Our presentation will begin at 12:00 pm CDT
Goodbye 2018... Hello 2019
Planned Topics (subject to change)

January 23rd
GuardLink Technology

February 20th
Thin Clients and ThinManager V11 Update

March 20th
Studio 5000 V32 and Logix Update

April 17th
CIP Security
2019 Planned Events

**The Reynolds Company - Local**

- **ThinManager SI Workshop**
  (tbd)

- **Machine Safety Seminar**
  April/May (tbd)

- **Cybersecurity Seminar**
  August/September (tbd)

**Rockwell Automation - National**

- **TechED**
  June 3-7, 2019
  Orlando, FL

- **Automation Fair**
  November 20-21, 2019
  Chicago, IL
Top 3 User Group Seminars of 2018

#1 IntelliCENTER MCC Networking Design - February 2018

#2 Introduction to Variable Frequency Drives (VFDs) - August 2018

#3 Studio 5000 and Process Control Update - October 2018
Best of 2018

Top 5 Automation Solutions Blog Posts of 2018

#1 Stratix Switch LED Status Indicators
#2 Reset a PanelView Plus 6 to Factory Default
#3 CCW 11 Feature Pack Released
#4 PanelView Plus Fatal Error 3B
#5 Stop Hand Icon Displays on PanelView Plus Terminal
Best of Automation Fair 2018
Automation Fair 2018
REBRANDING
New Corporate Branding

Expanding Human Possibility.
Rockwell Automation and PTC

Aligning our respective strategies and solutions for “Smart, Connected Operations™” and “The Connected Enterprise™” to more rapidly deliver value for industrial customers.

Visit FactoryTalkInnovationSuite.com
FactoryTalk
Controller Portfolio

Micro Control Platform

Micro800® Controller
- Low acquisition cost
- Easy connectivity
- Simple programming tools
- Ideal for standalone machines

Standard Machines

CompactLogix™ Controller
- Multiple control disciplines
- Flexible and scalable
- Real-time information enabled
- Standard, unmodified Ethernet
- One common integrated design environment
- Local and distributed I/O options

Complex Machines & Process

ControlLogix® Controller
- Scalable redundancy for fault tolerance
- Provides safety and availability requirements
- Distributed processing power

Process Safety

AADvance®/Trusted®
- Scalable redundancy for fault tolerance
- Provides safety and availability requirements
- Distributed processing power
Micro870® Controller

Increased memory and I/O capacity
- 2x the program and data memory capacity of Micro850® controller
- Up to 20K steps | Up to 8 expansion I/O | Up to 304 local I/O
- Catalog 2085-EP24VDC expansion power supply for additional I/O modules
- Catalog 2085-MEMBAK-RTC2 for larger memory capacity backup

Communications
- Ethernet, Serial and USB ports
- Native EtherNet/IP | Modbus-TCP/IP | Modbus RTU | ASCII | CIP Serial
- Open socket programming

Plug-in modules for customization and flexibility

Motion Capabilities
- 100 kHz High Speed Counter | 100 kHz Pulse Train Output | PLCopen Motion instructions

Standalone applications requiring up to 304 I/O and 20,000 step program size
- Multi-track intermittent VFFS machines; large curing machine; gas cabinet in semiconductor; pipe heating systems; mono-layer blown film extrusion; large heat exchange systems; large welding machine and more.

New

Connected Components Workbench™ Software
Version 11 required
CompactLogix™ 5480 Controller

Logix controller with Windows 10 IoT Enterprise in parallel
- Commercially available CPU for high performance
- Run Windows applications in parallel to Logix real time control
- Up to 20 MB Logix user memory, 150 axes on EtherNet/IP, 250 nodes

Enhanced Security
- Digitally signed and encrypted firmware
- License based source and execution protection

(3) Logix 1-Gb Embedded EtherNet/IP Ports
- 2 ports configurable Dual IP or DLR

Windows 10 IoT Enterprise
- (1) GbE port
- (2) USB 3.0 ports

Monitor Interface
- DisplayPort supports standard converters for HDMI, DVI, VGA displays

Compact 5000™ Local I/O
- Supports up to 31 local I/O modules
Configure
• Install module in ControlLogix chassis

Identify Data
• What to predict
• Related inputs

Model
• Automatically thin data
• Automatically build model

Monitor
• Use auto-quality
• Continue learning

Integrate your predictions!

