

Rockwell Software

# Studio 5000 Logix Designer®

V16 – V30

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## ▪ Language Enhancements

- User Defined Add-on Instructions
- FBD Increased sheet size, option to hide tag comments, and reduced block white-space
- Ability to Display Values on Input Pins
- FBD Delete Tags when instruction deleted
- FBD Special Array Dialog Tab
- FBD, SFC Instruction Defaults
- Force Status for SFC Action Indicator
- Context-Sensitive instruction help
- SFC routine overview option to allow it to remain visible

## ▪ Miscellaneous Enhancements

- Auto-save & Recovery
- Force Continuous Task Execution Time to  $\geq 1$  msec
- Option to Force Usage of System Overhead Time Slice
- Limited LINT Data type Support
- Wall Clock Configuration Enhancements
- New Controller Properties Report
- Change tag name case via CSV Import
- FBD and SFC text boxes CSV Import/Export
- Security Log On/Log Off
- Tag Browser Enhancements
- Tag Editor/Monitor Add Find All <tag> to row context menu
- Condensed Output from Find All Operation
- Tag Editor Force Status Rollup to tag root

- **Miscellaneous Enhancements (continued)**

- [LD Shorted Branch verification warning and search option](#)

- [Make Duplicate Destructive Bit detection the default setting](#)

- [Task not updating outputs notification in controller organizer](#)

- [Sort and filter capability added to PLC/SLC data mapping dialog](#)

- [DF1 Radio Modem via CPU serial port](#)

- [EtherNet/IP Unicast Produced/Consumed Tags](#)

- [Resizable Horizontal Scrollbar for Routine Editors](#)

- [Source protected routines are now included in \\*.L5K](#)

- [Logix5000 FirmwareSupervisor](#)

- **Simplification**

- [More Optimized Default I/O Settings](#)

- [System Install for RSLogix 5000 Bundles](#)

- [RSLogix 5000 Start Page – Quick Start](#)

- [RSLogix 5000 Start Page – Learning Center](#)

- [RSLogix 5000 Start Page – Resource Center](#)

# V16 Controller and I/O Extensions

- I/O Configuration Enhancements (\*)
  - Add Generic CNet & Enet Module on-line in Run mode
  - EtherNet/IP reduced heartbeat frames
  - 1756-CN2/B and CN2R/B
  - 1756-DH485 DH485 Bridge
  - 1756-EN2F EtherNet/IP Fiber
  - 1769-232ASC Compact RS232 ASCII
  - 1794-AENT/B EtherNet/IP Adapter
  - 1794-OE12 (full profile)
  - 1794-IE8XOE4 (full profile)
  - 1756-DH485
- Add-on-Profiles (\*)
  - 1769-IF4I
  - 1769-OF4VI
  - 1769-OF4CI
  - 1769-IQ32T
  - 1769-OV32T
  - 1769-IF8 (Full profile)
  - 1769-OF8C (Full profile)
  - 1769-OF8V(Full profile)
  - 1769-ASCII
  - PowerFlex 40
- ControlLogix Enhancements (\*)
  - [1756-L64 Controller](#)
- CompactLogix Enhancements (\*)
  - 1768-EWEB (CompactLogix L43)
  - 1768-CNB, -CNB/R (CompactLogix L43)
- FlexLogix Enhancements
- SoftLogix Enhancements
- [GuardLogix](#)
  - Support for New GuardLogix CPU
  - GuardLogix Generic Safety I/O Profile
- [RSLogix Emulate 5000 Enhancements](#)
- DriveLogix Enhancements
- Redundancy Enhancements
  - 1756-SRM/C Increased Performance

# V16 Motion and RSI

- Motion Functionality additions
  - [Kinematics - Phase 1 \(only 1756-L6x controllers\)](#)
  - [Kinetix 2000 Profiles \(\\*\)](#)
  - Integrated motors/actuators
  - [Programmable Jerk Control](#)
  - [Fault System Enhancement – Fault Actions Only](#)
  - [AutoFlash for SERCOS drives](#)
  - [Analog Input Configuration \(Kinetix 7000\)](#)
  - Induction Motor Database Additions for Kinetix 7000
  - Allow online changes in output CAM editor
  - MAM Move Type of Rotary Positive/Negative Only
  - Home to Hard Stop
- RSI Product Integration
  - [FactoryTalk Licensing \(activation\)](#)
  - [Concurrent Licensing](#)
  - [FactoryTalk Alarming in CPU](#)
  - [RSAssetSecurity Login from RSLogix 5000](#)
- Tools
  - [RSLogix 5000 DeviceNet Tag Generator](#)
  - [Logix5000 Clock Update Tool](#)

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# RSLogix™ 5000

V17



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# Logix V17 Extensions

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- **Software Extensions**

- [Partial Import / Export of Routines and Programs](#)
  - [Full Project XML \(L5X\) Import/Export](#)
  - [Offline Partial Import of Modified UDT with Data Preservation](#)
  - [Runtime Partial Import of Routines, Programs, and NEW Add-On-Instructions](#)
  - [Multi-Lingual project documentation with Language Switching](#)
  - [Controller on-line project change logging](#)

- **Programming Languages Enhancements**

- [LD Instruction Parameter Display Optimization Options](#)
  - [FBD Advanced Process Control Blocks \(Smith Predictor, Coordinated Control, Multivariable control\)](#)
  - [SFR Instruction Filters Routine Types and Step Names](#)
  - [Option to hold SFC Step / Action Timer "Acc" when chart is paused](#)
  - [SFC Chart Paused State Via GSV Instruction](#)
  - [Tag's Description Added to Tooltips in FBD Editor](#)
  - [GuardLogix SIL 3 Instructions Extensions](#)

- **Motion Enhancements**

- [Motion multi-axis programmable Jerk](#)
  - [MCD and MCCD Motion Instructions Enhancements](#)

- **Reporting**

- [Controller Organizer Report](#)

- **Usability Extensions**

- [Forcing and Toggle Bit Added to Quick Watch Window](#)
  - [Tag Monitor Enhancement - Alarm Grid Display Mode](#)
  - [Search Item Browser Supports Tag Name Typeahead](#)
  - [ControlFlash v7.0 Enhancements](#)
  - [Coordinated System Time \(CST\) Master Existence Check On Download](#)
  - [Tag's Descriptions Length Extended](#)
  - [Produced / Consumed Tag Status](#)
  - [Verification Warning If Forces Are Present](#)
  - [Verification Warning If AFI Are Present](#)
  - [System Install Enhancements](#)
  - [Start Page Enhancements](#)
  - [Decorated Data Support in L5X Import/Export Files](#)
  - [Instruction toolbar tab re-order](#)

- **Miscellaneous**

- [RSLogix 5000 Professional Concurrent](#)
  - [RSLogix 5000 Standard Concurrent](#)
  - [RSLogix 5000 Professional Changes](#)
  - [Microsoft Windows Vista Support](#)

- **RSI Integration**

- [FactoryTalk AssetCentre Archive Check-In/Out](#)
  - [RSLogix Architect Library Management](#)

# Logix V17 Extensions Continued

- New Network and I/O Module Profiles

- Flex 1794-IJ2I Isolated Counter
- Flex 1794-IF4XOF4I 4pt In / 4pt Out Combination Isolated Analog
- Flex 1794-IG16, OG16, IH16, IV32, OV32, IM16, OM16
- Flex 1794-IT8/B, 1794-IR8/B, 1794-IF8I and 1794-OF8I
- ControlLogix 1756-EN2F Major rev 2
- [ControlLogix 1756-CFM Counter Major Rev 2 \(Config output based on freq\)](#)
- ControlLogix 1756-OB8I 8pt Isolated DC Output
- [1768 Compact Generic Config Profile](#)
- [1757-FFLDC ControlNet to Foundation Fieldbus Linking Device](#)
- [Adding PowerFlex 7 & 4 Drives On-line on EtherNet/IP and ControlNet](#)
- Thin profiles for Flex IO modules (1794-IF8IH/B, 1794-OF8IH/B, 1794-IE8H/B, 1794-OE8H/B, 1797-IE8H/B, 1797-OE8H/B)
- 1797-ACNR15 Major rev 5

- Controller Support

- [ControlLogix 1756-L65 32MB Memory Controller](#)
- [GuardLogix 1756-L63S Controller](#)
- [CompactLogix 1769-L2x Controllers](#)
- [Removal of ControlLogix 1756-L55 and FlexLogix 1794-L34B Controller](#)

- Other

- [Stratix™ Industrial Switch Portfolio](#)
- [CIP Sync support on 1756-EN2T](#)
- Unicast Produced/Consumed Tags for EtherNet/IP Generic Modules
- CIP Generic Module COMM Format of None
- Cyclic EDT support for flex adapters (1794-ACN, 1794-ACNR, 1794-AENT, 1797-ACNR)

- Tools

- [Logix5000 Update Tool](#)
- [DELMIA Automation Bi-Directional Synchronization Utility](#)

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# RSLogix™ 5000

V18



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# Logix V18 Extensions

- Software Extensions

  - [EtherNet/IP based CIP Motion](#)

  - [Unicast I/O](#)

  - [DF1 Radio Modem Broadcast support](#)

- Programming Languages Enhancements

  - [High Integrity AOIs](#)

  - [AOIs within Safety Task](#)

  - [Add-on Instruction Extensions](#)

  - [SFC Maintain Active Step with On-line Edit](#)

- Reporting Enhancements

  - [Table of Contents report](#)

  - [Module properties report](#)

  - [Components report](#)

- Usability Extensions

  - [Alphabetical Sorting of Tags' Members](#)

  - [Tag Members Expand/Collapse All](#)

  - [Persistent Quick Watch Lists](#)

  - [Tag Wildcard Filtering](#)

  - [Auto hide tool windows](#)

  - [Produce/Consume Tag RPI limits check](#)

- Security Enhancements

  - [Data access control](#)

  - [Digitally signed firmware kits \(1756-L7x and SoftLogix5800\)](#)

  - [ControlFlash integration w/FT Security](#)

- Miscellaneous

  - [HTML On-Line support](#)

  - [ControlFlash V8.0 Enhancements](#)

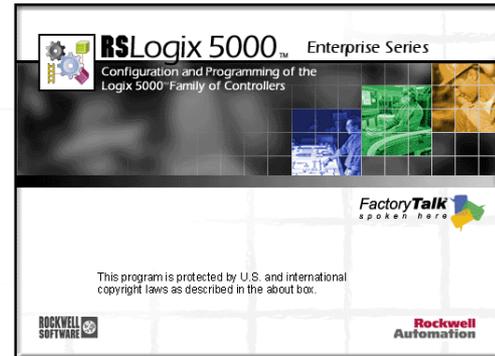
# Logix V18 Extensions Continued

- New Profiles (\*)
  - 1756-HSC Major Revision 2
  - 1756-SOE Major Revision 2
  - 1769-IG16
  - 1769-OG16
  - 1769-OB32T
  - 1769-IF4FX0F2F
  - 1794-ACN15/D & 1794-ACN15R/D
  - 1756-DNB
  - Add "NetworkWarning" bit to the Module Status Register for 1756-DNB
  - Kinetix 300
- Controller Support (\*)
  - [ControlLogix L7x](#)
  - [Compact GuardLogix](#)
  - [Compact I/O Individual RPI Configuration](#)
  - [CompactLogix L23 Enhancements](#)
- Other
  - [Windows Server 2008 and Windows 2000 Operating System Support](#)
  - [RSLogix 5000 Lite Edition Changes](#)
- RSI Integration
  - [RSLogix Architect v3.6](#)
  - [ControlFlash V8.0 – FT AssetCentre Auditing Logging](#)
  - [ControlFlash V8.0 – FT Security Integration](#)

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# RSLogix™ 5000

V19



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# Logix V19 Overview

- **Software Extensions**
  - EtherNet/IP based Motion - PowerFlex
  - Produced/Consumed Safety Unicast Support
  - Improved PLC/SLC Translation Tool
  - Source Protection Enhancements
- **Controller Support**
  - L72, L74
  - 5 Slot XT Chassis
- **Operating System Support**
  - Windows 7

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# RSLogix™ 5000

V20



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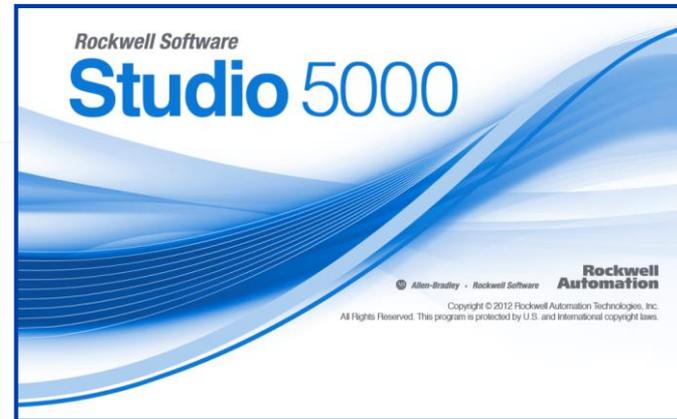
- Software Extensions
  - Large Device ADC
  - EDS AOP
  - EtherNet/IP Unicast Safety IO
  - EtherNet/IP Quick Connect
  - Open Socket interface support for 1756-EN2x family
  - Security Extensions
- Motion Extensions
  - Master Driven Speed Control (MDSC)
  - Acceleration compensation for interpolated actual position
- Safety Extensions
  - Floating Point in Safety Task
  - Safety Instruction additions
- New Controller Support
  - L71, L7xS
  - L3ER, L2ER, L1ER
- New Profiles
  - 1794 Flex on EtherNet/IP with DLR
  - Armorstart on EtherNet/IP with DLR
  - Motor Protection EtherNet/IP Adapter
  - SLC-500 EtherNet/IP Adapter
  - Kinetix 350 – EtherNet/IP CIP Motion
  - Kinetix Integrated Drive Motor – SERCOS interface
- FactoryTalk Activation Only
- Updated Tools

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# Studio 5000 Logix Designer

V21



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# Logix Designer V21

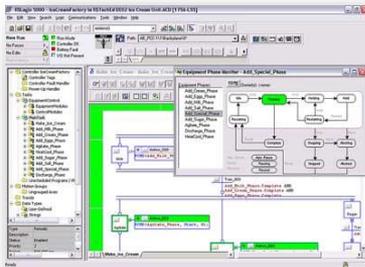
## Integrated Engineering Environment

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### Logix Designer (V21)

Programming and configuration for Logix controllers.

Existing RSLogix 5000 user interface retained with new shared components.



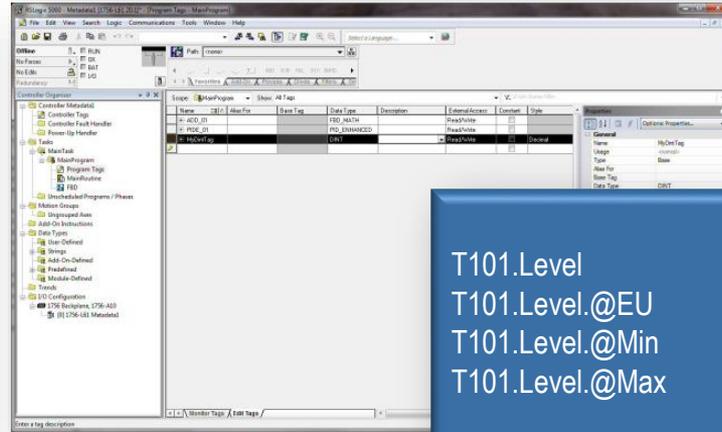
# Logix Designer V21

- Software Extensions
  - Logix Extended Tag Properties – Meta Tags
  - Project Documentation Storage - Comments/Descriptions Stored in Controller
  - Updated FT A&E Alarm State Model - following ISA 18.2
    - - Shelving
    - - Selectively Apply Duration to ALMA
  - Expanded FT A&E System Limits
  - Controller supported - 5370 L1-L3 & L7x
  - OS supported - Only Windows 7 / 2008
- Motion Extensions
  - EtherNet/IP CIP Motion Encoder
  - High Performance Position Driven Outputs (PLS)
  - Kinetix 5500 CIP Motion Servo Drive
  - Kinetix VPL Servo Motor
- New Profiles
  - Kinetix 5500
  - Ethernet/IP Encoder

# Logix Extended Tag Properties

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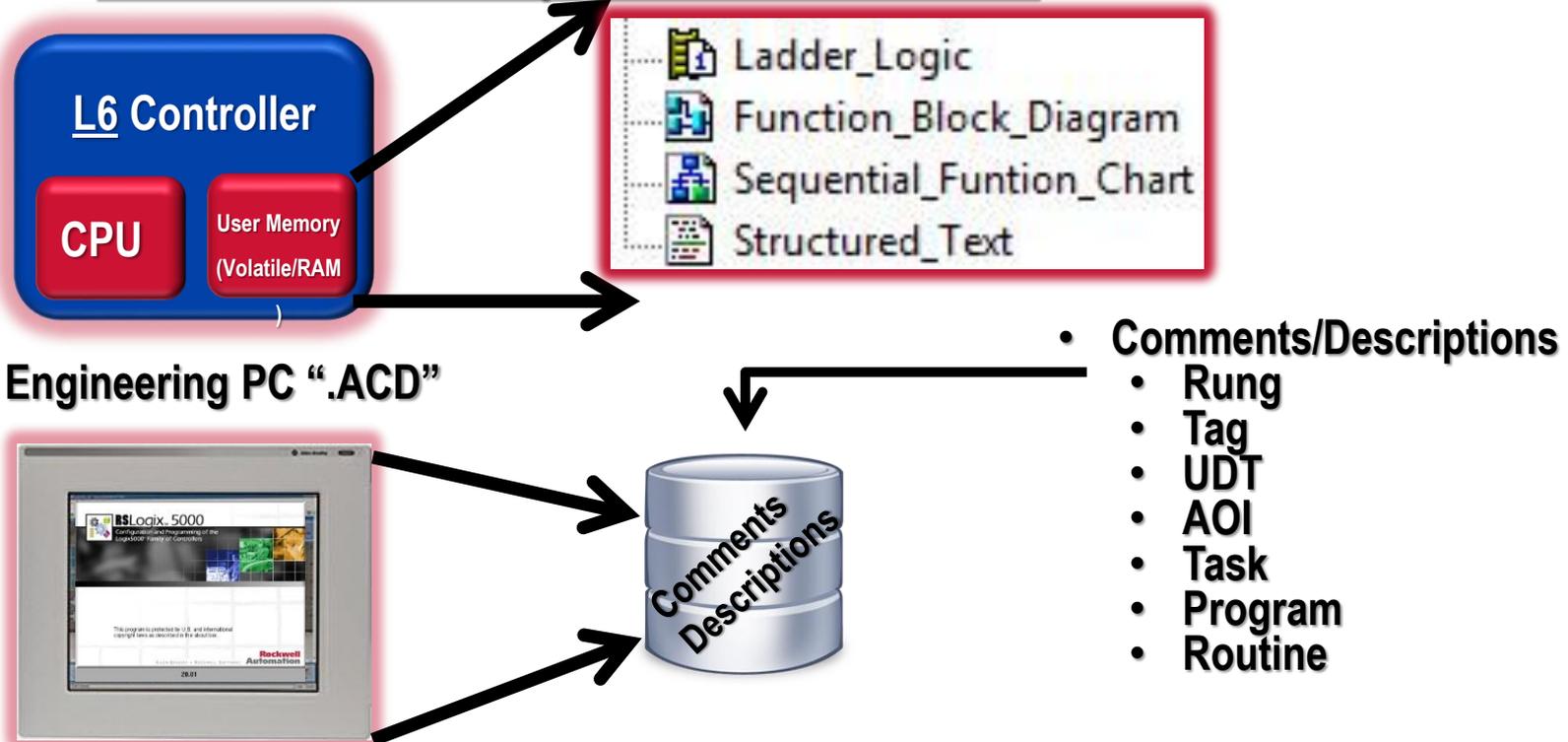
## Decreased Troubleshooting Time & Faster Time to Market



- Simplify your Logix application
  - No need to create custom data structures for commonly used tag information
  - Develop your application faster and reduce errors
  - Use Min/Max tag limits programmatically, or propagate to third party HMI after moving to a local tag.

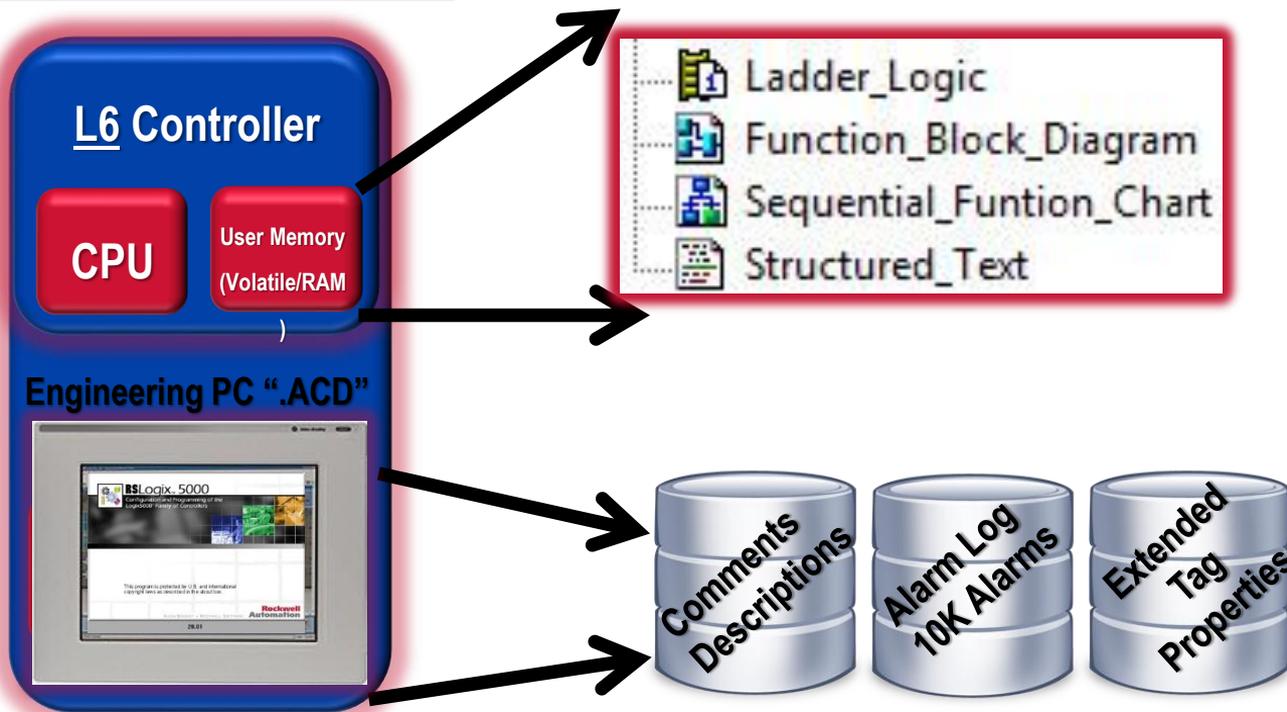
# Pre-V21 Project Documentation Storage

## Comments/Descriptions Stored on PC



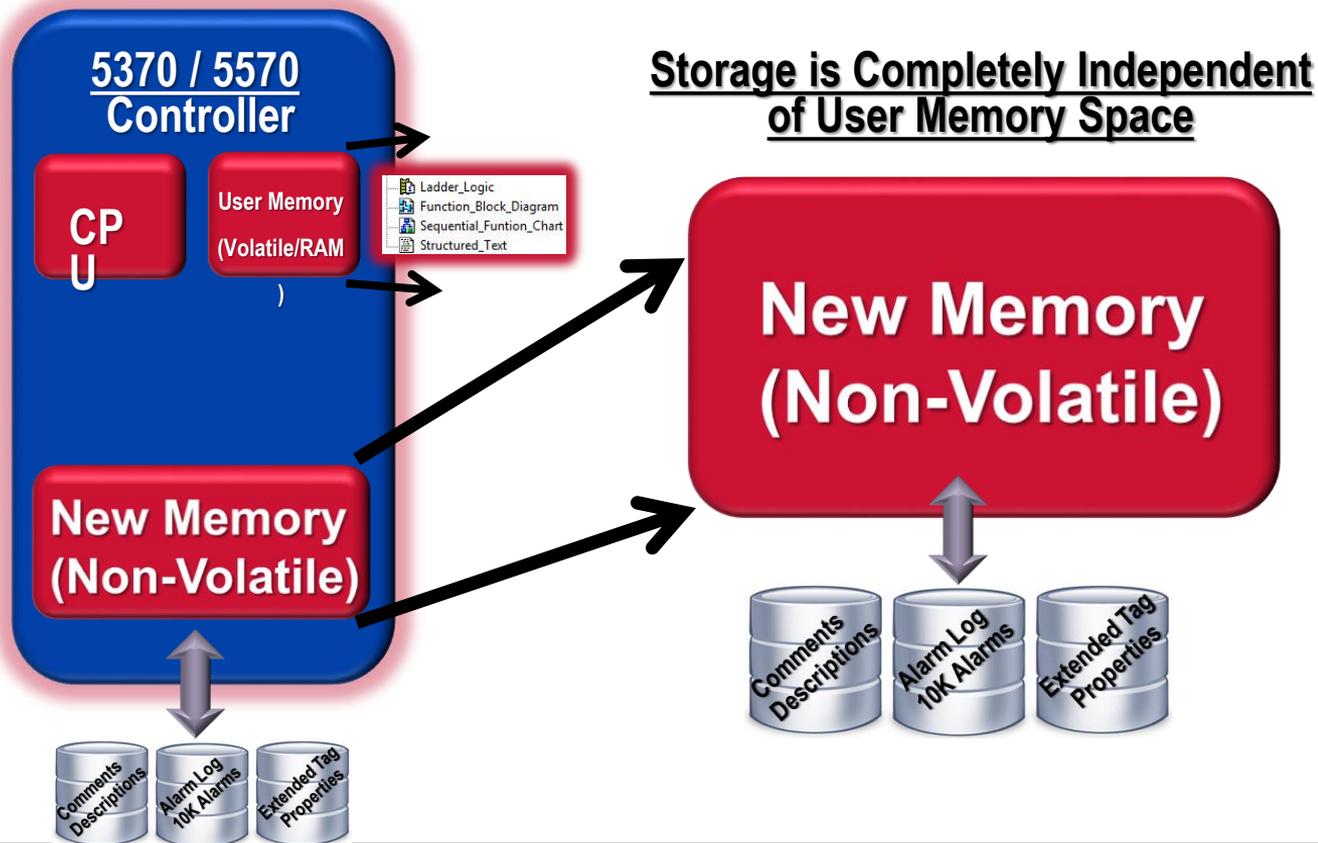
# New V21 Project Documentation Storage

## With V20 and Earlier



# New Additional Non-Volatile Extended Memory

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# Expanded FT A&E System Limits

