ArchestrA Log Flag Editor User's Guide

Invensys Systems, Inc.

Revision B
Last Revision: 10/24/08

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Invensys Systems, Inc.
26561 Rancho Parkway South
Lake Forest, CA 92630 U.S.A.
(949) 727-3200

http://www.wonderware.com

For comments or suggestions about the product documentation, send an e-mail message to productdocs@wonderware.com.

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Welcome

The ArchestrA Log Flag Editor is a utility of the ArchestrA Log Viewer. You can use the ArchestrA Log Flag Editor to assign a flag value to each category of messages issued by an ArchestrA component. By switching flags on or off, you control which categories of messages are saved to the Wonderware Logger.

You can view this book 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
Initial Capitals	Paths and file names.
Bold	Menus, commands, dialog box names, and dialog box options.
`Monospace`	Code samples and display text.

Technical Support

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

Before you contact Technical Support, refer to the relevant section(s) in this documentation for a possible solution to the problem. If you need to contact technical support for help, have the following information ready:

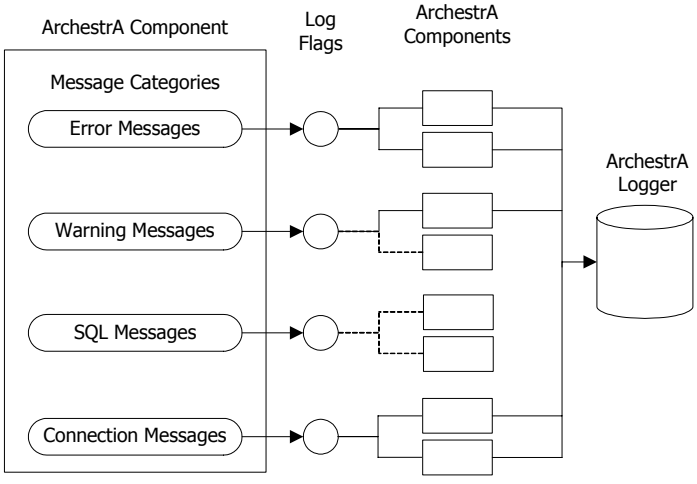
- The type and version of the operating system you are using.
- Details of how to recreate the problem.
- The exact wording of the error messages you saw.
- Any relevant output listing from the Log Viewer or any other diagnostic applications.
- Details of what you did to try to solve the problem(s) and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

Chapter 1

Overview of Log Flags

You can use the ArchestrA Log Flag Editor to assign a flag value to each category of messages issued by an ArchestrA component. By switching flags on or off, you control which categories of messages are saved to the ArchestrA Logger.

The following figure summarizes how log flags control whether component messages are logged or not. Also, you can use log flags to assign message categories to other ArchestrA components.



Most categories of messages are not logged. Typically, a component issues only error, warning, and informational messages. Most other message categories remain inactive.

The ArchestrA Log Flag Editor is primarily a troubleshooting tool. When a component begins logging error messages, you can use log flags to activate other message categories and begin saving additional diagnostic messages to the ArchestrA Logger.

Understanding Log Flags

Each message sent to the ArchestrA Logger by an ArchestrA component belongs to a specific message category. Each message category has an associated log flag.

The status of a log flag indicates whether messages that belong to the message category are logged or not. When a log flag is active, the messages from the category are logged. Conversely, an inactive log flag prevents messages from being logged.

There are two types of log flags:

- Default log flags

  All ArchestrA components include default log flags, which are associated with standard message categories.

- Custom log flags

  Custom log flags apply to unique message categories that are used by only a few ArchestrA components.

Default Log Flags

All ArchestrA components include a set of default log flags for standard categories of messages. For example, all ArchestrA components can produce error, warning, and informational messages. These standard message categories have associated default log flags.

The following table lists default log flags for the standard ArchestrA message categories.

Default Log Flag	Description
Error	The Error log flag determines if error messages are logged. By default, the Error log flag is active for all ArchestrA components.
Warning	The Warning log flag determines if warning messages are logged. A warning message indicates that an unexpected event occurred, but the ArchestrA component was able to recover. By default, the Warning log flag is active for all ArchestrA components.

