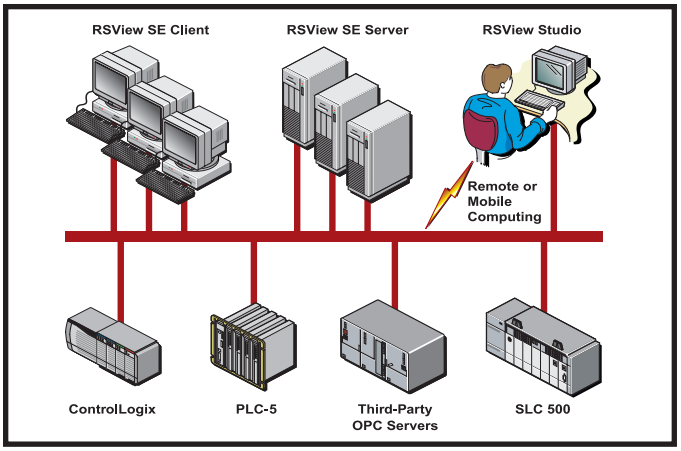
RSView Supervisory Edition
Technical Data

RSView® Supervisory Edition™ is a Microsoft® Windows® XP and Windows 2000-based HMI software program for monitoring, controlling, and acquiring data from manufacturing operations throughout an enterprise.

Built on an integrated, scalable architecture, RSView Supervisory Edition (SE) accommodates the needs of both traditional, standalone HMI systems and highly distributed industrial automation systems.

RSView Supervisory Edition makes critical data available to operators, supervisors, and managers within a single plant or throughout a worldwide manufacturing enterprise. RSView Supervisory Edition brings control system data to the people who need it—any time, anywhere.

Part of the RSView Enterprise Series, RSView Supervisory Edition includes RSView® Studio™, a development system used for creating HMI applications.



Supervisory-level applications are deployed on RSView® SE™ Servers, which detect events, manage alarms, collect and process data, and handle other runtime processes.

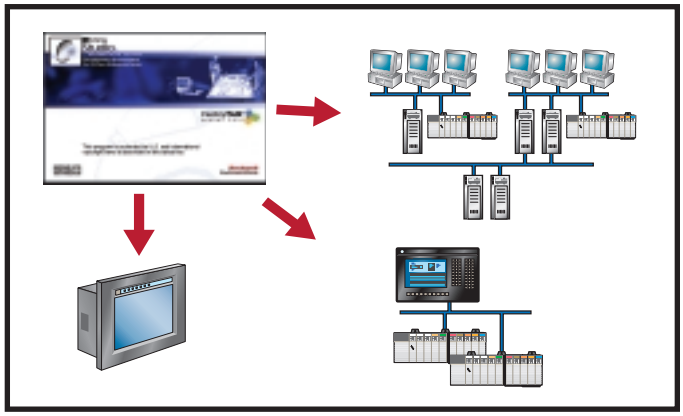
RSView SE Clients display runtime and historical data and provide a control interface to operators.

RSView® SE Station™ provides standalone runtime functionality on a single computer.

Streamline HMI Development with a Common Editor

In addition to RSView Supervisory Edition, the RSView Enterprise Series also includes RSView® Machine Edition™ (ME), a machine-level HMI product for monitoring and controlling individual machines and small processes. With RSView Enterprise Series, both RSView Supervisory Edition and RSView Machine Edition are built on the same integrated architecture and share a common look and feel and common navigation features.

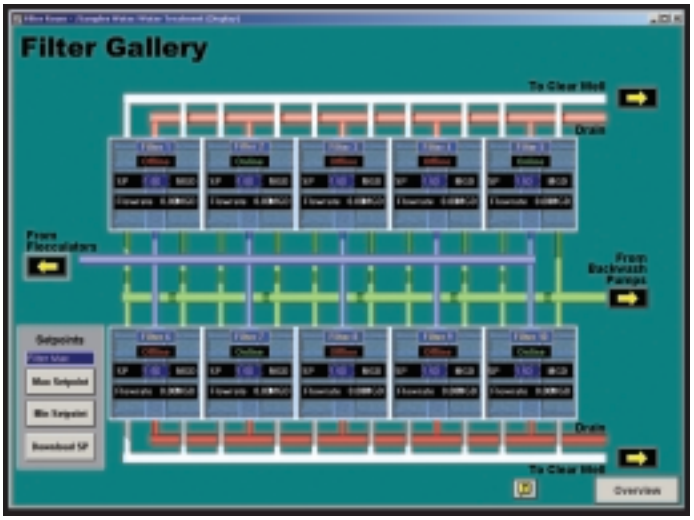
Using RSView Studio, a common development system, entire machine-level applications can be imported into supervisory-level applications, and individual machine-level components can be dragged and dropped right into supervisory-level projects.



