

LISTEN.
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RSI Integrated Architecture- Visualization Update

What's New? FACTORYTALK!

Before we get to the Visualization Update, a little background first....

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FactoryTalk Portfolio &
Services Oriented
Architecture (SOA) Overview

FactoryTalk Portfolio & SOA Overview: What is FactoryTalk?

- Integrated Production Management & Performance Suite
- FactoryTalk is a software platform (product suite) for addressing common information considerations in industrial control applications
- FactoryTalk is made of a set of shared services and applications which provide common features to the entire software suite

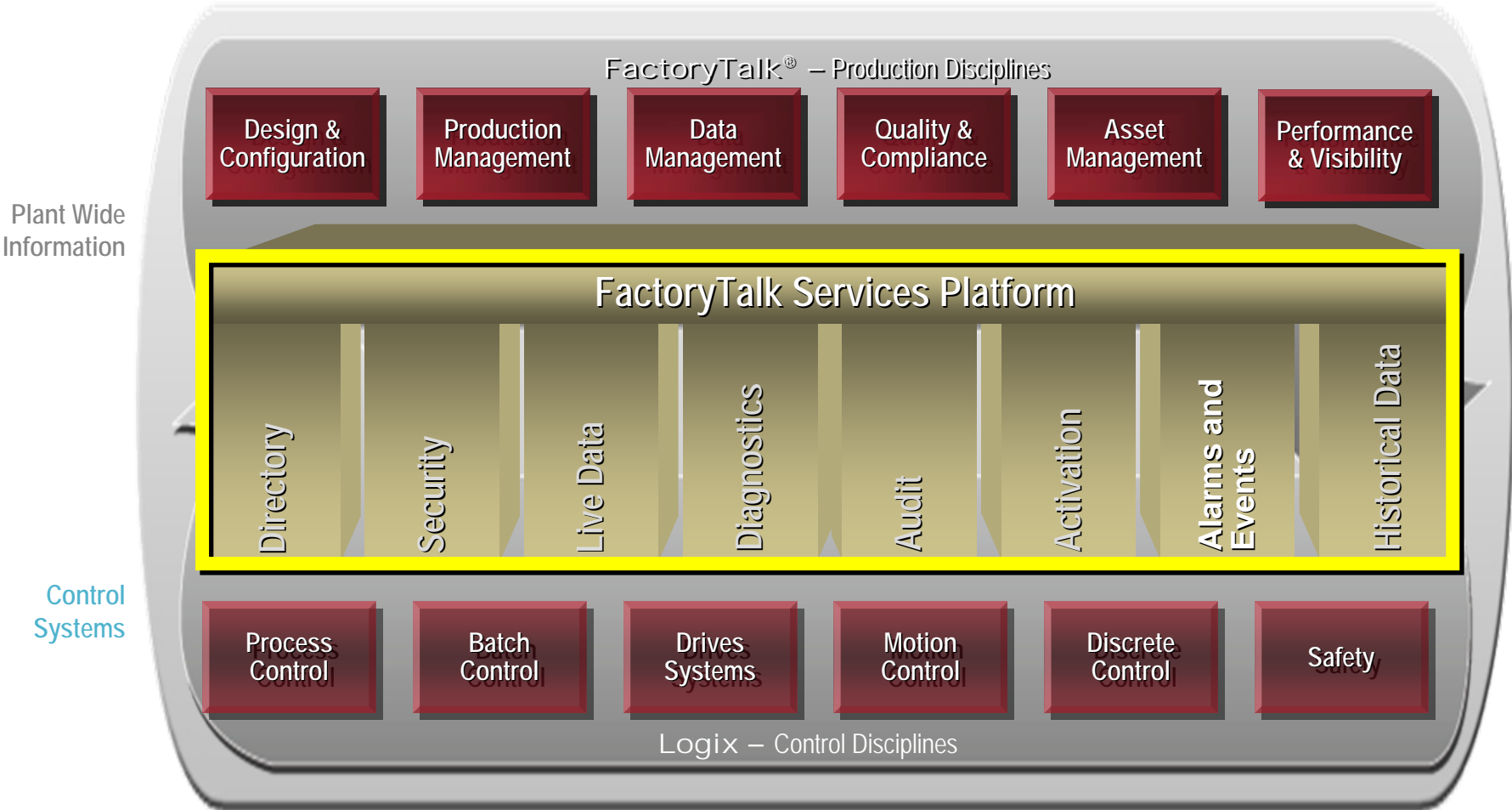
Also referred to as a Services Oriented Architecture - SOA

- Specific Technical Considerations Include:
 - Data Access
 - Visualization
 - Troubleshooting & Diagnostics
 - Security
 - Information Management



FactoryTalk Portfolio & SOA Overview: FactoryTalk Services Platform

"Build a suite of common services that can be shared by many applications"



FactoryTalk Portfolio & SOA Overview: FactoryTalk™ Services

- The FactoryTalk integrated architecture makes it possible for Rockwell Automation products to communicate across boundaries and work together collaboratively
 - **FactoryTalk Directory.** Provides a common address book of factory resources so that changes to the automation system are updated automatically across FactoryTalk-enabled applications
 - **FactoryTalk Security.** Provides a centralized security authority for all components in the system.
 - **FactoryTalk Live Data.** Provides reliable, enterprise-wide access to real-time manufacturing information.
 - **FactoryTalk Diagnostics.** Makes it easy to record information, warnings and errors generated by the system and users to a central location.
 - **FactoryTalk Audit.** Makes it easy to maintain a comprehensive record of any changes made to your manufacturing system.
 - **FactoryTalk Activation.** Product Licensing.
 - **FactoryTalk Alarms and Events.** Alarms are “pushed” out from one source, rather than several HMIs “pulling” status on a polled basis.

FactoryTalk enhances the value of your Integrated Architecture investment

FactoryTalk is NOW

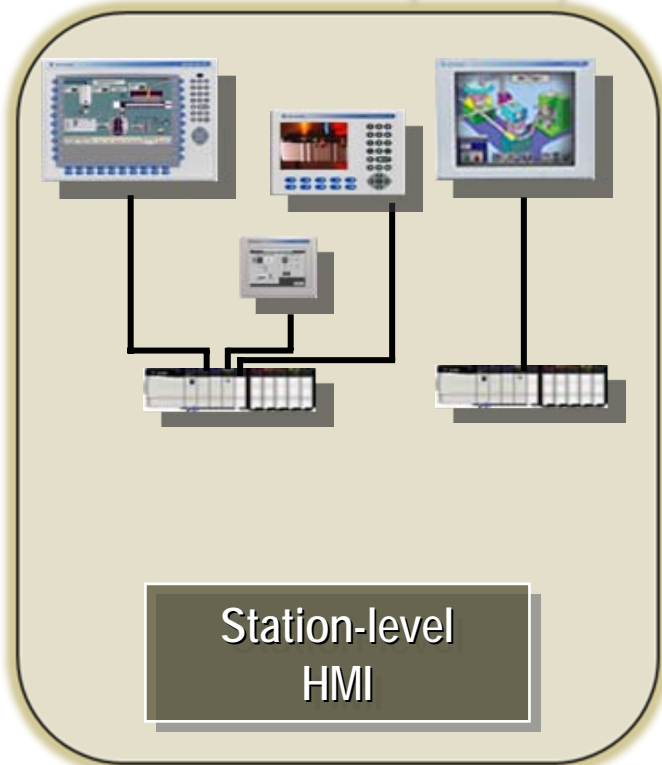
- The products that have been revised “under the hood” to use the FactoryTalk SOA have been re-branded
 - RSView Machine Edition (ME) is now FactoryTalk Machine Edition (ME)
 - RSView Supervisory Edition (SE) is now FactoryTalk Site Edition (SE)
 - RSBizware Historian is now FactoryTalk Historian
 - RSBizware PlantMetrics is now FactoryTalk Metrics
 - Etc.
- Most products made the transition with the release of CPR9 a few months ago

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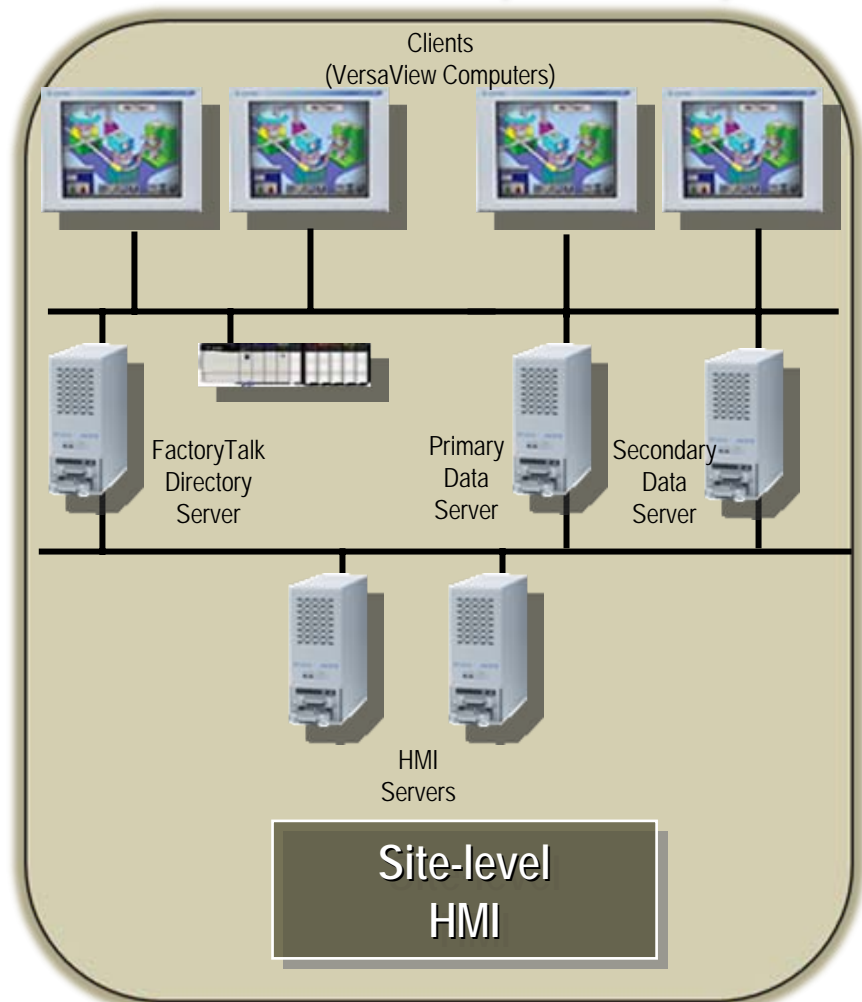
RSI FactoryTalk View Machine Edition (ME) - Overview

