Related Documentation

The following documents contain information that you may find helpful as you use this help file:

- LabVIEW Help
- LabWindows/CVI Help
- NI Measurement Studio Help

Using Help

Conventions

Navigating Help

Searching Help

Printing Help File Topics

Conventions

This help file uses the following formatting and typographical conventions:

The » symbol leads you through nested menu items and dialog box options to a final action. The sequence File»Page Setup»Options directs you to pull down the File menu, select the Page Setup item, and select Options from the last dialog box.

This icon denotes a note, which alerts you to important information.

bold Bold text denotes items that you must select or click in the software, such as menu items and dialog box options. Bold text also denotes parameter names.

green Underlined text in this color denotes a link to a help topic, help file, or Web address.

italic Italic text denotes variables, emphasis, cross-references, or an introduction to a key concept. Italic text also denotes text that is a placeholder for a word or value that you must supply.

monospace Text in this font denotes text or characters that you should enter from the keyboard, sections of code, programming examples, and syntax examples. This font is also used for the proper names of disk drives, paths, directories, programs, subprograms, subroutines, device names, functions, operations, variables, filenames, and extensions.

Navigating Help (Windows Only)

To navigate this help file, use the **Contents**, **Index**, and **Search** tabs to the left of this window or use the following toolbar buttons located above the tabs:

- **Hide**—Hides the navigation pane from view.
- Locate—Locates the currently displayed topic in the Contents tab, allowing you to view related topics.
- **Back**—Displays the previously viewed topic.
- **Forward**—Displays the topic you viewed before clicking the **Back** button.
- **Options**—Displays a list of commands and viewing options for the help file.

Searching Help (Windows Only)

Use the **Search** tab to the left of this window to locate content in this help file. If you want to search for words in a certain order, such as "related documentation," add quotation marks around the search words as shown in the example. Searching for terms on the **Search** tab allows you to quickly locate specific information and information in topics that are not included on the **Contents** tab.

Wildcards

You also can search using asterisk (*) or question mark (?) wildcards. Use the asterisk wildcard to return topics that contain a certain string. For example, a search for "prog*" lists topics that contain the words "program," "programmatically," "progress," and so on.

Use the question mark wildcard as a substitute for a single character in a search term. For example, "?ext" lists topics that contain the words "next," "text," and so on.



Note Wildcard searching will not work on Simplified Chinese, Traditional Chinese, Japanese, and Korean systems.

Nested Expressions

Use nested expressions to combine searches to further refine a search. You can use Boolean expressions and wildcards in a nested expression. For example, "example AND (program OR VI)" lists topics that contain "example program" or "example VI." You cannot nest expressions more than five levels.

Boolean Expressions

Click the ▶ button to add Boolean expressions to a search. The following Boolean operators are available:

- **AND** (default)—Returns topics that contain both search terms. You do not need to specify this operator unless you are using nested expressions.
- **OR**—Returns topics that contain either the first or second term.
- **NOT**—Returns topics that contain the first term without the second term.
- **NEAR**—Returns topics that contain both terms within eight words of each other.

Search Options

Use the following checkboxes on the **Search** tab to customize a search:

- **Search previous results**—Narrows the results from a search that returned too many topics. You must remove the checkmark from this checkbox to search all topics.
- Match similar words—Broadens a search to return topics that contain words similar to the search terms. For example, a search for "program" lists topics that include the words "programs," "programming," and so on.
- Search titles only—Searches only in the titles of topics.

Printing Help File Topics (Windows Only)

Complete the following steps to print an entire book from the **Contents** tab:

- 1. Right-click the book.
- 2. Select **Print** from the shortcut menu to display the **Print Topics** dialog box.
- 3. Select the **Print the selected heading and all subtopics** option.
 - Note Select Print the selected topic if you want to print the single topic you have selected in the Contents tab.
- 4. Click the **OK** button.

Printing PDF Documents

This help file may contain links to PDF documents. To print PDF documents, click the print button located on the Adobe Acrobat Viewer toolbar.

System Manager Overview

Use the System Manager to complete the following tasks:

- Create shared or network variables.
- Monitor shared or network variables.
- Create and monitor processes.
- Create and monitor I/O servers.
- Manage security.
- Manage aliases.
- Start and stop the Shared Variable Engine.
- Force I/O variable values
- View and clear scan engine faults.
- View and set scan engine modes.
- Monitor RT target resources.



Note You must use an alternate method to <u>start or stop the</u> <u>Shared Variable Engine on Windows Vista.</u>

Select Start»All Programs»National Instruments»Distributed System Manager to launch the System Manager. In LabVIEW, you also can launch the System Manager by selecting Tools»Distributed System Manager.

System Manager Components

The System Manager includes the following components:

- **System tree**—Displays all available objects on the network. The system tree appears as the primary navigation pane in the System Manager workspace.
- **System tree object**—Refers to all types of objects that might appear in the system tree. System tree object can refer to a system, process, yariable, or additional object types installed with modules and toolkits.
- Watch list—Monitors a single variable or multiple variables contained within a system or process.
- **Auto View**—Displays the **Probe** view for any system tree object that you select. If you select multiple objects, this view displays a **Watch List** view that contains all of the selected objects.
- **Probe views**—Display information and configuration options for the following components:
 - CPU/Memory
 - I/O Variable
 - Process
 - <u>Scan Engine</u>
 - Variable
 - Web Server
 - Web Service

File Menu

The **File** menu contains items for managing System Manager workspaces. Workspaces display information about all <u>shared or network variables</u> that are currently deployed, including the URL, current value, data type, timestamp information, and any error or quality messages. Quality messages list errors and other conditions that apply to the variable.

- **New Workspace**—Creates a new workspace. When you select this menu item, the System Manager removes all variables from the **Watch List** view and resets the workspace layout.
- **Open Workspace**—Opens a saved workspace.
- **Save Workspace**—Saves the current workspace with the .smw extension.
- **Settings**—Displays the <u>Settings</u> dialog box where you can customize workspace layout, set the data update rate, and specify the System Manager to save its workspace between sessions.

Actions Menu

The **Actions** menu contains items for starting and stopping the Shared Variable Engine, refreshing your workspace, and logging into a system.

- Log In—Displays the NI Security Login dialog box.
- Log Out—Logs out of the session configured in the NI Security Login dialog box.
- **Configure Security**—Displays the NI ACL Configuration dialog box, which you can use to update security settings.
- Start Local Shared Variable Engine—Restarts the Shared Variable Engine.



