagnostic tag

Permits PlantPax® and FactoryTalk® View faceplate users to know the current redundancy-operational state

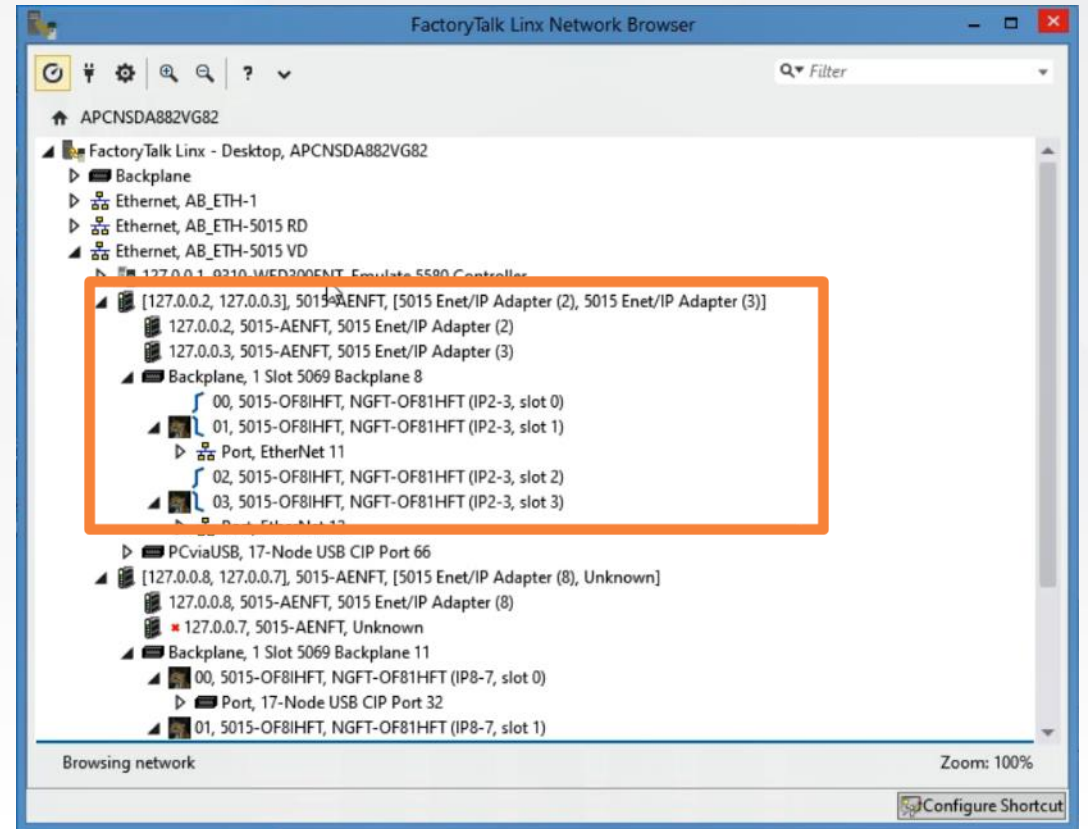
- Previously FactoryTalk® Linx provide @RedundancyMode
 - Limited to ControlLogix5555 controllers
 - Always returned zero for L6,L7 and L8 controllers
- FactoryTalk® Linx v6.30 adds two new redundancy predefined tags
 - @RedundancyEnabled (same as Logix GSV results)
 - @RedundancyState value representing the current operation
 - Available as a @Diagnostic item associated with shortcuts



Network Browser 5015 Fault Tolerant Platform Presentation

Avoid confusion from double appearance and detect issues faster

- The new 5015 Fault Tolerant hardware platform supports redundant network adapters and I/O modules
 - Maintain communications and system operation via multiple routes to I/O devices
- FactoryTalk® Linx v6.30 Network Browser enhanced to present redundant hardware
 - Adjacent adapters and I/O module
 - Topology shows chassis once
- Offline module appears with red X to indicate a failure

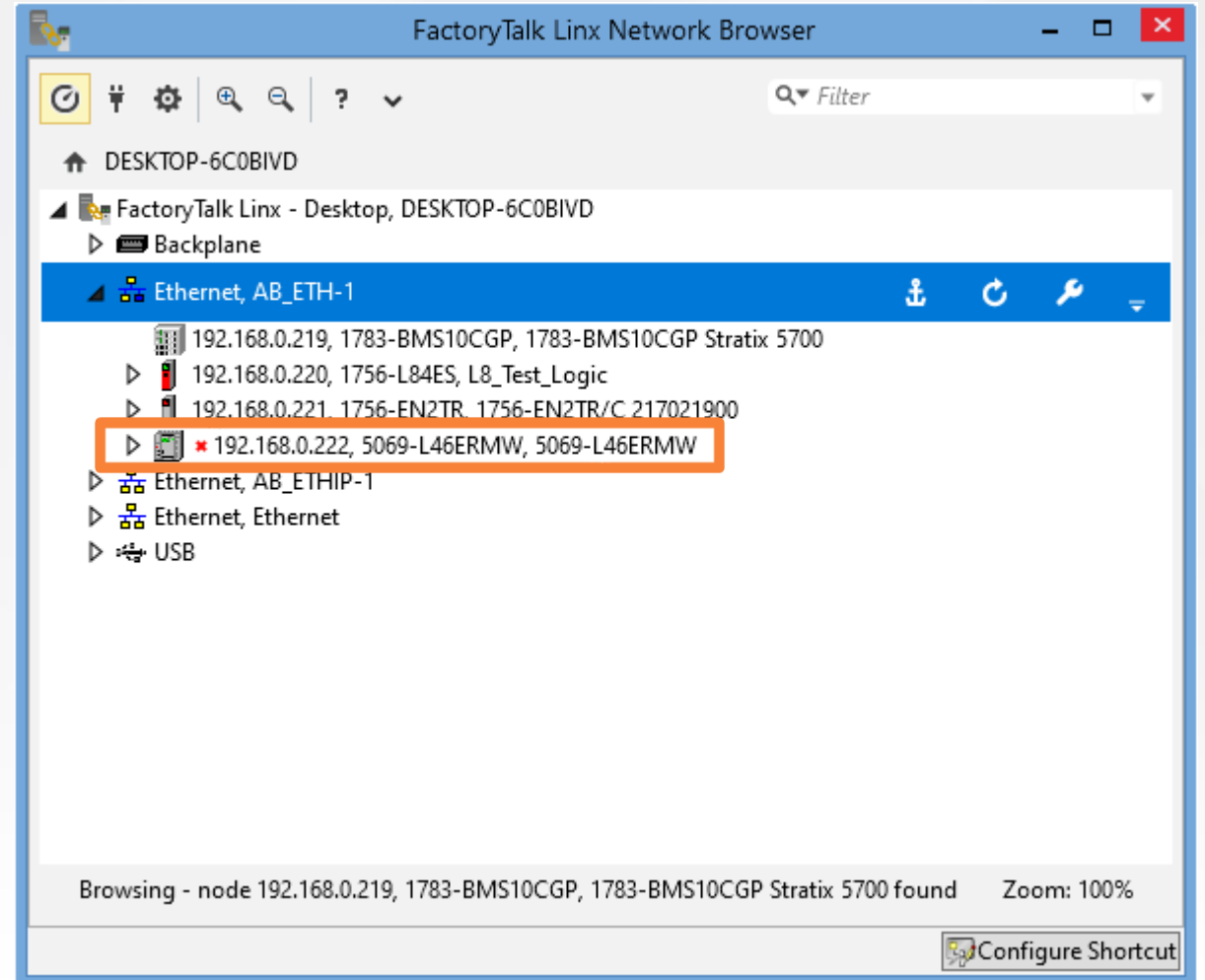




Display offline devices and option to hide / remove offline devices

Locate offline or reconfigured devices more quickly for faster system recovery

- When previously detected failed to respond, FactoryTalk® Linx would remove it from the topology tree
 - Difficult to detect / locate failed device
 - By contrast RSLinx® Classic would present the device with a red “X”
- V6.30 now retains the device and incorporates the red “X” in front of the device to indicate it's not communicating
 - Visual indication a device is not communicating