Default Log Flag	Description
Info	The Info log flag determines if informational messages are logged. An informational message describes the outcome of normal program events. By default, the Info log flag is active for all ArchestrA components.
Trace	The Trace log flag determines if trace messages are logged. Trace messages describe internal object states, variable values, and other low level data from the component.
Scan On Demand	The Scan On Demand log flag determines whether scan on demand-related MxConnection calls, reference counts, and suspend counts are logged. Also, the Scan On Demand log flag determines whether the routing of scan on demand messages to on-engine and off-engine objects are logged.
SOD_BRO	The SOD_BRO log flag determines whether tracing is enabled between the Lmx and the BRO.
SOD_BROProxy	The SOD_BROProxy log flag enables tracing when an interface is used to route a scan on demand message between a primitive and another primitive within the current object.
SOD_PrimProxy	The SOD_PrimProxy log flag determines whether tracing is enabled for the scan on demand interface between the BRO or a BRO proxy and a primitive proxy.
Start-Stop	The Start-Stop log flag determines if messages are logged that show when a component is started or stopped.
Entry-Exit	The Entry-Exit log flag determines if messages are logged that show when a program function was invoked.

Default Log Flag	Description
ThreadStart-Stop	The ThreadStart-Stop log flag determines if messages are logged that indicate a program thread has started or stopped.
SQL	The SQL log flag determines if SQL messages are logged. Typically, SQL messages show SQL query strings issued by the component.
Connection	The Connection log flag determines if communication messages are logged. Communication messages describe the status of network connections between ArchestrA components.
Ctor-Dtor	The Ctor-Dtor log flag determines if constructor/destructor messages are logged. These messages describe the status of objects as they are created and deleted from memory.
RefCount	The RefCount log flag determines if reference count messages are logged. Reference messages show the counts from objects that manage their life span by counting their clients.

For more information about setting log flags, see Controlling Logged Messages on page 17.

Custom Log Flags

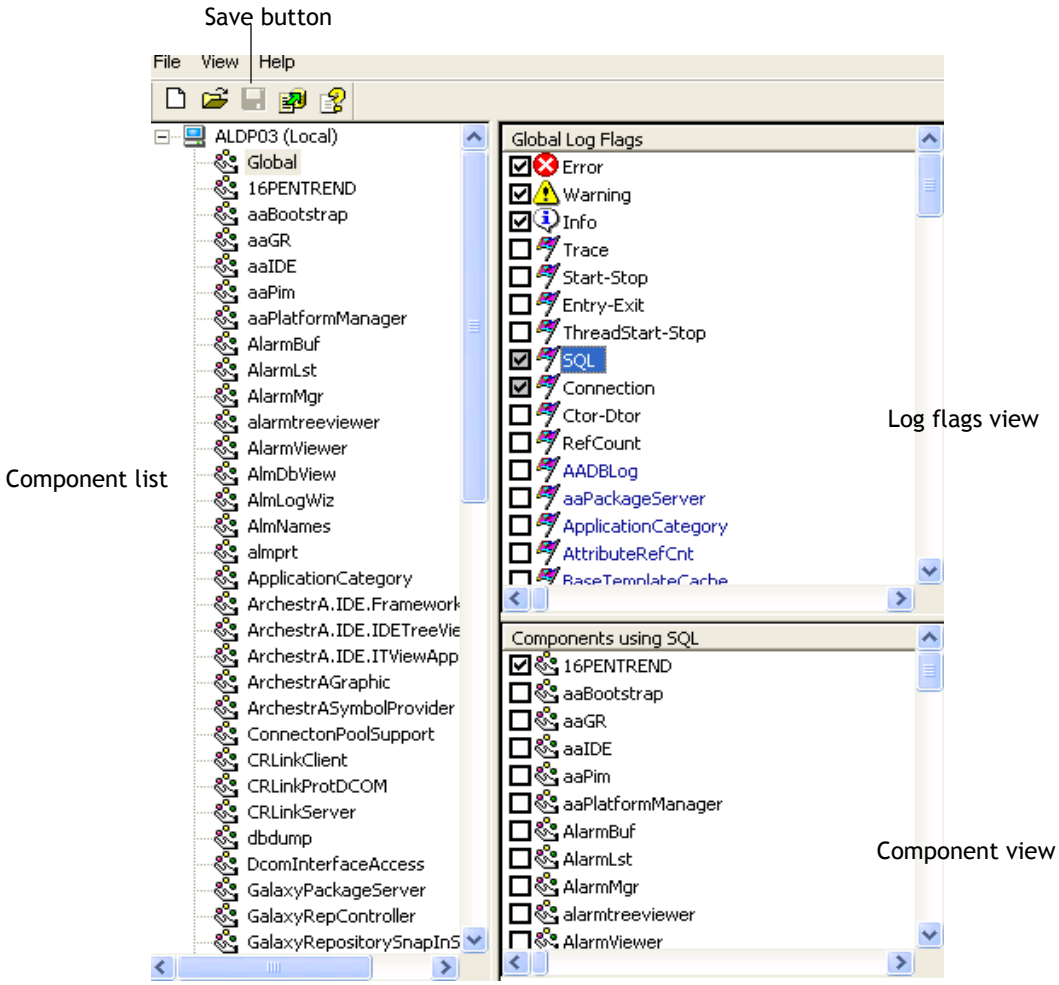
Most ArchestrA components have unique messages that do not belong to a default log flag category. In those cases, you must create custom log flags and assign them to unique component messages.

