Rockwell Software

# Studio 5000 Logix Designer®

V16 – V30

PUBLIC

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# V16 Software

Rockwell Automation

- 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 ≥ 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


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# V16 Software

- 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


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# V16 Controller and I/O Extensions

Rockwell Automation

- 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 EtheNet/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


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# 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

Rockwell Automation

- 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
- Miscellaneouos
  - 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


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# Logix V17 Extensions Continued

Rockwell Automation

- 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


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# 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

(*) Check for hardware availability


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# RSLogix™ 5000

V19

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# Logix V19 Overview

Rockwell Automation

- 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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# Logix V20

- 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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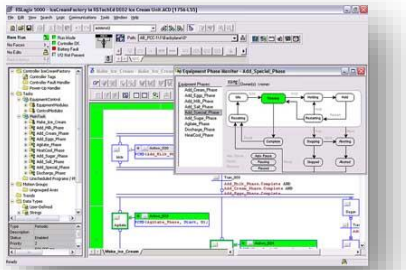
# Logix Designer V21
## Integrated Engineering Environment

Rockwell Automation

**Logix Designer (V21)**

Programming and configuration for Logix controllers.

Existing RSLogix 5000 user interface retained with new shared components.



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# Logix Designer V21

Rockwell Automation

- 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
  - Controler 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


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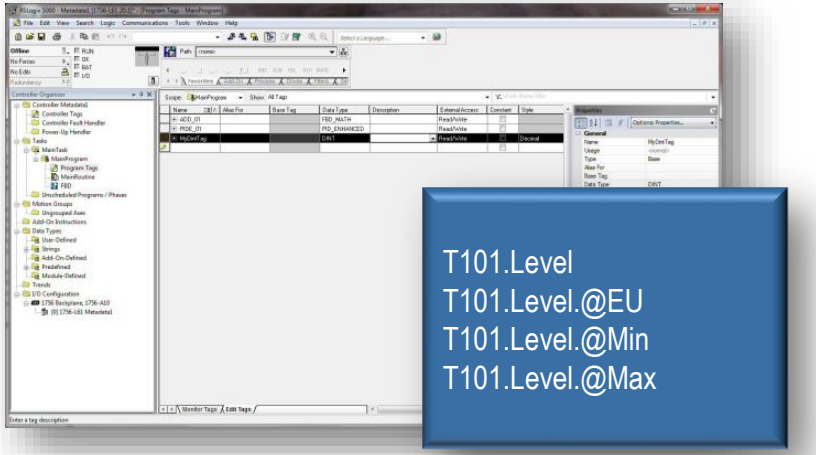
# Logix Extended Tag Properties

Rockwell Automation

## 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.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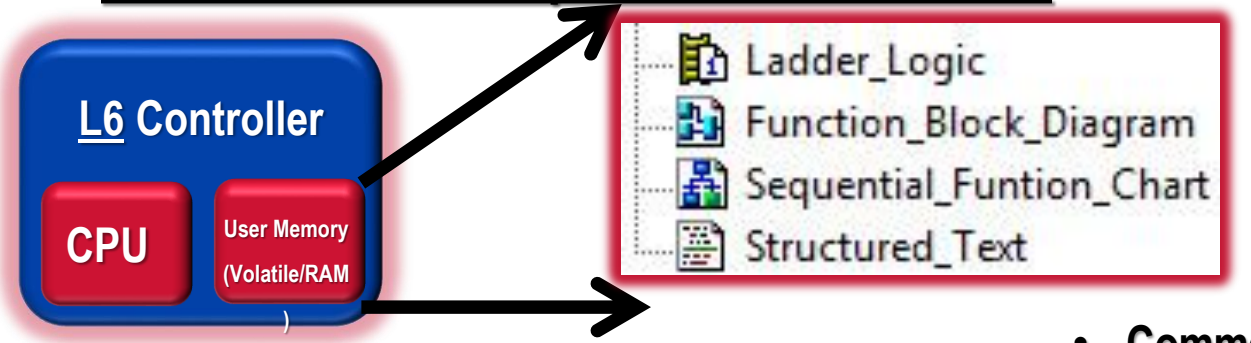
# Pre-V21 Project Documentation Storage

Rockwell Automation

## Comments/Descriptions Stored on PC




- Comments/Descriptions
  - Rung
  - Tag
  - UDT
  - AOI
  - Task
  - Program
  - Routine

Engineering PC ".ACD"

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# New V21 Project Documentation Storage

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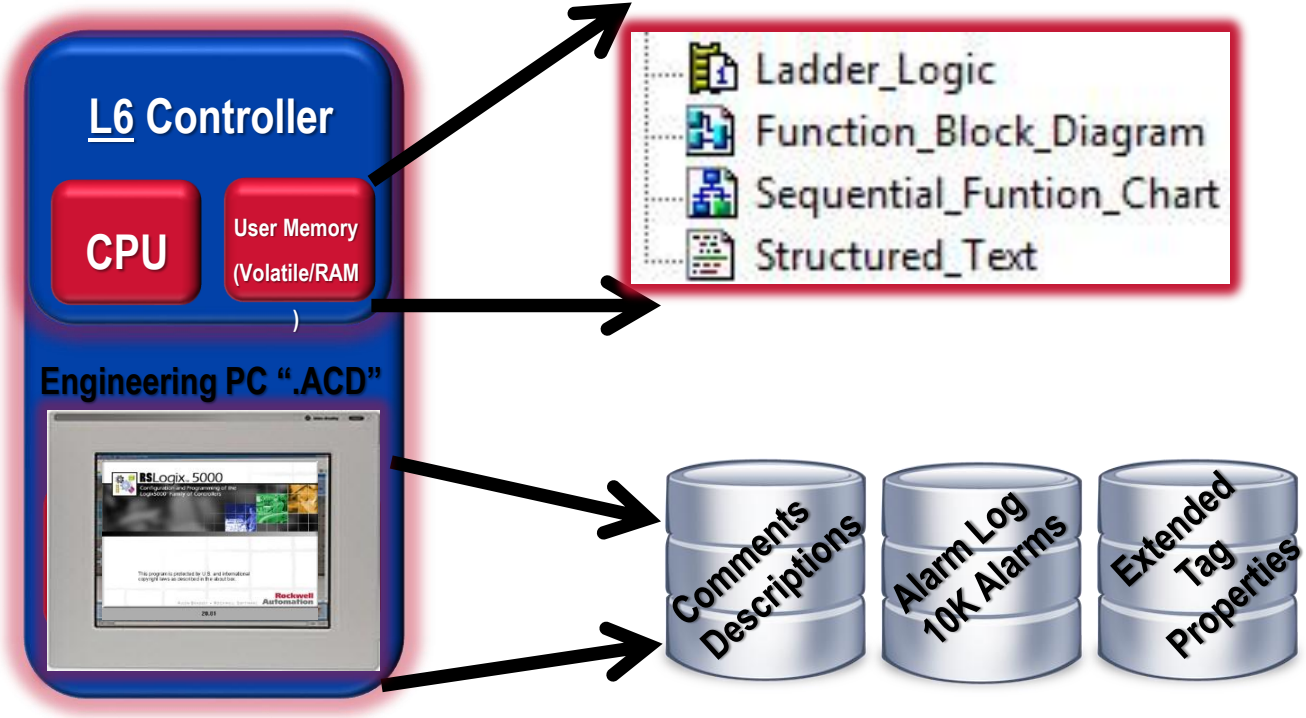
## With V20 and Earlier



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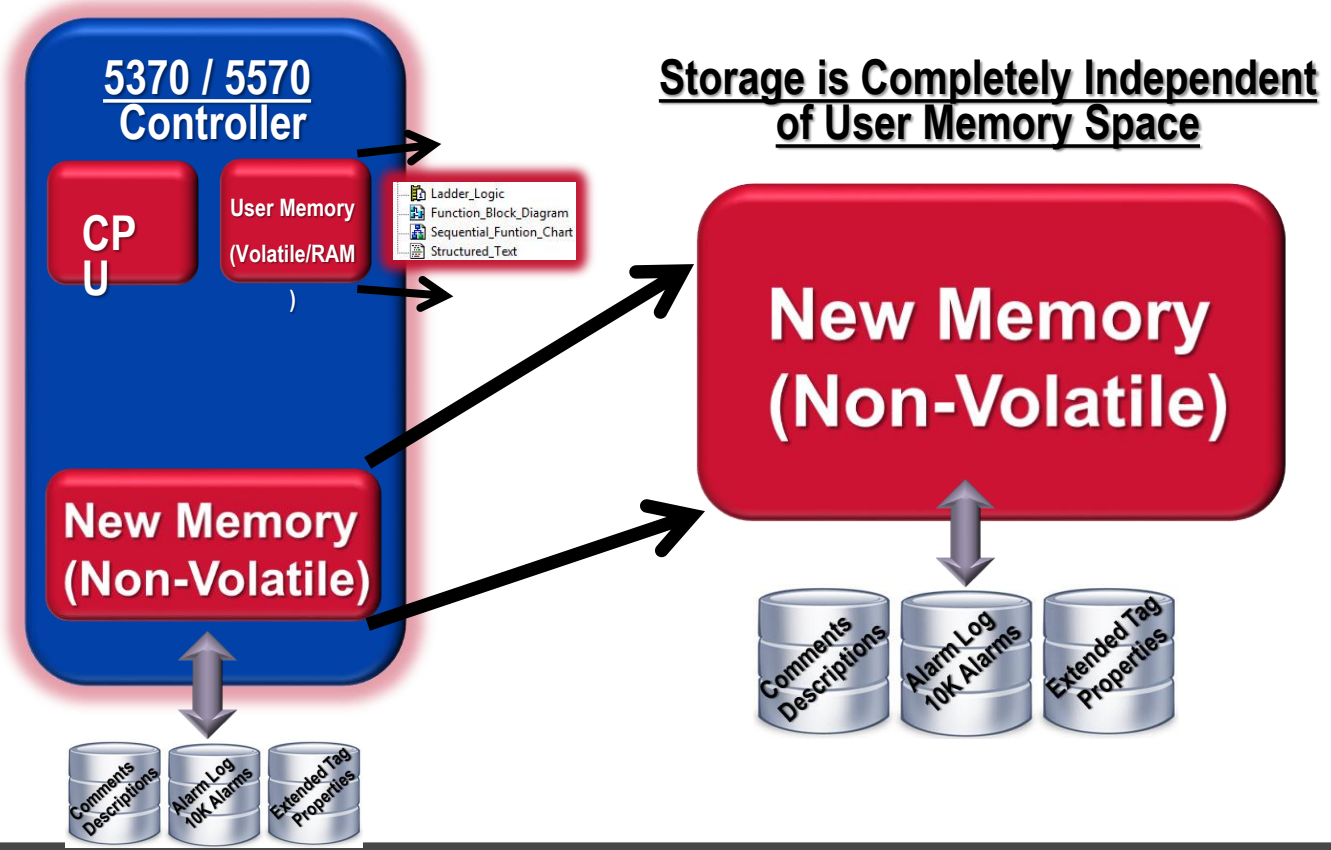
# New Additional Non-Volatile Extended Memory





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# Expanded FT A&E System Limits

Rockwell Automation

## Scale to Larger Applications

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

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

***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


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# Controller Support Roadmap

| Controller | Firmware Available | | | |
|---|---|---|---|---|
| | V18 | V19 | V20 | V21 |
| 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 Systems | Operating System Support | | | |
|---|---|---|---|---|
| | V18 | V19 | V20 | V21 |
| 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 |

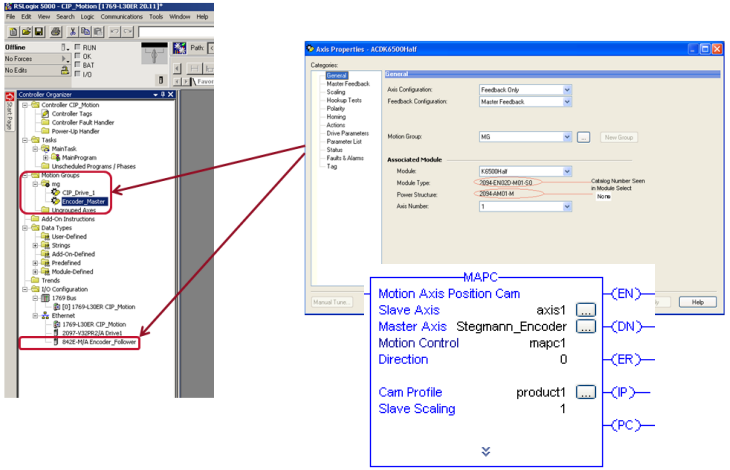
Knowledgebase Answer ID 67020
"RSLogix 5/500/5000 on Windows Vista and Windows 7"

# EtherNet/IP CIP Motion Encoder

Rockwell Automation

## 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





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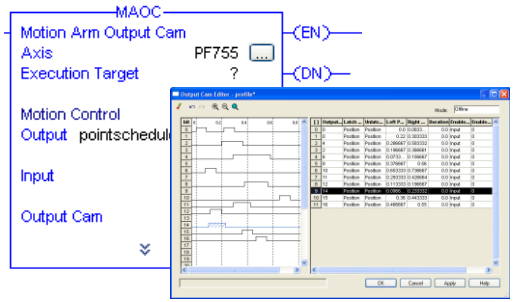
# High Performance Position Driven Outputs (PLS)

Rockwell Automation

## 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

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# Kinetix 5500 CIP Motion Servo Drive

Rockwell Automation

- **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

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# Kinetix VPL Servo Motor

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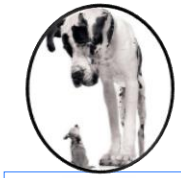
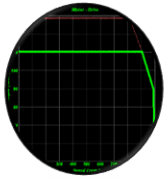


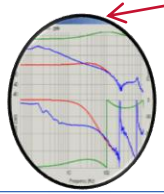
Windings options matched to drive ratings allow for optimized system sizing and costs

.4-31.5 NM Continuous Torque Range

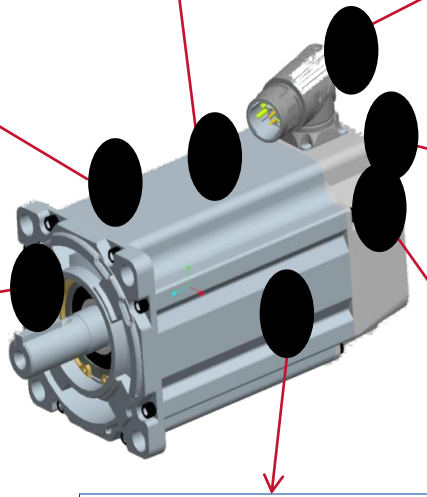
Single cable
27% lower cable cost
60% less wiring



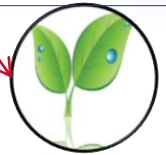
Flat speed/torque curves deliver twice as much power at high speeds delivering 20% savings



Integrated Mechatronic functions simplify commissioning and reduce operational costs



Based on proven magnetic core MP technology for market leading reliability and performance



Energy efficient drive/motor match and green shunt
50% less energy



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## V22 – Internal Release

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# Studio 5000 Logix Designer

V23

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# V23: Product Resiliency

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- 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)


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# Logix Designer
# Studio 5000 Automation Productivity

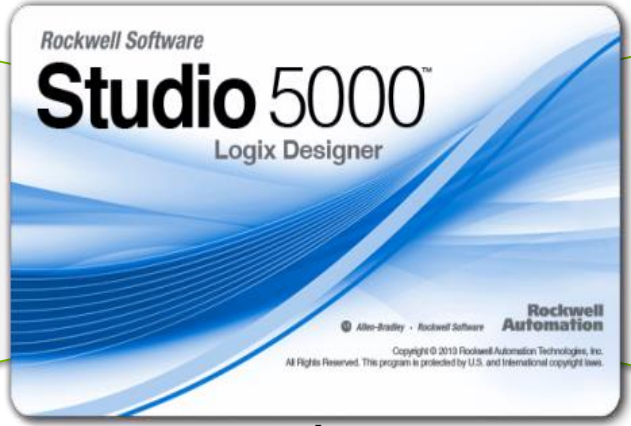
Rockwell Automation

System Organization

Modular Automation

Library Management

Actionable Information




System Security & IP Management

Device Management

Collaborative Engineering

Virtual Design & Engineering

Common Infrastructure

Scalable Architecture

Multi-Discipline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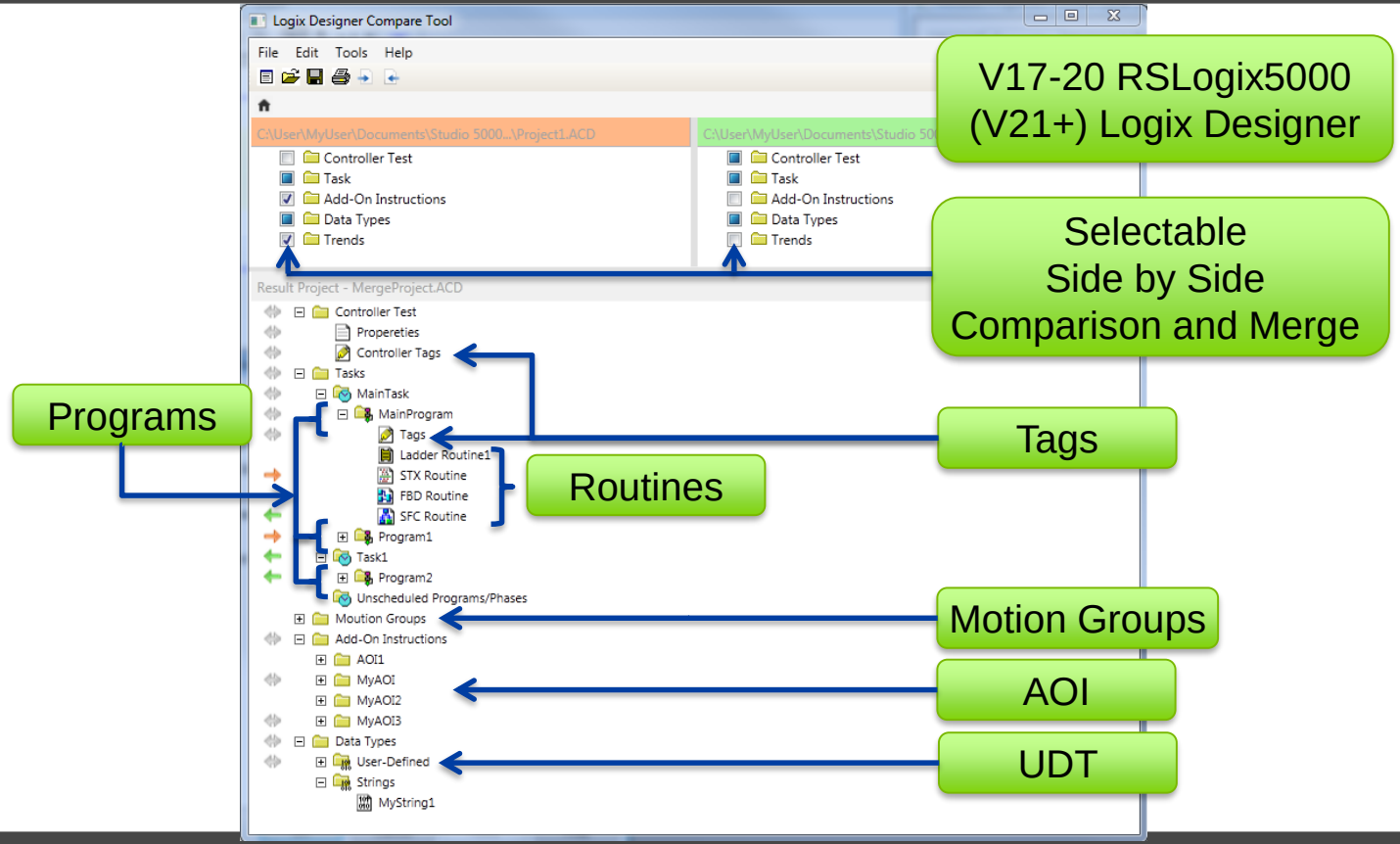
# Compare and Merge

## Save time and ensure accuracy merging

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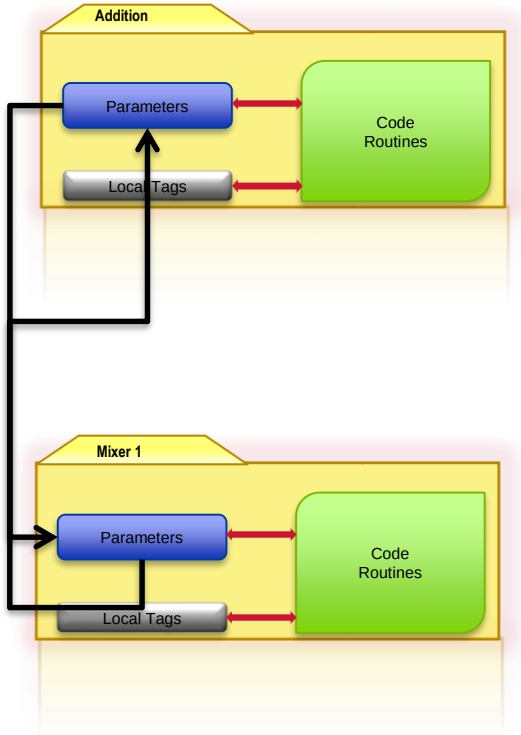
# Program Parameters




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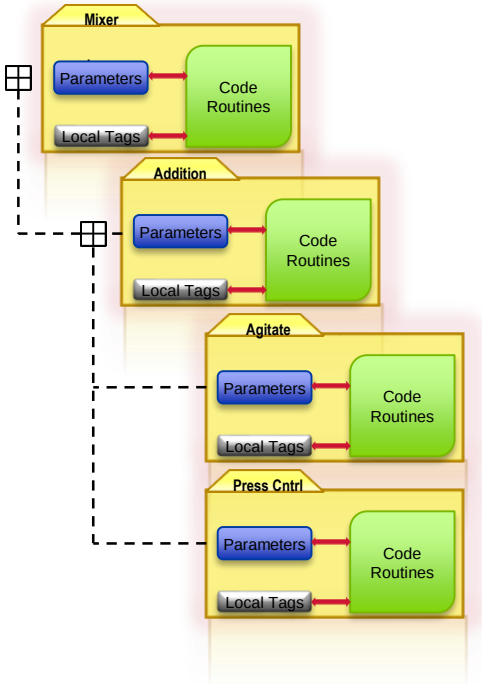
# Logical Organizer




