MICROMUSE
NETCOOL® SOLUTIONS

Netcool®/OMNIbus™

v7.1

User Guide

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Micromuse Inc., 650 Townsend Street, San Francisco, USA CA 94103

www.micromuse.com

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Preface

This guide describes how to use the Netcool/OMNIbus desktop to manage events. It provides an overview of Netcool/OMNIbus components, as well as a description of the operator tasks related to using the desktop tools.

This preface contains the following sections:

- *Audience* on page 2
- *About this Guide* on page 3
- *Associated Publications* on page 4
- *Typographical Notation* on page 5
- *Operating System Considerations* on page 8

Audience

This book is intended for anyone who needs to use Netcool/OMNIbus, including operators and administrators. It describes Netcool/OMNIbus and how to use the desktop tools.

For more information about Netcool/OMNIbus, refer to the publications described in *Associated Publications* on page 4.

About this Guide

This book is organized as follows:

- Chapter 1: *Overview* on page 9 provides an overview of Netcool/OMNIbus and an explanation of the terminology used to describe Netcool/OMNIbus components.
- Chapter 2: *Conductor* on page 21 describes how to log in to Netcool/OMNIbus and start the desktop tools from the Conductor. It includes information about changing the settings that affect the Conductor and other tools, and also how to change your password.
- Chapter 3: *Using the Event List* on page 35 contains information about how to start the event list and how to work with events.
- Chapter 4: *Using the Filter Builder* on page 69 describes how to use the Filter Builder to display only the events that you want to see in the event list.
- Chapter 5: *Using the View Builder* on page 87 describes how to use the View Builder to display only selected fields in the event list.
- Appendix A: *Regular Expressions* on page 99 describes how to use regular expressions.
- Appendix B: *Desktop Reference* on page 111 contains reference information for the Netcool/OMNIbus desktop.

Associated Publications

This section provides a description of the documentation that accompanies Netcool/OMNIbus.

Netcool®/OMNIbus™ Installation and Deployment Guide

This book is intended for Netcool administrators who need to install and deploy Netcool/OMNIbus. It includes installation, upgrade, and licensing procedures. In addition, it contains information about configuring security and component communications. It also includes examples of Netcool/OMNIbus architectures and how to implement them.

Netcool®/OMNIbus™ User Guide

This book is intended for anyone who needs to use Netcool/OMNIbus desktop tools on UNIX or Windows platforms. It provides an overview of Netcool/OMNIbus components, as well as a description of the operator tasks related to event management using the desktop tools.

Netcool®/OMNIbus™ Administration Guide

This book is intended for system administrators who need to manage Netcool/OMNIbus. It describes how to perform administrative tasks using the Netcool/OMNIbus Administrator GUI, command line tools, and process control. It also contains descriptions and examples of ObjectServer SQL syntax and automations.

Netcool®/OMNIbus™ Probe and Gateway Guide

This guide contains introductory and reference information about probes and gateways, including probe rules file syntax and gateway commands. For more information about specific probes and gateways, refer to the documentation available for each probe and gateway on the Micromuse Support Site.

Online Help

Netcool/OMNIbus GUIs contain either context-sensitive online help with index and search capabilities, or online documentation, that is, HTML versions of the associated guides.

Netcool Licensing™ Administration Guide

This book is intended for Netcool administrators who need to install and administer Netcool Licensing. It provides an overview of the generic Netcool Licensing component, as well as instructions for installing, upgrading, and configuring one or more license servers to dispense licenses to Netcool clients.

Typographical Notation

Table 1 shows the typographical notation and conventions used to describe commands, SQL syntax, and graphical user interface (GUI) features. This notation is used throughout this book and other Netcool® publications.

Table 1: Typographical Notation and Conventions (1 of 2)

Example	Description
`Monospace`	The following are described in a monospace font: • Commands and command line options • Screen representations • Source code • Object names • Program names • SQL syntax elements • File, path, and directory names Italicized monospace text indicates a variable that the user must populate. For example, `-password` *`password`*.
Bold	The following application characteristics are described in a bold font style: • Buttons **Note:** Text in the pop-up tooltips is used to name buttons with icons. These button names are described in plain text. • Frames • Text fields • Menu entries A bold arrow symbol indicates a menu entry selection. For example, **File→Save**.
Italic	The following are described in an italic font style: • An application window name; for example, the *Login* window • Information that the user must enter • The introduction of a new term or definition • Emphasized text • References to external documents

[1]	Code or command examples are occasionally prefixed with a line number in square brackets. For example:
	`[1] First command...`
	`[2] Second command...`
	`[3] Third command...`

Table 1: Typographical Notation and Conventions (2 of 2)

Example	Description
`{ a | b }`	In SQL syntax notation, curly brackets enclose two or more required alternative choices, separated by vertical bars.
`[ ]`	In SQL syntax notation, square brackets indicate an optional element or clause. Multiple elements or clauses are separated by vertical bars.
|	In SQL syntax notation, vertical bars separate two or more alternative syntax elements.
`...`	In SQL syntax notation, ellipses indicate that the preceding element can be repeated. The repetition is unlimited unless otherwise indicated.
`,...`	In SQL syntax notation, ellipses preceded by a comma indicate that the preceding element can be repeated, with each repeated element separated from the last by a comma. The repetition is unlimited unless otherwise indicated.
a	In SQL syntax notation, an underlined element indicates a default option.
`( )`	In SQL syntax notation, parentheses appearing within the statement syntax are part of the syntax and should be typed as shown unless otherwise indicated.

Many Netcool commands have one or more command line options that can be specified following a hyphen (–).

Command line options can be `string`, `integer`, or `BOOLEAN` types:

- A `string` can contain alphanumeric characters. If the string has spaces in it, enclose it in quotation (`"`) marks.
- An `integer` must contain a positive whole number or zero (`0`).
- A `BOOLEAN` must be set to `TRUE` or `FALSE`.

SQL keywords are not case-sensitive, and may appear in uppercase, lowercase, or mixed case. Names of ObjectServer objects and identifiers are case-sensitive.

Note, Tip, and Warning Information

The following types of information boxes are used in the documentation:

Note: Note is used for extra information about the feature or operation that is being described. Essentially, this is for extra data that is important but not vital to the user.

Tip: Tip is used for additional information that might be useful for the user. For example, when describing an installation process, there might be a shortcut that could be used instead of following the standard installation instructions.

Warning: Warning is used for highlighting vital instructions, cautions, or critical information. Pay close attention to warnings, as they contain information that is vital to the successful use of our products.

Syntax and Example Subheadings

The following types of constrained subheading are used in the documentation:

Syntax

Syntax subheadings contain examples of ObjectServer SQL syntax commands and their usage. For example:

```
CREATE DATABASE database_name;
```

Example

Example subheadings describe typical or generic scenarios, or samples of code. For example:

```
[1]   <body>
[2]      <img src="ChartView?template=barchart&format=PNG
[3]       &request=image&chart=quote&width=800&height=400" border="0" height="400"
[4]       width="800" alt="Events by Severity"
[5]      >
[6]   </body>
```

Operating System Considerations

Unless otherwise specified, command files are located in the NCHOME/omnibus/bin directory, where NCHOME is the environment variable that contains the path to the Netcool Suite home directory.

- On UNIX platforms, replace NCHOME with $NCHOME. All command line formats and examples are for the standard UNIX shell. UNIX is case-sensitive. You must type commands in the case shown in the book.
- On Microsoft Windows platforms, replace NCHOME with %NCHOME% and the forward slash (/) with a backward slash (\).

For ease of reference in identifying Netcool/OMNIbus file locations within this guide, it is assumed that the NCHOME environment variable is set on your environment. Information on setting NCHOME is provided within the *Netcool/OMNIbus Installation and Deployment Guide*.

Where Netcool/OMNIbus files are identified as located within an *arch* subdirectory under NCHOME, *arch* is a variable that represents your architectural platform, as shown in Table 2:

Table 2: Directory Names for Architectural Platforms

Directory Name Represented by *arch*	Platform
solaris2	Solaris systems
linux2x86	Red Hat Linux and SUSE systems
aix5	AIX systems
hpux11	HP-UX systems
win32	Windows systems

Chapter 1: Overview

This chapter contains an overview of the Netcool/OMNIbus system and desktop tools. Read this chapter if you are new to Netcool/OMNIbus.