No data scientist required
SAFETY CONTROL
Compact GuardLogix® 5380 | SIL 3

Phasing in from Mid 2019

High-performance CPU
• Optimized for faster safety reaction time

Scalable Safety Level
• SIL CL3, Up to PLe

Dual 1-Gb Embedded EtherNet/IP Ports
• Configurable Dual IP or DLR
• Integrated Safety on EtherNet/IP

Compact 5000™ Local Safety I/O - Increased Scalability
• 5069-L306ERMS3: 600 KB Std / 300 KB Sfy; 2 axes; 16 nodes
• 5069-L310ERMS3: 1 MB Std / 0.5 MB Sfy; 4 axes; 24 nodes
• 5069-L320ERMS3: 2 MB Std / 1 MB Sfy; 8 axes; 40 nodes
• 5069-L330ERMS3: 3 MB Std / 1.5 MB Sfy; 16 axes; 60 nodes
• 5069-L340ERMS3: 4 MB Std / 2 MB Sfy; 20 axes; 90 nodes
• 5069-L350ERMS3: 5 MB Std / 2.5 MB Sfy; 24 axes; 120 nodes
• 5069-L380ERMS3: 8 MB Std / 4 MB Sfy; 28 axes; 150 nodes
• 5069-L3100ERMS3: 10 MB Std / 5 MB Sfy; 32 axes; 180 nodes
ControlLogix® Safety I/O

Connects to Compact GuardLogix® 5380 or GuardLogix® 5580 Controllers

ControlLogix® I/O
- Chassis-based, local I/O
- Can be used as distributed I/O via communication networks

Safety rated
- Analog & Digital, Input and Output Modules
- Both Isolated & Non-Isolated Modules
- SIL 2, PLd Certified Modules
- SIL 3, PLe Certified Modules
- Input Modules: IB16S, IB8IS, IA8IS, IF8IHS
- Output Modules: OBV8S, OB8IS, OW8IS, OF8IHS

Flexible
- Any ControlLogix® Safety I/O module can be used in combination with all other standard ControlLogix® I/O modules

Phased introduction, starting in 2019
I/O
I/O Portfolio

Chassis and Distributed I/O

**ControlLogix®**
- Chassis-based I/O
  - I/O diagnostics for detection of both system and field-side failures
  - Electronic keying to help prevent replacement errors
  - Wide range of modules from high performance to process control

**FLEX™, FLEX 5000™**
- Process Distributed I/O
  - High-performance FLEX 5000™ I/O for CompactLogix™ 5380 and ControlLogix® 5580
  - High-channel density on a distributed platform

**1719 Ex, 1715 Redundant**
- Intrinsic Safety and High Availability I/O
  - 1719 Ex I/O for hazardous area locations
  - 1715 Redundant I/O provides high availability for ControlLogix® controllers

**Dynamix™**
- Condition Monitoring
  - Integrates machine protection with your standard control system
  - Dual Ethernet ports supporting both Linear and Device Level Ring topologies

**Compact I/O™, Compact 5000™**
- Discrete Machine I/O
  - High-performance Compact 5000™ I/O for CompactLogix™ 5380 and ControlLogix® 5580
  - High-density Compact I/O™ for CompactLogix™ 5370

**POINT I/O™**
- Smart Machine Distributed I/O
  - Low-cost platform with lower density inputs and outputs
  - Compact design makes installation easier
  - Machine safety, specialty and IO-Link options available

**ArmorBlock®**
- On-Machine™ I/O
  - IP67 rated modules
  - Reduces wiring and panel space
  - Quick connect for daisy chaining modules
  - Analog, Digital, specialty, machine safety and IO-Link options available

**1719 Ex, 1715 Redundant**
- Intrinsic Safety and High Availability I/O

**1719 Ex I/O for hazardous area locations**
**1715 Redundant I/O provides high availability for ControlLogix® controllers**
Compact 5000™ I/O Discrete Safety Input

5069-IB8S
- Safety digital input module
- Single Channel: PLd
  - Single Channel allows use of the module for up to Safety Category 3, in applications rated up to and including Performance Level d/SIL 3 with safety pulse test enabled
- Dual Channel: PLe
  - Dual Channel allows use of the module for up to Safety Category 4, in application rated up to and including Performance Level e/SIL 3 with safety pulse test enabled
- Diagnostic capability:
  - Short circuit, Muting Lamp Error, Over & Critical Temperature, Field Power OFF, internal fault, Overload detection with Test Output.