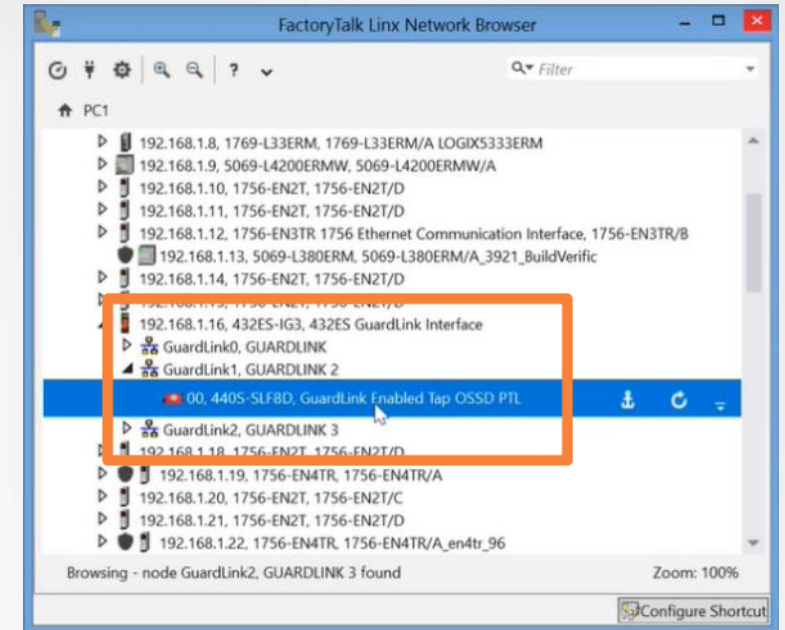


FT Linx Network Browser

GuardLink® device support

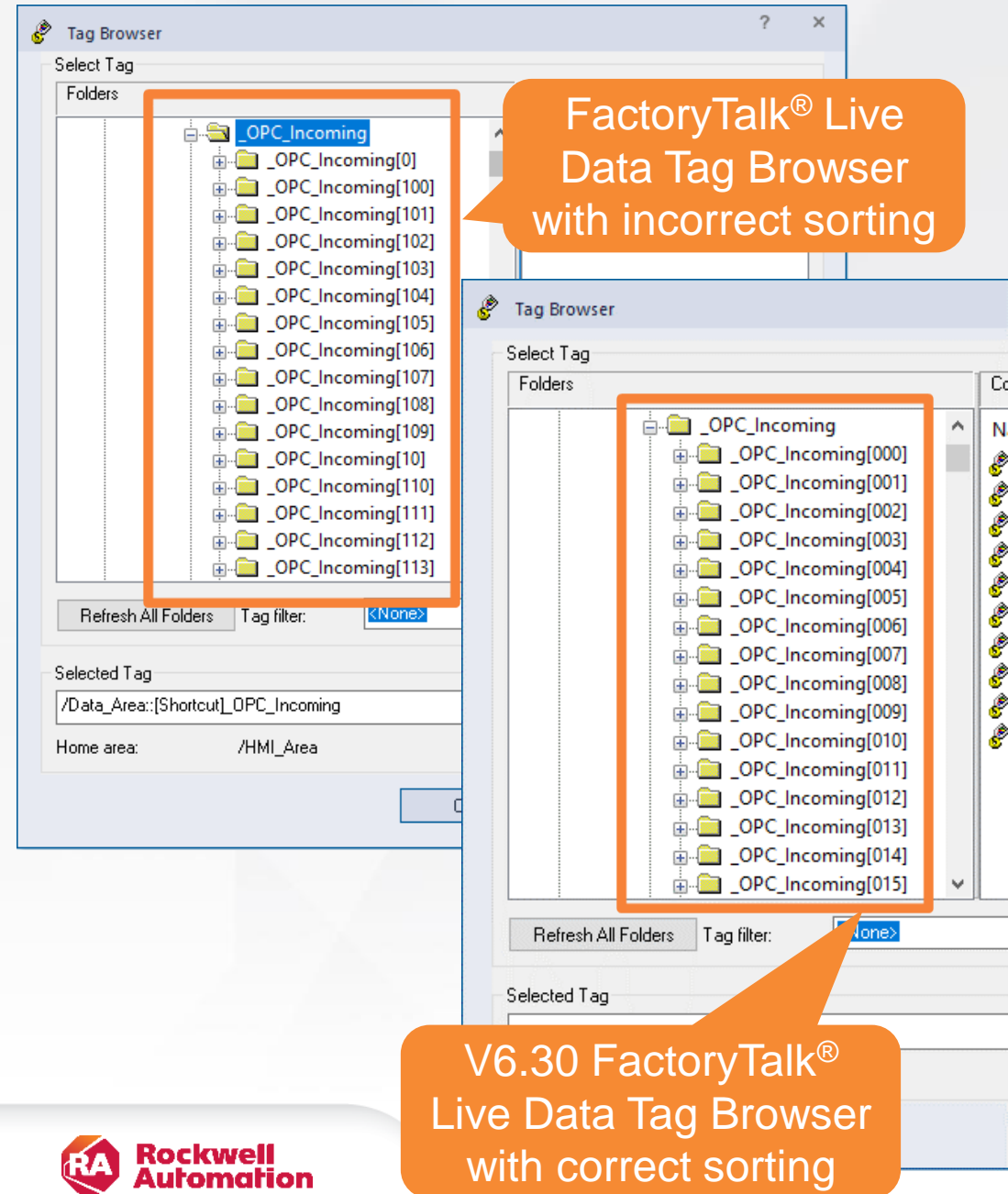
Enables management of GuardLink® interface and devices in FactoryTalk® Linx and access by Studio 5000®

- GuardLink® provides on-machine solution for connecting SIL 3 safety input devices to a Logix Safety controller
 - 440R-ENETR panel mount and 432ES-IG3 on-machine adapter connect EtherNet/IP™ to GuardLink®
 - Up to 32 GuardLink® taps per link
 - 1000m link distance, max 30m between taps and 10m tap to device
 - Full diagnostic information from smart devices
 - Also connects generic contact devices
- In v6.30, the Network Browser added support for GuardLink®
 - New 432-ES-IG3 GuardLink® Interface / bridge and devices
- Discover and presentation of GuardLink® bus and devices in topology
- Includes device properties, statistics and configuration



Enhanced productivity because array elements listed in the correct order

- Previously array element numbers were per listed based first digit
 - Sorting was out of order for anything large then 10 elements
 - Difficult locating array elements when browsing for tags
- FactoryTalk® Linx 6.30 places leading zero(s) in the element numbers
 - All array indexes have the same number of digits
 - Confirms that array elements are listed in numerical order
 - 00,01,02,03...09,10,11,12... Versus 0,1,10,11...19,2,3,4...
 - FactoryTalk® Live Data clients like View Studio SE/ME v13 and Test Client
 - FactoryTalk® Linx Gateway v6.30
 - OPC UA tag list selection
 - OPC-DA and UA data model



FactoryTalk® Live Data Tag Browser with incorrect sorting

V6.30 FactoryTalk® Live Data Tag Browser with correct sorting



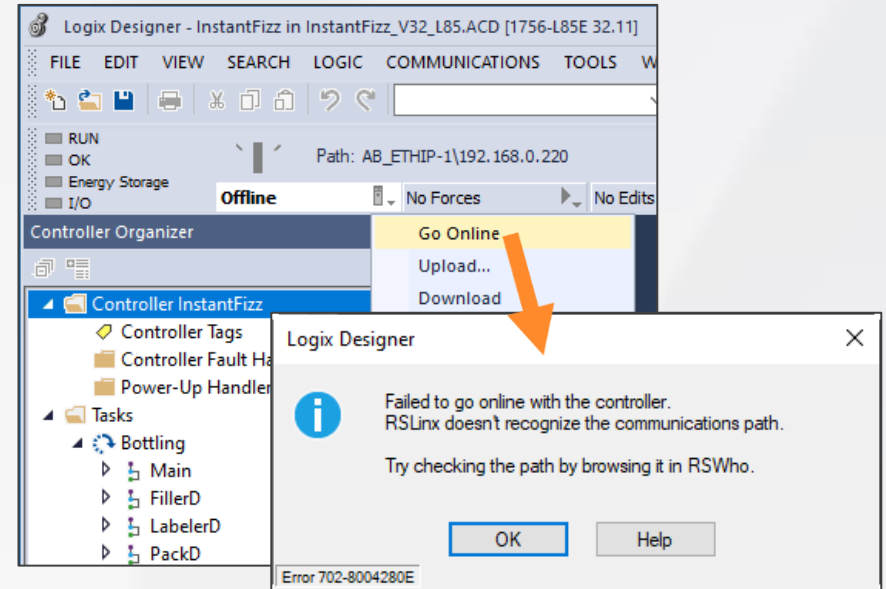
Communications to device not previously browsed