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 cannot use a custom log flag if it did not assign a message to that log flag.

For more information about creating custom log flags, see Using Shortcut Menus on page 20.

Introducing the ArchestrA Log Flag Editor

The ArchestrA Log Flag Editor lists all ArchestrA components installed on the node you selected. You enable or disable message logging by setting the log flags associated with the selected component's message categories.



To work with the ArchestrA Log Flag Editor

1. Select an ArchestrA component from the Component List.
2. Set the status of log flags assigned to the component from the Log Flags View.
3. Assign any additional ArchestrA component to the log flags you selected.
4. Click the **Save** button.

Component List

The left pane of the main window shows the list of ArchestrA components installed on the node you selected from the ArchestrA Log Viewer. The root of the component list is the node you selected from the ArchestrA Log Viewer list.

After you select a component, only those log flags associated with that component's message categories appear in the Log Flags View pane. You can select **Global** from the component list and show all log flags associated with all message categories in the Log Flags View pane.

The ArchestrA Log Flag Editor does not dynamically update the component list. You must restart the ArchestrA Log Flag Editor to show a new component installed on the node. When you remove an ArchestrA component from the selected node, you must use the ArchestrA Log Flag Editor's **Remove Component** command to remove it from the component list.

Log Flags View

The top right pane of the **ArchestrA Log Flag Editor** dialog box is the Log Flags view. This view shows all log flags associated with the message categories of the component selected from the Component List.

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

To log component messages

- Select the check box of a log flag to log component messages that belong to that message category.

  The title of the view shows the name of the component you selected. The Log Flags view lists the default log flags in black text followed by the custom log flags in blue text.

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. You can use the Component view to select only those components that log messages of the log flag type selected.

The Log Flags view and Component view dynamically interact depending on your selections. For example:

- Select a log flag (just the log flag name) and all components with messages associated with that log flag appear 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 appears shaded, indicating that at least one component that uses this log flag is disabled.

Chapter 2

Using the ArchestrA Log Flag Editor

You can use the ArchestrA Log Flag Editor to manage the messages saved to the Wonderware Logger.

ArchestrA Log Flag Editor tasks include the following:

- Starting the ArchestrA Log Flag Editor
- Enabling log flags for a single component
- Enabling global log flags
- Enabling log flags for multiple components
- Using shortcut menus
- Saving log flag settings to a file
- Using the ArchestrA Log Flag Editor on remote nodes