Integrated Architecture Visualization Positioning

FactoryTalk View
Machine Edition,
PanelView Plus,
FactoryTalk View
Site Edition (Local)



FactoryTalk View
Site Edition (Network)



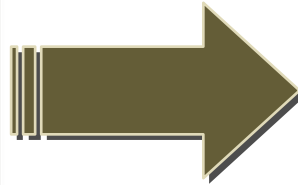
FactoryTalk View Machine Edition

Configuration

FactoryTalk View Studio



Configuration software for developing and testing HMI applications.



Runtime

PanelView Plus Operator Interface terminals



FactoryTalk View ME Station






Provides the run-time environment on Windows 2000/XP or VersaView Computers.

Introducing PanelView Plus





- ME Station runtime is included
- No activation required for any communication networks including Kepware



PanelView Plus Family of Terminals

PANELVIEW PLUS AT-A-GLANCE 400 Color coming soon...	400 Monochrome	600 Grayscale	600 Color
			
Display Description	Monochrome Passive Matrix FSTN		Color Active Matrix TFT
Display Size	78 x 59 mm (3.7 in)	111 x 84 mm (5.5. in)	111 x 84 mm (5.5 in)
Resolution	320 x 240, 32 level greyscale		320 x 240, 18 bit color graphics
Operator Input	Keypad Only	Keypad, Keypad/Touch, Touch	Keypad, Keypad/Touch, Touch
Memory Options Available Flash/RAM	Standard 64 MB/64 MB, Not Expandable		
Electrical Communication Port	RS-232 and 1 USB only or Ethernet, RS-232, 1 USB plus optional DH-485, DH+, Remote I/O, ControlNet (Scheduled and Unscheduled), or DeviceNet Module		

PanelView Plus Family of Terminals

PANELVIEW PLUS and PANELVIEW PLUS CE AT-A-GLANCE	700 Color	1000 Color	1250 Color	1500 Color
				
Display Description	Color Active Matrix TFT			
Display Size	132 x 99 mm (6.5 in)	211 x 158 mm (10.4. in)	246 x 184 mm (12.1 in)	304 x 228 mm (15.1 in)
Resolution	640 x 480, 18-bit Color Graphics		800 x 600 18-bit Color Graphics	1024 x 768, 18-bit Color Graphics
Operator Input	Keypad, Keypad/Touch, Touch			
Memory Options Available Flash/RAM	<u>PanelView Plus</u> standard memory: 64MB Flash/64MB RAM; Extended: 128 MB/128 MB (for full color bitmaps or recording data); <u>PanelView Plus CE</u> 128 MB Flash/RAM std., extended 256 MB Flash/RAM			
Electrical Communication Port	Ethernet, RS-232, 2 USB plus optional DH+/DH-485/Remote I/O, ControlNet (Scheduled and Unscheduled), or DeviceNet module			

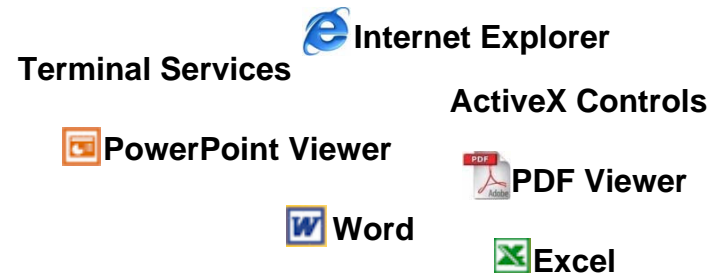
PanelView Plus Additional Functionality

Additional functionality available on the PanelView Plus CE

- ActiveX Controls
- Word
- Excel
- Internet Explorer
- Windows Media Player
- PDF Viewer
- AutoCad Viewer
- Terminal Services
- FTP Server

• KnowledgeBase

Answer ID 26732







FactoryTalk View Machine Edition & Industrial Computers

- FactoryTalk View ME Station runs on industrial computers
- Runtime options from 15 to 250 displays



Preferred Industrial Computers for ME Runtime

VERSAVIEW INDUSTRIAL COMPUTERS AT-A-GLANCE	1200P	1500P	1700P	200R
				
Display Type & Size	12.1-inch Color TFT	15-inch Color TFT	17-inch Color TFT	Requires External Monitor
Resolution	800 x 600, 256k color	1024 x 768, 256 color	1284 x 1024, 16.7 million colors	N/A
Processor Types	Aluminium Standard: P4 2.0 GHz Celeron Performance: P4 2.0 GHz	Aluminium or Stainless Steel Standard: P4 2.0 GHz Celeron Performance: P4 2.0 GHz		Pentium M 800 MHz
RAM	Standard: 512 MB. Performance: 1 GB			
Hard Drive	40 GB (rotating media). 4 GB Solid State			40 GB
I/O	3 Serial ports, 2 PS/2 ports, 1 parallel port, 2 USB 2.0 ports, 1 10/100M Ethernet Port, 1 video port, audio line in/out and microphone			1 Serial port, 1 PS/2 port, 1 10/100 Ethernet port, 4 USB ports, Audio - Out

PanelView Plus Terminals & VersaView Industrial Computers



PanelView Plus Terminals

- Firmware includes OS and software updates
- No activations required
- No Windows updates
- Modular, simple, plug & play
- Integrated keypad option
- Windows CE OS

VersaView Industrial Computers

- No memory limitations
- Supports more complex applications
- Co-exists with SE Client, RSLinx 5000, and Historian Client, etc.
- Remote OPC data server & RSLinx Classic support
- Higher resolution displays
- Higher performance available
- Windows XP, 2000, 2000 & 2003 servers



Logix Connectivity Methods



- **Built-in**
 - EtherNet/IP
 - RS-232 (DF1, DH-485, & multivendor drivers)
- **Optional Modules**
 - ControlNet
 - DeviceNet
 - DH+/DH-485/Remote I/O

Third Party Connectivity

- Keep including charge View

The screenshot shows the KEPServerEnterprise software interface. A 'Tag Browser' window is open, displaying a tree view of folders under 'ME Project'. The 'ModiconMicro' folder is selected, showing a list of tags such as 'CylinderHighTemp', 'MotorOverload', and 'ValveOpen'. A 'Modicon TSX Micro Controller' is connected to a server rack via a green line. A 'Tag filter' dropdown is set to '<None>'. The 'Selected Tag' field contains 'Channel1.ModiconMicro'. The 'Home area' is set to '/'. The status bar at the bottom indicates 'Clients: 0' and 'Active tags: 0 of 0'. A small inset window shows a monitor displaying a 3D box icon.

Date	Time
9/27/2007	8:20:18 AM
9/27/2007	8:20:18 AM
9/27/2007	8:20:18 AM
9/27/2007	8:20:42 AM
9/27/2007	8:20:42 AM
9/27/2007	8:20:42 AM
9/27/2007	8:20:42 AM
9/27/2007	8:20:46 AM
9/27/2007	8:20:46 AM
9/27/2007	8:20:46 AM
9/27/2007	8:20:46 AM
9/27/2007	8:21:20 AM
9/27/2007	8:21:20 AM
9/27/2007	8:21:20 AM

KepServer Enterprise Drivers

Analog Devices	*GE SNP	*Omron FINS Ethernet	Thermo Westronics Ethernet
Aromat	*GE SNPX	*Omron FINS Serial	Thermo Westronics Serial
Aromat Ethernet	Honeywell UDC	*Omron Host Link	*TIWAY Host Adapter
*Automation Direct EBC	IA Super SEL	*Omron Process Suite	Toshiba
*Automation Direct ECOM	IDEC	Optimation Optilogic	Toshiba Ethernet
BUSWARE Ethernet	IO Pointscan 100	Partlow ASCII	Toyopuc Ethernet
Contrex	K Sequence	Phillips P8/PC20	PC3/PC2
Contrex M Series	Micro-DCI	*Siemens S5	Toyopuc Serial
Cutler-Hammer	*Mitsubishi A Series	Siemens S5 (3964R)	*Uni-Telway
DDE Client Driver	*Mitsubishi Ethernet	*Siemens S7 MPI	*User Configurable Driver
*DIRECT-NET	*Mitsubishi FX	*Siemens S7-200	Wago Ethernet
*EtherTRAK	*Mitsubishi FX Net	*Siemens TCP/IP Ethernet	Yaskawa Memobus Plus
Fuji Flex	*Modbus ASCII Serial	*Simatic 505 Serial	Yokogawa Darwin
GE - CCM	*Modbus Ethernet	*Simatic 505 Ethernet	Yokogawa Darwin Serial
*GE Ethernet	*Modbus Serial	*Simulator	Yokogawa DX
*GE Ethernet Global Data	Modbus Plus	*SquareD	Yokogawa DX Serial
GE Focus 1 Ethernet	*Modbus Unsolicited Serial		Yokogawa DXP

* Indicates drivers available for the PanelView Plus and PanelView Plus CE with FactoryTalk View ME

Drivers are included. No charge for all ME runtime platforms.

