

Log Flag Editor User's Guide

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Invensys Systems, Inc.

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Before You Begin

About This Book

This book describes the user interface and functions of the Log Flag Editor utility. This utility can be opened only from the Log Viewer, a part of the System Management Console suite of utilities. The remainder of this book is organized in the following fashion:

- Overview: contains introductory information about the Log Flag Editor, including general information about default log flags, custom log flags and how to use them.
- Using the Log Flag Editor: describes procedures for manipulating and creating log flags as a means to modify the kinds of messages logged to the Logger.
- Log Flag Editor User Interface: describes the windows, menus and dialog boxes associated with the Log Flag Editor utility.
- Index

You can view this document online or you can print it, in part or whole, by using the Adobe Acrobat Reader's print facility.

Documentation Conventions

This documentation uses the following conventions:

Convention	Used for
Bold	Menus, commands, buttons, icons, dialog boxes and dialog box options.
Monospace	Start menu selections, text you must type, and programming code.
<i>Italic</i>	Options in text or programming code you must type.

Technical Support

Wonderware Technical Support offers a variety of support options to answer any questions on Wonderware products and their implementation.

Prior to contacting technical support, please refer to the relevant chapter(s) in your *Log Flag Editor User's Guide* for a possible solution to any problem you may have with the Log Flag Editor. If you find it necessary to contact technical support for assistance, please have the following information available:

- The type and version of the operating system you are using. For example, Microsoft Windows XP.
- The exact wording of the error messages encountered.
- Any relevant output listing from the Log Viewer or any other diagnostic applications.
- Details of the attempts you made to solve the problem(s) and your results.
- Details of how to recreate the problem.
- If known, the Wonderware Technical Support case number assigned to your problem (if this is an ongoing problem).

C H A P T E R 1

Overview

The Log Flag Editor is an ArchestrA™ utility you can use to selectively log messages from product components to the ArchestrA Logger. By switching on and off categories of messages (log flags), you can control the information logged. Message logging can be controlled on a global and component-specific basis.

Also, you can save specific log flag settings to a file and then share those settings with other users so that only certain types of data are logged on their computers.

Contents

- Log Flags Defined
- Components and Log Flags
- When to Use the Log Flag Editor
- Using the Log Flag Editor on Remote Nodes

Log Flags Defined

Log flags are message categories that can be switched on and off to control which messages are logged by the Logger.

Every message sent to the Logger by ArchestrA components is associated with a log flag. This association between message and log flag is assigned in the component by the developer of that component. Every message first must meet the current log flag settings before being logged.

When a log flag is switched on, messages of that log flag category are logged by the Logger. When it is switched off, they are not logged.

Note Using log flags is not the same as using the filter function of the Log Viewer utility. With log flags, messages whose log flag has been turned off are not logged at all. With the Log Viewer filter, messages that are filtered are just hidden from view. See Log Viewer documentation for further information about filtering messages.

There are two main types of log flags:

- Default log flags: these apply to all ArchestrA-enabled components on your computer.

- Custom log flags: these apply to only one or perhaps a few ArchestrA components on your computer.

Default Log Flags

All ArchestrA components use the default log flags. They are displayed first in the Log Flags View of the user interface and are shown in black text, followed by custom log flags (shown in blue text) in alphanumeric order. The default log flags include the following:

Default Log Flag	Description
Error	Use this log flag to log error messages, which indicate problems that should not occur. For instance, an error message might indicate that a file is not found in an expected location and the program cannot recover by creating the file.
Warning	Use this log flag to log warning messages, which indicate that an unexpected event occurred but the program was able to recover.
Info	Use this log flag to log informational messages, which indicate normal program events. These messages typically indicate the status of expected operations.
Trace	Use this log flag to log generic trace messages, which indicate internal object states, variable values, GUIDs and other low level data.
Start-Stop	Use this log flag to log messages when a component has been started or stopped.
Entry-Exit	Use this log flag to log messages when particular functions have been entered and exited.
ThreadStart-Stop	Use this log flag to log messages that indicate a thread has started or stopped.
SQL	Use this log flag to log SQL related messages. Typically, these messages are used to show long SQL strings.
Connection	Use this log flag to log messages from communication components that manage connections with clients or servers.
Ctor-Dtor	Use this log flag to log constructor/destructor messages, which typically indicate object creation and deletion from memory.
RefCount	Use this log flag to log object reference count messages from objects that manage their life span by counting their clients.