Enhanced productivity by eliminated must manually locate a device in the network to enable communications; reduced downtime by going online quicker

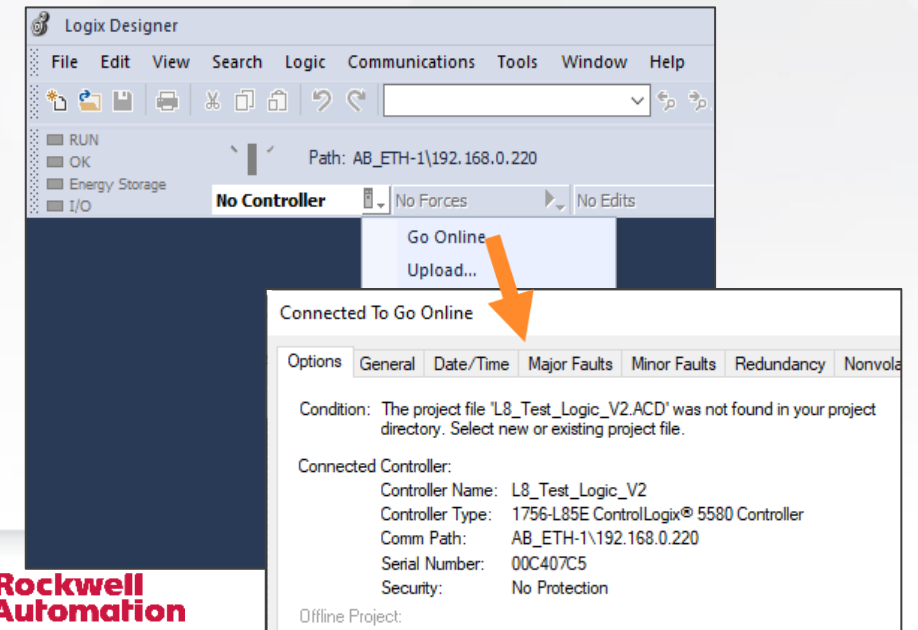
- Previously both RSLinx® Classic and FactoryTalk® Linx must discover devices on the network before it could communicate to them
 - Loads topology information must route messages
 - Manual process to find one or more required devices
 - Impacted new computers in a system or when moving applications to another computer
- FactoryTalk® Linx v6.30 enhanced to automatically locate the device with the provided path
 - Avoids manual browsing delays
 - Go-online more quickly
 - Helps prevent nuisance errors

Before v6.30

FTL ≥ v6.30



With v6.30



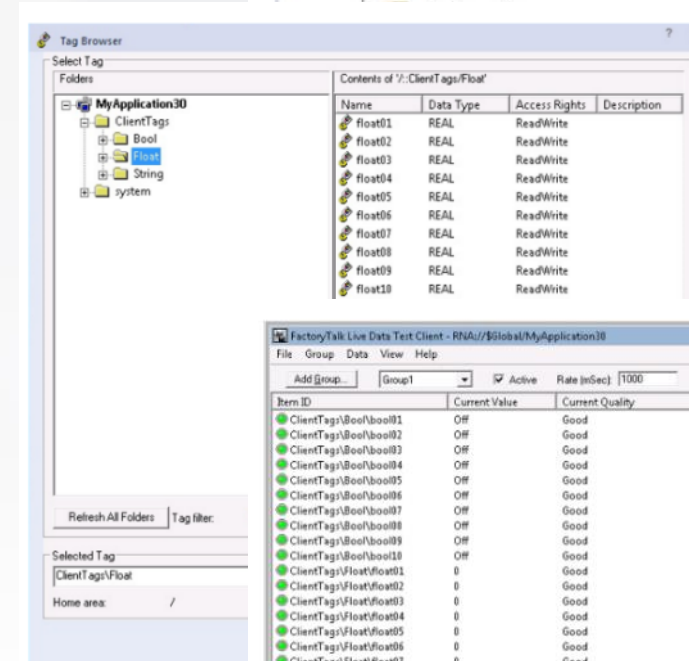
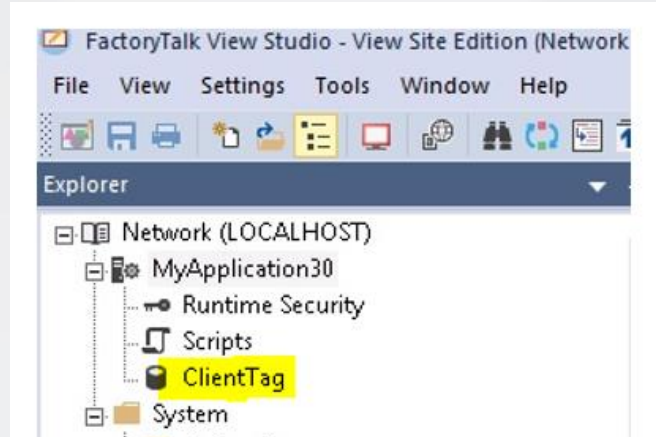
FT Live Data

FactoryTalk® View SE client workstation local tags browse, read & write

FTLD ≥ v6.30

Improves screen design by isolating object data specific to each client workstation

- FactoryTalk® View SE Distributed V13 adds a client workstation tag server
 - Predefined sets of tags
- FactoryTalk® Live Data v6.30 enhanced to support the new data source
 - Tag Browser includes the local data serve as an option
 - Runtime screen communications to read/write values
 - Test Client able to access local tags from same workstation



Item ID	Current Value	Current Quality	Updates (/Sec)	Run Avg.
ClientTags\Bool\bool01	Off	Good	1 (0)	0.000
ClientTags\Bool\bool02	Off	Good	1 (0)	0.000
ClientTags\Bool\bool03	Off	Good	1 (0)	0.000
ClientTags\Bool\bool04	Off	Good	1 (0)	0.000
ClientTags\Bool\bool05	Off	Good	1 (0)	0.000
ClientTags\Bool\bool06	Off	Good	1 (0)	0.000
ClientTags\Bool\bool07	Off	Good	1 (0)	0.000
ClientTags\Bool\bool08	Off	Good	1 (0)	0.000
ClientTags\Bool\bool09	Off	Good	1 (0)	0.000
ClientTags\Bool\bool10	Off	Good	1 (0)	0.000
ClientTags\Float\float01	0	Good	1 (0)	0.000
ClientTags\Float\float02	0	Good	1 (0)	0.000
ClientTags\Float\float03	0	Good	1 (0)	0.000
ClientTags\Float\float04	0	Good	1 (0)	0.000
ClientTags\Float\float05	0	Good	1 (0)	0.000
ClientTags\Float\float06	0	Good	1 (0)	0.000
ClientTags\Float\float07	0	Good	1 (0)	0.000
ClientTags\Float\float08	0	Good	1 (0)	0.000
ClientTags\Float\float09	0	Good	1 (0)	0.000
ClientTags\Float\float10	11	Good	1 (0)	0.000
ClientTags\String\string01		Good	1 (0)	0.000
ClientTags\String\string02		Good	1 (0)	0.000
ClientTags\String\string03		Good	1 (0)	0.000
ClientTags\String\string04		Good	1 (0)	0.000
ClientTags\String\string05		Good	1 (0)	0.000
ClientTags\String\string06		Good	1 (0)	0.000
ClientTags\String\string07		Good	1 (0)	0.000
ClientTags\String\string08		Good	1 (0)	0.000
ClientTags\String\string09		Good	1 (0)	0.000
ClientTags\String\string10		Good	1 (0)	0.000