- 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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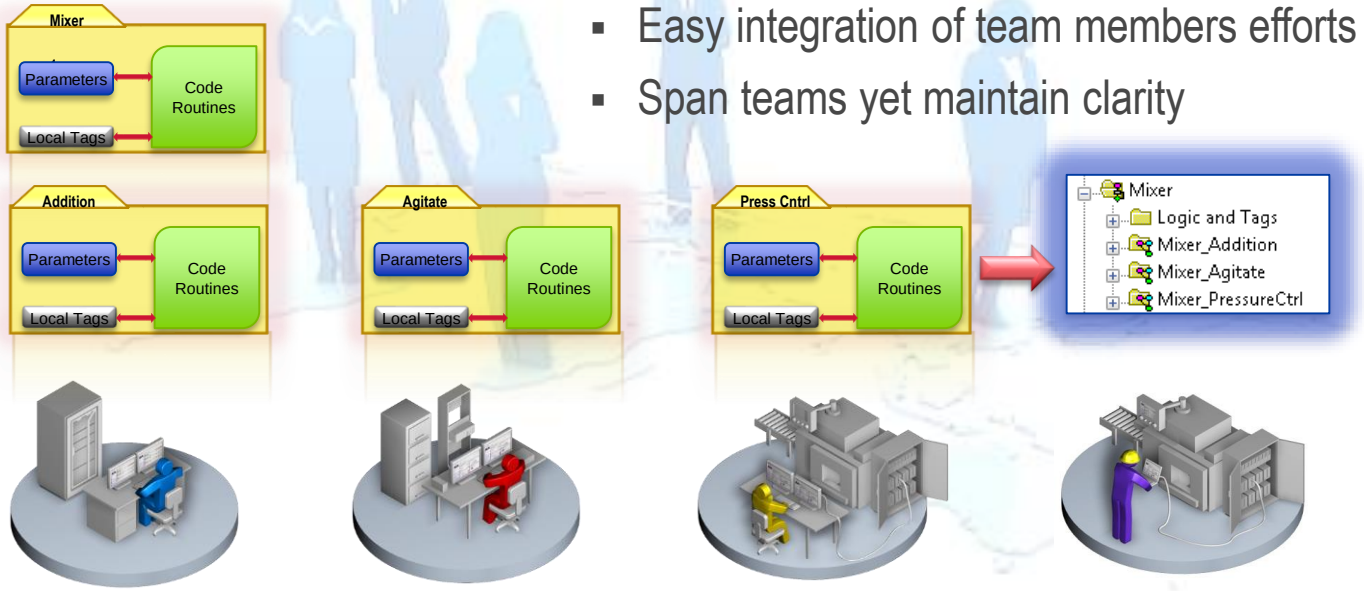
# Engineering Collaboration

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





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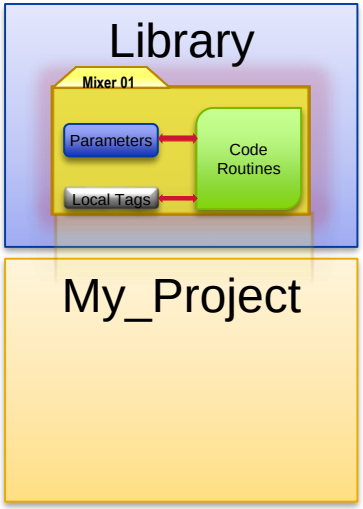
# Library




- Library
  - Use .ACD as Library or XML files
  - Increased transportability
  - Data maintained and collisions managed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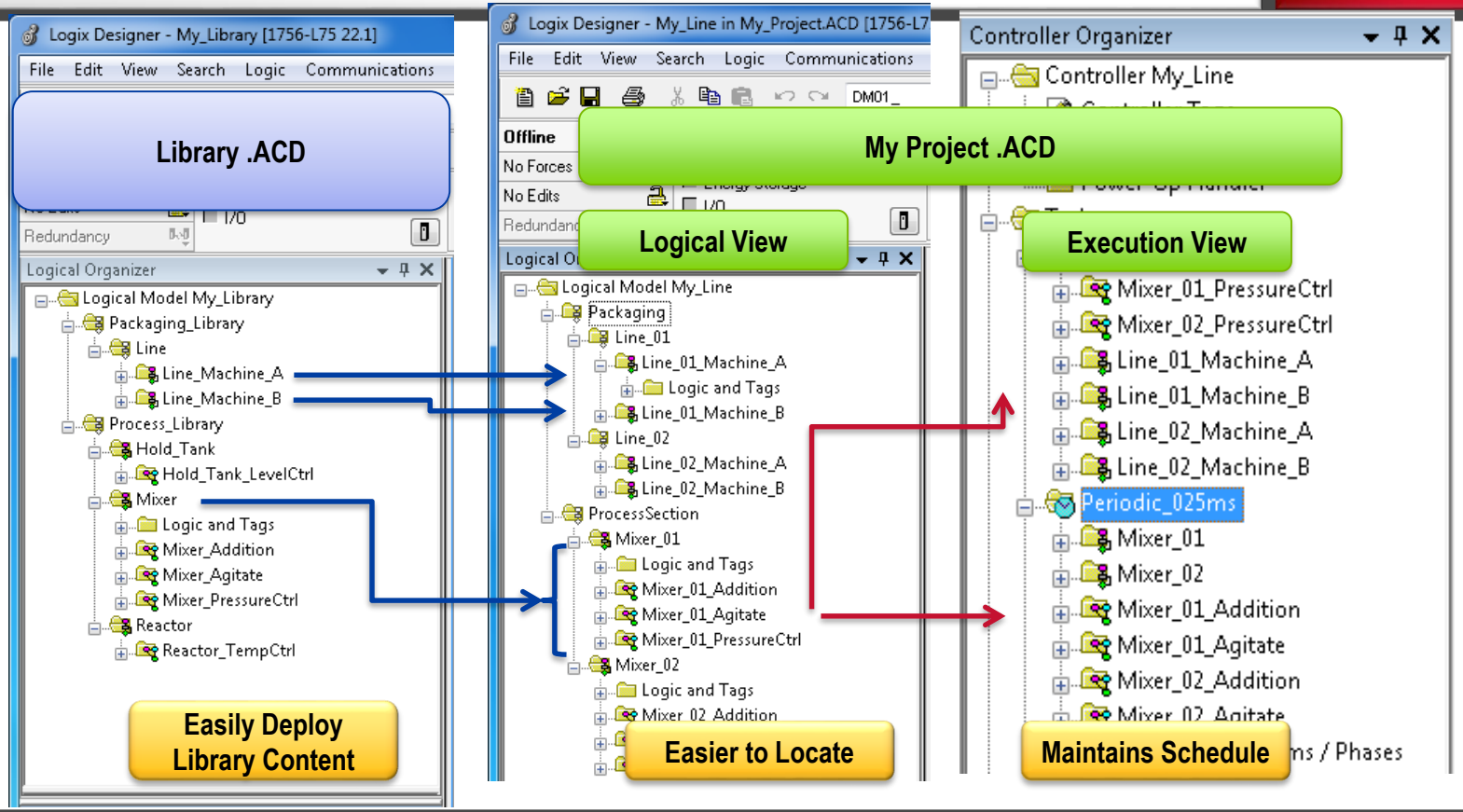
# Putting It All Together





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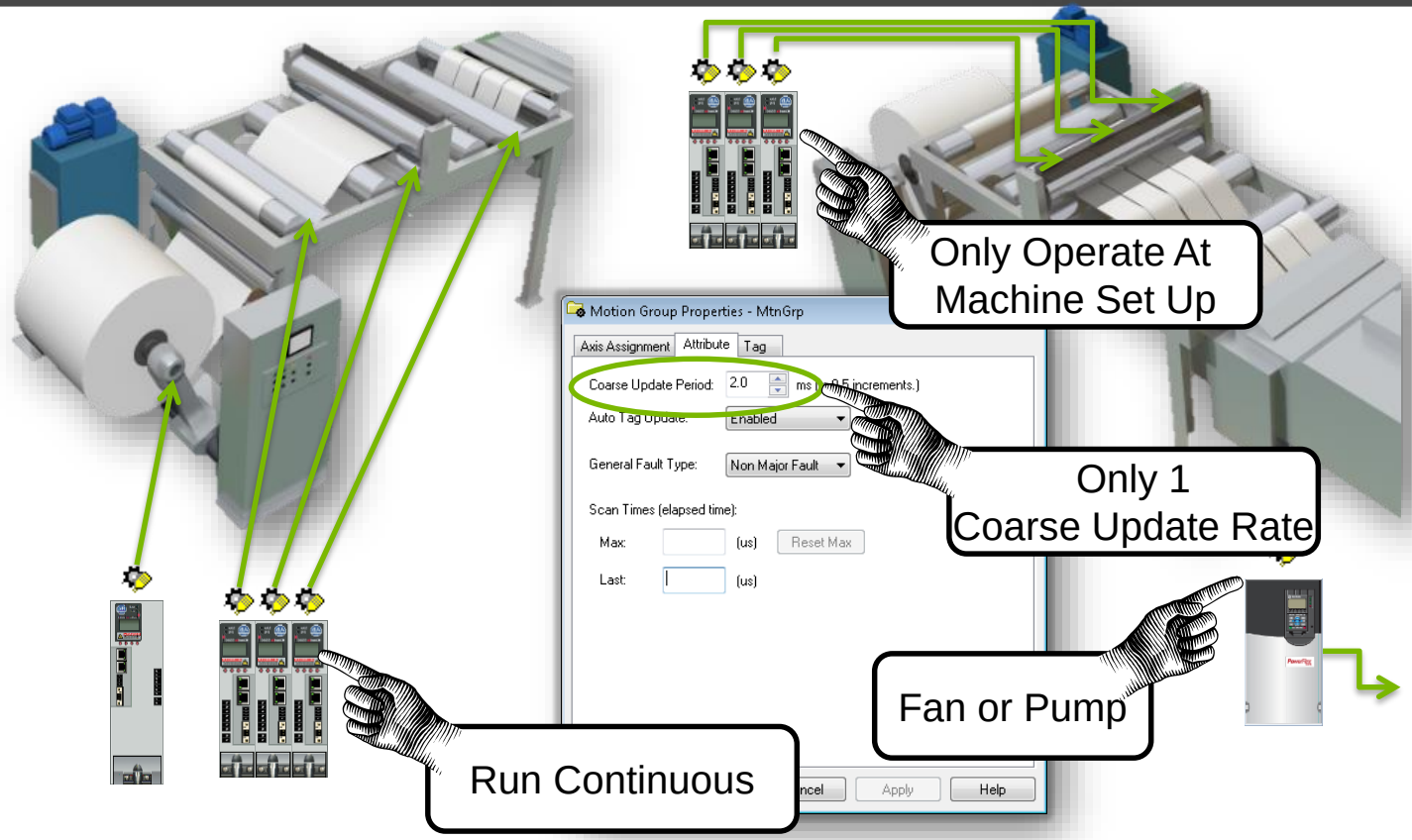
# V21 and Prior
# Motion Group Coarse Update Rate





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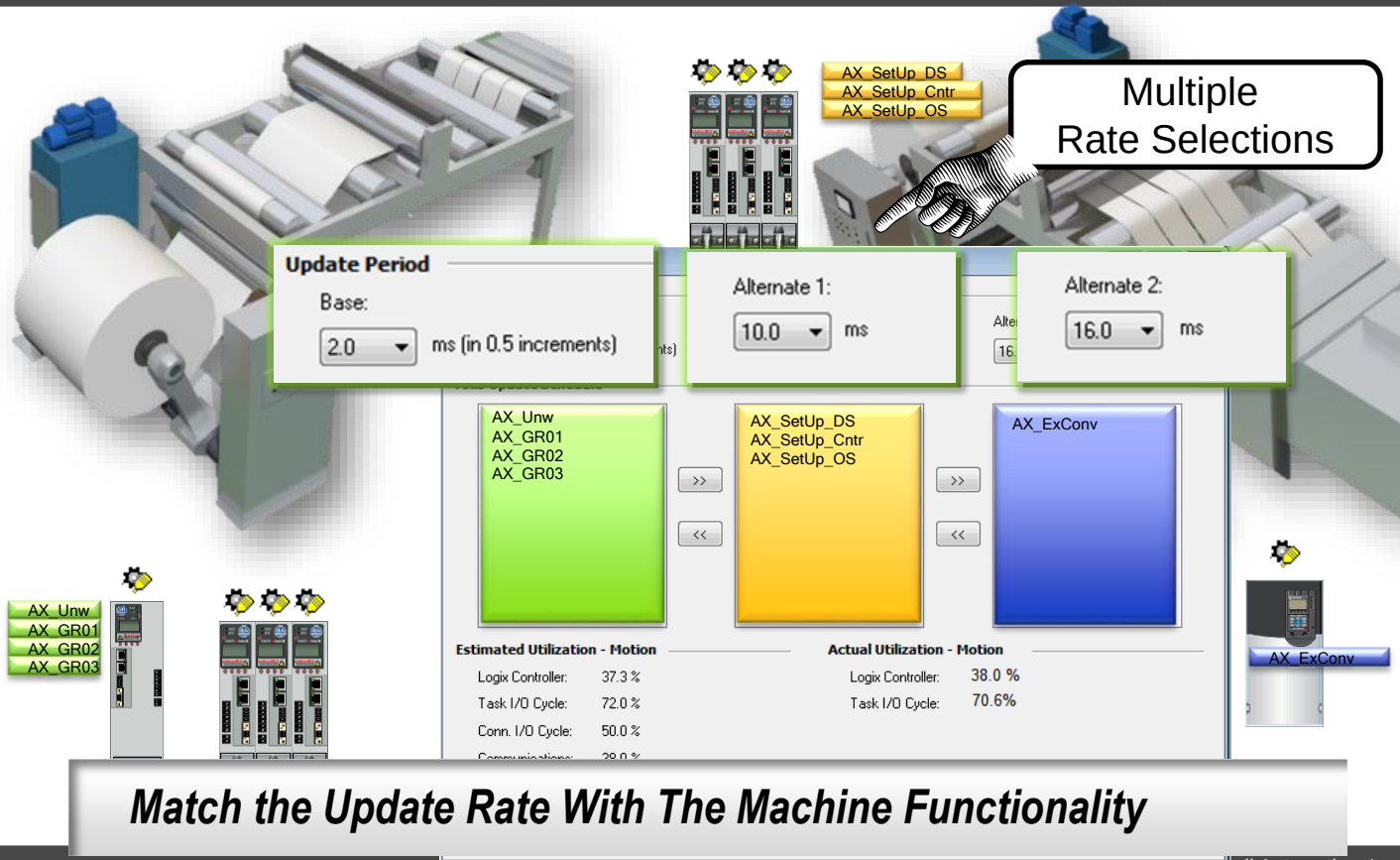
# Drive Multiplexing (Multiple Rate Selection)




***Match the Update Rate With The Machine Functionality***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# Drive Multiplexing (Multiple Rate Selection)

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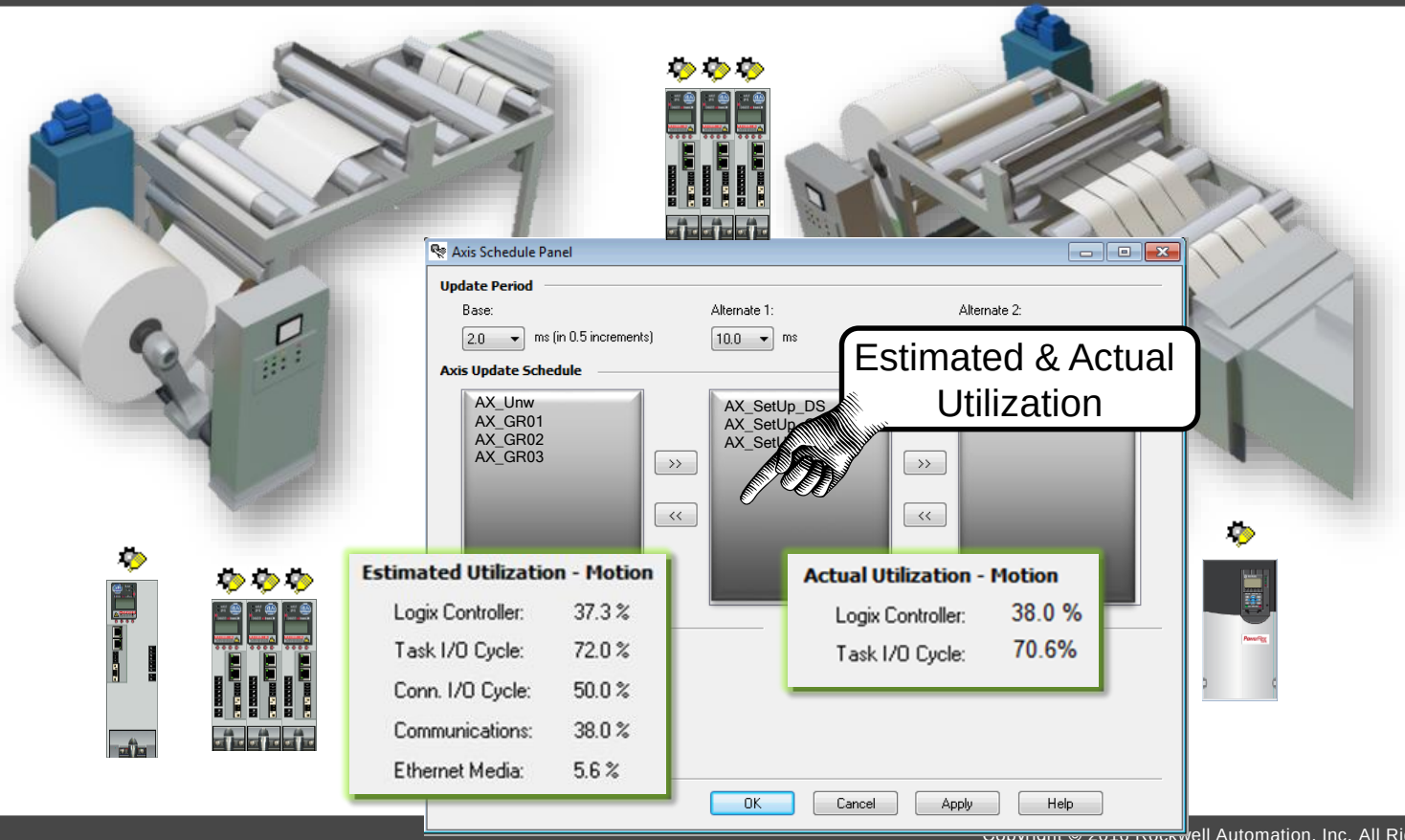



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# Updated FT A&E Alarm State Model

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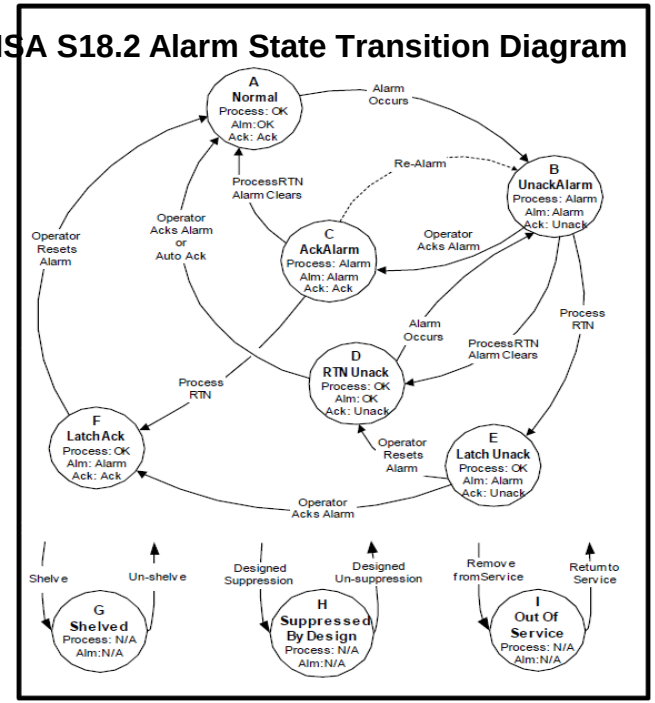
## Simplifies Application Creation to Easily follow ISA 18.2 Recommendations

**ISA S18.2 Alarm State Transition Diagram**




*Source:* International Society of Automation. (2009). *ANSI/ISA-18.2-2009 - Management of Alarm Systems for the Process Industries.* Research Triangle Park: ISA

FT A&E vs. ISA 18.2 terminology:

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



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# Shelving Function for Alarms

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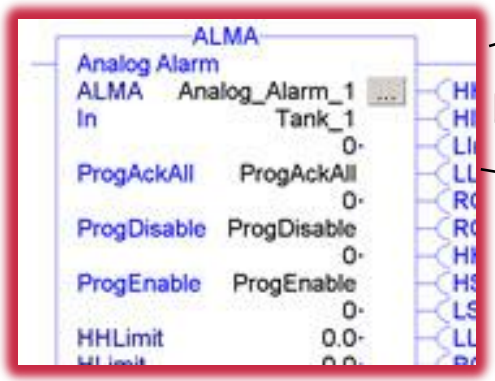
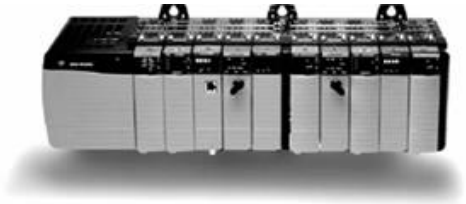
## Reduce Costly Mistakes by Assuring Alarms are Noticed





**IN ALARM**
**Click to Shelve**
**Shelved**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# Studio 5000 Logix Designer

## V25 – Internal Release

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# Studio 5000 Logix Designer

V26

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# Logix Designer V26.01

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- 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)


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# WIBU Systems

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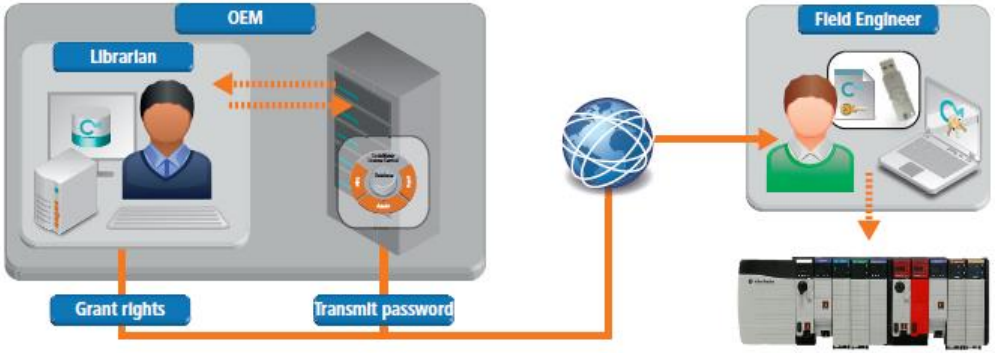
- With the new technology implemented by Wibu-Systems, passwords are no longer saved unencrypted on a local machine, but rather encrypted in a CmContainer from Wibu-Systems.
- The CmContainer can either be:
  - a CmDongle (a tamperproof hardware device embedding a smart card controller)
  - or a CmActLicense (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.