Local and distributed I/O for Compact GuardLogix® 5380 controller

Distributed I/O for GuardLogix® 5580 controller

Target – March 2019
Compact 5000™ I/O Discrete Safety Output

5069-OBV8S
• Configurable Safety Output module (Sourcing / Bipolar) Sourcing mode:
  • Single Channel: up to Cat 4, up to and including PLe with pulse test enabled, IEC 60947 for contactors/actuators
  • Dual Channel: up to Cat 4, up to and including PLe with wiring according to EN 13849 and safety pulse test enabled Fault of one channel does not shut down the whole module
• Bipolar mode: PLe
• Diagnostic capability:
  • Short circuit, No Load(Open Wire), Overload, Over & Critical Temperature, Field Power OFF, Dual Channel Fault(only sourcing mode)

Local and distributed I/O for Compact GuardLogix® 5380 controller
Distributed I/O for GuardLogix® 5580 controller

Target – March 2019
Compact 5000™ I/O SERIAL

- Supports multiple protocols:
  - Generic ASCII and MODBUS RTU/ASCII (Now)
  - DF1 and DH-485 (Future)
  - Configurable in Studio 5000® (Version 31 onwards)
- Generic ASCII:
  - Send and Receive Data in simplified way
  - Common user experience as 1769-ASCII module
- MODBUS RTU/ASCII:
  - Up to 50 Modbus Master commands per port
  - Up to 30 entries of Modbus Slave data per port
  - Data mapped directly back to module tags
  - Minimize complex programming

Enables the high-performance Logix Controller (bulletin 5380) to communicate with legacy devices
FLEX 5000™ I/O
Next Generation 5000 Series I/O Platform Technology

Rugged Design

Performance
1 Gigabit (Gb) EtherNet/IP
1 Gigabit (Gb) Backplane Speed

Standard I/O
16 Channel Digital In/Out
8 Channel Analog In/Out

Safety I/O (SIL 3, PLe, Cat. 4)
16 Channel Digital In/Out
4 Channel Analog In/Out

Network Media and Topologies
2 Copper/2 Fiber Ports
Supports Device Level Ring (DLR), Star, Linear, Parallel Redundancy Protocol (PRP)

Easy Snap-on Installation
Removal and Insertion Under Power (RIUP)

Consistent I/O Wiring
Direct Termination of 2, 3 & 4 wire devices

Operating Temperature:
-40 °C…+70 °C
(-40 °F...+158 °F)

Hazardous Environments:
Class I, Div. 2
Zone 2 Groups A, B, C, D

Distributed I/O for ControlLogix® 5580 controller, GuardLogix® 5580 controller
Distributed I/O for CompactLogix™ 5380 controller, Compact GuardLogix® 5380 controller
FLEX 5000™ I/O
EtherNet/IP Adapter Highlights

Functionality & Performance
- 1-Gbps, DLR, Linear & PRP
- Secured embedded web server
- Implicit & explicit protection

Flexible Installation
- RJ45 & SFP versions
- 8 or 16 I/O module support
- Intermix copper and fiber SFP

Ease of Maintenance
- Easy access ports
- Input power & temperature diagnostics
- RTB for power terminals
# FLEX 5000™ I/O

## Release Schedule

### June 2018

- **5094-AENTR** EtherNet/IP Adapter RJ45 8 I/O
- **5094-AEN2TR** EtherNet/IP Adapter RJ45 16 I/O
- **5094-IB16** 16 Point Digital Input
- **5094-OB16** 16 Point Digital Output
- **5094-OW8I** 8 Channel Relay Output Isolated
- **5094-IY8** 8 Channel Universal Analog Input
- **5094-OF8** 8 Channel Analog Output
- **5094-HSC** 2 Channel High-Speed Counter
- **5094-IF8** 8 Channel Analog Input (15 Aug 2018)

### September 2018

- **5094-IB16S** 16 Point Digital Input Safety
- **5094-OB16S** 16 Point Digital Output Safety
- **5094-OW4IS** 4 Point Relay Output Isolated Safety