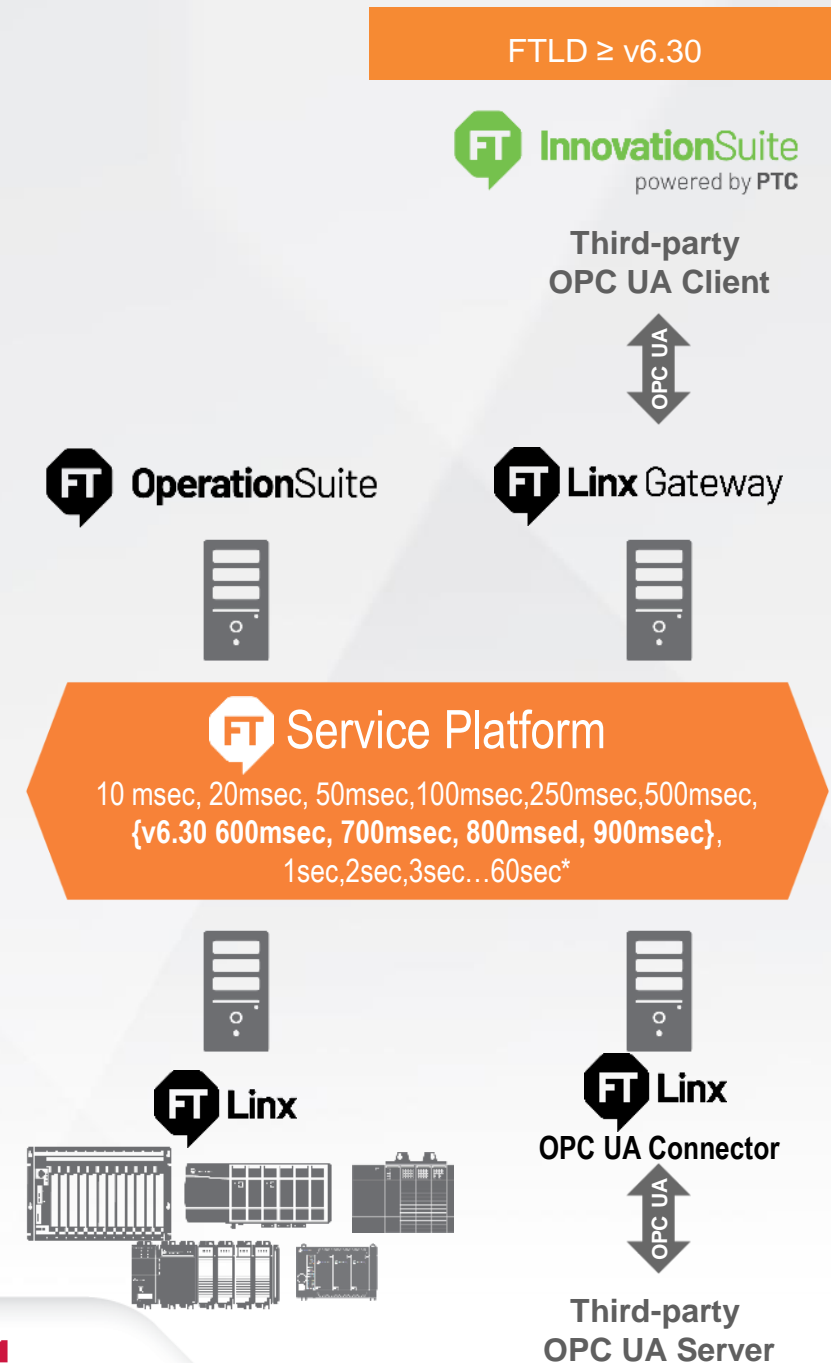
FT Live Data

Added 600 msec to 900 msec data subscription rates

Permits more options for data delivery for mid-range applications

- FactoryTalk® Live Data aligns all data requests to a set of pre-defined rates
 - Requests are adjusted to a matching or the next slower rate
 - Before v6.30 this support jumped from 500msec to 1Sec
 - 10msec, 20msec, 50msec, 100msec, 250msec, 500msec, 1sec, 2sec, 3sec...60sec*
- Starting with v6.30 four new rates are supported
 - 600, 700, 800 ms and 900 ms*

*actual rate will vary based on operating system, network or controller performance



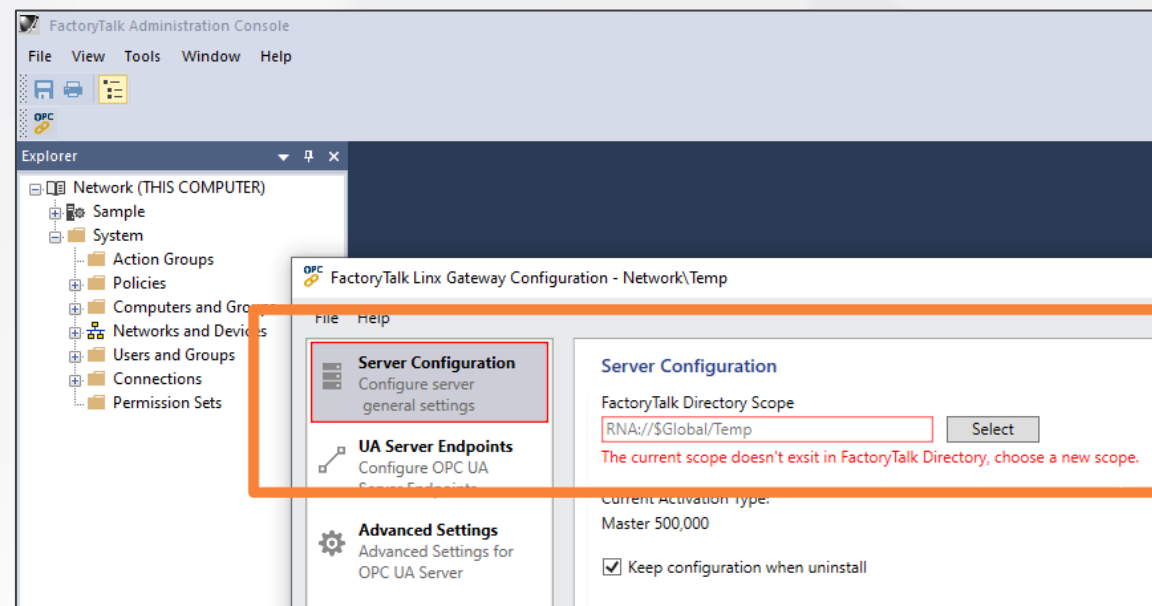
Enhance workstation security

- Before v6.30 FactoryTalk® Linx Gateway modified windows settings to permit remote OPC-DA clients to access the OPC-DA service
 - Unnecessary when clients were operating on same PC
- V6.30 adds a new option when clients are on the same computer
 - Available in installation and in FactoryTalk® Linx Gateway Configuration user interface
 - Enhances computers security
 - More descriptive text for the all install options
 - Does not affect OPC UA connectivity

The image shows two screenshots of the FT Linx Gateway software. The top screenshot is the 'Setup' window, version V6.30.00, showing three installation options: 'Gateway Server OPC UA and DA (local or remote DA clients)', 'Gateway Server OPC UA and DA (only local DA clients)', and 'Remote Gateway (DA Client remote configuration)'. An orange callout bubble points to these options with the text 'Enhanced installation options'. The bottom screenshot is the 'FactoryTalk Linx Gateway Configuration' window, showing the 'Server Configuration' tab. It displays the current activation type as 'Master 500,000' and lists several services: 'UA Server' (Running), 'Discovery service URL' (Running), and 'DA Server' (Running). An orange callout bubble points to the 'DA Access' section, which has two radio button options: 'Only Local DA Clients' (selected) and 'Local or remote DA Clients'. The text 'Option to change after install w/ Admin rights' is written in the callout.