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# 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

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# 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

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# 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 | | | | | | | | |
| VPC | | | | | | | | |

✓ = open-loop control only

**Available October 2015**

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

✓ = EnDat support ✓ = closed-loop control

Available May 2016

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



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# Studio 5000 Logix Designer

## V27 – Simplifying your Design Journey

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# Studio 5000 V27

**Introducing three new major components**

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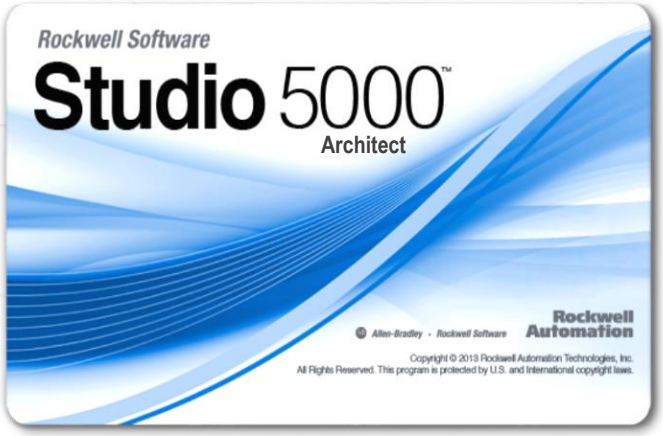
# Studio 5000

## V27 – Studio 5000 Architect

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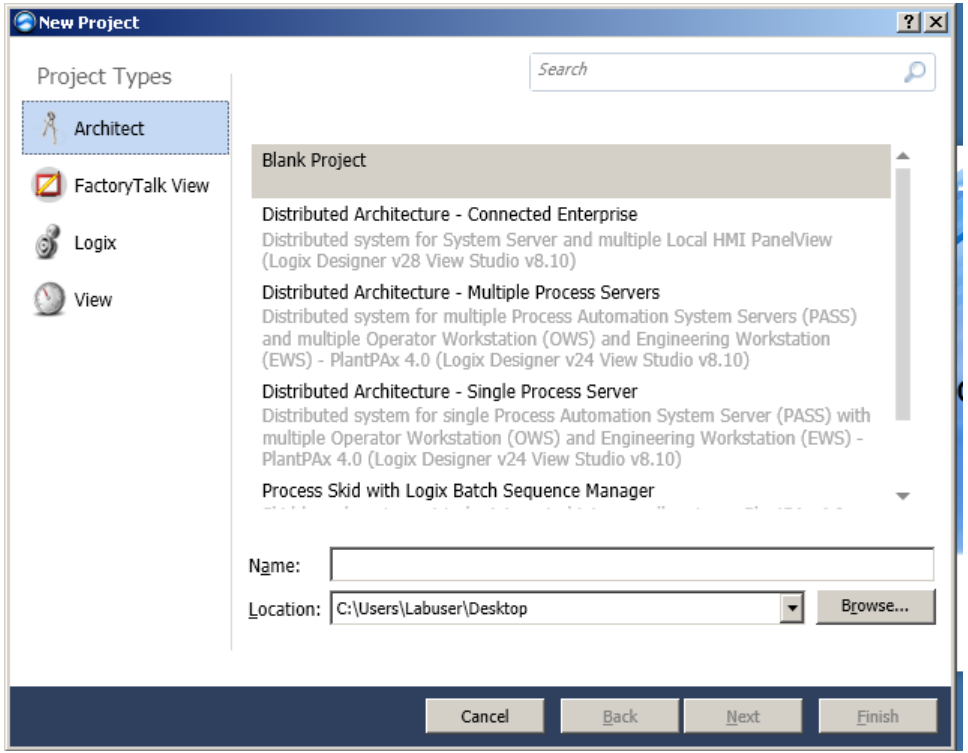
# Studio 5000 - Architect





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# What is Architect?

Rockwell Automation

## 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 |

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# What does it look like?

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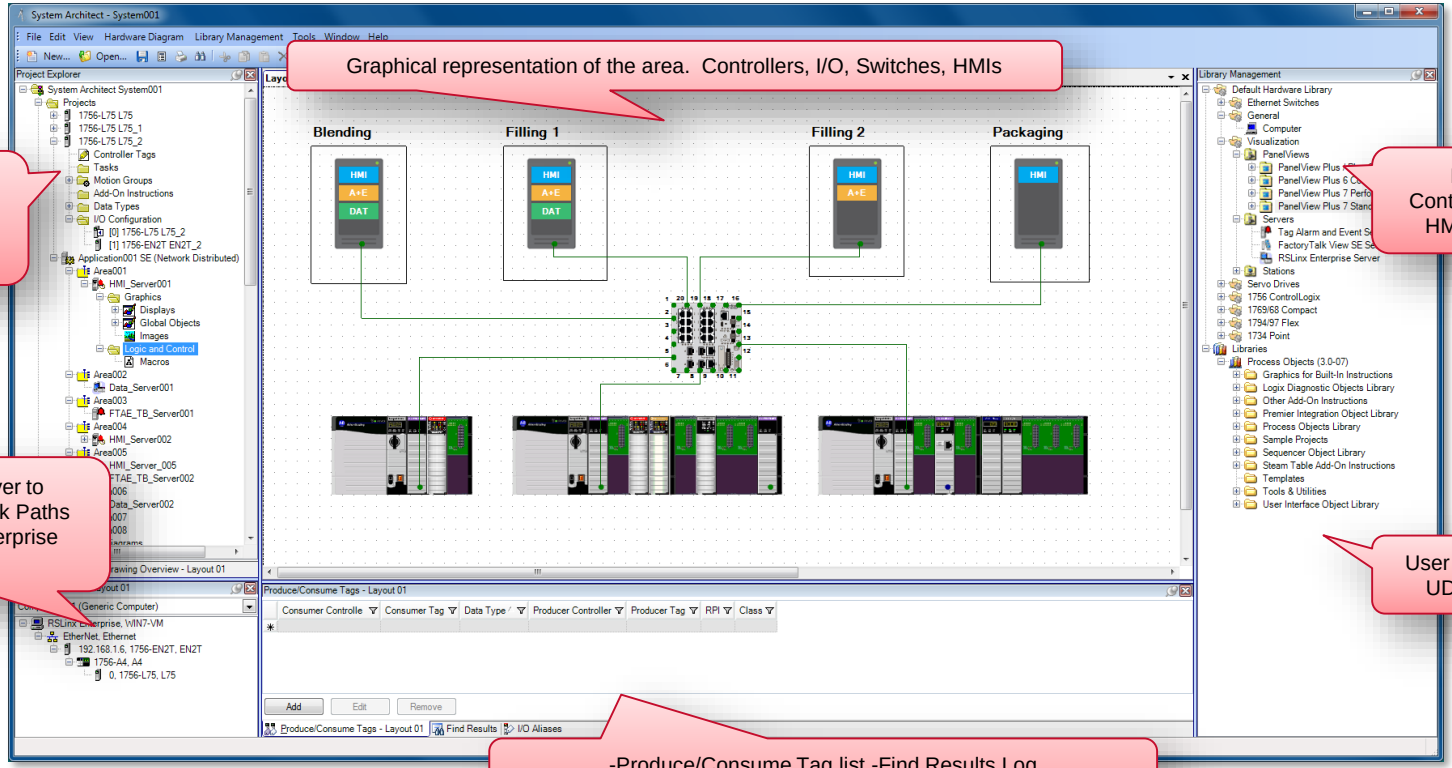


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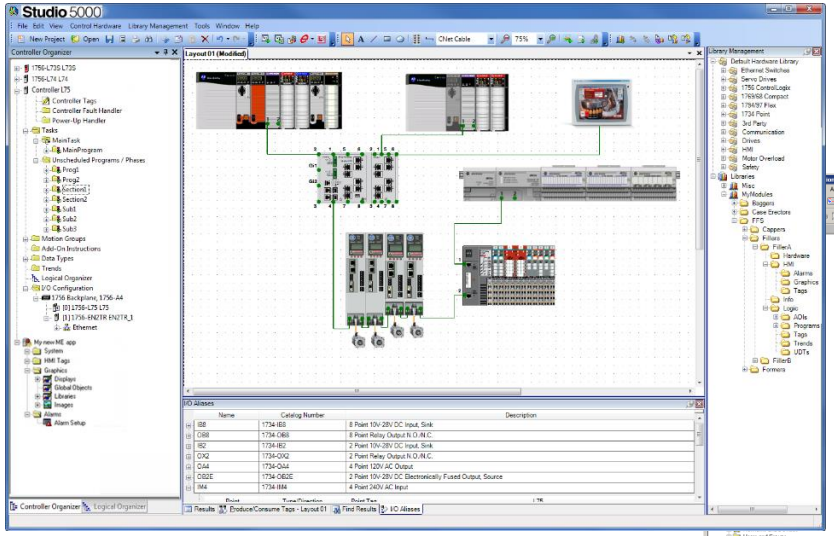
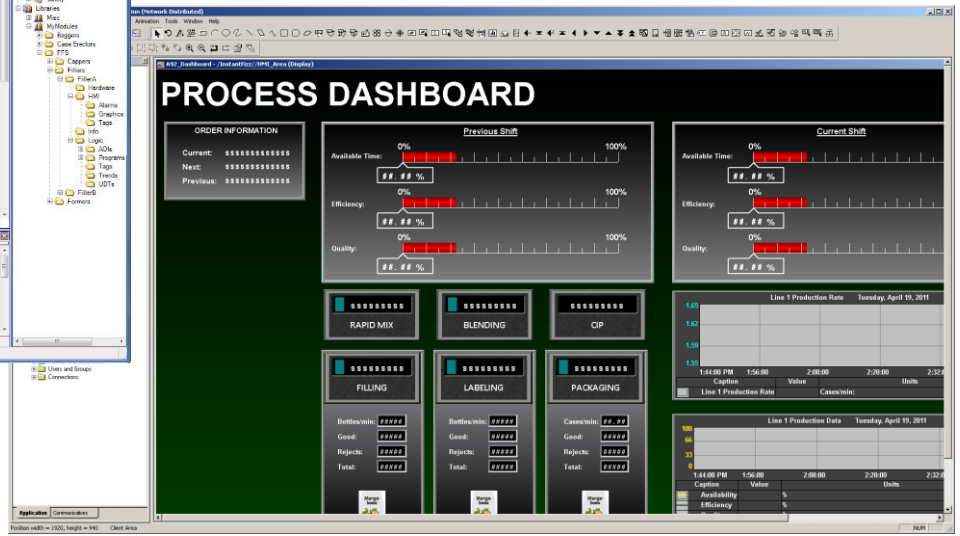
# Key Points…

## FactoryTalk View 8.1 integrated with Architect

Rockwell Automation




Studio 5000 Architect




FactoryTalk View Studio



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# Key Points…

## IAB export to RSLogix Architect

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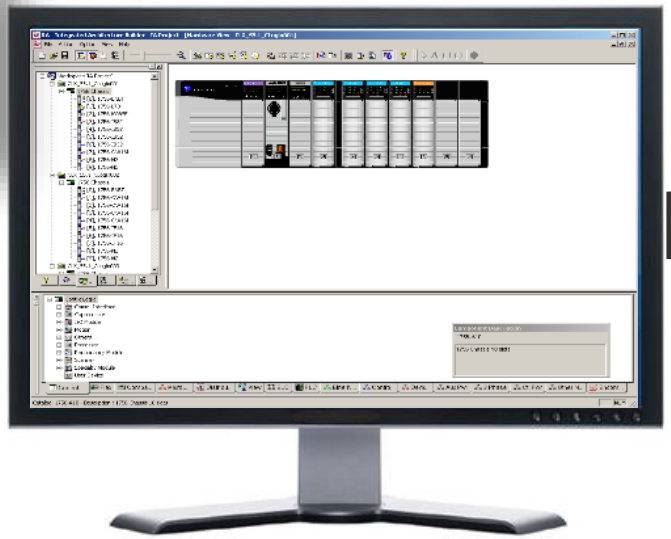

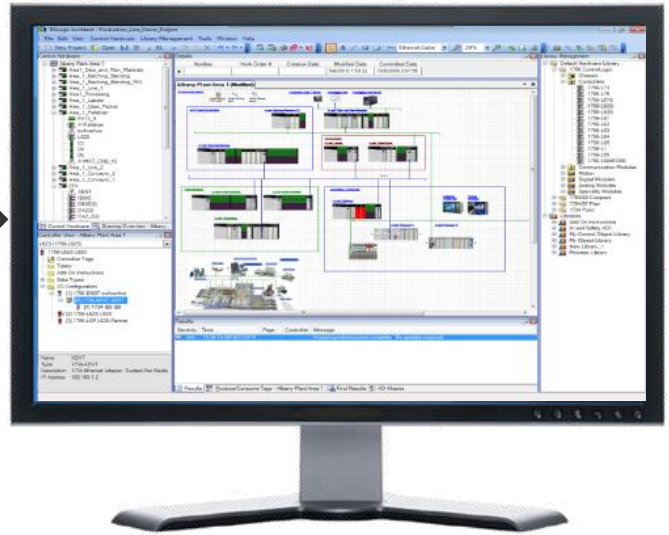

Allows for the export of control systems created in Integrated Architecture Builder to Architect and the automatic creation of the corresponding Logix Designer controller project files

Eliminates data entry redundancy

Reduces design time by matching the BOM with the actual project



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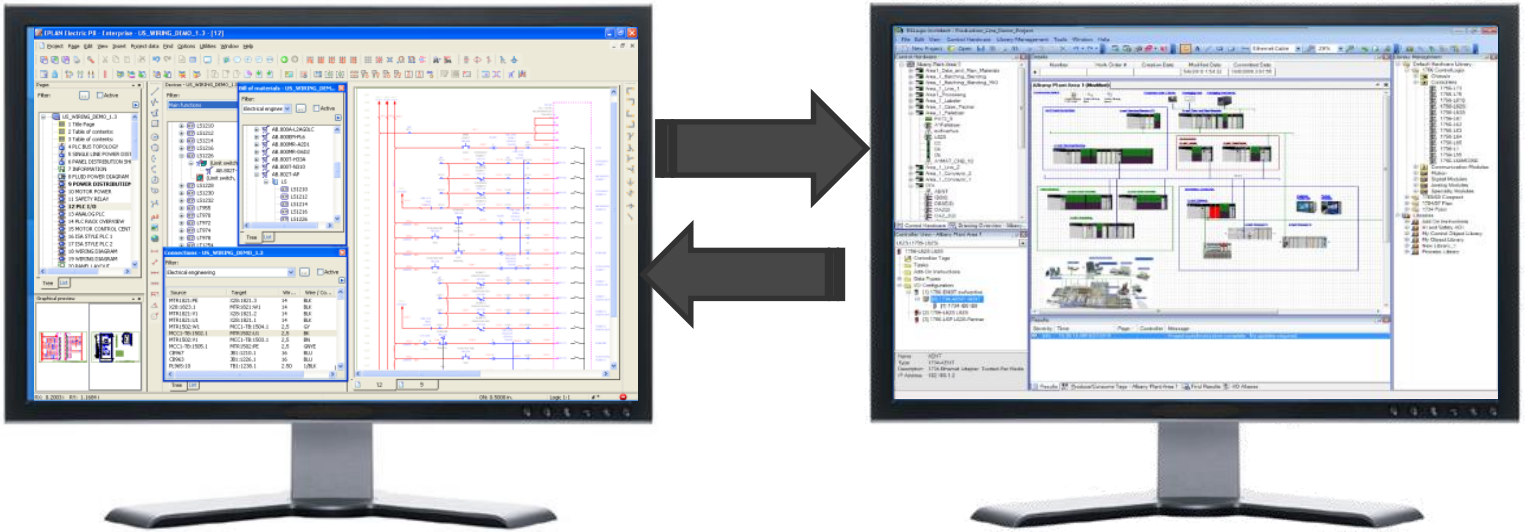
# Key Points

## EPLAN Bi-Directional synchronization



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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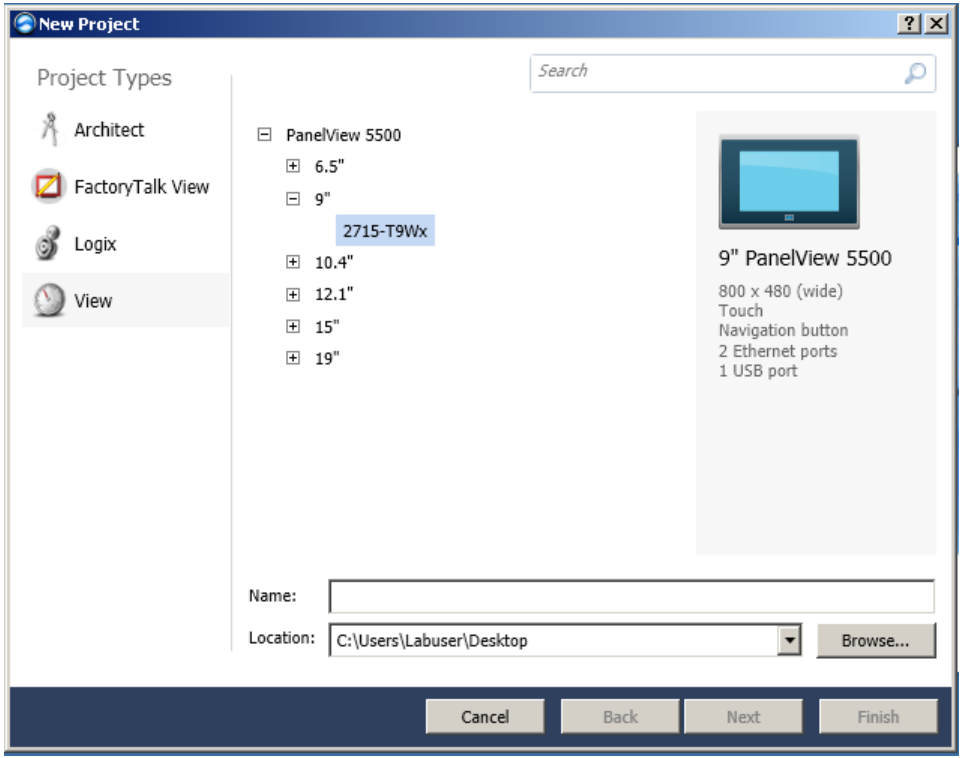
# Studio 5000 – View Designer





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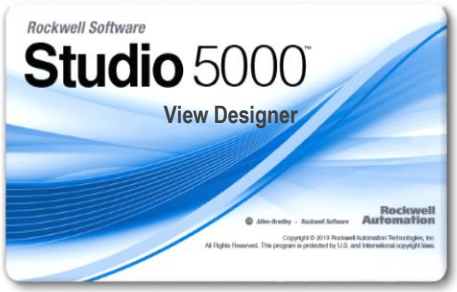
# What is View Designer?

Rockwell Automation

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 |





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# What does View Designer look like?