Custom Log Flags

Most ArchestrA components have unique messages that do not fit into a default log flag category. In those cases, the component developer assigns custom log flags to those messages.

Several components can share a custom log flag if they send similar messages that fit into that category and if they assign those messages to the custom log flag. Another component, though, cannot use a custom log flag if, during its development, it did not initially assign a message to that log flag.

The Log Flag Editor displays custom log flag names in blue text.

Components and Log Flags

The Log Flag Editor displays a list of all ArchestrA components installed on the target node. Selecting a component displays its log flags, including default and custom ones. Selecting the **Global** option displays all log flags for all ArchestrA components.

The component list in the Log Flag Editor is not dynamic. You must restart the utility to display a newly installed component, and you must use the **Remove Component** command to remove from the component list one that has been uninstalled from the selected node.

To enable a log flag, you must select its check box. To disable it, select the check box again. If you select **Global** in the component list and then enable a log flag, that log flag is automatically enabled for all components. If the check box for a log flag is colored gray, that log flag is enabled for at least one component but not globally.

Note To begin logging messages associated with newly selected log flags, you must apply the new log flag settings. See the **Apply** command in the Menu Bar section of the Log Flag Editor User Interface chapter.

Use the **Global** option to control the messages for all ArchestrA components installed on the selected node. For instance, when **Global** is selected and the **Trace** log flag is enabled, all **Trace** messages for all ArchestrA components on the selected node are logged.

Use a specific component in the component list to control the messages just for that component. For instance, assume the **Trace** log flag for the **Global** option is enabled. If you then select a specific component and switch its **Trace** log flag off, the Logger stops logging **Trace** messages for that component while continuing to log them for all other components. The reverse is true if the **Trace** log flag for the **Global** option is switched off and the component-specific **Trace** log flag is enabled. In this case, the Logger logs **Trace** messages only for that component.

When to Use the Log Flag Editor

The Log Flag Editor is primarily a troubleshooting tool. By default, most log flags are switched off because most potential messages are not required during normal operation of ArchestrA components. Also, switching on log flags (especially globally) can affect the selected node's performance.

For instance, use the Log Flag Editor when a particular ArchestrA component begins logging error or warning messages. Select the malfunctioning component in the component list, and then switch on specific log flags. After applying the new log flag settings, new messages that appear in the Logger can help troubleshoot the component.

Using the Log Flag Editor on Remote Nodes

You can use the Log Flag Editor to edit log flags on remote nodes and, therefore, control which messages are logged on the remote Logger. Do this by, first, selecting the remote node in the Log Viewer and then starting the Log Flag Editor.

Note See Log Viewer documentation for more information about adding remote nodes in the Console Tree, connecting to them, and starting the Log Flag Editor.

While the Log Flag Editor attempts to connect to the Logger of the selected node, a status dialog box is displayed. If any of the following scenarios occurs, the Log Flag Editor is not started:

- You cancel the connection attempt for a non-responsive node.
- If the Log Flag Editor is unable to connect with the remote node, a message is displayed.
- If logging is disabled on the selected node, a message is displayed.

Note See Log Viewer documentation for more information about enabling/disabling logging on a node.

All functions described in the remainder of this documentation apply equally to local Loggers and those on remote nodes. For instance, if you open a log flag file (.aaLGF extension) and use the **Apply** command on the **File** menu, those settings are applied to the Logger on the node that is currently selected in the Log Viewer Console Tree.

For information about remote nodes and their effects on the Log Flag Editor user interface, see Remote Nodes and the Main Window.

CHAPTER 2

Using the Log Flag Editor

Use the Log Flag Editor to control the categories of messages that are logged on a selected node in the Log Viewer Console Tree. Also, save specific log flag settings in a file, which then can be used on another computer to control its logged messages. This chapter describes how to do these two main functions.

Note We recommend that you read Log Flag Editor User Interface to become familiar with the terminology used in the following procedures.

Each of the following procedures assumes that the Log Flag Editor and Log Viewer are started, and additional ArchestrA components are installed on the selected node. To start the Log Flag Editor, click **Log Flags** on the **Action** menu of the Log Viewer.