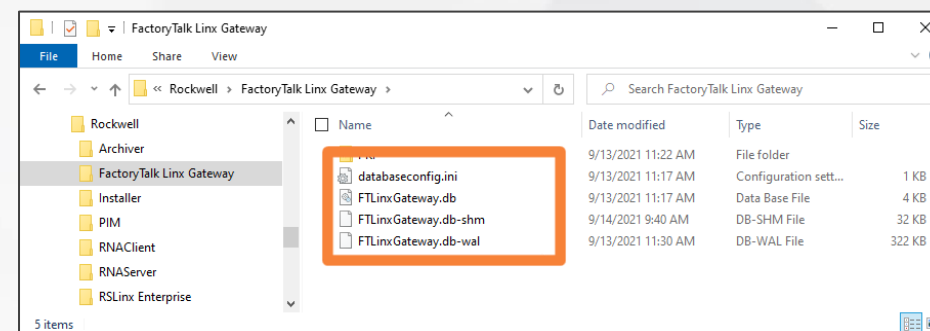
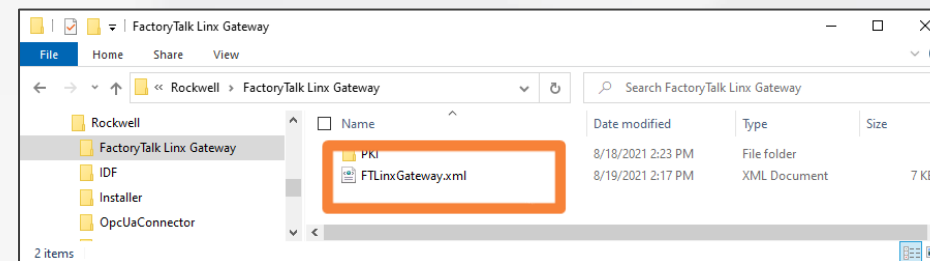
Enhanced productivity by delivering configuration is completed

- V6.00 provided a warning when FactoryTalk® application was not configured
- V6.21 added several configuration checks / warnings
 - UA service enabled but no endpoints are configured
 - UA Tag list selected but no tag groups or tags configured
 - UA security enabled but no Trusted® certificate and there is a rejected certificate present
- V6.30 adds a warning when the selected FactoryTalk® application does not exist in the directory
 - Application was removed / deleted
 - Red line on tab and display warning text



Enhance security and meets IEC62443 requirement

- Before v6.21 FactoryTalk® Linx Gateway configuration was saved in an XML formatted text file
- V6.21 moved to a database file
 - Required to support tag group / list definitions
- V6.30 encrypted the database file
 - Enhances security by limiting changes to the FactoryTalk® Linx Gateway user interface
 - Files from earlier versions converted automatically
 - Utilize backup/restore in the FactoryTalk® Admin Console to save or recover the configuration (new with v6.30)
 - Utilize tag list import/export to perform mass edits of the configuration



Greatly reduces the time / effort to restore system operation after a workstation failure or startup of a duplicate system

- The FactoryTalk® Service Platform v6.30 adds FactoryTalk® Linx Gateway into the application Backup / Restore
 - User option to password protect the backup file
 - Includes most (but not all) settings required to restore the running system
 - Includes other FactoryTalk® data server configuration in the application
 - FactoryTalk® Linx drivers and shortcuts
 - FactoryTalk® Linx OPC UA Connector endpoints
 - OPC-DA client interface settings
 - OPC UA certificates, private keys and passwords must be regenerated and Trusted® after a restore
- Meets IEC62443 requirement for system recovery

Enhance security and meets IEC62443 requirement by reducing attack surface

- Previously the FactoryTalk® Linx Gateway Professional edition did not limit the tag quantity
 - Functioned until computer resource fully utilized
- FactoryTalk® Linx Gateway Professional v6.30 imposes a limit of 500,000 tags for both the DA and UA interface
 - Operational testing performed
- Applications migrated from earlier editions must operate under the new threshold
 - Use the FactoryTalk® Diagnostic Counter monitor to determine current tag volumes

FactoryTalk® Linx	Tag Quantity	Supported Architecture
Embedded	DA 500 UA 500	CompactLogix™ 5480 Windows Core
Basic	DA 1000 UA 1000	Station ¹
Standard	DA 5000 UA 5000	Station ¹
Extended	DA 15,000 UA 15,000	Station ¹
Distributed	DA 32,000 UA 32,000	Station or Distributed ²
Professional	<u>DA 500,000</u> <u>UA 500,000</u>	Station or Distributed ²

Enables access to array data for less sophisticated clients

- Before v6.21 all array elements were accessible as scalar items
- The V6.21 tag list feature only permitted full arrays to be included in a tag group
- V6.30 was enhanced to permit individual array contents directly into tag groups
 - Scalar elements
 - Structure elements
 - Scalar items from within a structure element

The screenshot shows the 'OPC Add Tag' dialog box. On the left is a tree view of the tag browser. The 'MotionSimCount' tag is selected. On the right, the 'Tag Browsed' table shows the expansion of the array 'MotionSimCount' into its individual elements: 'MotionSimCount[0]', 'MotionSimCount[1]', 'MotionSimCount[2]', and 'MotionSimCount[3]'. An orange callout box points to this table with the text 'Tag browser expansion of array contents'. Below this, the 'Tag Selected' table shows the selected items: 'MotionSimCtr[0]' and 'MotionSimCount[1]'. An orange callout box points to this table with the text 'Array items added to tag group'. The dialog also includes a 'Refresh' button, a search filter, and 'Add' and 'Cancel' buttons at the bottom.

Name	Data Type	Access Right
MotionSimCount[0]	DINT	ReadWrite
MotionSimCount[1]	DINT	ReadWrite
MotionSimCount[2]	DINT	ReadWrite
MotionSimCount[3]	DINT	ReadWrite

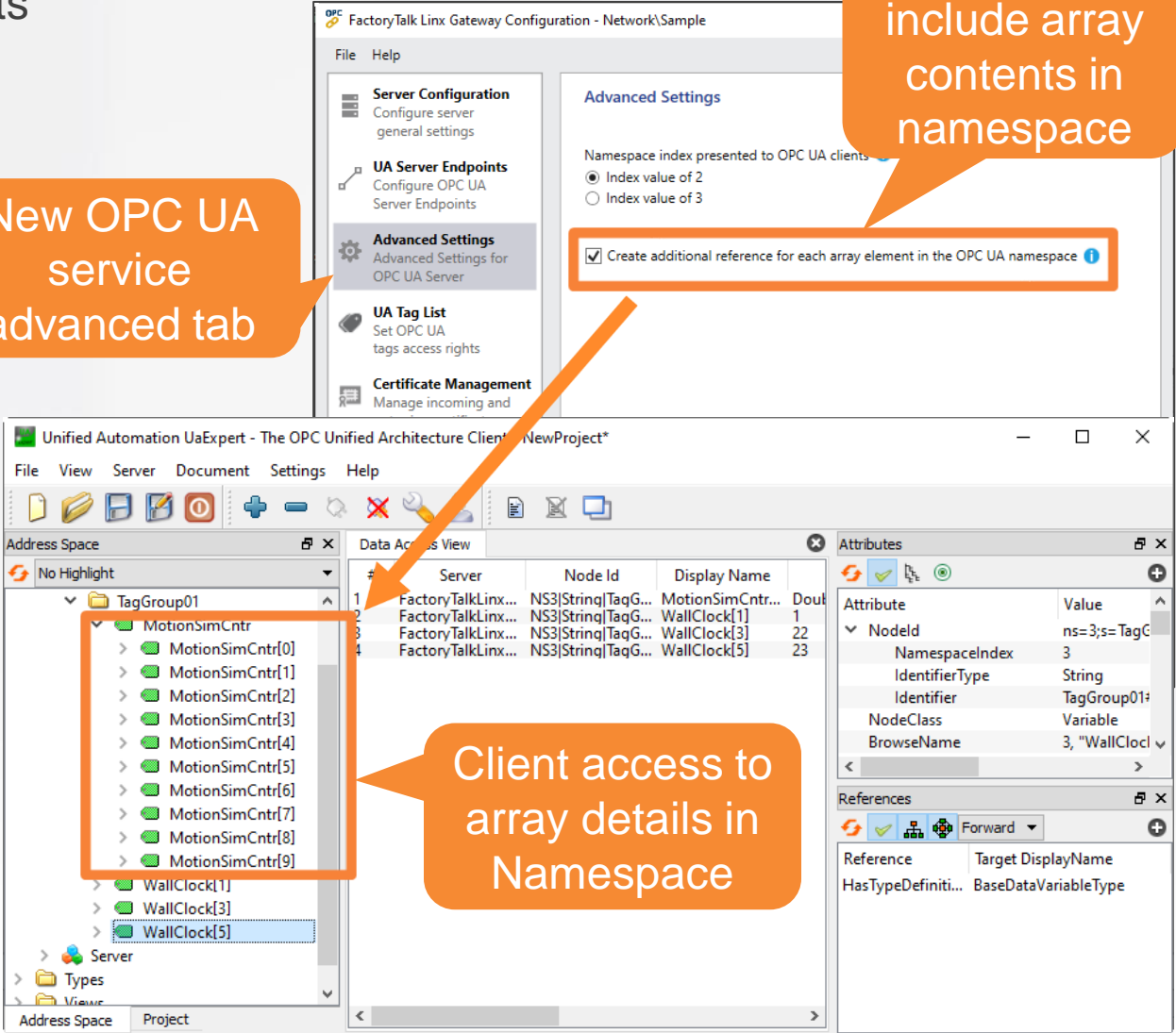
Name	Data Type	Access Right
MotionSimCtr[0]	[Demo]COUNTER	ReadWrite
MotionSimCount[1]	DINT	ReadWrite

Enables access to array data for less sophisticated clients

- V6.21 permitted addition of full array tags in tag list
 - Clients needed indexed reads to request elements
 - Namespace could not expand an array to browse the items
 - Clients limited to scalar items unable to access arrays data
- V6.30 adds an option to include all array elements in the namespace
 - Increases the namespace transfer duration
 - Enhances data access capabilities

New OPC UA service advanced tab

Option to include array contents in namespace



Client access to array details in Namespace

FT Linx Gateway

The only OPC UA server in the market to deliver Logix UDTs

FTLGW ≥ v6.30

The screenshot displays three software interfaces. On the left is Logix Designer showing a Controller Organizer with a tree view of tags including RecipeMaster and SodaRecipe. In the center is the FactoryTalk Linx Gateway 'Add Tag' dialog, showing a tree view of RecipeMaster tags and a 'Tag Browsed' table. On the right is OPC UA Expert showing a 'Data Access View' table and an 'Edit Value' dialog for a RecipeMaster array.