Runtime and MER to MFD (new for Version 5.0)

- MER
 - RSLinx
 - FactoryTalk

- Browse network
- PVP Terminal

- Serial
- ControlNet
- DeviceNet

- CF Card Terminal
- MER to

Transferring MER to Terminal

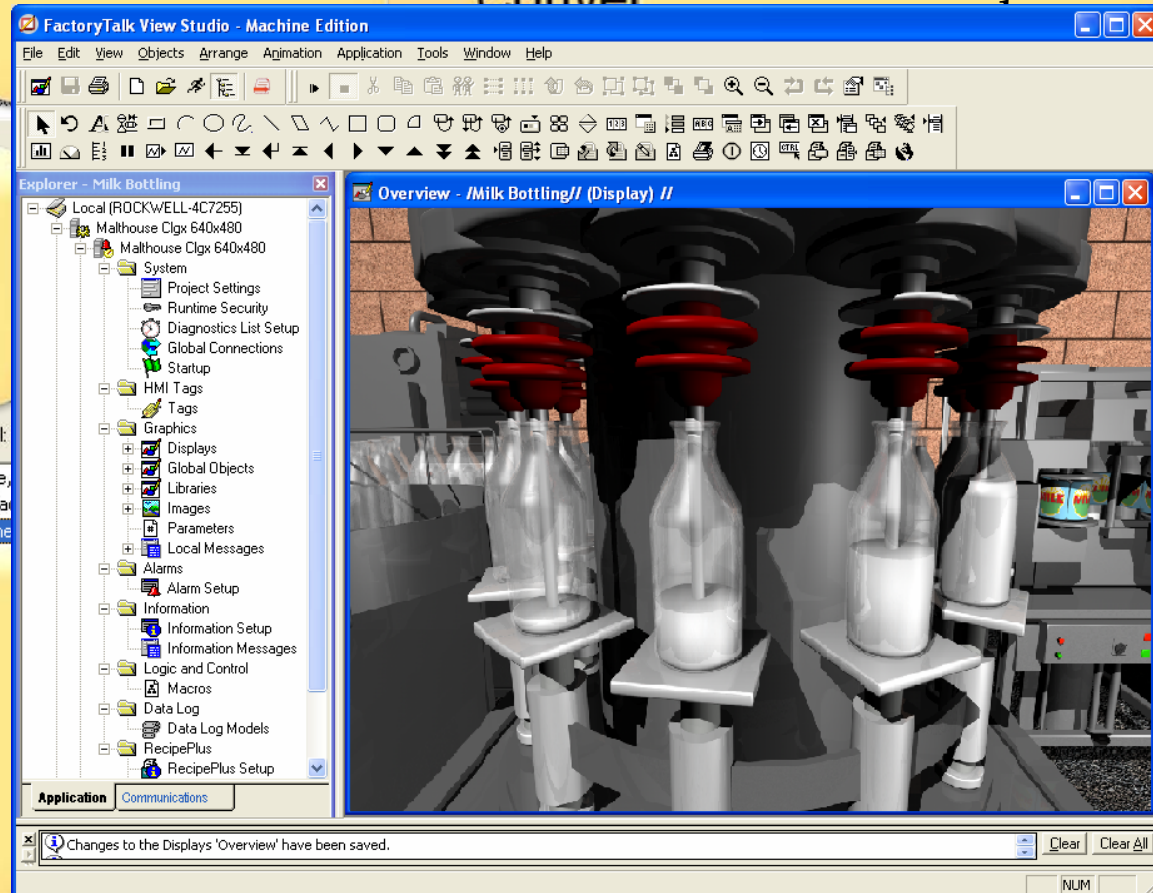
Enter password for password protected applications

Restored application from runtime

Select the MER to

Development Converter

FactoryTalk Local Directory for

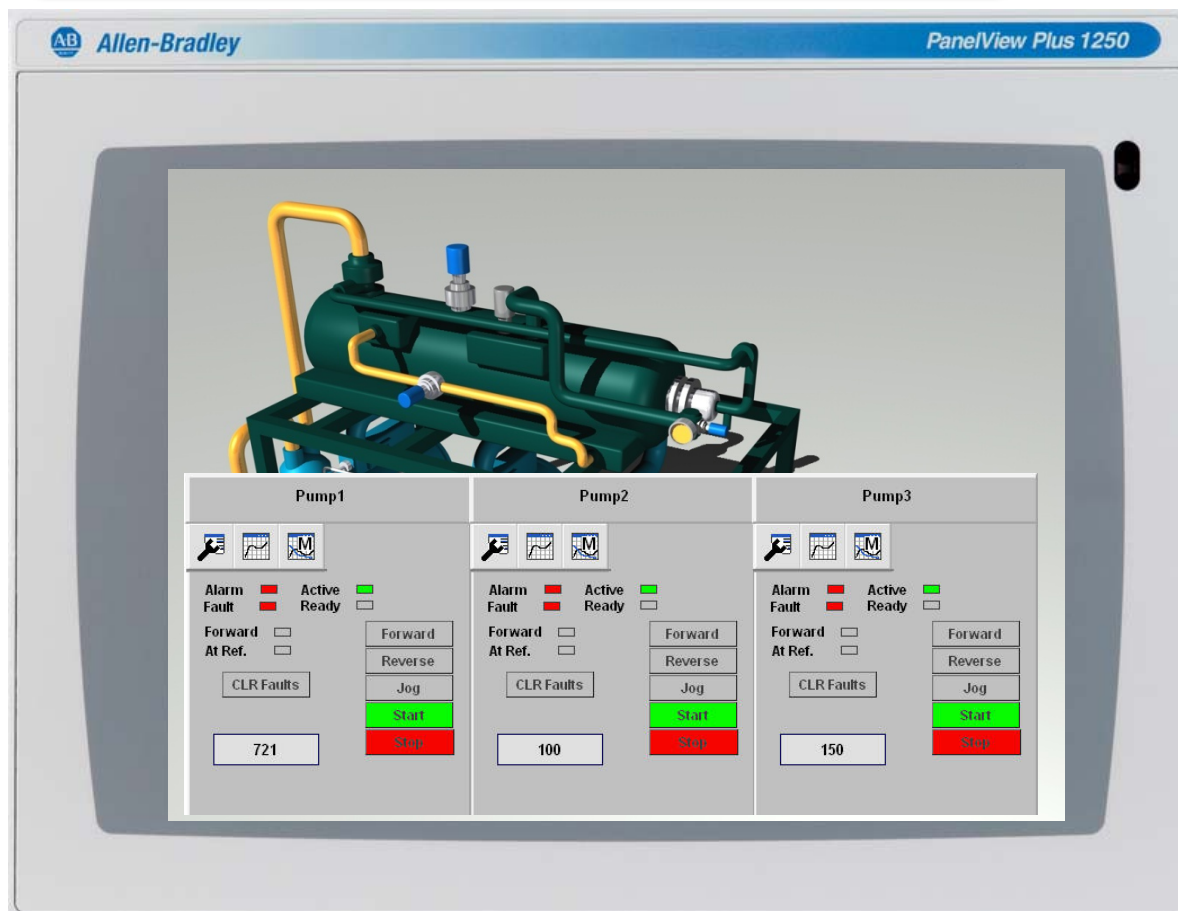


Global Objects and Global Object Parameters

- Global Object allow the appearance and behavior of an object to be linked to instances of that object.

- Used to save engineering time by enabling objects reuse.

Example: User wants an overview display with all three pump controls displayed



Multi-Language Support

- Version 5.0 adds 40 design-time languages & 20 run-time languages.
- Version 5.0 also adds default Language behaviour
- Export/import language strings to a text file or Excel for translations
- Language strings can also be translated within FactoryTalk View Studio
- Switch languages easily with a touch of the Language switch buttons

An application can be opened in different languages at design time – translations can be done directly within FactoryTalk View Studio.



Multi-Language Support

String Import Export Wizard – strings for all the languages in the project can be exported to a text or an Excel spreadsheet file.

The exported file is nicely formatted with information such as the **display name**, **object name**, and the corresponding text strings for **various languages**.

