Important user information

Read this document and the documents listed in the additional resources section about installation, configuration, and operation of this equipment before you install, configure, operate, or maintain this product. Users are required to familiarize themselves with installation and wiring instructions in addition to requirements of all applicable codes, laws, and standards.

Activities including installation, adjustments, putting into service, use, assembly, disassembly, and maintenance are required to be carried out by suitably trained personnel in accordance with applicable code of practice. If this equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

In no event will Rockwell Automation, Inc. be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation, Inc. cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation, Inc. with respect to use of information, circuits, equipment, or software described in this manual.

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Throughout this manual, when necessary, we use notes to make you aware of safety considerations.

---

**WARNING:** Identifies information about practices or circumstances that can cause an explosion in a hazardous environment, which may lead to personal injury or death, property damage, or economic loss.

**ATTENTION:** Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss. Attentions help you identify a hazard, avoid a hazard, and recognize the consequence

**Important:** Identifies information that is critical for successful application and understanding of the product.

---

Labels may also be on or inside the equipment to provide specific precautions.

**SHOCK HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that dangerous voltage may be present.

**BURN HAZARD:** Labels may be on or inside the equipment, for example, a drive or motor, to alert people that surfaces may reach dangerous temperatures.

**ARC FLASH HAZARD:** Labels may be on or inside the equipment, for example, a motor control center, to alert people to potential Arc Flash. Arc Flash will cause severe injury or death. Wear proper Personal Protective Equipment (PPE). Follow ALL Regulatory requirements for safe work practices and for Personal Protective Equipment (PPE).
# Table of contents

## Chapter 1

**Introduction**

- Intended audience
- Where to find additional information
- Help
- Release Notes
- Training programs
- Knowledgebases
- Consulting services

## Chapter 2

**Welcome to RSLinx Enterprise**

- What is RSLinx Enterprise?
- Features and benefits
- Overview of basic concepts
  - FactoryTalk Services Platform
  - FactoryTalk Directory
  - FactoryTalk Live Data
  - FactoryTalk Diagnostics
  - FactoryTalk Administration Console
- Local applications versus Network applications
- FactoryTalk Administration Console and FactoryTalk View Studio
- Design-time versus runtime
- Installation and configuration checklist

## Chapter 3

**Install RSLinx Enterprise**

- System requirements
  - Hardware requirements
  - Software requirements
  - Software compatibility
- Prerequisite software
- Install RSLinx Enterprise
- Update an existing installation
  - Update a system that already has a FactoryTalk-enabled product installed

## Chapter 4

**Start RSLinx Enterprise and explore the user interface**

- Start FactoryTalk Administration Console
- FactoryTalk Administration Console user interface components
- Add RSLinx Enterprise to the FactoryTalk application
- Explore the RSLinx Enterprise Communication Setup editor
  - Right-click versus left-click
Chapter 5
Define RSLinx Enterprise server properties
Define General server properties .............................................................. 27
Set up RSLinx Enterprise to support a redundant server (optional) .......... 28
Set up RSLinx Enterprise to support FactoryTalk Alarms and Events
(optional) ................................................................................................. 29

Chapter 6
Create a configuration
Add a driver ............................................................................................ 31
  If you are running on an Ethernet network ............................................ 31
  If you are running on any network other than Ethernet ......................... 31
Add a device ............................................................................................ 31
  Automatically add a device by browsing ................................................. 32
    Browse the virtual backplane .............................................................. 32
  Manually add a device .......................................................................... 32
Create shortcuts ..................................................................................... 33

Chapter 7
Troubleshooting
What to check first when you have problems ........................................ 35
Troubleshooting tools for RSLinx Enterprise ........................................ 35
  FactoryTalk Diagnostics event log ......................................................... 35
  Predefined items .................................................................................. 36
Answers to common questions ............................................................. 36
  Where is the help for RSLinx Enterprise? .............................................. 36
  Why don't I see RSLinx Enterprise on my Start menu? ......................... 36
  Why can't I browse for tags? ................................................................. 36
  Why can't I edit my ME configuration? .................................................. 36
  Can I run RSLinx Enterprise and RSLinx Classic on the same computer?
.............................................................................................................. 36
How to contact technical support .......................................................... 36

Chapter 8
Advanced topics
About the virtual backplane ................................................................. 39
Supported network routes .................................................................... 39
Move RSLinx Enterprise configurations ............................................. 40
  Move your shortcuts ........................................................................... 40
    Move shortcuts from one computer to another: same application ... 40
    Move shortcuts on the same computer: different application ......... 40
    Move shortcuts from one computer to another: different application
............................................................................................................. 41
  Move shortcuts from one computer to another: different FactoryTalk
    Directory ................................................................................................. 41
Move your physical layout (drivers and devices) .................................. 41
  Move from one computer to another ................................................... 41
Manage CIP connections ..................................................................... 43
  Logix controllers with a limited number of connections ................... 43
CIP bridge modules with a limited number of connections .................. 43
Use predefined items to count active CIP connections ..................... 44
Use FactoryTalk Diagnostics to track and troubleshoot CIP connections .................................................................................. 44
FactoryTalk Diagnostics ................................................................................................................................. 44
Change the allocation of CIP connections .................................................. 44

Chapter 9

Use RSLinx Enterprise with RSLinx Classic

For Windows Server 2008 and Windows 7 operating systems .............. 45
Dual-channel 1784-PKTX(D) driver ......................................................... 45
For all the supported operating systems ................................................. 46
1784-PKTX driver .............................................................................. 46
Serial-DF1 driver (RS232 DF1 devices) .............................................. 46
1784-PCIC(S) driver ........................................................................... 46

Chapter 10

Use RSLinx Enterprise with ControlFlash

Select an RSLinx edition in ControlFlash ............................................. 47
The Who Browser .............................................................................. 47
Configuring drivers in the Who Browser ............................................. 48
Add a driver for Local Broadcast ......................................................... 48
Add a driver for Remote Broadcast .................................................... 49
Add a driver with a Device List/Range .............................................. 49
Configure drivers in FactoryTalk Administration Console ................. 50

Chapter 11

Install RSLinx Enterprise with command line syntax

Comparing different installation methods ......................................... 51
Use unattended installation ................................................................ 52
Perform unattended installation ......................................................... 52
Parameters ....................................................................................... 52
Examples .......................................................................................... 53
Use silent installation for RSLinx Enterprise .msi file ......................... 54
Before you begin .............................................................................. 54
RSLinx Enterprise x64 driver package .............................................. 55
Install certificates ............................................................................. 55
Perform silent installation ................................................................. 56

Glossary

Index

Legal notices
Chapter 1

Introduction

The *Getting Results Guide* provides you with information on installing, navigating, and using RSLinx Enterprise.

This chapter includes the following information:

- Intended audience
- Where to find additional information

**Important:** The *Getting Results Guide* is included as a PDF (portable document format) file on your FactoryTalk Services installation DVD. This file must be viewed using the Adobe Acrobat Reader software, which is also included on the DVD.

Intended audience

You should be familiar with:

- Microsoft Windows operating systems
- Allen-Bradley PLCs (programmable logic controllers)
- Rockwell Automation’s PLC programming tools
- FactoryTalk Administration Console

Where to find additional information

For additional information about RSLinx Enterprise, consult the following resources:

Help

The Help includes all overview, procedural, screen, and reference information for the product. The Help contains these basic components:

- Overview topics
- Quick-start topics
- Step-by-step procedures
- Dialog box descriptions

To view the Help while working in FactoryTalk Administration Console:
Chapter 1  Introduction

• Select Contents from the Help menu on FactoryTalk Administration Console main window, then select the book, Work with RSLinx Enterprise, or

• Click Help on any RSLinx Enterprise dialog box or property screen, or

• Press F1, or

• From the Start menu, select Programs > Rockwell Software > FactoryTalk Tools > FactoryTalk Help > Work with RSLinx Enterprise.

Release Notes

The electronic Release Notes provide a list of the hardware and software that is necessary to use RSLinx Enterprise effectively and a list of known anomalies, anomalies fixed, and new features that are available in the current release.

The Release Notes are available from the FactoryTalk Services installation DVD. The Release Notes for all FactoryTalk components, including RSLinx Enterprise, are available from the FactoryTalk Help. FactoryTalk Help can be launched from FactoryTalk Administration Console or from the Start menu as described in the previous section.

Training programs

Rockwell Automation offers a wide range of training programs, from regularly scheduled classes to custom-tailored classes conducted at your site.

If you would like more information about these training programs, visit the Rockwell Automation site on the Web or contact the Rockwell Automation Training Coordinator. The Web address and telephone numbers appear on page ii of this document.

Knowledgebases

The Rockwell Automation Customer Support Center offers an extensive online database that includes frequently asked questions and the latest patches. Please visit http://www.rockwellautomation.com/support and select Knowledgebase under Self-Service Support to access this database.

Consulting services

Rockwell Automation provides expert consulting and turnkey implementations for making optimal use of Rockwell Software products. Please contact your local representative for more information.
Welcome to RSLinx Enterprise

This chapter includes the following information:

- What is RSLinx Enterprise?
- Features and benefits
- Overview of basic concepts
- Installation and configuration checklist

What is RSLinx Enterprise?

RSLinx Enterprise is a FactoryTalk Live Data™ server and FactoryTalk Alarms and Events server. RSLinx Enterprise configurations, which you create and modify using the Communication Setup editor, are used by your applications to communicate with devices (such as controllers and I/O scanners) on the plant floor. This enables you to see values, such as sensor readings and other controller data from your plant floor devices, on your desktop computer or dedicated PanelView Plus terminal.

An RSLinx Enterprise configuration consists of:

- A list of communication devices and their settings (for example, node, baud rate, and alike).
- Device drivers and their associated properties.
- A list of potential target devices, with which RSLinx Enterprise can communicate (that is, exchange data).
- Shortcuts. A shortcut is a name that stands for the device you want to connect to, and the data that device contains. The communication path associated with the shortcut tells the application where to find that data.