Name	Data Type	Access Right
Water	DINT	ReadWrite
Syrup	DINT	ReadWrite
Acid	DINT	ReadWrite
Carbor	DINT	ReadWrite
Flavor	[Demo]STRING	ReadWrite

#	Server	Node Id	Display Name	Value	Attributes
1	FactoryTalkLinx...	NS3[String]Tag...	RecipeMaster[0]	Double click to ...	Extension...
2	FactoryTalkLinx...	NS3[String]Tag...	RecipeMaster	Double click to ...	Extension...

Name	Value
[0]	[Demo]SodaRecipe Array[100]
Water	200
Syrup	50
Acid	4
CarbonDioxide	2
Flavor	Mango
[1]	[Demo]SodaRecipe
Water	200
Syrup	40
Acid	6
CarbonDioxide	3
Flavor	Ginger
[2]	[Demo]SodaRecipe



FT Linx Gateway

Tag group tag browser performance improvements

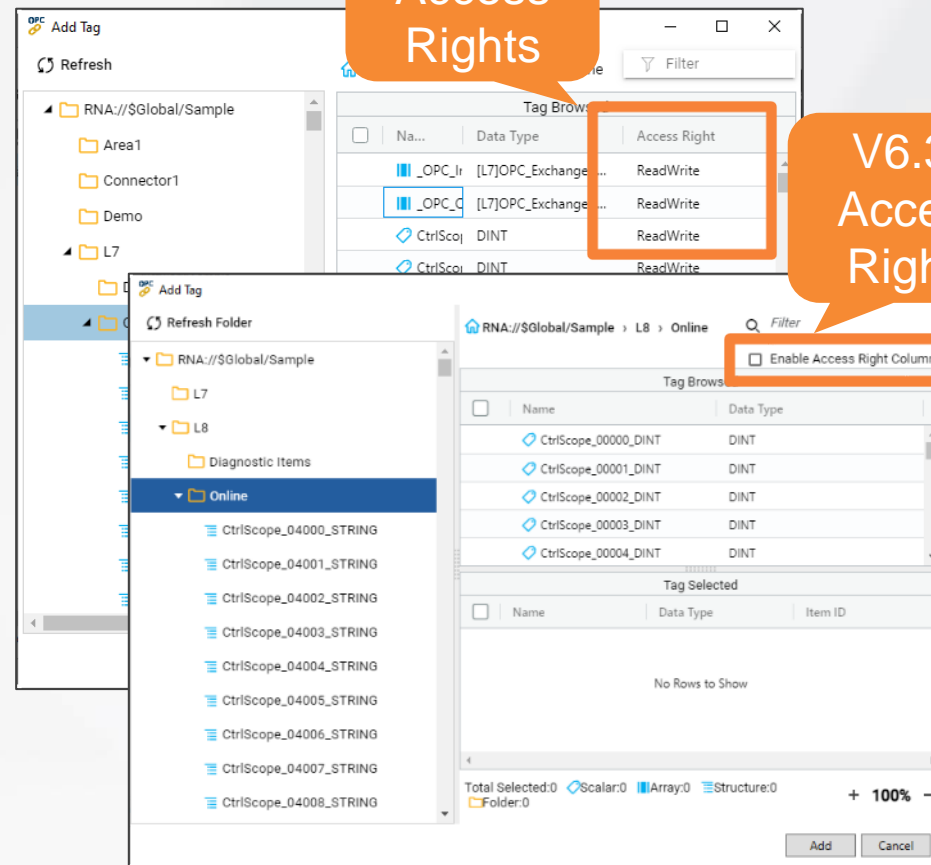
Enhanced system development productivity

- V6.30 enhances the tag browser to improve data load performance
 - Background load the FactoryTalk® application and data server content
 - Added a user option to show / hide tag read/write access
 - Performance significantly improved by hiding this field
 - Cached namespace to reduce browse communications
 - Manual refresh available
- Up to 93% reduction in wait times when launching and navigating the system namespace

FTLGW ≥ v6.30

V6.21
Access
Rights

V6.30
Access
Rights



Operation*	v6.21	v6.30
Launch -> shortcut -> online	~45 Sec	~15 Sec
Select different complex tag	~3 Sec	~3 Sec
Select another scope	~97 Sec	~16 Sec
Switch to different controller	~88 sec	~6 Sec

FT Linx Gateway

Namespace Index per data source

Enhanced system development productivity

- V6.21 added the ability to create tag access lists and included structured type information
 - Type names were generated by including source information in the name to help prevent issues when one was used for multiple types
- V6.30 adds an option to use individual namespace indexes for each FactoryTalk® Linx shortcut and FactoryTalk® Linx OPC UA Connector endpoint
 - Avoids name / type definition collisions
 - Provides more concise data type names
 - More closely aligned with OPC specification
 - Clients can utilize the index to sort/filter data by source
 - New Advance Configuration option to adjust namespace indexes to deliver system change consistency

FactoryTalk Linx Gateway Configuration - Network\Sample

Advanced Settings

Enable configuration of OPC UA namespace index

Refresh Import Export

Name	Device Path	UA Namespace Index	Uniform Resource Identifier (URI)
General		10	Rockwell common URI
L7	AB_ETH-1\192.168.0.221\Backplan...	11	RNA://\$Global/Sample/[L7]
L8	AB_ETH-1\192.168.0.220	12	RNA://\$Global/Sample/[L8]
UAServer 02	opc.tcp://DESKTOP-6C08IVD:48010	13	RNA://\$Global/Sample/Connector1:[UA...
UAServer 01	opc.tcp://desktop-6c08ivd:62541/...	14	RNA://\$Global/Sample/Connector1:[UA...

Create additional reference for each array element in the OPC UA namespace

Unified Automation UaExpert - The OPC Unified Architecture Client - New Project*

File View Server Document Settings Help

Project: Servers > FactoryTalkLinxGateway > Data Access View

#	Server	Node Id	Display Name
1	FactoryTalkLinxGateway	NS13[String]TagGroup01#Connector1:[UAS...	PowerConsum...
2	FactoryTalkLinxGateway	NS14[String]TagGroup01#Connector1:[UAS...	Scalar_Simulati...
3	FactoryTalkLinxGateway	NS11[String]TagGroup01#[L7]Wallclock_Text	Wallclock_Text
4	FactoryTalkLinxGateway	NS12[String]TagGroup01#[L8]Wallclock_Text	Wallclock_Text