Open exported file

	A	B	C	D	E	F	G	H	I	J
	Server	Component Type	Component Name	Description	REF	en-US	REF	fr-FR	REF	zh-CN
1	Server	Global Objects Display	Global Objects 1	GotoConfigureModeButton1.Caption		Exit		**UNDEFINED**		**UNDEFINED**
2	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton1.Caption	REF:1	Home	REF:75	**UNDEFINED**	REF:79	**UNDEFINED**
3	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton10.Caption	REF:2	Engine Control	REF:81	**UNDEFINED**	REF:85	**UNDEFINED**
4	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton11.Caption	REF:3	Engine	REF:87	**UNDEFINED**	REF:91	**UNDEFINED**
5	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton2.Caption		Maint.		**UNDEFINED**		**UNDEFINED**
6	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton6.Caption	REF:4	Desalinate	REF:93	**UNDEFINED**	REF:97	**UNDEFINED**
7	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton7.Caption	REF:5	Trend	REF:99	**UNDEFINED**	REF:103	**UNDEFINED**
8	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton8.Caption	REF:6	Alarms	REF:105	**UNDEFINED**	REF:109	**UNDEFINED**
9	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	GotoDisplayButton9.Caption		Bridge		**UNDEFINED**		**UNDEFINED**
10	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text1.Caption		Information		**UNDEFINED**		**UNDEFINED**
11	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text10.Caption	REF:7	Engine Overload	REF:111	**UNDEFINED**	REF:115	**UNDEFINED**
12	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text11.Caption		Cylinder low press.		**UNDEFINED**		**UNDEFINED**
13	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text12.Caption		20		**UNDEFINED**		**UNDEFINED**
14	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text13.Caption		Ship Speed		**UNDEFINED**		**UNDEFINED**
15	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text14.Caption		Cylinder high press.		**UNDEFINED**		**UNDEFINED**
16	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text15.Caption		Cylinder low temp.		**UNDEFINED**		**UNDEFINED**
17	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text16.Caption		Cylinder high temp.		**UNDEFINED**		**UNDEFINED**
18	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text18.Caption		/*N:5 speed NOFILL DP:0*/ kn		**UNDEFINED**		**UNDEFINED**
19	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text19.Caption		/*S:0 direction_rate*/ /*S:0 dire		**UNDEFINED**		**UNDEFINED**
20	/Fantasea:Fantasea	Global Objects Display	Global Objects 1	Text2.Caption		mPa		**UNDEFINED**		**UNDEFINED**
21	/Fantasea:Fantasea	Global Objects Display	Global Objects 1					**UNDEFINED**		**UNDEFINED**

Multi-Language Support

New for Version 5.0
Language switching is supported in Alarm messages, Local Messages and Information Messages.

In the case of an alarm condition, alarm messages are switched to the selected language.

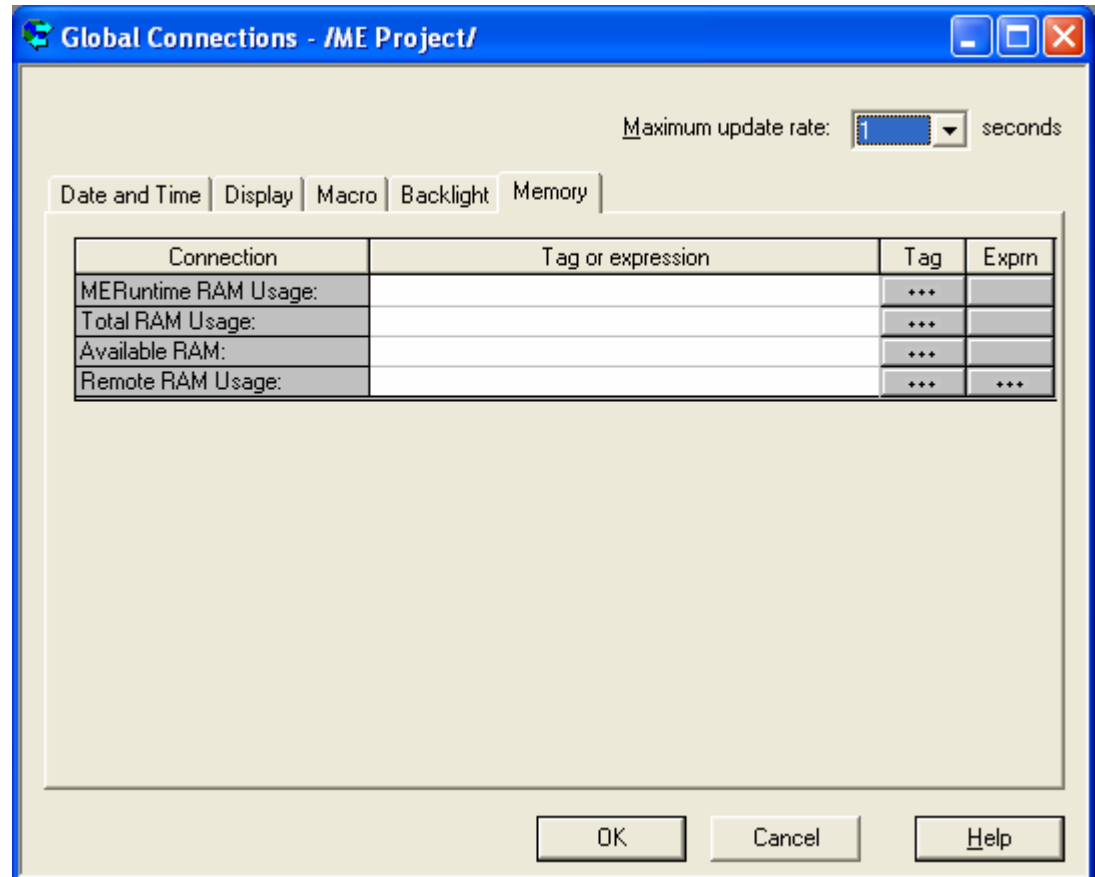
Pressing the Language Switch changes the language.



Global Connections

New tabbed dialog for
global connections in
Version 5.0

Global Connections
provide run-time functions
that apply to the entire
application



Runtime - RAM Usage Monitor

- PanelView Plus Terminal Console
- Runtime Memory Monitor

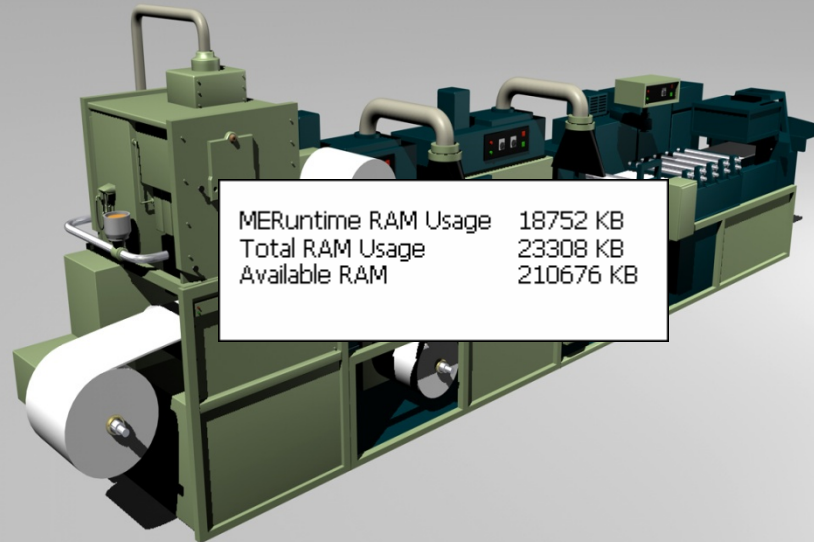
Runtime Application with intermittent Memory Usage Monitor

To troubleshoot runtime problem, select the option below. The amount of memory used at runtime.

Show RAM Usage [F1]

Yes

Toggle Show RAM Usage On/Off

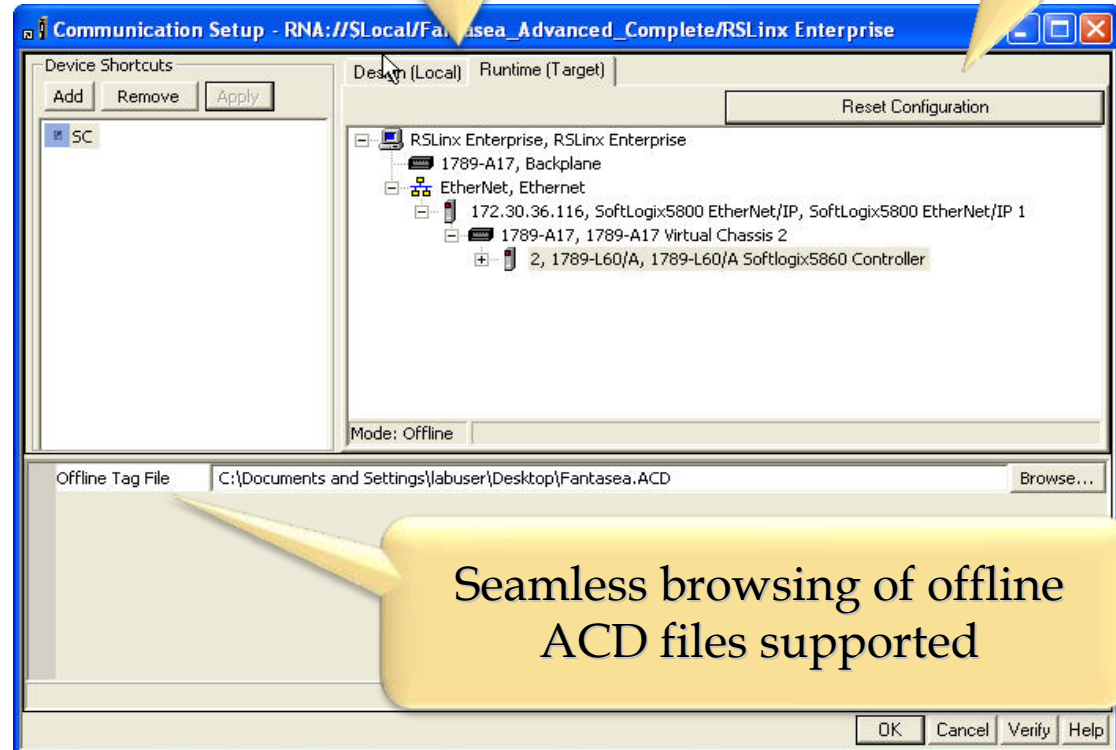


RSLinx Enterprise Improvements in Version 5.0

- Improved Tree Control Default
- Improved Status Messages
- RSLinx Enterprise automatically installed with FactoryTalk View ME