FactoryTalk spoken here!

RSView Supervisory Edition is just one of a number of Rockwell Software products that share a common FactoryTalk® platform. While RSView Supervisory Edition functions on its own as a fully featured HMI software program, the FactoryTalk platform makes it possible for RSView SE to integrate with other Rockwell Software products to support an enterprise-wide industrial automation system.

FactoryTalk-enabled products use FactoryTalk® Directory™ to share a common address book, which automatically finds and provides



access to factory resources such as data tags and HMI displays. Unlike a single database, FactoryTalk Directory provides searchable references to resources stored anywhere across a distributed system, offering the benefits of central data storage without the risk of a single point of failure.

FactoryTalk® Live Data™ manages connections between FactoryTalk-enabled products and data servers. It notifies clients when a connection is lost, automatically reconnects, and combines data from multiple controllers and servers into a single group with a single data server connection. This results in faster real-time data transfer and more reliable, efficient connections to data servers. It also assists in redundancy support for data servers by automatically handling detection and failovers for all FactoryTalk-enabled products.

FactoryTalk® Audit™ helps companies maintain a comprehensive, central record of all changes made to a manufacturing system. This is particularly important for companies required to maintain compliance with U.S. government regulations in the pharmaceutical and food and beverage industries. With built-in diagnostic capabilities, FactoryTalk-enabled products can monitor system changes, generate detailed audit messages, and route messages to a central database, where they are available for tracking, analysis, and reporting.

Edit applications online

RSView Studio allows online editing of project components while the application is running. The RSView Supervisory Edition system inherits changes to the control system automatically, without having to shut down running processes or make separate configuration changes. For example, if a processor is moved or a tag structure is changed in RSView Studio, the changes are immediately reflected in the RSView SE runtime application.

Edit applications from remote locations

For distributed applications, RSView Supervisory Edition allows HMI engineers to create and deploy applications remotely, from any computer on the network. Multiple developers can access the application simultaneously for improved collaboration, reducing overall development time.

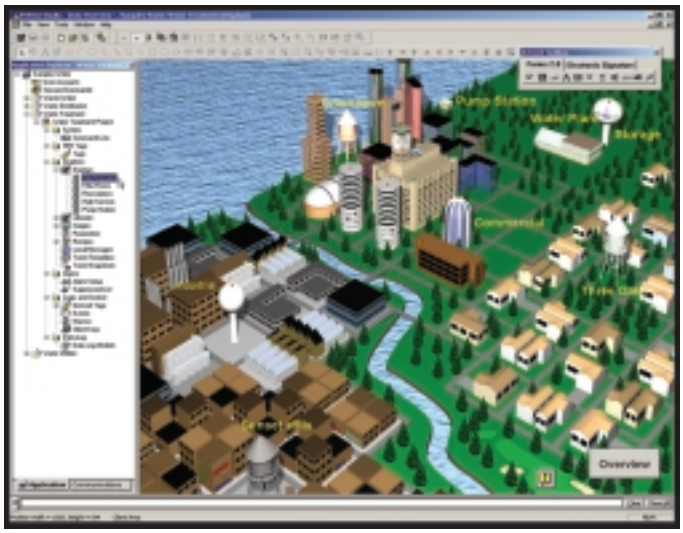
Visualize and Organize Your Application

RSView Studio's application tree provides a visual picture of an application that allows you to see and explore all of the components in an automation system. The tree structure makes it easy to add and remove components, and it lets you browse and access tags stored in programmable logic controllers and other data servers.

Divide an application into meaningful areas

RSView Studio allows for organizing and dividing a distributed application into "areas" that correspond logically to the areas within a facility or to stages of a process. User-defined areas can represent plants, processes, lines, machines, or whatever makes sense for your application. These areas can also contain HMI servers and data servers that perform runtime operations and provide information to the clients participating in the process.

For processes or areas of a facility that are isolated, RSView Supervisory Edition also supports standalone applications that run



on a single computer. Even if the computer is connected to a network, and even if a distributed application resides on the same computer, the standalone application remains self-contained and does not share its data or any of its project elements.