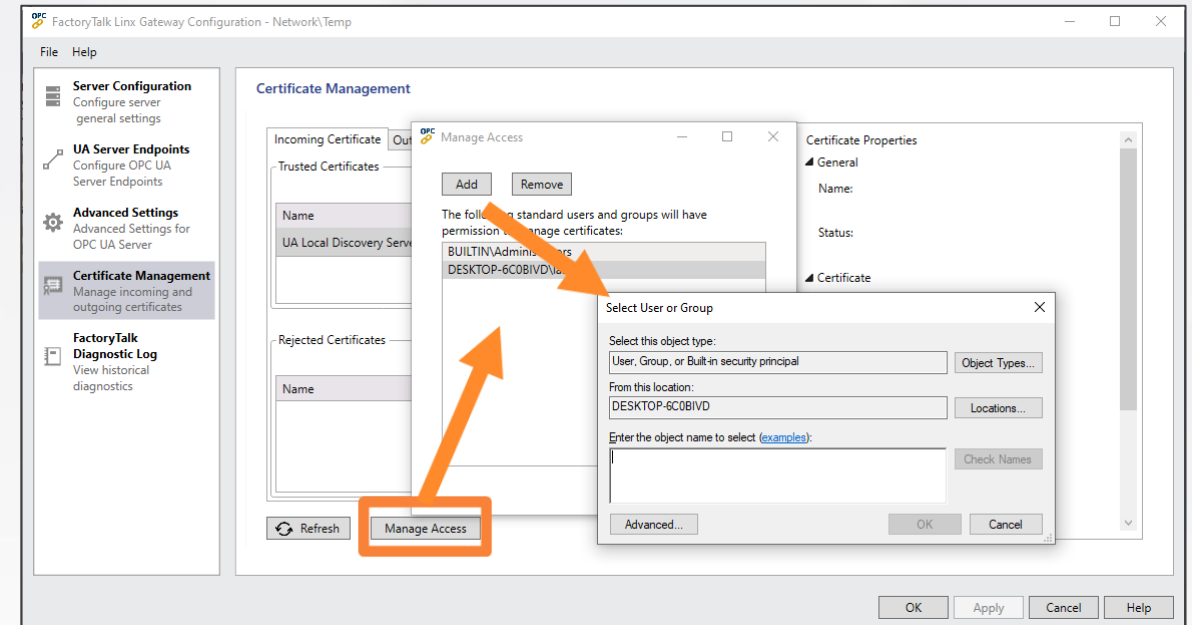
Address Space: 5: FTLGW_Server_ReservedIndex_5

Attributes:

Attribute	Value
NamespaceIndex	12
IdentifierType	String

Enhanced system security

- Previously all user could manage the FactoryTalk® Linx Gateway and FactoryTalk® Linx OPC UA Connector's OPC UA security certificates
 - Trust / Reject
 - Regenerate / replace
- Most IT departments require strict control over certificates
- FactoryTalk® Linx Gateway and FactoryTalk® Linx OPC UA Connector v6.30 changed the interface to control
 - Initially limited to administrators
 - Administrators can approve / authorize other users



FT Linx OPC UA Connector

OPC UA Alarms integrated with FactoryTalk® Alarms and Events

FTL ≥ v6.30, FTAE ≥ v6.30

and FTVSE ≥ v13,

Simplifies integration of FactoryTalk® View SE with other systems and vendors

- Previously linking alarms from third-party systems with FactoryTalk® Alarms required configuration of HMI alarms
 - Additional effort to recreate alarms
 - By contrast Logix alarms are automatically added
- The FactoryTalk® Linx OPC UA Connector and FactoryTalk® Alarms and Events v6.30 added support for OPC UA Alarms
 - Enabled / configured in the OPC UA Connector
 - FactoryTalk® Alarms and Events will retrieve alarm definitions from the OPC UA Server, receive alarm state change messages and return operator feedback
 - FactoryTalk® View SE v13 Alarm Summary screen includes OPC UA alarms and provides consistent operator interactions

Endpoint alarm settings

Alarms Settings

Enable alarm and event support

● Communicating with server

Priorities

Enable server-assigned priorities

Priority	Severity Range	
	Low	High
Urgent	751	1000
High	501	750
Medium	251	500
Low	1	250

History

Enable history

Database definition

Computer name:

Database name:

Cache file path:
C:\ProgramData\Rockwell\Alarms

Alarm diagnostic counters

OPC Server:			
Tags Detected: 3599	Node IDs Detected: 4290	Communications Errors: 0	Longest Processing Time (msec): 0.0
Sessions:	Performance Writes/Second:	Performance Reads/Second:	
Alarms Detected: 3	Alarms Bad Quality: 0	Alarms Active: (happening) 3	Alarms Disabled: 0
Alarms Acknowledged: 0	Alarms Suppressed: 0	Alarms Shelved: 0	

FT Linux OPC UA Connector

OPC UA Alarms integrated with FactoryTalk® Alarms and Events configuration and display

Alarms Settings

Enable alarm and event support

● Communicating with server

Priorities

Enable server-assigned priorities

Priority	Low	High
Urgent	<input type="text" value="751"/>	<input type="text" value="1000"/>
High	<input type="text" value="501"/>	<input type="text" value="750"/>
Medium	<input type="text" value="251"/>	<input type="text" value="500"/>
Low	<input type="text" value="1"/>	<input type="text" value="250"/>

History

Enable history

Database definition

Computer name:

Database name:

Cache file path:

C:\ProgramData\Rockwell\Alarms

Endpoint alarm settings

!	🔔	Event Time	Alarm Name	Condition Name
!	🔔	9/17/2021 7:13:41 PM	...edBoiler.ManualLimitAlarm	LIMIT_HI
!	🔔	9/17/2021 7:45:23 PM	...ar@Alarm.OffNormalAlarm	TRIP
!	🔔	9/21/2021 7:15:22 AM	...AlarmVar@Alarm.TripAlarm	TRIP
!	🔔	9/22/2021 6:27:29 AM	[Status]	STATUS

OPC Server:

Tags Detected:	Node IDs Detected:	Communications Errors:	Longest Processing Time (msec.):
3599	4290	0	0.0
Sessions:	Performance Writes/Second:	Performance Reads/Second:	
1	0.0	74.4	
Alarms Detected:	Alarms Bad Quality:	Alarms Active: (happening)	Alarms Disabled:
3	0	3	0
Alarms Acknowledged:	Alarms Suppressed:	Alarms Shelved:	
0	0	0	

Alarm diagnostic counters

Priority:	Low	Severity:	100
Alarm State:	In Alarm, Unacked	Current Value:	100.0
Event Time:	9/17/2021 7:45:23 PM	Limit Value Exceeded:	15.14
In Alarm Time:		Tag 1 Value:	
Acknowledge Time:		Tag 2 Value:	
Out of Alarm Time:		Tag 3 Value:	
Condition Name:	TRIP	Tag 4 Value:	
Event Category:	OPC UA	Alarm Count:	0
Alarm Class:			
Area:	/Connector1		

Alarm OPC UA alarms in FactoryTalk® View SE alarm summary viewer

FT Linux OPC UA Connector

Access structures and other OPC UA data types

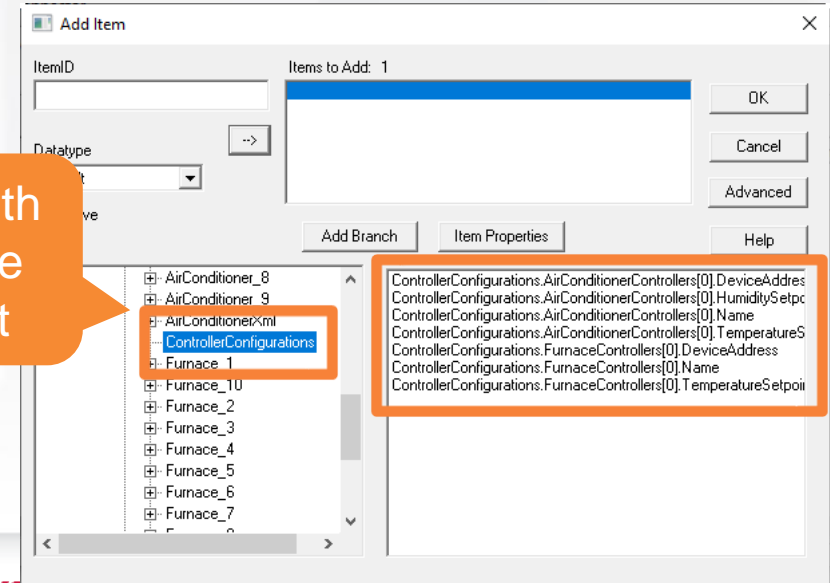
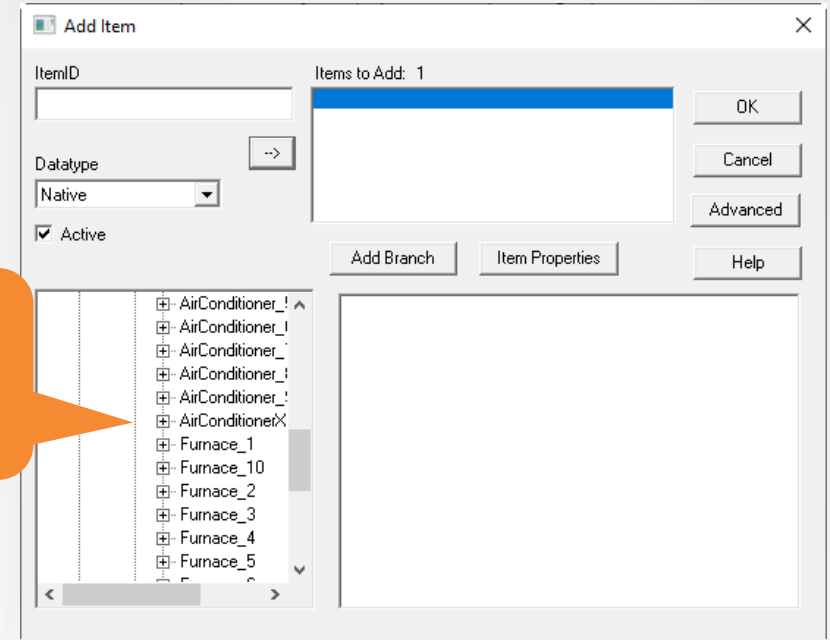
Confirms that FactoryTalk® software can access OPC UA data require to monitor and control most applications