This chapter contains the following sections:

- *Introduction to Netcool/OMNIbus* on page 10
- *Netcool/OMNIbus Components* on page 11
- *Desktop Tools* on page 15
- *Internationalization Support* on page 19

1.1 Introduction to Netcool/OMNIbus

Netcool/OMNIbus is a service level management (SLM) system that collects enterprise-wide event information from many different network data sources and presents a simplified view of this information to operators and administrators.

This information can then be:

- Assigned to operators
- Passed to helpdesk systems
- Logged in a database
- Replicated on a remote Netcool/OMNIbus system
- Used to trigger automatic responses to certain alerts

Netcool/OMNIbus can also consolidate information from different domain-limited network management platforms in remote locations. By working in conjunction with existing management systems and applications, Netcool/OMNIbus minimizes deployment time and enables employees to use their existing network management skills.

Netcool/OMNIbus tracks alert information in a high-performance, in-memory database and presents information of interest to specific users through individually configurable filters and views. Netcool/OMNIbus automation functions can perform intelligent processing on managed alerts.

1.2 Netcool/OMNIbus Components

This section describes how Netcool/OMNIbus components work together to collect and manage network alert information. Figure 1 shows an overview of the Netcool/OMNIbus component architecture.

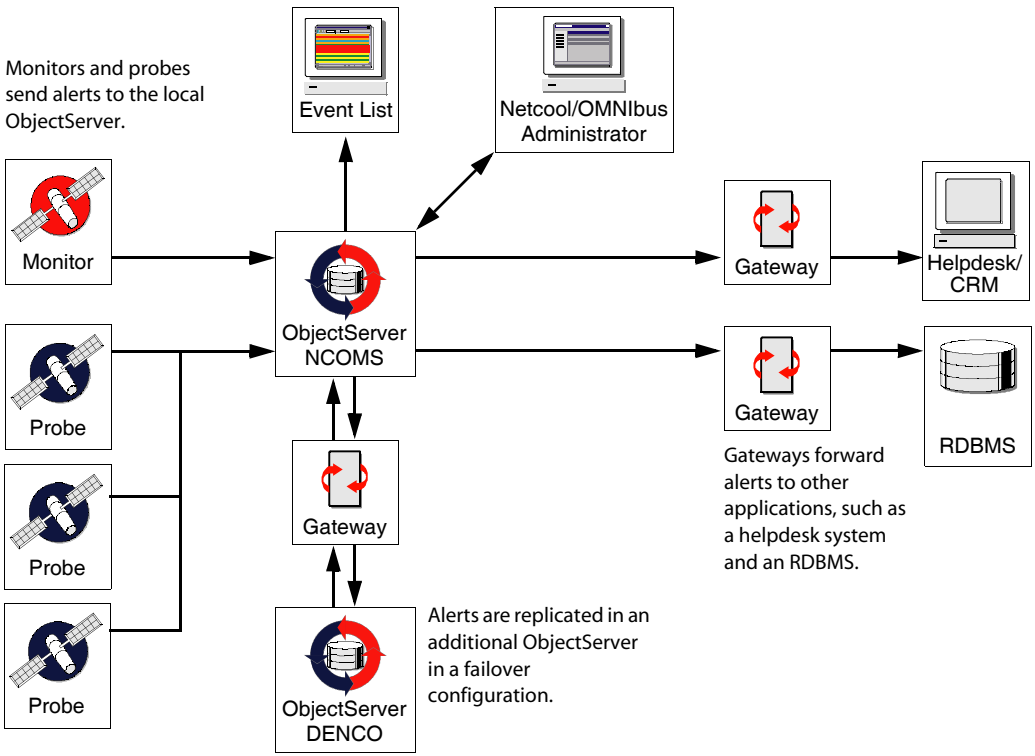


Figure 1: Netcool/OMNIbus Component Architecture

The components of Netcool/OMNIbus are:

- *The ObjectServer*, described on page 12
- *Probes*, described on page 12
- *Gateways*, described on page 12
- *Desktop Tools*, described on page 12
- *Administration Tools*, described on page 13

The ObjectServer

The ObjectServer is the in-memory database server at the core of Netcool/OMNIbus. Alert information is forwarded to the ObjectServer from external programs such as probes, monitors, and gateways, stored and managed in database tables, and displayed in the event list.

Deduplication and Automation

A single device may generate the same error repeatedly until the problem is dealt with. The ObjectServer uses *deduplication* to ensure that alert information generated from the same source is not duplicated. Repeated alerts are identified and stored as a single alert to reduce the amount of data in the ObjectServer.

You can use *automation* to detect changes in the ObjectServer and execute automated responses to these changes. This enables the ObjectServer to process alerts without requiring an operator to take action.

Probes

Probes connect to an event source, detect and acquire event data, and forward the data to the ObjectServer as alerts. Probes use the logic specified in a rules file to manipulate the event elements before converting them into fields of an alert in the ObjectServer `alerts.status` table.

Each probe is uniquely designed to acquire event data from a specific source. Probes can acquire data from any stable data source, including devices, databases, and log files.

Gateways

Netcool/OMNIbus gateways enable you to exchange alerts between ObjectServers and complementary third-party applications, such as databases and helpdesk or Customer Relationship Management (CRM) systems.

You can use gateways to replicate alerts or to maintain a backup ObjectServer. Application gateways enable you to integrate different business functions. For example, you can configure a gateway to send alert information to a helpdesk system. You can also use a gateway to archive alerts to a database.

Once a gateway is correctly installed and configured, the transfer of alerts is transparent to operators.

Desktop Tools

The desktop is an integrated suite of graphical tools used to view and manage alerts, and to configure how alert information is presented. Desktop tools are available on both UNIX and Windows platforms.

Alert information is delivered in a format that allows users to quickly determine the availability of services on a network. When an alert cause has been identified, desktop tools enable users to resolve problems quickly.

For more information about desktop tools, see *Desktop Tools* on page 15.

Administration Tools

Netcool/OMNIbus includes tools that enable administrators to configure and manage the system. For detailed information about administration tools, see the *Netcool/OMNIbus Administration Guide*.

Netcool/OMNIbus Administrator

Netcool/OMNIbus Administrator is a graphical tool that you can use to configure and manage ObjectServers. Netcool/OMNIbus Administrator replaces the Configuration Manager from Netcool/OMNIbus versions 3.6 and prior.

SQL Interactive Interface

The ObjectServer provides a Structured Query Language (SQL) interface for defining and manipulating relational database objects such as tables and views. You can use the SQL interactive interface (called `nco_sql` on UNIX and `isql` on Windows) to connect to an ObjectServer and use SQL commands to interact with and control the ObjectServer. The SQL interactive interface enables you to perform tasks such as creating a new database table or stopping the ObjectServer.

Import and Export Utility

You can use the `nco_confpack` utility to:

- Import and export Netcool/OMNIbus ObjectServer configurations to deploy duplicate Netcool/OMNIbus systems in your network
- Extract a subset of configuration items from Netcool/OMNIbus ObjectServers (for example, event list menus and automations) and import them into other ObjectServers
- Save Netcool/OMNIbus ObjectServer configuration data for backup purposes

Process Control

The process control system performs two primary tasks:

- Execution of external procedures specified in automations
- Management of local and remote processes

Note: On Windows systems, process control only executes external procedures specified in automations. You cannot use process control to manage processes on Windows.