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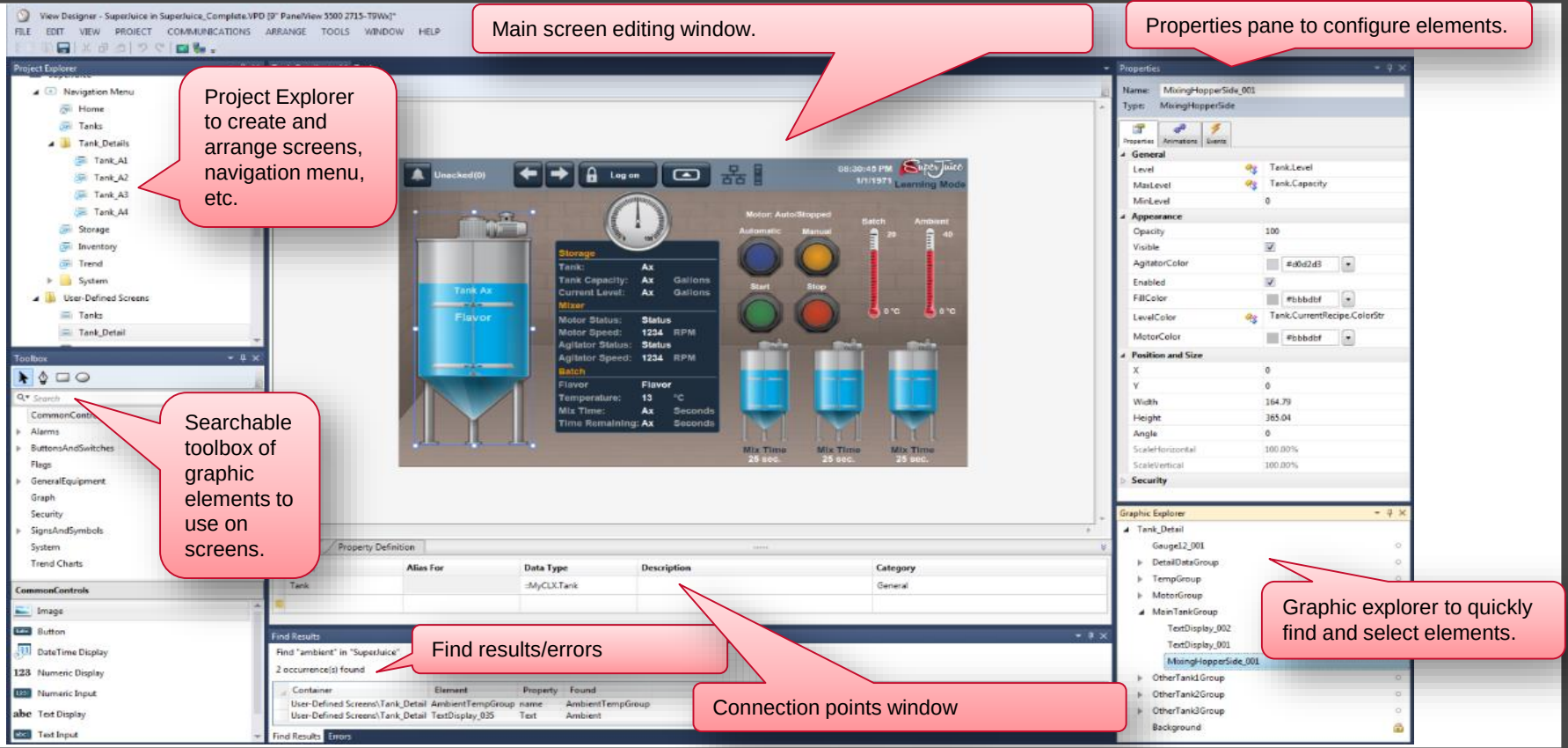




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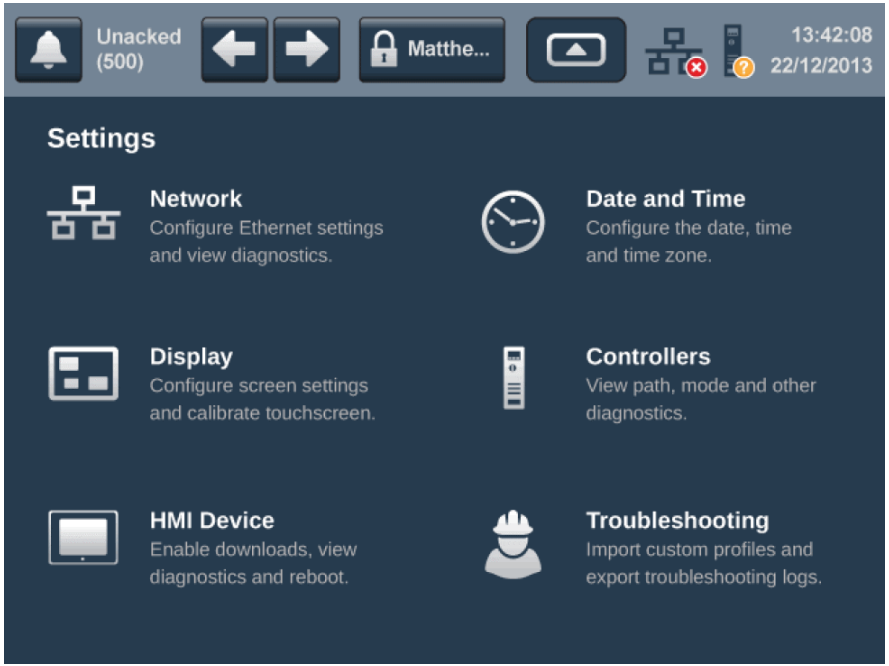
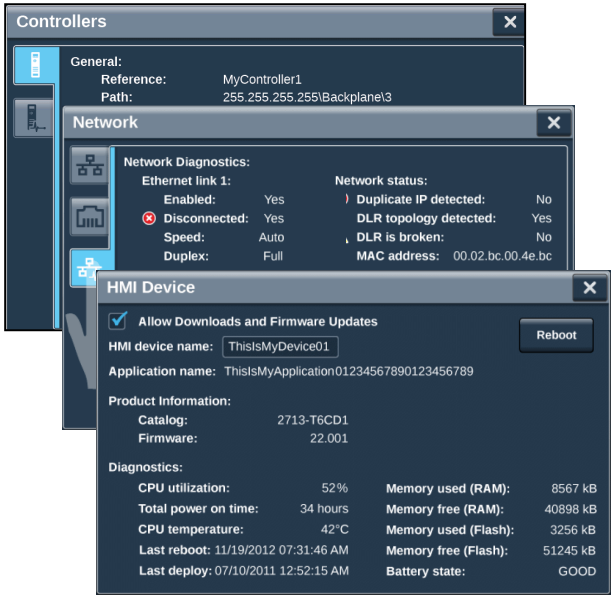
# Key points…

## Preconfigured system setting screens





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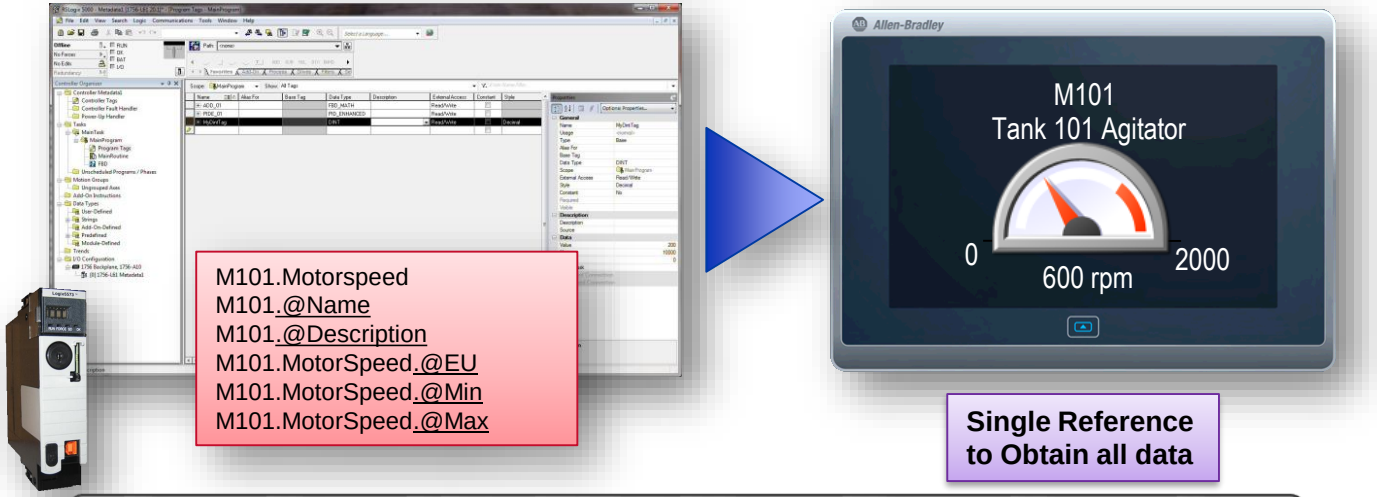
# Key points…

## Extended tag properties




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



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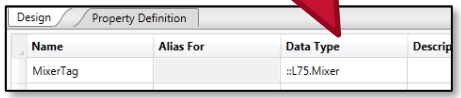
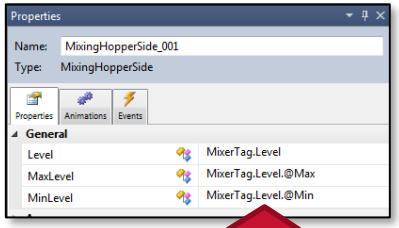
# Key points…

Rockwell Automation

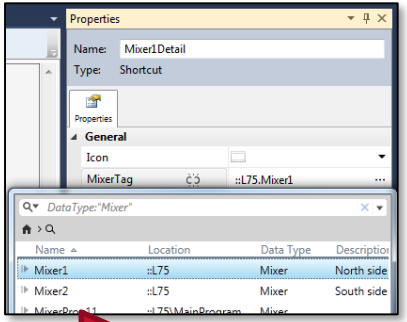
## Reusable screens leverages Logix data types (UDTs)

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




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




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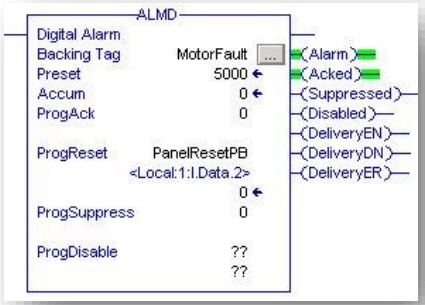
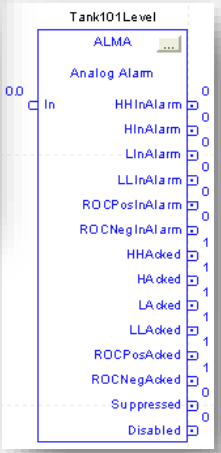
# Key points…

## Logix based alarms automatically viewed in panel



**Change based communications reduces loading on Logix and networks**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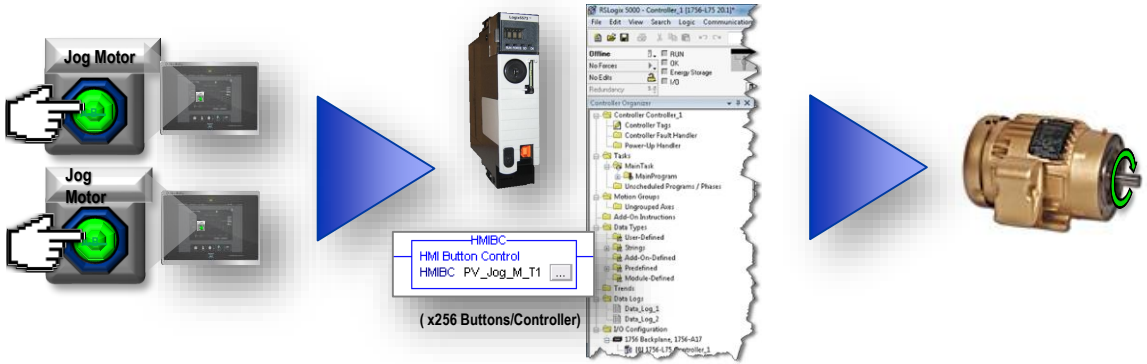
# Key points…

## High-speed HMI Button Control




- 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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Rockwell Software

# Studio 5000

## V27 – Application Code Manager

**PUBLIC**

Allen-Bradley · Rockwell Software

Rockwell Automation



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# What is Application Code Manager?

Rockwell Automation

One place to store, decorate and instantiate content…

| | |
|---|---|
| Create Content | • Create reusable content |
| **Reuse Content** | • Generate project content |

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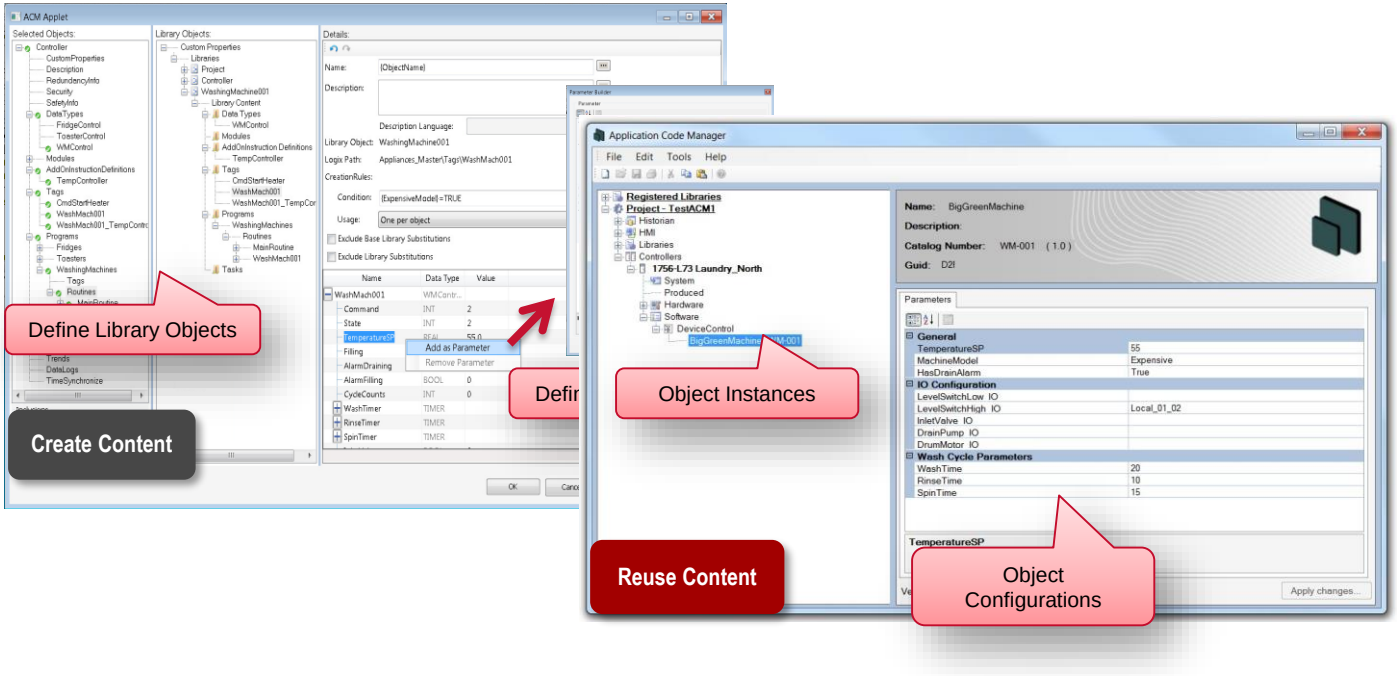
# What does it look like?





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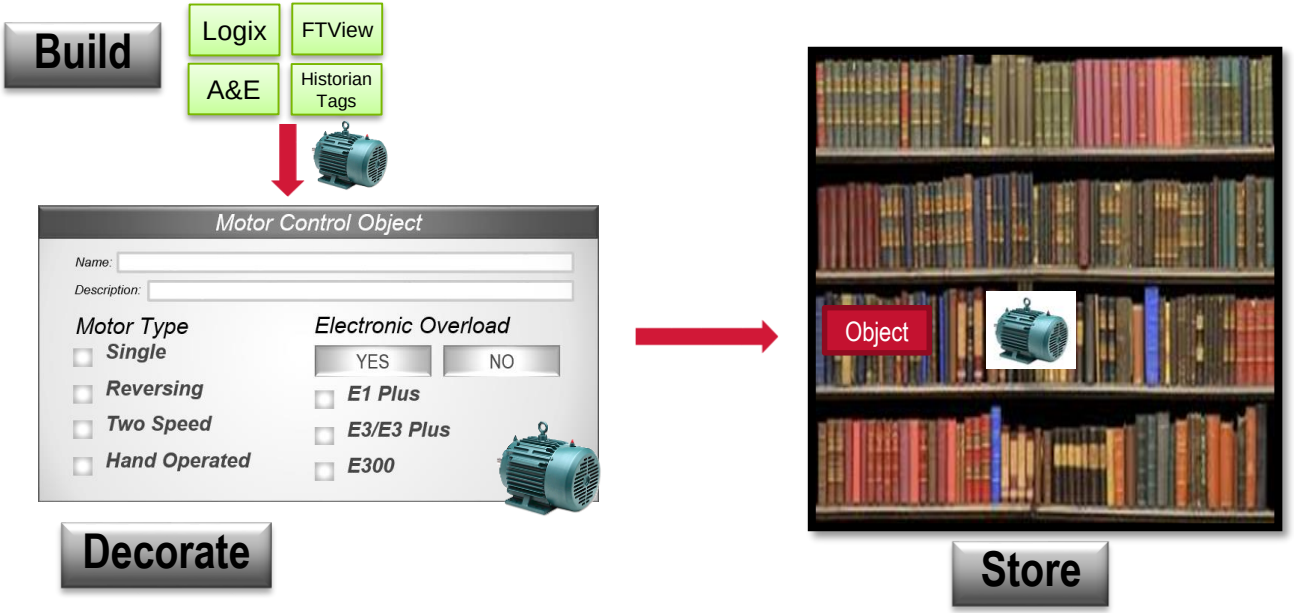
# Create with Application Code Manager

Rockwell Automation

Build, decorate & store content



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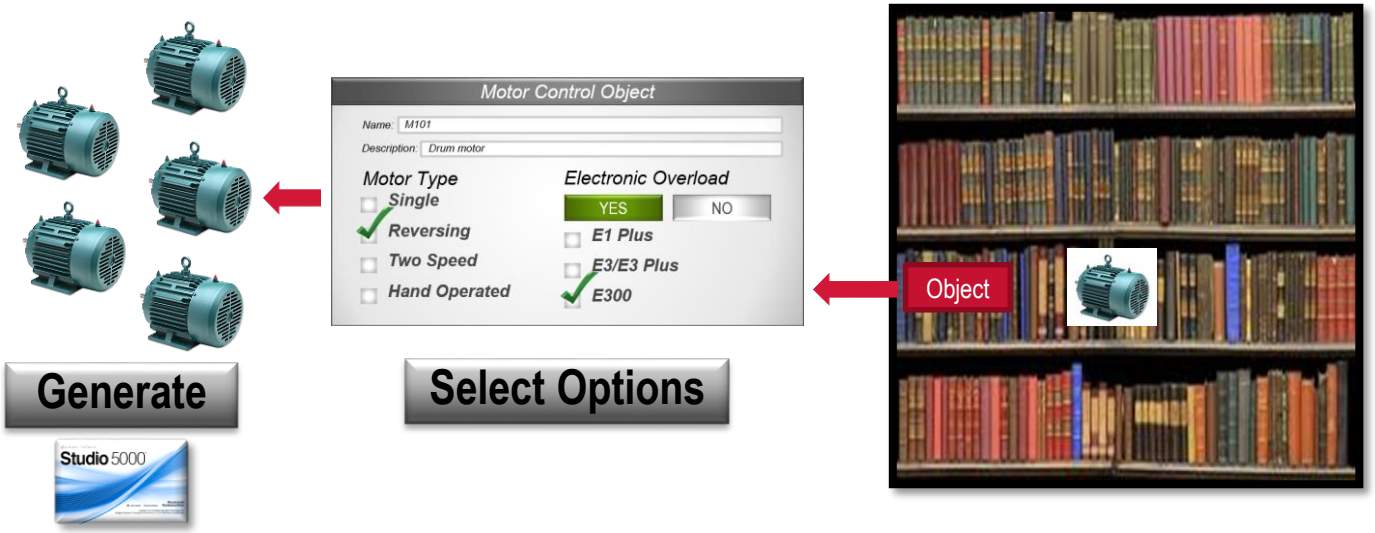
# Reuse with Application Code Manager

Rockwell Automation

Quick and easy bulk code generation



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# Studio 5000 Logix Designer

## V27 – Programming Enhancements

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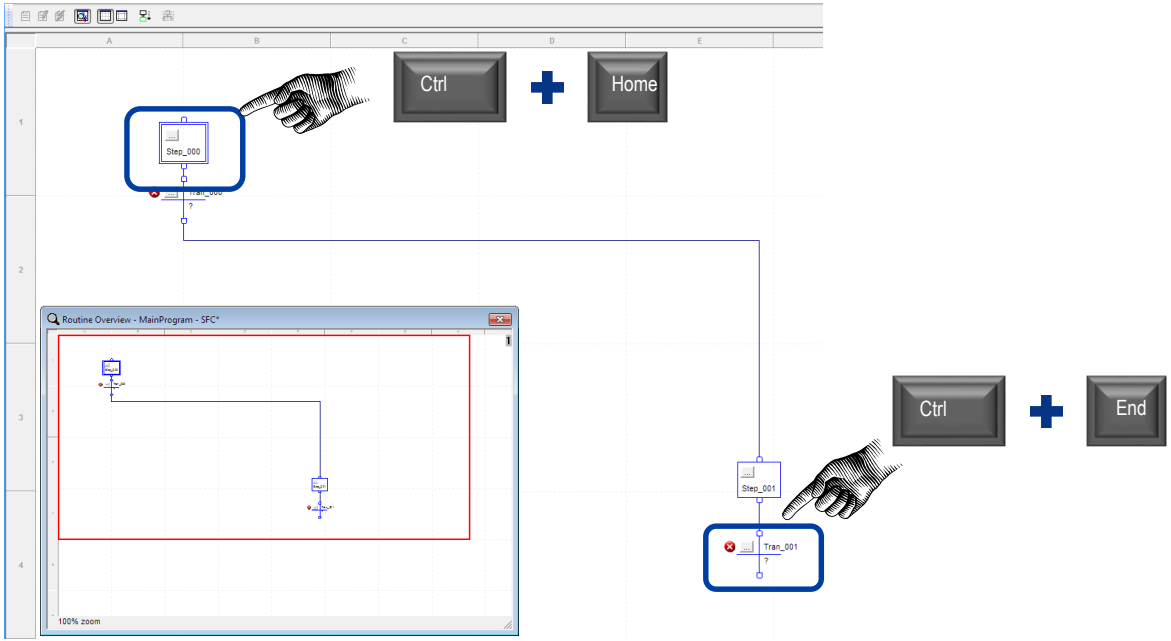
# Sequential Function Chart Editor