Note You must use an alternate method to <u>start the</u> <u>Shared Variable Engine on Windows Vista.</u>

• **Stop Local Shared Variable Engine**—Shuts down the **Shared Variable Engine**.



Note You must use an alternate method to <u>stop the Shared Variable Engine on Windows Vista.</u>

- Alias Manager—Displays the <u>Alias Manager</u> dialog box, which you can use to configure aliases for local computers and IP addresses.
 - The Shared Variable Engine uses aliases when running custom I/O servers that refer to other variables in the system.
- Add System to My Systems—Displays the Add Systems to My Systems dialog box that allows you to add a system to My Systems on the system tree.

View Menu

The **View** menu contains the options to display certain windows in the workspace and access a <u>system tree object</u> that does not appear in the <u>system tree</u>.

- **Auto View**—Displays the <u>Probe</u> view for any system tree object that you select. If you select multiple objects, this view displays a <u>Watch List</u> that contains all of the selected objects.
- **Events**—Displays the **Events** view for any <u>systems</u> located within **My Systems** on the system tree.
- Probe Location—Displays the <u>Probe Location</u> dialog box for a system, <u>process</u>, or <u>variable</u>. You can enter the location of objects that appear in the system tree, as well as those that do not.
- New Watch List—Creates a blank Watch List view. Drag a system tree object into this view to add it to the Watch List view.
- Refresh—Updates the contents of the system tree, Watch List views, and Alarm List views.

Help Menu

The **Help** menu contains items to explain and define System Manager features and provide System Manager documentation.

• **System Manager Overview**—Displays the *NI Distributed System Manager Help*. Use this help file for information about creating and managing shared or network variables and other <u>system tree objects</u>.



Note Refer to the *LabVIEW Help*, *NI Measurement Studio Help*, or *LabWindows/CVI Help* for more information about using variables created with the System Manager in your applications.

• **About System Manager**—Displays general information about the current installation, such as the version number.

Concepts

Use this book to learn about concepts in the System Manager. Refer to the **How-To** book for step-by-step instructions for using the System Manager.

To view related topics, click the **Locate** button, shown at left, in the toolbar at the top of this window. The NI Distributed System Manager Help highlights this topic in the **Contents** tab so you can navigate the related topics.

Systems

Systems are local computers or LabVIEW Real-Time targets available through the System Manager. Systems available on your local subnetwork appear by default. Select **Actions»Add System to My Systems** to access systems outside your local subnetwork that do not appear in the <u>system tree</u>.

Shortcut Menu

Right-click a system on the system tree to display the following options.

- Add to My Systems—Moves a selected system listed in Network Items to My Systems on the system tree.
- Remove From My Systems—Removes a selected system listed in My Systems.
- Watch List—Creates a new <u>Watch List</u> view that contains the single <u>variable</u> or multiple variables contained within the system or <u>process</u> that you select.
- **Probe**—Displays the **Systems Probe** view, which displays the location address for the selected system.
- Add Process—Displays the Add Process dialog box.

Processes

Processes are hierarchies of shared or network variables and I/O servers. Processes provide a logical means of organizing data. For example, if multiple, independent applications run on one server, you can create a process for each application. Similarly, if you have a very large application, you might divide the application into discrete subsystems and create a process for each subsystem. In addition to organizing data, you can start and stop each process independently, which allows you to take one subsystem offline while the rest of the application continues to run. When you stop a process, the values of variables in that process become unavailable and do not update.

Use the System Manager to <u>create processes</u> and start and stop existing processes.

Shortcut Menu

Right-click a process on the <u>system tree</u> to display the following options.

- Watch List—Creates a new <u>Watch List</u> view that displays the information for all variables contained within the process you select.
- **Probe**—Displays the <u>Process Probe</u> view for the selected process.
- Add Variable—Displays the <u>Shared Variable Properties</u> dialog box, which you can use to <u>create a new variable</u> within the selected process.
- Add I/O Server—Displays the <u>Create New I/O Server</u> dialog box to create an I/O server and add it to the <u>Shared Variable Engine</u>.
- **Stop Process**—Stops the selected process in the system tree. When a process stops, the values of variables in that process become unavailable and do not update. You must have sufficient access privileges to stop a process.
- Start Process—Starts the selected process in the system tree.
 Processes automatically start when you create them. If you select
 the Stop Process item to stop a process, you can use Start
 Process to restart the process. You must have sufficient access
 privileges to start a process.
- **Remove Process**—Removes the selected process in the system tree. You must have sufficient access privileges to remove a process.

Shared or Network Variables

LabVIEW uses the term *shared variable* and Measurement Studio and LabWindows™/CVI™ use the term *network variable* to describe software items that exist on a network and can communicate between programs, applications, remote computers, and hardware through the <u>Shared Variable Engine (SVE)</u>. Variables can represent a value or an I/O point. The SVE uses the NI Publish-Subscribe Protocol (NI-PSP) data transfer protocol to write data and allow users to read live data. NI-PSP is a proprietary technology that provides fast and reliable data transmission for large and small applications and is installed as a service on the computer when you install LabVIEW, Measurement Studio, or LabWindows/CVI.

Use the System Manager to <u>create</u>, <u>modify</u>, <u>or delete shared or network</u> <u>variables</u>. You also can <u>monitor shared or network variables</u> using the **Watch List** view.

Shortcut Menu

Right-click a variable on the system tree to display the following options.

- Watch List—Creates a new Watch List view that contains the selected variable.
- **Probe**—Displays the <u>Variable Probe</u> view for the selected system.
- **Edit Variable**—Displays the <u>Shared Variable Properties</u> dialog box, which you can use to configure the selected variable.
- **Remove Variable**—Removes the selected variable from the owning process.

I/O Servers

An I/O server is an application that communicates with and manages input and output devices such as programmable logic controllers (PLCs), remote input/output devices, remote Shared Variable Engines, and data acquisition (DAQ) plug-in devices. These I/O servers read selected input items and write to the selected output items on demand.

Shortcut Menu

Right-click an I/O server on the system tree to display the following options.

- Watch List—Creates a new <u>Watch List</u> view that contains the single <u>variable</u> or multiple variables contained within the selected <u>system</u> or <u>process</u>.
- **Probe**—Displays the **I/O Server Probe** view for the selected system.
- Edit I/O Server—Configures the selected I/O server.
- Remove I/O Server—Removes the selected I/O server.

Shared Variable Engine

The Shared Variable Engine (SVE) uses the NI Publish-Subscribe Protocol (NI-PSP) to enable the data transfer of <u>shared or network</u> <u>variables</u> through a network. The SVE manages the use and connectivity of shared or network variables on single or multiple <u>systems</u>.