For FactoryTalk View Machine Edition applications, you can pre-configure RSLinx Enterprise-based communications needed for the runtime applications, using the design software, FactoryTalk View Studio. You can also edit configurations, using Windows CE-based tools on the PanelView Plus terminal.

Features and benefits

RSLinx Enterprise provides the following features and benefits:

- Provides access to controller and device data from any FactoryTalk Live Data client.
- Is optimized for ControlLogix communications.
• Checks for devices that support a relatively small number of CIP connections and limits the number of read connections. (The number of write connections remains fixed at 1.)

• Offers a variety of communication drivers and routing options.

• Supports Local applications (also called stand-alone applications) for smaller systems, and Network applications (also called distributed applications) for larger systems.

• For Network applications, provides the option of specifying a secondary, or redundant, server to take over when the primary server fails.

• Provides editing capabilities outside of FactoryTalk View Studio. You do not have to install FactoryTalk View Studio to edit RSLinx Enterprise configurations. Use FactoryTalk Administration Console, which is installed with FactoryTalk Services.

• Installs and supports FactoryTalk Alarms and Events. Refer to the Help for more information about FactoryTalk Alarms and Events.

• Supports FactoryTalk Security to provide a means for system administrators to control access to resources (such as applications or areas), or the ability to perform tasks (such as read and write) in the automation system.

• In conjunction with FactoryTalk Gateway, provides standard OPC connectivity into the FactoryTalk system for third-party products. For more information about FactoryTalk Gateway, refer to the FactoryTalk Gateway Help.

Overview of basic concepts

It is important to understand some basic concepts about FactoryTalk and RSLinx Enterprise before you begin working with RSLinx Enterprise within the FactoryTalk Administration Console. For more detailed information about FactoryTalk, refer to the FactoryTalk Help.

FactoryTalk Services Platform

Formerly known as FactoryTalk Automation Platform, the FactoryTalk Services Platform is an underlying architecture and set of services that Rockwell Automation software products build upon.

The FactoryTalk Services Platform:

• Provides common services (such as diagnostic messages, health monitoring services, access to real-time data) and shares plant resources (such as tags and graphic displays) throughout an automation system.

• Allows defining plant-floor resources once, and then allows simultaneous access to those resources across product boundaries.

• Supports centralized security services.

The FactoryTalk Services Platform includes the following components:
<table>
<thead>
<tr>
<th>FactoryTalk Directory</th>
<th>FactoryTalk Directory allows products to share a common address book, which finds and provides access to plant-floor resources, such as data tags and graphic displays. The FactoryTalk Services Platform includes two separate directories: a Local Directory and a Network Directory. In a Local Directory, a Directory Server, all project information, and all participating software products are located on a single computer. Local applications cannot be shared across a network. A Network Directory organizes project information from multiple FactoryTalk products across multiple computers on a network.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FactoryTalk Live Data</td>
<td>FactoryTalk Live Data manages connections between FactoryTalk products and data servers. It reads values from, and writes values to, OPC-DA servers (OLE for Process Control - Data Access) and Live Data servers on behalf of client software products, such as FactoryTalk View and FactoryTalk Transaction Manager.</td>
</tr>
<tr>
<td>FactoryTalk Diagnostics</td>
<td>FactoryTalk Diagnostics collects and provides access to activity, status, warning, and error messages generated throughout a FactoryTalk system.</td>
</tr>
<tr>
<td>FactoryTalk Administration Console</td>
<td>FactoryTalk Administration Console is an optional, standalone tool that enables you to configure and manage FactoryTalk-enabled applications.</td>
</tr>
<tr>
<td>FactoryTalk Security</td>
<td>FactoryTalk Security offers centralized security services that provide the ability to control access to your automation system. For more information on configuring FactoryTalk Security, refer to the topic titled About &quot;FactoryTalk Security&quot; in the RSLinx Enterprise Help.</td>
</tr>
<tr>
<td>Local applications versus Network applications</td>
<td>An application organizes project information, including elements such as data servers, HMI servers, and alarm and event servers. The application makes project information available to all FactoryTalk-enabled products participating in a FactoryTalk system.</td>
</tr>
</tbody>
</table>

- **Network applications** are held in a FactoryTalk Network Directory. Project information and participating software products can be located on multiple computers distributed across a network. All of the computers participating in a particular Network application share a common Network Directory Server located on a network computer.

- **Local applications** are held in a FactoryTalk Local Directory. Project information is located on a stand-alone computer and is available only to software products installed on that same local computer. Local applications cannot be accessed remotely and cannot share project information with a Network application.
To edit RSLinx Enterprise configurations, use FactoryTalk Administration Console or FactoryTalk View Studio as follows:

- In a Network (distributed) application, you can use either FactoryTalk Administration Console or FactoryTalk View Studio.
- In a Local application, you can edit locally or remotely using FactoryTalk Administration Console, or you can edit locally or remotely within FactoryTalk View Studio.
- To edit a FactoryTalk View ME (Machine Edition) project, use FactoryTalk View Studio because of the specific needs of FactoryTalk View ME.

**FactoryTalk Administration Console and FactoryTalk View Studio**

**Design-time versus runtime**

RSLinx Enterprise is comprised of design-time and runtime components. The design-time components provide the user interface that enables you to set up devices, drivers, and shortcuts that are ultimately used by the runtime components. Based on this configuration data, the runtime components execute read/write requests received during runtime operation.

Use the following checklist to guide you through the installation and configuration process.

<table>
<thead>
<tr>
<th>Step</th>
<th>Description</th>
<th>Refer to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Read and understand the <em>RSLinx Enterprise Getting Results Guide</em>.</td>
<td>This Guide.</td>
</tr>
<tr>
<td>2.</td>
<td>Plan your system.</td>
<td>“Getting started with a FactoryTalk system” in the FactoryTalk Help.</td>
</tr>
<tr>
<td>3.</td>
<td>Verify your personal computer meets the minimum hardware and software requirements.</td>
<td>“Minimum system requirements” on page 15</td>
</tr>
<tr>
<td>4.</td>
<td>Install FactoryTalk Services Platform and RSLinx Enterprise.</td>
<td>“Install RSLinx Enterprise” on page 16</td>
</tr>
<tr>
<td>6.</td>
<td>Add an RSLinx Enterprise server.</td>
<td>“Add RSLinx Enterprise to the FactoryTalk application” on page 23</td>
</tr>
<tr>
<td>7.</td>
<td>Specify general RSLinx Enterprise server properties.</td>
<td>“Define General server properties” on page 27</td>
</tr>
<tr>
<td>8.</td>
<td>Optionally, set up a redundant server to take over if the primary server fails (network applications only).</td>
<td>“Set up RSLinx Enterprise to support a redundant server (optional)” on page 28</td>
</tr>
<tr>
<td>Step</td>
<td>Description</td>
<td>Refer to:</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
<td>------------</td>
</tr>
<tr>
<td>9.</td>
<td>Optionally, set up options for device-based alarms.</td>
<td>&quot;Set up RSLinx Enterprise to support FactoryTalk Alarms and Events (optional)&quot; on page 29</td>
</tr>
<tr>
<td>10.</td>
<td>Add drivers and devices.</td>
<td>&quot;Add a driver&quot; on page 31</td>
</tr>
<tr>
<td>11.</td>
<td>Create shortcuts that point to your target devices.</td>
<td>&quot;Create shortcuts&quot; on page 33</td>
</tr>
</tbody>
</table>
Chapter 3

Install RSLinx Enterprise

RSLinx Enterprise supports two installation methods: Setup wizard installation and automated installation with command line syntax. This chapter uses the Setup wizard installation method to illustrate the steps.

This chapter contains the following information:

- Minimum system requirements
- Install RSLinx Enterprise software
- Update an existing installation

The automated installation with command line syntax reduces user interaction and provides command line parameters to install RSLinx Enterprise. See Install RSLinx Enterprise with command line syntax on page 51.

System requirements

To use RSLinx Enterprise, your personal computer must meet the following minimum hardware and software requirements:

Hardware requirements

RSLinx Enterprise requires the following hardware:

- Intel Core 2 Duo, 2.8 Ghz processor
- 2 GB of memory
- 16 GB free hard disk space

Software requirements

RSLinx Enterprise runs on either the 32-bit or 64-bit versions of the following Windows operating systems:

- Windows 7 Enterprise with Service Pack 1
- Windows Embedded Standard 7 with Service Pack 1
- Windows 7 Home Premium with Service Pack 1
- Windows 7 Ultimate with Service Pack 1
- Windows 7 Professional with Service Pack 1
- Windows 8
- Windows 8 Enterprise
- Windows 8 Professional
- Windows 8.1
- Windows 8.1 Enterprise
- Windows 8.1 Professional
- Windows 10 Enterprise*
- Windows 10 Professional*
- Windows 10 IoT Enterprise 2016 Long Term Servicing Branch (LTSB) Embedded**
- Windows Server 2008 R2 Enterprise Edition with Service Pack 1
- Windows Server 2008 R2 Standard Edition with Service Pack 1
- Windows Server 2012 Datacenter
- Windows Server 2012 Standard Edition
- Windows Server 2012 R2 Datacenter
- Windows Server 2012 R2 Standard Edition

*See Rockwell Automation Knowledgebase Answer ID 964391 for Windows 10 support information.

**Supported with the Allen-Bradley 61xx family of Industrial Computers or CompactLogix™ 5480 family of controllers.

For the latest information regarding software platform support, refer to http://www.rockwellautomation.com/compatibility/#/scenarios.