## Scale to Larger Applications

### *Expanded FTA&E Limits in FactoryTalk View 7.0*

<b>Servers</b>	<b>Current Tested Limits</b>	<b>FactoryTalk View 7.0 Target</b>
FT A&E Servers (Non-Redundant)	2 Servers	<b>10 Servers</b>
FT A&E Servers (Redundant)	2 Server Pairs	<b>10 Server Pairs</b>
FT View Servers (Non-Redundant)	10 Servers	<b>10 Servers</b>
<b>Clients</b>	<b>Current Tested Limits</b>	<b>FactoryTalk View 7.0 Target</b>
FT A&E Clients	20 Clients	<b>50 Clients</b>
FT View Clients	50 Clients	<b>50 Clients</b>

#### **Benefits:**

- Eliminates barrier that may have led to use of HMI Classic Alarming
- More servers enables logical segregation of FTA&E servers by processing area

# Controller Support Roadmap



		Firmware Available			
		V18	V19	V20	V21
<b>Controller</b>	1756-L61, L62, L63, L64, L65 1756-L61S, L62S, L63S	Yes	Yes	Yes	No Firmware
	1768-L43, L45 1768-L43S, L45S 1769-L35CR, L35E, L32E, L32C, L31 1769-L23-QBFC1B, L23E-QB1B, L23E-QBFC1B	Yes	Yes	Yes	No Firmware
	ControlLogix L7 Family	N/A	Yes L72, L74	Yes L71	Yes
	CompactLogix L1ER, L2ER, L3ER	N/A	N/A	Yes	Yes

V20 is in extended maintenance mode

# Operating System Support



		Operating System Support			
		V18	V19	V20	V21
Operating Systems	Windows XP	Yes	Yes	Yes	No
	Server 2003	Yes	Yes	Yes	No
	Server 2008	Yes	Yes	Yes	Yes
	Vista	Yes	Yes	Yes	No
	Windows 7	No	Yes	Yes	Yes

Knowledgebase Answer ID 67020

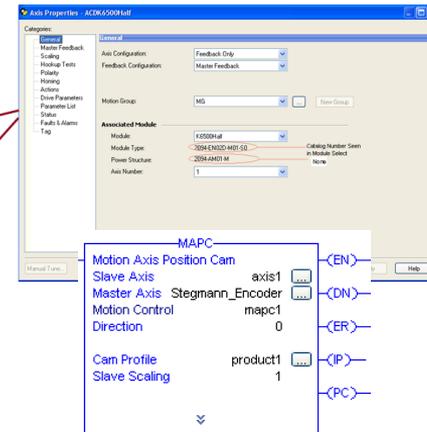
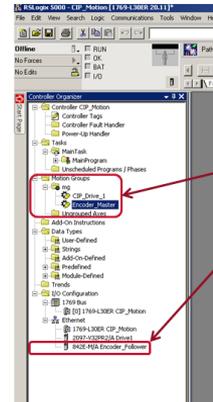
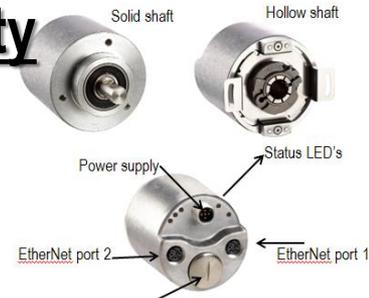
“RSLogix 5/500/5000 on Windows Vista and Windows 7“

# EtherNet/IP CIP Motion Encoder

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## Eliminate Extra Wiring and Complexity

- EtherNet/IP DLR support
- 18 bit resolution
- Single-turn and multi-turn absolute
  - 842EM-S
  - 842EM-M
- IP67 Packaging, M12 connectors
- Solid and Hollow shaft options
- CIP Motion Feedback Only axis support
  - Use as master axis for gear, PCAM, MDSC
  - Provides a master axis solution when using the Kinetix 350 drive or Kinetix 5500 drive

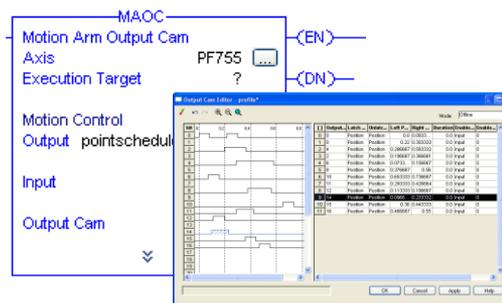


# High Performance Position Driven Outputs (PLS)

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## More points per Output Cam from 8 to 16

- Position based output control
  - MAOC motion instruction with RSLogix 5000 graphical profile editor
  - Map to any output - boolean or physical
  - Advanced PLS features



## Output Cam Function in CompactLogix

- Benefits
  - Any axis can control outputs using position & velocity
    - Physical or virtual axes
  - Multiple output module options
    - Standard outputs
    - Outputs with CIP Sync for high performance
      - 1756-OB16IS
        - » 8 outputs/module
      - 1756-OB16IFS
        - » 16 outputs/module
      - 1732E-OB8M8SR
        - » EtherNet/IP DLR
        - » Use with ControlLogix or CompactLogix
        - » 8 outputs/module



# Kinetix 5500 CIP Motion Servo Drive

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## ■ Lower Installation Costs

- 50% less cabinet space
- 70% fewer wiring terminations
- 60% less cable runs required
- VPL Servo motor single cable connection

## ■ Flexible Machine Architecture

- Single or Multiple Axis configurations
- Shared AC/DC Bus configurations
- Servo or V/Hz – Induction and PM motors
- Embedded switch DLR support

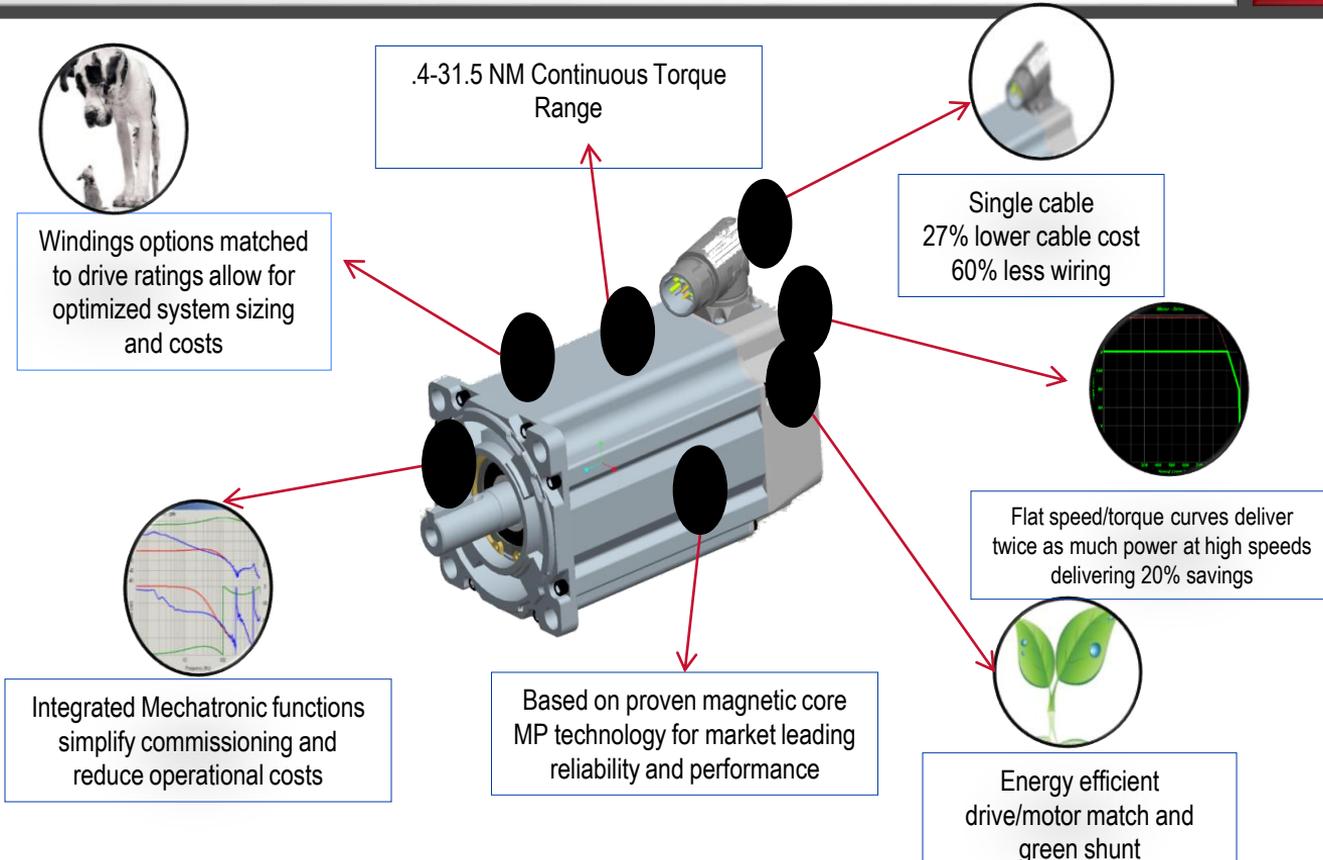
## ■ Meets Global Machine Standards

- 195-528 VAC Input Voltage
- Hardwired Safe Torque Off
- 1A to 23A continuous



# Kinetix VPL Servo Motor

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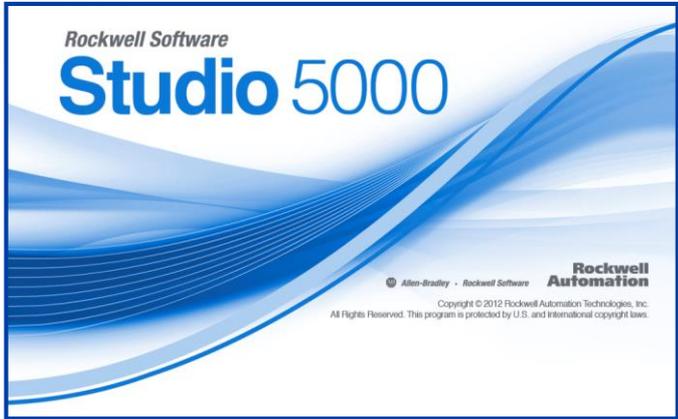


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# Studio 5000 Logix Designer

V22 – Internal Release

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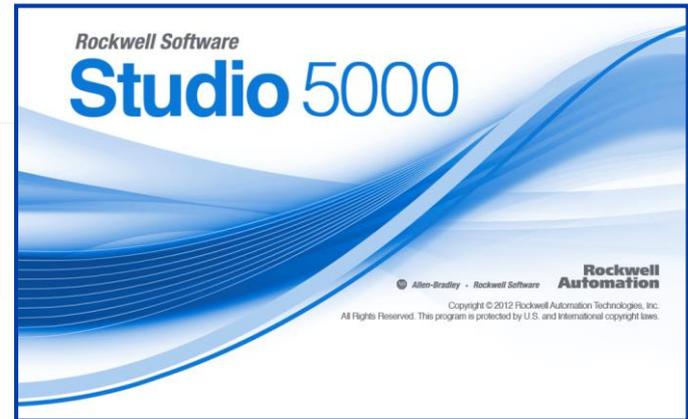
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# Studio 5000 Logix Designer

V23



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# V23: Product Resiliency

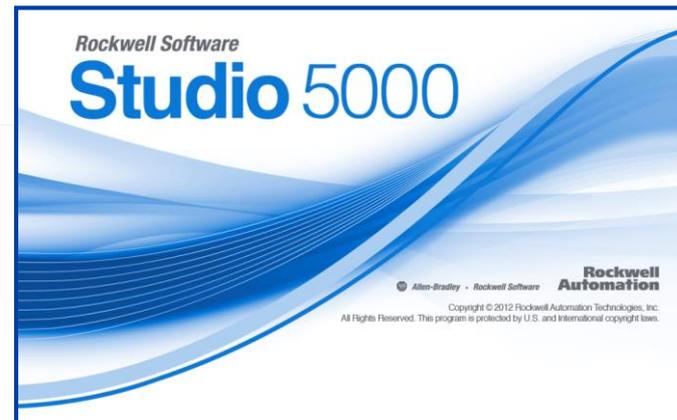
- This release includes enhancements intended to improve product resiliency to potentially disruptive activities. These enhancements have been verified to not affect product safety, performance, expected life, configuration, or operation of the product. Rockwell Automation advises customers to follow good Industrial Control System (ICS) security practices that include regular product updates. To ensure authenticity, obtain product updates and new releases directly from Rockwell Automation.
- Product resiliency includes, but it not limited to, security topics related to tamper prevention and detection, intellectual property management and source protection, and user authentication and authorization.

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# Studio 5000 Logix Designer

V24 – Automation Productivity Release



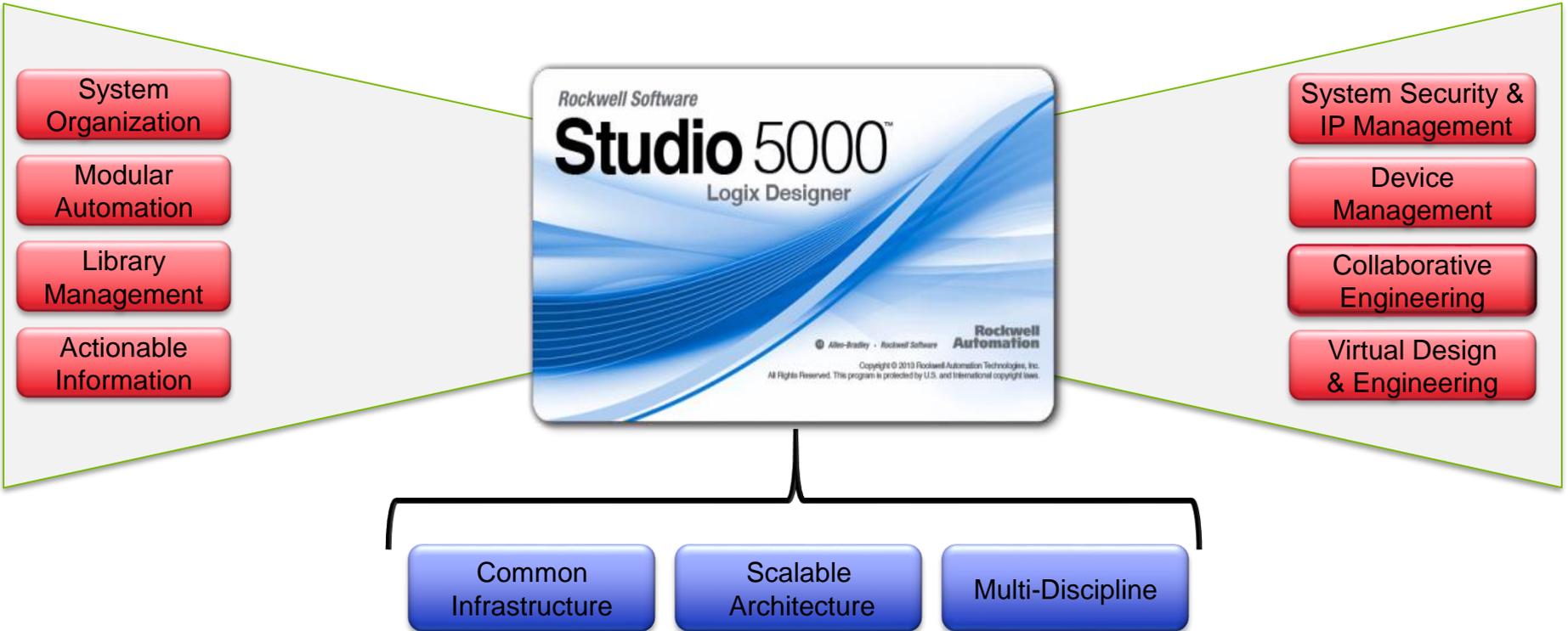
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# Logix V24 Enhancements

- Program Parameters
- Logical Organizer
- Partial Import Online Enhancements
- Module Encapsulation in AOI
- Multiple course updates Rate for Motion
- Safe and Standard Connections
- Factory Talk Alarm and Events
- Support for 1000 Programs / Task
- Tools:
  - Compare and Merge Tool
- Operating systems Supported
  - Microsoft® Windows® 7 Professional (64-bit) with Service Pack 1
  - Microsoft Windows 7 Home Premium (32-bit) with Service Pack 1
  - Microsoft Windows Server 2008 R2 Standard Edition with Service Pack 1
  - Microsoft Windows 8 Professional (64-bit)
  - Microsoft Windows 8.1 Professional (64-bit)
  - Microsoft Windows Server 2012 Standard Edition (server version of Windows 8)

# Logix Designer Studio 5000 Automation Productivity

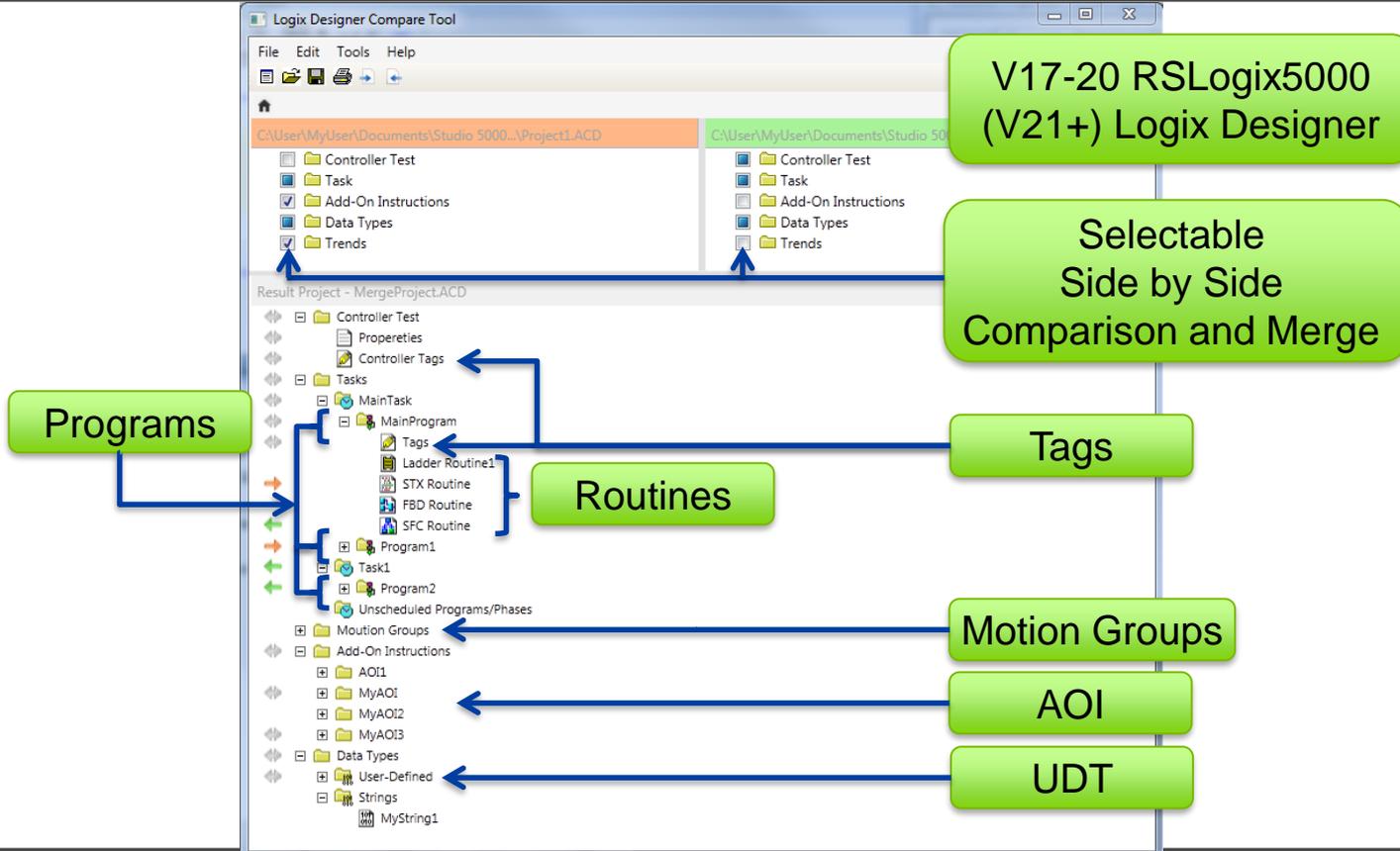
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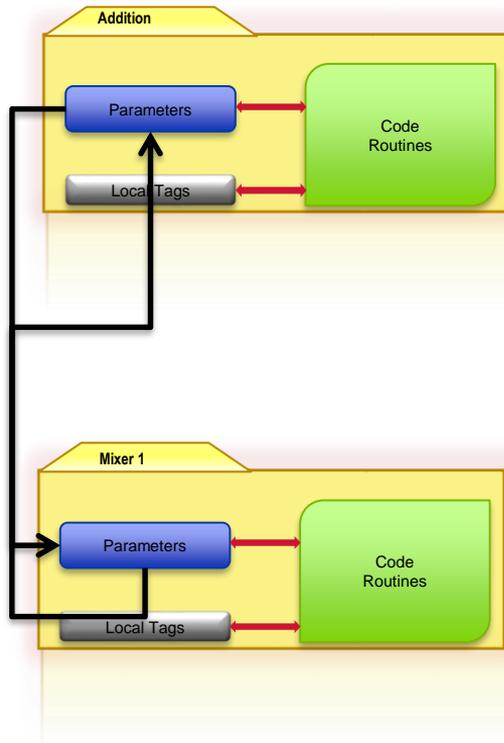
# Compare and Merge

Save time and ensure accuracy merging

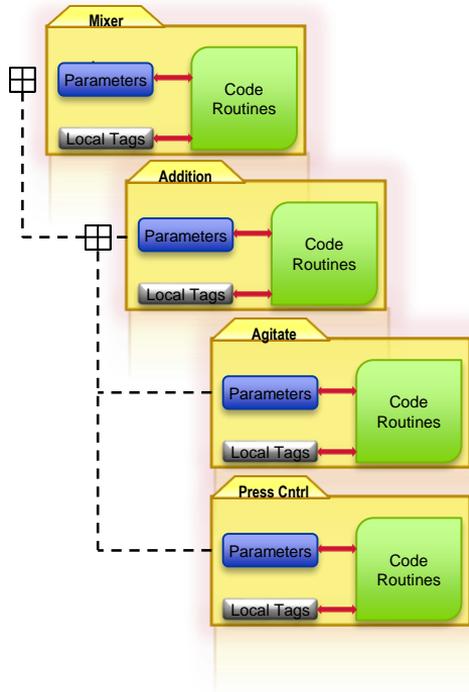
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# Program Parameters



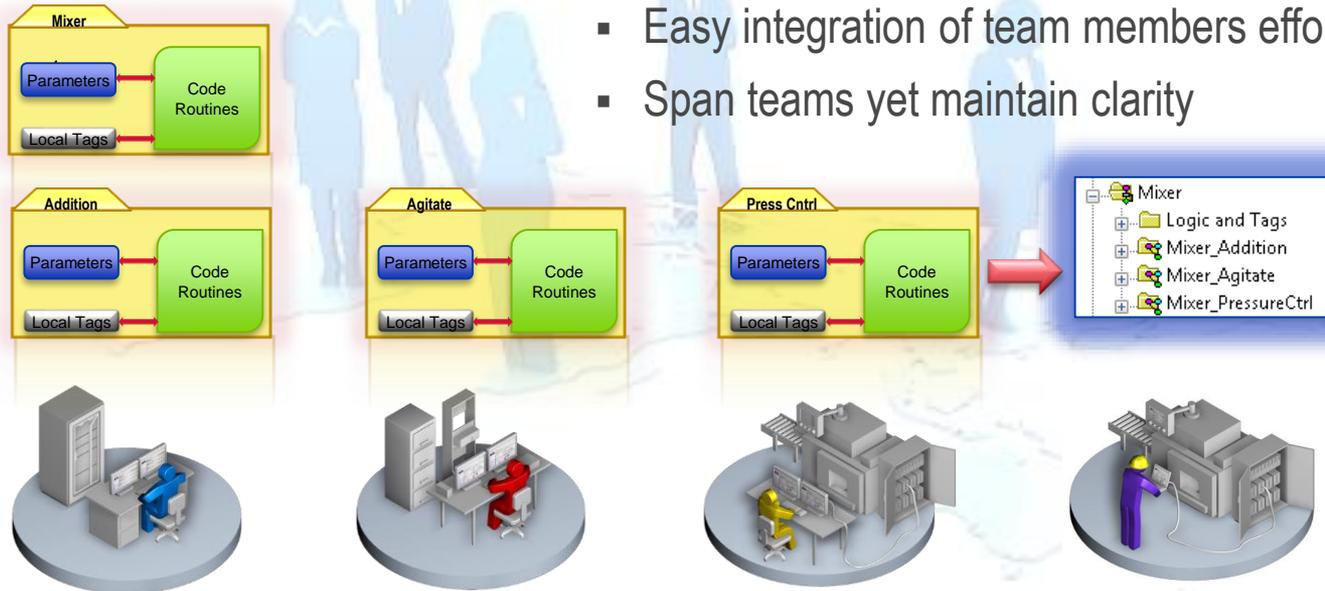
- Program Parameters
  - Clearly defined interface for programs
  - Direct communication between programs
  - Increased modularity