Design/Runtime Tab Renamed from Local/Target

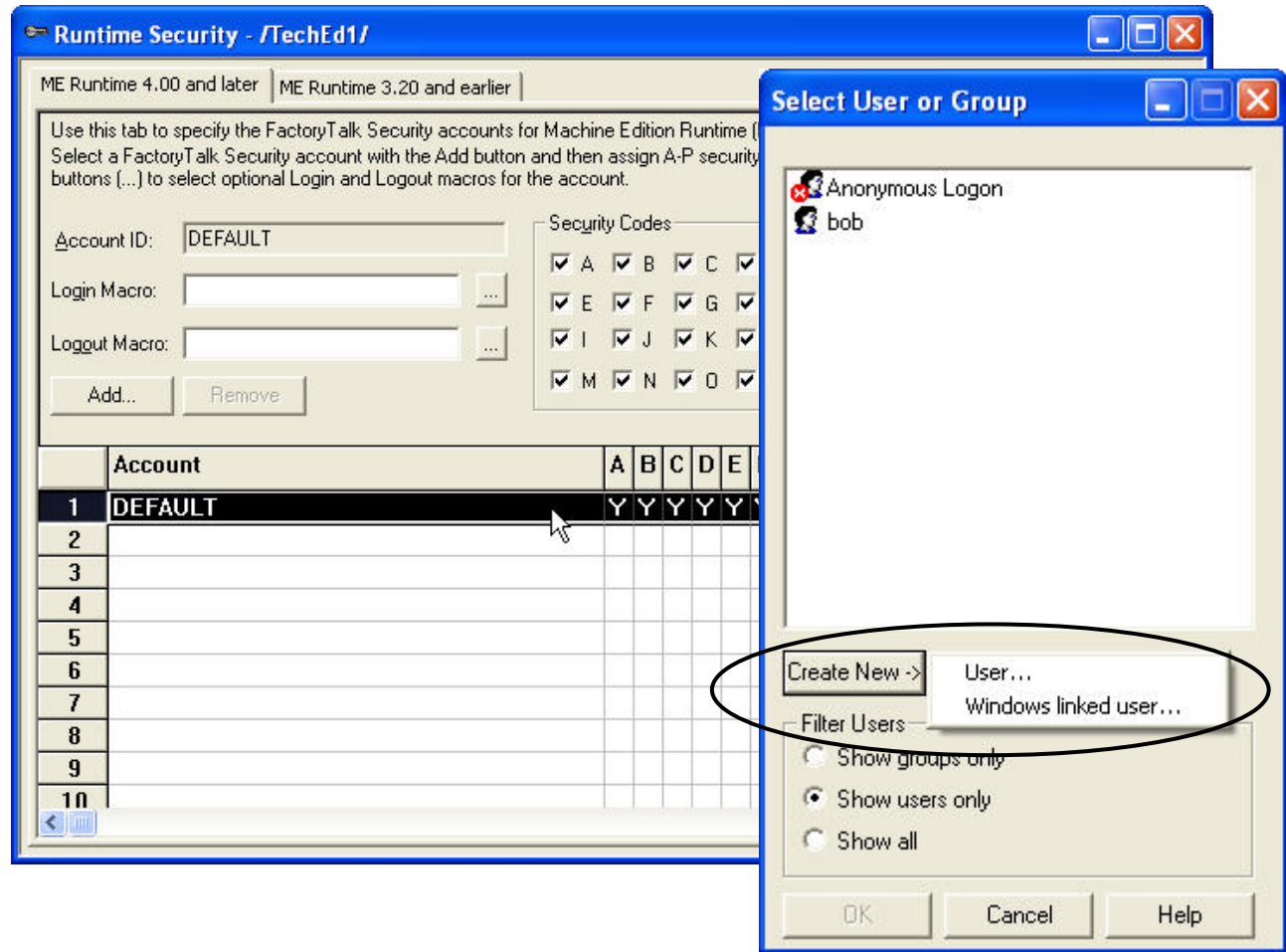
Reset runtime configuration



Seamless browsing of offline ACD files supported

Security Enhancements

- Users can now be added from the users and groups editor.
- Previously users had to be added at the System level and then selected in the User/Group dialog

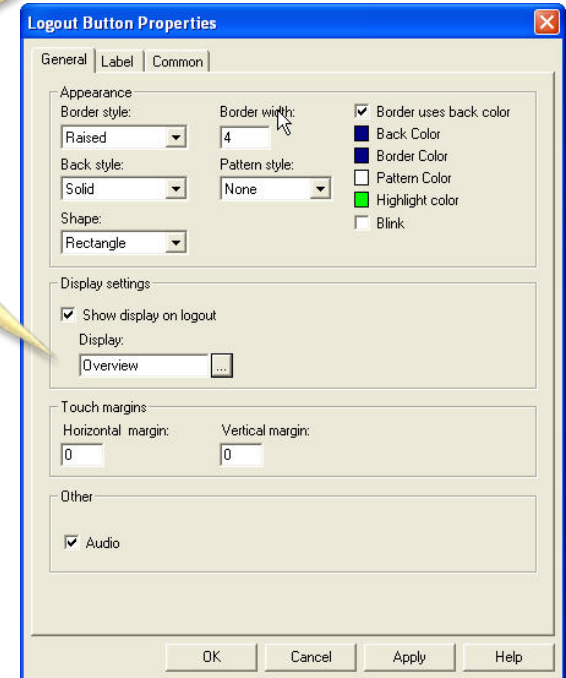
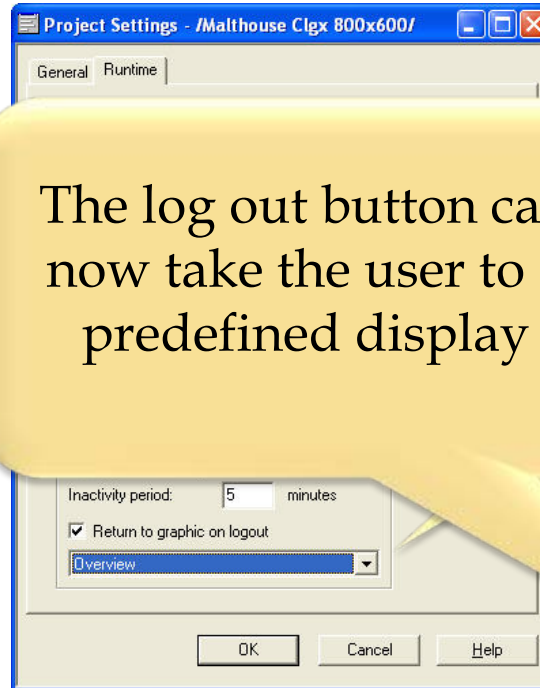