- The FactoryTalk® Linx UA Connector expands its data access capabilities with each release
 - V6.00 Scalars
 - V6.11 Scalar arrays
 - V6.20 Tags defined in tags
 - V6.21 Subtypes
- V6.30 now provides access to most data constructs from OPC UA Servers
 - Structures and complex types
 - Additional OPC defined types
 - Option to convert unsupported base types to strings
 - Tag meta / extended properties

FTLUAC ≥ v6.30

V6.21 no structures available

V6.30 with structure support

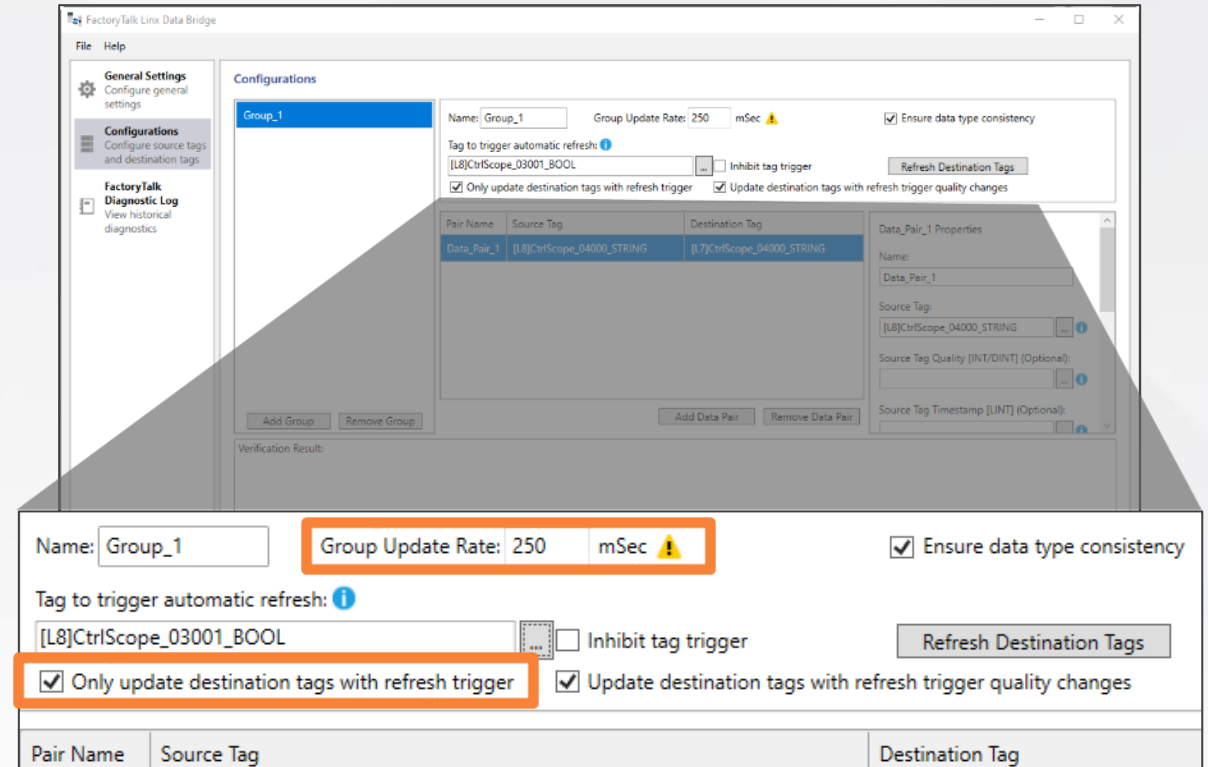


FT Linx Data Bridge

Option to only refresh destination tags when trigger tag changes

Supports a broader set of applications by permitting controller to determine when data is delivered

- V6.21.01 added the ability for destination value to be updated when linked tag value changes state
 - Enables a controller to force a refresh
- V6.30 extends this feature to provide an option to disable automatic updates and only update the destination when commanded by the tag trigger
 - Useful for collection of data at a preset interval for reporting or analysis
- Also changes Group Update Rate to actual rate used by FactoryTalk® Live Data



EtherNet/IP Address Commissioning Tool

Usability and Productivity enhancements

Reduce the time required to bring automation system device online

- V2.00.00 adds many improvements to the user interface
 - Link received MAC to config list item
 - Table column whitespace reduction, adjustable width and filter
 - Confirm / warn port 67 access in Windows firewall
 - User selection to move to different item in commission from list
 - Localized user interface

The screenshot shows the main interface of the EtherNet/IP Address Commissioning Tool. It features a table with columns for IP address and Description. The table is sorted by IP address in descending order. A callout labeled 'Language selection' points to a dropdown menu on the right side of the interface, which lists various languages including Default, English, 中文, Deutsch, Español, Français, Italiano, 日本語, 한국어, and Português. Another callout labeled 'Column sort' points to the 'IP' column header, which has a double-headed arrow icon. A third callout labeled 'Column filter' points to a dropdown menu in the 'IP' column header, which shows 'Contains' and a 'Filter...' input field. A fourth callout labeled 'Resize Columns' points to the vertical line between the 'IP' and 'Description' columns. A fifth callout labeled 'Firewall Error' points to a red error message at the bottom of the interface: 'Port 67 is disabled or blocked by firewall.' The error message is displayed in a red box with a red exclamation mark icon. The interface also includes a 'Help' button in the top right corner.

IP	Description
192.168.109.105	
192.168.109.104	
192.168.109.107	
192.168.109.106	
192.168.109.105	
192.168.109.104	

EtherNet/IP Address Commissioning Tool

Merge new MAC to item in configuration

Enhanced productivity for predefined configurations and device replacement

- Originally if a MAC address was not in the user's configuration, they had to manually enter an IP address for the device
 - Slower error-prone process
- v2.00 provides an option to link a new MAC to an existing item in the configuration
 - Merge device MAC address into predefined configuration
 - Replaces a MAC if one was already captured, making device replacement easier
 - Saving time and reducing errors

The screenshot displays the 'EtherNet/IP Address Commissioning Tool' interface. The main window shows 'Unassigned Requests' with a table containing one item: CLX1. An orange box highlights the '+ Add to Configuration' button, with an arrow pointing to the 'Add Item' dialog. The 'Add Item' dialog has a text input for 'Host name' containing 'CLX1' and a 'Link to existing item in configuration list' checkbox, which is also highlighted with an orange box. Below it, the 'MAC' field contains '00:1D:9C:00:00:11'. An arrow points from this checkbox to the 'Select Linked Items' dialog. This dialog has a checked option 'Only display items without MAC address' and a table with the following data:

	IP	Host Name	Description	MAC
<input type="checkbox"/>	192.168.1.4	YourDevice		
<input checked="" type="checkbox"/>	192.168.1.3	SomeDevice		
<input type="checkbox"/>	192.168.1.2	AnotherDevice		
<input type="checkbox"/>	192.168.1.1	MyDevice		

The 'Select Linked Items' dialog also features a 'Filter' search box and 'Yes' and 'No' buttons at the bottom.

Thank You!



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