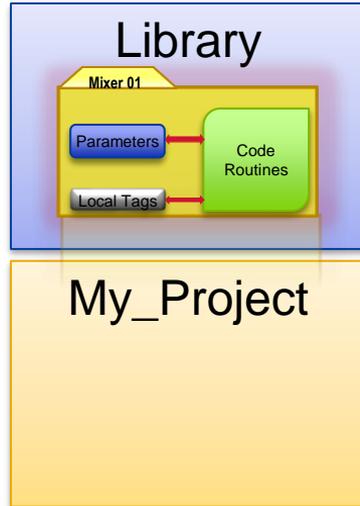


- NEW Logical Organizer View
  - Logical organization of programs to represent your process flow.
  - Easier to locate code even though programs span task scheduling
  - Create your own hierarchy

# Engineering Collaboration

- Engineering Collaboration
  - Split up your project among teams
  - Easy integration of team members efforts
  - Span teams yet maintain clarity





- Library
  - Use .ACD as Library or XML files
  - Increased transportability
  - Data maintained and collisions managed

# Putting It All Together



Logix Designer - My\_Library [1756-L75 22.1]

File Edit View Search Logic Communications

**Library .ACD**

Logical Organizer

- Logical Model My\_Library
  - Packaging\_Library
    - Line
      - Line\_Machine\_A
      - Line\_Machine\_B
    - Process\_Library
      - Hold\_Tank
        - Hold\_Tank\_LevelCtrl
      - Mixer
        - Logic and Tags
        - Mixer\_Addition
        - Mixer\_Agitate
        - Mixer\_PressureCtrl
      - Reactor
        - Reactor\_TempCtrl

**Easily Deploy Library Content**

Logix Designer - My\_Line in My\_Project.ACD [1756-L75 22.1]

File Edit View Search Logic Communications

Offline

**My Project .ACD**

Logical View

Logical Organizer

- Logical Model My\_Line
  - Packaging
    - Line\_01
      - Line\_01\_Machine\_A
      - Logic and Tags
      - Line\_01\_Machine\_B
    - Line\_02
      - Line\_02\_Machine\_A
      - Line\_02\_Machine\_B
  - ProcessSection
    - Mixer\_01
      - Logic and Tags
      - Mixer\_01\_Addition
      - Mixer\_01\_Agitate
      - Mixer\_01\_PressureCtrl
    - Mixer\_02
      - Logic and Tags
      - Mixer\_02\_Addition

**Easier to Locate**

Controller Organizer

Controller My\_Line

Execution View

- Mixer\_01\_PressureCtrl
- Mixer\_02\_PressureCtrl
- Line\_01\_Machine\_A
- Line\_01\_Machine\_B
- Line\_02\_Machine\_A
- Line\_02\_Machine\_B
- Periodic\_025ms
- Mixer\_01
- Mixer\_02
- Mixer\_01\_Addition
- Mixer\_01\_Agitate
- Mixer\_02\_Addition
- Mixer\_02\_Agitate

**Maintains Schedule**

# V21 and Prior Motion Group Coarse Update Rate

**Rockwell  
Automation**

The diagram illustrates the configuration of a motion group on a Rockwell Automation PLC. It features a 3D rendering of a paper mill machine with a roll of paper being processed. A PLC rack is shown with a motion controller module. Green arrows point from the motion controller module to various parts of the machine, indicating its control range. A software window titled "Motion Group Properties - MtnGrp" is overlaid on the image. The "Coarse Update Period" is set to 2.0 ms, which is circled in green. A callout box points to this setting with the text "Only 1 Coarse Update Rate". Another callout box points to the "Run Continuous" radio button, which is selected, with the text "Run Continuous". A third callout box points to a "Fan or Pump" component on the machine, with the text "Fan or Pump". A fourth callout box points to the PLC rack, with the text "Only Operate At Machine Set Up". The software interface also shows "Auto Tag Update" set to "Enabled" and "General Fault Type" set to "Non Major Fault".

Only Operate At Machine Set Up

Only 1 Coarse Update Rate

Run Continuous

Fan or Pump

# Drive Multiplexing (Multiple Rate Selection)

**Rockwell  
Automation**

**Multiple Rate Selections**

**Update Period**

Base: 2.0 ms (in 0.5 increments)

Alternate 1: 10.0 ms

Alternate 2: 16.0 ms

**AX\_SetUp\_DS**  
**AX\_SetUp\_Cntr**  
**AX\_SetUp\_OS**

**AX\_Unw**  
**AX\_GR01**  
**AX\_GR02**  
**AX\_GR03**

**AX\_SetUp\_DS**  
**AX\_SetUp\_Cntr**  
**AX\_SetUp\_OS**

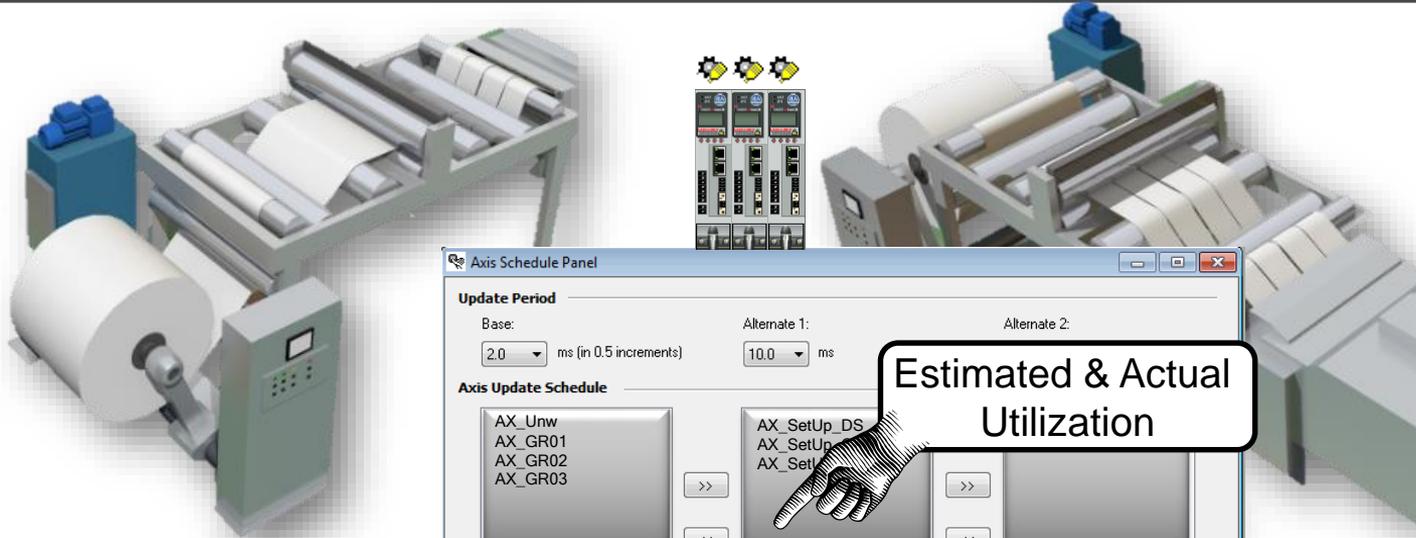
**AX\_ExConv**

Estimated Utilization - Motion		Actual Utilization - Motion	
Logix Controller:	37.3 %	Logix Controller:	38.0 %
Task I/O Cycle:	72.0 %	Task I/O Cycle:	70.6 %
Conn. I/O Cycle:	50.0 %		
Communications:	28.0 %		

***Match the Update Rate With The Machine Functionality***

# Drive Multiplexing (Multiple Rate Selection)

Rockwell  
Automation



Estimated & Actual  
Utilization

### Estimated Utilization - Motion

Logix Controller:	37.3 %
Task I/O Cycle:	72.0 %
Conn. I/O Cycle:	50.0 %
Communications:	38.0 %
Ethernet Media:	5.6 %

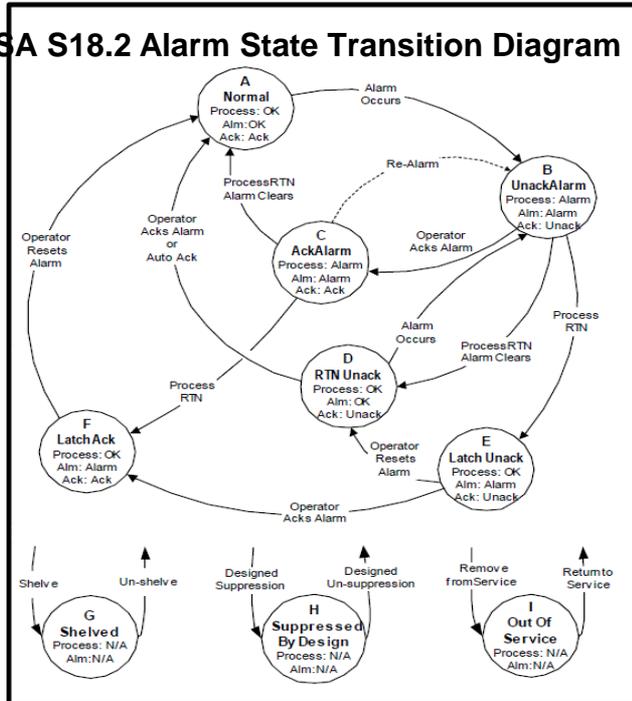
### Actual Utilization - Motion

Logix Controller:	38.0 %
Task I/O Cycle:	70.6 %

# Updated FT A&E Alarm State Model

## Simplifies Application Creation to Easily follow ISA 18.2 Recommendations

ISA S18.2 Alarm State Transition Diagram

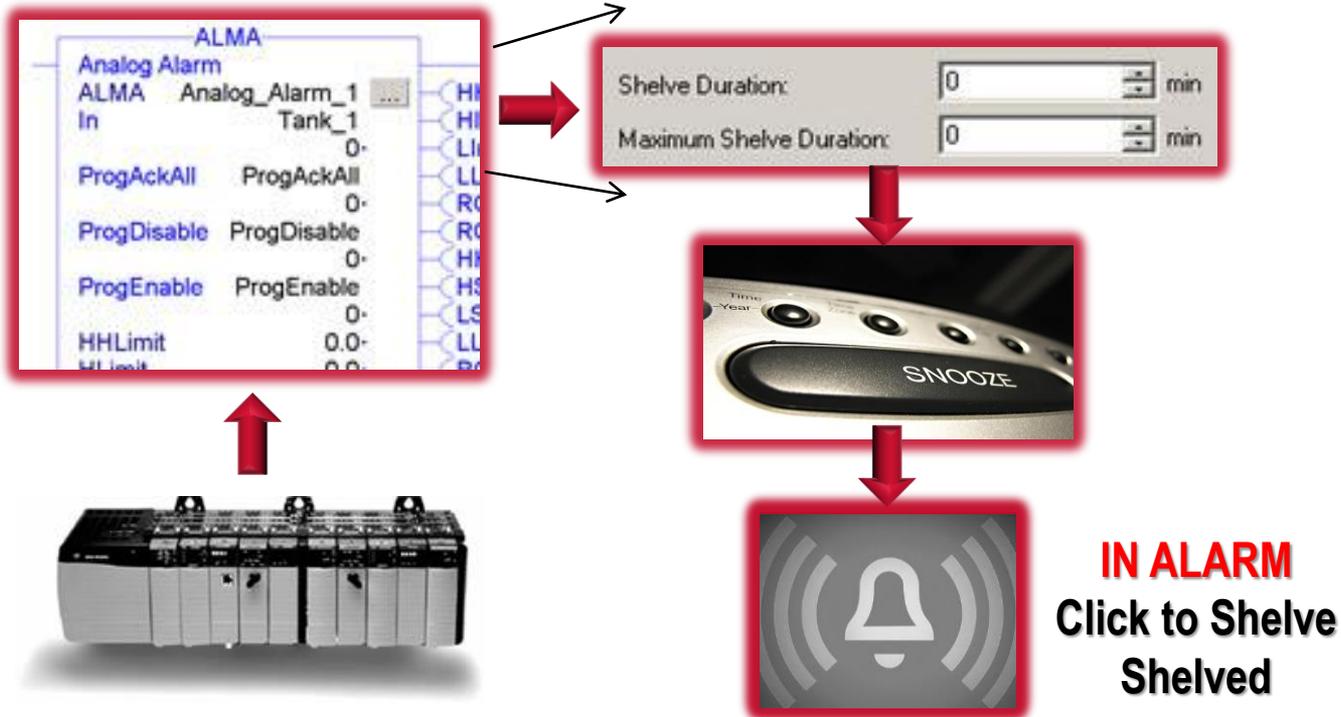


FT A&E vs. ISA 18.2 terminology:

- Shelf = Shelved
- Suppress = Suppressed By Design
- Disable = Out Of Service

# Shelving Function for Alarms

## Reduce Costly Mistakes by Assuring Alarms are Noticed



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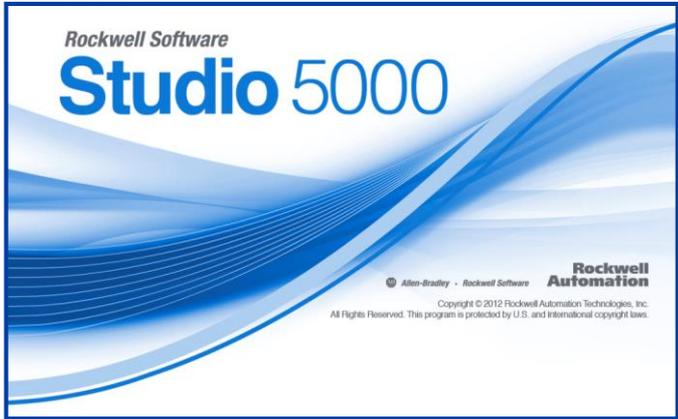


Rockwell Software

# Studio 5000 Logix Designer

V25 – Internal Release

PUBLIC



 Allen-Bradley • Rockwell Software

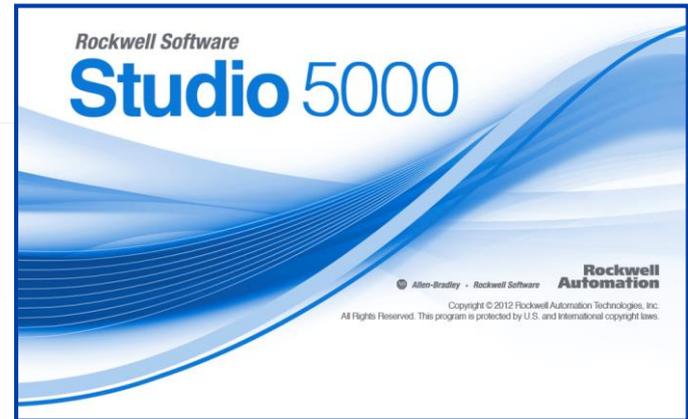
**Rockwell  
Automation**

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Rockwell Software

# Studio 5000 Logix Designer

V26

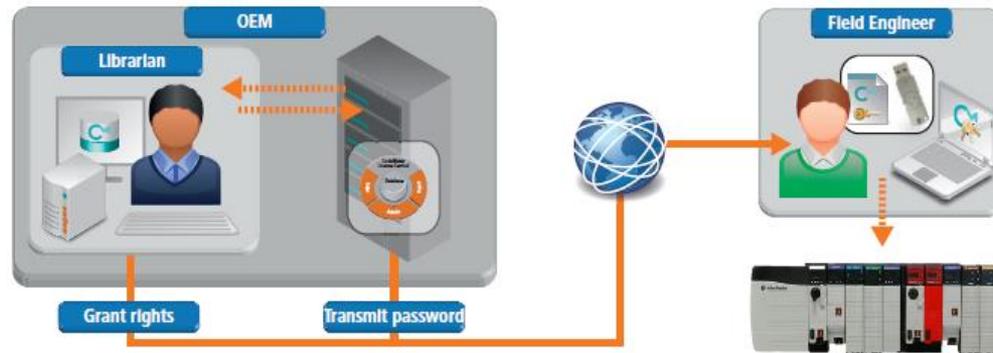


PUBLIC

- License-Based Source Protection
  - This release of the Logix Designer application supports Licensed-Based Source Protection. License-Based Source Protection controls permissions on the following license protected components
  - When a component is license protected, a CmStick containing the corresponding license must be plugged into a USB port on the computer to open the project containing the component.
  - License protection uses licenses that you create and administer through a license portal. You can access the CodeMeter® WebAdmin portal through the CodeMeter icon placed in your Windows taskbar after you install Logix Designer application.
- Motion Hardware Profile Extensions
  - Kinetix 5700
- Operating systems Supported
  - Microsoft® Windows® 7 Professional (64-bit) with Service Pack 1
  - Microsoft Windows 7 Home Premium (32-bit) with Service Pack 1
  - Microsoft Windows Server 2008 R2 Standard Edition with Service Pack 1
  - Microsoft Windows 8 Professional (64-bit)
  - Microsoft Windows 8.1 Professional (64-bit)
  - Microsoft Windows Server 2012 Standard Edition (server version of Windows 8)

# WIBU Systems

- With the new technology implemented by Wibu-Systems, passwords are no longer saved unencrypted on a local machine, but rather encrypted in a CmContainer from Wibu-Systems.
- The CmContainer can either be:
  - a CmDongle (a tamperproof hardware device embedding a smart card controller)
  - or a CmActLicense (a software license file).
- An application, the CSPP (namely CodeMeter Source Protection Provider), centrally manages passwords.
- A librarian can grant user's rights from his CSPP Manager; passwords are transferred through the CodeMeter License Central installed on the corporate server to the field engineer
- The CSPP Client running and interfacing with the Studio 5000, and then is restricted (for a specific time) to only for the specific functions they have been set for: Use, View, Edit, Copy, Export, and Protect. Once you apply Source Protection, the protected components can be altered or viewed only by a user who has the license and permissions required for access.
- License privileges can be shared with other users on your network.



# Kinetix 5700 - Phase 1 Release June 2015

**Rockwell  
Automation**

- All Hardware Available
- Full CIP motion functions
- Combined Network and Hardwired Safe Torque Off, SIL3 PLe CAT 3
- Motor Control
  - Rotary Servo
  - Dual Loop and Half Axis
  - Basic V/Hz induction motor control
- Feedback Support
  - Hiperface DSL
  - Hiperface sin/cos
- Configurable Inputs
- Torque Prove Function
- Tuning-less and runtime performance function
  - Load Observer



# Phase 2 Release October 2015

**Rockwell  
Automation**

- Phase 1 release functions plus:
- Additional Motor Control
  - Linear Motor
  - IM Sensorless Vector Control
  - IM Closed Loop Vector Control w/ encoder feedback
- Additional Feedback Support
  - TTL sin/cos
  - EnDat 2.1
  - EnDat 2.2
- Additional Tuning-less and runtime performance function
  - Adaptive Notch Filter
- SLAT Control, Flying Start, MDS Support
- Energy Monitoring Object



# Kinetix 5700 Servo System

**Rockwell Automation**

## Motor Attachment



Available June 2015

	Dual Axis					Single Axis		
	D006	D012	D020	D032	D057	S086	S130	S170
VPL	✓	✓	✓	✓	✓			
VPF	✓	✓	✓	✓	✓			
MPL	✓	✓	✓	✓	✓	✓	✓	✓
MPF	✓	✓	✓	✓	✓			
MPS	✓	✓	✓	✓	✓			
MPM	✓	✓	✓	✓	✓			
HPK						✓	✓	✓
RDB								

✓ = open-loop control only

VPC								
-----	--	--	--	--	--	--	--	--

Available October 2015

	Dual Axis					Single Axis		
	D006	D012	D020	D032	D057	S086	S130	S170
VPL	✓	✓	✓	✓	✓			
VPF	✓	✓	✓	✓	✓			
MPL	✓	✓	✓	✓	✓	✓	✓	✓
MPF	✓	✓	✓	✓	✓			
MPS	✓	✓	✓	✓	✓			
MPM	✓	✓	✓	✓	✓			
HPK						✓	✓	✓
RDB		✓	✓	✓	✓			

✓ = EnDat support

✓ = closed-loop control

Available May 2016

VPC			✓	✓	✓	✓	✓	✓
-----	--	--	---	---	---	---	---	---

**Broad motor options available with the K5700 drive platform**

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Rockwell Software

# Studio 5000 Logix Designer

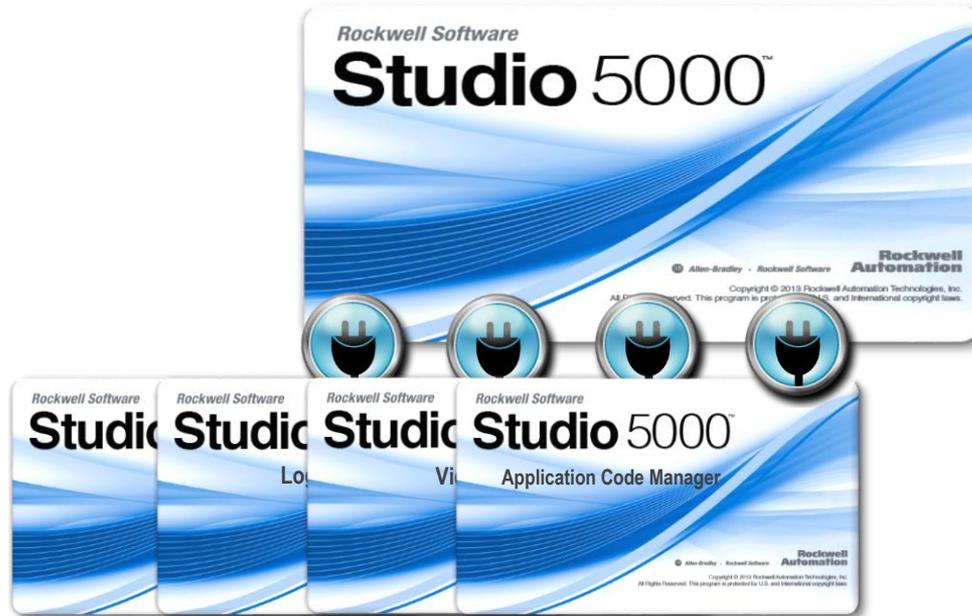
V27 – Simplifying your Design Journey



PUBLIC

# Studio 5000 V27

**Rockwell  
Automation**



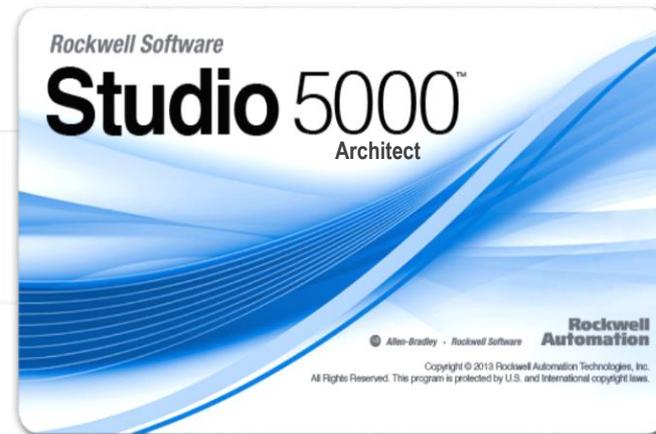
**Introducing three new major components**

LISTEN.  
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Rockwell Software

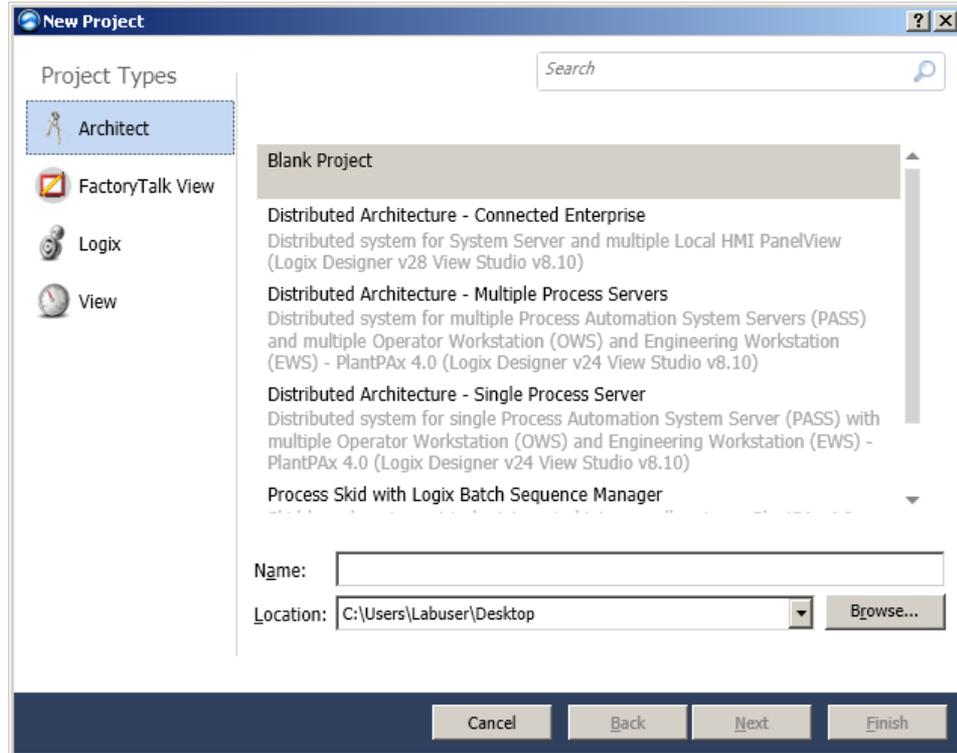
# Studio 5000

V27 – Studio 5000 Architect



PUBLIC

# Studio 5000 - Architect



# What is Architect?

One place to Architect an aggregate system content...