On UNIX systems, process control allows you to configure remote processes to simplify the management of Netcool/OMNIbus components such as ObjectServers, probes, and gateways. It consists of the following:

- Process control agents, which are programs installed on each host with the responsibility for managing processes
- A set of command line utilities to provide an interface to process management

1.3 Desktop Tools

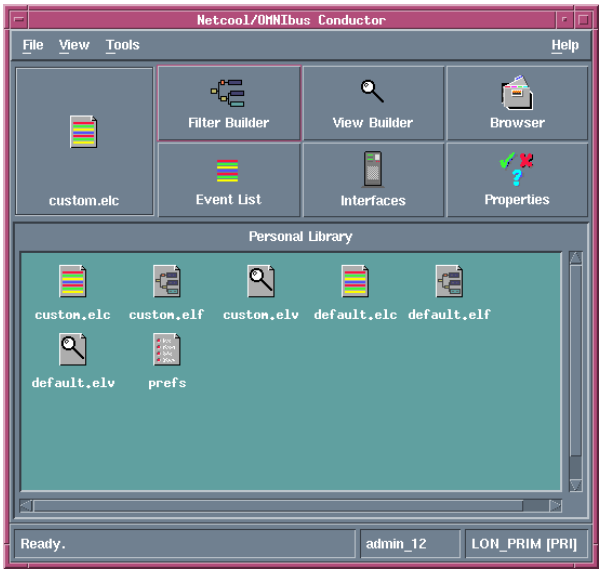
Desktop tools include the following:

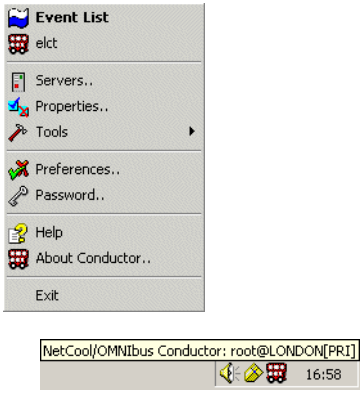
- *Conductor*, described on page 15
- *Event List*, described on page 16
- *Filter Builder*, described on page 16
- *View Builder*, described on page 17

These applications retrieve information from an ObjectServer and allow you to view the current state of the database, which in turn reflects the status of the systems being managed.

Conductor

The Conductor is the desktop entry point for Netcool/OMNIbus. It allows you to open the other client applications. It also enables you to display configurations; for example, filter or view files for event lists.





The Windows Conductor appears as a menu when you right-click the Conductor icon in the Windows task bar.

Figure 2: UNIX and Windows Conductors

Event List

The event list displays a filtered view of color-coded alerts in a scrolling list. You can set up multiple event list clients, each with different priorities and filters. You can also use the event list to reprioritize alerts and to assign or reassign problems to other users. When an alert has been assigned to a user, the user can acknowledge it, or deacknowledge it so that it can be picked up by another user.

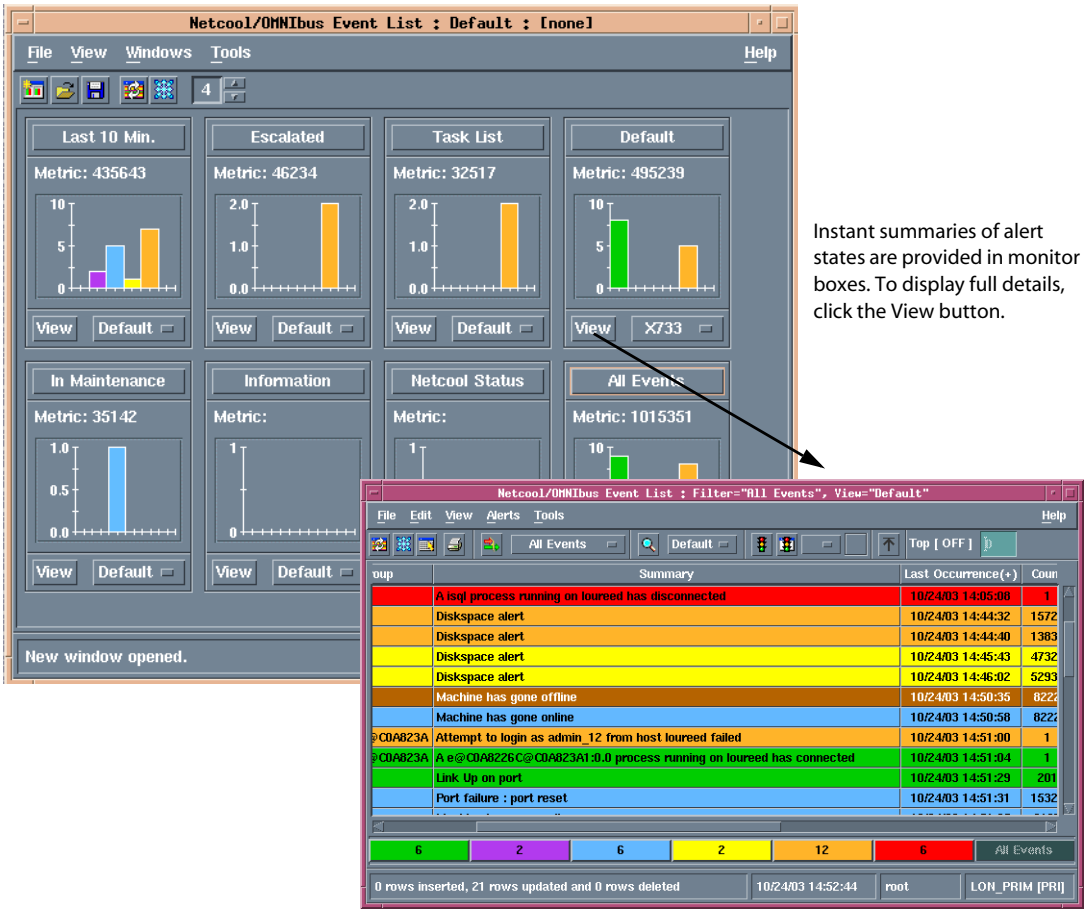


Figure 3: Event List

Filter Builder

Filters enable you to choose which alerts to display in the event list. The Filter Builder allows you to build simple or complex alert filters. For detailed information about the Filter Builder, see *Using the Filter Builder* on page 69.

Figure 4 shows a filter in the Filter Builder that only displays rows in the event list that match the criteria `Manager not like '^.*Watch$'` and `SuppressEscl = Maintenance`.

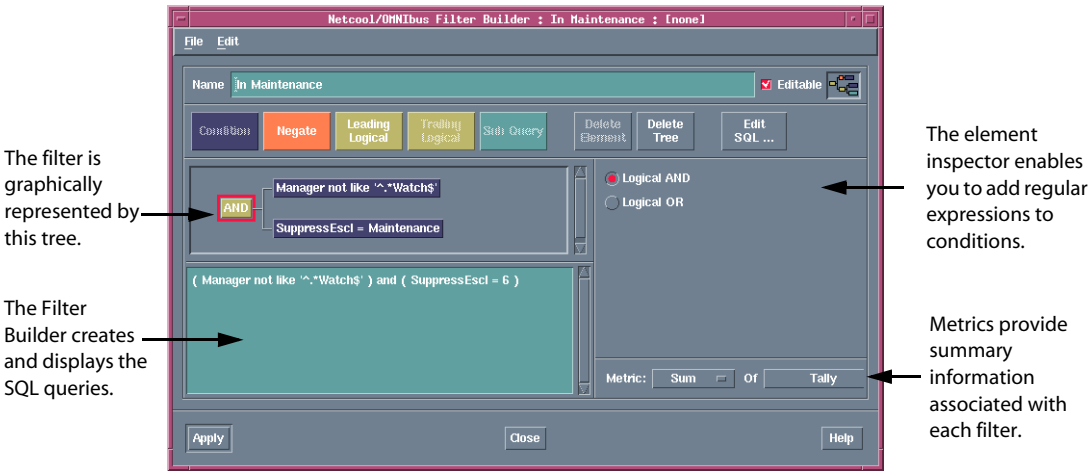


Figure 4: Filter Builder

View Builder

You can use the View Builder to create event list views, which enable you to choose which fields to display in the event list. For detailed information about the View Builder, see *Using the View Builder* on page 87.

By adding or removing fields, you can change the range of information displayed in the event list, as shown in Figure 5.