### December 2018

- **5094-AENSFPR** EtherNet/IP Adapter SFP
- **5094-AEN2SFPR** EtherNet/IP Adapter SFP

### March 2019

- **5094-CE05** 0.5 Meter Bank Extender Cable
- **5094-CE10** 1 Meter Bank Extender Cable
- **5094-CE30** 3 Meter Bank Extender Cable

### Available for Sale

- **5094-IB16S** 16 Point Digital Input Safety
- **5094-OB16S** 16 Point Digital Output Safety
- **5094-OW4IS** 4 Point Relay Output Isolated Safety
- **PRP Firmware** PRP Adapter Support

---

**Catalogs Available in 2 Variants (except cables):**
- Standard version with operating temperature at -40 °C...+70 °C (-40 °F...+158 °F)
- Extreme Environment (XT) variant with operating temperature at -40 °C...+70 °C (-40 °F...+158 °F) and conformal coating for G3 compliance

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Distributed I/O for:
- ControlLogix® 5580 Controller
- CompactLogix™ 5380 Controller
- CompactLogix™ 5480 Controller
- GuardLogix® 5580 Controller
- Compact GuardLogix® 5380 Controller
Enhancements to IO-Link Masters
Bulletin 1734 and 1732E

- AOP and Firmware Update to IO-Link Masters
  - Device discovery
  - Embedded IODD support
  - Device-specific screens
  - Data storage
  - Fallback
  - Configuration tabs for third-party sensors
ArmorBlock® I/O
IO-Link Hub Overview

**New**

**Standard I/O in 3 Options**
- 16 digital input (16DI),
- 10 digital input 6 digital output (10DI6DO)*
- 16 digital input and output (16DIO)*

**Rugged Design**
Nickel plated zinc-die cast

**Reduced Wiring**
Up to 16 A with M12 L-coded Auxilliary power connector (16DIO)

**Easy Troubleshooting**
Auxiliary power diagnostic LED

**Quick and Simple Installation**
Standard M12 I/O connector

**Easy Identification**
2 different I/O color light-emitting diodes (LEDs)

**Quick Identification**
QR code with product information

**Simplified Design**
IO-Link connector

---

Preliminary specifications subject to change. * Q1/Q2 2019 Release
VISUALIZATION
PanelView Plus 7 Performance
Conformal Coat

- IP66, NEMA 4X, CE, UL
- Conformally coated (ISA 71.04 G3)
- 7”, 9”W, 10”, 12”W, 15”, 19”
- Target industries: Auto/Tire Industry
- Phase 1: 9” and 12” – NOW AVAILABLE!
- Phase 2: All other sizes – AFC Feb 2019
PanelView Plus 7 Performance
Stainless Steel Series B Terminals

- IP69K, NEMA 4X, CE, UL
- Stainless Steel 304 bezel
- Replaceable blue food-grade silicone gasket (FDA 21 CFR 177.2600)
- Conformally coated (ISA 71.04 G3)
- Brandless only units on 9” W and 12” W
- NSF certifications
- Target industries: Food and Beverage
- AFC - May 2019

<table>
<thead>
<tr>
<th>Description</th>
<th>Catalog Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>9” Widescreen terminal</td>
<td>2711P-T9W22D9P-BSHK</td>
</tr>
<tr>
<td>12” Widescreen terminal</td>
<td>2711P-T12W22D9P-BSHK</td>
</tr>
<tr>
<td>9” Replacement Panel Gasket</td>
<td>2711P-RGST9W</td>
</tr>
<tr>
<td>12” Replacement Panel Gasket</td>
<td>2711P-RGST12W</td>
</tr>
</tbody>
</table>
ArmorView Plus 7

- Provides an efficient means to mount PanelView products on machine
- Allows hardwired push buttons to also be mounted with the PanelView
- 22mm Push Buttons are configured per customer requirements
- Operator devices wired to onboard I/O
- E-Stop is hardwired
- Design will be re-purposed into PV5000 family

Coming In February
VersaView® 5200 Dual 4K Display Box Thin Client

- Works exclusively with ThinManager® software for centralized management solutions
- Targeted for applications requiring 4K displays
- Built-in wall mount bracket
- Dual 4K video output (3840x2160 maximum resolution)
  - DisplayPort + HDMI ports for flexibility
- Dual network, 6x USB, RS-232 serial and audio output for application flexibility
  - Use with touch screens, keyboards, and mice
- 0–55 °C operating temperature range - fanless
- 24V DC Power
- DIN and VESA mount accessories available