## Integrated Environment

- One environment for streamlined creation and configuration of the system architecture and application

## Supports reuse of content

- Enables library management capabilities to help users build systems faster and with less risk

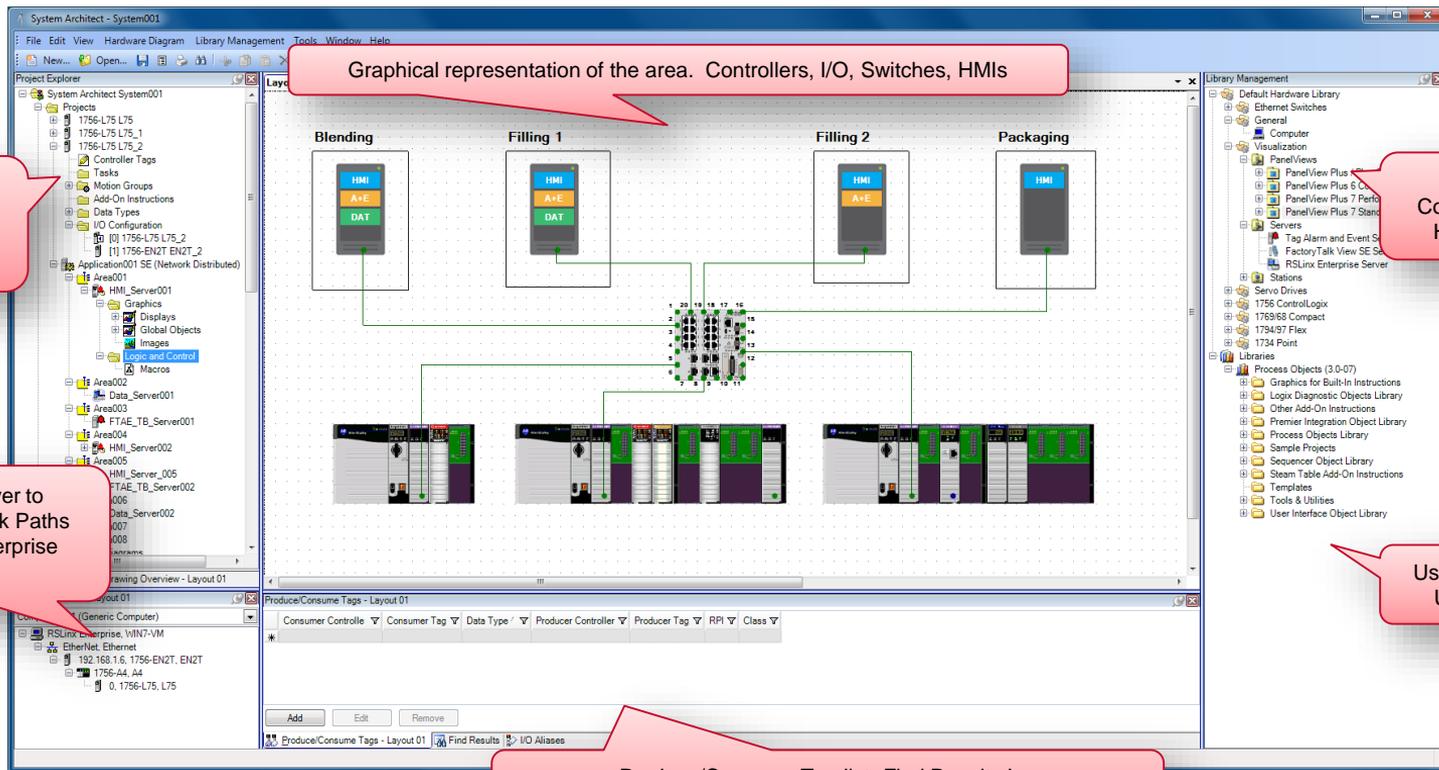
## Offers Exchange of data between systems

- Provides a standard interface to support better data exchange between development systems



# What does it look like?

**Rockwell  
Automation**



Graphical representation of the area. Controllers, I/O, Switches, HMIs

Organize Multi-Controller & Multi-HMI Projects in one place

Configure Server to Controller Network Paths and RSLinx Enterprise Shortcuts

Hardware Library Controllers, I/O, Switches, HMIs, and Computers.

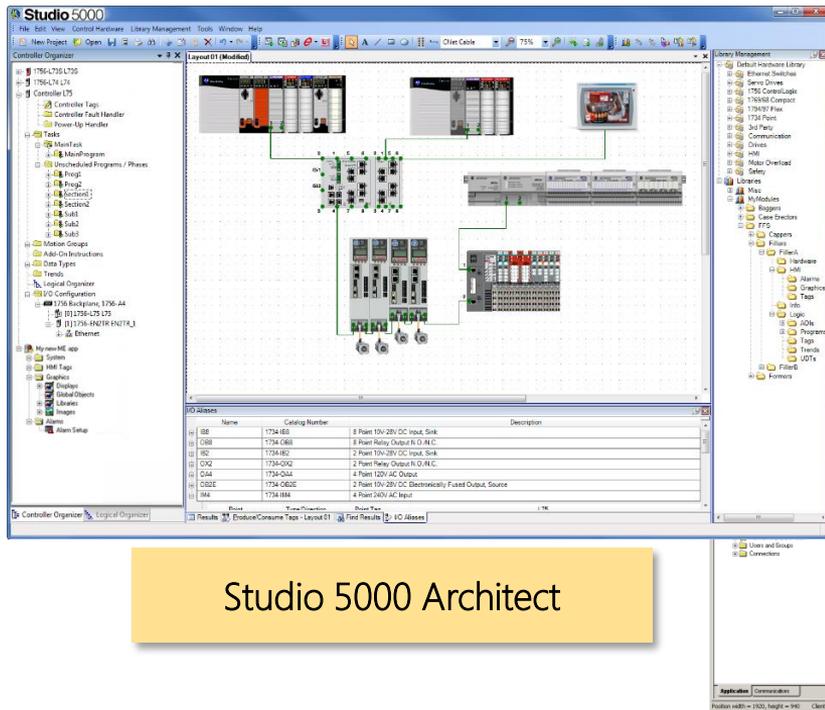
User Libraries include AOI, UDT and HMI content.

-Produce/Consume Tag list  
-Find Results Log  
-IO Alias tag List

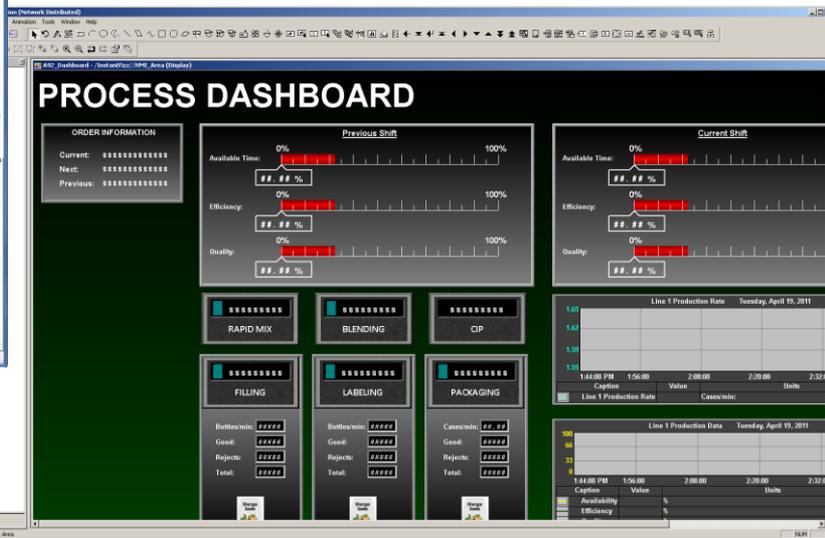
# Key Points...

## FactoryTalk View 8.1 integrated with Architect

**Rockwell  
Automation**



Studio 5000 Architect

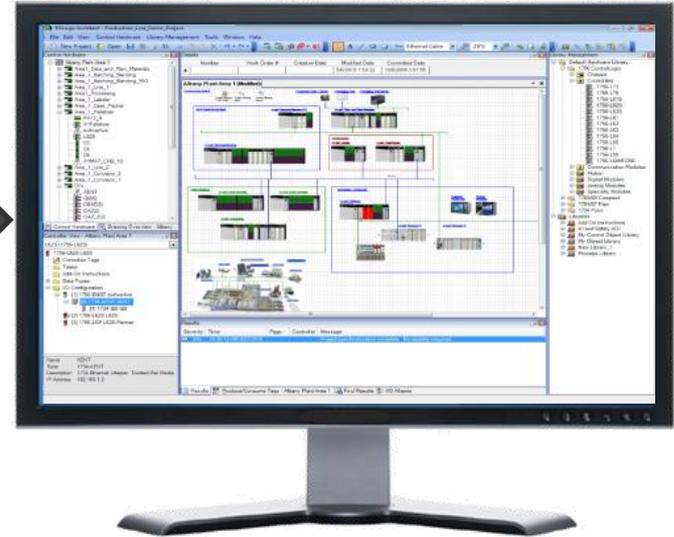
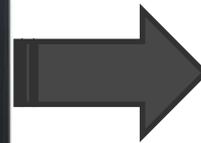
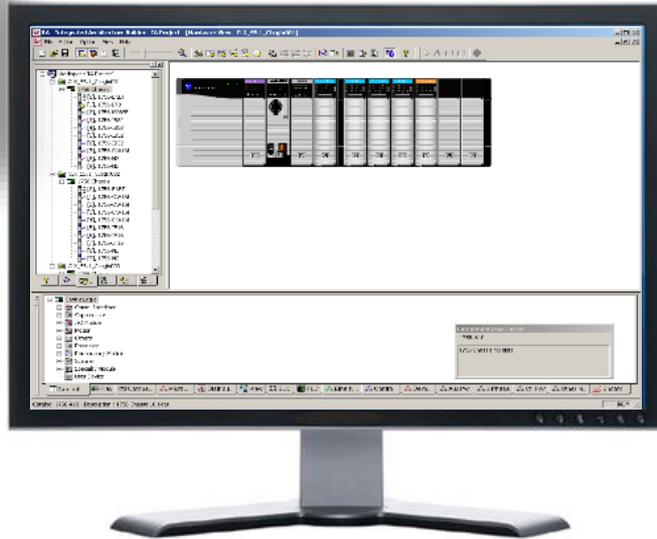


FactoryTalk View Studio

# Key Points...

## IAB export to RSLogix Architect

**Rockwell  
Automation**



Allows for the export of control systems created in Integrated Architecture Builder to Architect and the automatic creation of the corresponding Logix Designer controller project files

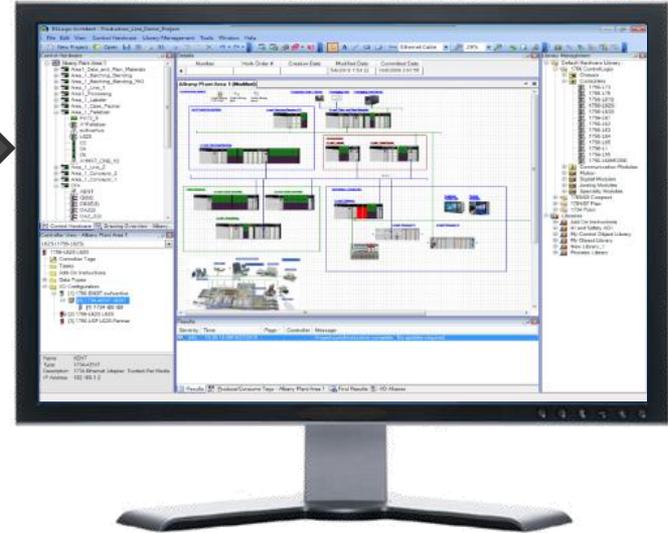
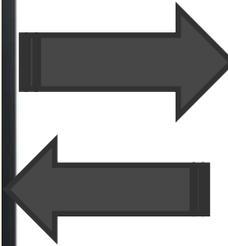
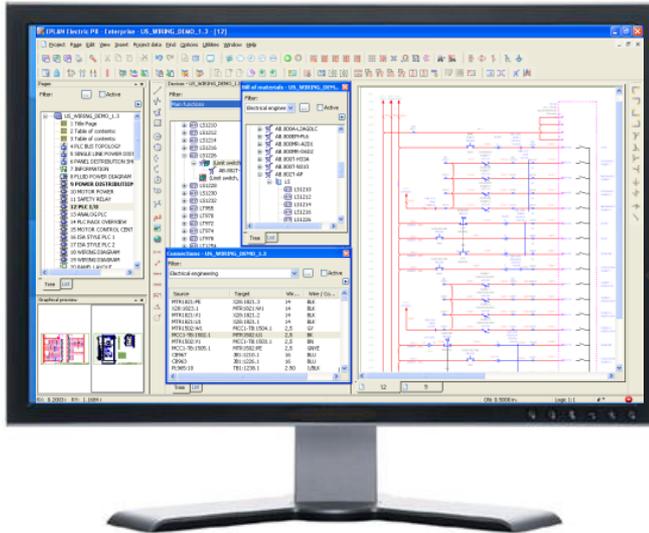
Eliminates data entry redundancy

Reduces design time by matching the BOM with the actual project

# Key Points

## EPLAN Bi-Directional synchronization

**Rockwell  
Automation**



Synchronizes data transfer of Hardware configuration and Point Tags (Alias Tags)  
Allows for automated schematic updates in EPLAN  
Improves start-up time ensuring electrical drawings are perfectly matched to I/O assignments

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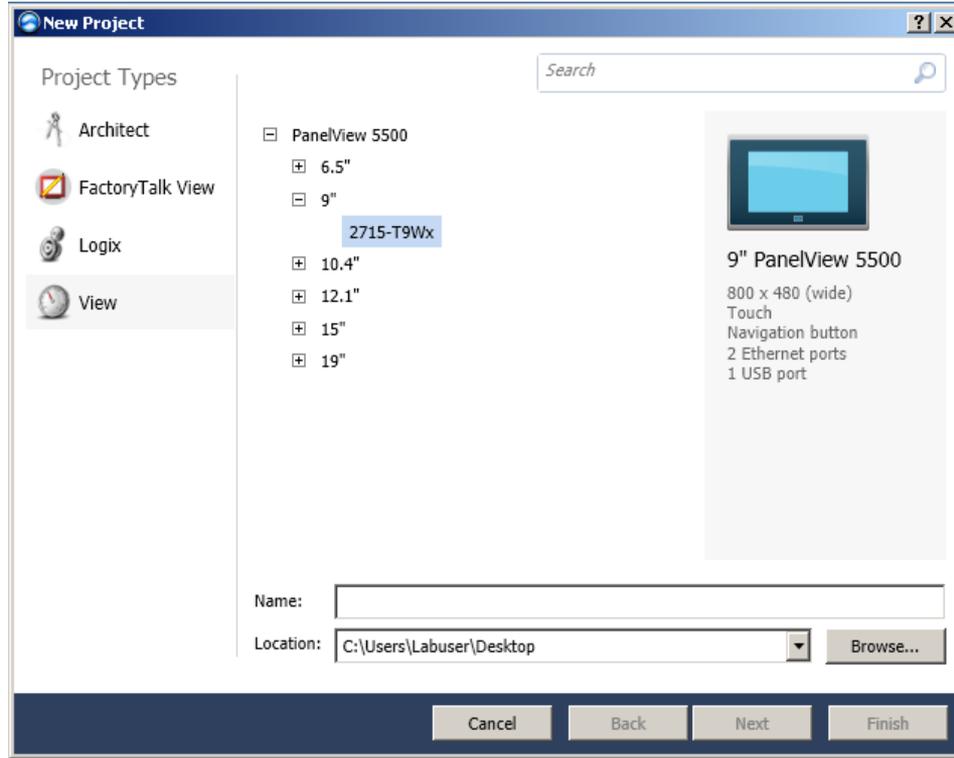
# Studio 5000

V27 – View Designer



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# Studio 5000 – View Designer



# What is View Designer?

One place to design our newest electronic operator interfaces...

## Integrated

- Offers premier integration features with Logix family of controllers

## Improved user experience

- Leverages modern graphics, navigation, and usability functions

## Common design environment

- More productive development



# What does View Designer look like?

The screenshot shows the Rockwell Automation View Designer interface. The main window displays a control panel for a 'MixingHopperSide\_001' with various gauges, buttons, and data points. Surrounding this are several toolbars and panes: a Project Explorer on the left, a Properties pane on the right, a Searchable toolbox at the bottom left, a Find Results window at the bottom center, and a Graphic Explorer at the bottom right. Red callout boxes with white text point to these specific features.

Main screen editing window.

Properties pane to configure elements.

Project Explorer to create and arrange screens, navigation menu, etc.

Searchable toolbox of graphic elements to use on screens.

Find results/errors

Connection points window

Graphic explorer to quickly find and select elements.

Alias For	Data Type	Description	Category
Tank	-MyCLX.Tank		General

Container	Element	Property	Found
User-Defined Screens/Tank_Detail	AmbientTempGroup	name	AmbientTempGroup
User-Defined Screens/Tank_Detail	TextDisplay_025	Text	Ambient

# Key points...

## Preconfigured system setting screens

**Rockwell  
Automation**

Unacked (500) ← → Matthe... 13:42:08 22/12/2013

### Settings

- Network**  
Configure Ethernet settings and view diagnostics.
- Date and Time**  
Configure the date, time and time zone.
- Display**  
Configure screen settings and calibrate touchscreen.
- Controllers**  
View path, mode and other diagnostics.
- HMI Device**  
Enable downloads, view diagnostics and reboot.
- Troubleshooting**  
Import custom profiles and export troubleshooting logs.

### Controllers

General:  
Reference: MyController1  
Path: 255.255.255.255\Backpanel3

### Network

Network Diagnostics:

Ethernet link 1:	Enabled: Yes	Duplicate IP detected:	No
	Disconnected: Yes	DLR topology detected:	Yes
	Speed: Auto	DLR is broken:	No
	Duplex: Full	MAC address:	00.02.bc.00.4e.bc

### HMI Device

Allow Downloads and Firmware Updates Reboot

HMI device name: ThisIsMyDevice01  
Application name: ThisIsMyApplication01234567890123456789

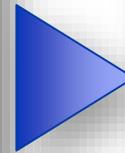
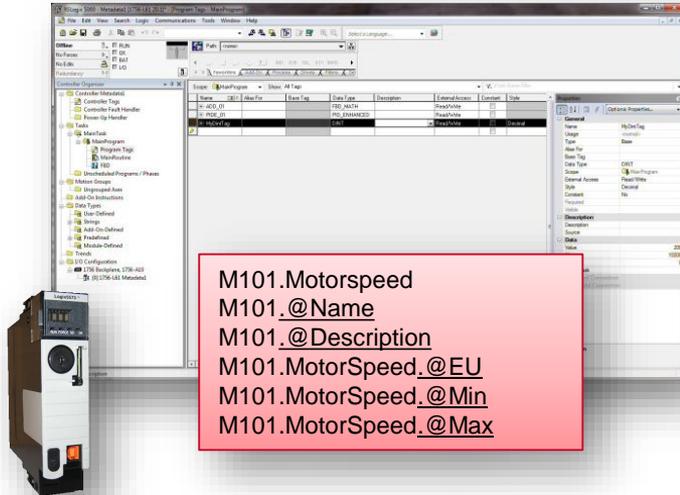
Product Information:  
Catalog: 2713-T6CD1  
Firmware: 22.001

Diagnostics:

CPU utilization:	52%	Memory used (RAM):	8567 kB
Total power on time:	34 hours	Memory free (RAM):	40898 kB
CPU temperature:	42°C	Memory used (Flash):	3256 kB
Last reboot:	11/19/2012 07:31:46 AM	Memory free (Flash):	51245 kB
Last deploy:	07/10/2011 12:52:15 AM	Battery state:	GOOD

# Key points...

## Extended tag properties



**Single Reference  
to Obtain all data**

**Faster development, less debug and shorter startups**

# Key points...

## Reusable screens leverages Logix data types (UDTs)



Create a screen property and give it a Logix data type.

Name	Alias For	Data Type	Description
MixerTag		::L75.Mixer	

Properties

Name: MixingHopperSide\_001  
Type: MixingHopperSide

General

Level	MixerTag.Level
MaxLevel	MixerTag.Level.@Max
MinLevel	MixerTag.Level.@Min

Create screen content and bind it to elements of the Logix data type.

Properties

Name: Mixer1Detail  
Type: Shortcut

General

MixerTag ::L75.Mixer1

Data Type: "Mixer"

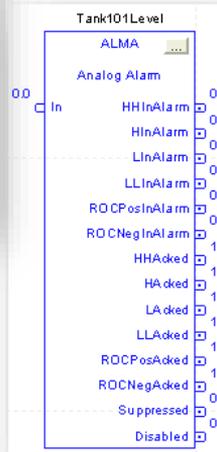
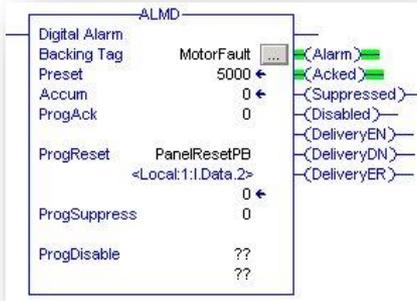
Name	Location	Data Type	Description
Mixer1	::L75	Mixer	North side
Mixer2	::L75	Mixer	South side
MixerProc 11	::L75.MainProgram	Mixer	

Create shortcuts or navigation commands to the reusable screen with a Logix tag instance. Additionally the browser filters by the required tag type.

# Key points...

Logix based alarms automatically viewed in panel

**Rockwell  
Automation**

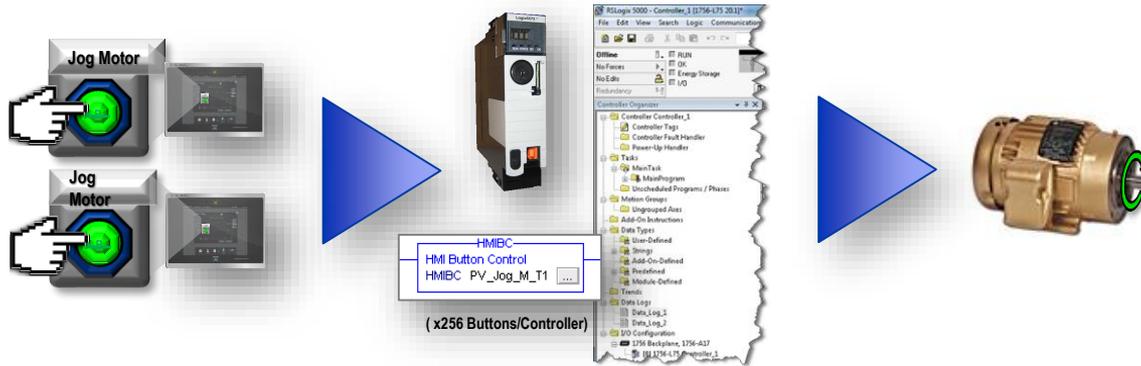


Change based communications reduces loading on Logix and networks

# Key points...

## High-speed HMI Button Control

**Rockwell  
Automation**



- Fast (<100msec), deterministic, and auto diagnosing.
- Eliminates custom diagnostic logic for communications loss.
- More flexible and lower cost than physical buttons.

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# Studio 5000

## V27 – Application Code Manager



PUBLIC

# What is Application Code Manager?

One place to store, decorate and instantiate content...

**Create  
Content**

- Create reusable content

**Reuse  
Content**

- Generate project content



# What does it look like?



**Rockwell  
Automation**

The screenshot displays the Studio 5000 Application Code Manager interface. On the left, a tree view shows the project structure under 'ACM Applet'. The 'Library Objects' pane shows a hierarchy of objects including 'WashMachine001'. The 'Details' pane shows the configuration for 'WashMachine001', including its description, creation rules, and usage. A red arrow points to the 'Add as Parameter' button in the 'Parameters' table.

Name	Data Type	Value
WashMach001	VMContr.	
Command	INT	2
State	INT	2
TemperatureSP	REAL	55.0
Filling	BOOL	0
AlarmDraining	BOOL	0
AlarmFilling	BOOL	0
CycleCounts	INT	0
WashTimer	TIMER	
RinseTimer	TIMER	
SpinTimer	TIMER	

On the right, the 'Application Code Manager' window shows a tree view of the project structure. The 'Object Instances' pane shows a list of instances, including 'BigGreenMachine'. The 'Parameters' pane shows the configuration for 'BigGreenMachine', including its description, catalog number, and various parameters.