Contents

- Controlling Logged Messages
- Enabling Log Flags for a Single Component
- Enabling Log Flags Globally
- Mixed Global/Component Examples
- Using Log Flag Files
- Saving Log Flag Settings
- Opening Log Flag Files
- Determining the Log Flag Editor Version

Controlling Logged Messages

The tri-paned Log Flag Editor user interface provides multiple ways of controlling logged messages. You can enable log flags for individual ArchestrA components, on a global basis, or a mixture of the two. Also, you can use a specific log flag to determine which components use it, and then control in which components you want to enable or disable that log flag.

Enabling Log Flags for a Single Component

To use log flags on a component level

1. In the Component List (left pane), select a component for which you want to enable log flags. The Log Flags View (top right pane) displays the log flags for the component you selected.
2. In the Log Flags View, select the check box of the log flag you want to enable.
3. On the **File** menu, click **Apply**. All messages from the selected component and associated with the selected log flag are logged.

Enabling Log Flags Globally

To use log flags on a global basis

1. In the Component List (left pane), select **Global**. The Log Flags View (top right pane) displays the log flags for all components installed on the selected node.
2. In the Log Flags View, select the check box of the log flag you want to enable.
3. On the **File** menu, click **Apply**. All messages associated with the selected log flag are logged.

Mixed Global/Component Examples

To enable a log flag globally except for a single component

1. In the Component List (left pane), select **Global**. The Log Flags View (top right pane) displays the log flags for all components installed on the selected node.
2. In the Log Flags View, select the log flag you want to enable and its check box. The Component View (bottom right pane) displays all components that use the selected log flag. Each component's check box is selected.
3. In the Component View, clear the check box of one component. The check box for the selected log flag is now colored gray, indicating that at least one component that uses this log flag has been disabled.
4. On the **File** menu, click **Apply**. All messages associated with the selected log flag, except those from the disabled component, are logged.

Note The Logger continues to log messages associated with all other enabled log flags for the component mentioned in step 3.

Another way to produce the same result as the previous procedure

1. In the Component List, select **Global**. The Log Flags View displays the log flags for all components installed on the selected node.

2. In the Log Flags View, select the check box of the log flag you want to enable.
3. In the Component List, select a component. The Log Flags View displays the log flags for the component you selected. The log flag enabled in step 2 is enabled.
4. In the Log Flags View, clear the check box of the log flag you want to disable for the selected component. In the Component List, select **Global** again. The check box for the selected log flag is now colored gray, indicating that at least one component that uses this log flag has been disabled.
5. On the **File** menu, click **Apply**. All messages associated with the selected log flag, except those from the disabled component, are logged.

To determine which components use a specific log flag

1. In the Component List, select **Global**. The Log Flags View displays the log flags for all components installed on the selected node.
2. In the Log Flags View, select the name (not the check box) of the log flag you want to enable. The Component View displays all components that use the selected log flag.
3. In the Component View, select the check box of the component for which you want to enable the selected log flag. The check box for the selected log flag is now colored gray, indicating that at least one component that uses this log flag has been disabled.
4. In the Component List, select **Global**. Note that the check box for the log flag of interest is colored gray.
5. On the **File** menu, click **Apply**. All messages from the enabled component that are associated with the selected log flag are logged.

Using Log Flag Files

You can save the current log flag settings to a file (.aaLGF extension) for several reasons, including:

- Backing up commonly used log flag settings
- Storing special-purpose log flag settings
- Using log flag settings on another computer

Once saved to file, log flag settings can be opened in any Log Flag Editor.

Saving Log Flag Settings

To save log flag settings to file

1. In the Log Flag Editor, set up all components and log flags as desired. Note that these settings do not affect which messages are currently being logged on the selected node. To do that, you must click **Apply** on the **File** menu.

2. On the **File** menu, click **Save As**. The Microsoft Save As dialog box is displayed.
3. In the Save As dialog box, enter a path and filename for the log flag settings file, and click **Save**. Click **Cancel** to return to the Log Flag Editor without creating a new log flag settings file.

Opening Log Flag Files

To open a log flag settings file

1. On the **File** menu, click **Open**. The Microsoft Open dialog box is displayed.
2. In the Open dialog box, explore for the log flag settings file (.aaLGF extension), and click **Open**.

Note The new settings take immediate effect only in the Log Flag Editor user interface. You then can apply them, edit and apply them, or edit and save them to file again. To affect messages being logged to the Logger of the selected node, you must click **Apply** on the **File** menu.