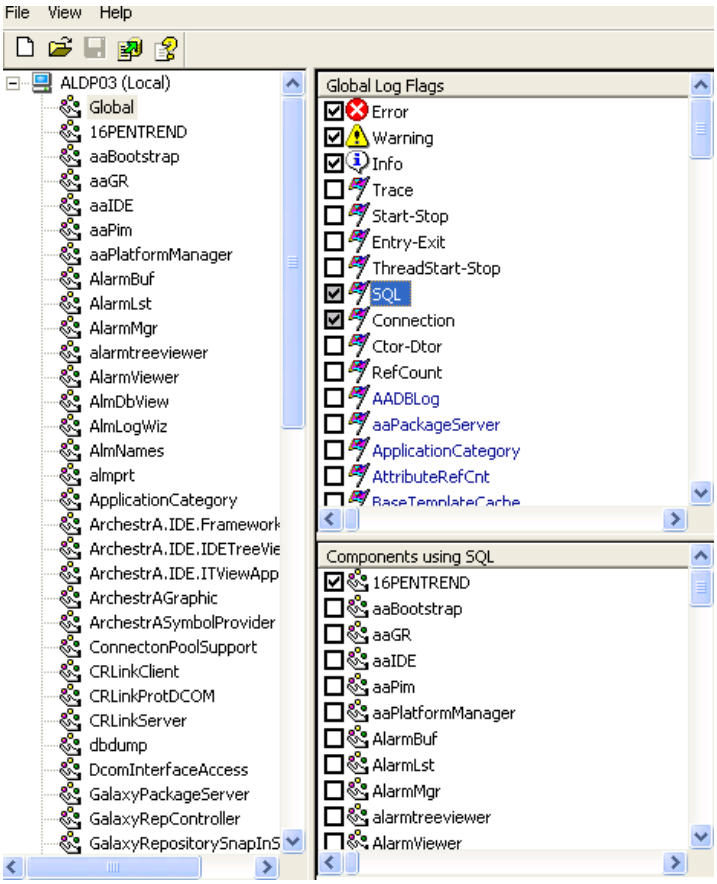
Starting the ArchestrA Log Flag Editor

You can access the ArchestrA Log Flag Editor utility from the ArchestrA Log Viewer. This procedure explains how to start the ArchestrA Log Flag Editor from a node in which the ArchestrA System Management Console has been installed.

To start the ArchestrA Log Flag Editor

1. Log on to a computer where the ArchestrA System Management Console has been installed.
2. Open the ArchestrA System Management Console. **ArchestrA Log Viewer** appears as an option in the left pane of the console window.
3. Click **ArchestrA Log Viewer**.
4. Expand the ArchestrA Log Viewer list to show ArchestrA nodes.
5. Select the node from the ArchestrA Log Viewer list that you want to enable with logging flags.
6. On the **Action** menu, click **Log Flags**.

   The ArchestrA Log Flag Editor dialog box appears with a list of ArchestrA components associated with the node you selected.



Controlling Logged Messages

The ArchestrA Log Flag Editor provides several ways to select messages for logging.

- You can enable log flags for an individual ArchestrA component.
- You can set global log flags that apply to all ArchestrA components.
- You can set log flags for multiple components, but not on a global basis.

You can select a specific component from the Component List view to specify which categories of messages are logged for that component.

To enable a log flag

- Select its check box.

To disable a log flag

- Clear its check box.

You can select **Global** in the Component List view to enable a log flag for all components. If the check box for a log flag appears shaded, that log flag is enabled for at least one component, but not globally.

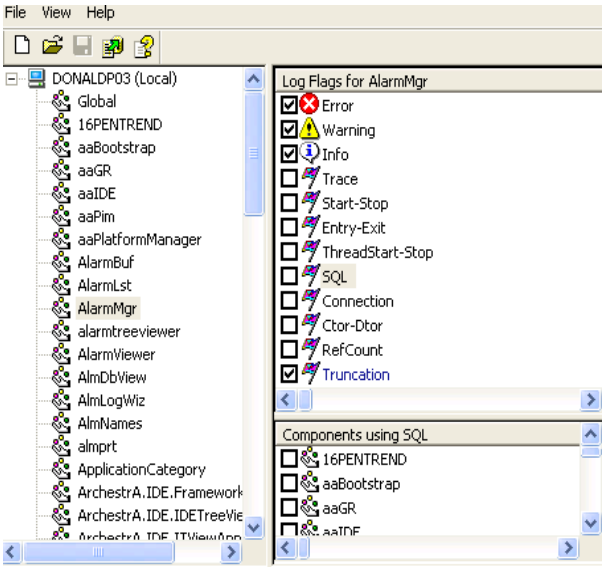
Enabling Log Flags for a Single Component

This section describes how to set log flags for a single ArchestrA component. The scope of the log flags apply to the message categories of a single ArchestrA component.