Choose Preferred Connectivity with Rockwell Automation Controllers

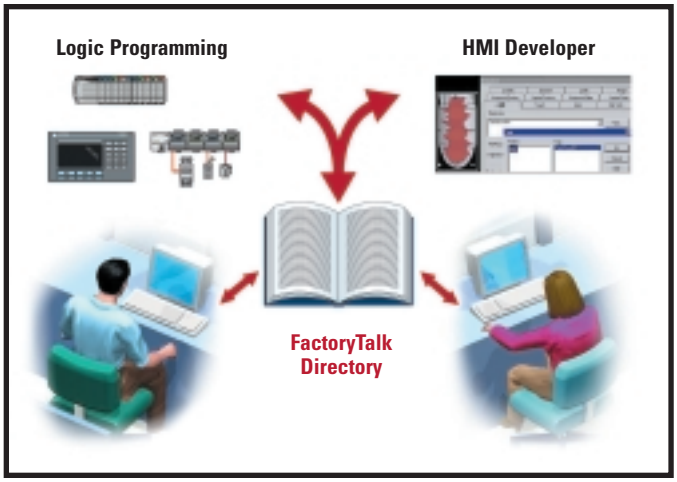
RSView Supervisory Edition is the ideal visualization product to use with other Rockwell Automation products. RSLinx® communications (supported by both RSLinx Enterprise and RSLinx Classic (2.x or newer)) offers native, optimized communications to ControlLogix®, Allen-Bradley PLCs®, and ProcessLogix™ platforms and data types. Enabled by FactoryTalk Directory, RSView Supervisory Edition allows browsing a directory for RSLogix™, ProcessLogix™, and standard OPC 2.0 server tag addresses and allows accessing controller tags directly.

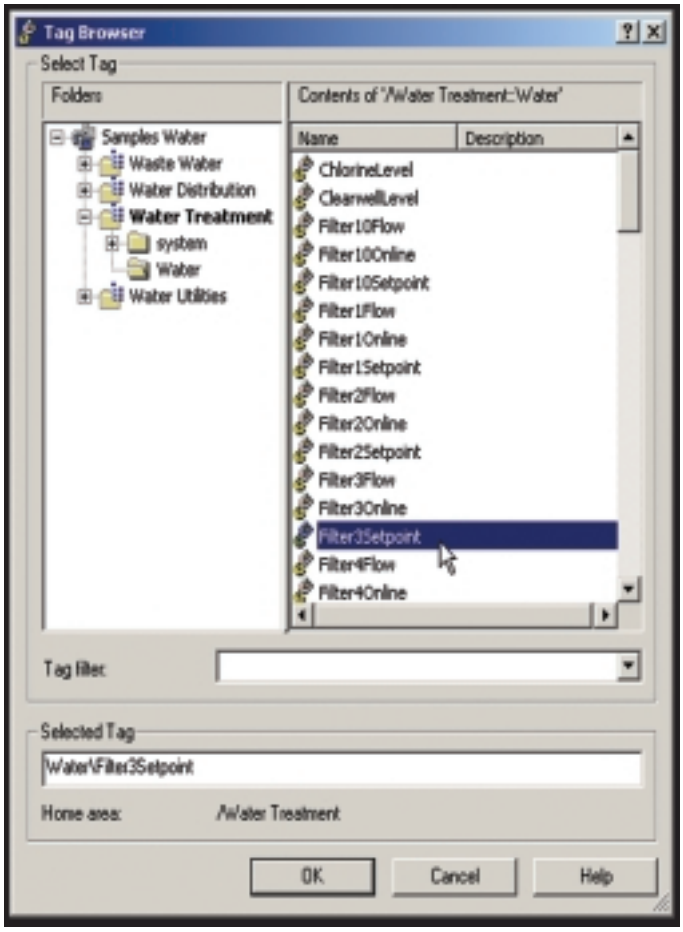
RSView Supervisory Edition with Process Extensions

The Process Extensions enhance the capability of RSView SE with Process Control operator interface functionality. The Process Master application includes a custom navigation program and a graphics library that provides PID and Totalizer faceplates for Rockwell Automation Logix processors.