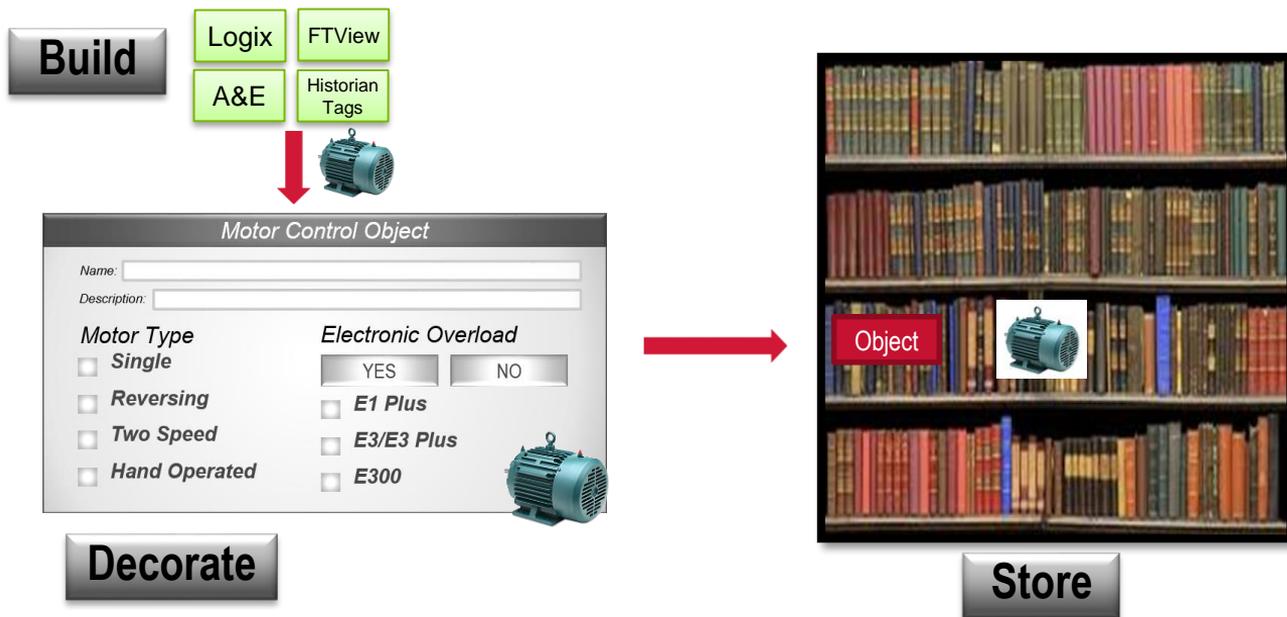
Parameter	Value
TemperatureSP	55
MachineModel	Expensive
HasDrainAlarm	True
LevelSwitchLow_IO	
LevelSwitchHigh_IO	Local_01_02
InletValve_IO	
DrainPump_IO	
DrumMotor_IO	
WashTime	20
RinseTime	10
SpinTime	15

Red callout boxes highlight the following features:

- Define Library Objects
- Create Content
- Define Object Instances
- Reuse Content
- Object Configurations

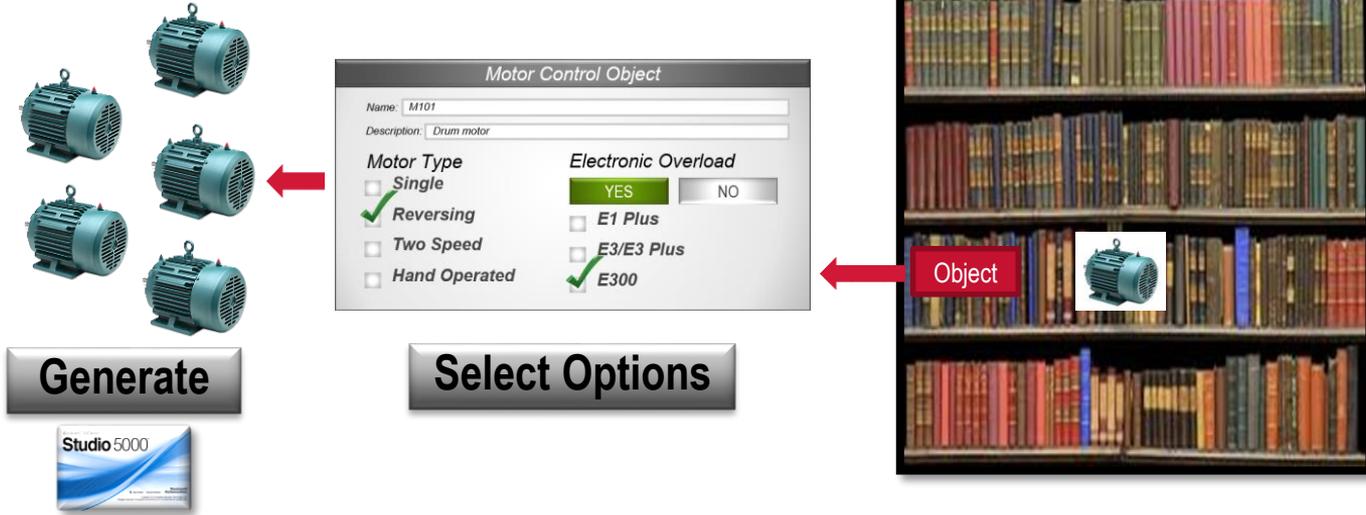
# Create with Application Code Manager

Build, decorate & store content



# Reuse with Application Code Manager

Quick and easy bulk code generation

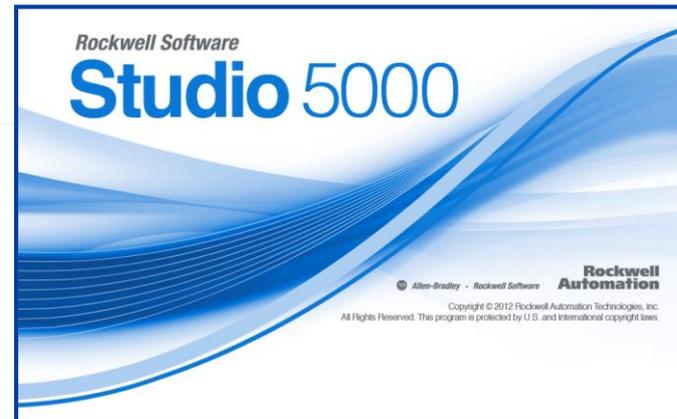


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# Studio 5000 Logix Designer

## V27 – Programming Enhancements



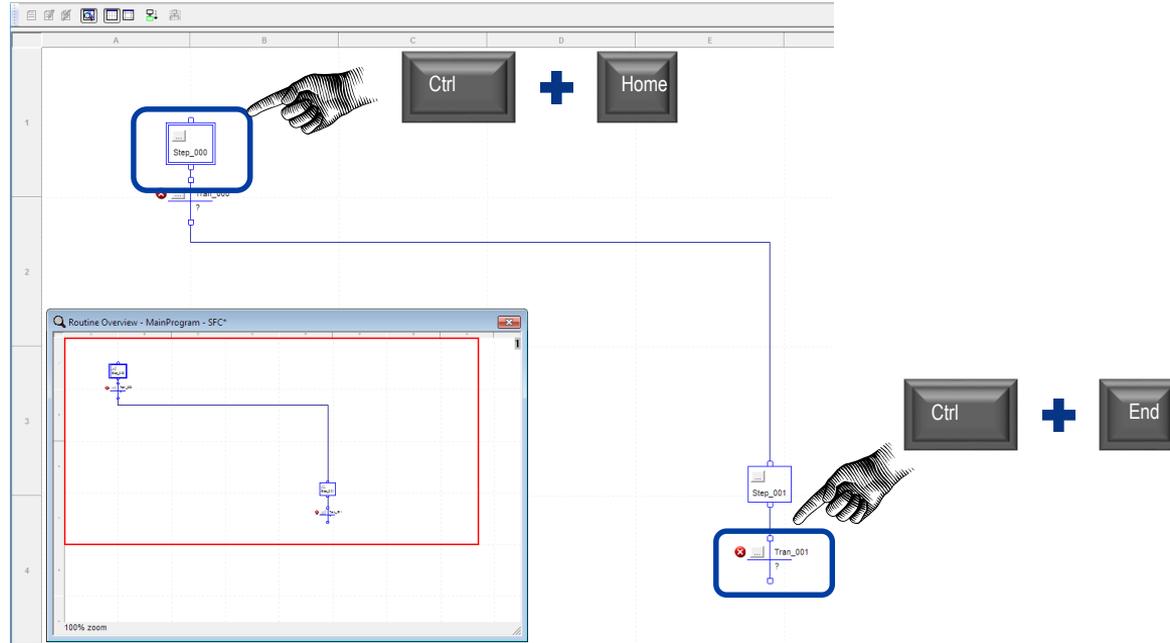
PUBLIC

# Sequential Function Chart Editor

V27

Rockwell  
Automation

## Keyboard Shortcuts for Quick Navigation



# UDT Editor

## Copy and Paste from External Sources

V27

Rockwell  
Automation

The screenshot displays the UDT Editor interface. On the left, an Excel spreadsheet is visible with a table of data. The table has columns A through F and rows 1 through 13. The data in the table is as follows:

	A	B	C	D	E	F
1						
2	StartCmd	BOOL	Decimal	Start command.	Read/Write	
3	StopCmd	BOOL	Decimal	Stop command.	Read/Write	
4	StartPerm	BOOL	Decimal	Start Permissive.	Read/Write	
5	RunPerm	BOOL	Decimal	Run Permissive.	Read/Write	
6	RdyFdbk	BOOL	Decimal	Starter is Ready.	Read/Write	
7	RunCmd	BOOL	Decimal	Turn on the starter.	Read/Write	
8	RunFdbk	BOOL	Decimal	Running feedback.	Read/Write	
9	FltReset	BOOL	Decimal	Fault Reset.	Read/Write	
10	FTR_Tmr	TIMER	NullType	Fail to Run Timer	Read/Write	
11	MsTmr	TIMER	NullType	Millisecond RTO timer.	Read/Write	
12	RunHrs	COUNTER	NullType	Accumulated hours.	Read/Write	
13						

On the right, the UDT Editor window shows the following details:

- Name: UDT\_FVNR
- Data Type Size: ??
- Description: Full Voltage Non Reversing Starter.
- Members table:

Name	Data Type	Description
StartCmd	BOOL	Start command.
StopCmd	BOOL	Stop command.
StartPerm	BOOL	Start Permissive.
RunPerm	BOOL	Run Permissive.
RdyFdbk	BOOL	Starter is Ready.
RunCmd	BOOL	Turn on the starter.
RunFdbk	BOOL	Running feedback.
FltReset	BOOL	Fault Reset.
FTR_Tmr	TIMER	Fail to Run Timer
MsTmr	TIMER	Millisecond RTO timer.
RunHrs	COUNTER	Accumulated hours.

***Returned Ability to Copy and Paste from Excel into UDT Editor***

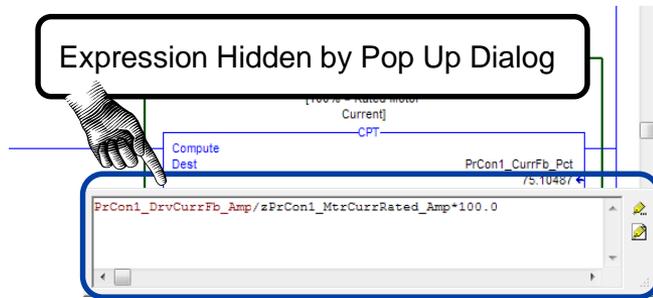
# Ladder Editor

## CPT Instruction Dialog

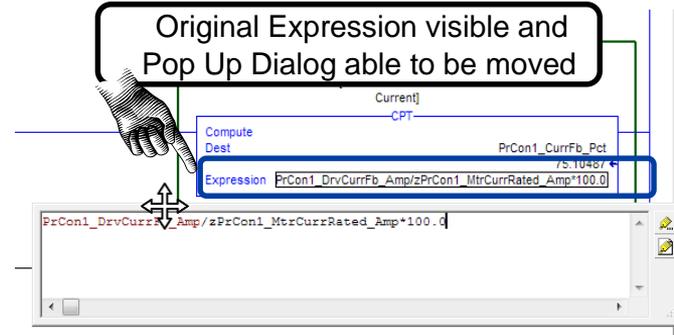
V27

Rockwell  
Automation

Previously



Updated



***Original Expression in the CPT Expression visible when expression editor is opened***

# FBD Editor

## Re-order Sheets

V27

Rockwell  
Automation

Sheet 2 of 2 Independent Speed Reference

Organize Sheets

Now Sheet 2

Organize Sheets

Drag and drop to organize sheets.

- 2 Master Speed Reference
- 1 Independent Speed Reference

OK Cancel Help

Re-Order then Click OK

Withdrawal Straightener 1 Section Control - Jogging

WS1\_SectCtrl\_Jogging 0

WS1\_IndRf 2-B5

WS1\_BNOT\_01

2 BNOT

In Out 1

WS1\_SSUM\_02

1 SSUM 0.0

WS1\_SC

4 SC

# General Editor

## Identification of Called Routine By Active Power Rails

V27

Rockwell  
Automation

Tasks

- Periodic\_50ms
- MainProgram
  - Parameters and Local Tags
  - MainRoutine
  - SFC
  - ST
  - WS1\_SpdRf

MainProgram - MainRoutine\*

MainProgram - WS1\_SpdRf

Sheet 2 of 2 Independent Speed Reference

Withdrawal Straightener 1 Jog Forward Reference [PM]

zWS1\_JogFwdRT\_IPM

WS1\_SSUM\_02

Withdrawal Straightener 1 Jog Forward Reference

Withdrawal Straightener 1 Section Control - Jogging

WS1\_SectCtrl\_Jogging

WS1\_BNOT\_0

Withdrawal Straightener 1 Filtered Speed Feedback [PM]

WS1\_SpdRf | MainRoutine | ST | SFC

No JSR for "WS1\_SpdRef" Routine

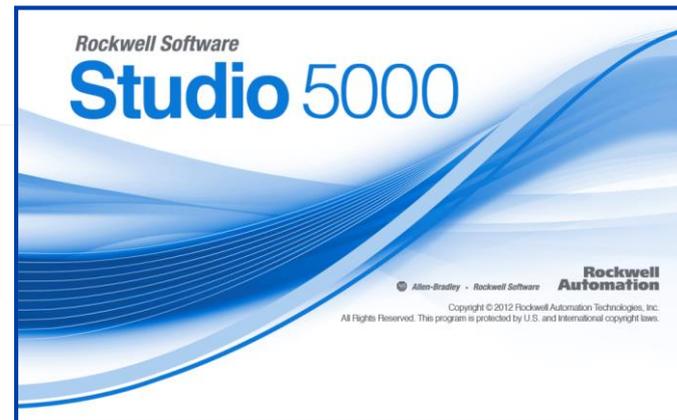
No Green Power Rails

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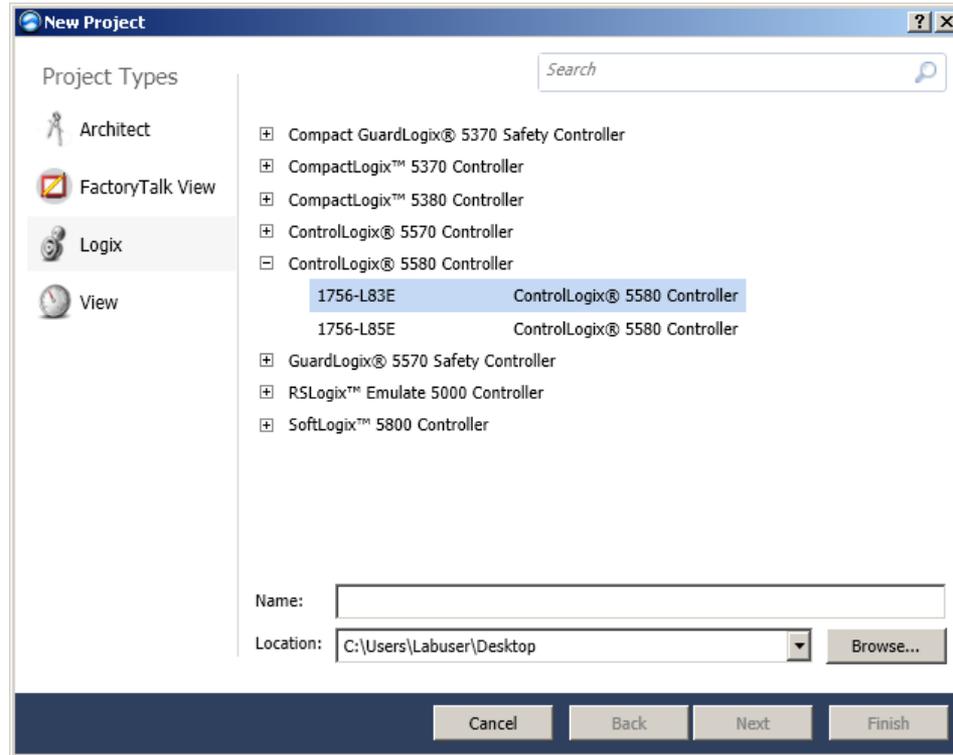
# Studio 5000 Logix Designer

V28 – Simplifying your Design Journey



PUBLIC

# Studio 5000 – Logix Designer



# ControlLogix® 5580 Controller

**Rockwell  
Automation**

- Control Focused on Logix Machine Performance
- Helps Enable faster system performance
- Future proofing Your System and enabling The Connected Enterprise



## Smart

- Onboard display
- 1GB Embedded EtherNet/IP™ port enables high-performance I/O and Motion control
- Controller Task Monitor / Embedded Web Page

## Productive

- Up to 45% Increased memory capacity
- Improved performance and throughput
- Studio 5000, Version 28 Support

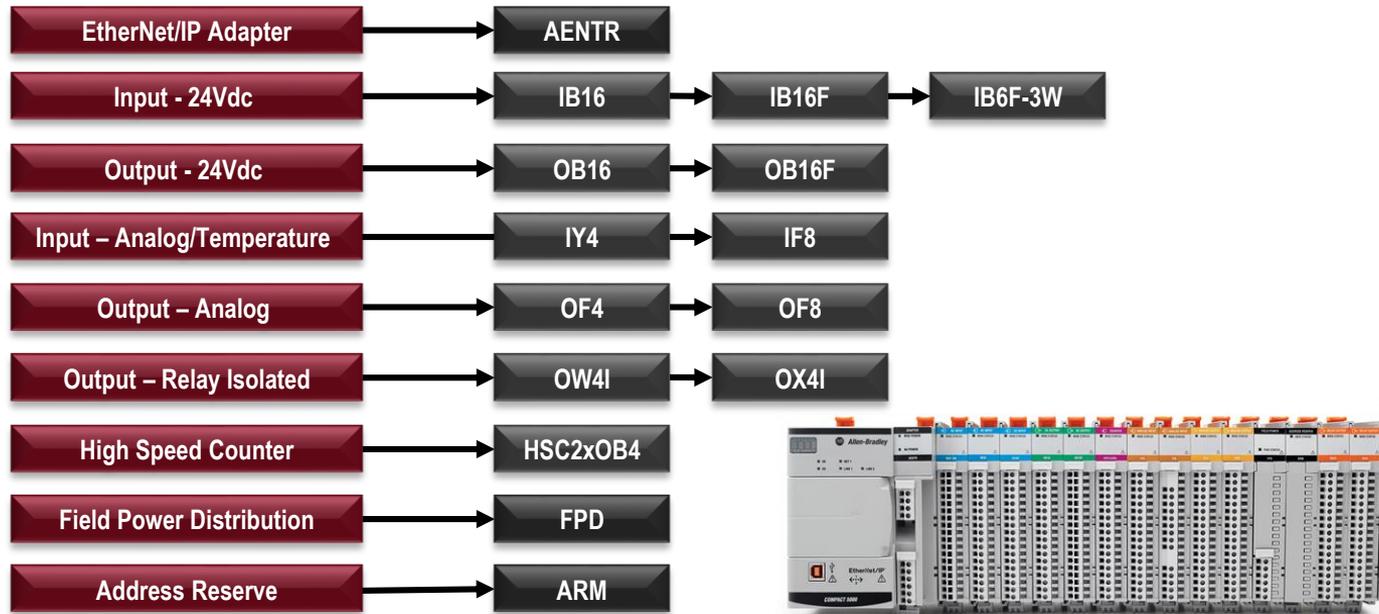
## Secure

- Digitally signed and encrypted Controller firmware
- Controller-based Change Detection and logging
- Role-based access control to routines and Add-On Instructions

# 5069 Compact I/O

1 Adapter, 14 Modules

**Rockwell  
Automation**



# Channel Level Data Structure

## Digital

[-] R1_AENTR:3:I.Pi00	{...}	{...}		CHANNEL_DI:1:0
- R1_AENTR:3:I.Pi00.Data	0		Decimal	BOOL
- R1_AENTR:3:I.Pi00.Fault	0		Decimal	BOOL
- R1_AENTR:3:I.Pi00.Uncertain	0		Decimal	BOOL

## Analog

[-] R1_AENTR:6:I.Ch00	{...}	{...}		CHANNEL_AI_DIAG:1:0
- R1_AENTR:6:I.Ch00.Fault	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.Uncertain	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.OverWire	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.OverTemperature	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.FieldPowerOff	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.NoIANumber	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.Underrange	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.Overrange	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.LLAlarm	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.LAlarm	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.HAlarm	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.HHAlarm	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.RateAlarm	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.CallFault	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.Calibrating	0		Decimal	BOOL
- R1_AENTR:6:I.Ch00.Data	0.0		Float	REAL
[-] R1_AENTR:6:I.Ch00.RollingTimestamp	0		Decimal	INT

- All information associated with a channel is contained within the channel structure
- Data structures have been “future proofed” by allocating reserved bits for new features
- The addition of the “Health” status provides for a single check to determine the validity of the data
- Each “Health” status is a 2 bit field providing 3 data states
  - Good
  - Uncertain
  - Faulted
- A transition of the “Health” status will rollup and trigger the diagnostic counter to increment

# General Editor

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## Determination of a “Lonely Routine” During Project Verification

No JSR for “fbd” routine

Warning Message During Verify

Errors  
Verifying routine: MainProgram - fbd...  
Warning: fbd: Routine cannot be reached by the main routine: 'fbd of Program MainProgram'  
Complete - 0 error(s), 1 warning(s)

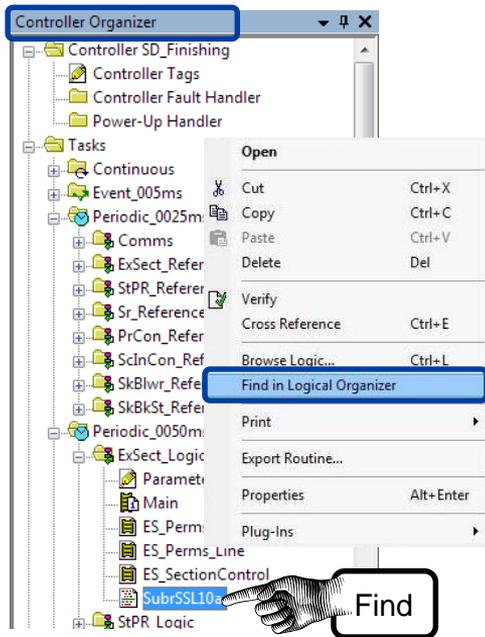
***During project verify locate routines with no corresponding JSR (Jump to Subroutine)***

# Logical Organizer

## Locating Routines/Programs Easier Between Organizers

V28

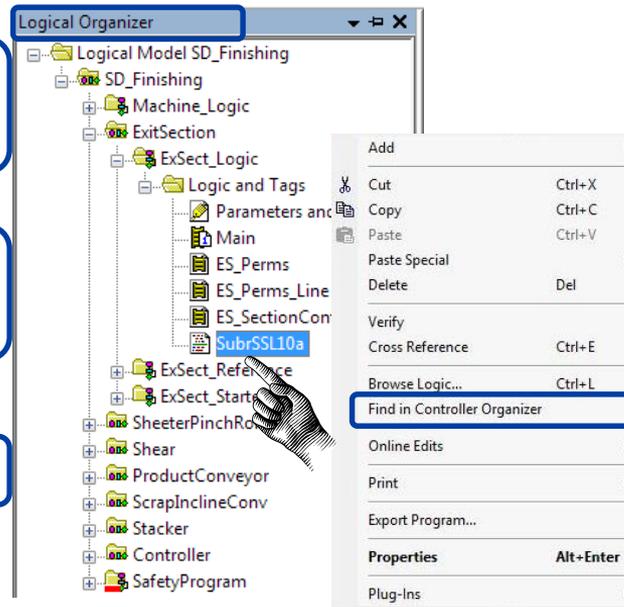
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Launches  
Logical Organizer

Navigates to the  
Context you  
Searched from

Bi-directional



# Structured Text Editor

## Customized Comment Header

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Automation

Workstation Options

Categories:

- Application
  - Display
  - Tag Editor / Data Monitor
- Ladder Editor
  - Display
  - Font/Color
- SFC Editor
  - Element Naming
  - Display
  - Font/Color
- FBD Editor
  - Font/Color
- Structured Text Editor
  - Font/Color
  - Trends

**Change Structured Text Editor Preferences**

Auto-indent

**Tabs**

Tab Size: 4

Insert Spaces

Keep Tabs

**Structured Text Routine Verification**

Enable Duplicate Destruction Function

(i) This setting also applies to the Ladder Logic Editor

Include Header on Create

Copyright (c) <Company Information>

Routine: <Routine Name>  
Author: <Developer Name>  
Created: <Date>

Description:

Customized Header

Auto-Create

MainProgram - ST

```
////////////////////////////////////  
Copyright (c) <Company Information>  
-----  
// Routine: <Routine Name>  
// Author: <Developer Name>  
// Created: <Date>  
-----  
Description:  
  
History: REV1.0  
////////////////////////////////////
```

ST  
MainProgram

**Customizable Header for Consistent Structured Text Routine Documentation**

- Use FactoryTalk Temporary Users to temporarily give someone access to privileges of a different user group

The screenshot illustrates the process of creating a temporary user in FactoryTalk. On the left, a tree view shows the 'Users' folder expanded, with a context menu open over it. The 'FactoryTalk Temporary User...' option is highlighted with a red box. The main window, 'New FactoryTalk Temporary User', is open, showing the 'General' tab. The 'User name' field is filled with 'TemporaryFieldEngineer'. The 'Description' field contains 'Account to use for temporary access to Field Engine'. The 'Account can use Temporary Passwords' checkbox is checked. Below this, a dropdown menu shows 'Groups Granting Temporary Passwords ...' and a spinner for 'Duration for Temporary Passwords' is set to 8 hours. To the right, the 'Granting Groups' list shows 'Engineers' selected. Two smaller windows are also shown: 'Create Temporary Password' and 'Request Temporary Password'. The 'Create Temporary Password' window shows the 'User Name' as 'TemporaryFieldEngineer' and the 'Challenge Value' as 'LHBY - ZLZL - Z384'. The 'Request Temporary Password' window shows the 'User Name' as 'TemporaryFieldEngineer' and the 'Challenge Value' as 'LHBY - ZLZL - Z384'.

# Permission Sets for Securing Projects

- Secure a project file with a Permission Set to use the same policies for many controllers



The screenshot displays the FactoryTalk Administration Console interface. The left pane shows a tree view of the system configuration, with 'HighProtectionControllerPolicies' selected under the 'Permission Sets' folder. The right pane shows the 'Security Settings for HighProtectionControllerPolicies' dialog box, which includes a table of users and their permissions.