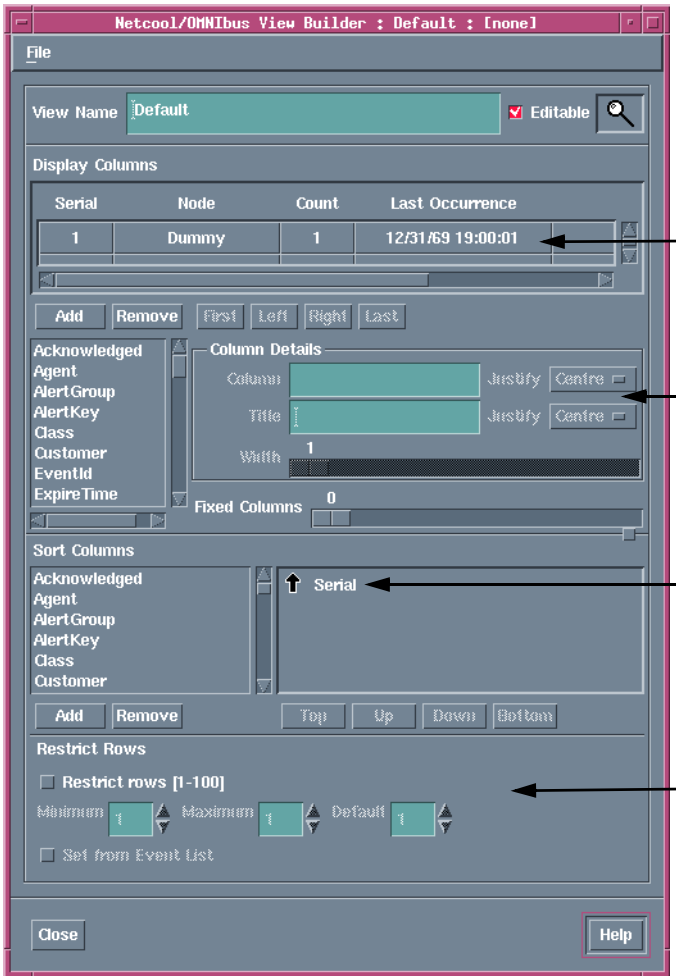


Figure 5: View Builder

1.4 Internationalization Support

Netcool/OMNIbus supports a variety of single-byte and multi-byte character encodings for use in different locales, and enables you to configure your system to use a specific language, character set, and sort order. For information on the supported encodings and on configuring your Netcool/OMNIbus installation to view data in a localized format, see the *Netcool/OMNIbus Installation and Deployment Guide*.

Note: If your username and password are being verified against an external authentication source, you must check whether this source also supports multi-byte characters. If multi-byte characters are not supported, you must specify usernames and passwords using ASCII characters.

Chapter 2: Conductor

This chapter contains information about how to manage the Netcool/OMNIbus desktop tools using the Conductor.

This chapter contains the following sections:

- *Introduction to the Conductor* on page 22
- *Starting and Stopping the Conductor* on page 23
- *Running Tools from the Conductor* on page 24
- *Setting Global Preferences* on page 27
- *Changing Your Password* on page 30
- *Maintaining a Personal Library (UNIX Only)* on page 31
- *Using the Directory Browser (UNIX Only)* on page 33

2.1 Introduction to the Conductor

You can use the Conductor to manage the desktop tools. The Conductor allows you to:

- Run all the desktop tools without having to log in every time you start one
- Set preferences for all of the desktop tools
- Set up Netcool/OMNIbus component communications using the Server Editor
- Change your password
- Maintain a personal library of event list configurations, filters, and views
- Browse directories to select files to add to the personal library or the Conductor button bar

2.2 Starting and Stopping the Conductor

This section describes how to start and stop the Conductor on UNIX and Windows platforms.

Starting the Conductor

To start the Conductor:

1. Do one of the following:
   - On UNIX, at the command prompt, enter: `$NCHOME/omnibus/bin/nco &`.
   - On Windows, click the **Start** button and, from the top of the **Start** menu, select **Netcool Conductor**.

   The Conductor *login* window appears.
2. Enter the username and password that you use for the host running the ObjectServer. Any text entered into the **Password** field is replaced with asterisk (*) characters.

Note: If your username and password are being verified against an external authentication source, you must check whether this source also supports multi-byte characters. If multi-byte characters are not supported, you must specify usernames and passwords using ASCII characters.

3. The **Server** option button defaults to `NCOMS` (Netcool/OMNIbus Master Server). If you want to connect to another ObjectServer, select it from the drop-down menu.
4. Click **OK**.

You are allowed three attempts to log in. On each attempt, the password field is cleared. If you fail to log in correctly at the third attempt, the program terminates.

Stopping the Conductor

To exit from the Conductor on UNIX, select **File→Exit**. Any tools that have been launched with the Conductor remain open.

To exit from the Conductor on Windows, right-click the bus icon on the task bar and select **Exit**. Any tools that have been launched with the Conductor remain open.

2.3 Running Tools from the Conductor

This section describes how to run tools from the Conductor on UNIX and Windows platforms.

Tip: You can optionally start desktop tools individually from the command line in UNIX or from the Windows **Start** menu. However, using this method, every time you start a tool, you need to enter your username and password.

Running Tools from the Conductor on UNIX

The Conductor on UNIX displays all the desktop tools that have been installed and that are available to you.

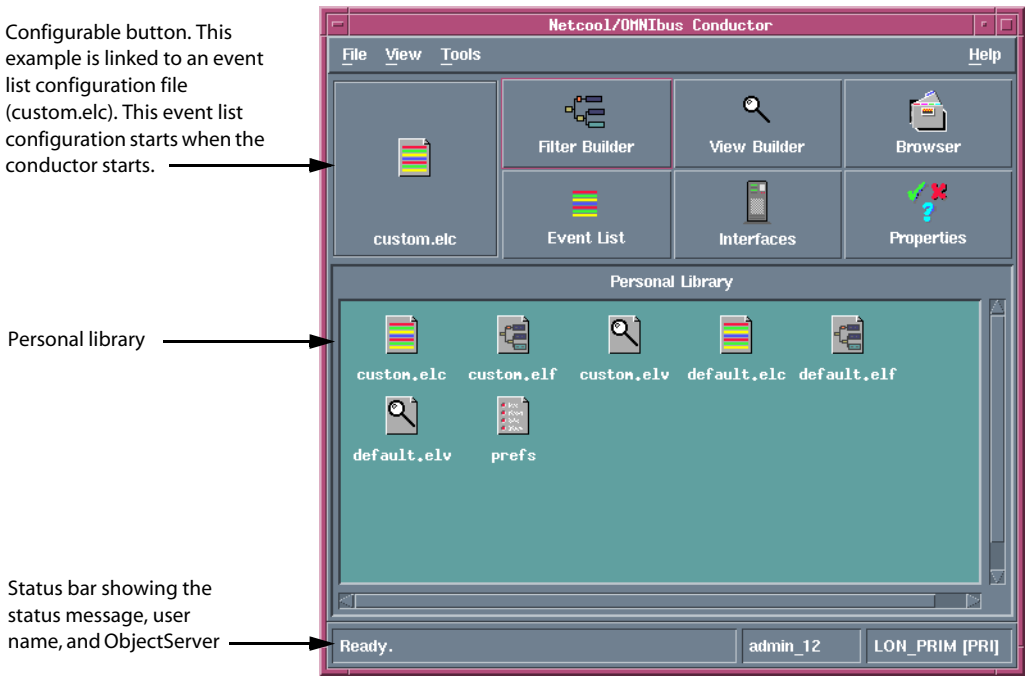


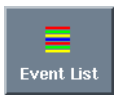
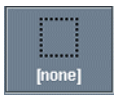
Figure 6: Conductor on UNIX

To run a tool from the Conductor, click the button for the desired tool. The tool starts automatically; you do not need to enter a username or password.

Conductor Button Bar

The Conductor button bar consists of six pre-configured buttons and one configurable button. Table 3 describes the Conductor buttons.