**Software compatibility**

RSLinx Enterprise v5.90.00 (CPR 9 SR 9) has been tested with, and is compatible with, the following Rockwell Automation products:

- Studio 5000 Logix Designer™ v30.00.00 or earlier
- FactoryTalk Gateway v3.90.00
- FactoryTalk Services Platform v2.90.00
- FactoryTalk Alarms and Events v2.90.00
- FactoryTalk View v9.00.00
- RSLinx Classic v3.90.00

**Prerequisite software**

RSLinx Enterprise is a component of FactoryTalk Services. FactoryTalk Services Setup Wizard supports to install a series of Rockwell software and the necessary prerequisite software, including:

**Rockwell Software**

- FactoryTalk Services Platform v2.90.00
- FactoryTalk Activation Manager v4.00.02
- RSLinx Enterprise v5.90.00
- FactoryTalk Alarms and Events v2.90.00
- Rockwell Automation USB CIP Driver v3.18.06 (for 32-bit operating systems)
- Rockwell Automation x64 Driver v2.00.00 (for 64-bit operating systems)

Prerequisite Software

- FactoryTalk Diagnostics v2.90.00
- Microsoft .NET Framework 4.6
- Microsoft SQL Server Compact 4.0
- OPC .NET API 4.5
- Windows Firewall Configuration Utility 1.00.08
- Wibu CodeMeter Runtime Kit v6.30

You can install one or more Rockwell Software products to a single personal computer.

**Important:** The user installing or configuring RSLinx Enterprise must have administrative rights in Windows on the computers where the software is being installed or configured. The Windows domain Administrator account has these rights, for example.

To install RSLinx Enterprise software:

1. Start your Windows operating system.
2. Insert the FactoryTalk Services DVD into the DVD-ROM drive.
   - Click **Start**, and then click **Run**. The **Run** dialog box appears.
   - In the **Open** control, type `x:\setup`, where `x` is the letter of the drive containing the FactoryTalk Services DVD-ROM, and then click **OK**.
3. If Microsoft .NET Framework 4.0 or later is not installed on your computer, the **Microsoft .NET Framework Setup** dialog box shows. Click **Install**.
4. On the **FactoryTalk Services Setup** dialog box, choose one of the following:
• Click **Install Now** to start the software installation with the default settings.

• Click **Customize** to select the products which you want to install, or specify a different drive where you want to install the software, and then click **Install**.

5. On the **End-User License Agreements** dialog box, read the agreements, and click **Accept all** to continue the installation, or click **Decline** to return to the previous page.

6. When prompted to restart your computer during the installation, click **Restart now** to restart your computer and continue the installation, or **Restart later** to suspend and exit the installation.

7. On the **That's it!** dialog box, click **Close** to exit the installation. Meanwhile, you can also:

• Click **Installation Summary** to see the installation details.

• Click **Register for updates** to learn how to receive email updates about product patches.

• Click **Download it free** to install Adobe Acrobat Reader. Adobe Acrobat Reader is required to open the RSLinx Enterprise Getting Results Guide and other documents.

8. The RSLinx Enterprise installation is complete. When you finish installing the software, remove the FactoryTalk Services DVD from the DVD-ROM drive, and store it in a safe place.

**Update an existing installation**

Note the following before upgrading RSLinx Enterprise:

• You must have administrative rights in Windows on the computers where RSLinx Enterprise is being installed. For example, the Windows domain Administrator account has these rights.

• Be sure that you install RSLinx Enterprise with the compatible Rockwell Automation products.

Perform the following steps to upgrade from a previous version of the software:

1. Stop your current version of RSLinx Enterprise.

2. Insert the FactoryTalk Services product DVD into the DVD-ROM drive. Perform the installation steps in the order presented on the screen. You can refer to **Install RSLinx Enterprise** on page 16 for the installation steps.
Install RSLinx Enterprise

Chapter 3

Important: The old version of RSLinx Enterprise that exists on your computer is automatically uninstalled when you install a newer version of RSLinx Enterprise.

3. Restart your computer.

Important: You must restart your computer after installing Rockwell Software products. If you are installing multiple products, you must restart your computer after all of the products are installed.

---

Update a system that already has a FactoryTalk-enabled product installed

If you are installing RSLinx Enterprise on a Windows platform, on which other FactoryTalk-enabled products are currently installed, you must first verify that all products are of the same CPR number. You can do this from Start > Control Panel > Programs and Features (view by small icons).

The CPR number is shown with the product. If any products are of a previous release, you must uninstall the products (following the sequence: uninstall FactoryTalk Activation Manager > uninstall FactoryTalk Services Platform > uninstall FactoryTalk Diagnostics last), restart your computer, and then use the installation DVD to install the correct release version.

If the CPR versions are compatible, verify that FactoryTalk Administration Console is installed, using the following procedure:

1. Select Start > Control Panel > Programs and Features (view by small icons).
2. Right click FactoryTalk Services Platform from the program list.
3. Select Change to start the installation wizard.
4. Select Modify from the Program Maintenance screen.
5. Verify the installation status of FactoryTalk Administration Console.
Chapter 4

Start RSLinx Enterprise and explore the user interface

This chapter includes the following information:

- Start FactoryTalk Administration Console
- Basic FactoryTalk Administration Console user interface components
- Explore the Communication Setup editor

RSLinx Enterprise is launched from within FactoryTalk Administration Console. To start FactoryTalk Administration Console, use the following procedure:

1. From the Start menu, select Programs > Rockwell Software > FactoryTalk Administration Console.

2. Select the FactoryTalk Directory you want to use. Refer to Chapter 2 for more information about Network and Local applications.

![Select FactoryTalk Directory dialog box]

Important: Depending on the security settings, you may be required to enter a User name and Password to open an application. Refer to the FactoryTalk Help for more information.
FactoryTalk Administration Console is made up of the following basic user interface components:

![FactoryTalk Administration Console](image)

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>The Explorer pane contains the Application tab and the Communications tab.</td>
</tr>
<tr>
<td>2</td>
<td>The Application tab shows your applications in tree format as you create them. With the Application tab, you can view and manage your applications. You use FactoryTalk Administration Console to add references to data servers, such as RSLinx Enterprise, within FactoryTalk applications. For more information about creating applications in the FactoryTalk Administration Console, refer to the FactoryTalk Administration Console Help.</td>
</tr>
<tr>
<td>3</td>
<td>The Communications tab provides a view from the computer you are currently using. With the Communications tab, you can browse for devices your computer can access on the network (similar to RSWho in RSLinx Classic) and shows them in tree format. The tree is composed of networks, chassis, devices, and services. The status bar on this tab indicates whether the computer is online or offline, and whether it is browsing or not browsing.</td>
</tr>
<tr>
<td>4</td>
<td>The workspace is an empty pane when you start FactoryTalk Administration Console. When you launch RSLinx Enterprise from the Explorer pane, the Communication Setup editor opens in the workspace.</td>
</tr>
</tbody>
</table>
Add RSLinx Enterprise to the FactoryTalk application

To begin using RSLinx Enterprise after you install it, you must first add it to a FactoryTalk application, which is created in the FactoryTalk Directory. Use the following procedure to add RSLinx Enterprise to an application.

1. In the Explorer window, position the cursor on the area or application, to which you want to add the RSLinx Enterprise server.

2. Right-click the area or application, select Add New Server>Rockwell Automation Device Server (RSLinx Enterprise).

3. In the RSLinx Enterprise Server Properties tabs, set the server properties. These tabs are described in Chapter 5.

4. Click OK to add the RSLinx Enterprise server to the application.

Explore the RSLinx Enterprise Communication Setup editor

Use the Communication Setup editor to add drivers, add devices, set up driver and device properties, and set up device shortcuts in your RSLinx Enterprise configurations.

To open the Communication Setup editor, perform the following steps:

1. In the Explorer pane, expand the appropriate application in the application tree.

2. Expand RSLinx Enterprise.

![Communication Setup Editor](image)

**Important:** Modifying this data at run time could cause unexpected results. See "Making run-time changes in FactoryTalk applications" in the RSLinx Enterprise Help.

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In the <strong>Device Shortcuts</strong> area, you can add, remove, and modify shortcuts and apply the shortcut properties to the selected shortcut name. A shortcut is a name that stands for the device you want to connect to, and the data that device contains. The shortcut is associated with a communication path to tell the application where to find that data.</td>
</tr>
</tbody>
</table>
| 2    | Tab(s) contain a communication tree control, representing the communication topology. Depending on your product, you will see the following tabs:  
**FactoryTalk View SE (Site Edition) Local:** Primary tab  
**FactoryTalk View SE Network:** Primary tab and, if server redundancy is selected, Secondary tab.  
Use the tabs to add, remove, and modify devices and drivers. Menu options are shown by right-clicking the various nodes within the communication tree. |
| 3    | **Mode** indicates whether you are Online or Offline. |
| 4    | **Browse status** indicates whether or not RSLinx Enterprise is interrogating the network to determine if there are additional devices present. |
| 5    | **Shortcut Properties Table** indicates the properties associated with the selected shortcut. |
Start RSLinx Enterprise and explore the user interface

Chapter 4

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
</table>
| 6    | **Shortcut options** indicate the options associated with the selected shortcut type.  
**Note:** If unsolicited message is selected in the Shortcut Type, the following shortcut options display under the Shortcut type in the Communication Setup editor. For any other shortcut type (that is, processor, EDS parameter, or symbolic), the shortcut options are not visible. |
| 7    | **Status** shows messages that assist you as you configure your shortcuts. |

**OK** Saves any changes and closes the Communication Setup editor.  
**Cancel** Closes the Communication Setup editor without saving the current changes.  
**Verify** Shows a summary of the shortcuts you created, and their associated status messages.  
**Help** Opens Help.