Share Data with Other FactoryTalk-enabled Products

RSView Enterprise Series offers access to two types of tags: user-defined tags stored in an HMI tag database and directly referenced tags stored in programmable logic controllers. FactoryTalk Directory allows access to tags held in controllers by referencing them through a common address book.





FactoryTalk Directory provides access to both offline and online tags. If a network is not connected to processors, the system reads offline data points from the processor's project file defined in RSLinx.

If the network is connected to processors, access to online tags is also available. In this case, the system communicates directly with the processor itself and reads data points as they are defined in that processor.

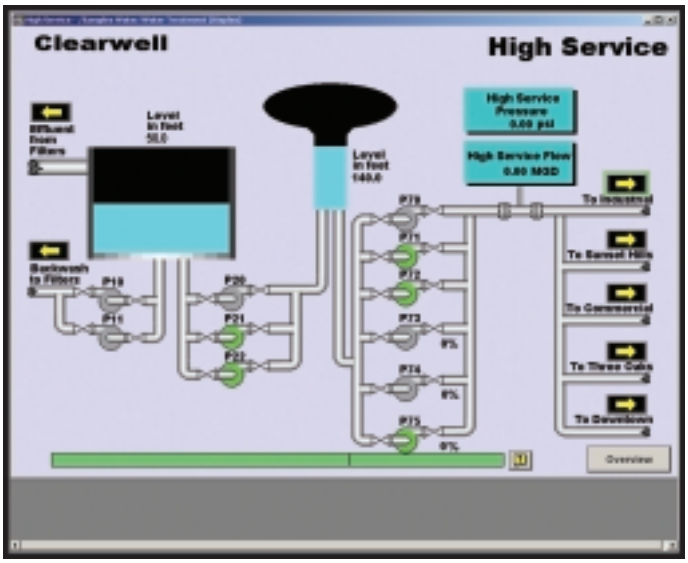
For example, as a control programmer develops a ladder program and creates data points, an HMI engineer might be developing a visualization program in RSView Studio while a database analyst works with RSSql™. When the control programmer saves a ladder file, RSLogix automatically updates offline topics in RSLinx, and the offline data points become available to the RSView and RSSql programmers through the FactoryTalk Directory, even before the ladder project is downloaded to the processor.

Changes to tag values and properties update automatically wherever they are used within RSView Supervisory Edition applications and throughout the FactoryTalk-enabled system.

Maximize System Availability with Built-in Failure Detection and Recovery

RSView Supervisory Edition HMI servers, RSLinx, and other OPC Data Access 2.0 servers can all be configured quickly and easily to run on both primary and secondary computers. Once configured, each redundant pair of servers is available to all FactoryTalk-enabled clients within the system. Adding additional clients does not require any additional configuration.

During runtime, if the connection to a primary computer fails, FactoryTalk automatically switches all clients to a backup computer within 30 seconds and can automatically switch them back to the primary computer when the connection is restored—all without any custom programming, client configuration, or operator intervention.



Validate User Access with Windows 2000 and RSView Security Options

RSView Supervisory Edition uses Windows 2000 Authentication, a system-wide Windows user and group list, enabling users that are set up in a Windows 2000 domain to be added to an RSView SE application. This takes advantage of the high level of security that Windows 2000 provides and also saves time, since accounts are created and maintained in only one place. Updates to the Windows security list are automatically reflected within RSView Supervisory Edition. In addition, the Windows Security system manages user accounts, including enforcing unique passwords, automatically logging out accounts after unsuccessful logons, and enforcing password changes after a designated amount of time.

Assign project-level security

RSView Supervisory Edition safeguards your system at the project level. Assign levels of security to RSView SE commands, macros, database tags, and graphic displays. Assigning combinations of security levels to individuals or to groups of users allows different users access to different features.

Authenticate user identity on demand

Some critical operations, such as set point changes, RSView commands, and recipe downloads, require that an operator's identity be verified before proceeding. RSView Supervisory Edition can require an operator, and an optional approver, to enter a user name and password before performing an operation. Operator activity and system changes are then logged through FactoryTalk® Diagnostics™.