Stopping Shared Variable Engine

Select **Actions»Stop Local Shared Variable Engine** to shut down the SVE. You can <u>create</u>, <u>configure</u>, <u>and remove variables</u> in the System Manager after you shut down the SVE. While the SVE is shut down, variable values do not update, and the SVE does not log alarms for variables.



Note You must use an alternate method to <u>stop the Shared</u> <u>Variable Engine on Windows Vista.</u>

Starting Shared Variable Engine

Select Actions»Start Local Shared Variable Engine to restart the SVE. The SVE is always running after you install LabVIEW, LabWindows/CVI, or Measurement Studio unless you select Actions»Stop Local Shared Variable Engine to manually shut down the SVE.



Note You must use an alternate method to <u>start the Shared</u> <u>Variable Engine on Windows Vista</u>.

How-To

This book contains step-by-step instructions and other information that might be useful as you use the System Manager. Refer to the Concepts book to learn about related concepts in the System Manager.

To view related topics, click the Locate button, shown at left, in the toolbar at the top of this window. The NI Distributed System Manager Help highlights this topic in the **Contents** tab so you can navigate the related topics.

Creating Processes

You can create <u>processes</u> on a local or LabVIEW Real-Time target. Complete the following steps to create a process with the System Manager.

- 1. Right-click a system in the system tree.
- 2. Select **Add Process** from the shortcut menu to display the <u>Add Process</u> dialog box.
- 3. Configure the process in the **Add Process** dialog box. You can use this dialog box to configure the process name and whether the process will run after you create it.

After you create a process, you can <u>add shared or network variables</u> or add <u>I/O servers</u> to that process.

Creating, Modifying, or Deleting Shared or Network Variables

You can create <u>shared or network variables</u> within <u>processes</u> on a local or real-time target.

Complete the following steps to create a variable with the System Manager.

- Select an existing process in the system tree or <u>create a new</u> <u>process</u>.
- 2. Right-click the process and select **Add Variable** from the shortcut menu to display the **Shared Variable Properties** dialog box.
- 3. Configure the variable in the **Shared Variable Properties** dialog box. You can use this dialog box to configure settings such as the variable name, data type, and buffering.

You now can use the variable in an application. When the process is running, the <u>Watch List</u> view updates to include information about the variable such as current value, timestamp, and quality messages. Quality messages list errors and other conditions that apply to the variable.

Modifying a Shared or Network Variable

Right-click the variable in the system tree and select **Edit Variable** from the shortcut menu to display the **Shared Variable Properties** dialog box.

Deleting a Shared or Network Variable

Right-click the variable in the system tree and select **Remove Variable** from the shortcut menu.

Monitoring Variables with the Watch List View

The **Watch List** view displays information about a single <u>variable</u> or multiple variables contained within a system or process. The **Watch List** view displays the variable location, current value, data type, timestamp, access (read/write) status, and quality. The quality indicates errors or other conditions that apply to the variable.

You also can use the **Watch List** view to display the <u>Alarms</u> view.

Complete the following steps to monitor variables using the **Watch List** view.

- 1. Right-click a <u>system tree object</u>, which includes all <u>systems</u>, <u>processes</u>, and variables available in the system tree.
- 2. Select **Watch List** from the shortcut menu to open a new **Watch List** view.
- 3. To customize the **Watch List** view, right-click anywhere inside the **Watch List** view.
- Select Show Columns from the shortcut menu to show and hide any of the information columns available in the Watch List view. You also can reorder the columns by dragging the column headings.

Observing Trend View of Variables

Use the <u>Variable Probe</u> view in the System Manager to monitor the value of a <u>variable</u> over time using the trend view graph.

Complete the following steps to monitor the value of a variable over time using the trend view graph.

- 1. Right-click a variable in the system tree.
- 2. Select **Probe** from the shortcut menu to open a new **Variable Probe** view for the selected variable.
- 3. Place a checkmark in the **Show Trend** checkbox to display the trend view graph.

Customizing the System Manager Workspace

The System Manager allows you to customize the workspace. Most System Manager views appear as a window by default. You can dock these views on the workspace to build a custom work environment.

Complete the following steps to customize the System Manager workspace.

- 1. Open a new view, such as a Watch List or Event Window view.
- 2. Click and hold the top bar of the desired view window.
- 3. Drag the window to the top, bottom, or sides of the System Manager workspace to dock the window.



Note If you dock multiple views in an area of the workspace, the System Manager automatically adds tabs to allow navigation between the views.

4. To undock a view to a separate window, select the **Restore Down** button in the top-right of the view.



Note Select View» Auto View to display the Variable Details view for the selected system tree object. The Variable Details view appears docked by default when you select Auto View.

- 5. Select **File»Save Workspace** to save the workspace as a .smw file.
- 6. Select **File»Open Workspace** and navigate to a .smw file to restore a previously customized workspace.

Saving and Restoring a System Manager Workspace

When you <u>customize the System Manager workspace</u>, you can save the customized workspace and restore it in a later System Manager session.

Complete the following steps to save and restore a customized System Manager workspace.

- 1. Customize the System Manager workspace.
- 2. Select **File»Save Workspace** to save your workspace as a .smw file.
- 3. To restore a workspace in a later session, select **File»Open Workspace** and navigate to the .smw file you want to restore.

Programmatically Accessing Published Values

You can access <u>system tree objects</u> such as <u>shared or network variables</u> from outside the System Manager environment. Use the network path for a system tree object to access that object from another environment.

The network path to shared or network variables consists of the system name, the name of the process in which the shared variable resides, and the shared variable name: \\system\process\variable. For example, the network path \\system1\myprocess\myvariable identifies a shared variable named myvariable in the process named myprocess on a system named system1.

You can determine the network path using the <u>Probe</u> view for any system tree object. The **Location** field displays the network path for the selected object.



Note Refer to the *LabVIEW Help*, *NI Measurement Studio Help*, or *LabWindows/CVI Help* for more information about accessing shared or network variables created or modified with the System Manager from other applications.

Starting or Stopping the Shared Variable Engine on Windows Vista

You cannot use the System Manager to start or stop the <u>Shared Variable</u> <u>Engine (SVE)</u> on Windows Vista. Use the Windows Service Manager to start and stop the SVE. You must possess administrator privileges to perform this action in Vista.

Complete the following steps to start or stop the SVE using the Windows Service Manager.

- Select the Start Menu.
- 2. Enter Services in the search field.
- 3. Select **Services** from the **Programs** list that appears. If necessary, enter a user name and password to obtain administrator privileges.
- 4. In the **Services** window, right-click **National Instruments Variable Engine** and select **Start** or **Stop** from the shortcut menu to activate or disable the SVE.