Table 3: Conductor Buttons

Button	Description
	The **Filter Builder** button starts the Filter Builder with the default filter loaded. You can use the Filter Builder to create new filters or edit existing filters. The default filter contains no conditions.
	The **View Builder** button starts the View Builder with the default view loaded. You can use the View Builder to create new views or edit existing views.
	The **Browser** button opens a file browsing window, which allows you to navigate file systems, find files, and add them to your personal library. See *Using the Directory Browser (UNIX Only)* on page 33 for details.
	The **Event List** button starts the event list with a default configuration; that is, with a default view and default filter. If an event list has been launched from the Conductor, this button is grayed-out to prevent multiple event lists from being launched.
	The **Interfaces** button starts the Server Editor, which is used to set up Netcool/OMNIbus component communications. For information about the Server Editor, see the *Netcool/OMNIbus Installation and Deployment Guide*.
	The **Properties** button starts the Properties Editor, which enables you to edit the information in the properties files for ObjectServers, proxy servers, the `nco_dbinit` utility, and probes. For information about the Properties Editor, see the *Netcool/OMNIbus Administration Guide*.
	The configurable button allows you to start a custom event list configuration automatically whenever you start the Conductor. To configure this button, drag and drop an event list configuration (`.elc`) icon from the personal library or Browser window onto the button. This example has not been linked to an event list configuration. The personal library is described in *Maintaining a Personal Library (UNIX Only)* on page 31. The Browser window is described in *Using the Directory Browser (UNIX Only)* on page 33.

Running Tools from the Conductor on Windows

To use the Conductor on Windows, right-click the bus icon in the task bar. The Conductor menu appears, showing all the desktop tools that have been installed and are available to you.

To run a tool from the Conductor, select an item from the menu. The tool starts automatically; you do not need to enter a username or password. You can start a Conductor for each running ObjectServer. An icon appears in the task bar for each Conductor. Move the mouse pointer over the icon to display information about the Conductor as a tool tip.

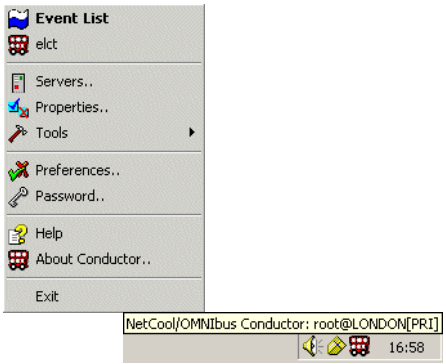


Figure 7: The Conductor on Windows

2.4 Setting Global Preferences

To display the *Preferences* window:

- On UNIX, double-click the **prefs** button in the Conductor personal library.
- On Windows, from the Conductor menu, select **Preferences**.

The *Preferences* window comprises the following tabs:

- **Conductor**
- **Event List**
- **Notification**

The **Event List** tab of the *Preferences* window is shown in Figure 8.

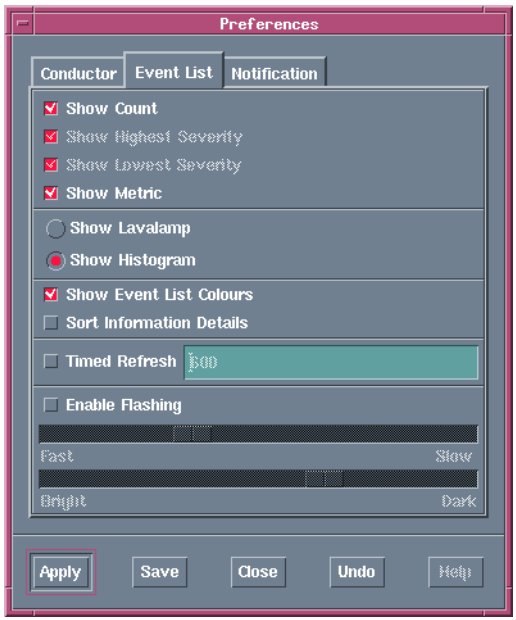


Figure 8: Preferences Window

The following sections describe the preferences available on each tab.

Setting Conductor Preferences

On the *Preferences* window, click the **Conductor** tab. Table 4 describes the **Conductor** tab item.

Table 4: Preferences Window Conductor Tab Item

Item	Description
Timed Directory Update	Updates the Conductor directory information at regular intervals. The interval is controlled by the value (in seconds) in the text field.

Setting Event List Preferences

On the *Preferences* window, click the **Event List** tab. Table 5 describes the **Event List** tab items.

Table 5: Preferences Window Event List Tab Items

Item	Description
Show Count	Displays the number of alerts matching the filter on monitor boxes.
Show Highest Severity	Displays the highest severity among the alerts that match the filter.
Show Lowest Severity	Displays the lowest severity among the alerts that match the filter on monitor boxes.
Show Metric	Displays the value of the filter's metric component on monitor boxes. For information about metrics, see *Parts of the Monitor Box* on page 40.
Show Lavalamp	Displays the distribution indicator as a horizontal bar on monitor boxes.
Show Histogram	Displays the distribution indicator as a bar graph on monitor boxes.
Show Event List Colors	Indicates the severity color of alerts in event list. You can select this option to change the event list to monochrome and not show the severity color.
Sort Information Details	Sorts the detail fields in the event list window alphabetically by name of field. When it is not selected, the detail fields are displayed in an order determined by the ObjectServer.
Timed Refresh	Updates alert information at a selected time rather than awaiting notification of updates from the ObjectServer. Select Timed Refresh and enter a time (in seconds) in the field. The most recent data from the ObjectServer is updated in the event list when the Timed Refresh activates. **Note:** Timed Refresh forces the event list to reload all its data at a set interval. Do not set the refresh to a low value (for example, less than 60 seconds) as this has an impact on ObjectServer performance and network traffic.
Enable Flashing	Enables flashing alerts on the event list. Use the sliders to set the flashing speed and brightness.

Setting Notification Preferences

On the *Preferences Window*, click the **Notification** tab. Table 6 describes the **Notification** tab items.

Table 6: Preferences Window Notification Tab Items

Item	Description
Notify when Iconized	Receives a notification when an alert is new, changed, or deleted. Use the When and How options to set the notification method.
When	Sends a notification when: • A new alert has appeared in the event list. • An existing alert changes in the event list. • An existing alert is deleted from the event list.
How	Selects a notification method: • **Ring Bell** sounds the workstation bell once. • **Alert Icon** flashes an exclamation mark over the event list icon on UNIX or flashes the minimized event list on Windows. • **Open Window** opens the event list on the screen. If you use a window manager with interactive placement, the event list opens as the active window. • **Run External Command** runs a command. Enter the command name in the text field below the **Run External Command** toggle button. This must only be used for simple desktop notification, and is not designed for handling paging applications.

Note: To activate these preferences, close and reopen any open event lists.

Applying and Saving Global Preferences

On the *Preferences* window, use the **Apply** button to apply changes without saving them. This enables you to test how your changes affect the desktop. If you make an incorrect change to the preference settings, you can close the *Preferences* window without saving and your changes are discarded.

Use the **Save** button to save any changes made to global preferences. To view any changes made to preferences in the event list, close and reopen any open event lists.

You can also use the *Event List Preferences* window to change your event list preferences. For more information, see *Using the Event List Preferences Window* on page 62.

2.5 Changing Your Password

To display the *Change Password* window:

- On UNIX, from the Conductor, select **File→Change Password**.
- On Windows, from the Conductor menu, select **Change Password**.

To change your password:

1. In the **Current** field, enter the current password. Any text entered is replaced with asterisk (*) characters.
2. In the **New** field, enter the new password.
3. In the **Verify** field, enter the new password again.
4. Click **OK**.

If you enter an invalid current password, or if the entries in the **New** and **Verify** fields do not match, an error message appears. In both cases, you can dismiss the error message window and correct the error.

Note: The **Change Password** menu option on UNIX platforms is grayed-out if your organization uses external authorization. If external authorization is used, the password is not stored in the ObjectServer. For information about Netcool/OMNIbus security, see the *Netcool/OMNIbus Installation and Deployment Guide*.

2.6 Maintaining a Personal Library (UNIX Only)

The personal library provides an easily accessible location from which to open frequently used Netcool/OMNIbus files (for example, filters and views). You can double-click icons in the personal library to open their associated applications.

The personal library also contains a **prefs** icon, which you double-click to select global Netcool/OMNIbus preferences. See *Setting Global Preferences* on page 27.

Using the Personal Library with the Browser Window

You can drag and drop all icons from the directory browser into the personal library, except for icons representing directories. You can also drag and drop icons from the personal library into the directory browser. See *Using the Directory Browser with the Personal Library* on page 34.