In the Open dialog box, click **Cancel** to return to the Log Flag Editor and the previous log flag settings.

Note You also can open a log flag settings file by right-clicking it from Windows Explorer and clicking **Edit** on the shortcut menu. Also, you can apply new log flag settings from a file to the selected node by double-clicking it from Windows Explorer. You are prompted to confirm the changes before they take effect.

Determining the Log Flag Editor Version

To determine the version of your Log Flag Editor

1. On the **Help** menu, click **About Log Flag Editor**.
2. After viewing the information on the About Log Flag Editor dialog box, click **OK**.

C H A P T E R 3

Log Flag Editor User Interface

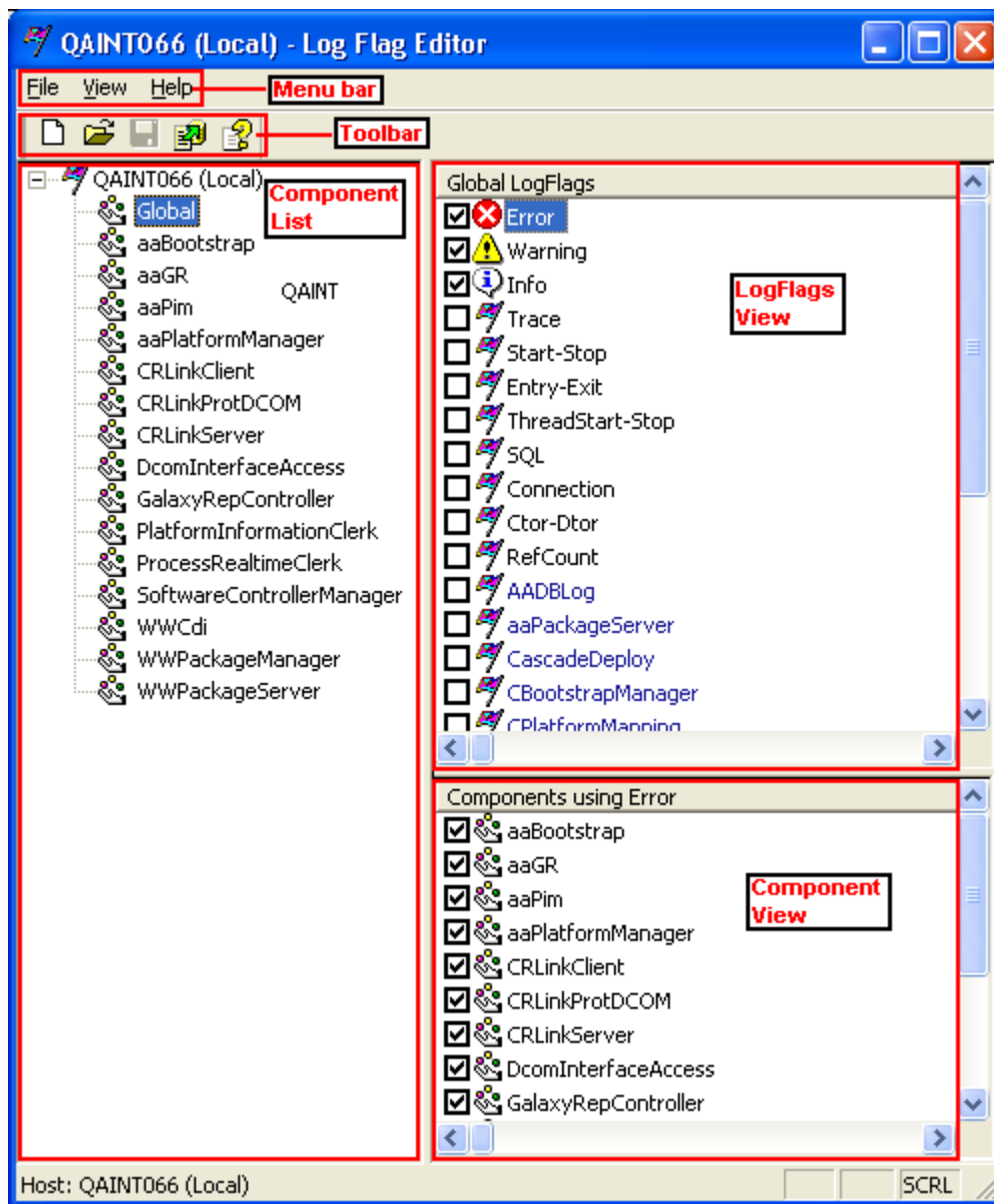
The Log Flag Editor is a tool you can use to manage the messages logged in a local or remote Logger. Start the program by clicking **Log Flags** on the Log Viewer's **Action** menu. This chapter describes the Log Flag Editor user interface.