Forcing I/O Variable Values (NI Scan Engine)

You can use an <u>I/O variable probe</u> to force I/O variable values. Forcing an I/O variable causes the input or output and all associated aliases of the variable to assume the forced value until you unforce the value. If an input from hardware returns an error, and the associated I/O variable is forced, System Manager does not display the error. However, if the error results in a <u>fault</u>, LabVIEW registers the fault. If an output returns an error, System Manager displays the error.



Note If you link several I/O variables in a chain of aliases and force one of the I/O variables in the chain, the forced value applies to all I/O variables in the chain.

Enabling I/O Variable Forcing

Complete the following steps to enable and disable I/O variable forcing on a target with the NI Scan Engine installed.

- 1. Click a scan-enabled target in the system tree to display a target probe in the **Auto View**. You also can right-click a target and select **Probe** to display a target probe in a separate window.
- 2. The <u>Scan Engine</u> page of an RT target probe displays the **Forcing Enabled** LED indicator, which indicates whether I/O variable forcing is enabled on the controller.
- 3. Use the **Enable Forcing** button to enable forcing. Use the **Disable Forcing** button to disable forcing and unforce all forced I/O variable values. Use the **Clear Forcing** button to clear forcing on all I/O variables.



Note If you disable forcing and then enable forcing again, all previously-forced I/O variables return to their last forced value, unless you have cleared those values using the **Clear Forcing** button.

Forcing I/O Variable Values

Complete the following steps to force and unforce I/O variable values.

- 1. Click an I/O variable in the system tree to display an I/O variable probe in the **Auto View** or right-click an I/O variable and select **Probe** to display an I/O variable probe in a separate window.
- 2. In the **New Value** section of the I/O variable probe, enter or select the new value for the I/O variable.
- 3. Click the **Force** button to force the I/O variable to the value you specified.
- 4. Click the **Unforce** button to unforce the I/O variable value.



Note Individual I/O variable forcing applies only if forcing is enabled on the target. Use the **Enable Forcing** and **Disable Forcing** buttons to enable and disable forcing on the target.

Batch Forcing I/O Variable Values

Complete the following steps to perform batch forcing on a set of I/O variables.

- 1. Disable forcing on the target.
- 2. Force each I/O variable to the desired value.
- 3. Enable forcing on the target.

Viewing and Setting the Scan Engine Mode (NI Scan Engine)

You can use the <u>Scan Engine</u> page of a target probe to view and set the <u>scan engine mode</u> of a target with the <u>NI Scan Engine</u> installed.

Complete the following steps to view and set the scan engine mode.

- 1. Click a scan-enabled target in the system tree to display a target probe in the **Auto View**. You also can right-click a target and select **Probe** to display a target probe in a separate window.
- 2. The Scan Engine page of a target probe displays scan engine modes under the **Scan Engine Enabled** LED indicator and highlights the current scan engine mode with a green LED indicator.
- 3. Use the **Change to Config** button to set the scan engine mode to **Config Mode** or the **Change to Active** button to set the scan engine mode to **Active Mode**. You cannot enter **Active Mode** directly from **Fault Mode**. You must first <u>clear</u> all major <u>faults</u> on the target.



Note Entering **Config Mode** from **Fault Mode** automatically converts all major faults to minor faults. You cannot enter fault mode manually. The target enters fault mode only when a <u>major</u> or <u>unrecoverable</u> fault occurs.

Monitoring RT Target Resources (Real-Time Module)

Use the <u>CPU/Memory</u> page of an RT target probe to monitor the CPU and memory resources of an RT target.

Complete the following steps to monitor the CPU and memory resources of an RT target.

- 1. Click an RT target in the system tree to display a target probe in the **Auto View**. You also can right-click a target and select **Probe** to display a target probe in a separate window.
- 2. Click the **CPU/Memory** tab to display CPU and memory statistics.

The System Manager displays a CPU chart for each CPU in the system, labeled by CPU index. Each graph tracks the utilization of the CPU, as a percentage of capacity, over time. For each CPU, the System Manager also displays the percentage of total CPU utilization devoted to each priority level, as well as the percentage devoted to interrupt service routines (ISRs) and Timed Structures. The System Manager also displays a Memory chart that tracks memory usage, in megabytes, over time.

Viewing and Clearing Faults (NI Scan Engine)

You can view and clear <u>faults</u> on a target with the <u>NI Scan Engine</u> installed. Complete the following steps to view and clear faults.

- 1. Click a scan-enabled target in the system tree to display a target probe in the **Auto View**. You also can right-click a target and select **Probe** to display a target probe in a separate window. The Scan Engine page of the target probe displays the faults active on the target in a table that includes the fault code and description. The **Fault Present** LED indicator appears black when no fault is present, orange when only minor faults are present, and red when major or unrecoverable faults are present.
- 2. Click the **Clear Faults** button to clear all faults on the target.
- 3. To ensure that you successfully cleared all faults on the target, check the **Fault Present** LED indicator.

Monitoring and Editing Data Item Ranges

Complete the following steps to monitor and edit data items by using the **Probe** view or **Auto View**.



Note You cannot monitor or edit extended data items or array data items in the NI System Manager.

- 1. In the <u>system tree</u>, right-click a data item range and select **Probe** from the shortcut menu to create a **Probe** view. The **Probe** view displays detailed information about the data item range.
- 2. In the **Change item** text box, enter the data item that you want to monitor or edit.
- 3. Click the **Apply** button to display the value of the data item.
- 4. Enter the new value of the data item in the **New Value** section.
- 5. Click the **Set** button to apply the new value to the data item.



Note You also can click the **Auto View** to display the detailed information.

Monitoring Data Items in Data Item Ranges

Complete the following steps to create a new **Watch List** view for data item ranges or add a data item range to an existing **Watch List** view.

- 1. In the <u>system tree</u>, right-click a data item range and select **Watch List** from the shortcut menu. The System Manager displays the **Add Item to Watch List** dialog box. You also can drag a data item to an existing **Watch List** view to display this dialog box.
- 2. In the **Items from range** text box, enter the data item to monitor.
- 3. Click the **OK** button to create a watch list for the data item.



Note You can create a Watch List view for multiple data item ranges or multiple system tree objects that include data item ranges. You also can add these system tree objects to an existing Watch List view. When you create a Watch List view for these system tree objects or add these system tree objects to an existing Watch List view, the Add Item to Watch List dialog box does not appear. The System Manager adds the first data items of the data item ranges by default.