---

**Right-click versus left-click**

<table>
<thead>
<tr>
<th>To do this:</th>
<th>Do this:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Select a device on the communication tree to apply a shortcut to it.</td>
<td>Left-click the device. If it is a valid device selection, the <strong>Apply</strong> button will become active. If it is an invalid device selection, status message (6) will alert you.</td>
</tr>
<tr>
<td>Start browsing the network.</td>
<td>Left-click a network on the communication tree. The Browse status (4) will indicate Browsing, or Right-click a network. Select <strong>Start Browsing</strong> from the context menu.</td>
</tr>
<tr>
<td>Stop browsing the network.</td>
<td>Right-click a network. Select <strong>Stop Browsing</strong> from the context menu.</td>
</tr>
<tr>
<td>View or edit a property screen.</td>
<td>Right-click the device or network. Select <strong>Properties</strong> from the context menu.</td>
</tr>
<tr>
<td>View a context menu.</td>
<td>Right-click.</td>
</tr>
</tbody>
</table>

**Important:** To open the property screen for a device, do not left-click the device to select it before right-clicking to open the property screen. The left-click action selects a shortcut target, which may or may not be the intended target for the highlighted shortcut.

---

If making an edit in the development environment will adversely affect the run-time system, warnings have been added to FactoryTalk to alert you. If the change is made through a dialog box, this warning icon:
appears next to the component where the edit can be made. Hovering the mouse cursor over the icon shows the following message:

"Modifying this data at run time could cause unexpected results. See Making run-time changes in FactoryTalk applications in the Help."

If the edit is made through a menu item, the message opens when you click the menu item.
Define RSLinx Enterprise server properties

This chapter includes the following information:

- Define General server properties
- Set up RSLinx Enterprise to support redundant servers (optional)
- Set up RSLinx Enterprise to support FactoryTalk Alarms and Events (optional)

To launch the Communication Setup editor, double-click Communication Setup from the Explorer under the RSLinx Enterprise server icon. The RSLinx Enterprise Server Properties dialog box opens.

Define General server properties

Both Local and Network applications require you to specify server properties on the General tab of the RSLinx Enterprise Server Properties dialog box.

- The server name is RSLinx Enterprise and cannot be changed after the server has been created.
- Use the Description field to describe a component’s location, to identify a contact person or number in the event of failure, or to keep track of changes or version information.
Set up RSLinx Enterprise to support a redundant server (optional)

- For Local applications, the computer hosting the RSLinx Enterprise server defaults to localhost and cannot be changed. For Network applications, identify the computer where the RSLinx Enterprise server resides by either clicking Browse or typing the computer name.

If you are going to set up a redundant server, click the Redundancy tab. Otherwise, click Apply to save the server information, and then click OK to close the dialog box.

On the Redundancy tab of the RSLinx Enterprise Server Properties dialog box, you can set up a secondary (redundant) server that will take over in the event that there is service loss of the primary RSLinx Enterprise server.

The secondary server cannot be hosted on the same computer as the primary server. You can set up a redundant data server for a network (distributed) application only. Refer to the RSLinx Enterprise Help for more information about redundant servers.

To set up a redundant server, on the Redundancy tab:

1. Select Provide redundancy using a secondary server.
2. Type the name of the computer that the secondary server will run on, or click Browse to locate and select a computer.
3. Select a switchover option.

If you are going to set up FactoryTalk Alarms and Events support, click the Alarms and Events tab. Otherwise, click Apply to save the server information, and then click OK to close the dialog box.
Set up RSLinx Enterprise to support FactoryTalk Alarms and Events (optional)

On the Alarms and Events tab of the RSLinx Enterprise Server Properties dialog box, you can configure the selected server for FactoryTalk Alarm and Event device-based alarm monitoring. Refer to the RSLinx Enterprise Help, or click Help on the property page before attempting to set up FactoryTalk Alarms and Events support.
Create a configuration

This chapter includes the following information:

- Add a driver
- Add a device
- Create shortcuts

To begin working with RSLinx Enterprise, you must add an RSLinx Enterprise data server to the FactoryTalk Directory. This procedure is described in Chapter 4. Once you have added RSLinx Enterprise and configured its properties, use the Communication Setup editor to add drivers, set up driver and device properties, and set up device shortcuts.

To launch the Communication Setup editor, double-click Communication Setup from the Explorer under the RSLinx Enterprise data provider.

**Add a driver**

A driver is software that interacts with a network interface (such as the interface that connects your computer to the Ethernet network) and manages the exchange of communication packets over the network, to which the interface is attached. Refer to the RSLinx Enterprise Help for information about the drivers that are supported.

If you are running on an Ethernet network, right-click the network shown (for example, Ethernet), and select Start Browsing to populate the driver with devices to add a driver.

**Important:** Some Ethernet devices may not support the browse protocol used by RSLinx Enterprise on Ethernet. If the devices you expect to appear during the browse do not appear, manually add the devices to the workstation's Ethernet network by right-clicking on the network and selecting Add Device.

If you are running on any network other than Ethernet, right-click the device shown at this workstation, and select Add Driver to add a driver.

**Add a device**

You can add devices by browsing the network, or you can manually add devices.
Automatically add a device by browsing

The list of potential device targets for RSLinx Enterprise can be gathered during online browsing. During a browse cycle, RSLinx Enterprise scans the network addresses, determines the present devices, and shows them in tree format. The display shows the set of devices discovered during the most recent browse cycle.

If a device is not found during a browse, it does not appear on the display, regardless of whether or not that device was previously discovered.

If you are running on an Ethernet network, right-click the network shown (for example, Ethernet) to start browsing. The network is automatically populated with devices.

Browse the virtual backplane

When you select the virtual backplane on the user interface, RSLinx Enterprise may not automatically discover devices that reside in it. If you have added the device with a separate software package, such as the SoftLogix Chassis Monitor or RSLinx Classic, this is most likely to happen.

If you think you have devices resident in your virtual backplane that are not showing up on the RSLinx Enterprise user interface, you can right-click the virtual backplane and select Start Browsing, or Show All Devices to see those devices. If the devices do not appear, saved configuration data is not lost.

Manually add a device

You can manually add the devices to the workstation's network using the following procedure:

1. Right-click the network or driver and select Add Device.

A list of Available Devices that applies only to the network you selected opens.

Add Device Selection

Available Devices:
- EtherNet/IP Devices
- Ethernet PLC5 devices
- Ethernet SLC devices
- NetENI-connected PCCC devices
2. Select the device you wish to add, and click **OK**. The device is added below the driver or network on the communication tree. Unless your application requires a specific device version, you should select the most recent revision of that device.

For information on device revisions in the device list, see the drivers, device, and shortcuts section of "Frequently asked question" in the RSLinx Enterprise Help. The Help also provides information about how to add and configure drives and devices.

### Create shortcuts

Your application uses a configuration file to communicate with devices on the network. This file contains at least one shortcut, which is a name that stands for the device you want to connect to and the data that device contains. The communication path associated with the shortcut tells the application where to find that data.

Here are some important aspects about device shortcuts:

- A shortcut needs to be configured for each device that the application needs to access. The connected device must be capable of providing data to the application.
- Shortcuts are stored on a per-FactoryTalk application basis instead of being associated with the RSLinx Enterprise server itself.
- Shortcuts are added, deleted, or modified using the Shortcut Editor in the Device Shortcuts area of the Communication Setup editor.

To create a shortcut, use the following procedure:

1. In the Device Shortcuts area of the Communication Setup editor, click **Add**. A default shortcut named New_Shortcut is created.

2. If you wish to change the name of the shortcut, you can enter the new name at this point.

   When creating a shortcut name:
• Use the name of the controller, in which the data (tags) resides.
• Ensure that the name is unique within this FactoryTalk View application.
• Do not use any of the following characters: . (period), ], [, %, or /.
• Keep shortcut names as short as possible. The name must be less than 255 characters.
• Do not give the same name to RSLinx Enterprise shortcuts and RSLinx Classic topics. If a shortcut has the same name as a topic, tags will not be shown for one of them during a tag browse.

3. Select the device on the communication tree by clicking the device that contains the data you want to access for this shortcut, and click Apply. A dialog box opens to confirm your changes.

4. **Optional** -- You may also choose to use an Offline Tag File by entering the path and name of the file in the Properties Table or by clicking Browse... and browsing for the file. Click Apply in the Device Shortcuts area. An offline tag file is a ControlLogix project file (.acd) that contains tag data. You can use this file to browse for tags when designing your application when the controller is not online.

    **Important:** The ControlLogix program file (.acd) must be located on the local computer, instead of on a networked location. The offline file must be located in the specified directory on all RSLinx Enterprise server machines associated with the shortcut.

5. **Optional** -- Enable Alarms and Events support for this shortcut by selecting Yes from the menu in the Shortcut Properties Table. Refer to the RSLinx Enterprise Help before enabling Alarms and Events support for a shortcut.

6. To see the status messages associated with each shortcut you have configured, click Verify on the Communication Setup editor.

When you have finished adding shortcuts, click OK to close the Communication Setup editor. The shortcuts are not saved until you click OK to close this dialog box. A dialog box opens to confirm your changes.
Troubleshooting

This chapter includes the following information:

- What to check first if you are having problems
- Troubleshooting tools for RSLinx Enterprise
- Answers to common questions
- How to contact technical support

What to check first when you have problems

Does your computer meet the minimum hardware and software requirements? Refer to Chapter 3 for these requirements.

Is the FactoryTalk Administration Console installed on your computer?
If you are running on a Windows platform, verify that FactoryTalk Administration Console is installed using the following procedure:

1. Select Start > Control Panel > Programs and Features (view by small icons).
2. Right click FactoryTalk Automation Platform from the program list.
3. Select Change to start the installation wizard.
4. Select Modify from the Program Maintenance screen.
5. Verify the installation status of FactoryTalk Administration Console.

Troubleshooting tools for RSLinx Enterprise

RSLinx Enterprise provides diagnostic tools, with which you can troubleshoot problems when they occur:

- FactoryTalk Diagnostics event log
- Predefined items

FactoryTalk Diagnostics event log

In a FactoryTalk-enabled automation system, Rockwell Software products monitor system activity and generates detailed diagnostic messages. Meanwhile, FactoryTalk Diagnostics collects this activity, warning, error, and audit messages from all participating products throughout a distributed system and routes them to Local Logs (also called event logs) on each computer.