V27

## Keyboard Shortcuts for Quick Navigation



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# UDT Editor

## Copy and Paste from External Sources

V27

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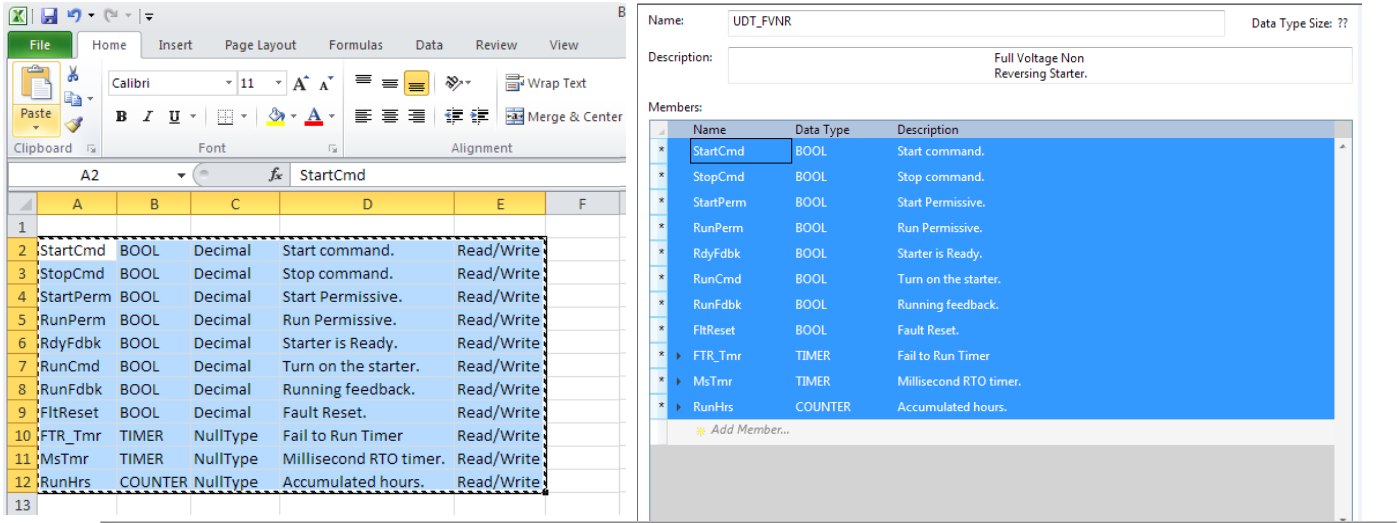


***Returned Ability to Copy and Paste from Excel into UDT Editor***



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# Ladder Editor

## CPT Instruction Dialog

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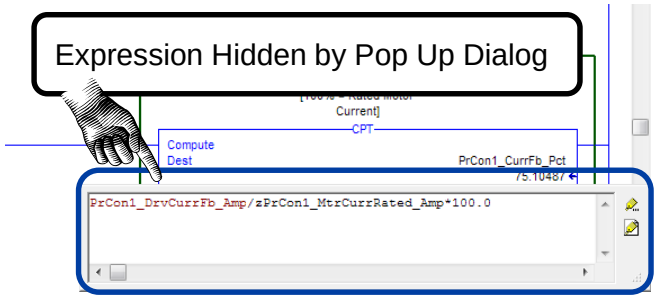
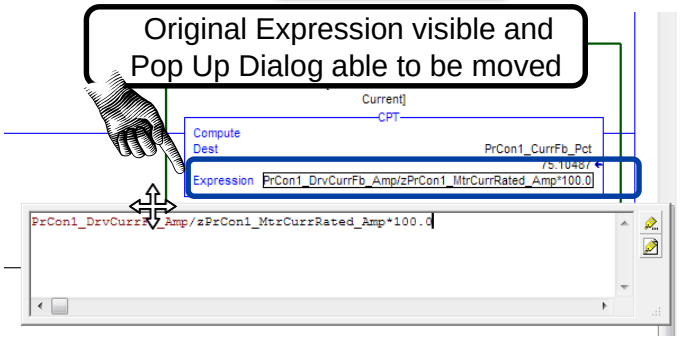
Previously




Updated




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



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# FBD Editor

## Re-order Sheets

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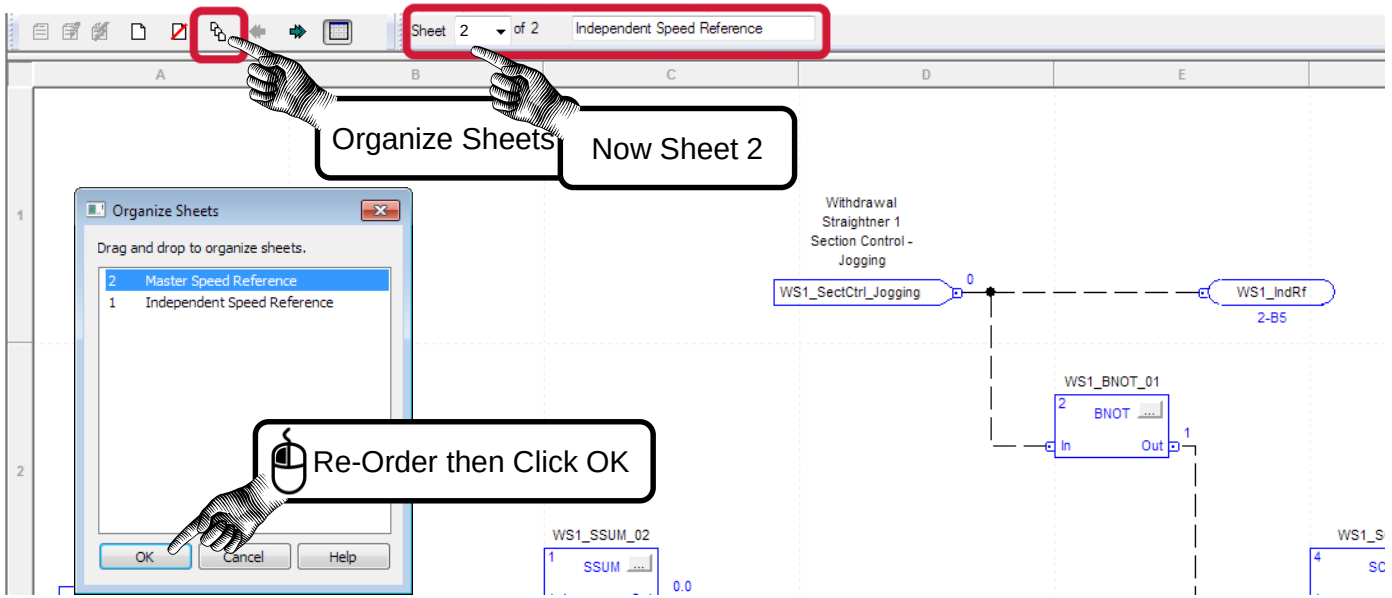




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# General Editor

## Identification of Called Routine By Active Power Rails

V27

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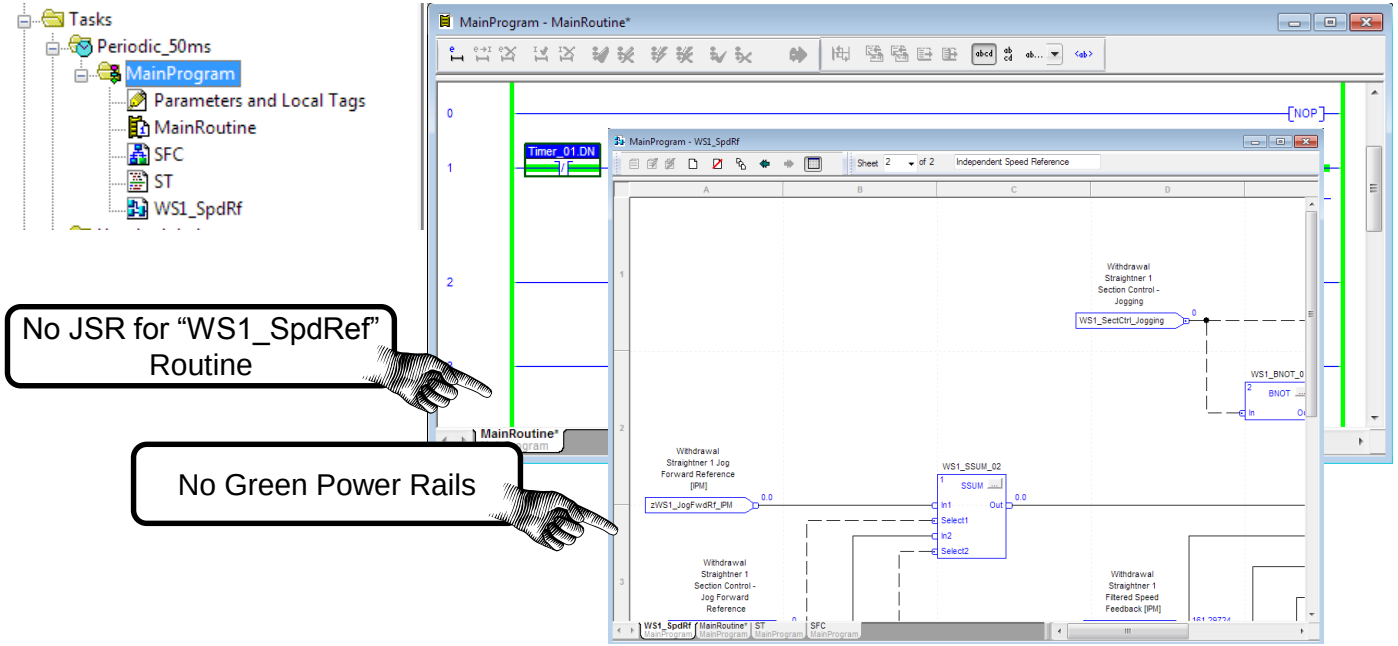




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# Studio 5000 Logix Designer

## V28 – Simplifying your Design Journey

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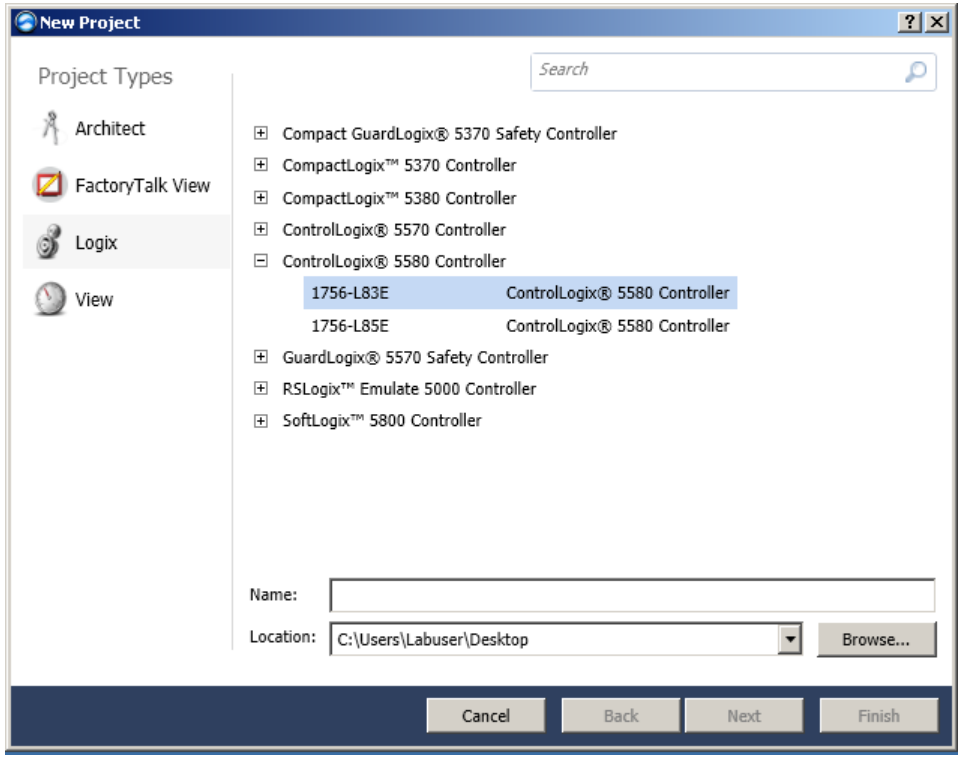
# Studio 5000 – Logix Designer





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# ControlLogix® 5580 Controller

- 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


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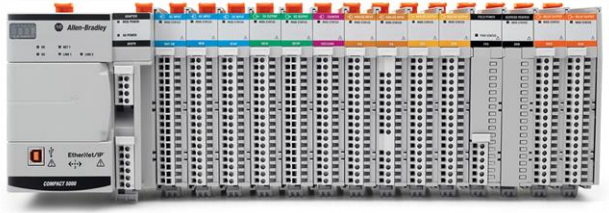
# 5069 Compact I/O

## 1 Adapter, 14 Modules

Rockwell Automation

| | | | |
|---|---|---|---|
| EtherNet/IP Adapter | AENTR | | |
| Input - 24Vdc | IB16 | IB16F | IB6F-3W |
| Output - 24Vdc | OB16 | OB16F | |
| Input – Analog/Temperature | IY4 | IF8 | |
| Output – Analog | OF4 | OF8 | |
| Output – Relay Isolated | OW4I | OX4I | |
| High Speed Counter | HSC2xOB4 | | |
| Field Power Distribution | FPD | | |
| Address Reserve | ARM | | |





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# Channel Level Data Structure

- Digital

| R1_AENTR:3:I.Pt00 | {...} | {...} | | CHANNEL_DI:I:0 |
|---|---|---|---|---|
| R1_AENTR:3:I.Pt00.Data | 0 | | Decimal | BOOL |
| R1_AENTR:3:I.Pt00.Fault | 0 | | Decimal | BOOL |
| R1_AENTR:3:I.Pt00.Uncertain | 0 | | Decimal | BOOL |

- Analog

| R1_AENTR:6:I.Ch00 | {...} | {...} | | CHANNEL_AI_DIAG:I:0 |
|---|---|---|---|---|
| R1_AENTR:6:I.Ch00.Fault | 0 | | Decimal | BOOL |
| R1_AENTR:6:I.Ch00.Uncertain | 0 | | Decimal | BOOL |
| R1_AENTR:6:I.Ch00.OpenWire | 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.NotANumber | 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.CalFault | 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


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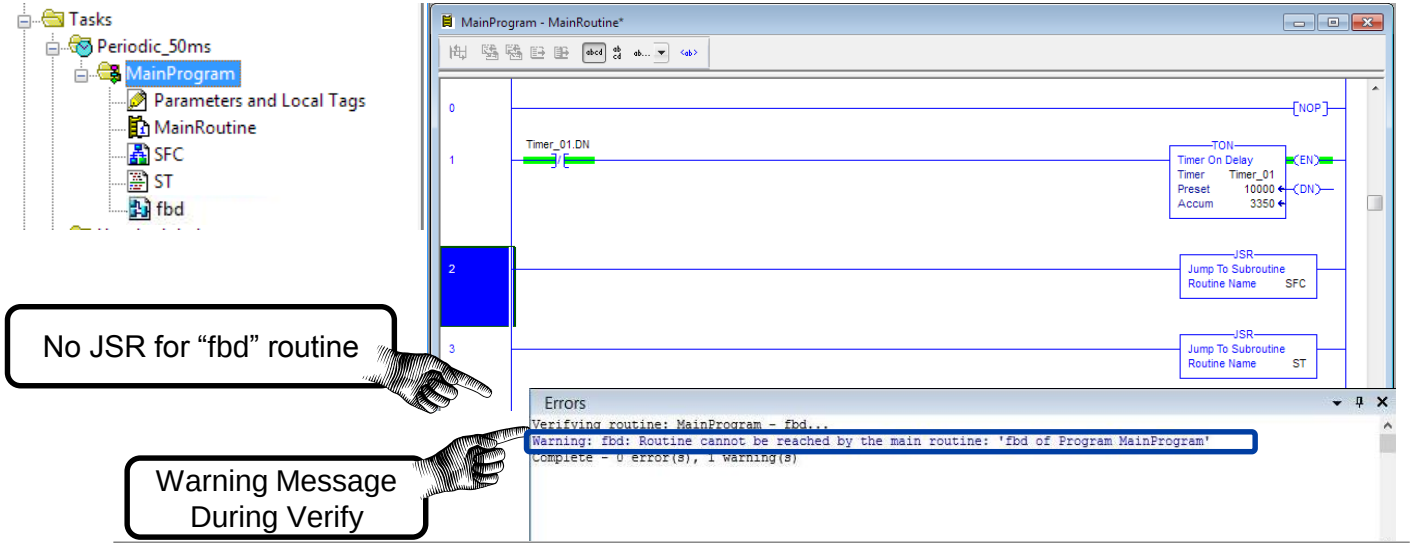
# General Editor

V28

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




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



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# Logical Organizer

## Locating Routines/Programs Easier Between Organizers

V28

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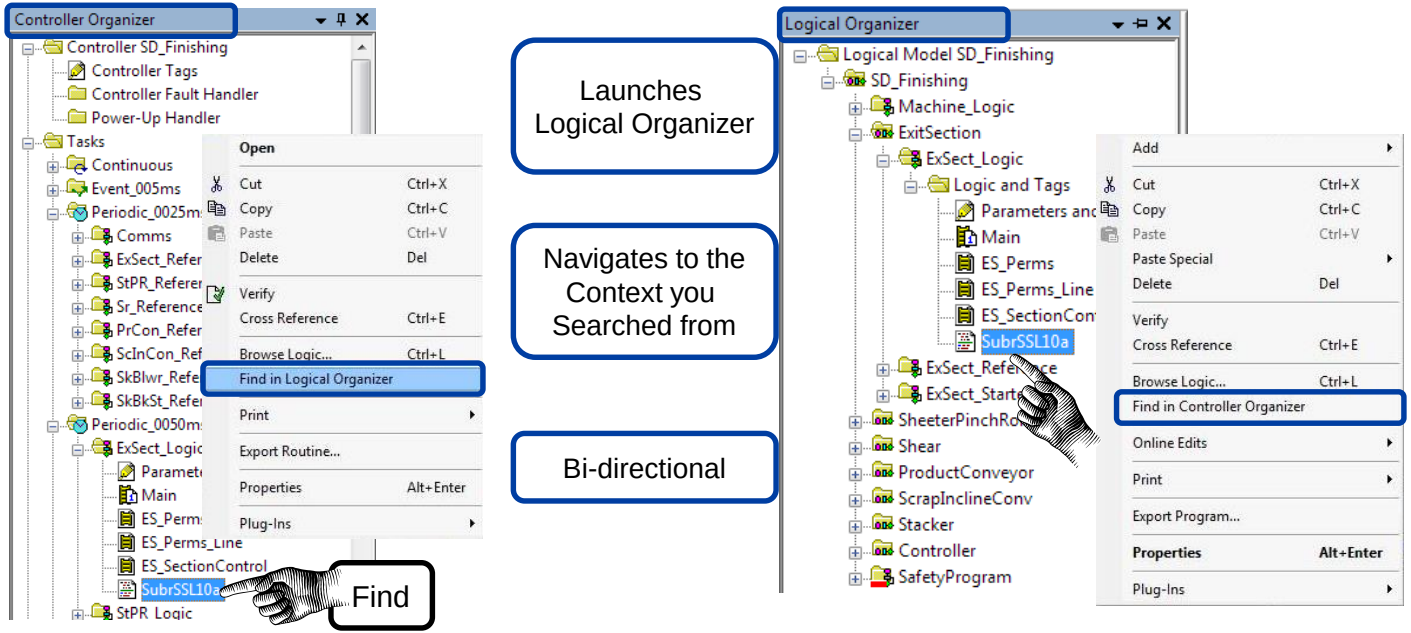




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# Structured Text Editor

## Customized Comment Header

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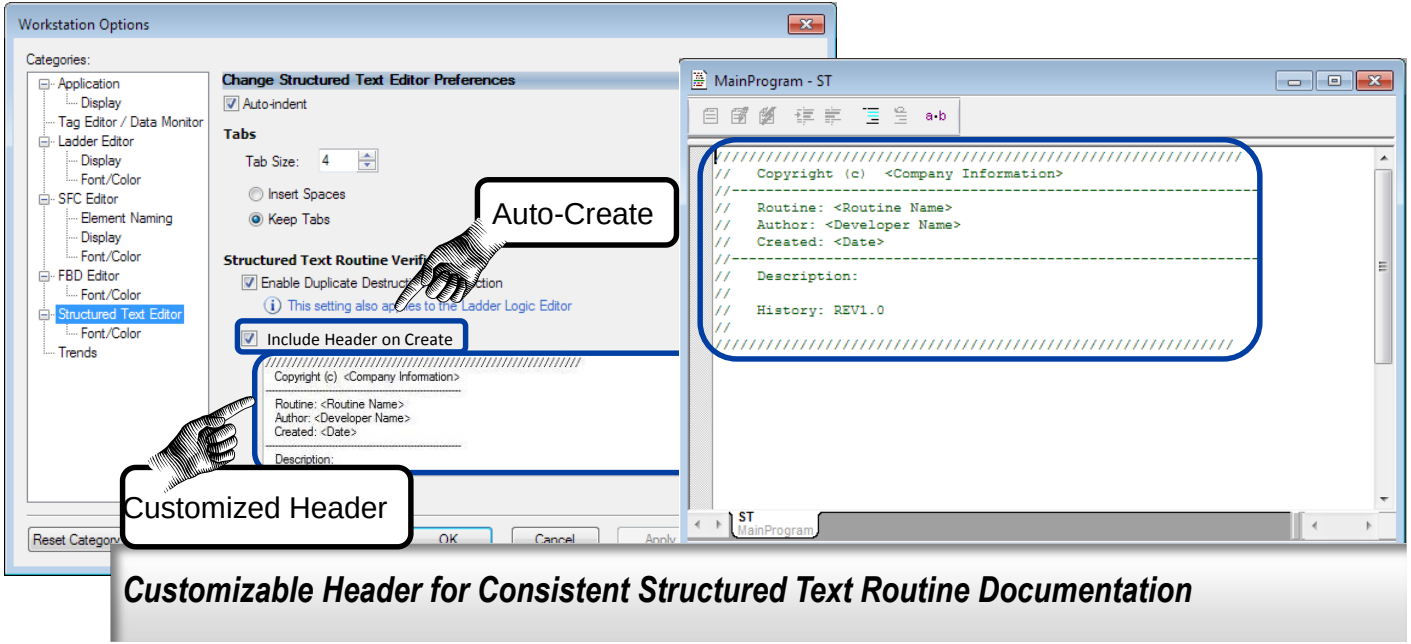


***Customizable Header for Consistent Structured Text Routine Documentation***



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# FactoryTalk Temporary Users