Important Information

Warranty

Copyright

Trademarks

<u>Patents</u>

Warning Regarding Use of NI Products

Warranty

The media on which you receive National Instruments software are warranted not to fail to execute programming instructions, due to defects in materials and workmanship, for a period of 90 days from date of shipment, as evidenced by receipts or other documentation. National Instruments will, at its option, repair or replace software media that do not execute programming instructions if National Instruments receives notice of such defects during the warranty period. National Instruments does not warrant that the operation of the software shall be uninterrupted or error free.

A Return Material Authorization (RMA) number must be obtained from the factory and clearly marked on the outside of the package before any equipment will be accepted for warranty work. National Instruments will pay the shipping costs of returning to the owner parts which are covered by warranty.

National Instruments believes that the information in this document is accurate. The document has been carefully reviewed for technical accuracy. In the event that technical or typographical errors exist, National Instruments reserves the right to make changes to subsequent editions of this document without prior notice to holders of this edition. The reader should consult National Instruments if errors are suspected. In no event shall National Instruments be liable for any damages arising out of or related to this document or the information contained in it.

EXCEPT AS SPECIFIED HEREIN, NATIONAL INSTRUMENTS MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIMS ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. CUSTOMER'S RIGHT TO RECOVER DAMAGES CAUSED BY FAULT OR NEGLIGENCE ON THE PART OF NATIONAL INSTRUMENTS SHALL BE LIMITED TO THE AMOUNT THERETOFORE PAID BY THE CUSTOMER. NATIONAL INSTRUMENTS WILL NOT BE LIABLE FOR DAMAGES RESULTING FROM LOSS OF DATA, PROFITS, USE OF PRODUCTS, OR INCIDENTAL OR CONSEQUENTIAL DAMAGES, EVEN IF ADVISED OF THE POSSIBILITY THEREOF. This limitation of the liability of National Instruments will apply regardless of the form of action, whether in contract or tort, including negligence. Any action against National Instruments must be brought within one year after the cause of action

accrues. National Instruments shall not be liable for any delay in performance due to causes beyond its reasonable control. The warranty provided herein does not cover damages, defects, malfunctions, or service failures caused by owner's failure to follow the National Instruments installation, operation, or maintenance instructions; owner's modification of the product; owner's abuse, misuse, or negligent acts; and power failure or surges, fire, flood, accident, actions of third parties, or other events outside reasonable control.

Copyright

Under the copyright laws, this publication may not be reproduced or transmitted in any form, electronic or mechanical, including photocopying, recording, storing in an information retrieval system, or translating, in whole or in part, without the prior written consent of National Instruments Corporation.

In regards to components that use Citadel 5, the following copyright applies. Copyright © 1994 Hewlett-Packard Company. Permission to use, copy, modify, distribute and sell this software and its documentation for any purpose is hereby granted without fee, provided that the above copyright notice appears in all copies and that both that copyright notice and this permission notice appear in supporting documentation. Hewlett-Packard Company makes no representations about the suitability of this software for any purpose. It is provided "as is" without express or implied warranty.

National Instruments respects the intellectual property of others, and we ask our users to do the same. NI software is protected by copyright and other intellectual property laws. Where NI software may be used to reproduce software or other materials belonging to others, you may use NI software only to reproduce materials that you may reproduce in accordance with the terms of any applicable license or other legal restriction.

Trademarks

National Instruments, NI, ni.com, and LabVIEW are trademarks of National Instruments Corporation. Refer to the *Terms of Use* section on ni.com/legal for more information about National Instruments trademarks.

FireWire® is the registered trademark of Apple Computer, Inc.

Handle Graphics®, MATLAB®, Real-Time Workshop®, Simulink®, Stateflow®, and xPC TargetBox® are registered trademarks, and TargetBox $^{\text{TM}}$ and Target Language Compiler $^{\text{TM}}$ are trademarks of The MathWorks, Inc.

Tektronix® and Tek are registered trademarks of Tektronix, Inc.

The Bluetooth® word mark is a registered trademark owned by the Bluetooth SIG, Inc.

Other product and company names mentioned herein are trademarks or trade names of their respective companies.

Members of the National Instruments Alliance Partner Program are business entities independent from National Instruments and have no agency, partnership, or joint-venture relationship with National Instruments.

Patents

For patents covering National Instruments products, refer to the appropriate location: **Help»Patents** in your software, the patents.txt file on your media, or <u>ni.com/patents</u>.

WARNING REGARDING USE OF NATIONAL INSTRUMENTS PRODUCTS

- (1) NATIONAL INSTRUMENTS PRODUCTS ARE NOT DESIGNED WITH COMPONENTS AND TESTING FOR A LEVEL OF RELIABILITY SUITABLE FOR USE IN OR IN CONNECTION WITH SURGICAL IMPLANTS OR AS CRITICAL COMPONENTS IN ANY LIFE SUPPORT SYSTEMS WHOSE FAILURE TO PERFORM CAN REASONABLY BE EXPECTED TO CAUSE SIGNIFICANT INJURY TO A HUMAN.
- (2) IN ANY APPLICATION, INCLUDING THE ABOVE, RELIABILITY OF OPERATION OF THE SOFTWARE PRODUCTS CAN BE IMPAIRED BY ADVERSE FACTORS, INCLUDING BUT NOT LIMITED TO FLUCTUATIONS IN ELECTRICAL POWER SUPPLY, COMPUTER HARDWARE MALFUNCTIONS, COMPUTER OPERATING SYSTEM SOFTWARE FITNESS, FITNESS OF COMPILERS AND DEVELOPMENT SOFTWARE USED TO DEVELOP AN APPLICATION, INSTALLATION ERRORS. SOFTWARE AND HARDWARE COMPATIBILITY PROBLEMS, MALFUNCTIONS OR FAILURES OF ELECTRONIC MONITORING OR CONTROL DEVICES, TRANSIENT FAILURES OF ELECTRONIC SYSTEMS (HARDWARE AND/OR SOFTWARE), UNANTICIPATED USES OR MISUSES, OR ERRORS ON THE PART OF THE USER OR APPLICATIONS DESIGNER (ADVERSE FACTORS SUCH AS THESE ARE HEREAFTER COLLECTIVELY TERMED "SYSTEM FAILURES"). ANY APPLICATION WHERE A SYSTEM FAILURE WOULD CREATE A RISK OF HARM TO PROPERTY OR PERSONS (INCLUDING THE RISK OF BODILY INJURY AND DEATH) SHOULD NOT BE RELIANT SOLELY UPON ONE FORM OF ELECTRONIC SYSTEM DUE TO THE RISK OF SYSTEM FAILURE. TO AVOID DAMAGE. INJURY. OR DEATH. THE USER OR APPLICATION DESIGNER MUST TAKE REASONABLY PRUDENT STEPS TO PROTECT AGAINST SYSTEM FAILURES. INCLUDING BUT NOT LIMITED TO BACK-UP OR SHUT DOWN MECHANISMS. BECAUSE EACH END-USER SYSTEM IS CUSTOMIZED AND DIFFERS FROM NATIONAL INSTRUMENTS' TESTING PLATFORMS AND BECAUSE A USER OR APPLICATION DESIGNER MAY USE NATIONAL INSTRUMENTS PRODUCTS IN COMBINATION WITH OTHER PRODUCTS IN A MANNER NOT EVALUATED OR CONTEMPLATED BY NATIONAL INSTRUMENTS, THE USER OR