Archive Operator Activity and System Changes

RSView Supervisory Edition takes advantage of built-in capabilities of FactoryTalk Diagnostics. Part of the underlying FactoryTalk platform, FactoryTalk Diagnostics routes system-wide activity, warning, and error messages to various destinations for logging. FactoryTalk Diagnostics replaces RSView activity logging and records information about various types of system activity, including:

- Command and macro usage
- Operator comments
- System messages and errors
- Communication network errors
- Tag read and write activity

You can view diagnostic messages about system activity while developing applications and at runtime. In addition, complying with industry and government regulations often requires capturing and archiving operator actions and changes that occur to a running system. To track and record these types of changes, FactoryTalk Diagnostics automatically routes security information and messages about system transactions to a choice of logging destinations. Destinations include:

- The Diagnostics List at the bottom of the RSView Studio window
- A local log, accessible from the FactoryTalk Diagnostics Viewer
- An ODBC database

- RSMACC™ audit log. RSMACC (Maintenance Automation Control Center) offers a centralized repository and audit trail for plant-wide maintenance information. RSMACC detects and records altered electronic files required to meet regulations, such as the U.S. government's 21 CFR Part 11 specification.

Migrate RSView32 Projects to RSView SE

RSView Supervisory Edition supports importing and reusing RSView®32™ projects. The process successfully retains most of the core RSView32 project, including graphic displays, animated objects, text, tags, alarms, expressions, and macros.

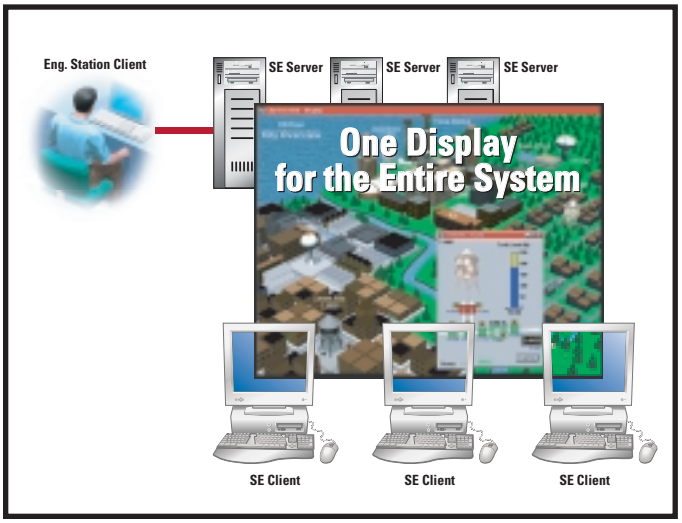
Define Graphic Displays Once and Reference Them Throughout a Distributed System

With the RSView Supervisory Edition software, design graphic displays once, store them on a server, and access them from any client station on a network—without copying, importing, converting, or re-entering tags or commands. Because graphic displays are referenced from a single storage location, and not duplicated in multiple locations, edits update automatically across the system. Client stations seamlessly access graphic displays from multiple servers, allowing a true enterprise view.

Configure the Operator Experience

Design operator interfaces with a full-featured graphics editor

RSView Studio includes a full set of drawing objects and productivity features, including group editing, interactive pixel positioning, sophisticated drawing tools and customizable toolbars, object animation, command wizards, and much more.



Configure display settings

Configure the appearance and behavior of graphic displays, including background color, startup and shutdown macros, security code, replace or on-top display type, display size and position, and display number. Displays can be set to resize automatically at runtime to fit the resolution of the screen on which they are displayed.

Customize display behavior with client-side VBA

Use the RSView SE Client object model with Microsoft Visual Basic® for Applications (VBA) to write code that customizes the behavior of graphic displays. The VBA code is stored with its associated graphic display; if the display moves, the code goes with it.

With VBA code attached, each graphic display behaves like a Visual Basic form and responds to events such as load and click. VBA code can read and write values from both directly referenced tags and HMI tags.

When a graphic display opens on a client computer, the VBA code executes independently on that client. For example, suppose the same graphic display is opened on two different client computers at the same time. When an operator on the first computer clicks a button on the display, the action causes the VBA code to run. The same display, open on another client computer, does not execute the VBA code until an event on that client computer triggers it.