V28

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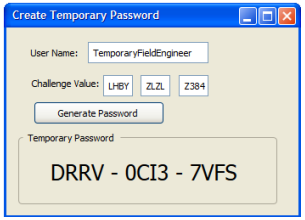
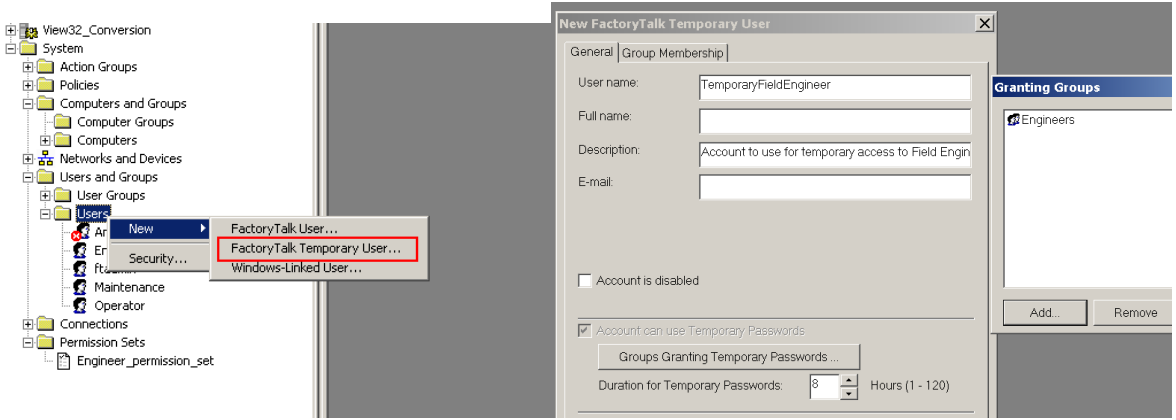
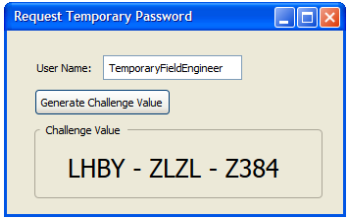
- Use FactoryTalk Temporary Users to temporarily give someone access to privileges of a different user group





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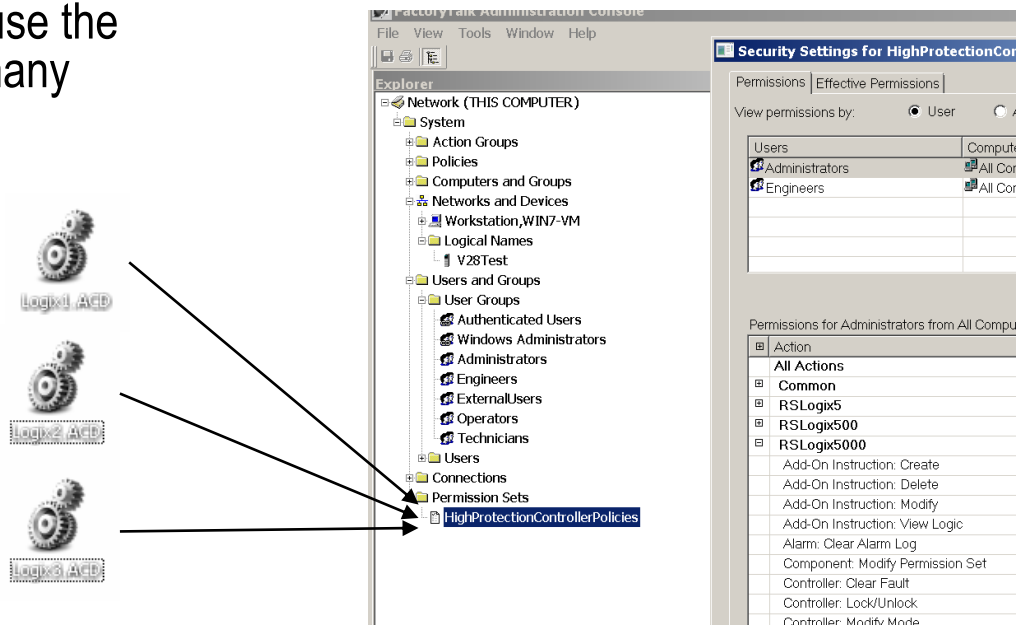
# Permission Sets for Securing Projects

Rockwell Automation

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



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# Permission Sets for Securing Routines, AOIs and Tags

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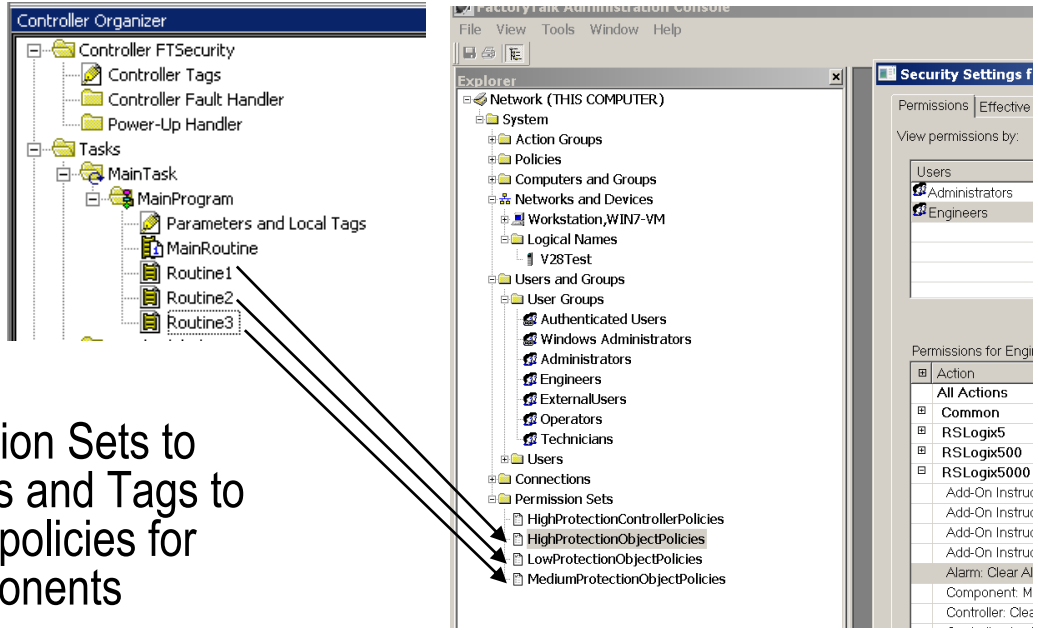


- Apply Permission Sets to Routines, AOIs and Tags to have different policies for different components


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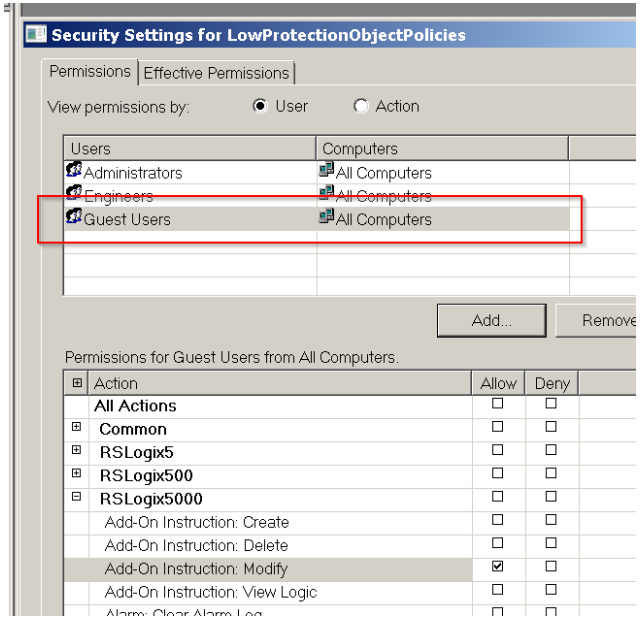
# Guest User Access



Rockwell Automation

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



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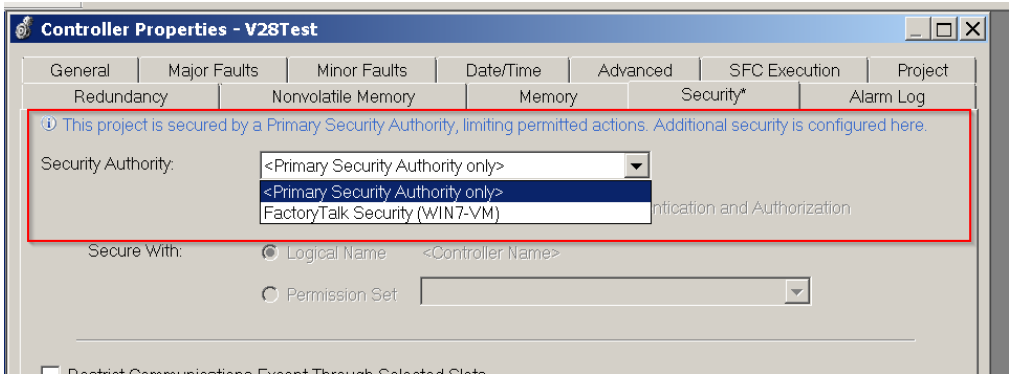
# Secondary Security Authority

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





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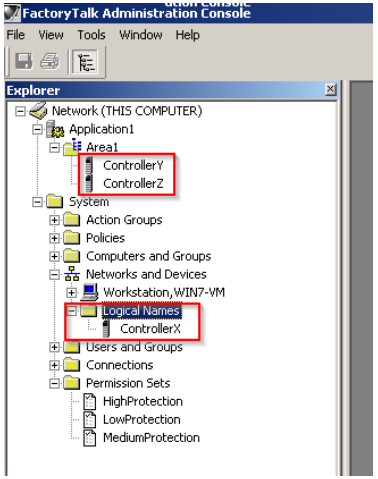
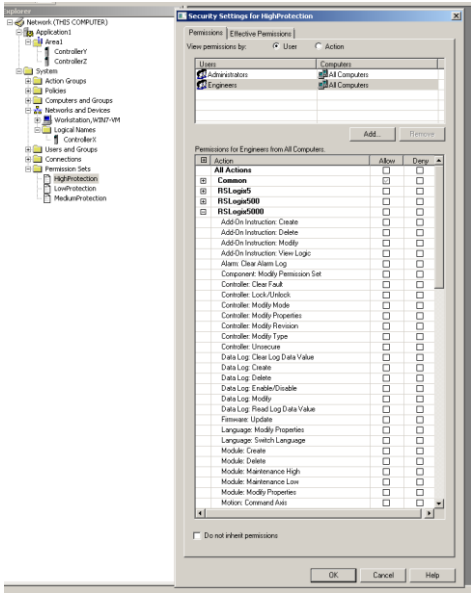
# UX Improvements in the FactoryTalk Administration Console

Rockwell Automation

- 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**


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# 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


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# 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 |



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# ControlLogix 5580 System Scaling

## Simplified method for counting controller resources

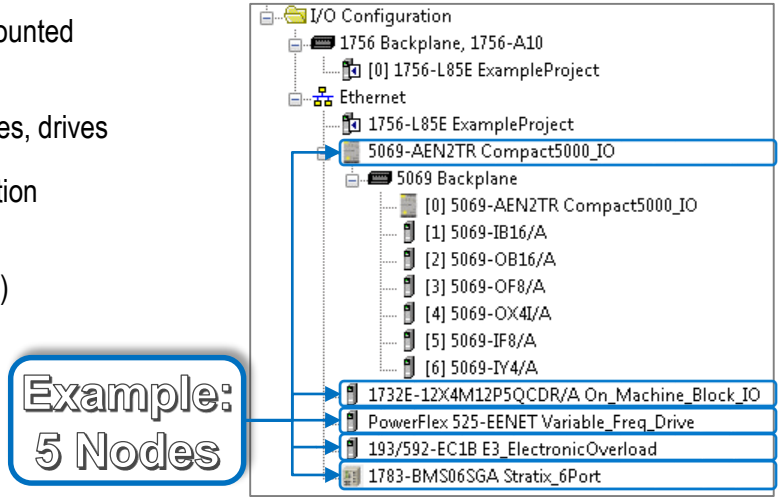
Rockwell Automation

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





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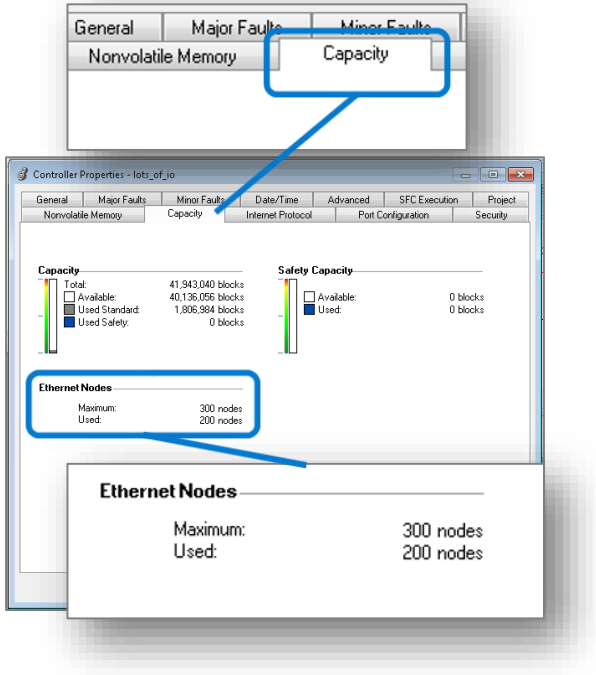
# Controller Node Support

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





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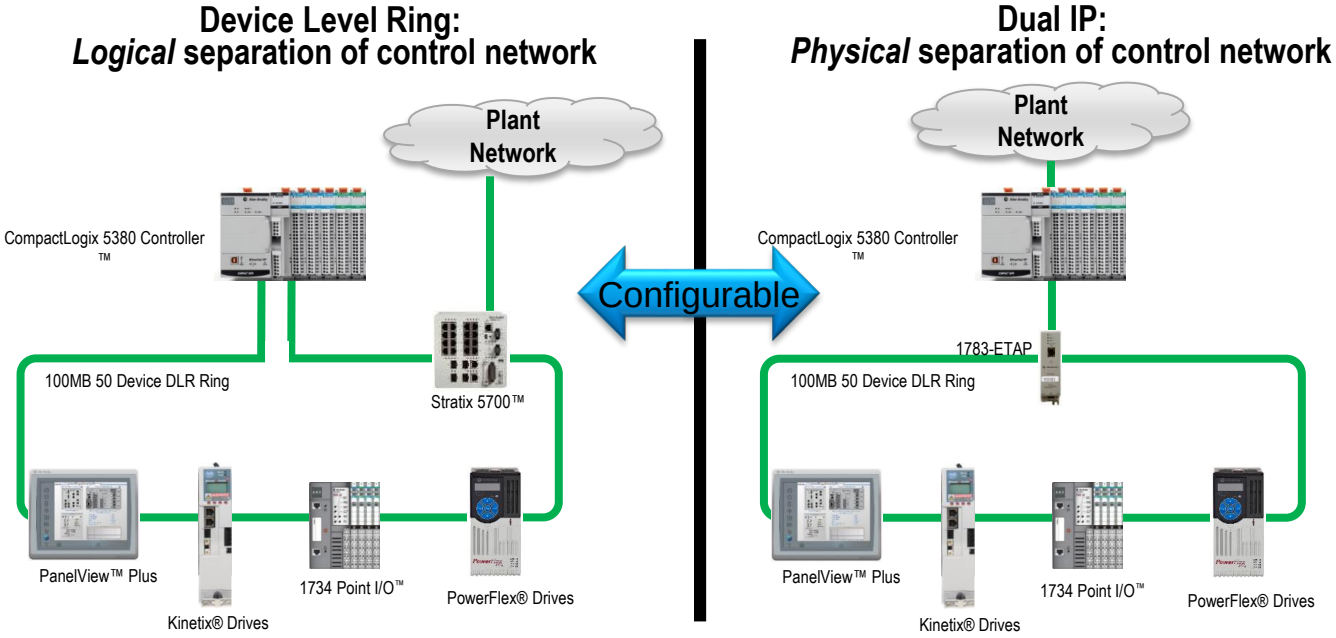
# CompactLogix 5380 Machine Architecture

Rockwell Automation

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



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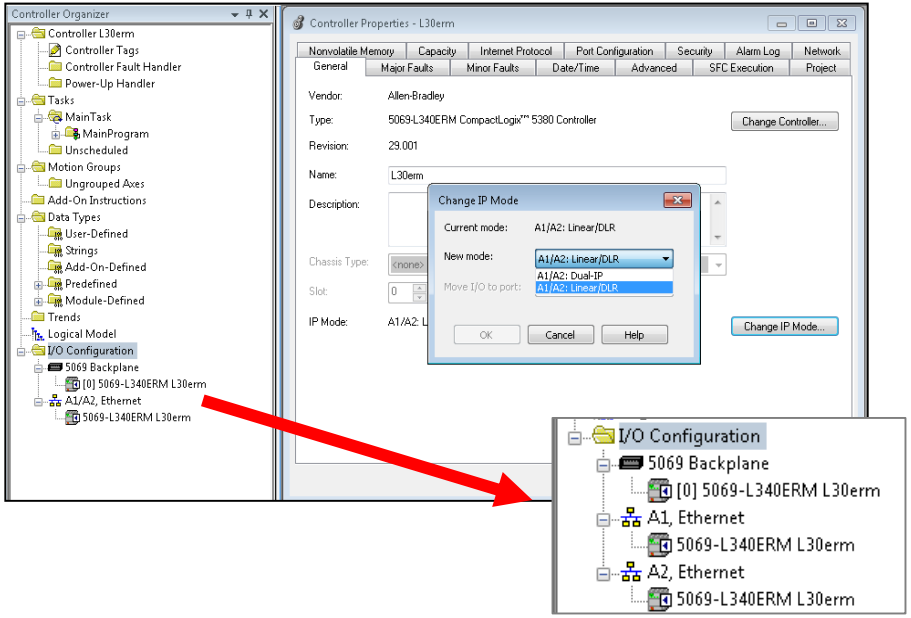
# CompactLogix 5380 (DLR and Dual IP)

## 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





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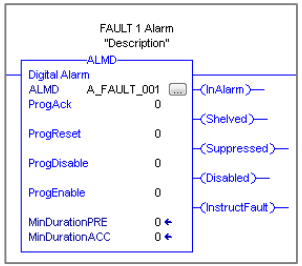
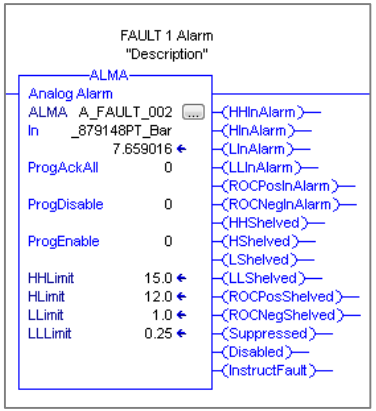
# Logix 5580 & 5380 - Instruction based alarms

Rockwell Automation

## 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



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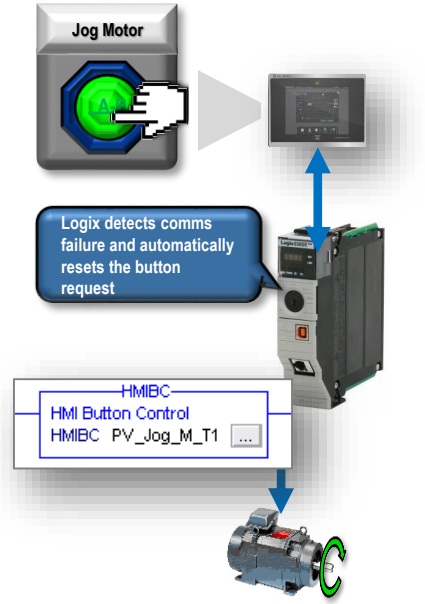
# Logix 5580 & 5380 - PanelView 5000 support

## 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





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# Logix 5580 & 5380 - String Assignment Support