APPLICATION DESIGNER IS ULTIMATELY RESPONSIBLE FOR VERIFYING AND VALIDATING THE SUITABILITY OF NATIONAL INSTRUMENTS PRODUCTS WHENEVER NATIONAL INSTRUMENTS PRODUCTS ARE INCORPORATED IN A SYSTEM OR APPLICATION, INCLUDING, WITHOUT LIMITATION, THE APPROPRIATE DESIGN, PROCESS AND SAFETY LEVEL OF SUCH SYSTEM OR APPLICATION.

Technical Support and Professional Services

Visit the following sections of the award-winning National Instruments Web site at ni.com for technical support and professional services:

- <u>Support</u>—Technical support resources at ni.com/support include the following:
 - Self-Help Resources—For answers and solutions, visit ni.com/support for software drivers and updates, a searchable KnowledgeBase, product manuals, step-by-step troubleshooting wizards, thousands of example programs, tutorials, application notes, instrument drivers, and so on. Registered users also receive access to the NI Discussion Forums at ni.com/forums. NI Applications Engineers make sure every question submitted online receives an answer.
 - Standard Service Program Membership—This
 program entitles members to direct access to NI
 Applications Engineers via phone and email for one-toone technical support, as well as exclusive access to on
 demand training modules via the Services Resource
 Center. NI offers complementary membership for a full
 year after purchase, after which you may renew to
 continue your benefits.

For information about other <u>technical support options</u> in your area, visit ni.com/services or <u>contact</u> your local office at ni.com/contact.

- <u>Training and Certification</u>—Visit ni.com/training for self-paced training, eLearning virtual classrooms, interactive CDs, and Certification program information. You also can register for instructor-led, hands-on courses at locations around the world.
- System Integration—If you have time constraints, limited inhouse technical resources, or other project challenges, National Instruments Alliance Partner members can help. To learn more, call your local NI office or visit ni.com/alliance.

If you searched ni.com and could not find the answers you need, contact your <u>local office</u> or NI corporate headquarters. You also can visit the <u>Worldwide Offices</u> section of ni.com/niglobal to access the branch office

Web sites, which provide up-to-date contact information, support phone numbers, email addresses, and current events.

JavaScript Disabled

The HTML file you are trying to access uses JavaScript.

(Windows) If you are viewing the file from your computer or from a CD and you have Internet Explorer 4.0 or later installed, JavaScript is enabled by default. If you are viewing the file from a network, such as on an intranet or on the Web, or if you do not have Internet Explorer 4.0 or later installed, you must enable JavaScript to view the file.

NI ACL Configuration Dialog Box

Installed With: NI Distributed System Manager (Windows)

Select **Actions»Configure Security** in the System Manager to display this dialog box. Use this dialog box to update the security settings for the System Manager.

This dialog box includes the following components:

- **User or group names**—Lists the users or groups for which you want to configure security settings.
- Add—Displays the Add New Host/User dialog box, which you can use to add users or groups to the User or group names list.
- Remove—Removes the selected users or groups from the User or group names list.
- **Permissions**—Displays the permission settings for the currently selected user or group.
- **Grant**—Grants the selected user or group access to the selected permission in the **Permissions** table. If you do not specifically grant or deny a user permission, by default, the user is denied that permission.
- Deny—Denies the selected user or group access to the selected permission in the Permissions table. If you do not specifically grant or deny a user permission, by default, the user is denied that permission.

To reset security settings for System Manager, remove the SysMan ACL.acl file from the default LabVIEW Data directory.

Alias Manager Dialog Box

Installed With: NI Distributed System Manager (Windows)

Select **Actions»Alias Manager** in the System Manager to display this dialog box. Use this dialog box to map targets to IP addresses. **(DSC Module)** The Shared Variable Engine uses aliases when running custom I/O servers that refer to other variables in the system.

This dialog box includes the following components:

- Add—Adds an alias to the System Manager. You must specify an IP address to create an alias.
- **Edit**—Edits the name or IP address for the currently selected alias.
- Remove—Deletes an alias from the alias list.
- Import—Imports aliases saved in a LabVIEW .aliases file. LabVIEW creates the file automatically when you create a LabVIEW project.
- Alias—Lists the aliases you create.

CPU/Memory Probe View

Installed With: NI Scan Engine

Select an RT target to display a target probe in the **Auto View**. You also can right-click the target and select **Probe** to display the probe in a separate window. Click the **CPU/Memory** tab of an RT target probe to display this view. Use this view to monitor CPU and memory usage on the target.

- **CPU N Usage Chart (%)**—Tracks utilization of CPU *N* over time, as a percentage of capacity.
- **Memory Usage Chart (MB)**—Tracks target memory usage over time.
- CPU N Statistics—Includes current CPU usage statistics
 including total CPU usage, CPU usage by priority level, and CPU
 usage dedicated to Timed Structures and interrupt service
 routines (ISRs). Each value represents a percentage of total
 capacity.
- Memory Statistics—Displays current memory usage data.
 - **Allocated**—The amount of memory, in MB, currently allocated on the target.
 - Available—The amount of memory, in MB, currently available on the target.
 - **Contiguous**—The largest contiguous block of available memory on the target, in MB.
 - Total—The total amount of memory available to the operating system, in MB.
 - Usage—The percentage of total memory currently allocated on the target.

I/O Variable Probe View

Installed With: NI Scan Engine

Click an <u>I/O variable</u> in the system tree to display this view in the **Auto View**. You also can right-click an I/O variable and select **Probe** to display this view in a separate window.