If you encounter a problem, you can review the events in the log that led up to the problem to assist in determining the cause. Or you can monitor the log
to identify potential problems and take corrective action before a problem occurs.

Refer to the FactoryTalk Help for more information about FactoryTalk Diagnostics and the event log.

### Predefined items

Predefined items are counters or strings that are made available by RSLinx Enterprise as data items for diagnostic purposes. These predefined items access information contained in RSLinx Enterprise. Refer to the RSLinx Enterprise Help for more information about predefined items.

### Answers to common questions

The following are some frequently asked questions about RSLinx Enterprise.

#### Where is the help for RSLinx Enterprise?

From the FactoryTalk Administration Console, select **Help > Contents > FactoryTalk Help > Work with RSLinx Enterprise**. If this book is not present, RSLinx Enterprise is not installed on your computer. Refer to Chapter 3 for the installation procedure.

#### Why don't I see RSLinx Enterprise on my Start menu?

RSLinx Enterprise uses the FactoryTalk Administration Console to edit all of the configuration data and does not require a standalone interface. FactoryTalk View Studio can also make changes to RSLinx Enterprise configurations. Therefore, if you are using FactoryTalk View Site Edition or FactoryTalk View Machine Edition, you do not have to leave the main user interface.

#### Why can't I browse for tags?

Tag browsing (that is, browsing online for data items) is not supported in the FactoryTalk Administration Console. To browse for tags and connect them to components in your system, you must use the FactoryTalk View Studio or the FactoryTalk Transaction Manager tag browsers.

#### Why can't I edit my ME configuration?

Editing HMI servers within applications, namely FactoryTalk View SE Distributed, SE Local, and ME, is not supported in the FactoryTalk Administration Console. The FactoryTalk Administration Console is intended to configure and manage your application. To edit SE or ME configurations, you must use FactoryTalk View Studio.

#### Can I run RSLinx Enterprise and RSLinx Classic on the same computer?

RSLinx Enterprise and RSLinx Classic can run simultaneously on the same computer, although there are some considerations that you must be aware of to avoid resource conflicts between these two applications. Refer to Chapter 9 for more information.

#### How to contact technical support

Questions concerning installation and use of RSLinx Enterprise software are handled by the Rockwell Automation Customer Support Center. The center is staffed Monday through Friday, except on U.S. holidays, from 8 a.m. to 5 p.m. Eastern time zone for calls originating within the U.S. and Canada.

To reach the Customer Support Center, call 440-646-3434 and follow the prompts. For calls originating outside the U.S. or Canada, locate the number
in your country by visiting
http://support.rockwellautomation.com/contact information.

When you call, you should be at your computer and be prepared to provide
the following information:

- The product version number.
- The type of hardware you are using.
- The exact wording of any errors or messages that appeared on your
  screen.
- A description of what happened and what you were doing when the
  problem occurred.
- A description of how you attempted to solve the problem.
Advanced topics

The following topics are presented in this section:

- About the virtual backplane
- Supported network routes
- Move RSLinx Enterprise configurations
- Manage CIP connections

About the virtual backplane

The virtual backplane is a driver service that provides connectivity between RSLinx Enterprise and various device drivers and other applications within the RSLinx Enterprise server. It allows the software modules and communications resources contained in the server to be configured and visualized in a manner similar to the devices in a ControlLogix system.

For example, both the PCICS and PKTCS device drivers plug into the virtual backplane. Packets received by one of these communications interface cards can be routed across the virtual backplane to (or through) any other interface card whose driver plugs into the virtual backplane, or to any application that plugs into the virtual backplane, such as the SoftLogix5xxx controller.

This is very similar to having a 1756-CNB and a 1756-ENBT module plugged into a ControlLogix chassis: packets received across the ENBT can be routed across the backplane and out the CNB module, or to a controller sitting in the backplane.

It is important to remember that RSLinx Enterprise occupies a slot in the virtual backplane (as can RSLinx Classic), which means that it is able to be both a source and a destination for packets sent over the backplane.

This chassis-like model is carried over to the PanelView Plus platforms in a minimalistic fashion. For ControlNet support, those platforms implement two-slot virtual backplanes, where RSLinx Enterprise sits in one slot (slot #0) and the 2711P-RN15S ControlNet Scanner card sits in the other (slot #1).

Supported network routes

The preferred route for PCCC networks is for the RSLinx Enterprise engine to be connected to the end device. For example, a PanelView Plus device connected directly to a PLC-5, or an RSLinx Enterprise data server on a Windows computer connected directly to a DH+/RIO module in a ControlLogix rack.
RSLinx Enterprise allows you to change the network type used when going across a route that includes multiple CIP (Control and Information Protocol; for example, Ethernet or ControlNet) hops.

RSLinx Enterprise does not support offlink routes. Offlink routes are network paths, in which the underlying network protocol changes. This mean if you originally start on a PCCC route (for example, DH+/DH485, DH-RIO), you cannot switch to a CIP route such as ControlNet or Ethernet. The reverse is also true: you cannot start on a CIP route (for example, Ethernet to ControlLogix to DH+ to PLC-5), and then switch to a PCCC route.

The following sections provide guidelines for moving your shortcuts from application to application and for moving your list of selected hardware from computer to computer. Before moving your files, stop the RSLinx Enterprise service using the Windows Service Control Panel.

You can reuse shortcuts developed in one application for RSLinx Enterprise for another RSLinx application without having to re-enter the shortcuts using the following procedures. These procedures move only the shortcuts and not the drivers themselves.

**Move RSLinx Enterprise configurations**

**Move your shortcuts**

**Move shortcuts from one computer to another: same application**

1. Right-click the RSLinx Enterprise server in the application tree and select **Properties**.

2. Change the computer name in the Computer hosting the RSLinx Enterprise server box to the new location of the RSLinx Enterprise server.

3. A warning message opens to alert you that this procedure changes the RSLinx Enterprise server reference. You must reapply your shortcuts because the paths may not be set correctly; only the shortcut name is preserved. Follow the instructions provided on the dialog box.

**Move shortcuts on the same computer: different application**

1. Identify the computer, on which your FactoryTalk Directory Server is located.

2. On that FactoryTalk Directory Server computer, locate the shortcuts.xml file in:

   C:\Documents and Settings\All Users\Application Data\Rockwell\RNAServer\Global\RnaStore\your_application_name\any_area_or_sub_areas_you_have\your_RS_Linx_Enterprise_server_name

   This assumes that you have not changed your documents and settings location, and that you installed Windows to the C:\ drive

   *Your_application_name* is the name of your application, and within the application are folders and sub folders for areas and sub areas, if used.

   *Any_area_or_sub_areas_you_have* will match a file directory of the same name.
Your_RSLinx_Enterprise_server_name will match the name of your RSLinx Enterprise data server in the application (the default is RSLinx Enterprise).

3. Move the shortcuts.xml file to the path where your new application is; all your shortcuts names will be moved there.

For example:

C:\Documents and Settings\All Users\Application Data\Rockwell\RNA Server\Global\Rna Store\your_NEW_application_name\any_area_or_sub_areas_you_have\your_RSLinx_Enterprise_server_name

4. For each shortcut, you must reapply the path to the end device.

This method works for moving shortcuts between Local applications (remembering that Local applications always use the computer, on which it runs as the Local FactoryTalk Directory server), and for moving shortcuts between Local and Networked applications.

The path for local shortcuts is:

C:\Documents and Settings\All Users\Application Data\Rockwell\RNA Server\Local\Rna Store\your_application_name_here\your_RSLinx_Enterprise_server_name.

Move shortcuts from one computer to another:

**different application**

To move shortcuts between computers and between applications, follow the same path on the FactoryTalk Directory server as described in the previous section. Keep in mind that the FactoryTalk Directory server will have a directory for each application and for each RSLinx Enterprise server.

Move shortcuts from one computer to another:

**different FactoryTalk Directory**

To move shortcuts between computers, even with different FactoryTalk Directories, follow the same path on the FactoryTalk Directory server as described in the previous section. Keep in mind that the FactoryTalk Directory server will have a directory for each application and for each RSLinx Enterprise server, and you can move from application to application.

It is important to remember that your shortcut names are copied, but not the associated paths; so you must reapply each shortcut.

Move your physical layout (drivers and devices)

Applications using RSLinx Enterprise data services from the same RSLinx Enterprise host computer always share the same physical hardware configuration (for example, drivers and devices). In this case, there is no need to move hardware configurations from one application to another.
Important: Only qualified personnel familiar with RSLinx Enterprise and the consequences associated with moving the RSLinxNg.xml file should perform the procedure described in this section. These consequences include:

- Driver mismatch (different driver configurations, including addresses)
- Communications interfaces mismatch (some cards may get inappropriately reconfigured)
- Topology mismatch (including subnets)

Contact Rockwell Automation Technical Support for assistance.

This procedure is typically used for the following reasons:

- You have nearly identical control systems on similar process lines, and you want to copy the same hardware configurations to duplicate RSLinx Enterprise host computers on each line.

or

- You have nearly identical workstations (RSLinx Enterprise hosts) in the same control system, each having the same perspective of the network, and the same hardware configuration is needed in each workstation.

You can:

- Copy I/O configurations
- Avoid losing user-assigned device names
- Avoid having to reapply shortcuts for applications copied from the source computer

By using the following procedure:

1. Stop the RSLinx Enterprise service, using the Windows Service Control Panel on both the source and the target computers.

   Important: If a Rockwell Automation application attempts to use RSLinx Enterprise service, RSLinx Enterprise will restart. Rockwell Automation applications that use RSLinx Enterprise must be stopped or shut down before you proceed. This will prevent the service from automatically starting, while you are moving the configuration file.