Users	Computer
Administrators	All Computers
Engineers	All Computers

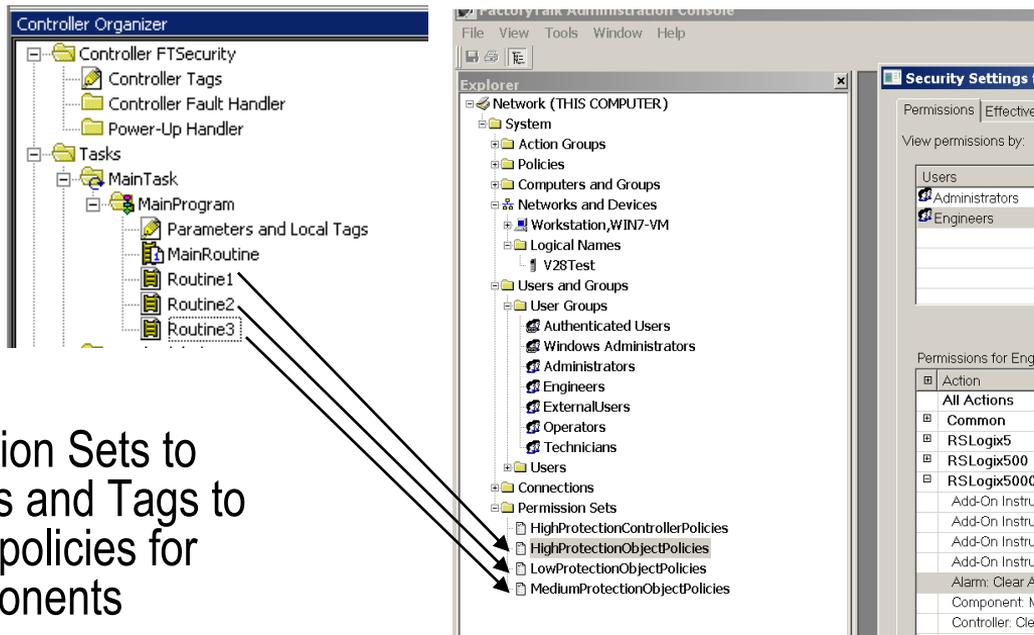
Permissions for Administrators from All Computers

Action
All Actions
Common
RSLogix5
RSLogix500
RSLogix5000
Add-On Instruction: Create
Add-On Instruction: Delete
Add-On Instruction: Modify
Add-On Instruction: View Logic
Alarm: Clear Alarm Log
Component: Modify Permission Set
Controller: Clear Fault
Controller: Lock/Unlock
Controller: Modify Mode

# Permission Sets for Securing Routines, AOs and Tags

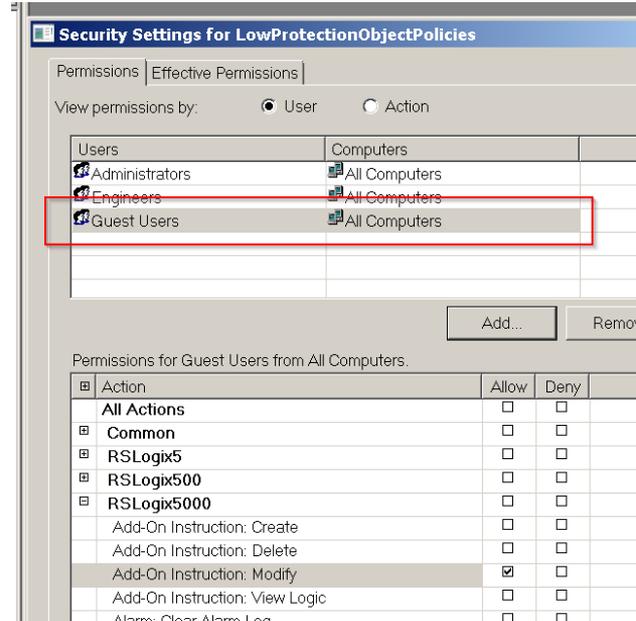
V28

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Automation



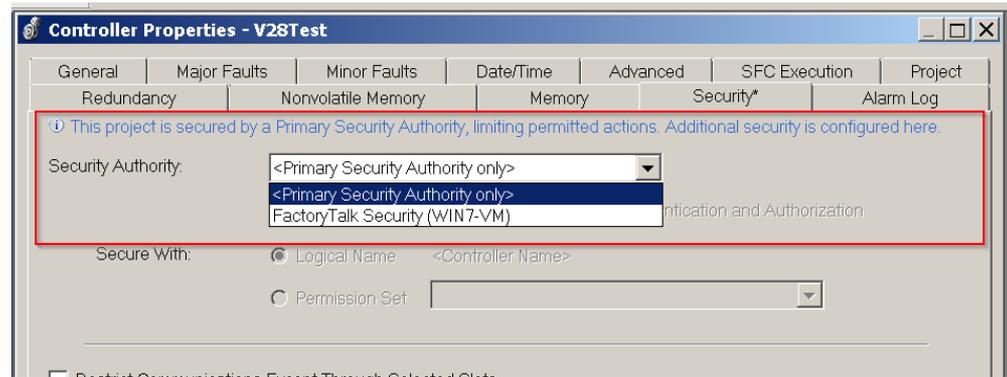
- Apply Permission Sets to Routines, AOs and Tags to have different policies for different components

- With Guest Users, grant limited permissions to users who aren't members of your FactoryTalk Directory



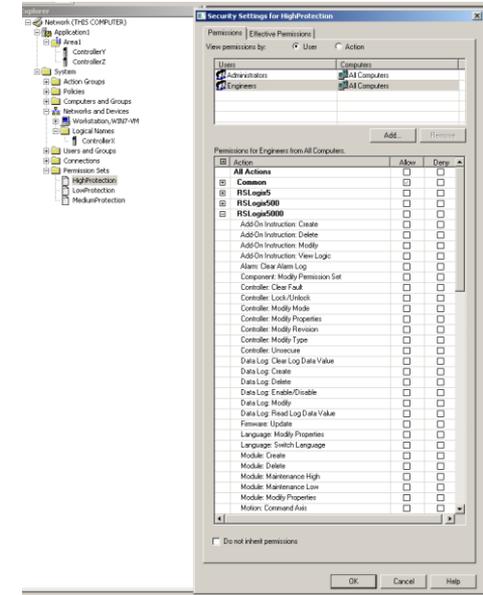
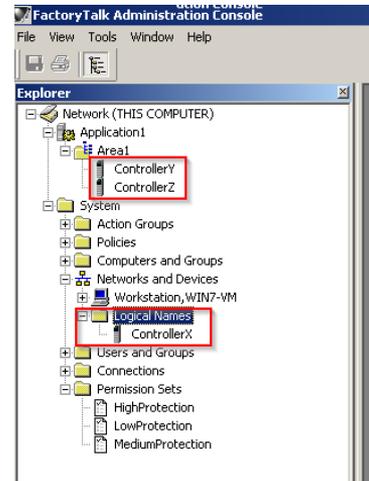
# Secondary Security Authority

- Guest Users can further limit access to a project file with a Secondary Security Authority



# UX Improvements in the FactoryTalk Administration Console

- System Tray Utility shows FactoryTalk Login Status
  - Connected / Cached / Cache Expires Soon / Cached Expired
  - Provides warnings
- Logical Names shown in FactoryTalk Hierarchy
- Security Settings dialog is resizable, and action selection persists when switching user selection

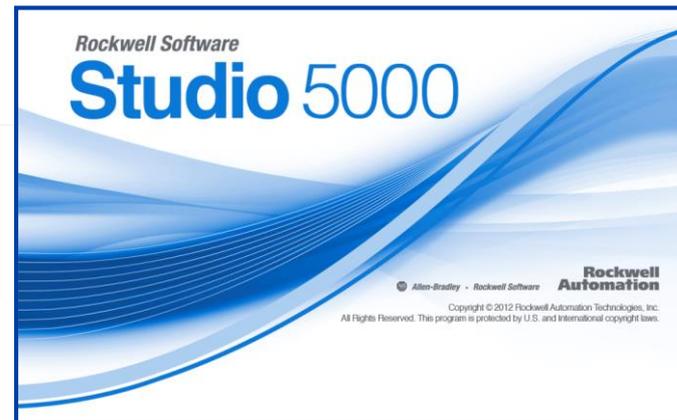


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# Studio 5000 Logix Designer

V29 – Simplifying your Design Journey



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# High Performance Architecture

**Rockwell  
Automation**

Release Focus: Enabling the entire family of the Logix 5580 and 5380 controllers



CompactLogix™ 5380



ControlLogix® 5580

**Scalable, High Performance Architecture**

# Studio 5000 Logix Designer v29

## Release Summary

**Rockwell  
Automation**

- Hardware Support:
  - Support for the entire ControlLogix 5580 and CompactLogix 5380 family:
    - ControlLogix 5580 (1756-L81E, 1756-1L82E, 1756- L84E)
    - CompactLogix 5380 (5069-L306ER(M), 5069-L310ER(M), 5069-L320ER(M), 5069-L330ER(M), 5069-L340ER(M))
  - CompactLogix (Device Level Ring and Dual IP)
- Software Features:
  - ControlLogix 5580 & CompactLogix 5380 - Instruction based alarms
  - ControlLogix 5580 & CompactLogix 5380 - PanelView 5000 support
  - ControlLogix 5580 & CompactLogix 5380 - String Assignment Support
  - ControlLogix 5580 & CompactLogix 5380 - Message to SELF
  - Generic Ethernet Safety and Standard Profile
  - Guardmaster 440C-CR30 Profile Enhancement
  - Compare & Merge Enhancements

# High Performance Logix Controllers

Right size your controller based on your application needs

**Rockwell  
Automation**



Catalog Number	Memory	Nodes	Integrated Motion on EtherNet/IP	Local I/O
5069-L306ER(M)	600 KB	16	2	8
5069-L310ER(M)	1 MB	24	4	8
5069-L320ER(M)	2 MB	40	8	16
5069-L330ER(M)	3 MB	50	16	31
5069-L340ER(M)	4 MB	55	20	31



Catalog Number	Memory	Nodes	Total Axes of Motion	Local I/O
1756-L81E	3 MB	60	256 (subject to node limit)	16
1756-L82E	5 MB	80		16
1756-L83E	10 MB	100		16
1756-L84E	20 MB	150		16
1756-L85E	40 MB	300		16

# ControlLogix 5580 System Scaling

Simplified method for counting controller resources

**Rockwell  
Automation**

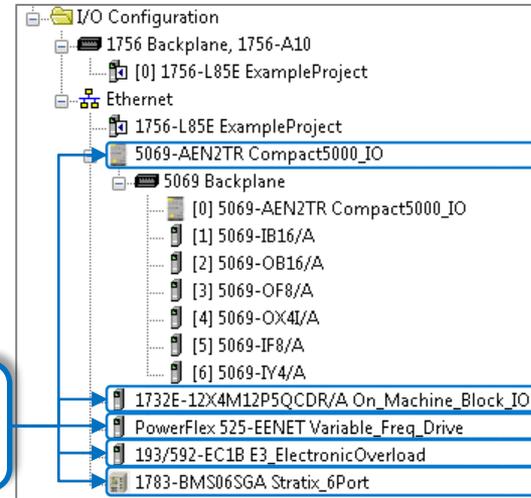
The ControlLogix 5580 is now scaled on EtherNet/IP nodes

- Maximum controller nodes include those connected to the front port as well as backplane communication modules
- Any device added directly to the Ethernet I/O configuration are counted toward the node limits
  - Remote communication adapters
  - Devices with an embedded EtherNet/IP port (e.g. I/O modules, drives and linking devices)
  - EtherNet/IP devices connected to an in-chassis communication module
  - Remote controllers
  - HMIs included in the I/O tree (e.g. PanelView Plus terminals)
  - Linking devices (e.g. 1788-EN2DNR)

What is not a node?

- Computer
- Communication modules in the local chassis
- HMIs that are not added to the I/O configuration tree
- MSG instructions

**Example:  
5 Nodes**



# Controller Node Support

View your usage and capacity anytime, right from the new Capacity Tab

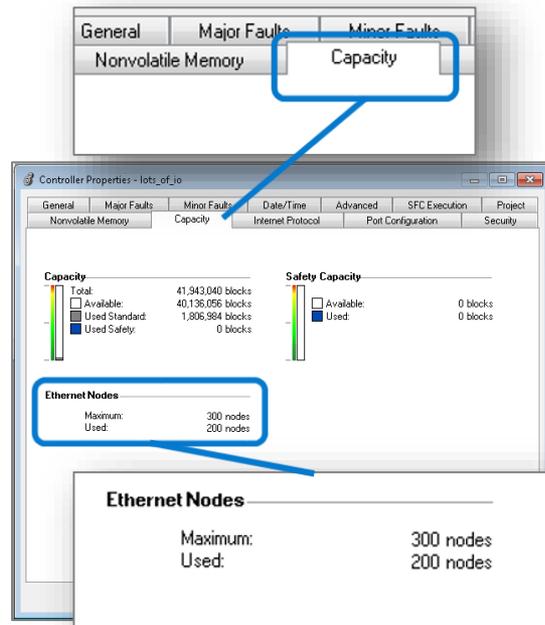
**Rockwell  
Automation**

- Capacity Tab - Renamed the 'Memory' Tab to be 'Capacity'

- Controller Capacity
- Safety Capacity
- Ethernet Nodes

- Ethernet Node Counter

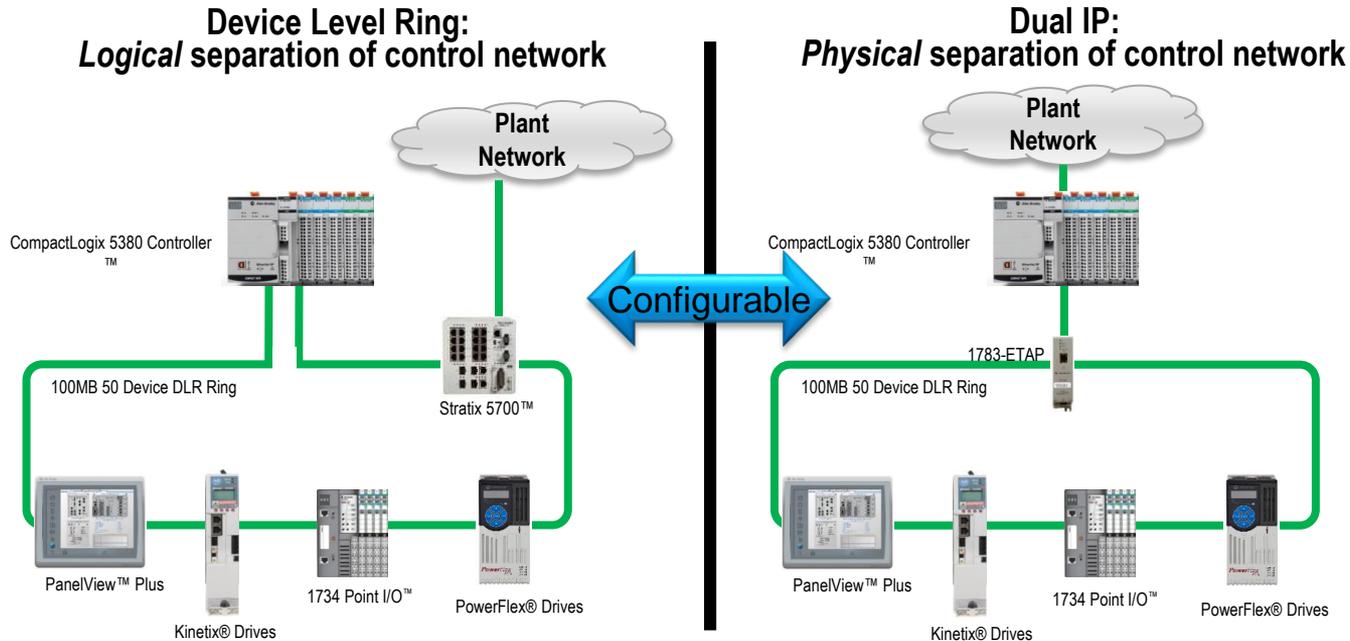
- Clear Indication of Node Capacity
- Available for ControlLogix 5580 and CompactLogix 5380 and 5370 series controllers



# CompactLogix 5380 Machine Architecture

Rockwell  
Automation

Providing flexibility on interfacing to plant networks with or without a switch

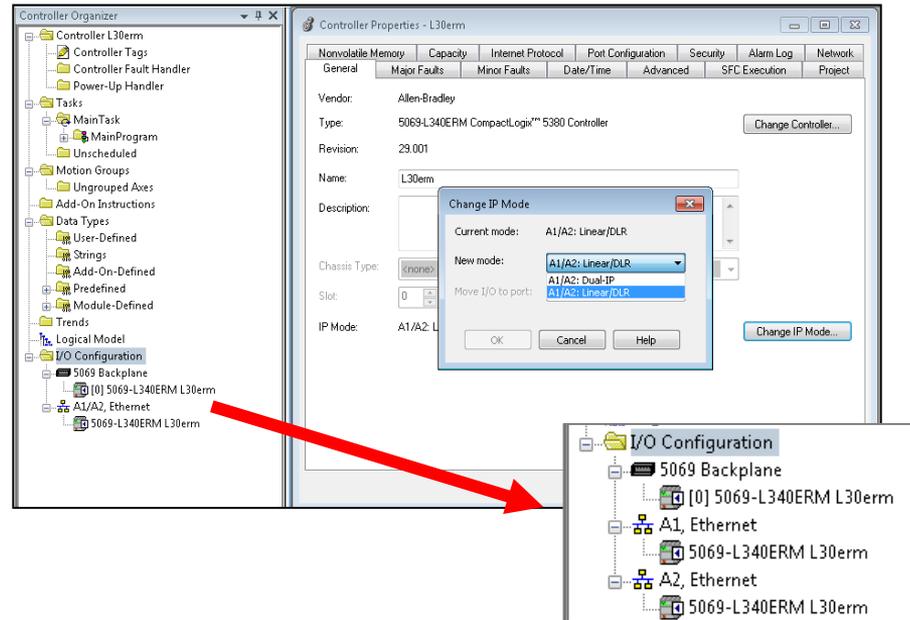


# CompactLogix 5380 (DLR and Dual IP)

Simple configuration now available in the Controller Properties dialog

**Rockwell  
Automation**

- Configure the IP Mode (Dual-IP or Linear / DLR mode) in the 5380 Controller Properties dialog

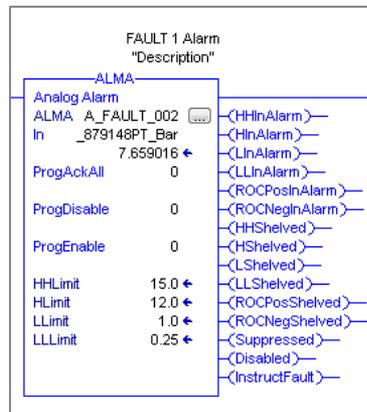
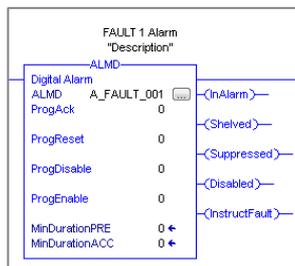


# Logix 5580 & 5380 - Instruction based alarms

Choose Instruction Based or Tag Based Alarming based on your application

## ■ Instruction Based Alarms

- ALMA & ALMD Instruction Support in the ControlLogix 5580 and CompactLogix 5380 Controllers

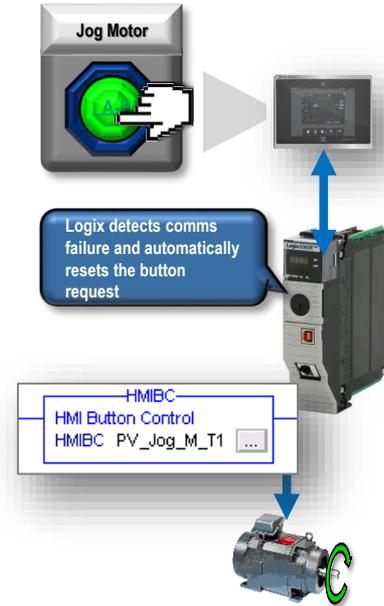


# Logix 5580 & 5380 - PanelView 5000 support

Simple configuration, improved performance, and greater flexibility

**Rockwell  
Automation**

- New Logix and View Communications method
  - New instruction in Logix that HMI will interact with
  - High speed deterministic communications similar to I/O
- Benefits
  - Reduced lag and improved accuracy for manual jog operations from traditional HMI
  - More flexible than physical buttons with comparable performance
  - Eliminates need for custom logic to verify active communications



Increased programming productivity through better string management

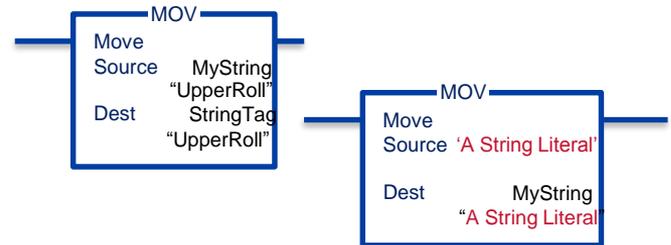
## ■ Structured Text Editor Support

- String to String Direct Assignment
  - MyString:= StringTag;
- Literal to String Assignment
  - MyString:='A String Literal';

## ■ Ladder Editor Support

- Literal to String Tag **MOV**
- String Tag to String Tag **MOV**

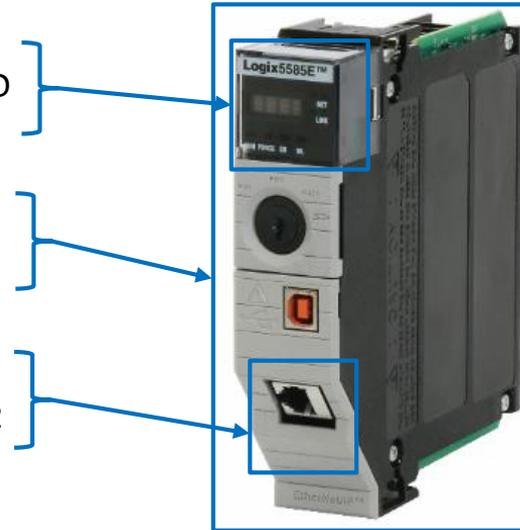
```
////////////////////////////////////  
MyString := StringTag;  
////////////////////////////////////  
////////////////////////////////////  
MyString := 'A String Literal';  
////////////////////////////////////
```



# Logix 5580 & 5380 – Controller MSG to SELF

User configurable functionality for an additional layer of security

- Programmatic ability enable/disable via Message to “SELF”
- Configurable “*Masking*” of Scrolled Fields 4-Char LCD
  - Knowledgebase article KB869648
- Embedded Web Page Disable/Enable
  - Knowledgebase article KB869649, KB869651
- Embedded Ethernet port Disable/Enable
  - Knowledgebase article KB869650, KB869652



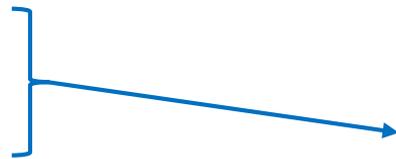
# Logix 5580 & 5380 4-Char LCD

User configurable “Masking” for an additional layer of security

**Rockwell  
Automation**

- Normal Scrolling Messages on the LCD Display:

- 1.) Controller Name - (**Controller\_Name**)
- 2.) Link Status - (**Link 1 - Down**)
- 3.) Port Status - (**Port A - 192.168.1.1**)



- Configurable “Masking” of Scrolled Fields with a MSG to SELF

- Default (All shown)
  - Controller\_Name Link 1 - Down Port A - 192.168.1.1**
- Controller Name and Link Status (only)
  - Controller\_Name Link 1 - Down -----**
- Port & IP Address (only)
  - Port A - 192.168.1.1**
- Completely OFF
  -

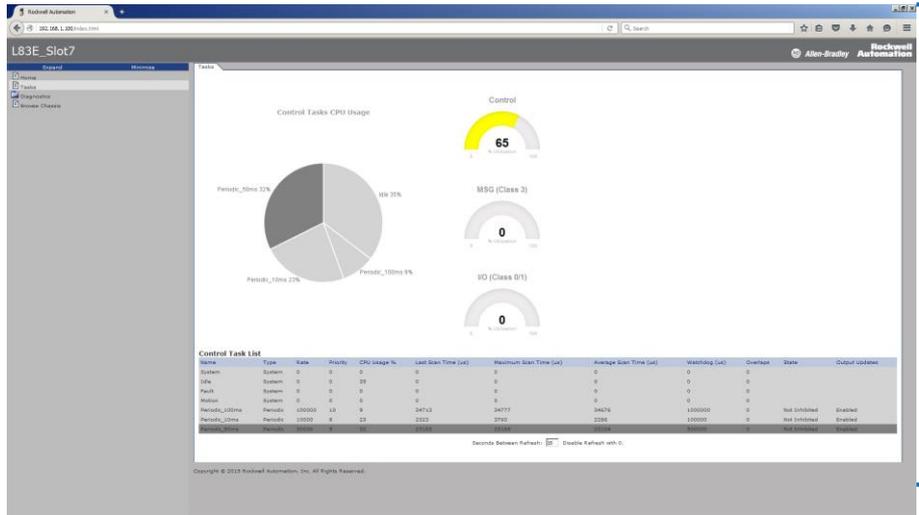
[Knowledgebase article KB869648](#)