Log flags for the Error, Warning, and Info message categories are active for all components. When you select a component, you should see these log flags already set.

To set log flags for a single component

1. Select a component from the Component List view. The Log Flags view shows the log flags for the component you selected.
2. In the Log Flags view, select the check boxes of the log flags you want to enable.



3. On the **File** menu, click **Apply**. All component messages from the selected categories are logged.

Enabling Global Log Flags

You can globally enable log flags to log the messages from all components installed on the selected node.

To use log flags on a global basis

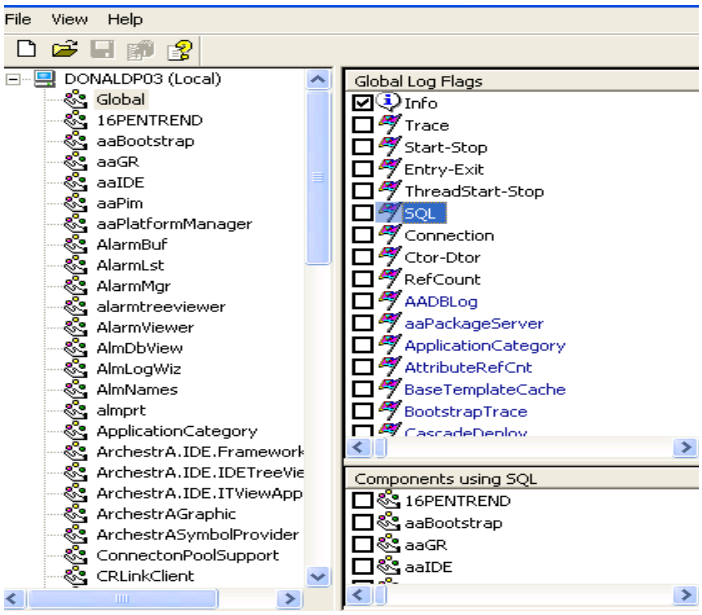
1. In the Component List, select **Global**. The Log Flags view shows the log flags from all ArchestrA components installed on the selected node.
2. In the Log Flags view, select the check box of the log flag you want to enable.
3. On the **File** menu, click **Apply**. All messages associated with the selected log flag are logged.

Enabling Log Flags for Multiple Components

If you want to log messages for multiple components, you can enable the log flags globally and select only those log flags for the components whose messages you do not want logged.

To enable log flags for multiple components

1. In the Component List, select **Global**. The Log Flags View shows the log flags for all ArchestrA components installed on the selected node.
2. In the Log Flags View, click the name of the log flag you want to enable. The Component View shows all components that use the selected log flag.



3. In the Component View, select only the check boxes of the components for which you want to enable the selected log flag. The check box for the selected log flag appears shaded, indicating that at least one component that uses this log flag is enabled.
4. On the **File** menu, click **Apply**. All messages from the enabled components that are associated with the selected log flags are logged.

Using Shortcut Menus

The ArchestrA Log Flag Editor includes two shortcut menus. Each menu includes a set of commands that apply to either log flags or ArchestrA components. You can show both shortcut menus by right-clicking in a view area of the **ArchestrA Log Flag Editor** dialog box.

Using the Log Flags View Shortcut Menu

After right-clicking in the Log Flags view, a shortcut menu shows the following commands:

- **All Flags ON**

  This command enables all log flags shown in the view for the component selected in the Component List.

- **All Flags OFF**

  This command disables all log flags shown in this view for the component selected in the Component List.

- **Add Custom Flag**

  Use this command to create a new custom log flag. The new custom log flag appears at the bottom of the list of the Log Flags view.

  Assign another name to the custom log flag.