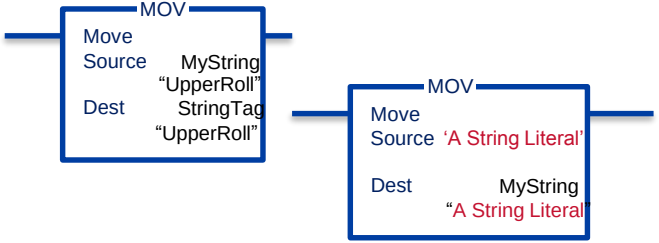
Rockwell Automation

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';
```





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# Logix 5580 & 5380 – Controller MSG to SELF

## User configurable functionality for an additional layer of security

Rockwell Automation

- 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

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# 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


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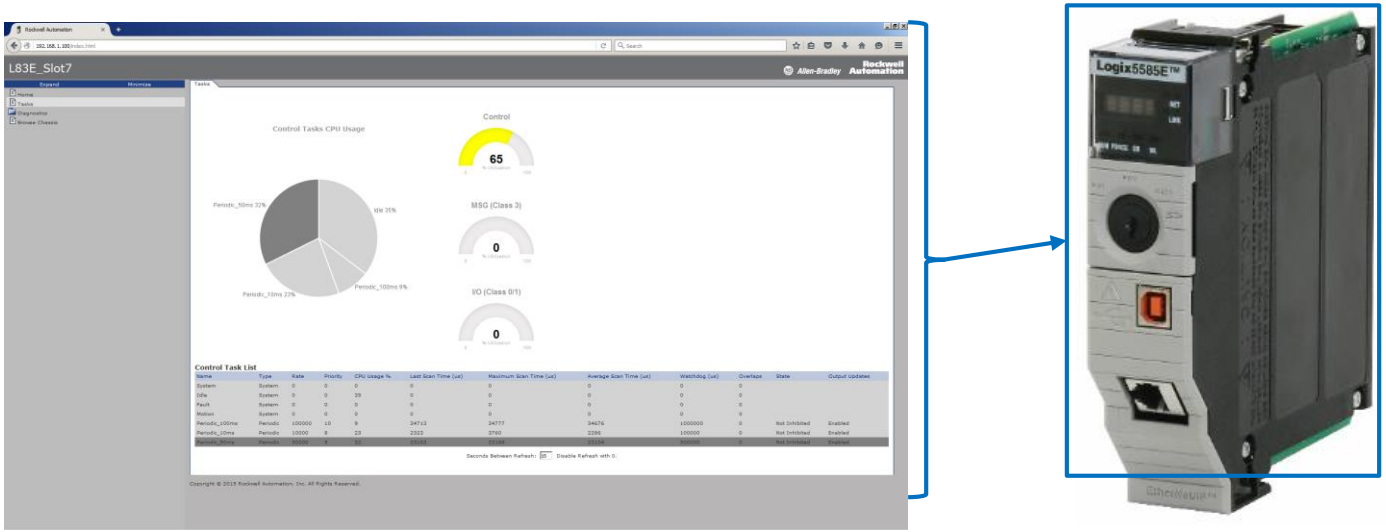
# Logix 5580 & 5380 Embedded Web Page

## User configurable Disable/Enable for an additional layer of security

- Configurable Disable/Enable of Controller Embedded Web Page




Knowledge Base article KB869649, KB869651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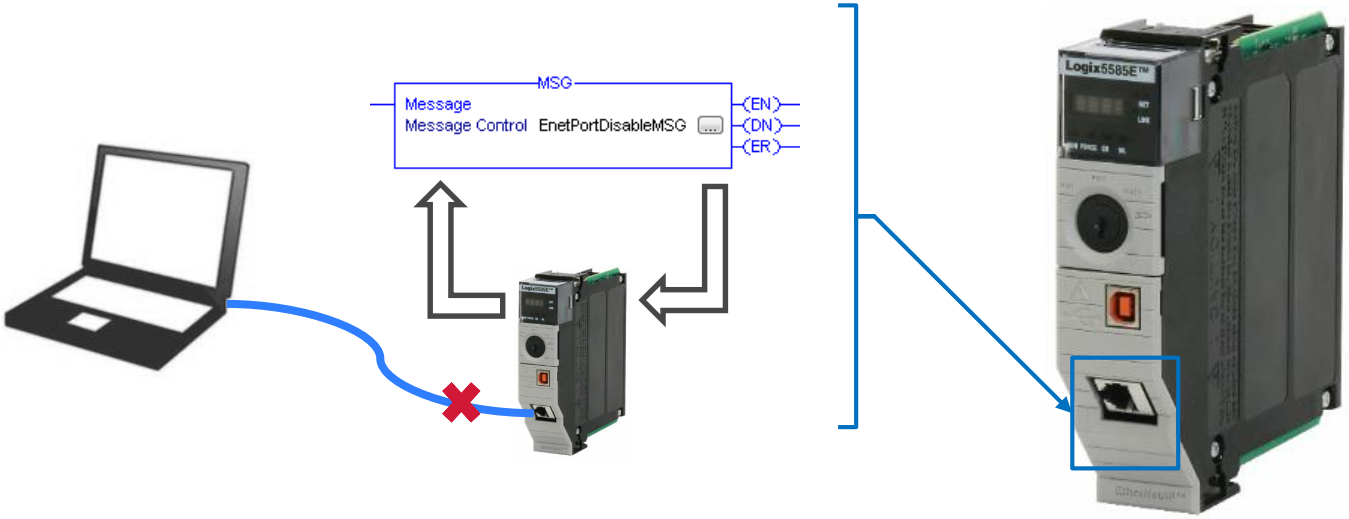
# Logix 5580 & 5380 Embedded Ethernet Port

## User configurable Enable/Disable for an additional layer of security

- Configurable Disable/Enable of Controller Ethernet Port




Knowledgebase article KB869650, KB869652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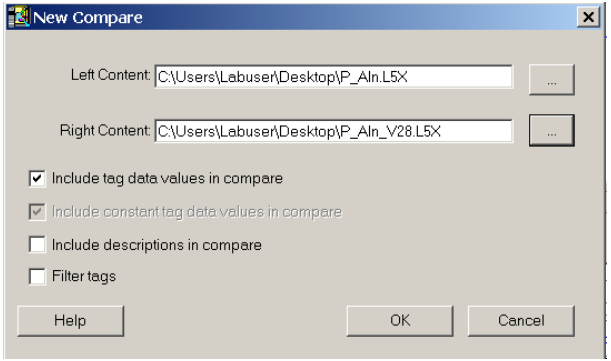
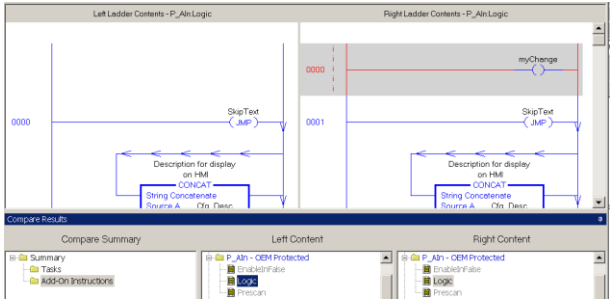
# Compare & Merge Enhancements

## 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





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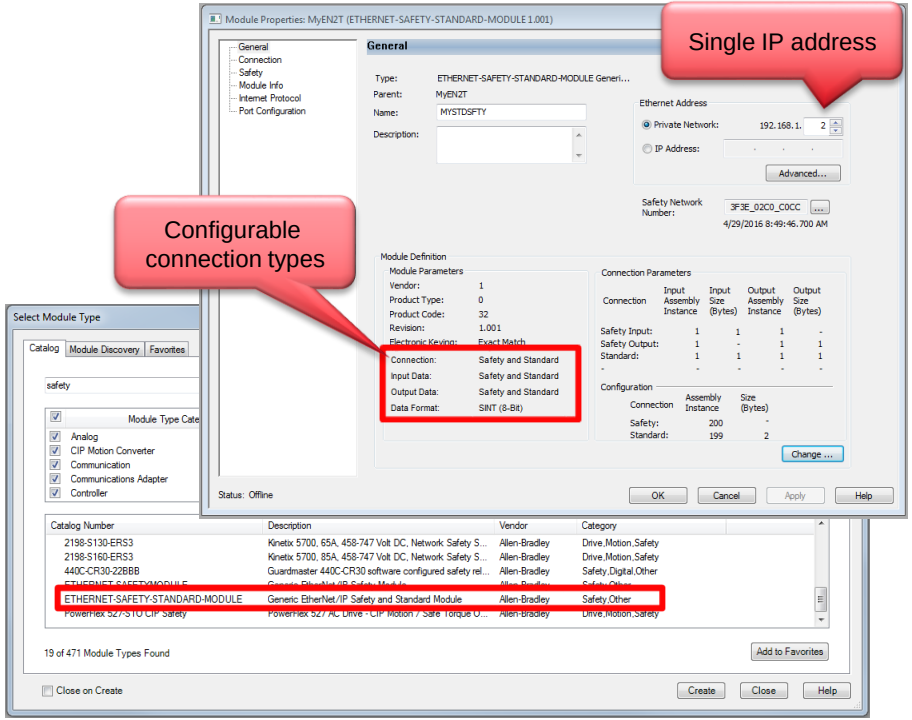
# Device Profile Enhancements

## 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





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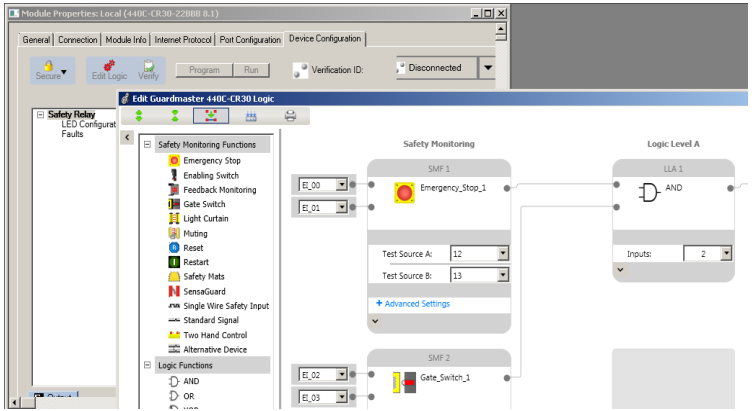
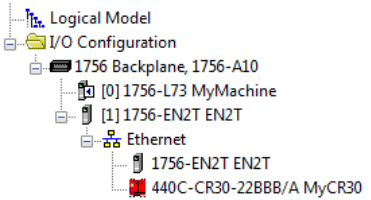
# Relay

## 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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LISTEN. THINK. SOLVE.®

Rockwell Software

# Studio 5000 Logix Designer

## V30 – Simplifying your Design Journey

**PUBLIC**

Allen-Bradley • Rockwell Software

Rockwell Automation



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# Studio 5000 Logix Designer

Rockwell Automation

- 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


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# 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



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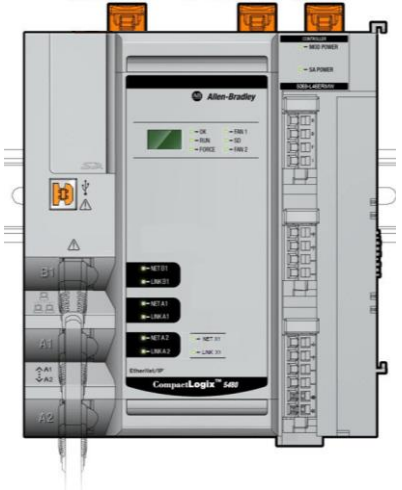
# CompactLogix 5480 Overview

## 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 3rd party applications
  - Can run an existing Logix Designer project on the CompactLogix 5480




**Scalable, High Performance Architecture**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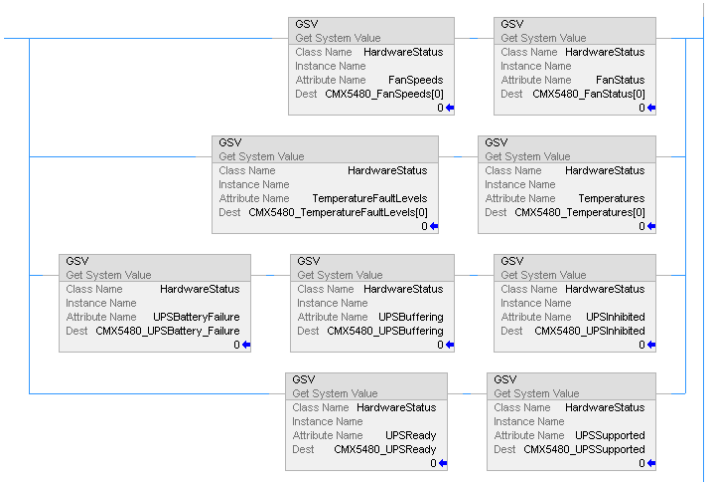
# CompactLogix 5480

## Access to the Hardware Status Object

- 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





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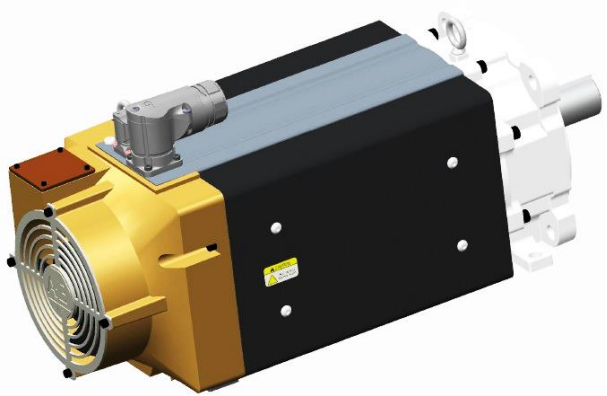
# Kinetix VPC Motor Support

## 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**

PUBLIC

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# PowerFlex 750 CIP Safety (STO)

Protect people, property and ecosystems from often preventable accidents

Rockwell Automation

- 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

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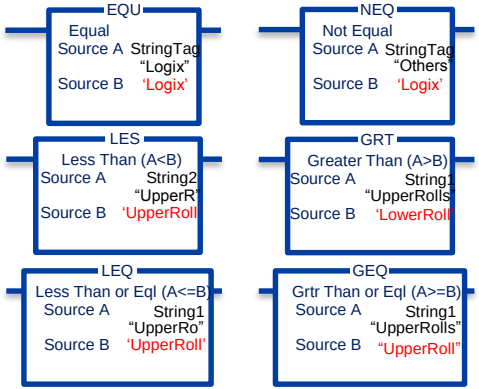
# String to Literal Binary Compare

## Increased programming productivity through better string management

Rockwell Automation

- 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 |
|---|---|---|
| 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 |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# License Based Content Protection

## Protect your Intellectual Property and prevent copying of control code

Rockwell Automation

- 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*


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# Source Protection – Protect sensitive code

Rockwell Automation

## 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

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# Execution Protection

Prevent the duplication of code in an unauthorized machine

Rockwell 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

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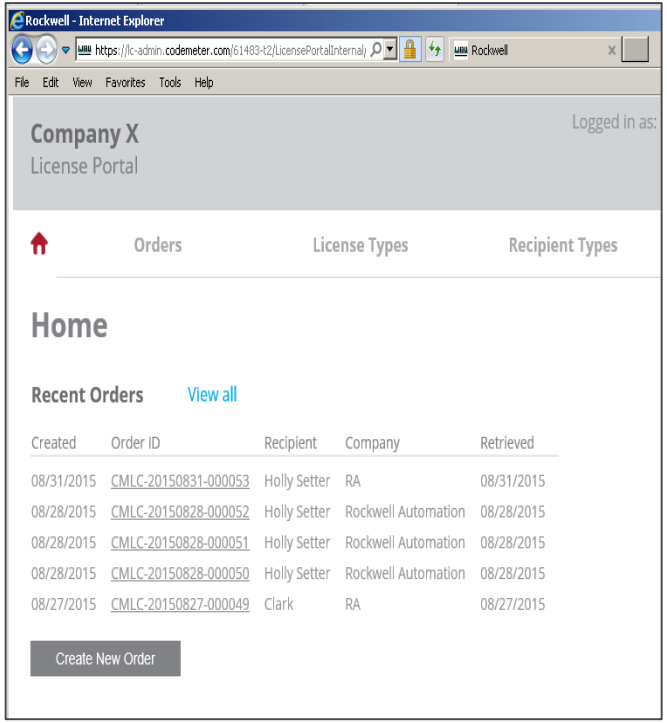
# Rockwell Automation License Portal

## Manage access to secured content

- 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





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# License Based Content Protection

## Commercial Bundle

Rockwell 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 |


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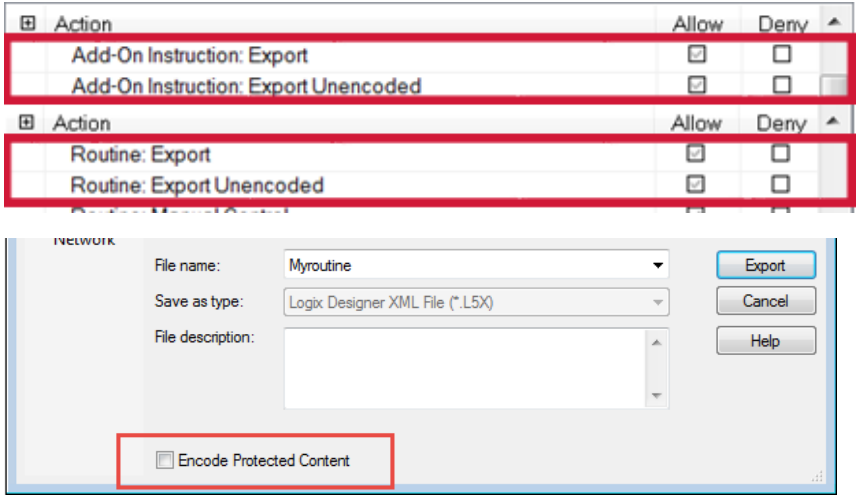
# New FactoryTalk Security Permissions

## Help ensure that only authorized users can exchange secured content

Rockwell 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





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# Detailed Controller Log Files

Know exactly what changes happened in order to reduce downtime

Rockwell Automation

- 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-DEMO15\L | 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 |


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# Log Authenticity

Ensure no tampering of log file data has occurred.