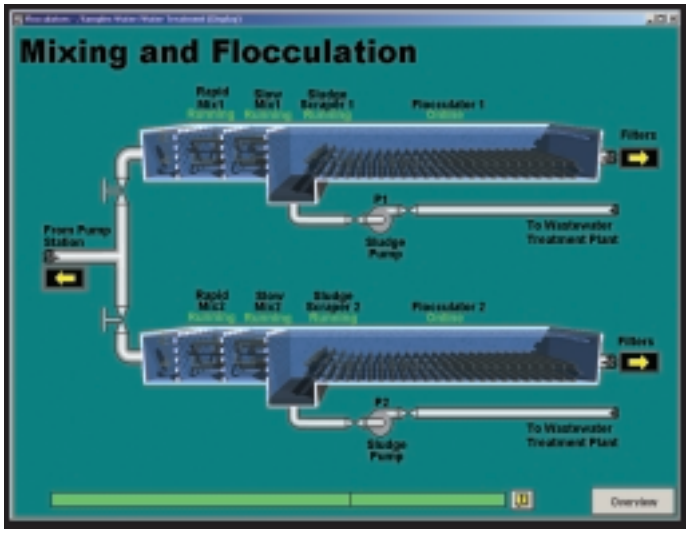
View the hierarchy of objects in a display with the Object Explorer

The Object Explorer offers a quick and convenient way to view the hierarchy of objects in a display. The Object Explorer shows:

- Tree view of all objects in a display, except wallpaper objects. Selecting an object name from the Object Explorer also selects the object in the display. Right-click object names for easy editing.
- Hierarchy of objects within groups. Selecting a group name in the Object Explorer selects the group in the graphic display.
- Highlighted objects. Select an object type, animation type, or tag name. Any object using that selection is highlighted in both the Object Explorer and on the graphic display.

Display dynamically changing values with embedded variables

To display values that change dynamically at runtime, insert



embedded variables into text captions on graphic objects and in message text. Embedded variables can include analog and digital tags, string tags, tag placeholders, and time and date placeholders.

Simulate runtime with quick Test Run capabilities

To make it easy to test systems as you build them, RSView Studio includes both a Quick Test Run feature and a time-limited runtime system. Quick Test Run operates from within the graphics editor. To check connectivity with RSLinx and other OPC data servers, launch the time-limited runtime system from RSView Studio.

Reuse graphic displays with different sets of tags

To use the same graphic display with different sets of tags, assign tag placeholders to objects instead of tag names, and assign a parameter file to the graphic display. A parameter file defines the tags that the graphic display uses at runtime. To change the tags associated with all of the objects on a graphic display at runtime, simply change the parameter file. A single graphic display can handle information for many similar sources so you have fewer graphic displays to create and maintain.

Log Historical Data and Display it in a Trend

Configure a data log model to specify the conditions under which to record values for up to 10,000 tags. Log the data as tag values change, or log data periodically; for example, every minute.

Manage and report on logged data using common database tools such as Microsoft Access. Log data directly to an ODBC data source, such as Microsoft SQL Server, Oracle®, or SyBase®.

Specify a secondary path for logged data

You can also specify a secondary path for all logged data. If the primary path becomes full or unavailable, RSView Supervisory Edition can automatically switch to the secondary path without losing data. When the primary path is restored, RSView SE allows merging the data from the secondary path back to the primary path, so that you retain all of your information in one location.

Display historical and current tag values in trends

To display historical data that has been logged, use trend charts. At runtime, when an operator opens a graphic display containing a trend object, the chart displays values from the data log model that is running. Trend charts can also display current tag values.

Configure and Monitor Alarm Conditions

The RSView Supervisory Edition alarm system quickly alerts operators to conditions requiring immediate action. Alarms triggered anywhere in an RSView SE distributed application can be viewed and acknowledged from any RSView SE Client computer.

Manipulate Tag Values with Macros and Expressions

A macro can use placeholders to manipulate tag assignments based on a list stored in a text file, in the format <tag>=<value>. The value can be another tag, an expression, a numeric constant, or a string. Assign macros to run when:

- The application starts running or shuts down
- A graphic display opens or closes
- A user logs in or out
- A specified tag or expression changes to a new non-zero value
- An operator presses a macro button

Use expressions to perform mathematical or logical calculations to manipulate the control and display of tag values. Use expressions in graphic displays, alarms, information messages, and macros.

Derived tags

A derived tag's value is the result of an expression. The expression can include mathematical operations, tag values from the RSView Supervisory Edition internal value table, if-then-else logic, and other functions. Use derived tags to perform continuous evaluations on a tag or for loop processing.

Get Answers Fast!

Award-winning technical support

When you purchase any product in the RSView Enterprise Series, you receive not only industry-leading software, but also award-winning worldwide support. The free MySupport service allows you to personalize the Rockwell Software Support Services Web site for your product interests. MySupport can send you regular e-mail messages with links to the latest technical notes and software updates for RSView Supervisory Edition and other products of interest to you.