# Logix 5580 & 5380 Embedded Web Page

User configurable Disable/Enable for an additional layer of security

**Rockwell  
Automation**

- Configurable Disable/Enable of Controller Embedded Web Page

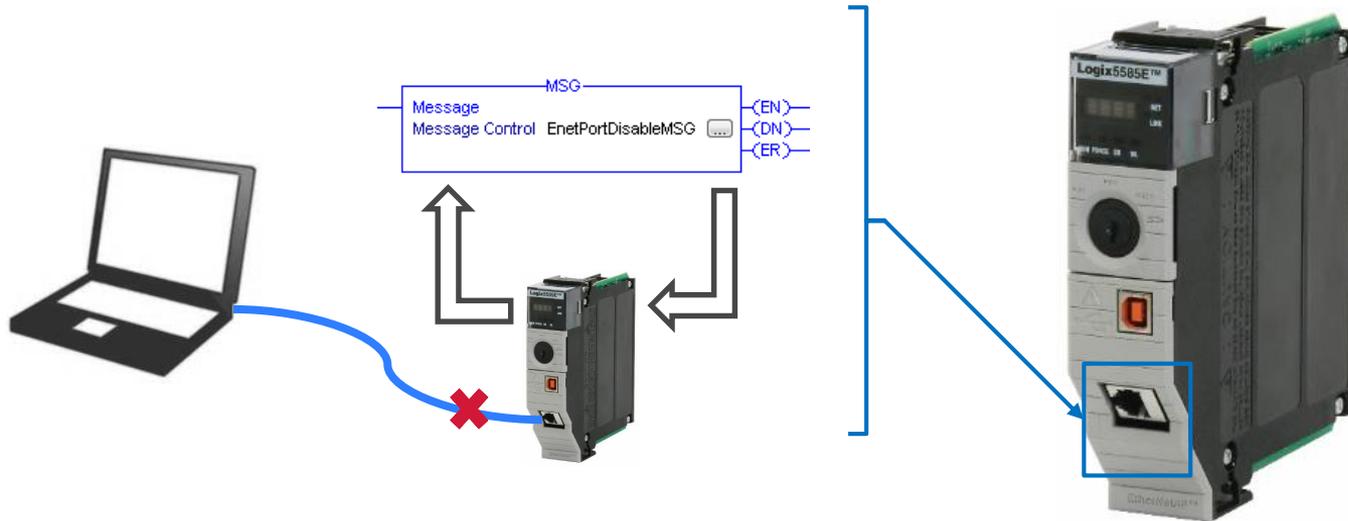


[Knowledge Base article KB869649, KB869651](#)

# Logix 5580 & 5380 Embedded Ethernet Port

User configurable Enable/Disable for an additional layer of security

- Configurable Disable/Enable of Controller Ethernet Port



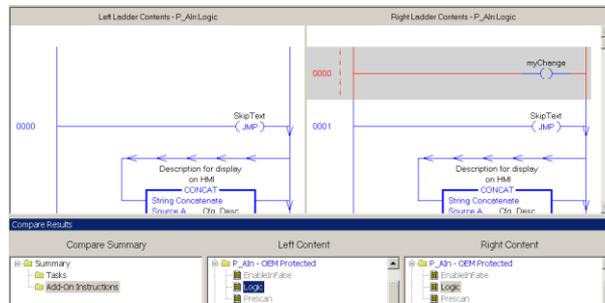
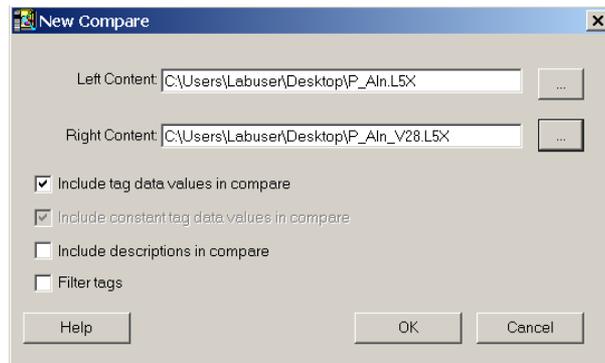
[Knowledgebase article KB869650, KB869652](#)

# Compare & Merge Enhancements

Increased granularity to compare individual parts of individual projects

**Rockwell  
Automation**

- Support any L5X file to perform a compare
  - AOI-to-AOI
  - UDT-to-UDT
  - Program-to-Program
  - Routine-to-Routine
  - One-to-One also One-to-Many
- Compare AOIs that are signed



# Device Profile Enhancements

## Generic Ethernet Safety and Standard Profile Simplifies Configuration

**Rockwell  
Automation**

- Supports the following connection types:
  - Standard, Standard with Status
  - Safety
  - Safety and Standard, Safety and Standard with Status
- Simplifies integration and improves user experience
  - One profile versus two
  - One IP address versus two
  - Simplified hardware implementation
  - Common user experience

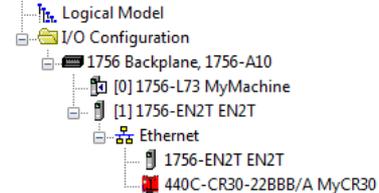
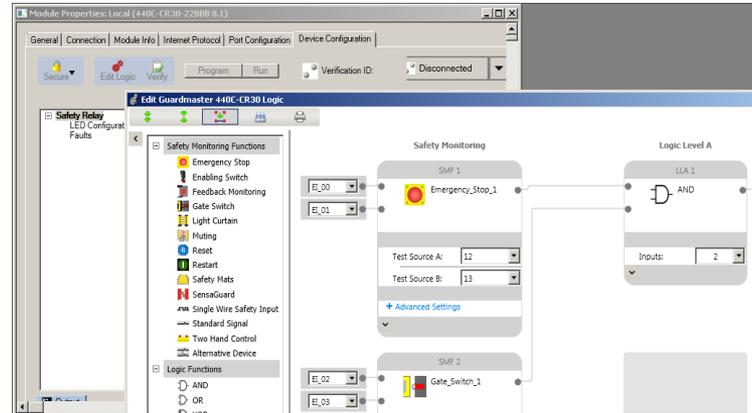
Catalog Number	Description	Vendor	Category
2198-S130-ERS3	Kinetix 5700, 65A, 458-747 Volt DC, Network, Safety S...	Allen-Bradley	Drive, Motion, Safety
2198-S160-ERS3	Kinetix 5700, 85A, 458-747 Volt DC, Network, Safety S...	Allen-Bradley	Drive, Motion, Safety
440C-CR30-228BB	Guardmaster 440C-CR30 software configured safety rel...	Allen-Bradley	Safety, Digital, Other
ETHERNET-SAFETY-MODULE	Generic EtherNet/IP Safety Module	Allen-Bradley	Safety, Other
ETHERNET-SAFETY-STANDARD-MODULE	Generic EtherNet/IP Safety and Standard Module	Allen-Bradley	Safety, Other
PowerFlex 527-S10-CIP-Safety	PowerFlex 527 AC Drive - CIP Motion / Safe Torque U...	Allen-Bradley	Drive, Motion, Safety

# Relay

**Rockwell  
Automation**

New profile provides a simplified and integrated design experience

- Available with Add-on Profile v2.01
  - Fully functional Logic editor for the Guardmaster 440C-CR30 safety relay
- Benefits:
  - Single software/project for configuring and monitoring Logix 5000 controller and Guardmaster 440C-CR30 safety relays

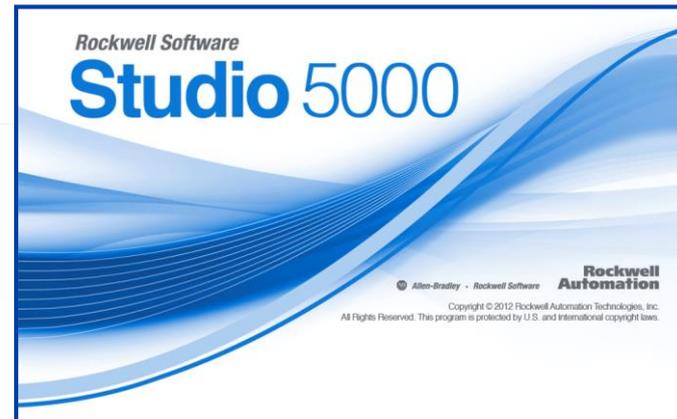


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# Studio 5000 Logix Designer

V30 – Simplifying your Design Journey



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- Hardware Support:
  - CompactLogix™ 5480 family Introduction:
  - Kinetix® VPC Motor Support
  - PowerFlex® 750 Series CIP Safety Safe Torque Off (STO)
- Software Features:
  - ControlLogix and CompactLogix 5x80 Family of Controllers
    - String to Literal Binary Comparison
    - Licensed Based Content Protection
  - ControlLogix and CompactLogix 5x70 Family of Controllers
    - Controller Based Audit Log
  - Studio 5000 Simplified Installation
  - Notable Mentions
    - Workstation Options - Verification Options
    - ST Editor Smart Header Updates
    - Trend Editor Updates

# High Performance Controllers

**Rockwell  
Automation**

## Scalability



	Memory	Nodes	Integrated Motion on EtherNet/IP	Local I/O
5069-L306ER(M)	600 KB	16	2	8
5069-L310ER(M)	1 MB	24	4	8
5069-L310ER-NSE	1 MB	24	0	8
5069-L320ER(M)	2 MB	40	8	16
5069-L330ER(M)	3 MB	50	16	31
5069-L340ER(M)	4 MB	55	20	31
5069-L350ERM***	5 MB	60	24	31
5069-L380ERM***	8 MB	70	28	31
5069-L3100ERM***	10 MB	80	32	31

	Memory	Nodes**	Total Axes of Motion	Local I/O
1756-L81E	3 MB	100	256 (subject to node limit)	16
1756-L82E	5 MB	175		16
1756-L83E	10 MB	250		16
1756-L84E	20 MB	250		16
1756-L85E	40 MB	300*		16

\*above 300 nodes requires counting connections

\*\*increased limits in updated release

\*\*\*catalog numbers launched in updated release

# CompactLogix 5480 Overview

Multi-disciplined controller with an integrated commercial operating system

**Rockwell  
Automation**

- Advanced design enables control code to run completely independent of the commercial operating system
  - Enables simplified architectures leveraging fewer PCs without the risking the reliability of the Logix controller
- Programmed in Logix Designer
  - Real time control with an integrated commercial operating system to run 3<sup>rd</sup> party applications
  - Can run an existing Logix Designer project on the CompactLogix 5480



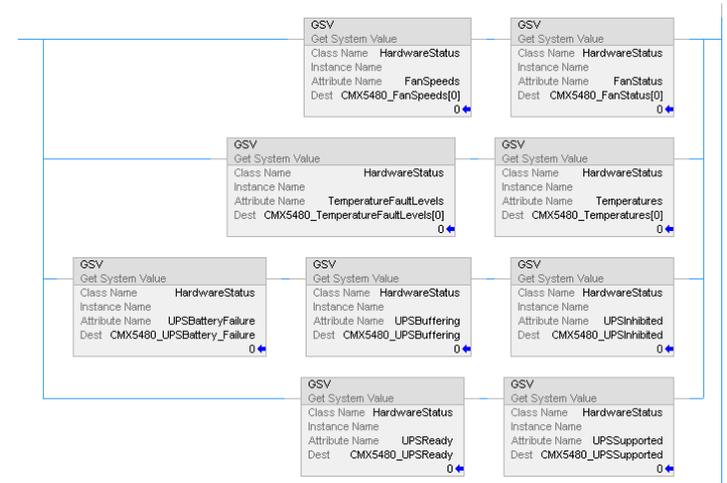
**Scalable, High Performance Architecture**

# CompactLogix 5480

## Access to the Hardware Status Object

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- Used for obtaining status information about the UPS, Fans and Temperatures for the CompactLogix 5480 Controller via GSV Instruction(s).
- Supported in Ladder, Structured Text routines and in Add-On Instructions.
  - FanSpeeds
  - FanStatus
  - TemperatureFaultLevels
  - Temperatures
  - UPSBatteryFailure
  - UPSBuffering
  - UPSInhibited
  - UPSReady
  - UPSSupported



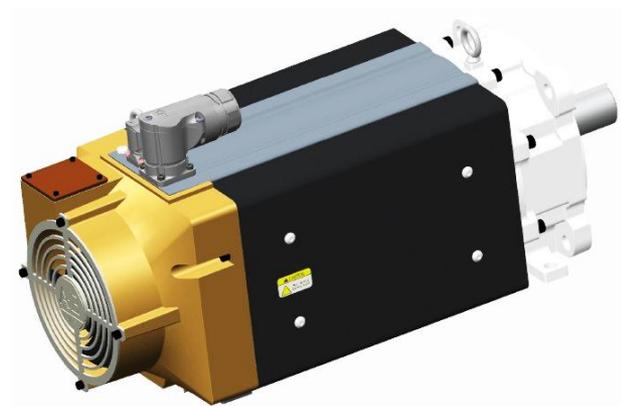
# Kinetix VPC Motor Support

Efficient, Reliable and Compact Next Generation Motor

**Rockwell  
Automation**

Engineered to improve your machine in three ways:

- Reduce Energy Costs
- Reduce Downtime
- Increase machine performance



**Ideal for Converting, Print and Web (CPW) Applications**

# PowerFlex 750 CIP Safety (STO)

**Rockwell  
Automation**

Protect people, property and ecosystems from often preventable accidents

- Fully programmable, flexible safety solution
- Utilizes controllers with safety task support with networked safety devices that are fully integrated into the machine process
- Ideal when:
  - Complex safety logic is required
  - Multiple safety zones have to be managed
  - A large area/footprint is to be safe-guarded
  - Machine modularity and scalability is important
  - Diagnostic safety information is required
  - Advanced drive safety control is required



# String to Literal Binary Compare

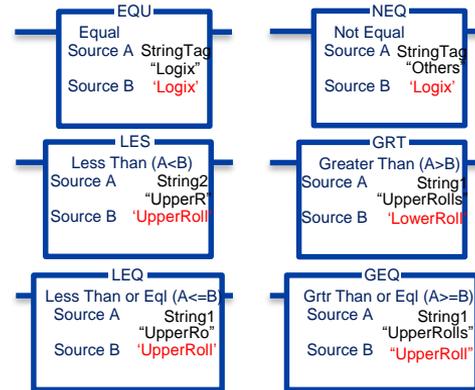
Increased programming productivity through better string management

## ■ Ladder Editor Support

- Literal to String Tag Comparison
- EQU, NEQ, LES, GRT,
- LEQ, GEQ

## ■ Structured Text Editor Support

- String to Literal Comparison
  - IF Name = 'spare' THEN...
  - Done:= (Name >= 'Logix')



For this comparison      Use this operator      Optimal data type

For this comparison	Use this operator	Optimal data type
Equal	=	DINT, REAL, string
Less than	<	DINT, REAL, string
Less than or equal	<=	DINT, REAL, string
Greater than	>	DINT, REAL, string
Greater than or equal	>=	DINT, REAL, string
Not equal	<>	DINT, REAL, string

# License Based Content Protection

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Automation**

Protect your Intellectual Property and prevent copying of control code

- A solution for customers to protect the design and execution of Logix content
  - Source Protection: Control who can view and edit the source code of objects
  - Execution Protection: Control which controllers these objects can be executed in, and helps prevent the duplication of code in an unauthorized machine



*Supported in the ControlLogix 5580 and CompactLogix 5380 Controllers*

Allows only authorized users are able to view or modify protected code

- Routines and Add-On Instructions can be encrypted by an authorized user in Studio 5000 Logix Designer (Ladder and Structured Text Only)
- Only authorized users can view or modify encrypted content
  - Authorized users must have a secured USB device with a Rockwell Automation Activation and access granted to them from their license “administrator” via their web portal
- Programs that contain encrypted content can be uploaded/downloaded to a controller by any user authorized to access the controller; however, the encrypted content can not be viewed or modified



# Execution Protection

Prevent the duplication of code in an unauthorized machine

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Automation**

- Help prevent the unwanted copying of code via uploading a program from one controller and downloading to another by restricting the code to run only in “authorized” controllers
- Content owners have the ability to secure protected code to run only when a secured SD (with a license obtained from their web portal) is located in a controller



# Rockwell Automation License Portal

Manage access to secured content

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Automation**

- Included with the License Based Content Protection Bundle
  - Secure cloud-based web application
  - Annual renewal required
- Provides the following capabilities:
  - Authorized Administrators have the ability to grant access to secured content
  - Access can only be granted to secured USB devices that contain Rockwell Automation activations
  - Optional: Allows for the authorization of execution protection

Rockwell - Internet Explorer

https://c-admin.codemeter.com/61463-t2/LicensePortalInternal/

File Edit View Favorites Tools Help

Company X License Portal

Logged in as:

Orders License Types Recipient Types

## Home

Recent Orders [View all](#)

Created	Order ID	Recipient	Company	Retrieved
08/31/2015	<a href="#">CMLC-20150831-000053</a>	Holly Setter	RA	08/31/2015
08/28/2015	<a href="#">CMLC-20150828-000052</a>	Holly Setter	Rockwell Automation	08/28/2015
08/28/2015	<a href="#">CMLC-20150828-000051</a>	Holly Setter	Rockwell Automation	08/28/2015
08/28/2015	<a href="#">CMLC-20150828-000050</a>	Holly Setter	Rockwell Automation	08/28/2015
08/27/2015	<a href="#">CMLC-20150827-000049</a>	Clark	RA	08/27/2015

Create New Order

# License Based Content Protection

## Commercial Bundle

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Automation**

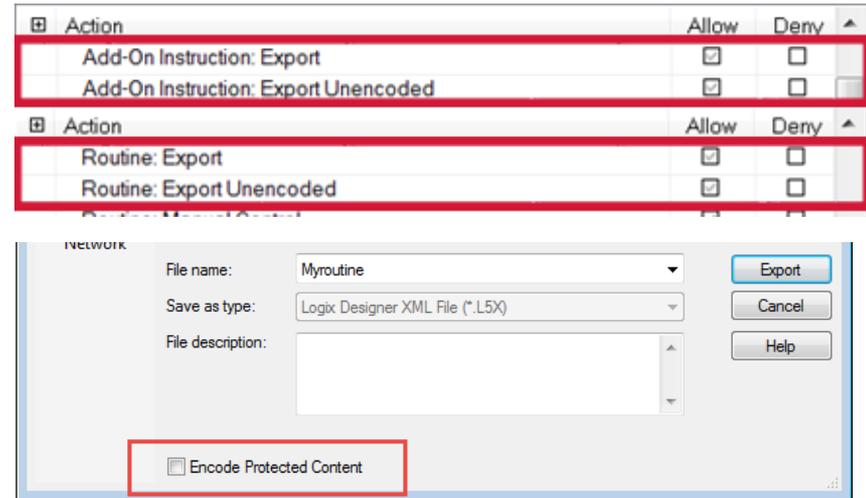
Part Description	Comments
Software Portal Initial Setup	Each customer requires at least one software portal to be setup for their application. This is a one time fee
USB Device & Activation for Source Protection	USB devices and activations will be required for each member of a team that wishes to view or modify protected code
SD Card & Activation for Execution Protection	Customers wishing to prevent copying of their protected code by leveraging the optional execution protection will purchase an SD Card and activation for each authorized 5580 or 5380 PLC
Annual Portal Hosting Fee	The hosting for the License Portal will be renewed annually

# New FactoryTalk Security Permissions

Help ensure that only authorized users can exchange secured content

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Automation**

- New FactoryTalk® Security Permissions
  - AOI/Routine Export
  - AOI/Routine Export Unencoded
- When permissions are enabled, AOIs and Routines can be encoded or un-encoded via the “Encode Protected Content” option in Logix Designer
- Used for protecting sensitive code by allowing only authorized users to copy and/or export specified AOIs and Routines and ensure that code is transferred securely



# Detailed Controller Log Files

Know exactly what changes happened in order to reduce downtime

- New custom audit log entry enables detailed event logging that detects what online changes occur and when
- Determine what changes occurred reliably and quickly to resolve issues
- Store up to 100 events in the controller. When SD card is present, the controller will extend the log files to the card
  - Stored as .txt files on the SD card



Logged Time	Occurred Time	Location	Resource	Username	Message
4/2/2015 1:56.13	4/2/2015 1:56.9	FTAC-DEMO15	Filler_CLX(S/N 7	FTAC-DEMO15IL	Changed Data Value of Tag
4/2/2015 1:55.2	4/2/2015 1:55:15	FTAC-DEMO15	Filler_CLX(S/N	FTAC-DEMO15\	Going Offline from Controller

# Log Authenticity

Ensure no tampering of log file data has occurred.

- Ensure that no manual changes have been made to the detailed controller audit log files with Log Authenticity
- A Master Signature file will be written to the SD card with the detailed audit logs to ensure the authenticity of the data included in the log files
- Open SSL commands allow the verification of the signature and log files
- Example File Structure:

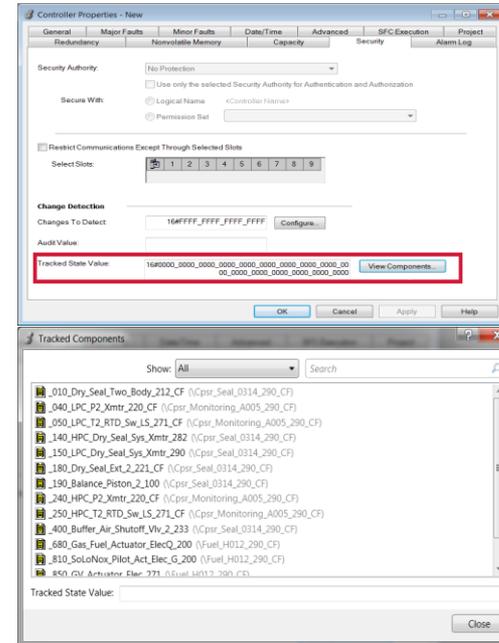
- Log001.txt
- Log002.txt
- Log003.txt
- Signature.sig

# Component Change Detection

Determine if the state of key components in a program have changed

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Automation**

- Quickly determine if changes were made to a program offline
- New Tracking Group setting enables the tracking of changes on a granular basis for Tags, I/O Modules and Routines within a program
- In the event that changes are made to components within a “Tracked Group,” the group signature will change
  - Tracked State Value can be accessed from the Security Tab in the Controller Properties
  - List of items tracked is located on the View Components page



# I/O Tree Import Export

## Single Module Import Export Capability

- I/O Tree Import / Export Module

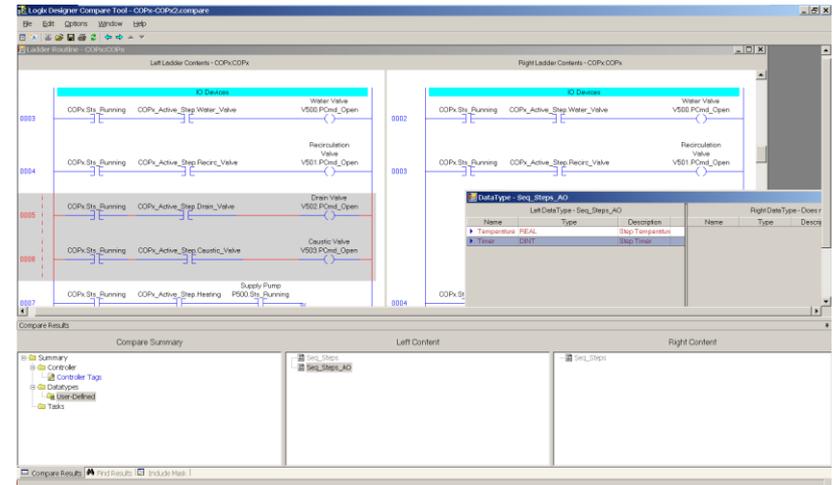
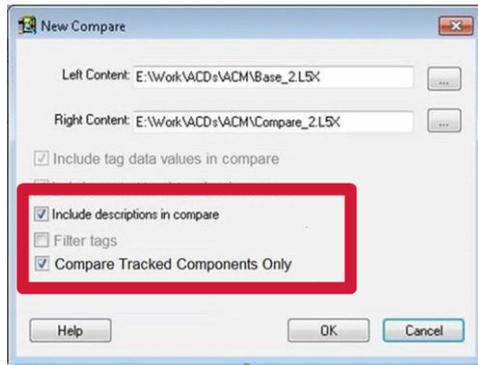
- The.L5x file (.xml) can be stored and then later imported into project *with* module configuration settings.