Rockwell Automation

- 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

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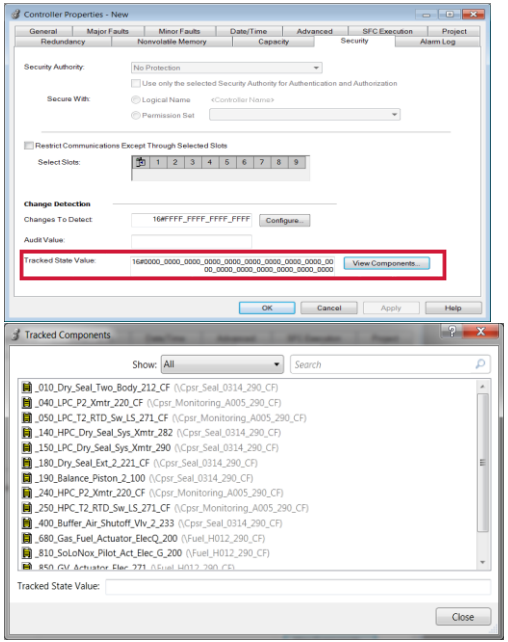
# Component Change Detection

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

Rockwell 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



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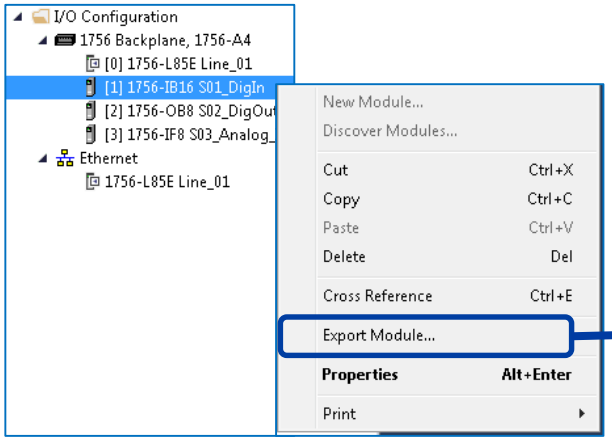
# I/O Tree Import Export

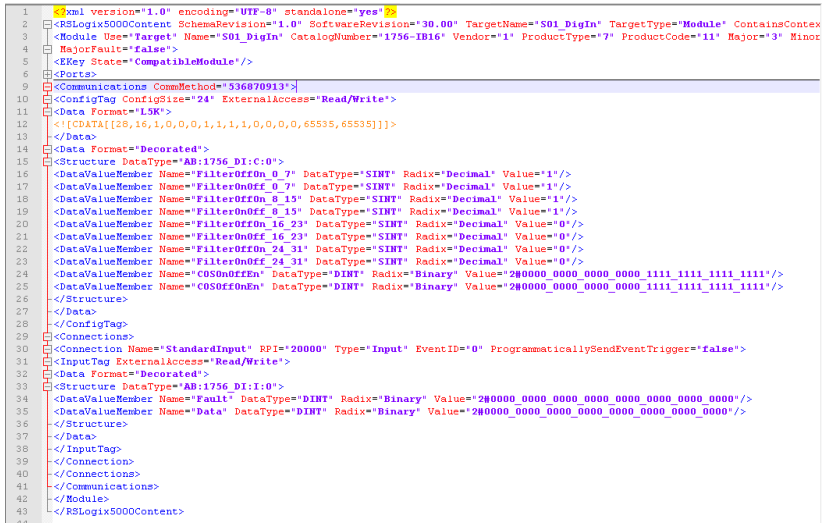
## *Single* Module Import Export Capability

Rockwell Automation

- I/O Tree Import / Export Module




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





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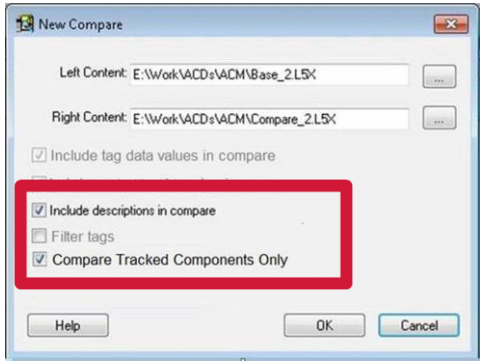
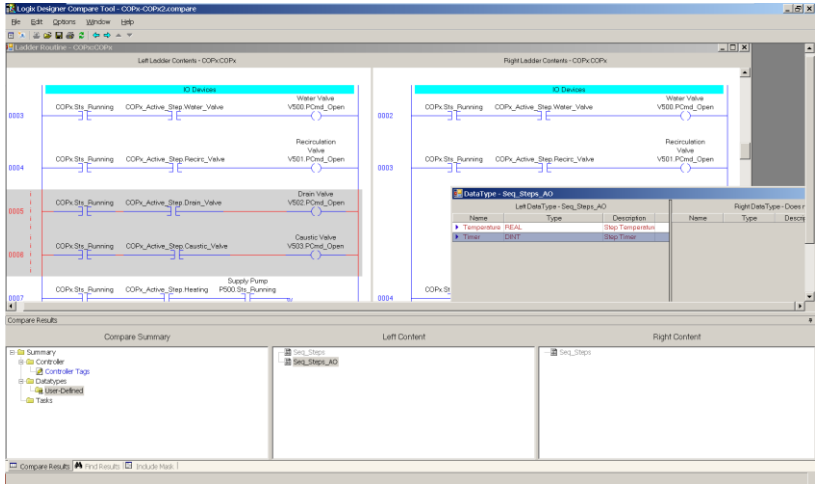
# Compare and Merge 6.2

Rockwell Automation

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

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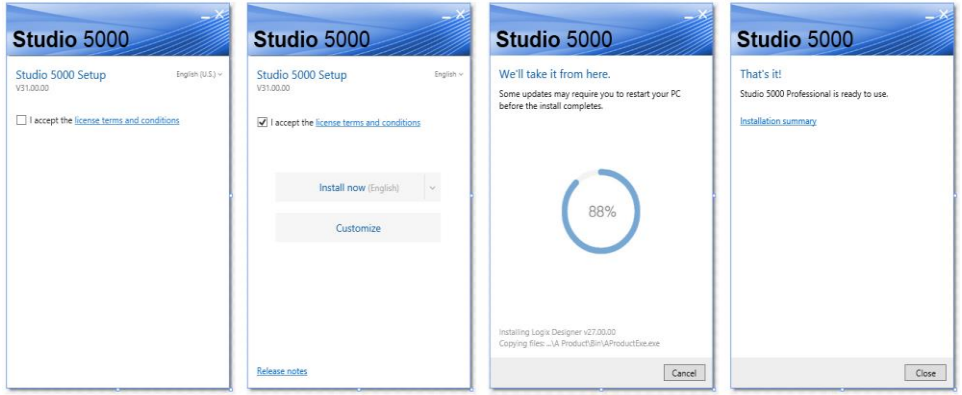
# Simplified Installation

## Common Installer provides for a simplified installation

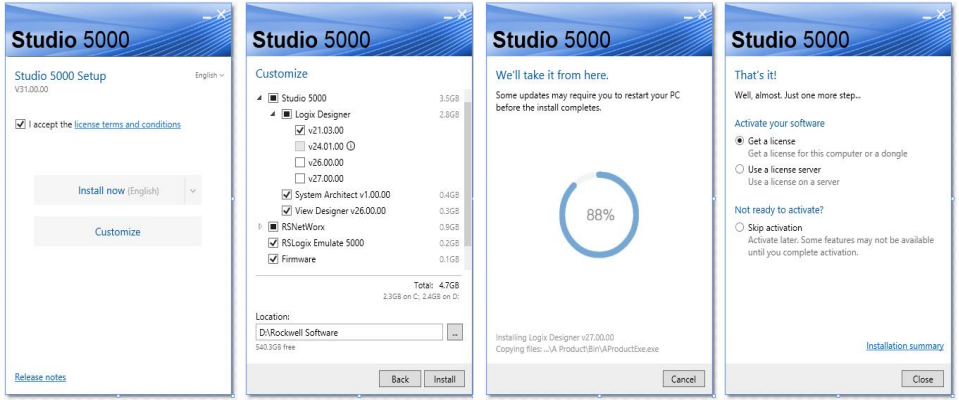
Rockwell Automation

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



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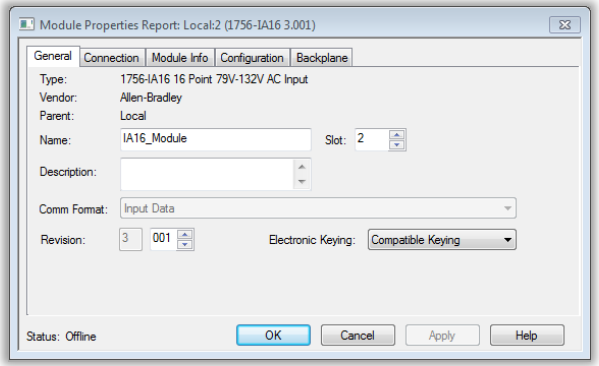
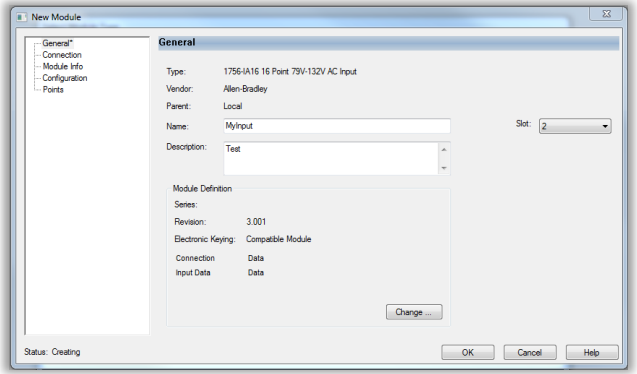
# 1756 Profiles

## Classic to AOP Conversion

- 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





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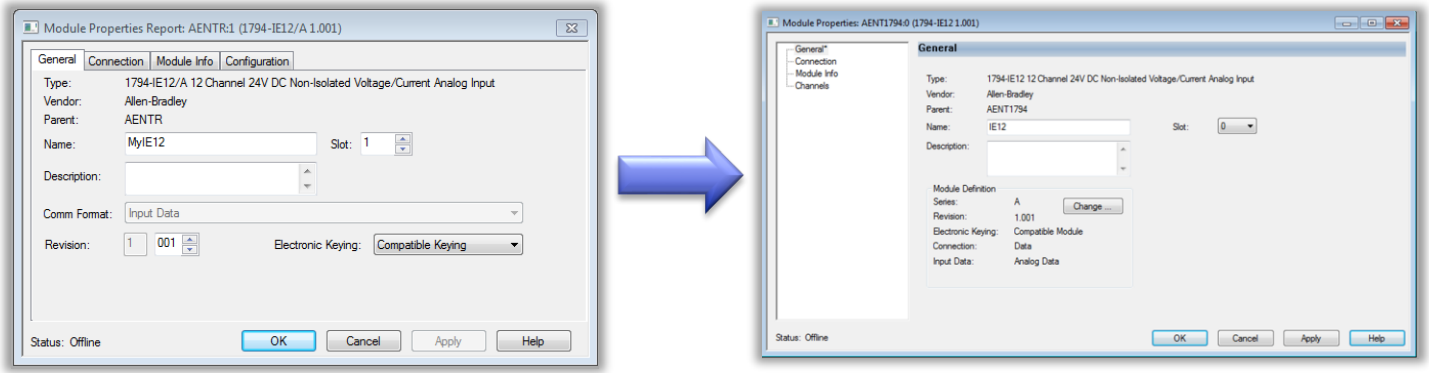
# 1794 Profiles

## Classic to AOP Conversion

Rockwell Automation

- 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



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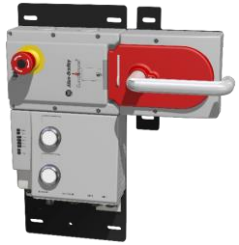
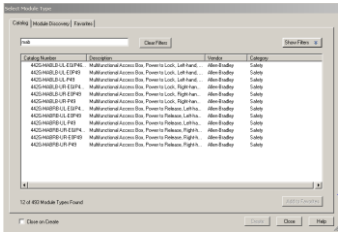
# 442G Multifunctional Access Box

- 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

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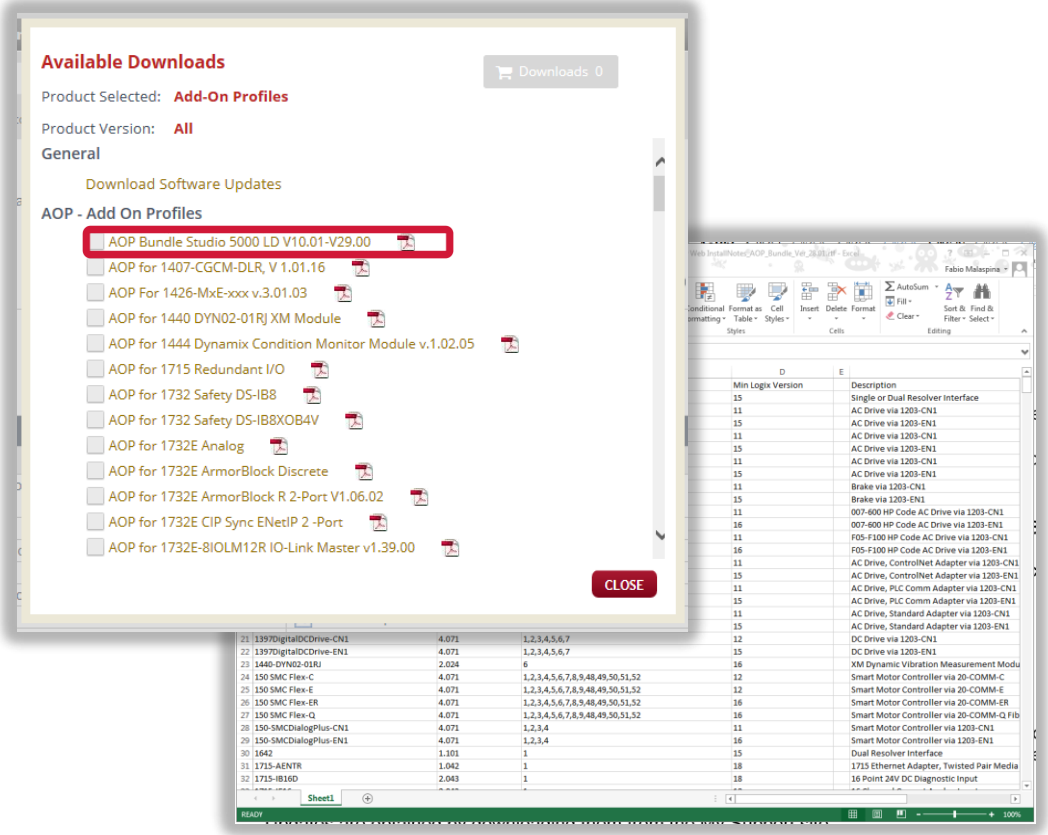
# Add-on Profiles (AOP) Bundle Install

- 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





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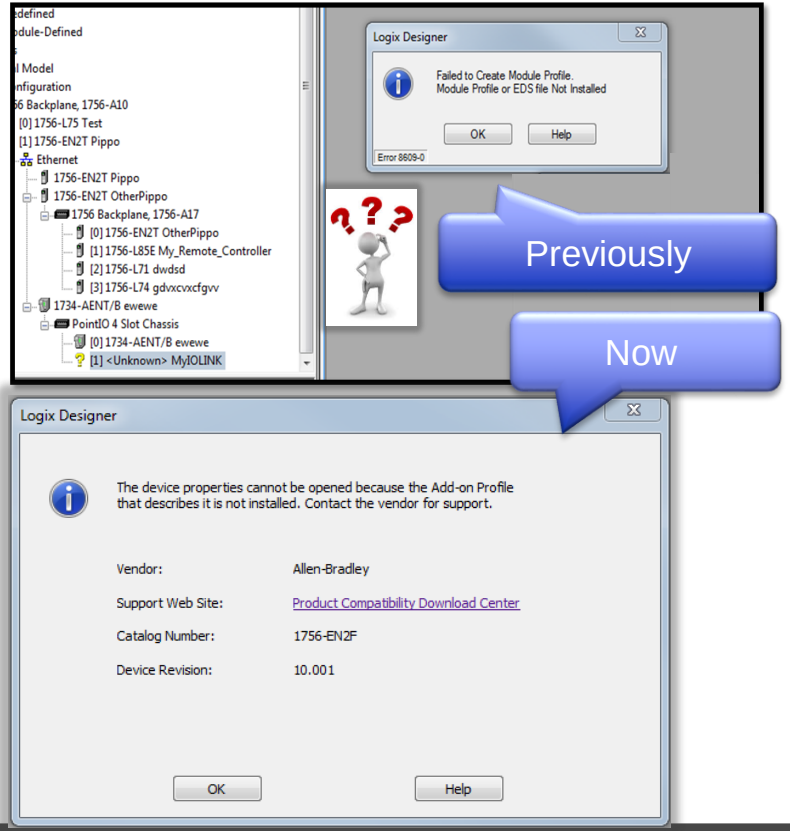
# Missing Add-on Profiles Notification with Context

- 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





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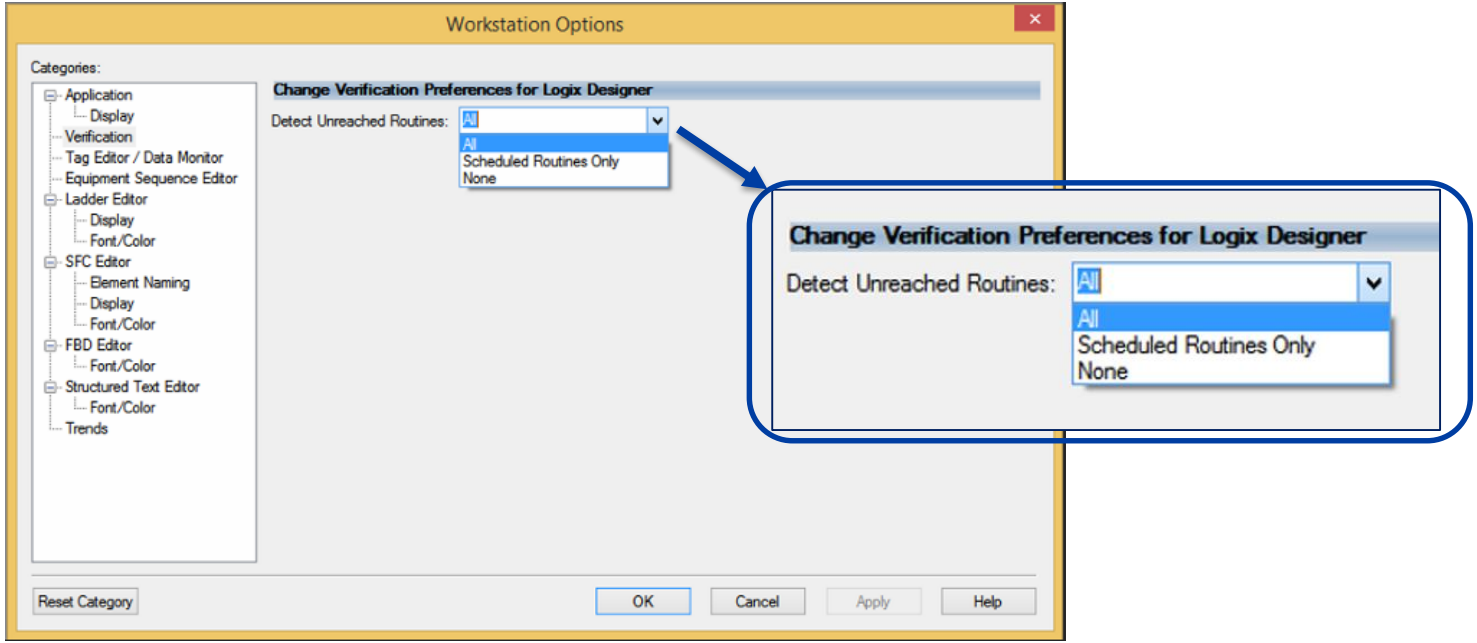
# General Editor

V30

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



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# Structured Text Editor

## Customized Comment Header – Auto Insert fields

V30

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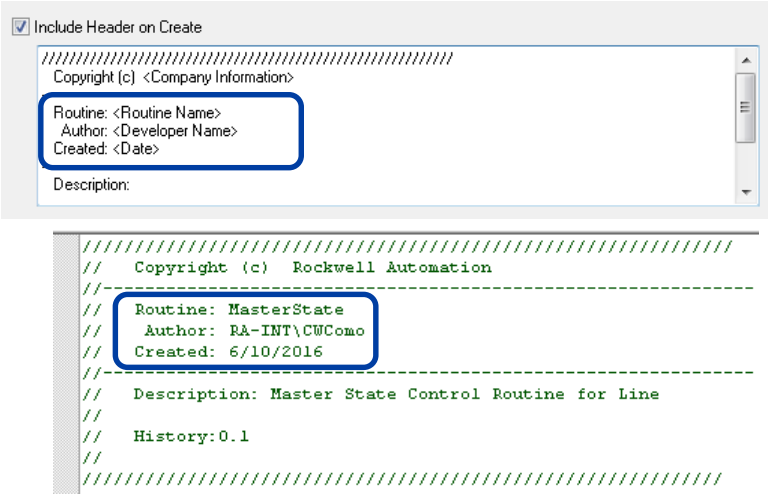
- Upon creation of a new Structured Text routine the following <*tags*> are automatically replaced within the pre-formatted header:
  - <Company Information>
  - <Developer Name>
  - <Date>
  - <Routine Name>
  - <Description>





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# Trend Editor

## Better user experience for trend creation

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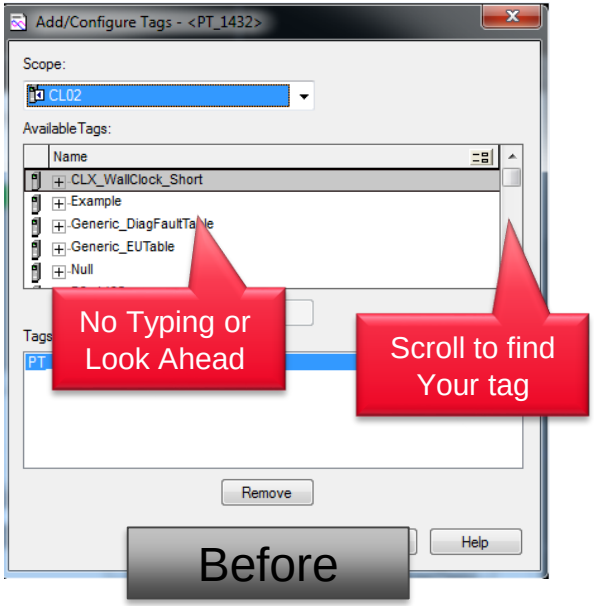


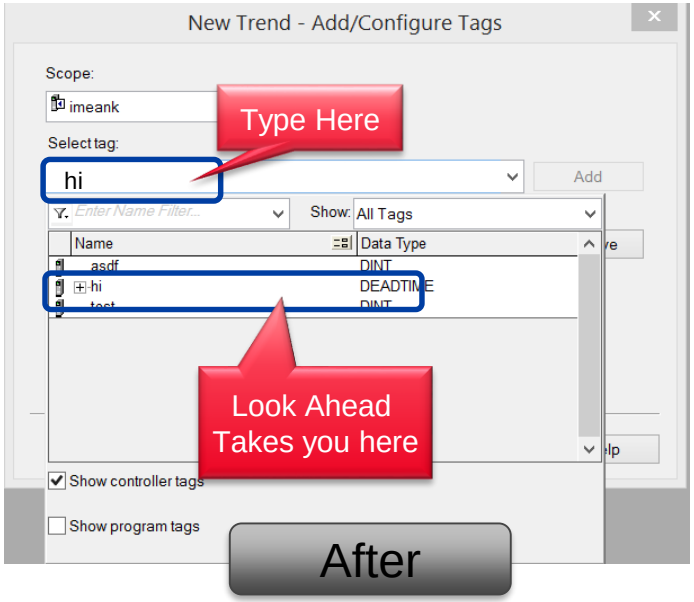




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# ControlFLASH™ V14

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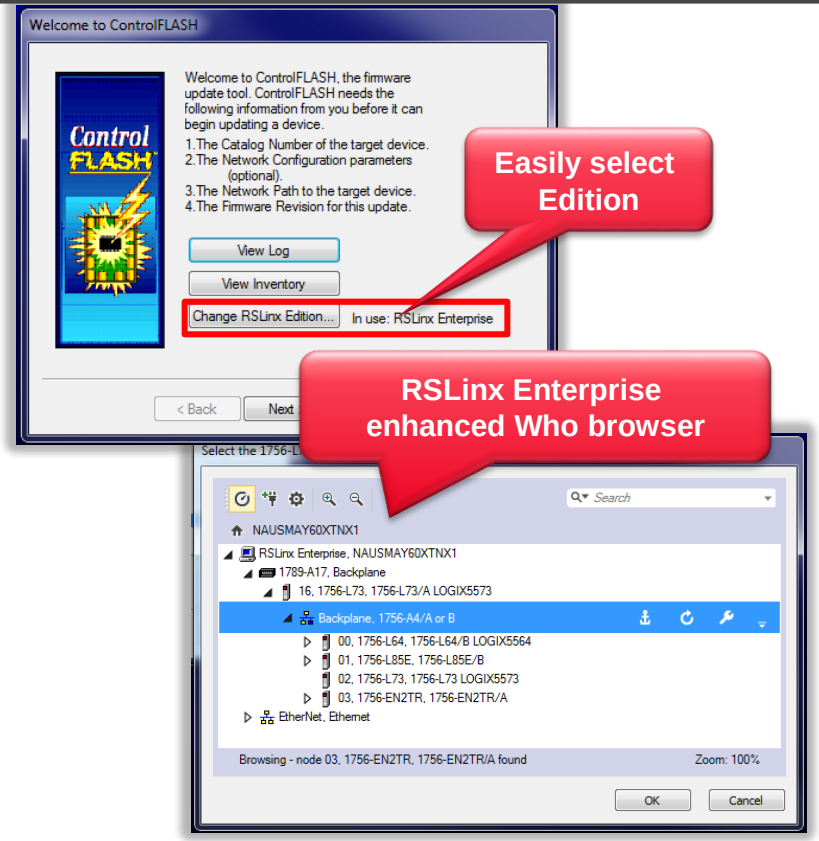
- Updated tool to support both RSLinx® Classic and RSLinx® Enterprise communication software products
  - RSLinx Classic is default selection
  - RSLinx Enterprise must be at V5.90 or higher (FTSP V2.90 SR9)
- RSLinx Enterprise provides for enhanced user experience and increased productivity
- ControlFLASH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





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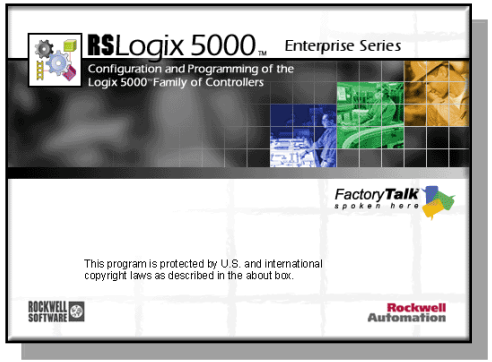

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# RSLogix™ 5000

## 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 | Yes | Yes | Yes | Yes | Yes | Yes |
| GuardLogix: 5570 (L7sFamily) 1756-L71s, L72s, L73s | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| CompactLogix: 5370 1769-L1xERx, 1769-L2xERx, 1769-L3xERx | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| CompactGuardLogix: 5370 1769-L3xERMs | 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 | No | No | No | No | No | No | No |
| Server 2003 or Server 2003 R2 | Yes | Yes | Yes | No | No | No | No | No | No | No | No |
| Server 2008 | Yes | Yes | Yes | No | No | No | No | No | No | No | No |
| Server 2008 Standard 32 Bit | Yes | Yes | Yes | No | No | No | No | No | No | No | No |
| Server 2008 Standard SP2 64 Bit | No | No | Yes | No | No | No | No | No | No | No | No |
| Server 2008 R2 Standard | No | No | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Vista | Yes | Yes | Yes | No | No | No | No | No | No | No | No |
| Windows 7 32 Bit | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Windows 7 64 Bit | No | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | 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 | No | No | No | No | No | No | No | No | 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 |

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# Thank You

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