Logout Enhancements

- New display control added when logging off a user

The log out button can now take the user to a predefined display

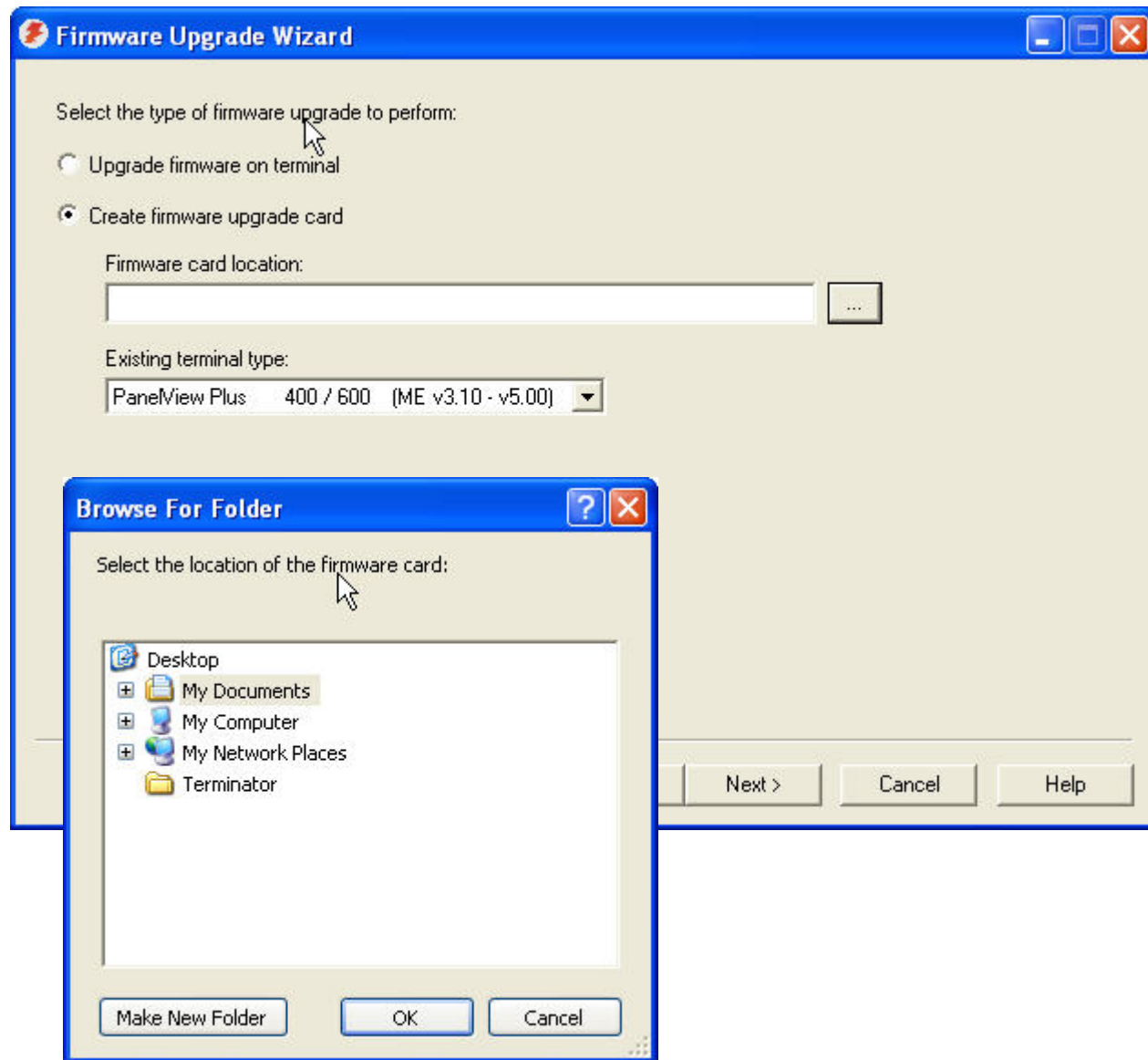
Auto logout can return the user to a predefined display



Firmware Upgrade Improvements

Firmware Upgrade now retains:

- IP Address
- Screen Saver Settings



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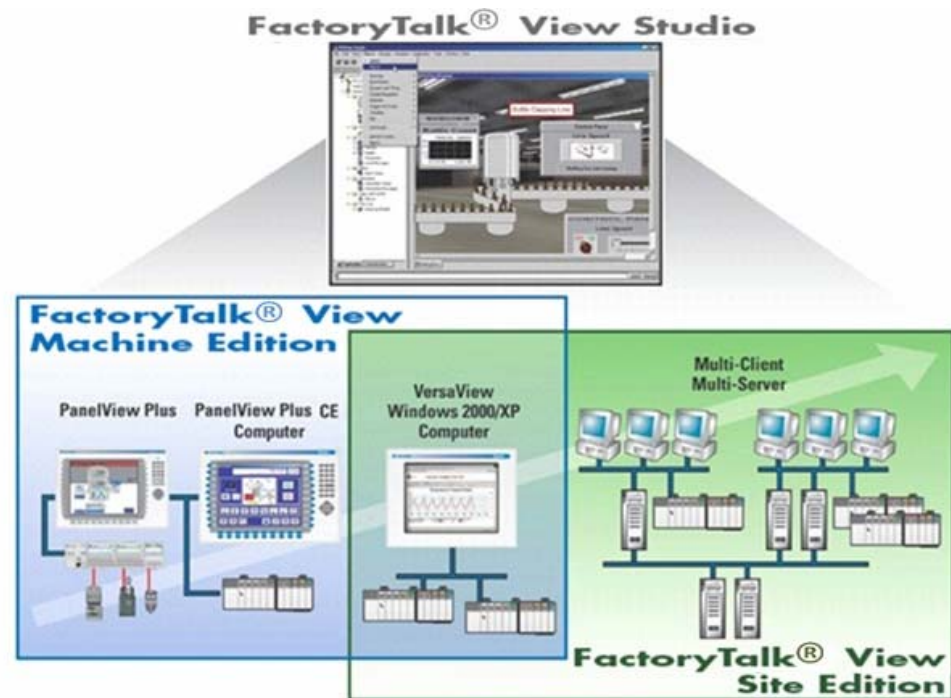
RSI FactoryTalk View Site Edition (SE) Overview

FactoryTalk View SE Overview: Product Positioning

Supervisory-level software for monitoring and control of machines and processes

Distributed HMI that supports multi-server and multi-client applications

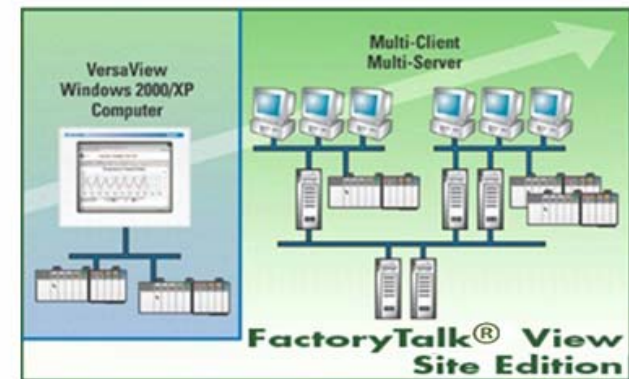
Preferred HMI for Rockwell Automation Controllers with RSLinx Enterprise and FactoryTalk Services Oriented Architecture



FactoryTalk View SE Overview: Components

- **FactoryTalk View Studio**
 - Configuration software for developing and testing HMI applications.
- **FactoryTalk View SE Network (Distributed)**
 - **FactoryTalk View SE Server**
 - HMI server that stores HMI project components such as graphic displays, and serves these components to clients. The server also performs alarm detection, and historical data management.
 - **FactoryTalk View SE Client**
 - Client software for viewing and interacting with supervisory level applications developed using FactoryTalk View Studio.
- **FactoryTalk View SE Local**
 - A traditional “single box” HMI solution that packages a server and client as a single package.

FactoryTalk® View Studio



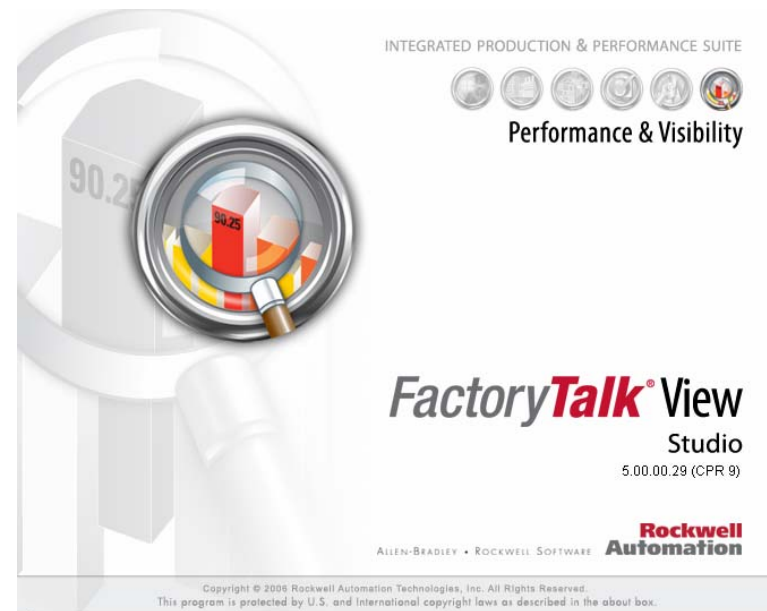
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FactoryTalk View Site Edition (SE) - New Features & Enhancements

FactoryTalk View SE 5.0

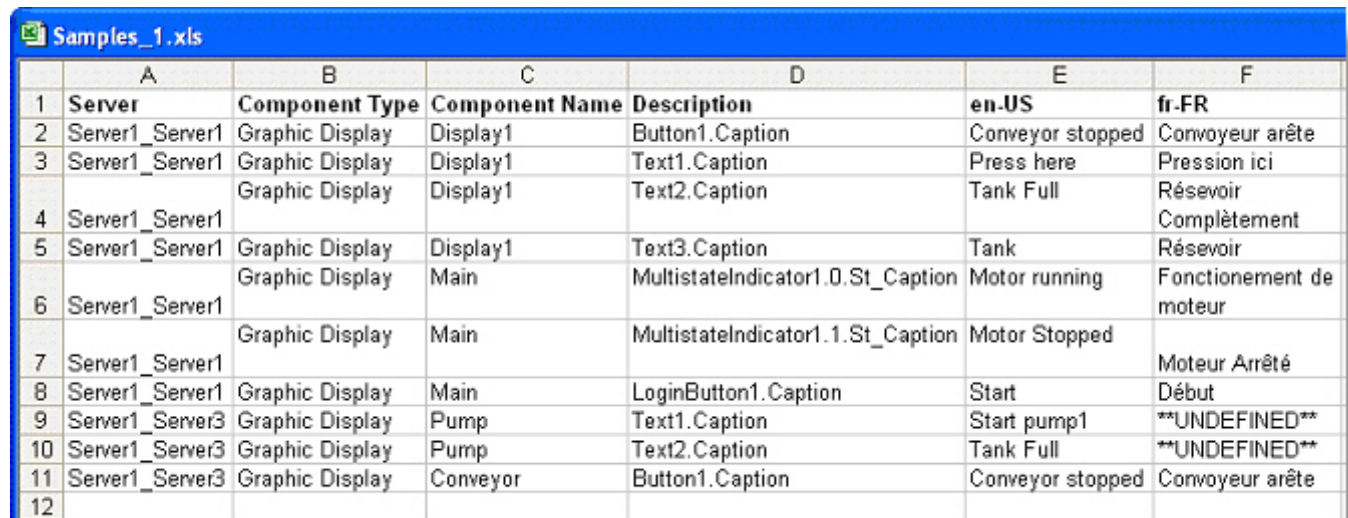
New Features & Product Enhancements:

- Factory Talk View Site Edition 5.00 (CPR 9)
 - FactoryTalk Alarms & Events
 - Language Switching Enhancements
 - Redundancy Enhancements
 - Global Objects, Process Faceplates and Structured Tag Support
 - Docked Displays
 - Numeric Object Min/Max



New Features & Product Enhancements: Runtime Language Switching Enhancements

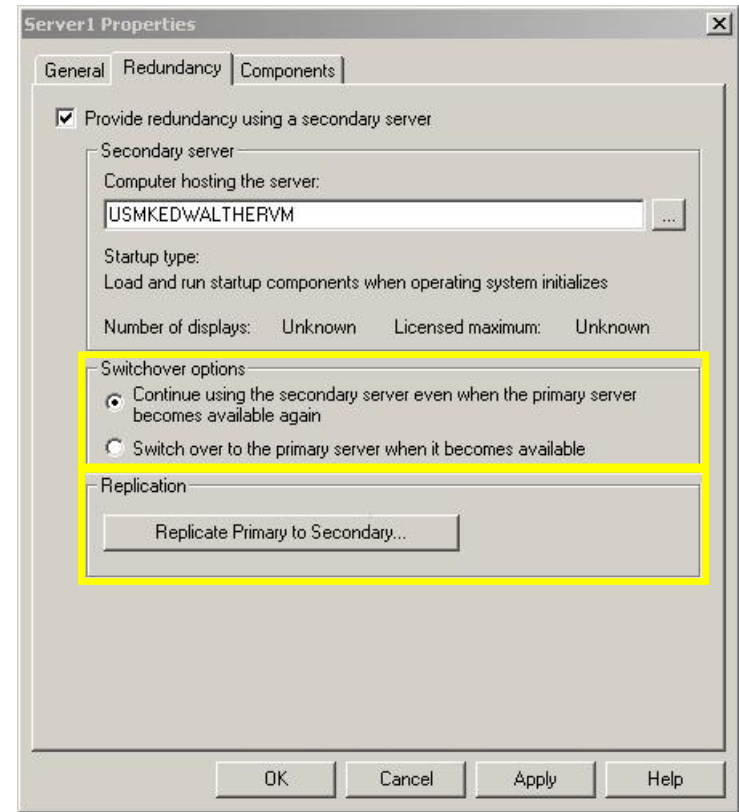
- String Spreadsheet Editor
 - Facilitates the management of multiple languages in an application from a single view
 - Export and import the language switchable strings for all languages in an application with Microsoft Excel
 - Allows sorting and provides optimization of duplicate strings
- Default Language – undefined strings for other languages will display the text from the default language rather than question marks



	A	B	C	D	E	F
1	Server	Component Type	Component Name	Description	en-US	fr-FR
2	Server1_Server1	Graphic Display	Display1	Button1.Caption	Conveyor stopped	Convoyeur arête
3	Server1_Server1	Graphic Display	Display1	Text1.Caption	Press here	Pression ici
4	Server1_Server1	Graphic Display	Display1	Text2.Caption	Tank Full	Réseauir Complètement
5	Server1_Server1	Graphic Display	Display1	Text3.Caption	Tank	Réseauir
6	Server1_Server1	Graphic Display	Main	MultistateIndicator1.0.St_Caption	Motor running	Fonctionnement de moteur
7	Server1_Server1	Graphic Display	Main	MultistateIndicator1.1.St_Caption	Motor Stopped	Moteur Arrêté
8	Server1_Server1	Graphic Display	Main	LoginButton1.Caption	Start	Début
9	Server1_Server3	Graphic Display	Pump	Text1.Caption	Start pump1	**UNDEFINED**
10	Server1_Server3	Graphic Display	Pump	Text2.Caption	Tank Full	**UNDEFINED**
11	Server1_Server3	Graphic Display	Conveyor	Button1.Caption	Conveyor stopped	Convoyeur arête
12						

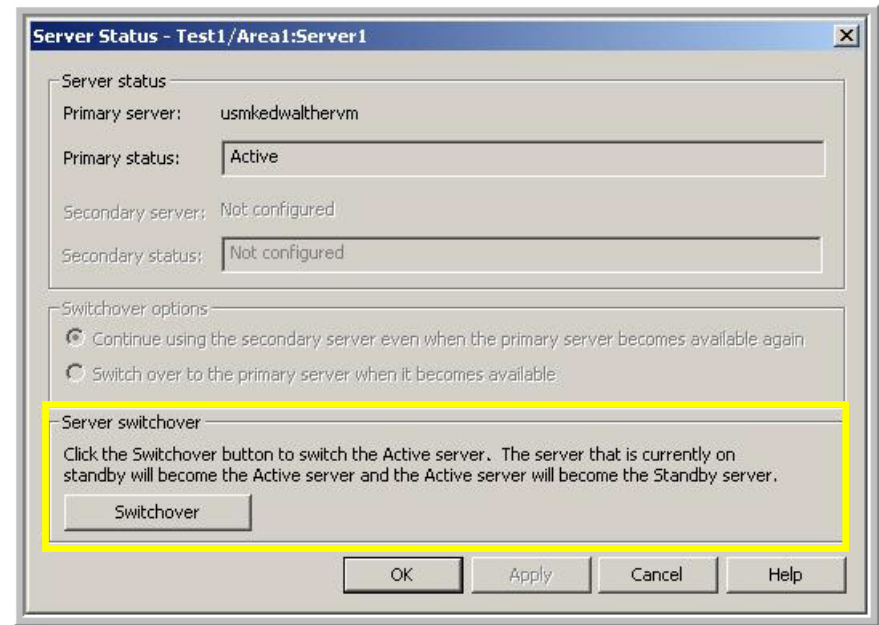
New Features & Product Enhancements: Redundancy Enhancements

- HMI Server Replication allows the user to replicate runtime changes made in the primary HMI Server to the secondary HMI Server from FactoryTalk View Studio
- New 'Favor Current' configuration option in addition to 'Favor Primary' behavior to provide choices of HMI Server failback
 - **Favor Primary Server:** the system automatically switches from an Active secondary server to the primary when it becomes ready
 - **Favor Current Server:** the system will continue to use the secondary server when the primary becomes available (FactoryTalk View SE 4.0 behavior)

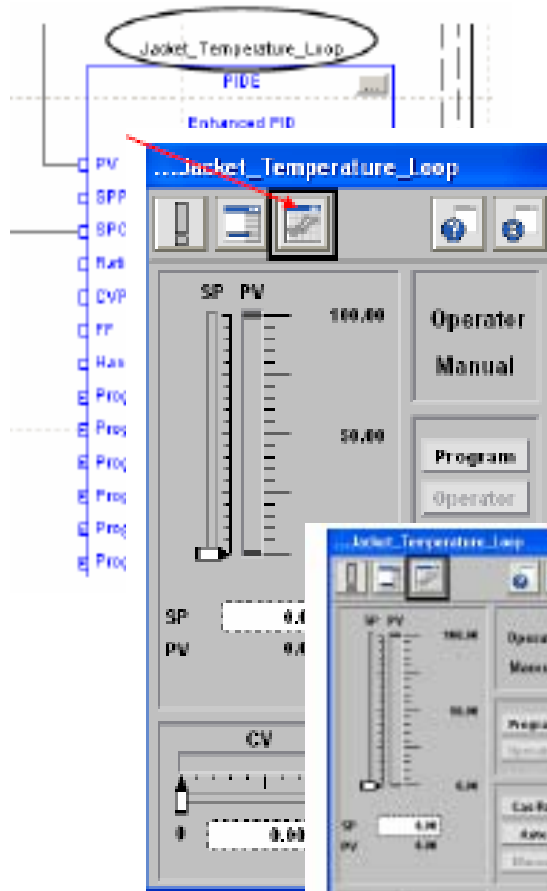


New Features & Product Enhancements: Redundancy Enhancements

- Controlled Switchover provides a user-interface mechanism for performing a controlled switchover from active to standby server
 - Useful for performing computer maintenance such as installing additional software, installing operating system or product patches, or for hardware maintenance



New Features & Product Enhancements: Easy to Implement Process Faceplates



1. Program your logic using function blocks
2. Use standard process faceplates in View SE or View ME applications.

Runtime application has access to extended features including trending...

... and Autotune for PIDE instructions!