This view displays the location of an I/O variable and allows you to view or customize the following components:

- **Location**—Specifies the location of the item you want to probe. To probe a variable, for example, enter the information in the following format: //systemName/Process/Variable.
- **Current Value**—Displays the current value of the selected variable.
- **New Value**—Allows you to enter a new value to assign to the variable.
- Force—Forces the variable to assume New Value until you unforce the variable or force the variable to assume another New Value.
- **Unforce**—Stops <u>forcing</u> the variable and returns control of the I/O value to the scan engine.
- **Set**—Sets the value in the **New Value** field as the current value.
- **Show Trend**—Displays the <u>trend view</u> graph of the selected variable.
- **Data Type**—Displays the data type of the selected variable.
- **Timestamp**—Displays the timestamp of the selected variable.
- **Quality**—Displays the quality of the selected variable. The quality indicates errors or other conditions that apply to the variable.
- Access Type—Displays the supported access mode(s) of the variable. This includes Read-only, Write-only, or Read/Write. LabVIEW modules and toolkits you have installed might provide additional access types.

Process Probe View

Installed With: NI Distributed System Manager (Windows)

Right-click a process and select **Probe** from the shortcut menu to display this view. This view shows the status of the selected <u>process</u> and allows you to start or stop that process.

- **Location**—Displays the location of the selected process.
- **State**—Displays whether the process is online or offline, or displays if you do not have sufficient access privileges to modify the state.
- **Start Process**—Starts the selected process. You must have sufficient access privileges to start a process.
- **Stop Process**—Stops the selected process. You must have sufficient access privileges to stop a process.

Scan Engine Probe View

Installed With: NI Scan Engine

Select a target with the NI Scan Engine installed to display this view in the Auto View. You also can right-click the target and select **Probe** to display this view in a separate window. Use this view to monitor and manage the scan engine running on the target.

- Forcing—Contains information and options related to I/O
 variable forcing.
 - Forcing Enabled—Indicates whether I/O variable forcing is enabled on the target.
 - **Enable Forcing**—(Appears when forcing is disabled) Enables I/O variable <u>forcing</u> on the target. This option is available only when I/O variable forcing is disabled.
 - Disable Forcing—Disables forcing for all I/O variables and I/O aliases on the target. Unless you clear forcing, the previous forced value returns when you re-enable forcing. This option is available only when I/O variable forcing is enabled.
 - Clear Forcing—Disables forcing and clears forcing values for all I/O variables and I/O aliases on the target.
- **Faults**—Contains information and options related to <u>scan engine</u> faults.
 - **Fault Present**—Indicates the presence of <u>faults</u> on the target. The LED appears black when no fault is present, orange when only minor faults are present, and red when major or unrecoverable faults are present.
 - Clear All Faults—Clears all <u>faults</u> on the target. If the target is in Fault mode, clearing all faults returns the target to the previous mode in effect before entering <u>Fault</u> Mode.
 - Clear Selected Fault—Clears the fault currently selected in the Fault List. If no fault is currently selected, no action occurs.
 - **Fault List**—Lists the faults active on the target.

- Error Code—The error code associated with the fault.
- **Highest Level**—The highest level of the fault since last cleared.
- **First Occurrence**—The time of the first occurrence of the fault since last cleared.
- Num of Occurrences—The number of occurrences of the fault since last cleared.
- **Description**—The fault description.
- **Scan Engine Mode**—Contains information and options related to the mode of the NI Scan Engine on the target.



Note This section is available only with expansion I/O hardware. This section is not available if only local I/O drivers are installed on the target. Refer to the I/O hardware documentation for information about hardware-specific mode behavior.

- Configuration—Indicates whether the scan engine is in Configuration mode.
- Active—Indicates whether the scan engine is in Active mode.
- Fault—Indicates whether the scan engine is in Fault mode.
- I/O Drivers—Lists the I/O drivers installed on the target that interface with the NI Scan Engine.
- Change to Configuration—Switches the scan engine to Configuration mode. If the target was previously in Fault mode, switching to Configuration mode automatically changes the level of all active major faults to minor.
- Change to Active—Switches the scan engine to Active mode. You cannot switch directly to Active mode from Fault mode. You must clear all major faults to leave Fault mode before you can switch to Active mode.
- Refresh Local Modules—Scans the target for new local I/O modules. If a new local I/O module is detected, System Manager adds the new I/O module under the target in the system tree. If you remove a previously detected local I/O module from the

target, you must undeploy the module from the LabVIEW project before refreshing can remove the module from the system tree.

Variable Probe View

Installed With: NI Distributed System Manager (Windows)

Right-click a variable and select **Probe** from the shortcut menu to display this view. This view displays the location of the selected <u>shared or network variable</u> and allows you to view or customize aspects of that variable.

- **Location**—Displays the location of the selected variable.
- **Current Value**—Displays the current value of the selected variable.
- **New Value**—Allows you to enter a new value to assign to the variable.
- **Set**—Sets the value in the **New Value** field as the current value.
- **Show Trend**—Displays the <u>trend view</u> graph of the selected variable.
- **Data Type**—Displays the data type of the selected variable.
- **Timestamp**—Displays the timestamp of the selected variable.
- **Quality**—Displays the quality of the selected variable. The quality indicates errors or other conditions that apply to the variable.
- Access Type—Displays the supported access mode(s) of the variable. This includes Read-only, Write-only, or Read/Write. LabVIEW modules and toolkits you have installed might provide additional access types.

Web Server Probe View

Installed With: NI Distributed System Manager (Windows)

Right-click a Web Server and select **Probe** from the shortcut menu to display this view. This view displays Web services available on the Web Server. You can pause, resume, restart, delete, or reset statistics for one or all of the available Web services. Refer to the *LabVIEW Help* for information about LabVIEW Web services and related terminology.

- **Location**—Displays the location of the selected Web Server.
- **Deployed Web Services**—Displays a listbox of all Web services available on the Web Server.
 - Operations on selected—Displays components that perform operations on the selected Web service.
 - Pause—Pauses the selected Web service.
 - Resume—Resumes the selected Web service.
 - Restart—Restarts the selected Web service.
 - **Reset Statistics**—Resets all statistical variables for the selected Web service.
 - Delete—Removes the selected Web service from the Web Server.
- **Operations on all**—Displays components that perform operations on all Web services on the Web Server.
 - Pause All—Pauses all Web services on the Web Server.
 - Resume All—Resumes all Web services on the Web Server.
 - Restart All—Restarts all Web services on the Web Server.
 - Reset All Statistics—Resets statistical variables for all Web services on the Web Server.