Viewing the Personal Library Contents

Use the following instructions to view the contents of the personal library:

Table 7: Viewing Personal Library Contents

To...	Select...
Refresh the contents of the personal library	**View→Refresh**
View hidden files (files with names beginning with a period)	**View→Show Hidden Files**
View backup files (files with names ending in `.bak`)	**View→Show Backup Files**

Personal Library Icons

Table 8 describes the Conductor personal library icons.

Table 8: Personal Library Icons (1 of 2)

Icon	Description
	This icon represents the repository of your Netcool/OMNIbus preferences. When you change your tool preferences, the changes are made in this file. To display the *Preferences* window, described in *Setting Global Preferences* on page 27, double-click the preferences icon.
	This icon represents an event list configuration. To start an event list with a specific configuration, double-click an event list configuration icon (`.elc` files), or right-click the icon and select **Start Event List** from the popup menu. To delete an event list configuration from the personal library, right-click the icon and select **Delete**.

Table 8: Personal Library Icons (2 of 2)

Icon	Description
	This icon represents an event list filter. To start the Filter Builder with a filter loaded, double-click a Filter icon (`.elf` files), or right-click the icon and select **Start Filter Builder**. To delete a filter from the personal library, right-click the icon and select **Delete**.
	This icon represents an event list view. To start the View Builder with a view loaded, double-click a View icon (`.elv` files), or right-click the icon and select **Start View Builder**. To delete a view from the personal library, right-click the icon and select **Delete**.
 	The event list configuration, filter, and view icons may appear covered by a chain link. This indicates that the file is not actually in the personal library, but there is a symbolic link to the file. These icons are created by linking the actual file into the personal library from the browser. All the functions in this table work as if linked icons are the actual files; however, when you delete a linked icon from the personal library, only the reference to the file is removed. The actual file is not deleted. The example icons to the left show linked filter and view icons. For information about creating linked filter and view icons, see *Creating Symbolic Links in the Personal Library* on page 34.

2.7 Using the Directory Browser (UNIX Only)

You can use the directory browser to view the contents of a directory on your local system. To display the directory browser, on the Conductor, click the **Browser** button. Figure 9 shows the directory browser.

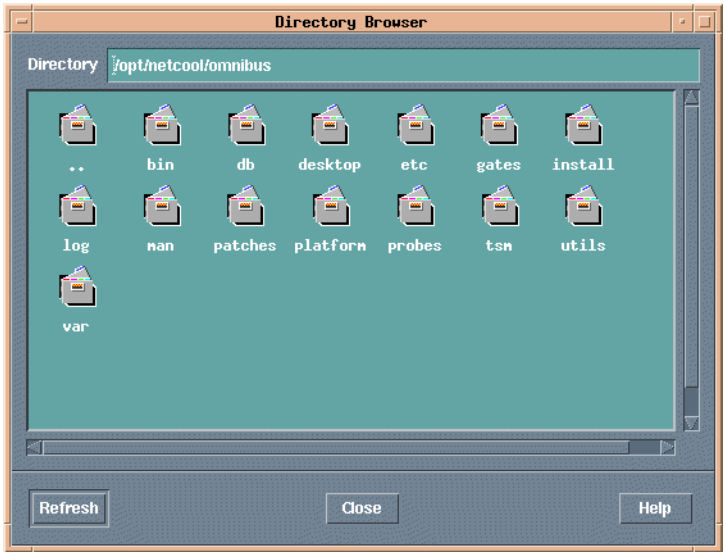


Figure 9: Directory Browser

You can drag and drop files from the directory browser into your personal library. See *Maintaining a Personal Library (UNIX Only)* on page 31.

Navigating with the Directory Browser

All icons that appear in the personal library can appear in the directory browser (with the exception of the **prefs** icon). The full path name of the current directory is displayed in the **Directory** field. To change the directory, do one of the following:

- Enter the full path in the **Directory** field, then press Enter.
- Double-click any directory icon.

A parent directory is labelled with two periods. To move to the directory above the current directory, double-click the parent directory icon.

Using the Directory Browser with the Personal Library

You can drag and drop all icons from the directory browser into the personal library, except for icons representing directories. You can also drag and drop all icons in the personal library into the directory browser, except for the **prefs** icon. For information about the personal library, see *Maintaining a Personal Library (UNIX Only)* on page 31.

Creating Symbolic Links in the Personal Library

To create a symbolic link in your personal library to a file in the directory browser:

1. Hold the Shift and Control keys.
2. From the directory browser, use the middle mouse button to click and drag the file for which you want to create a symbolic link to the personal library.

A symbolic link is created. The icon for the symbolic link has a chain over the icon image.

Chapter 3: Using the Event List

This chapter describes how to manage events using the event list. It contains the following sections:

- *Introduction to the Event List* on page 36
- *Starting the Event List* on page 37
- *Using the Monitor Box Window* on page 38
- *Using the Event List* on page 45
- *Using the Event List Preferences Window* on page 62
- *Netcool/Internet Service Monitors in the Event List* on page 65

3.1 Introduction to the Event List

The event list enables you to view and manage alerts. An alert is created when the ObjectServer receives an event, alarm, message, or data item. Each alert comprises fields of information held in a row of the ObjectServer `alerts.status` table.

Information about alerts is displayed in the event list according to filters and views. Filters enable you to display a subset of alerts based on specific criteria. Views enable you to choose which alert fields to display.

When you start an event list, a window containing one or more monitor boxes appears. The monitor box window is described in *Using the Monitor Box Window* on page 38. The number of monitor boxes that appear depends on how your system administrator has configured your system. A monitor box represents a filter and view that has been created for the event list. It also displays statistics about the state of all alerts that match the filter.

From monitor boxes, you can display event list windows and choose different views. The event list window is described in *Using the Event List* on page 45.

3.2 Starting the Event List

This section describes how to start the event list on UNIX and Windows platforms.

You can start the event list using the default event list configuration, or your own customized event list configuration. Customized configurations can be specified at the command line or using the **File→Open** dialog. These customized configurations may be on your file system or located on a remote server accessible using the `http` or `ftp` protocol.

For further information, see *Using Event List Configurations* on page 41.

For information about event list command line options, see Appendix B: *Desktop Reference* on page 111.

On UNIX

To start the event list on a UNIX platform, click the **Event List** button on the Conductor.

Alternatively, you can start the event list from the command line as follows:

```
$NCHOME/omnibus/bin/nco_event &
```

On Windows

To start the event list on a Windows platform:

- Select **Event List** from the Conductor menu.
- Select **Start→Programs→Netcool Suite→Event List**.

Alternatively, you can start the event list from the command line as follows:

```
%NCHOME%\omnibus\desktop\NCOEvent.exe
```

Failover Login

If the event list loses its connection to the primary ObjectServer and a secondary (failover) ObjectServer exists, you are prompted to log in to the secondary ObjectServer. When the primary ObjectServer becomes available again, a message appears indicating that the event list is reconnecting to the primary ObjectServer. You do not need to log in again to the primary ObjectServer.

3.3 Using the Monitor Box Window

When you run the event list, the monitor box window appears, as shown in Figure 10.

Figure 10: Monitor Box Window

The monitor box window has the following sections:

- The title bar, which displays the current event list configuration name
- The monitor box area, described in *Monitor Box Overview* on page 40
- The status bar, which displays messages, the current username, the ObjectServer to which you are currently connected, and whether the ObjectServer is the primary (`PRI`) or backup (`BAK`)

The monitor box area displays the default monitor boxes. The monitor boxes that appear on your system may differ, depending on how your system administrator has configured your system. For information about the default monitor boxes, see *Default Monitor Boxes* on page 39.

Default Monitor Boxes

The default monitor box window contains the following monitor boxes, each with its own filter. These are described in Table 9.