2. Use Windows Explorer to locate the file an RSLinxNG.xml file in the directory \Documents and Settings\All Users\Application Data\Rockwell\RSLinx Enterprise. This assumes you have not changed your documents and settings location and that you installed Windows to the C: drive.

3. Copy RSLinxNG.xml from the source computer to the target computer, and restart the computer hosting RSLinx Enterprise. This
results in an exact copy of the source computer's hardware configuration.

| Important: | Any time you change the RSLinx Enterprise physical configuration (RSLinxNG.xml), you may break existing application shortcut assignments. Check all shortcut assignments in all applications that use the RSLinx Enterprise service on the same host workstation to ensure that the correct devices are assigned. |

---

### Manage CIP connections

Prior to CPR 9 Service Release 2, RSLinx Enterprise would, by default, open up to five CIP connections to a Logix controller: Four for read operations and one for write operations. In some system configurations, the maximum connection resources in a controller or bridge module could be reached fairly quickly. In this situation, if the client load changed, problems could result. For example, if an HMI terminal was introduced into the system, it could cause performance variation among all terminals in the system, or you might not be able to go online with programming software.

Starting from CPR 9 Service Release 2, RSLinx Enterprise checks for devices that support a relatively small number of CIP connections and limits the number of read connections. The number of write connections remains fixed at 1. These devices are described in the following sections. By default, all other devices and bridge modules still open as many as four read connections and one write connection.

### Logix controllers with a limited number of connections

The following Logix controllers are assigned from 1 to 4 read connections, as configured, with the default being 1 read connection and 1 write connection. This is determined at runtime and is based on the actual controller, not the type specified in the RSLinx Enterprise topology, if it is different.

- 1769-L23E-QB1
- 1769-L23-QBFC1
- 17-69-L23E-QBFC1

### CIP bridge modules with a limited number of connections

The following communication bridge modules are assigned from 1 to 4 read connections, as configured, with the default being 1 read connection and 1 write connection. This determination is based on the RSLinx Enterprise topology; only the bridge module closest to the target controller is checked.

- 1756-DHRIO
- 1756-DHRIO
- 1761-NET-ENI
Use predefined items to count active CIP connections

To determine how many CIP connections RSLinx Enterprise is using for a particular path, create a shortcut using that path and then check the value in the @ConnectionsActive predefined item. Refer to the RSLinx Enterprise Help for more information on predefined items.

The following FactoryTalk Diagnostics messages are used to support this feature:

- I_CLXDP_STARTED_ON_ROUTE is logged when a CLX data provider is started.
- I_CLXDP_MAX_READ_CONNECTIONS is logged to indicate the maximum number of read connections that the data provider will attempt to open.

Refer to the FactoryTalk Help for more information about FactoryTalk Diagnostics.

Use FactoryTalk Diagnostics to track and troubleshoot CIP connections

Configuration parameters in the registry file or the RSLinxNG.xml file can be used to override the default values. Refer to Rockwell Knowledgebase Answer ID 39366 for information on manually changing the connection allocation.

Change the allocation of CIP connections
Use RSLinx Enterprise with RSLinx Classic

RSLinx Enterprise and RSLinx Classic can run simultaneously on the same computer. This is a common setup if you need to create or edit a program using RSLogix 5, RSLogix 500, and RSLogix 5000 software or Logix Designer application, which require RSLinx Classic, for use in an application, and you must accomplish this using only one computer.

**Important:** RSLinx Enterprise and RSLinx Classic cannot support unsolicited messages on the same computer. To support unsolicited message, RSLinx Enterprise needs to bind the TCP/IP port 44818 to receive CIP messages. This port is reserved by CIP standard, which means that other CIP products from third parties (for example, RSLinx Classic and KepServerEx) may also bind this port. To avoid the port binding conflict issue, do NOT enable the unsolicited message function of RSLinx Enterprise on the same machine where other CIP products (such as RSLinx Classic and KepServerEx) need to bind the TCP/IP port 44818.

For Windows Server 2008 and Windows 7 operating systems

Dual-channel 1784-PKTX(D) driver

When running RSLinx Enterprise and RSLinx Classic on a Windows Server 2008 R2 or Windows 7 operating system, if your RSLinx Enterprise configuration consists of a:

As of CPR 9 SR 2, RSLinx Enterprise and RSLinx Classic both install and use the same 1784-PKTX(D) driver. RSLinx Enterprise uses the first channel (assigned by default and cannot be changed). RSLinx Classic uses the second channel.

If you are running on Windows Server 2008 R2, Windows Server 2012, Windows 7 or Windows 8 operating system, and your RSLinx Enterprise or RSLinx Classic configuration consists of a dual-channel 1784-PKTX(D) driver, you configure the driver for both RSLinx Enterprise and RSLinx Classic.

See "Configure the 1784-PKTX(D) driver for RSLinx Enterprise and RSLinx Classic” in the RSLinx Enterprise Help for this procedure.
Chapter 9  Use RSLinx Enterprise with RSLinx Classic

Important:  This applies only to the dual-channel 1784-PKTX(D) driver; the single-channel 1784-PKTX driver can be configured in only one RSLinx product at a time.

For all the supported operating systems

1784-PKTX driver

When running RSLinx Enterprise and RSLinx Classic on any of the supported operating systems (see software requirements on page 15 for the full list), if your RSLinx Enterprise configuration consists of a:

If your RSLinx Enterprise configuration consists of a 1784-PKTX driver, and you need RSLinx Classic to communicate using that same driver, then you must share the driver within RSLinx Enterprise with RSLinx Classic.

See "Sharing an RSLinx Enterprise driver with RSLinx Classic" in the RSLinx Enterprise Help for this procedure.

Important:  You can use this procedure for Windows 7 operating systems; however, the previous procedure is the preferred method.

Serial-DF1 driver

(RS232 DF1 devices)

If your RSLinx Enterprise configuration consists of a Serial-DF1 driver (RS232 DF1 devices), and you need RSLinx Classic to communicate using that same driver, you must share the driver within RSLinx Enterprise with RSLinx Classic.

See "Sharing an RSLinx Enterprise driver with RSLinx Classic" in the RSLinx Enterprise Help for this procedure.

1784-PCIC(S) driver

If your RSLinx Enterprise configuration consists of a 1784-PCIC(S) driver, you configure the driver in RSLinx Enterprise, and then add a virtual backplane to RSLinx Classic. The virtual backplane is a sharable component between RSLinx Classic and RSLinx Enterprise. Because the 1784-PCIC(S) plugs into the virtual backplane, it is sharable as well.

See "Sharing the RSLinx Enterprise virtual backplane with RSLinx Classic" in the RSLinx Enterprise Help for this procedure.
Use RSLinx Enterprise with ControlFlash

Select an RSLinx edition in ControlFlash

When working with ControlFlash, you can use either RSLinx Enterprise or RSLinx Classic as your communications software. RSLinx Enterprise can be used with devices supporting USB and EtherNet/IP communications only.

To select or change an RSLinx edition in ControlFlash:

1. Launch ControlFlash.

2. On the Welcome page, click Change RSLinx Edition. The button is enabled only if RSLinx Classic and RSLinx Enterprise version 5.90.00 or higher are installed.

   - The default choice is RSLinx Classic to communicate over Data Highway Plus, DF1, DH485, ControlNet, DeviceNet, Ethernet, and USB networks.
   - The other choice is RSLinx Enterprise to communicate over USB and Ethernet networks.

The following table shows the RSLinx edition that ControlFlash uses.

<table>
<thead>
<tr>
<th>ControlFlash uses...</th>
<th>If...</th>
</tr>
</thead>
<tbody>
<tr>
<td>RSLinx Classic</td>
<td>RSLinx Classic is installed, and RSLinx Enterprise is not installed.</td>
</tr>
<tr>
<td>RSLinx Enterprise</td>
<td>RSLinx Enterprise is installed, and RSLinx Classic is not installed.</td>
</tr>
<tr>
<td>Your preferred RSLinx edition</td>
<td>RSLinx Classic and RSLinx Enterprise are installed.</td>
</tr>
</tbody>
</table>

The Who Browser

The Who Browser creates and modifies device networking configurations. It shares networking configuration with RSLinx Enterprise in the FactoryTalk Administration Console.

You can use the Who Browser dialog box to:

- Navigate a network topology to locate a device for interaction
- Add and delete drivers
• Edit driver settings
• Configure search discovery settings
• Perform a search of a previously discovered device
• Automatically discover a selection

For more information, click the Help button on the Who Browser.

Configuring drivers in the Who Browser

A driver is the software interface to the computer or workstation hardware that allows the computer to communicate with a network to detect and communicate with a control system device. If a device is not detected by the Who Browser, use the browser to add or modify a driver configuration.

The Ethernet driver is available with this version of RSLinx Enterprise. The Ethernet driver provides multiple ways for the computer or workstation to discover or detect devices on EtherNet/IP:

• Local Broadcast - Broadcast message to the full subnet that the computer is connected to (local)
• Remote Broadcast - Broadcast message to a full subnet that is different from the one the computer is connected (remote)
• Device List/Range - Directly communicate with a device that you specify in a list or range

You can add a driver for local or remote broadcast, or create a list or range of IP addresses. Perform the applicable task to add a driver.

Add a driver for Local Broadcast

To add a driver to the same subnet that a computer is connected to, configure the driver for Local Broadcast.

To add a driver for Local Broadcast:

1. From the Who Browser, click the Add Drivers icon.
2. In the Add Driver dialog box, select a driver, and click OK. The General and Advanced tabs display in the Add Driver dialog box.
3. Click the Advanced tab and select the physical port of the computer, and configure the tuning settings to change how fast the Who Browser discovers items on the network.
4. Click Apply.
5. Click the General tab, and in the Name box, enter a name for the driver.
6. In the Discovery Method list, click Broadcast.
7. Click Local Broadcast click OK.
Add a driver for Remote Broadcast

To add a driver to a different subnet than the one the computer is connected to, configure the driver for Remote Broadcast.