Now Available
VersaView® 5200 Multi 4K Display Box Thin Client

- Works exclusively with ThinManager® software for centralized management solutions
- Targeted for applications requiring multiple 4K displays
- Intel Core i5 Quad Core CPU for demanding ThinManager content
- Table top mounting standard
- 3x or 7x 4K video outputs available (3840x2160 maximum resolution)
- Triple network, 6x USB, dual RS-232 serial and audio input/output for application flexibility
  - Use with touch screens, keyboards, and mice
- 0–45 °C operating temperature range - fanless
- 24V DC Power
- Wall mount accessory available
# VersaView 5200 Industrial Thin Clients

<table>
<thead>
<tr>
<th>VersaView 5200 Single Display Thin Client</th>
<th>VersaView 5200 Dual Display Thin Client</th>
<th>VersaView 5200 Integrated Display Thin Client</th>
<th>VersaView 5200 Dual 4K Display Thin Client</th>
<th>VersaView 5200 Multi 4K Display Thin Client</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target Availability</strong></td>
<td>Available Today</td>
<td>Available Today</td>
<td>Available Today</td>
<td>January 2019</td>
</tr>
</tbody>
</table>

**Inputs/Outputs**

<table>
<thead>
<tr>
<th>Video Output</th>
<th>VersaView 5200 Single Display Thin Client</th>
<th>VersaView 5200 Dual Display Thin Client</th>
<th>VersaView 5200 Integrated Display Thin Client</th>
<th>VersaView 5200 Dual 4K Display Thin Client</th>
<th>VersaView 5200 Multi 4K Display Thin Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>1x DisplayPort</td>
<td>1x Digital + 1x VGA</td>
<td>Integrated Display + 1x DisplayPort</td>
<td>1x DisplayPort (4K) + 1x HDMI (4K)</td>
<td>3x DisplayPort (4K) or 3x DisplayPort (4K) + 4x Mini DisplayPort (4K)</td>
<td></td>
</tr>
<tr>
<td>2x USB 3.0</td>
<td>1x USB 3.0</td>
<td>1x USB 3.0</td>
<td>2x USB 3.0</td>
<td>2x USB 3.0</td>
<td>4x USB 2.0</td>
</tr>
<tr>
<td>2x USB 2.0</td>
<td>2x USB 2.0</td>
<td>2x USB 2.0</td>
<td>2x USB 2.0</td>
<td>3x</td>
<td></td>
</tr>
<tr>
<td>3.5mm Out</td>
<td>Over DisplayPort</td>
<td>Over DisplayPort</td>
<td>3.5mm Out</td>
<td>3.5mm Out</td>
<td></td>
</tr>
<tr>
<td>COM/Serial</td>
<td>N/A</td>
<td>1x</td>
<td>1x</td>
<td>2x</td>
<td>2x</td>
</tr>
</tbody>
</table>

**Hardware Design**

<table>
<thead>
<tr>
<th>CPU</th>
<th>VersaView 5200 Single Display Thin Client</th>
<th>VersaView 5200 Dual Display Thin Client</th>
<th>VersaView 5200 Integrated Display Thin Client</th>
<th>VersaView 5200 Dual 4K Display Thin Client</th>
<th>VersaView 5200 Multi 4K Display Thin Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel Atom E3815 (Single Core)</td>
<td>Intel Atom E3815 (Single Core)</td>
<td>Intel Atom E3815 (Single Core)</td>
<td>Intel Atom E3950 x7 (Quad Core)</td>
<td>Intel i5-7500T (Quad Core)</td>
</tr>
<tr>
<td>Thermal Solution</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
<td>Fanless</td>
</tr>
<tr>
<td>Power Supply</td>
<td>120/240V AC, External Brick</td>
<td>24VDC, Wide Range</td>
<td>24VDC, Wide Range</td>
<td>24VDC, Wide Range</td>
<td>24VDC, Wide Range</td>
</tr>
<tr>
<td>Indicators</td>
<td>Power Switch, Power LED</td>
<td>Power Switch, Power LED</td>
<td>Power Switch, Power LED</td>
<td>Power Switch, Power LED</td>
<td>Power Switch, Power LED</td>
</tr>
</tbody>
</table>