Table 9: Default Monitor Boxes

Monitor Box Filter	Description
Last 10 Min.	Identical to the Default filter described below, except this displays only those events that occurred in the last 10 minutes.
Escalated	Displays those alerts that have been escalated by the operator. For information about escalating alerts, see *Escalating and De-escalating Alerts* on page 51.
Task List	Displays those events that have been added to the operator's task list. For information about adding events to the task list, see *Adding an Alert to the Task List* on page 54.
Default	Displays all events except ProbeWatch, TSMWatch, and ConnectionWatch events.
In Maintenance	Displays those events that have been indicated as "in maintenance" by the operator. For information about indicating events as "in maintenance", see *Indicating that an Alert Is in Maintenance* on page 52.
Information	Displays those events that have been identified as Information events. Information events are those that: • Have been indicated as Information events by probes • Are not ProbeWatch, TSMWatch, and ConnectionWatch events • Have an escalation level set (see *Escalating and De-escalating Alerts* on page 51)
Netcool Status	Displays only ProbeWatch, TSMWatch, and ConnectionWatch events.
All Events	Displays all events.

Monitor Box Overview

A single monitor box is shown in Figure 11:

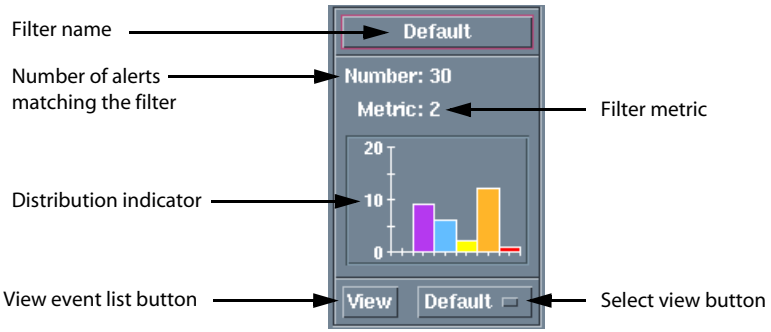


Figure 11: Monitor Box

The parts of the monitor box are described in Table 10.

Table 10: Parts of the Monitor Box (1 of 2)

Item	Description
Filter name	Displays the name of the current filter. Click this button to start the Filter Builder. For more information about using the Filter Builder, see Chapter 4: *Using the Filter Builder* on page 69.
Number of alerts matching the filter	Displays the number of alerts that match the filter.
Filter metric	Displays summary information derived from the alerts that match the filter. See *Types of Measurement for the Metric Panel* on page 85 for more information. You can configure additional fields to show other metrics, such as the severity of the highest severity alert that matches the filter. You can choose which information to display, as described in *Using the Event List Preferences Window* on page 62.
Distribution indicator	The colored segments are proportional to the number of alerts at particular severity levels. For example, if half the alerts were at critical level, half the distribution indicator would display the color red. You can display this information as either a lavalamp or a histogram, as described in *Using the Event List Preferences Window* on page 62.

Table 10: Parts of the Monitor Box (2 of 2)

Item	Description
View event list button	Click the **View** button to display an event list window for the currently selected monitor box filter and view.
Select view button	Displays the name of the current view. Click the button to select a different view for the filter. **Note:** You can use this button to select the X.733 view, which displays X.733-compliant alert information in the event list. For information about creating and modifying views using the View Builder, see *Creating a View* on page 91.

Note: You can optionally display a colored border around the monitor box. The border color changes according to the highest severity among the alerts that match the filter. See *Setting Monitor Box Preferences* on page 62.

Using Event List Configurations

Event list configurations enable you to save all of the monitor boxes on the current monitor box window, with their associated filters and views, into a configuration file. You can create as many different configuration files as you need and you can load a different configuration file at any time.

Opening a Local Event List Configuration File

To open a local event list configuration file, select **File→Open**.

A file selection window appears where you can select a configuration file to use for the event list (indicated by the filename extension `.elc`). The selected configuration filename is displayed in the title bar of the event list.

Opening a Remote Event List Configuration File

You can open a remote event list configuration file from the file selection window. A remote event list configuration file must be located on a remote server accessible using the `http` or `ftp` protocol.

To do this, select **File→Open**; then, in the **File name:** field, enter a URL for the remote file. The URL must be of one of the following forms:

`http://`*`servername`*`[:`*`port`*`]/`*`path`*`/`*`filename`*`.elc`
`http://`*`username`*`:`*`password`*`@`*`servername`*`[:`*`port`*`]/`*`path`*`/`*`filename`*`.elc`
`ftp://`*`servername`*`[:`*`port`*`]/`*`path`*`/`*`filename`*`.elc`
`ftp://`*`username`*`:`*`password`*`@`*`servername`*`[:`*`port`*`]/`*`path`*`/`*`filename`*`.elc`

The optional port number `[:`*`port`*`]` only needs to be specified if the server is not using the default port.

A copy of the remote file is written to a local cache. On Windows systems, when you specify a remote file that you have previously opened, the cached copy is used.

If the remote file cannot be retrieved, an error message is displayed.

Saving Event List Configurations

To save the current group of monitor boxes with their associated files and views as an event list configuration, select **File→Save** from the monitor box window.

This saves the current event list configuration into the file displayed in the title bar. If the title bar displays [**None**] as the filename, this option operates as the **File→Save As** option, allowing you to name and create a new `.elc` file.

To save the current event list configuration with another filename, select **File→Save As**. A file selection window appears where you can select another directory and filename.

You should save event list configuration files with a `.elc` extension.

Saving Remote Event List Configurations

If you have opened an event list configuration from a remote server on the network, you are not permitted to save it onto that server. If you attempt to use **File→Save** to save the event list configuration file, an error message is displayed. Then the *Save As* dialog is displayed, allowing you to save a local copy. The default location to save the file is as follows:

- UNIX - The working directory from which you started the event list.
- Windows - Your temporary internet files folder.

Creating a New Event List Configuration

To create a new event list configuration:

1. Clear the current event list configuration and set the configuration to the default settings. To do this, from the monitor box window, select **File→New**.
2. Select **Windows→Configuration**. The *Event List Configuration* window appears.
3. Use the *Event List Configuration* window to create the event list configuration. For a description of this window, see *Event List Configuration Window Items* on page 43.
4. Click **Close**. The event list configuration is applied to the current event list.
5. To save the event list configuration, on the monitor box window, select **File→Save As**.

Event List Configuration Window Items

Table 11 contains descriptions of the *Event List Configuration* window items.

Table 11: Event List Configuration Window Items

Window item	Description
Name	The event list configuration name.
Columns	The number of monitor box columns that are allowed in a monitor box window.
Filters/Views	Switches between the views and filters that are part of this event list configuration.
New	Opens the Filter Builder or View Builder to create a new filter or view. If you use a filter or view name that already exists in the event list configuration, the existing filter or view is replaced.
Edit	Opens the Filter Builder or View Builder to edit the currently selected filter or view. Any changes are applied to the filter or view. If you change the name of the filter or view to a name that does not exist in the event list configuration, a new filter or view is created. If you change the name to one that already exists, the new filter or view replaces the existing filter or view in the event list configuration. For information about using the Filter Builder see *Using the Filter Builder* on page 69. For information about using the View Builder see *Using the View Builder* on page 87.
Load	Loads an existing filter or view into the event list configuration. Filters have an `.elf` extension. Views have an `.elv` extension.
Delete	Deletes the selected filter or view from the event list configuration.
Top	Moves the selected filter or view to the top of the list.
Up	Moves the selected filter or view up one position in the list.
Down	Moves the selected filter or view down one position in the list.
Bottom	Moves the selected filter or view to the bottom of the list.

Note: The order in which filters and views appear in the *Event List Configuration* window determines the order in which the event list popup menus and drop-down lists display the filter and view lists.

Refreshing the Event List

The event list refreshes automatically at regular intervals to show all incoming alerts. However, you can refresh the event list between the intervals to ensure that you have all the latest alerts. To update all information in event list windows, select **View→Refresh All**.

Resynchronizing the Event List

If your system administrator makes any changes to the Netcool/OMNIbus configuration, you must resynchronize the event list. To resynchronize the event list, select **File→Resync All**.

Resynchronizing works differently on UNIX and Windows event lists. On UNIX event lists, currently selected views are not resynchronized; however, any columns added to the selected views using the View Builder will reflect resynchronized values.

On Windows event lists, only the views that are currently selected in monitor boxes are resynchronized. If you use a monitor box to select a different view after resynchronizing, it will not be resynchronized.

Freezing the Event List

To freeze the event list so that updates are not displayed, select **View→Freeze All**. To restart automatic updates from the ObjectServer, select **View→Freeze All** again.