To add a driver for Remote Broadcast:

1. From the Who Browser, click the Add Drivers icon.
2. In the Add Driver dialog box, select a driver, and click OK. The General and Advanced tabs display in the Add Driver dialog box.
3. Click the Advanced tab and select the physical port of the computer, and configure the tuning settings to change how fast the Who Browser discovers items on the network.
4. Click Apply.
5. Click the General tab, and in the Name box, enter a name for the driver.
6. In the Discovery Method list, click Broadcast.
7. Click Remote Broadcast.
8. In IP Address and Subnet Mask fields, enter the addressing information for the driver distribution.
9. Click OK to add the driver and save the settings.

Add a driver with a Device List/Range

When adding a driver, use a list or range of IP addresses to make sure broadcast messages reach the desired devices.

To add a driver with a Device List/Range:

1. From the Who Browser, click the Add Drivers icon.
2. In the Add Driver dialog box, select a driver, and click OK. The General and Advanced tabs display in the Add Driver dialog box.
3. Click the Advanced tab and select the physical port of the computer, and configure the tuning settings to change how fast the Who Browser discovers items on the network.
4. Click Apply.
5. Click the General tab, and in the Discovery Method list, click Device List/Range.
6. In the box under Device List/Range, enter the desired subnet range.
7. In the Name box, enter a name for the driver and click OK.
Configure drivers in FactoryTalk Administration Console

To configure a driver in FactoryTalk Administration Console:

1. From the Explorer, under the RSLinx Enterprise data server, double-click Communication Setup.

2. From the Communication Setup editor, right-click on the device shown at the root, and click Add Driver.

3. In the Add Driver Selection dialog box, the available drivers will appear. Select the driver you want to add, and click OK.

4. From the applicable driver properties dialog box, enter the settings and click OK.

5. After you add the driver, right-click on the driver and then click Start Browsing to populate the driver with devices.

Tip:
- If you are adding a driver via an Ethernet network, from the Communications Setup editor, right-click on the network shown, then select Start Browsing to populate the driver with devices.
- Some Ethernet devices may not support the browse protocol used by RSLinx Enterprise on Ethernet. If the devices you expect to appear during the browse do not display, right-click the network and click Add Device to manually add the device to the Ethernet network of the workstation. Before you add a device manually, you must register it using the EDS Hardware Installation Tool.
Install RSLinx Enterprise with command line syntax

Besides the Setup Wizard installation, RSLinx Enterprises also supports automated installation using command line syntaxes. You can typically use this automated installation method during large-scale rollouts, when it might be too slow and costly to have administrators or technicians interactively install the software on individual computers.

This automated installation method requires you enter a command line at the beginning of the installation. During the installation process, instead of prompting you for installation and configuration information interactively, the process follows the specific command line, without user intervention.

RSLinx Enterprise supports the following automated installation:

- Unattended installation (recommended)
- Silent installation for RSLinx Enterprise .msi file

Comparing different installation methods

RSLinx Enterprise v5.90.00 (CPR 9 SR 9) supports setup wizard installation, and installation with command line syntax (that is, unattended installation and silent installation). The following table illustrates the differences among each installation method.

<table>
<thead>
<tr>
<th>Installation method</th>
<th>Description</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setup wizard installation</td>
<td>The standard method to install RSLinx Enterprise. It installs all the necessary prerequisites software and required components. The installation processes are visible, easy to use, and provides full installation details such as installation summary and how to register for products updates.</td>
<td>Chapter 3. Install RSLinx Enterprise on page 16</td>
</tr>
<tr>
<td>Unattended installation</td>
<td>A new automated installation method in CPR 9 SR 9. It installs all the necessary prerequisites software and required components with little (or no) user intervention, and provides multiple parameters that allow customized installations. It is recommended for large-scale rollouts. <strong>Tip:</strong> Depending on the customized parameters, you can silently install RSLinx Enterprise, prerequisite software, and required components using this method. See Example 1 on page 53.</td>
<td>Use unattended installation on page 52</td>
</tr>
</tbody>
</table>
Use unattended installation

Starting with CPR 9 SR 9, FactoryTalk Services support unattended installation. In the unattended installation, you enter a specified command line syntax with multiple parameters. You can customize the parameters to meet your needs.

Perform unattended installation

To perform unattended installation, follow the steps below. The steps may vary slightly. Follow the on-screen instructions that apply to your operating system.

1. Close all open Windows programs.

2. Open the Command Prompt window as administrator.

3. In the Command Prompt window, navigate to $D:$$\$, where $D:\$ is the drive containing the RSLinx Enterprise installation DVD or installation package, and press Enter.

   Tip: The User Account Control dialog box may show after you press Enter, click Yes to continue.

4. Type a command line with the following syntax:

   ```
   Setup.exe {/Q | /QS} 
   /IAcceptAllLicenseTerms 
   [/AutoRestart] 
   [/SetupLanguage=language] 
   [/InstallDrive=drive]
   ```

5. Press Enter. The installation process starts with the parameters you specified.

6. For detailed description about each parameter, see Parameters. You can also type Setup /? in the Command Prompt window, and press Enter to view the help information of all parameters and examples.

Parameters

The parameters and values are not case sensitive. If the value includes spaces, you need to enclose it in quotation marks (" ").

/\Q

Required if /QS is not specified.

Installs the product in the silent mode without any user interface.
/QS

Required if /Q is not specified.
Installs the product in the unattended mode without user interaction during installation, and shows the progress, errors, or complete messages on the user interface.

/IAcceptAllLicenseTerms

Required. Specifies that you read and acknowledge all license agreements, and agree to continue the installation.

/AutoRestart

Optional. If specified, the computer will be restarted automatically after the installation, if a restart is required to complete the installation.

The parameter is ignored if a restart is not required.

/SetupLanguage=language

Optional. Specifies which language will be displayed during the installation process. The value must be one of ENU, CHS, DEU, ESP, FRA, ITA, JPN, KOR, or PTB.

If omitted, the default language is the user or system user interface language.

/InstallDrive=drive

Optional. Specifies the installation drive. If omitted, the default drive and location are:

- C:\Program Files (x86)\Rockwell Software (64-bit)
- C:\Program Files\Rockwell Software (32-bit).

Examples

The following examples show how to use the commands during the unattended installation.

Example 1

Setup.exe /Q /IAcceptAllLicenseTerms

means:

The software are installed silently with no customized parameters. It uses the default settings during the installation process, with no user interface.
Example 2

Setup.exe /QS /IAcceptAllLicenseTerms /AutoRestart
/SetupLanguage=CHS /InstallDrive=D:

means:

- During the installation, the progress, error, or complete messages show on user interfaces. The displayed language is Chinese.
- RSLinx Enterprise will be installed to D:\Program Files (x86)\Rockwell Software if you are using a 64-bit operating system, or D:\Program Files\Rockwell Software if you are using a 32-bit operating system.
- After the installation, if a restart is required, the computer will be restarted automatically.

Use silent installation for RSLinx Enterprise .msi file

Starting with RSLinx Enterprise v5.60.00 (CPR 9 SR 6), RSLinx Enterprise supports silent installation for RSLinx Enterprise .msi file. In the silent installation, RSLinx Enterprise is installed with default settings, with no (or little) dialog boxes, messages, or user intervention.

Before you begin

Before installing the .msi file of RSLinx Enterprise using the silent installation, you must manually install the following prerequisite software and required components, in the following sequences:

- Microsoft .NET Framework 4.6
  To manually install it, run it from FactoryTalk Services installation directory \Redist\DotNETFX_4.6.

- Microsoft SQL Server Compact 4.0
  To manually install it, run it from FactoryTalk Services installation directory \Redist\SQLServerCE_4.0.

- OPC .NET API 4.5
  To manually install it, run it from FactoryTalk Services installation directory \Redist\OPCNETAPIRedist_2.01.10600\x86.

- FactoryTalk Diagnostics v2.90.00
  To manually install it, run it from FactoryTalk Services installation directory \Redist\FTDiagnostics_2.90.00.

- Windows Firewall Configuration Utility 1.00.08
  To manually install it, run it from FactoryTalk Services installation directory \Redist\WFCU_1.00.08.
Install RSLinx Enterprise with command line syntax

Chapter 11

- Certificates installation
  For detailed instructions about how to install it, refer to Install certificates on page 55.
- USB CIP driver package (for 32-bit operating systems)
  To manually install it, run it from FactoryTalk Services installation directory \Redist\USBCIP_3.18.06.
- x64 driver package (for 64-bit operating systems)
  To manually install it, run it from FactoryTalk Services installation directory \Redist\KN64Bit_2.00.00.
- FactoryTalk Services Platform
  To manually install it, run it from FactoryTalk Services installation directory \Common\2.90.00-FTSP.
- FactoryTalk Alarms and Events
  To manually install it, run it from FactoryTalk Services installation directory \Common\2.90.00-FTA.E.

RSLinx Enterprise x64 driver package

RSLinx Enterprise v5.90.00 (CPR 9 SR 9) x64 driver package includes the following drivers:

- 1747-UIC (DH485)
- 1752-SmartGuard USB
- 1784-PCIC(S) (ControlNet)
- 1784-PKTCS (ControlNet)
- 1784-PKTX (DH485 / DH+ / RIO)
- 1784-U2DHP (DH+)
- Micro800 Remote LCD (208-REMLCD / 820 Remote LCD)
- Micro810
- Virtual Backplane
- USB CIP

In addition, this release of x64 driver package includes a number of enhancements, including USB CIP driver improvements and new driver installation folder C:\Program Files\Rockwell Automation.