Contents

- Main Window
- Menu Bar
- Toolbar
- Component List
- Log Flags View
- Component View
- Shortcut Menus
- About Box

Main Window

The Log Flag Editor consists of a single main window with standard Microsoft window elements like a title bar, menu bar, toolbar buttons and status bar, as well as a tri-paned work area consisting of Component List, Log Flags View and Component View.



Menu Bar

The Log Flag Editor has three menus: **File**, **View**, and **Help**.

The **File** menu is comprised of the following commands:

- **Apply**: use to apply the current log flag settings to the messages being logged on the selected node.
- **New**: use to restore the last applied log flag settings to the user interface. Use this command to close a log flag settings file that is currently open. If you made unsaved changes to the log flag settings contained in the file, you are prompted to save them before it is closed.

- **Open:** use to open a log flag settings file (.aaLGF extension).
- **Save:** use to save currently displayed log flag settings to the .aaLGF file you have open. The filename of the open log flag settings file should be displayed in the title bar. If the title bar instead displays a node name, a log flag settings file is not open and this command is unavailable.
- **Save As:** use to save the current settings to a new .aaLGF file.
- **<Recent File List>:** use to open a recently-used log flag settings file (.aaLGF extension). Click a filename in the **Recent File** list. The user interface immediately reflects the file's log flag settings and the filename is displayed in the title bar. If you have not saved log flag settings to a file recently, this command is unavailable.
- **Exit:** use to quit the Log Flag Editor utility.

The **View** menu is comprised of the following commands:

- **Toolbar:** use to display or hide the toolbar. When this command is checked, the toolbar is displayed.
- **Status Bar:** use to display or hide the status bar. When this command is checked, the status bar is displayed.

The **Help** menu is comprised of the following commands:

- **Help Topics:** use to open the Log Flag Editor's online help.
- **About Log Flag Editor:** use to display the About box for this utility, which provides version and copyright information.

Toolbar

The Log Flag Editor toolbar consists of icons for quick access to frequently used commands on the menu bar. The tooltip associated with each icon is based on the text displayed when you point to it. See Menu Bar earlier in this chapter for descriptions of these commands.

Icon	Tooltip
	New
	Open
	Save
	Apply
	Help

Component List

The left pane of the main window is the Component List. This view shows all components available for configuration. The root of the hierarchy is the selected node (see Remote Nodes and the Main Window for more information). The **Global** option represents all log flags in all components listed in the Component List.

Note The components shown in this view correspond to the items displayed in the Component column of the Log Viewer.

Select a component in this view and all log flags associated with messages provided by that component are displayed in the Log Flags View pane. Select **Global** and all log flags associated with all messages are displayed.

Log Flags View

The top right pane of the main window is the Log Flags View. This view shows all log flags associated with the option selected in the Component List. The title of this view displays the option you select in the Component List.

Note The log flags shown in this view correspond to the items displayed in the Log Flag column of the Log Viewer.

A log flag that is selected (check box is checked) indicates messages associated with that log flag are to be logged.

The Log Flags View displays default log flags first (displayed in black text), followed by custom log flags in alphanumeric order (displayed in blue text). The Log Flags View and Component View dynamically interact depending on your selections. For instance:

- Select a log flag (just the log flag name) and all components with messages associated with that log flag are displayed in the Component View.
- Select a log flag's check box and the check boxes of all components in the Component View are enabled. Clear the log flag's check box and the check boxes of the components are cleared.
- Select a log flag's check box and the check boxes of all components in the Component View are enabled. Clear one component's check box and the log flag's check box is colored gray, indicating that at least one component that uses this log flag has been disabled.

Component View

The bottom right pane of the main window is the Component View. This view shows all components with messages associated with the log flag selected in the Log Flags View. This view allows you to select only those components that you want to log messages of the log flag type selected.