To register, visit http://support.rockwellautomation.com.

Online documentation

The RSView Supervisory Edition CD-ROM includes comprehensive user's guides, detailed online Help files, and sample applications.

Recommended Requirements

Domain controller requirements

For ease of network and user administration, a domain controller is recommended for all applications consisting of more than 10 computers. All computers participating in a single application must be members of the same Windows NT or Windows 2000 domain. The RSView SE Server and FactoryTalk Directory must not be installed on the same computer as the domain controller.

Alternatively, for applications consisting of 10 computers or fewer, RSView Supervisory Edition can be used in a Windows workgroup environment. When doing so, the following restrictions apply:

- All computers participating in a single application must be members of the same Windows workgroup.
- You must create the same set of user accounts and passwords on every computer participating in an RSView SE application. (For details, see Help provided with Windows.)
- If any computer participating in an RSView Supervisory Edition application is running Windows XP, disable simple file sharing in Windows XP. (For details, see Help provided with Windows XP.)
- All users participating in the workgroup must belong to the Administrators group.

Server host requirements

Server computers can be used to host RSView Supervisory Edition applications. To serve as a server host, the computer requires one RSView SE Server, one data server (typically RSLinx for RSView, RSLinx Enterprise, or another OPC-DA server), and one FactoryTalk Directory. If more servers are required, multiple host computers must be used to distribute the load.

Minimum platform requirements

Specific hardware requirements depend on the size and complexity of your RSView Supervisory Edition applications. In any application, faster CPUs and more RAM result in better performance. In addition, ensure sufficient disk space to provide virtual memory that is at least twice the size of the physical RAM. The chart below offers guidelines for minimum platform requirements.

Platform Requirements	Operating System	Processor	RAM
RSView SE Station (standalone applications)	Windows XP Professional with Service Pack 1 or later, or Windows 2000 Professional with Service Pack 4 or later.*	Pentium II or higher	256 MB
RSView Studio RSView Administration Console	Windows XP Professional with Service Pack 1 or later, or Windows 2000 Professional with Service Pack 3 or later.*	Pentium II or higher	256 MB
RSView SE Client	Windows XP Professional with Service Pack 1 or later, or Windows 2000 Professional with Service Pack 4 or later.*	Pentium II or higher	128 MB
RSView SE Servers	Up to 10 clients* — Windows XP Professional with Service Pack 1 or later, or Windows 2000 Professional with Service Pack 4 or later.** Microsoft Internet Information Server (IIS) The computer must be a member of a Windows domain (recommended) or workgroup.	Pentium II or higher	256 MB
	10 or more clients* — Windows 2000 Server with Service Pack 4** or later, with appropriate number of client access licenses (CAL) installed. Microsoft Internet Information Server (IIS) The computer must be a member of a Windows domain. Workgroups cannot be used with more than 10 computers.	Dual CPU Pentium 4	1 GB

* See the Rockwell Automation knowledgebase technical note A20778 for the latest information about later Windows® 2000 Service packs.
** A client can be an RSView SE Client, an RSView SE Server, a RSSql FactoryTalk connector, RSView Studio, or the RSView Administration Console.

RSView Supervisory Edition System Limits

Tested and Recommended[1] Maximums	
RSView Studio Clients—maximum[2] number of clients that can configure an RSView SE application simultaneously	5
RSView SE Servers—maximum[2] number of servers that can be used in an RSView SE application	2
RSView SE Servers—maximum[2] number of servers in non-redundant scenarios that can be hosted on a single computer	2
RSView SE Clients—maximum[2] number of clients that can access an RSView SE application simultaneously	20
Data Servers—maximum[2] number of data servers in an RSView SE application	2

[1]The system has been tested with up to 10 servers and 50 clients. Please contact Rockwell Software for architectural assistance if your intended application will exceed above recommended limits or for redundant server applications.
[2]Using the system beyond these limits is supported with the approval of Rockwell Software.

Ordering Information

For ordering information and catalog numbers, contact your local Rockwell Automation sales office or Allen-Bradley distributor.

Rockwell Software

For more information on the latest pricing or a demonstration of any Rockwell Software package, please contact your local Rockwell Automation sales office or Allen-Bradley distributor. For the very latest on Rockwell Software products, visit us at:

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Doc ID VIEWSE-TD003B-EN-P