Install certificates

The following certificates are available in the installation directory \Redist\Cert:
Chapter 11  Install RSLinx Enterprise with command line syntax

- 2016-Rockwell-Driver-SHA1.cer
- 2016-Rockwell-SHA256.cer
- DriverCodeSigning2012-1.cer
- Rockwell_2013.cer
- Rockwell_2014.cer
- Rockwell_2015.cer
- rockwellcert2010.cer
- rockwellcert2013.cer
- VeriSign Class 3 Public Primary Certification Authority - G5 2036.cer

To manually install a certificate, perform the following steps. The steps below take the VeriSign Class 3 Public Primary Certification Authority - G5 2036.cer certificate as an example.

1. Locate the certificate file at FactoryTalk Services installation directory \Redist\Cert\VeriSign Class 3 Public Primary Certification Authority -G5 2036.cer, and double click it.


3. In the Certificate Import Wizard dialog box, click Next.

4. Select Place all certificates in the following store, and click Browse.

5. In the Select Certificate Store dialog box, select the Trusted Root Certificate Authorities folder, and click OK.

6. In the Certificate Import Wizard dialog box, click Next.

7. Click Finish.


Perform silent installation

To perform silent installation, follow the following steps:

1. Close all open Windows programs.

2. Open the Command Prompt window as administrator.

3. In the Command Prompt window, navigate to D:\Common\5.90.00-RSLE, where D: is the drive containing the FactoryTalk Services installation DVD or installation package, and press Enter.
Tip: The User Account Control dialog box may show after you press Enter, click Yes to continue.

4. Type the following command line syntax, and press Enter.

    Msiexec /I "RSLinx Enterprise.msi" /qn /L*v+ "%Temp%\Rockwell - RSLinx Enterprise Install.log"

    Tip: The command line install has two options:
    - /qb: basic UI (user interface) - simple progress and error handling
    - /qn: no UI - completely silent installation

    The installation process starts silently. For the installation log file, type the following command line syntax in the Command Prompt window:

    %Temp%\Rockwell - RSLinx Enterprise Install.Log
**Glossary**

**application.** A set of data elements used to implement a control system. See **Network application, Local application.**

**area.** Areas organize and subdivide a distributed Network application into logical or physical divisions. For example, separate areas may correspond with separate manufacturing lines in a facility, separate plants in different geographical locations, or different manufacturing processes. Areas are not available with Local applications.

**bus.** In RSLinx Enterprise, a bus is defined as a network, a driver, or chassis.

**channel.** In RSLinx Enterprise, a channel is a driver.

**CIP.** Control and Information Protocol.

**client.** A component or subsystem that uses data or functionality provided by some other component or subsystem (the server). The term can also refer to the computer that executes this software, connecting to a server computer across a communications network.

**configuration.** A file that contains information about the physical structure you defined for your system. This file includes all network paths, defined drivers and devices, data providers, and object protocols.

**CPR.** Coordinated Product Release.

**data access server.** A server that provides tags.

**data element.** An individually addressable item of data. For example, a tag (for example, OPC or HMI), or an HMI Project Component (for example, a graphic display, event file, node, channel).

**Data Provider.** Logic that knows how to speak to a particular class of products. One of the building blocks of RSLinx Enterprise, a Data Provider acts as a multiplexor for multiple clients and optimizes what data can be read together for more efficient handling.

**deploy.** To copy and distribute project files to designated directories on other computers.

**distributed application.** See **Network application.**

**driver.** Software that interacts with a network interface (such as the interface that connects your computer to the Ethernet network), and manages the exchange of communication packets over the network, to which the interface is attached.
FactoryTalk. FactoryTalk is a set of services and technologies that enable Rockwell Automation products to work together to share information across all layers of an enterprise.

FactoryTalk Administrative Console. A stand-alone tool used to configure and administer FactoryTalk applications. This tool may be used to perform such tasks as creating areas and data server elements, creating user accounts and user groups, configuring security permissions, and viewing system-wide diagnostic messages. FactoryTalk Administration Console installs along with most FactoryTalk-enabled software products.

FactoryTalk Alarms and Events. FactoryTalk Alarms and Events is a set of distributed services that allows participating FactoryTalk products, such as FactoryTalk View, to use the alarm information, which is detected from devices that are distributed across an application.

FactoryTalk Directory. The FactoryTalk Directory contains the information that allows a distributed automation system to organize, browse, and locate all the data and services available to it. A FactoryTalk Directory can contain multiple applications, which allows multiple automation systems on the same network.

FactoryTalk Live Data. FactoryTalk Live Data is a service that reads and writes tag values (OPC items) to or from any OPC-DA (OLE for process Control - Data Access) or Live Data server on behalf of client software products, such as FactoryTalk View Site Edition and FactoryTalk Transaction Manager.

GUI. Graphical user interface.

HMI. Human machine interface.

local. Using a single computer to carry out a task.

Local application. A Local application is accessible only from the local computer where it resides. Even if the computer is connected to a network or a Network application resides on the same computer, the Local application remains self-contained and does not share its data or any of its project elements. Local applications do not support areas. Also called stand-alone applications.

Network application. A software system that uses several interconnected computers that share information and processing duties to accomplish its tasks. A Network application organizes project elements from multiple FactoryTalk-enabled products. All of the computers participating in a particular application share a common FactoryTalk Directory located on a network computer. Also called a distributed application.

offline data item. A data item (tag) whose server is not currently available but whose name is still available for browsing, selection, and use. Offline data items are read directly from a controller’s project file.
online data item. A data item (tag) whose server is currently available to supply data. Online data items are read directly from a controller, just as they are defined in that controller.

OPC. A set of industry-standard specifications that define interfaces for communicating with automation devices and services. Applying OPC standards makes interoperability possible among automation and control applications, field systems and devices, and business and office applications that are supplied by different vendors.

packet. The transmission unit exchanged at the network layer.

PCCC (PC³). Programmable Controller Communication Commands.

redundancy. The availability of a standby hardware or software module that can assume the responsibilities of a primary hardware or software module if that primary module fails. reference. A link from one data element to another. The referring element is called the source element, and the referenced element is called the target element. A graphic display, for example, typically reference tags, which supply it with runtime data.

runtime. The operation of a control system.

server. A subsystem that provides services for clients, using a set of interfaces.

shortcut. Represents a device that you want to connect to on the network, and the data that device contains. The communication path associated with the shortcut tells the application where to find that data. This symbolic reference to a physical device is similar to a topic in RSLinx Classic.

stand-alone application. All application components in a stand-alone application are located on a single computer, and are only accessible from the computer where they reside. Stand-alone applications do not support areas. Also called Local applications.

tag. A logical name for a variable in a device or in local memory. For example, a tag can represent a process variable in a Logix5000 controller.
Index

A
adding a data server 23
adding a device
  automatically 32
  manually 32
adding drivers 31
Alarms and Events tab 29
applications, about 11

B
browsing
  for devices 32
  tag 36
  virtual backplane 32

C
checklist, installation and configuration 12
CIP (Control and Information Protocol) 39
Communication Setup editor, exploring 23
configurations
  creating 31
  moving 40
consulting services 8
contacting
  Customer Support Center 36
creating 33
creating shortcuts 33
Customer Support Center, contacting 36

D
data server, adding 23
design-time component 12
device shortcuts, creating 33
devices
  adding 31
  moving 41
drivers
  adding 31
  moving 41

E
Ethernet network, adding drivers to 31
event log, FactoryTalk Diagnostics 35

F
FactoryTalk Administration Console 11
  starting 21
    user interface components 21, 35
FactoryTalk Diagnostics 35, 44
FactoryTalk Directory 11
FactoryTalk Live Data 11
FactoryTalk Security 11
FactoryTalk Services Platform
  about 10
FactoryTalk View Machine Edition 36
FactoryTalk View Site Edition 36
FactoryTalk View Studio 12, 36
FactoryTalk, basic concepts 10

G
General tab 27

H
hardware requirements, RSLinx Enterprise 15
Help, accessing 7

I
installation and configuration checklist 12
installing RSLinx Enterprise 16

K
Knowledgebase 8

L
Local applications 11

M
moving
  devices and drivers 41
RSLinx Enterprise configurations 40
shortcuts 40
Index

N
Network applications 11
network routes, supported 39

O
offline tag file 33

P
PCCC networks 39
predefined items 36

R
Redundancy tab 28
Release Notes 8
RSLinx 2.x, see RSLinx Classic 45
RSLinx Classic 36
RSLinx Classic, using with RSLinx Enterprise 45
RSLinx Enterprise
  adding a device 31
  adding drivers 31
  basic concepts 10
  Communication Setup editor 23
  creating a configuration 31
  creating shortcuts 33
  definition 9
  design-time vs runtime 12
  features and benefits 9
  installing 16
  moving configurations 40
  system requirements 15
  troubleshooting 35
  updating an existing installation 18
  using with RSLinx Classic 45
RSLinx Enterprise Server properties, General tab 27
RSLinx Enterprise Server Properties, Redundancy tab 28
runtime component 12

S
shortcuts
  creating 33
  moving 40
Site Edition, FactoryTalk View 36
software requirements, RSLinx Enterprise 15
system requirements, RSLinx Enterprise 15

T
tag browsing 36
technical support 36
training programs 8
troubleshooting 35

U
updating an existing RSLinx Enterprise installation 18

V
virtual backplane
  about 39
  browsing 32
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In addition, we offer multiple support programs for installation, configuration, and troubleshooting. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/services/online-phone.

Installation assistance

If you experience a problem within the first 24 hours of installation, review the information that is contained in this manual. You can contact Customer Support for initial help in getting your product up and running.

<table>
<thead>
<tr>
<th>United States or Canada</th>
<th>1.440.646.3434</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
</tbody>
</table>

New product satisfaction return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

<table>
<thead>
<tr>
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<th>Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outside United States</td>
<td>Please contact your local Rockwell Automation representative for the return procedure.</td>
</tr>
</tbody>
</table>

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Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete the feedback form, publication RA-DU002

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