Web Service Probe View

Installed With: NI Distributed System Manager (Windows)

Right-click a Web service and select **Probe** from the shortcut menu to display this view. This view displays the state of the selected Web service and allows you to pause, resume, restart, or reset statistics for the Web service. You also can send HTTP requests to the Web service using available URL mappings. Refer to the *LabVIEW Help* for information about LabVIEW Web services and related terminology.

- Location—Displays the location of the selected Web Service.
- State—Displays whether the Web service is running or paused.
- Pause—Pauses the selected Web service.
- **Resume**—Resumes the selected Web service.
- Restart—Restarts the selected Web service.
- Reset Statistics—Resets all statistical variables for the selected Web service.
- **URL Mappings**—Displays a listbox of available URL Mappings for the selected Web service.
 - Run Selected—Displays the Web Server URL Mapping view for the selected URL mapping.

Settings Dialog Box

Installed With: NI Distributed System Manager

Select **File»Settings** to display this dialog box. This dialog box provides options to customize workspace layout, set the **Data Update Rate**, and specify whether the System Manager saves its workspace between sessions.

This dialog box includes the following components:

- Show Value Column—Displays the Value column in the System Manager tree.
- **Show Type Column**—Displays the Type column in the System Manager tree.
- **Show Access Column**—Displays the Access column in the System Manager tree.
- **Show MXS Column**—Displays the MXS column in the System Manager tree.
- **Show Location Column**—Displays the Location column in the System Manager tree.
- **Data Update Rate**—Specifies the frequency with which the System Manager will update data.
- Save Workspace Between Sessions—Specifies whether to save any workspace <u>customizations</u> when you close your session.

NI Security Login Dialog Box

Installed With: NI Distributed System Manager (Windows)

Select Actions»Log In to display this dialog box.

Use this dialog box to log into System Manager and allow configuration of components on protected systems. By default, System Manager does not require you to log in when configuring components such as systems and variables. You must log in when working with a system that requires authorization before you can modify its components.

This dialog box contains the following components:

- **User name**—Specifies the name of the current user.
- Password—Specifies the password for the current user.
- NI domain—Specifies the domain to which the current user wants to log in.

Add System to My Systems Dialog Box

Installed With: NI Distributed System Manager (Windows)

Select **Actions»Add System to My Systems** to display this dialog box. This dialog box allows you to access <u>systems</u> outside your local subnetwork that do not appear in the system tree.

This dialog box includes the following components:

• **System**—Specifies the location (\\examplesystem) for the system you want to add.

Probe Location Dialog Box

Installed With: NI Distributed System Manager (Windows)

Select **View»Probe Location** to display this dialog box. You can enter the location of <u>system tree objects</u> that appear in the <u>system tree</u>, as well as remote locations of objects that do not appear in the system tree, to display the **Probe** view for the specified system tree object.

This dialog box includes the following components:

• **Location**—Specifies the location of the item you want to probe. To probe a variable, for example, enter the information in the following format: //systemName/Process/Variable.

Add Process Dialog Box

Installed With: NI Distributed System Manager (Windows)

Right-click a system on the <u>system tree</u> and select **Add Process** from the shortcut menu to display this dialog box. Use the **Add Process** dialog box to <u>create</u> a new <u>process</u> on the selected system in the system tree.

This dialog box includes the following components:

- **Process Name**—Specifies the name of the new process.
- **Run**—Specifies whether to run the process or keep it offline when you create it.

Shared Variable Properties Dialog Box

Installed With: NI Distributed System Manager (Windows)

Right-click a <u>process</u> in the system tree and select **Add Variable** from the shortcut menu, or right-click an existing shared or network variable in the system tree and select **Edit Variable** from the shortcut menu to display this dialog box.

Use this dialog box to <u>configure a new shared or network variable</u> or edit the configuration of an existing variable.

Use the selections in the left pane of this dialog box to access variable configuration options:

- <u>Variable</u>—Determines the basic configuration of the variable, including the data type and variable type.
- Alarming—(DSC Module) Configures alarming options for the shared variable.
- <u>Description</u>— Specifies a description for the shared variable.
- Logging—(DSC Module) Configures logging options for the shared variable.
- Network—Configures network options such as buffering for the shared variable.
- Real-Time FIFO—(RT Module) Enables and configures the real-time FIFO of a shared variable.
- <u>Scaling</u>—Configures scaling options for the shared variable.
- <u>Update Deadband</u>—(**DSC Module**) Configures the deadband options for the shared variable.
- <u>Initial Value</u>—(**DSC Module**) Configures the initial value for the shared variable.
- <u>Security</u>—(**DSC Module**) Configures the security options for the shared variable.

LabVIEW modules and toolkits you have installed might provide additional shared variable types, configuration options, and limitations. Refer to the documentation for the LabVIEW module or toolkit for more information.

Create New I/O Server Dialog Box

Installed With: NI Distributed System Manager (Windows)

Right-click a process and select **Add I/O Server** from the shortcut menu to display this dialog box. Use this dialog box to create an I/O server.

(RT Module) You can create Modbus I/O servers and ModbusSlave I/O servers.

This dialog box includes the following components:

- I/O Server Type—Contains a list of I/O servers you can create.
- **Description**—Displays a description of the IP generator you select from the **Select IP Generator** list.
- **Continue**—Displays the **Configuration** dialog box for the selected I/O server.

Branch Offices

Office	Telephone Number
Australia	1800 300 800
Austria	43 662 457990-0
Belgium	32 (0) 2 757 0020
Brazil	55 11 3262 3599
Canada	800 433 3488
China	86 21 5050 9800
Czech Republic	420 224 235 774
Denmark	45 45 76 26 00
Finland	358 (0) 9 725 72511
France	33 (0) 1 57 66 24 24
Germany	49 89 7413130
India	91 80 41190000
Israel	972 0 3 6393737
Italy	39 02 41309277
Japan	0120-527196 / 81 3 5472 2970
Korea	82 02 3451 3400
Lebanon	961 (0) 1 33 28 28
Malaysia	1800 887710
Mexico	01 800 010 0793
Netherlands	31 (0) 348 433 466
New Zealand	0800 553 322
Norway	47 (0) 66 90 76 60
Poland	48 22 3390150
Portugal	351 210 311 210
Russia	7 495 783 6851
Singapore	1800 226 5886
Slovenia	386 3 425 42 00

South Africa	27 0 11 805 8197
Spain	34 91 640 0085
Sweden	46 (0) 8 587 895 00
Switzerland	41 56 2005151
Taiwan	886 02 2377 2222
Thailand	662 278 6777
Turkey	90 212 279 3031
United Kingdom	44 (0) 1635 523545
United States (Corporate)	512 683 0100