  You cannot use the **Add Custom Flag** command to create a functioning log flag. The ArchestrA Log Flag Editor updates the permanent set of log flags for each component when you install new ArchestrA components on the selected node.

  You can create a custom flag 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).

- **Remove Custom Flag**

  Use this command to remove a custom log flag from the Log Flags view. Select the custom log flag from the list and right-click within the Log Flags view to show the shortcut menu. Select the **Remove Custom Flag** command. You are prompted to confirm the deletion.

Using the Component List View Shortcut Menu

After right-clicking in the Component List view, a shortcut menu shows the following commands:

- **Add Component**

  This command adds a new component to the Component List view. The new component appears at the bottom of the Component List view. You should assign another name to the new component.

  You can not use the **Add Component** command simply to create a functioning component. The ArchestrA Log Flag Editor only updates the Component List with new components when you install new ArchestrA components on the selected node.

  You can 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).

- **Remove Component**

  This command deletes 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 show this command, although it is unavailable for **Local** or **Global** selections.

  If you remove a component from the list that exists on your computer, it reappears in the list when you restart the Wonderware Logger and ArchestrA Log Flag Editor. Typically, you remove components from the ArchestrA Log Flag Editor after you remove ArchestrA components from the computer.

Saving Log Flag Settings to a File

The ArchestrA Log Flag Editor provides the capability to save your current log flag settings to a file. Generally, you save current log flag settings to a file when you want to:

- Back up commonly used log flag settings
- Store special-purpose log flag settings
- Use log flag settings on another computer

After you save the log flag settings, you can import the file settings to another instance of the ArchestrA Log Flag Editor. The components and log flags shown in the ArchestrA Log Flag Editor reflect those of the selected node.

When you use the ArchestrA Log Flag Editor to edit a log flag settings file, the name of the file appears in the tree view root. The title bar and status bar continue to show 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.

Saving Log Flag Settings

You can save the current settings of the ArchestrA Log Flag Editor to a file. After you save the file, you can copy these settings to the ArchestrA Log Flag Editor on another computer.

By default, the ArchestrA Log Flag Editor saves the file with name of the node where the ArchestrA System Management Console is installed. You must save the file with an .aaLGF extension.

To save log flag settings to a file

1. Open the **ArchestrA Log Flag Editor** dialog box.
2. Set all components and log flags as desired.
3. On the **File** menu, click **Save As**. The Microsoft **Save As** dialog box appears.
4. In the **Save As** dialog box, enter a path and name for the file. The file name must use the .aaLGF extension.
5. Click **Save**.

Importing Log Flag Files

You can import log flag settings from a file to an ArchestrA Log Flag Editor session. The imported log flag settings exist for the duration of the current ArchestrA Log Flag Editor session. The original log flag settings return after you close and then re-open the ArchestrA Log Flag Editor. But, you can edit the imported log flag settings from the session and save them to a file again.

Note You 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 that you want to apply the log flag settings.

To open a log flag settings file

1. From Windows Explorer, navigate to the folder where the file containing log flag settings is located.
2. Right-click the file name to show an action menu.
3. On the **action** menu, click **Apply**. A dialog box asks you to confirm that you want to apply the log flag settings to the node.
4. Click **Yes**. Another dialog box appears and confirms that the log flag settings have been successfully applied to the node.

Using the ArchestrA Log Flag Editor on a Remote Node

You can connect to a remote ArchestrA Log Flag Editor from your local node. After you connect to the remote node, you can use the remote ArchestrA Log Flag Editor to complete all standard tasks as if they were done on a local computer.

To use the ArchestrA Log Flag Editor on a remote node

1. Open the ArchestrA System Management Console installed on your local node.
2. Click ArchestrA Log Viewer.
3. On the **Action** menu, click **Connect** and then **Remote**. The **Connect** dialog box appears.
4. In the **Computer Name** box, enter the node name of the remote computer and click **OK**. The ArchestrA Log Viewer list refreshes and shows the remote node.
5. Select the remote node from the ArchestrA Log Viewer list.
6. On the **Action** menu, click **Log Flags** to open the **ArchestrA Log Flag Editor** dialog box. The node name of the remote ArchestrA Log Flag Editor appears in the title bar.

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