**Environmental & Certifications**

<table>
<thead>
<tr>
<th>Operating Temperature</th>
<th>VersaView 5200 Single Display Thin Client</th>
<th>VersaView 5200 Dual Display Thin Client</th>
<th>VersaView 5200 Integrated Display Thin Client</th>
<th>VersaView 5200 Dual 4K Display Thin Client</th>
<th>VersaView 5200 Multi 4K Display Thin Client</th>
</tr>
</thead>
<tbody>
<tr>
<td>-20-60C</td>
<td>-20-60C</td>
<td>0-50C</td>
<td>0-50C</td>
<td>0-55C</td>
<td>0-45C</td>
</tr>
</tbody>
</table>

**Certifications**
cULus/CE, KC, EAC, RCM
Quickly and easily deliver virtualized applications

- Increase efficiency
- Reduce IT burden
- Minimize downtime risk

Key Features

- Built-in virtualization
- Automated protection
- Automated site recovery
- Hot-swappable nodes
**ztC Edge: New zero touch edge optimized solution**

Versatile, fully-integrated, self-protecting industrial computing solution that’s ready to use in 30 minutes

---

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th><strong>Operating System</strong></th>
<th>Stratus Redundant OS with Virtualization &amp; Availability platform preloaded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Supported Guests</strong></td>
<td>Microsoft Windows Server (2012 R2 &amp; 2016) and Linux variants</td>
</tr>
<tr>
<td><strong>Availability</strong></td>
<td>System redundancy, seamless recovery from system failure, automatic second site failover (deployment option)</td>
</tr>
<tr>
<td><strong>Installation</strong></td>
<td>Customer installable, DIN rail, wall mount</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>Virtualization: up to 3 VMs, processor: Intel Core i7, 4 hyper threaded cores, memory: 32 GB, storage: 512 GB SSD</td>
</tr>
<tr>
<td><strong>I/O</strong></td>
<td>HDMI, Ethernet: 1GbE, 4 ports (2 available), USB: 2 x USB 2.0</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>Fanless, solid state design, operating temp: -40°F to 140°F (-40°C to 60°C), if using provided AC adapter 0°F to 122°F (0°C to 50°C), humidity: 10 – 95% (non-condensing), vibration: 3 Grms (5-500 Hz)</td>
</tr>
<tr>
<td><strong>Dimensions</strong></td>
<td>280 mm (11.02 in) x 190 mm (7.48 in) x 76 mm (2.99 in)</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>4.6 kg (10.2 lbs)</td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>9 to 36 volts DC; 35 watts</td>
</tr>
</tbody>
</table>

---

![ztC Edge Front](image1)

![ztC Edge Back](image2)
<table>
<thead>
<tr>
<th>Feature</th>
<th>ztC Edge</th>
<th>ftServer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virtualization platform</td>
<td>Pre-installed Stratus Redundant Linux (KVM-based)</td>
<td>VMware ESX, MSFT Hyper-V, or Red Hat KVM</td>
</tr>
<tr>
<td>Physical Cores</td>
<td>4</td>
<td>10, 20, or 28</td>
</tr>
<tr>
<td>Workloads</td>
<td>Moderately sized ICS applications</td>
<td>Larger ICS and MES applications</td>
</tr>
<tr>
<td>Deployment location</td>
<td>Production floor (panel, cabinet, or skid), table, wall or DIN rail mount</td>
<td>Clean room (lab, control room, or data center), server rack</td>
</tr>
<tr>
<td>Form factor</td>
<td>Pair of compact rugged, fan-less, solid state nodes</td>
<td>Single 4U rack mount server</td>
</tr>
<tr>
<td>Physical dimensions</td>
<td>2.99” x 7.48” x 11.02”, 10 lbs., 9-36 VDC (per node)</td>
<td>7.0” x 17.5” x 30.1”, 120 lbs., 100-127 or 200-240 VAC</td>
</tr>
<tr>
<td>Availability level</td>
<td>Fast recovery</td>
<td>Failure prevention</td>
</tr>
<tr>
<td>Installation model</td>
<td>Customer DIY</td>
<td>Partner or Stratus assisted</td>
</tr>
</tbody>
</table>
SECURITY
Securing Your Automation System