The image shows a screenshot of the I/O Configuration tree on the left. The tree is expanded to show the '1756-IB16 S01\_DigiIn' module. A context menu is open over this module, with the 'Export Module...' option highlighted. An arrow points from this option to the right, where a snippet of XML code is displayed. The XML code represents the configuration for the selected module, including details like module name, catalog number, and various data value members.

```
1 <?xml version="1.0" encoding="UTF-8" standalone="yes" ?>
2 <RSLogix5000Content SchemaRevision="1.0" SoftwareRevision="30.00" TargetName="S01_DigiIn" TargetType="Module" ContainsContext
3 <Module Use="Target" Name="S01_DigiIn" CatalogNumber="1756-IB16" Vendor="1" ProductType="7" ProductCode="11" Major="3" Minor
4 <MajorFault="false">
5 <EKey State="CompatibleModule"/>
6 </Ports>
9 <Communications CommMethod="536870913">
10 <ConfigTag ConfigSize="24" ExternalAccess="Read/Write">
11 <Data Format="L5K">
12 <![CDATA[28,16,1,0,0,0,1,1,1,1,0,0,0,0,65535,65535]]>
13 </Data>
14 <Data Format="Decorated">
15 <Structure DataType="AB:1756_DI:C:0">
16 <DataValueMember Name="FilterOffOn_0_7" DataType="SINT" Radix="Decimal" Value="1"/>
17 <DataValueMember Name="FilterOffOn_0_15" DataType="SINT" Radix="Decimal" Value="1"/>
18 <DataValueMember Name="FilterOffOn_0_15" DataType="SINT" Radix="Decimal" Value="1"/>
19 <DataValueMember Name="FilterOffOn_16_23" DataType="SINT" Radix="Decimal" Value="0"/>
20 <DataValueMember Name="FilterOffOn_16_23" DataType="SINT" Radix="Decimal" Value="0"/>
21 <DataValueMember Name="FilterOffOn_24_31" DataType="SINT" Radix="Decimal" Value="0"/>
22 <DataValueMember Name="FilterOffOn_24_31" DataType="SINT" Radix="Decimal" Value="0"/>
23 <DataValueMember Name="FilterOffOn_24_31" DataType="SINT" Radix="Decimal" Value="0"/>
24 <DataValueMember Name="COSNOFFEn" DataType="DINT" Radix="Binary" Value="2#0000_0000_0000_0000_1111_1111_1111_1111"/>
25 <DataValueMember Name="COSOFFOnEn" DataType="DINT" Radix="Binary" Value="2#0000_0000_0000_0000_1111_1111_1111_1111"/>
26 </Structure>
27 </Data>
28 </ConfigTag>
29 </Communications>
30 <Connections>
31 <Connection Name="StandardInput" RPI="20000" Type="Input" EventID="0" ProgrammaticallySendEventTrigger="false">
32 <InputTag ExternalAccess="Read/Write">
33 <Data Format="Decorated">
34 <Structure DataType="AB:1756_DI:I:0">
35 <DataValueMember Name="Fault" DataType="DINT" Radix="Binary" Value="2#0000_0000_0000_0000_0000_0000_0000_0000"/>
36 <DataValueMember Name="Data" DataType="DINT" Radix="Binary" Value="2#0000_0000_0000_0000_0000_0000_0000_0000"/>
37 </Structure>
38 </Data>
39 </InputTag>
40 </Connection>
41 </Connections>
42 </Module>
43 </RSLogix5000Content>
```

# Compare and Merge 6.2

- Compare Tracked Components enables a detailed comparison of all tracked components including:
  - Routines
  - Tags
  - AOIs
  - I/O Modules



# Simplified Installation

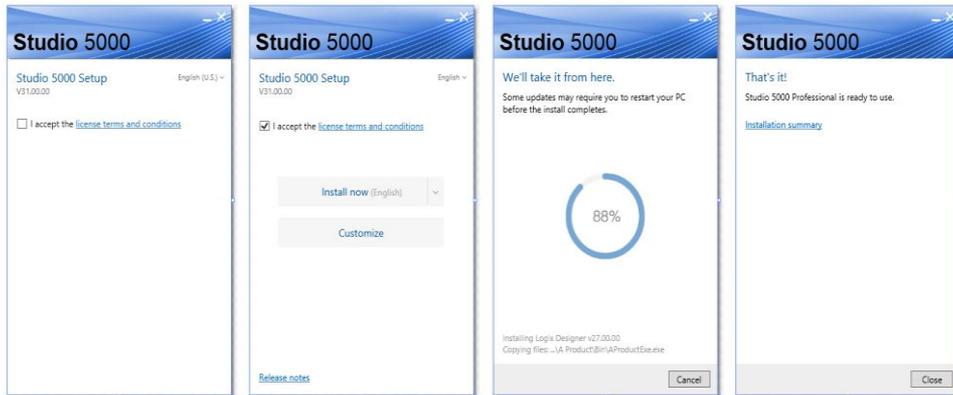
Common Installer provides for a simplified installation

**Rockwell  
Automation**

Rockwell Automation product installs look the same and have a common workflow

- **Install Now**

- No choices, no unnecessary clicking
- An unobtrusive EULA
- Default Products and Options
- Default language English, but can change
- No other screens, save for progress and complete



- **Customized Install**

- Choose your Language
- Choose your Products
- Choose where to Install

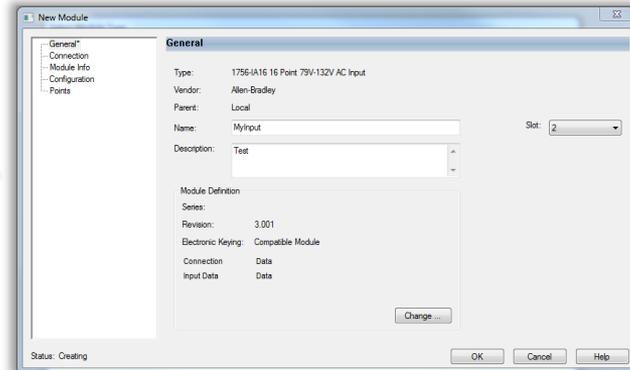
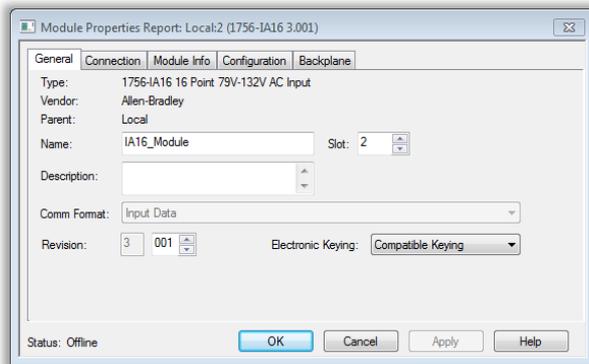


# 1756 Profiles

## Classic to AOP Conversion

**Rockwell  
Automation**

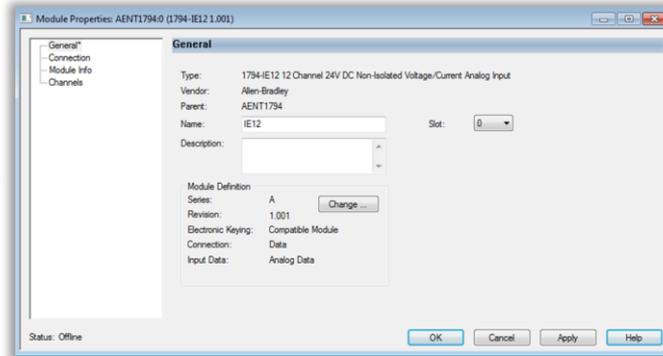
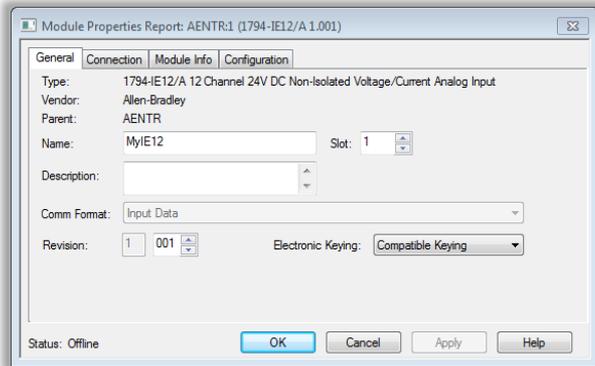
- Select 1756 profiles (48 profiles - see slide notes for list) converted from Classic to AOP
  - New look and feel
  - Localized in all languages
- Provide consistent user experience
- Will work with Studio 5000 V20 or higher and Windows 7 or newer
- Classic profiles will be automatically converted to AOP when opening an older project
- Will be posted on PCDC shortly after Logix Designer V30 is released



# 1794 Profiles

## Classic to AOP Conversion

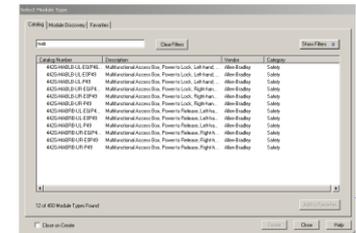
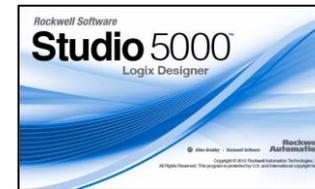
- Select 1794 profiles (55 profiles - see slide notes for list) converted from Classic to AOP
  - New look and feel
  - English localization only
- Provide consistent user experience
- Will work with Studio 5000 V20 or higher and Windows 7 or newer
- Classic profiles will be automatically converted to AOP when opening an older project
- Will be posted on PCDC right after Logix Designer V30 is released



# 442G Multifunctional Access Box

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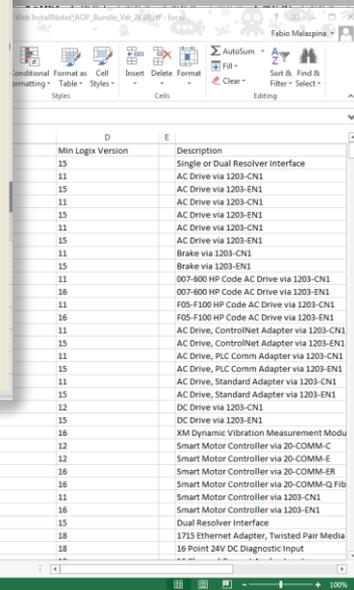
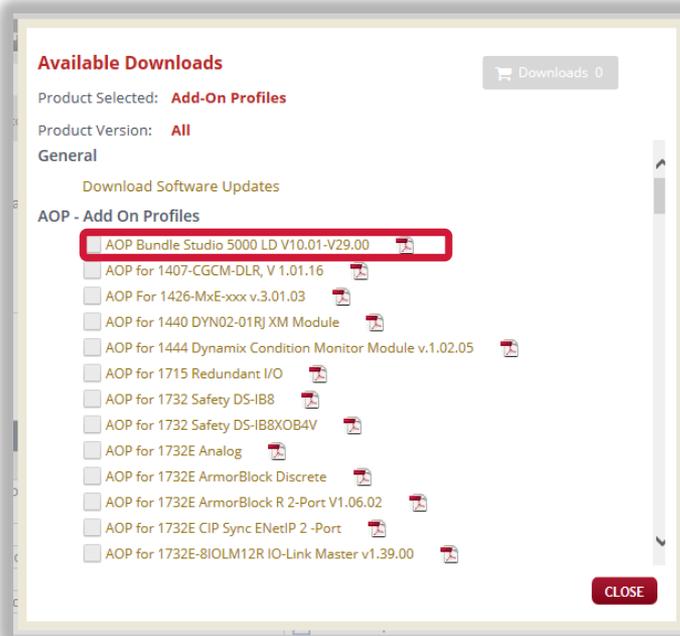
- Single platform for safety and standard control
- Common programming environment helps reduce design time and helps reduce training and maintenance costs
- Add-on Profile in Studio 5000 Logix Designer
  - Provides simplified setup
  - Creates meaningful tag names
  - Compatible with V20 and later



Premier Integration with CIP Safety over EtherNet/IP

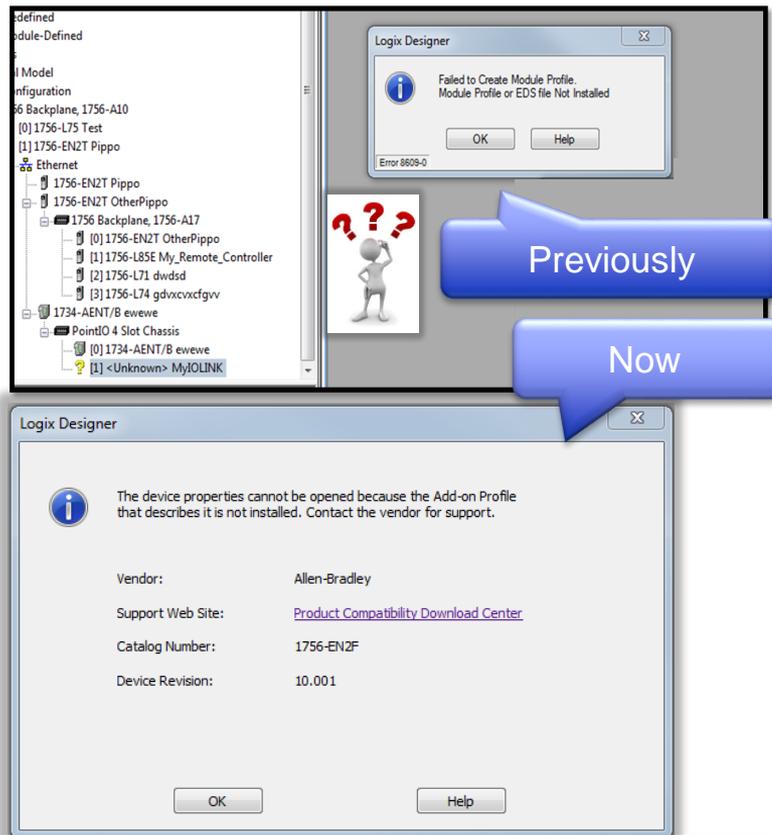
# Add-on Profiles (AOP) Bundle Install

- Provides easy access to all of the available device profiles without having to install the latest Studio 5000 Logix Designer
- Includes all profiles (700+) delivered with Studio 5000 Logix Designer versions V10.01 through V29.01
  - Release notes lists profiles, with device firmware and Studio 5000 Logix Designer V compatibility
  - Select third party profiles are also included
- Installs on Windows 7 and newer OS only
- Available for download from [PCDC](#) now
  - No Tech Connect contract is required
- A bundle release is planned at every major release



# Missing Add-on Profiles Notification with Context

- Missing an Add-on Profile prevents users to configure, diagnose and maintain a device
  - Since device identification information is not provided, user experience is affected
- Starting with Studio 5000 Logix Designer V30, we will provide full device identification information
- For Rockwell Automation devices, we will also provide link to [download site](#) for ease of use
  - Users can then easily search, download and install missing profile
- Greatly improves user experience

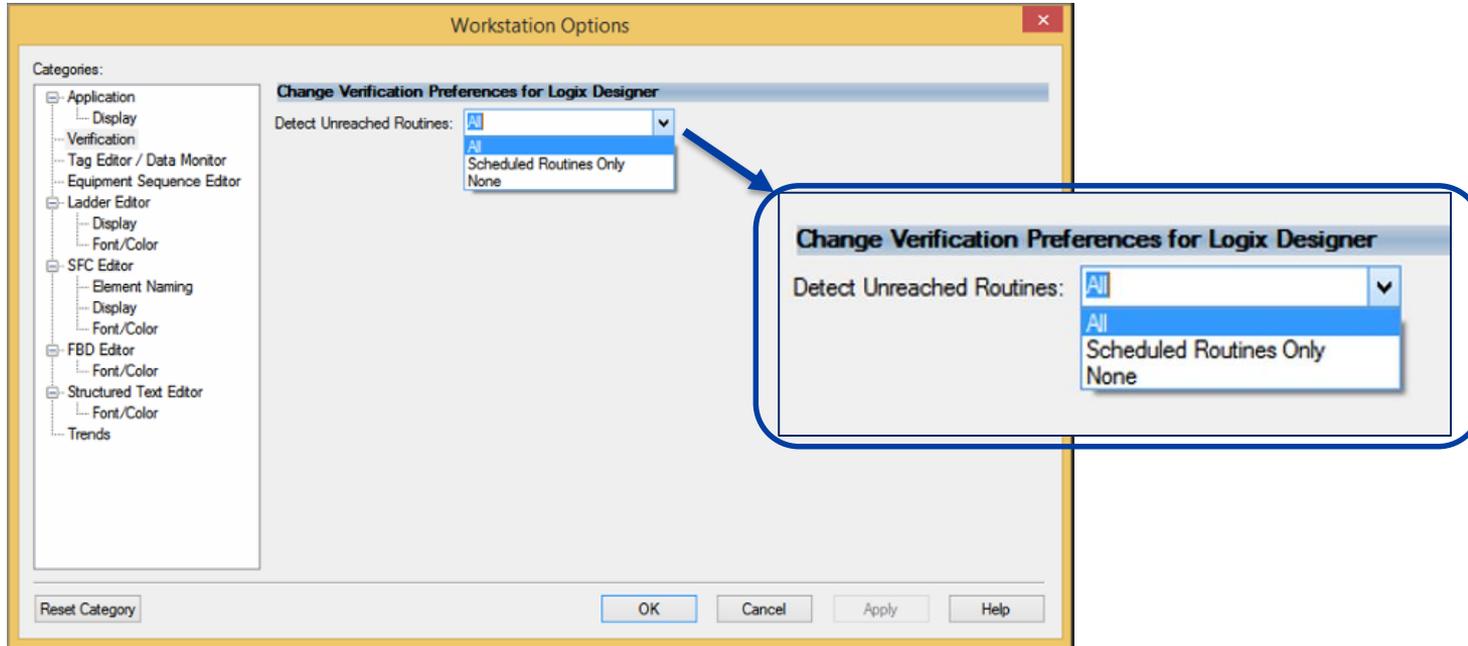


# General Editor

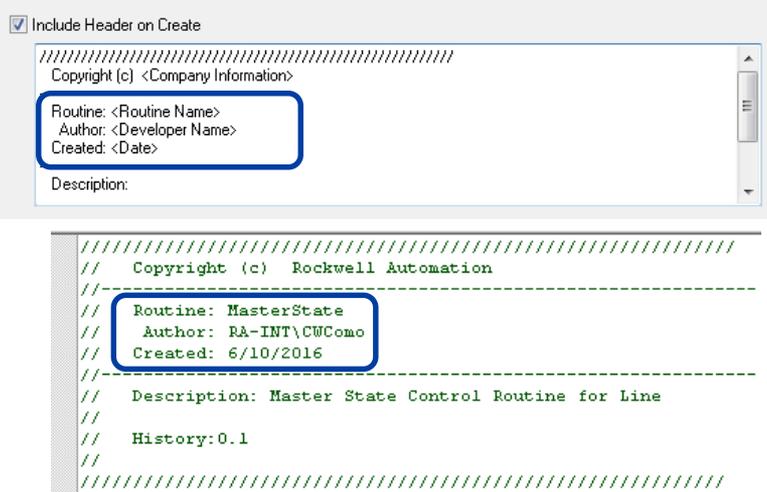
V30

Rockwell  
Automation

## “Lonely Routine” During Project Verification – Enable/Disable



- Upon creation of a new Structured Text routine the following *<tags>* are automatically replaced within the pre-formatted header:
  - *<Company Information>*
  - *<Developer Name>*
  - *<Date>*
  - *<Routine Name>*
  - *<Description>*



The screenshot shows a dialog box titled "Include Header on Create" with a checked checkbox. Below the checkbox is a text area containing a pre-formatted comment header. The header is enclosed in a blue box. The text in the header is as follows:

```
////////////////////////////////////  
Copyright (c) <Company Information>  
Routine: <Routine Name>  
Author: <Developer Name>  
Created: <Date>  
Description:
```

Below the dialog box is a larger text area showing the same pre-formatted comment header with the fields replaced by actual values. The text in the header is as follows:

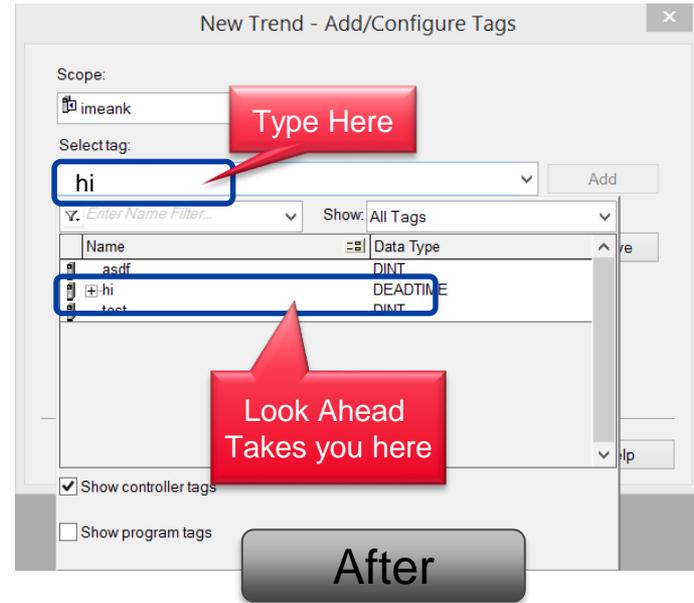
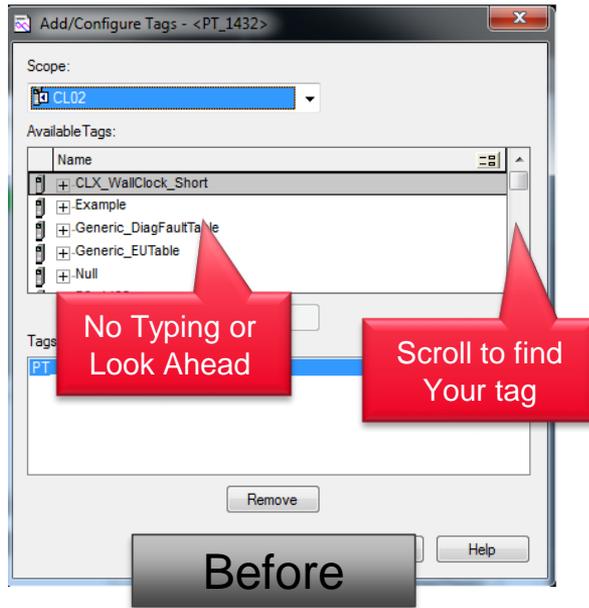
```
////////////////////////////////////  
// Copyright (c) Rockwell Automation  
// -----  
// Routine: MasterState  
// Author: RA-INT\CWComo  
// Created: 6/10/2016  
// -----  
// Description: Master State Control Routine for Line  
//  
// History:0.1  
//  
////////////////////////////////////
```

# Trend Editor

Better user experience for trend creation

V30

Rockwell  
Automation



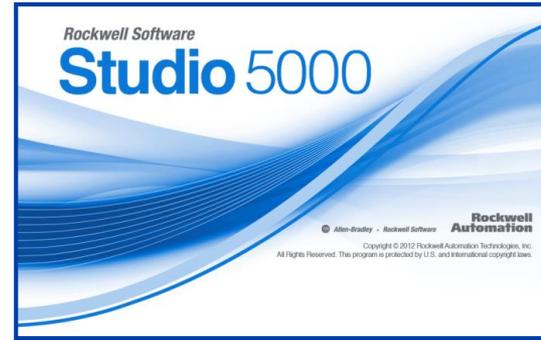
# ControlFLASH™ V14

V30

Rockwell  
Automation

- Updated tool to support both RSLinx® Classic and RSLinx® Enterprise communication software products
  - RSLinx Classic is default selection
  - RSLinx Enterprise must be at V5.90 or higher (FTSP V2.90 SR9)
- RSLinx Enterprise provides for enhanced user experience and increased productivity
- ControlFLASH V14 also adds support for Windows 10 – see release notes for more details

The image displays two overlapping screenshots of the ControlFLASH software interface. The top screenshot shows the 'Welcome to ControlFLASH' dialog box. It features a logo on the left and a list of four requirements on the right: 1. The Catalog Number of the target device, 2. The Network Configuration parameters (optional), 3. The Network Path to the target device, and 4. The Firmware Revision for this update. Below the list are buttons for 'View Log', 'View Inventory', and 'Change RSLinx Edition...'. The 'Change RSLinx Edition...' button is highlighted with a red box, and a red callout bubble points to it with the text 'Easily select Edition'. The status 'In use: RSLinx Enterprise' is visible next to the button. The bottom screenshot shows the 'Who browser' window, which displays a tree view of network devices. The 'RSLinx Enterprise, NAUSMAY60XTNX1' folder is expanded, showing a 'Backplane, 1756-A4/A or B' folder. This folder is also expanded, showing a list of modules: '00, 1756-L64, 1756-L64/B LOGIX5564', '01, 1756-L85E, 1756-L85E/B', '02, 1756-L73, 1756-L73 LOGIX5573', and '03, 1756-EN2TR, 1756-EN2TR/A'. A red callout bubble points to the '03, 1756-EN2TR, 1756-EN2TR/A' entry with the text 'RSLinx Enterprise enhanced Who browser'. The status bar at the bottom of the browser window reads 'Browsing - node 03, 1756-EN2TR, 1756-EN2TR/A found' and 'Zoom: 100%'. There are 'OK' and 'Cancel' buttons at the bottom right of the browser window.



LISTEN.  
THINK.  
SOLVE.®

**RSLogix™ 5000**  
OS / Firmware support

Rockwell Software  
**Studio 5000** Logix Designer

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Controllers	Controller Firmware Available										
	V18	V19	V20	V21	V23	V24	V26	V27	V28	V29	V30
ControlLogix: 1756-L61, L62, L63, L64, L65, 1756-L61s, L62s, L653s	Yes	Yes	Yes	No	No	No	No	No	No	No	No
CompactLogix: 1768-L43, L45, 1768-L43s, L45s, 1769-L35CR, L35E, L32E, L31, 1769-L23-QBFC1B, L23E-QB1B, L23E-QBFC1B	Yes	Yes	Yes	No	No	No	No	No	No	No	No
ControlLogix: 5570 (L7 Family) 1756-L71, L72, L73, L74, L75	No	Yes, L72, L73, L74, L75	Yes	Yes	Yes						
GuardLogix: 5570 (L7sFamily) 1756-L71s, L72s, L73s	No	No	Yes	Yes	Yes						
CompactLogix: 5370 1769-L1xERx, 1769-L2xERx, 1769-L3xERx	No	No	Yes	Yes	Yes						
CompactGuardLogix: 5370 1769-L3xERM <sub>s</sub>	No	No	No	No	No	No	No	No	Yes	Yes	Yes
ControlLogix: 5580 (L8 Family) 1756-L81e, L82e, L83e, L84e, L85e	No	No	No	No	No	No	No	No	Yes, L83, L85	Yes	Yes
CompactLogix: 5380 5069-L3xxERx*	No	No	No	No	No	No	No	No	Yes*	Yes*	Yes

\*5069-L350ERM, 5069-L380ERM, 5069-L3100ER added in V30, no firmware for v28, V29



## Logix Firmware

Operating Systems	V18	V19	V20	V21	V23	V24	V26	V27	V28	V29	V30
Windows XP	Yes	Yes	Yes	No							
Server 2003 or Server 2003 R2	Yes	Yes	Yes	No							
Server 2008	Yes	Yes	Yes	No							
Server 2008 Standard 32 Bit	Yes	Yes	Yes	No							
Server 2008 Standard SP2 64 Bit	No	No	Yes	No							
Server 2008 R2 Standard	No	No	No	Yes							
Vista	Yes	Yes	Yes	No							
Windows 7 32 Bit	No	Yes									
Windows 7 64 Bit	No	Yes									
Windows 8.0	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Windows 8.1	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Windows 10 64 Bit	No	Yes									
Server 2012 Datacenter / Standard	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Server 2012 R2 Datacenter / Standard	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes



# Thank You

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 *Allen-Bradley* • *Rockwell Software*

**Rockwell**  
**Automation**

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