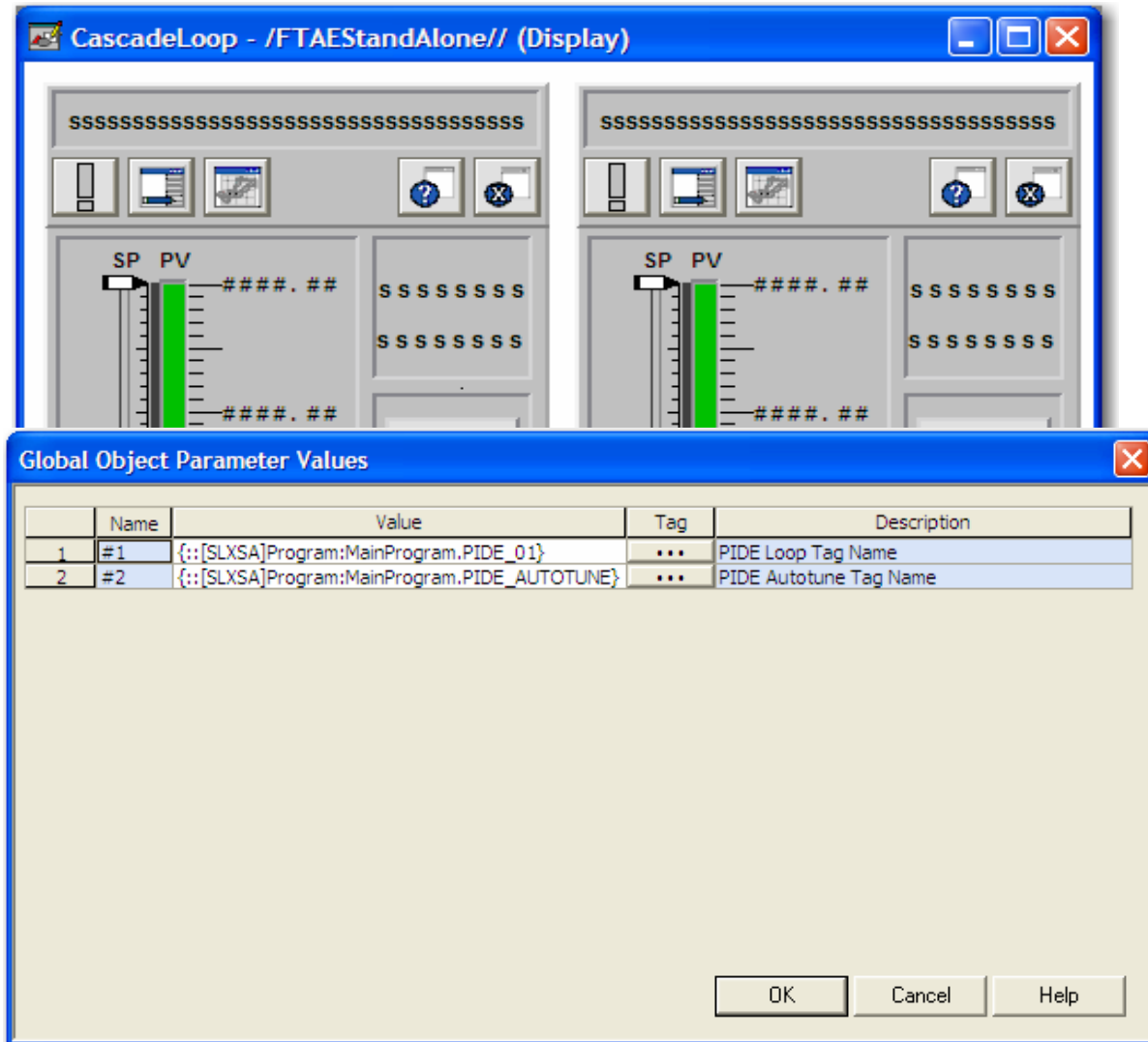
The screenshot shows the Autotune dialog box for Jacket_Temperature_Loop. The dialog is titled '...rogram:PIDandCascade.Jacket_Temperature_Loop'. It contains the following sections:

- 1. Autotune Tag:** Available, Acquire, Release.
- 2. Inputs:** Process Type: Temperature, PV Change Limit: 0, CV Step Size: 0%.
- 3. Tune:** Start, Abort.
- States:** OK, CV Changed, Gain Too Large, Mode Inv, ATune Fault, EU Span Changed, Gain Too Small, ATune Timed Out, CV Windup Fault, PV Change Too Small, Step Size Zero, Long Deadtime, CV Limiter Fault, PV Out of Limit, Step Size Too Small, CV Init Fault, PV Not Settled.
- 4. Gains:** Proportional, Integral (1/min), Derivative (min).
- Process Model:** Time Constant: 6.0000(sec), Deadtime: 6.0000(sec), Gain: 6.0000.

	Proportional	Integral (1/min)	Derivative (min)	Process Model
Slow	6.0000	6.0000	0.0000	Time Constant: 6.0000(sec)
Medium	6.0000	6.0000	0.0000	Deadtime: 6.0000(sec)
Fast	6.0000	6.0000	0.0000	Gain: 6.0000
Current	0.0000	0.0000	0.0000	

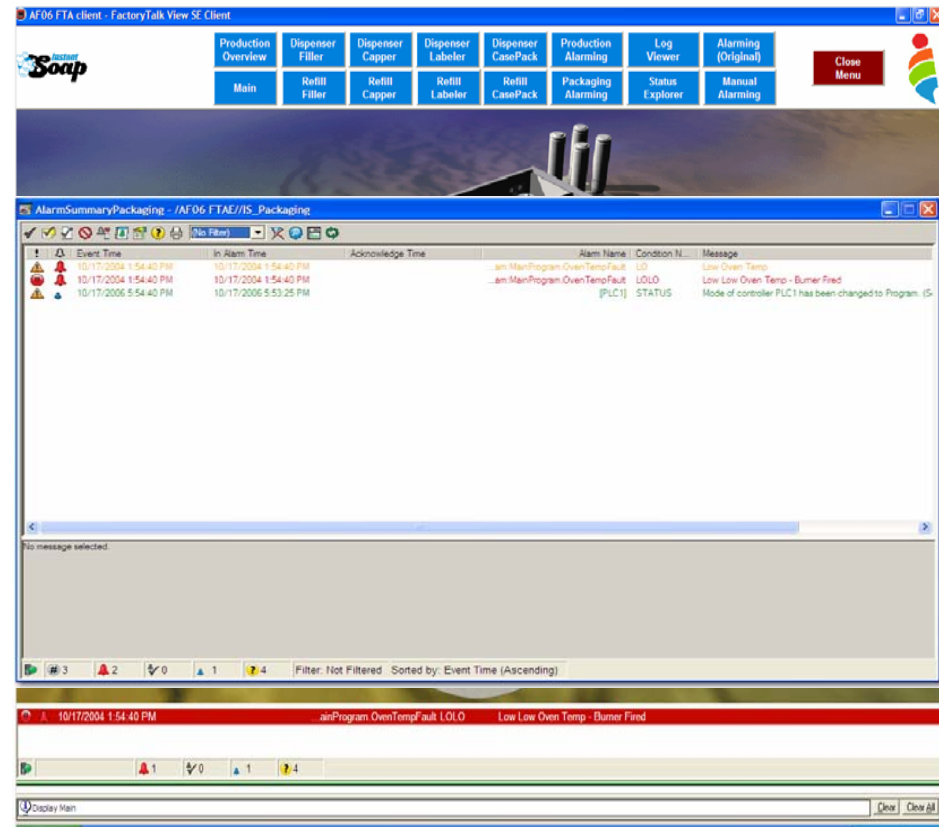
New Features & Product Enhancements: Global object parameters

- Provides better support for multiple global objects used in a single display or application
 - Lets you customize each reference global object instance with a specific tag for that instance without having to break the link to the base objects tags and expressions.
 - This means each reference object can have a unique data source, and still be able to be update with changes to other aspects of the global object.



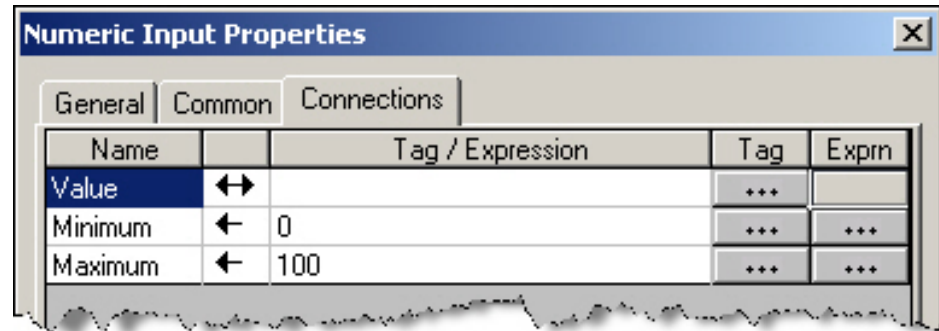
New Features & Product Enhancements: Docked Graphic Displays

- Allows graphic display to be fixed to the side of the View SE Client frame
 - A docked display may be located at the
 - top of the frame as a header, (e.g., menu bar)
 - bottom as a footer, (e.g., as an alarm banner)
 - left or right sides, (e.g., as a navigation menu)
- When a docked display is shown, the remaining view area of the View SE Client for other graphic displays will be reduced by the height or width of the docked display (depending on which side it is docked).



New Features & Product Enhancements: Numeric Input Object Min/Max

- Variable min/max limits for numeric input objects
 - Allows limit checking of numeric entry based on
 - a constant
 - a tag
 - an expression



LISTEN.
THINK.
SOLVE.SM

Questions?

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