Encrypted Communications

Overview

- FactoryTalk® Service Platform v3.10, FactoryTalk® Linx v6.10 and Logix Version 32 permit system-wide security capabilities
  - EtherNet/IP CIP Security for Logix 5000™ controller communications
  - IPSec Tunneling for FactoryTalk® communications between computers
  - OPC UA Security to/from third-party OPC Servers
  - FactoryTalk® Security extensions to control access to configuration settings and control data value writes from external OPC UA Clients

Benefit

- Data Encryption to maintain integrity of critical information
- Limits changes to authorized users

FTSP ≥ V6.10, FTL ≥ v6.10, Lgx ≥ v32
CIP Security

CIP Security™ helps provide a Secure Transport for EtherNet/IP

- Enables an EtherNet/IP connected device to help protect itself from malicious communications
  - Reject messages sent by untrusted people or untrusted devices (authenticity)
  - Reject data that has been altered (integrity)
  - Helps prevent viewing of EtherNet/IP data by unauthorized parties (confidentiality)

- Reinforces defense-in-depth
  - Multiple layers of security are more resilient to attack
  - Each layer adds to the one above it
  - This does not replace the need for firewalls or other infrastructure.
Threat actor
What happens when someone gets into the network?

Direct Connect

Original Connection

Man-in-The Middle (MitM)

Monitoring Data
CIP Security Overview

Secure communications with EtherNet/IP

- **Authentication** – Helps prevent unauthorized devices from establishing connections
- **Integrity** – Helps prevent tampering or modification of communications
- **Confidentiality** – Helps prevent snooping or disclosure of data

Notable features:

- **System management**
  - Easily create and deploy security policies to many devices, all at once
- **Micro-segmentation**
  - Segment your automation application into smaller cell/zones.
- **Device-based firewall**
  - Enable/disable available ports/protocols of devices (ie./ HTTP/HTTPS)
- **Initial Key Products**
  - FactoryTalk® Linx, 5580 Controllers, 1756-EN4TR, Kinetix® 5700 and PowerFlex® 755T
- **Legacy Systems Support**
  - Whitelisting – authorize specific communications based on IP address
  - Retrofit 1756 based systems with the new 1756-EN4TR

System Components

PC Communications with EtherNet/IP (FactoryTalk® Linx)

Device Communications With EtherNet/IP (CIP Security Enabled)
FactoryTalk Policy Manager

FactoryTalk® Policy Manager
Modeling Tool Concepts
- Devices
- Zones
- Conduits

FactoryTalk® System Services
Policy Authority (Integrity, Encryption), Certificate Authority, Identity (Trust), Deployment, etc.
CIP Security Overview
Secure Communications with EtherNet/IP

- **Identity, Authentication** – Helps prevent unauthorized devices from establishing connections
- **Integrity** – Helps prevent tampering or modification of communications
- **Confidentiality** – Helps prevent snooping or disclosure of data

**Initial Products CIP™ Securable Products**

<table>
<thead>
<tr>
<th>Product</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>FactoryTalk® Linx</td>
<td>5580</td>
</tr>
<tr>
<td>1756-EN4TR</td>
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<tr>
<td>PowerFlex® 755T</td>
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<td>Kinetix® 5700</td>
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</tbody>
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SOFTWARE
ControlFLASH Plus™ V1.00 Functionality
Improved Productivity, Usability and Scalability

Overview
• New generation firmware update tool with a modern and simple UI for better firmware management
• Allows for multiple devices update operations
• Firmware revisions favorites support
• Leverages FactoryTalk® Linx (free of charge)

Benefits
• Improves productivity by allowing shorter time to update multiple devices
• Easily apply firmware standards
• Can coexist with ControlFLASH™ and RSLinx® Classic

Free of charge, available for download since late April, 2018
ControlFLASH Plus™ V2.00 Functionality

Overview

- Integration with Product Compatibility Download Center for firmware downloads, release notes, important notices and lifecycle status.
- Updating Micro810® and Micro820® over USB is supported when using FactoryTalk® Linx (V6.10.00 and higher)
- Install available with and without FactoryTalk® Services Platform and FactoryTalk® Linx
- Targeted by end of CY2018

Benefits

- Easier firmware lifecycle management
- Improved productivity and ease-of-use
- Can coexist with existing ControlFLASH™ and RSLinx® Classic
Happy Holidays and best wishes for a wonderful New Year.
Thank you