See Controlling Logged Messages in the Using the Log Flag Editor chapter for more examples of how to use the Log Flag Editor.

Shortcut Menus

The Log Flag Editor provides two shortcut menus, one in the Component List and another in the Log Flags View.

The Component List shortcut menu is comprised of the following commands:

- **Add Component:** use to add a new component to the list. The new component is displayed initially in rename mode. Right-click anywhere in the Component List to display this command.

Note You cannot use this command simply to create a functioning component. The Log Flag Editor updates the Component List when you install new ArchestrA components on the selected node (you must restart the Log Flag Editor after installation of the component). You could use this command to add a component that exists on another computer, save the log flag settings to file and then use the file to control messages on that other computer (if you could not do so remotely). See Using Log Flag Files in the Using the Log Flag Editor chapter for more information about sharing log flag settings between computers.

- **Remove Component:** use to delete a component from the list. You are prompted to confirm the deletion before the component is removed. Right-click anywhere in the Component List to display this command, although it is unavailable for **Local** or **Global** selections.

Note If you remove a component from the list that exists on your computer, it will reappear in the list when you restart the Logger and Log Flag Editor. Typically, you would use this command to clean up the Component List after you uninstall a component.

The **Log Flags View** shortcut menu is comprised of the following commands:

- **All Flags ON:** use to enable all log flags shown in this view for the component selected in the Component List. Right-click anywhere in the Log Flags View to display this command.
- **All Flags OFF:** use to disable all log flags shown in this view for the component selected in the Component List. Right-click anywhere in the Log Flags View to display this command.
- **Add Custom Flag:** use to create a new custom log flag. The new log flag is displayed in rename mode. Right-click anywhere in the Log Flags View to display this command.

Note You cannot use this command simply to create a functioning log flag. The Log Flag Editor updates the available log flags for each component when you install new ArchestrA components on the selected node (you must restart the Log Flag Editor after installation of the component). You could use this command to add a custom flag that exists on another computer, save the log flag settings to file and then use the file to control messages on that other computer (if you could not do so remotely). See Using Log Flag Files in the Using the Log Flag Editor chapter for more information about sharing log flag settings between computers.

- **Remove Custom Flag:** use to remove a custom log flag from this view. Right-click on the specific log flag to activate this menu item. You are prompted to confirm the deletion before the log flag is removed. Right-click on any custom flag in the Log Flags View to display this command. If none exists, this command is unavailable.

Note If you remove a custom log flag that exists on the selected node, it will reappear in the list when you restart the Logger and Log Flag Editor.

Remote Nodes and the Main Window

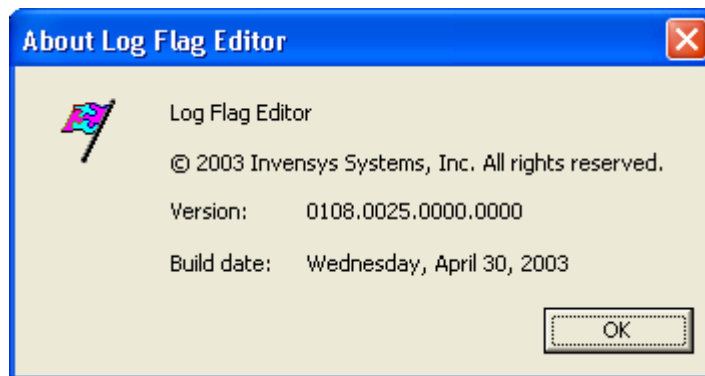
The Log Flag Editor displays in its title bar, status bar, and at the top of its tree view root the name of the node selected in the Log Viewer Console Tree. If the node is the local computer, "(Local)" is appended to the node name. Also, all messages that may be displayed contain the node name.

The components and log flags displayed in the Log Flag Editor reflects those of the selected node. The one exception is when you have opened a log flag settings file (.aaLGF extension), in which case, the components and log flags reflects those in the file.

When using the Log Flag Editor to edit a log flag settings file, the name of the file is displayed in the tree view root. The title bar and status bar continue to display the node to which you are currently connected. You can apply the file's settings to the selected node or click the **New** command on the **File** menu to return to the selected node's active configuration.

About Box

The About dialog box provides version, copyright and other information about the Log Flag Editor. Open this dialog box by clicking **About Log Flag Editor** on the **Help** menu. The following image is shown as an example.



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