Displaying the Severity Colors

The *Event List Colors* window provides a reference for the severity colors. To display the *Event List Colors* window, select **Windows→Colors**.

You can keep this window open for reference while you use the event list.

Closing All Event List Windows

To close all event list windows, select **Windows→Close All Event Windows**.

Using Tools

The systems administrator can define tools (for example, to issue a ping or telnet command) to use from the monitor box window. To use these tools, select the appropriate option from the **Tools** menu.

3.4 Using the Event List

The event list displays alerts in a scrollable list. Figure 12 shows an event list.

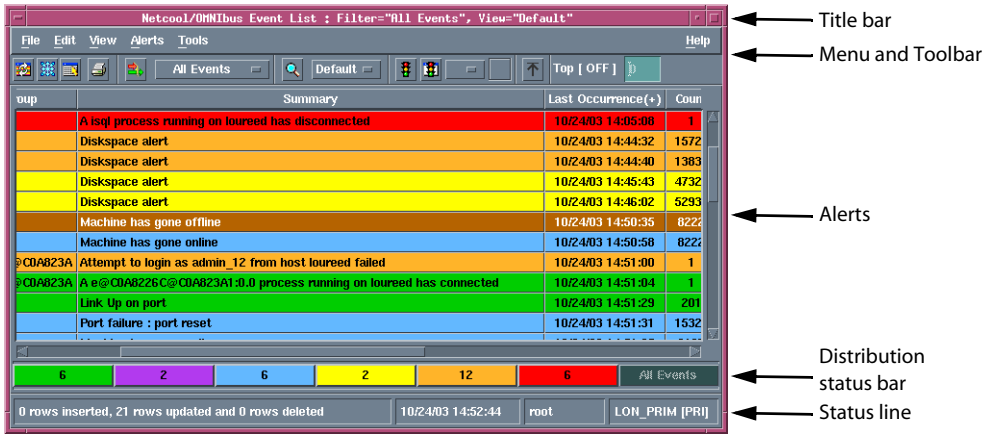


Figure 12: Event List

The parts of the event list are described in Table 12.

Table 12: Parts of the Event List (1 of 2)

Item	Description
Title bar	The title bar displays the names of the view and filter currently in use for this event list. It also indicates whether you are using a dual server desktop (DSD). For information about dual server desktops, see the *Netcool/OMNIbus Installation and Deployment Guide*.
Menu and Toolbar	Provides access to the menus and toolbar buttons. The toolbar buttons enable you to: • Refresh, freeze, and print the event list • Select all or deselect all alerts • Apply filters and views • Start the Filter Builder and View Builder • Restrict the number of rows displayed
Alerts	The event list alerts area is made up of rows and columns: • The columns are the alert fields. The selection of columns is controlled by the currently selected view. • The rows are alerts that match the currently selected filter.

Table 12: Parts of the Event List (2 of 2)

Item	Description
Distribution status bar	The distribution status bar displays the number of alerts that match the indicated severity color. This is the same information as shown on the distribution indicator on the monitor box. You can click one of the severity level colors to display only those alerts that match the selected severity (see *Severity Filtering* on page 58).
Status line	The status line displays: • Messages about the event list, such as how many items match the current filter condition or were processed by an operation • The current date and time • The current user • The name of the ObjectServer to which the event list is connected, and whether this is the primary (`PRI`) or backup (`BAK`) ObjectServer

Event List Security

All Netcool/OMNIbus users belong to one or more user *groups*. *Roles* granted to a group determine the group permissions. The desktop tools that a user can access and the tasks that a user can perform with the tools depend on the group to which the user belongs and the roles assigned to the group. For information about groups, roles, and Netcool/OMNIbus security, see the *Netcool/OMNIbus Installation and Deployment Guide*.

The `Normal`, `Administrator`, and `System` groups provide group row level security in the event list. The `AlertSecurityModel` ObjectServer property determines whether group row level security is enforced in the event list. By default the `AlertSecurityModel` property is disabled, and group row level security is not enforced. In this case:

- A member of the `Normal` group can modify a row that is assigned to themselves or the `nobody` user. When an alert is received from the ObjectServer, it is assigned by default to a the `nobody` user.
- A member of the `Administrator` group can modify a row that is assigned to themselves, the `nobody` user, or a member of the `Normal` group.

If the `AlertSecurityModel` property is enabled, only users in the group that owns the row can modify the row. In this case, a member of the `Normal` or `Administrator` group can modify a row that is assigned to a group of which they are a member.

A member of the `System` group can always modify any row.

Resizing Columns

To resize the columns in the event list:

1. On UNIX only, press and hold the Shift and Control keys.
2. Click the mouse button on a column divider.
3. Drag the mouse to change the width of the column.

Sorting Columns

The titles of the columns in the event list are active buttons. For example, you can click the title button over a column to sort all alerts by that column in ascending order.

Click the title button over the same column to clear the sorting on that column.

Secondary Sorting

To make a column a secondary sort, click the title button on another column after sorting the first column. For example, if you click the title button on **Severity**, then click the title button on **Node**, this will sort the event list by ascending severity and ascending node name.

Sorting in Descending Order

To set a column to be sorted in descending order:

1. On UNIX only, press the Shift key.
2. Click the title button to select the sorting column.

Any column being used in a sort is marked with a plus (+) or minus (-). Plus indicates ascending order; and minus indicates descending order. The sorting created is temporary and is not retained in the saved view.

Depicting Severity Using Text Color

By default, the severity of an alert in the event list is indicated by the background color of its row. For example, all critical severity alerts are shown with a red background color.

On UNIX platforms only, you can configure the event list to show the alert text in the color of the severity and use a single color for the background.

To depict severity using text color:

1. Back up the event list resource definition file `$NCHOME/omnibus/desktop/app-defaults/`*`arch`*`/NCOEvent`, where *`arch`* is your architectural platform. This step is recommended in case you need to revert to the original file.
2. Edit the `NCOEvent` file by adding the following X resource lines to define the background and text colors for the event list:

```
NCOEvent*inverseVideo:True

NCOEvent*clearColour: Black
NCOEvent*indetColour: Black
NCOEvent*warnColour:  Black
NCOEvent*minorColour: Black
NCOEvent*majorColour: Black
NCOEvent*critColour:  Black

NCOEvent*ackClearColour: Black
NCOEvent*ackIndetColour: Black
NCOEvent*ackWarnColour:  Black
NCOEvent*ackMinorColour: Black
NCOEvent*ackMajorColour: Black
NCOEvent*ackCritColour:  Black

NCOEvent*clearTextColour: green3
NCOEvent*indetTextColour: DarkOrchid2
NCOEvent*warnTextColour:  SteelBlue1
NCOEvent*minorTextColour: yellow1
NCOEvent*majorTextColour: #ffffb432294a
NCOEvent*critTextColour:  red1

NCOEvent*ackClearTextColour: #008000
NCOEvent*ackIndetTextColour: DarkOrchid4
NCOEvent*ackWarnTextColour:  SteelBlue3
NCOEvent*ackMinorTextColour: yellow3
NCOEvent*ackMajorTextColour: #b5ab63bd0000
NCOEvent*ackCritTextColour:  red3
```

Tip: In this sample text, the background color is set to `Black`, but you can specify another color with a good contrast to the text colors specified. If you want to use a different set of colors to depict severity, you might find it useful to verify the selection of colours available for use - these are listed in the file `/usr/openwin/lib/rgb.txt`.

3. Save your changes to the file.

4. To ensure that the defined color settings are loaded into your environment, you must set the XAPPLRESDIR environment variable to the location where the updated resource definition file NCOEvent resides. This location is:

   ```
   $NCHOME/omnibus/desktop/app-defaults/arch/
   ```

   Where *arch* is your architectural platform.

Tip: Set the XAPPLRESDIR environment variable in the .login or .profile initialization file for your shell to make your color settings permanent.

5. Merge the colors with the system colors using the following command:

   ```
   /usr/openwin/bin/xrdb -merge $NCHOME/omnibus/desktop/app-defaults/arch/NCOEvent
   ```

   Where *arch* is your architectural platform.

The new colors become available when you open an event list.

Working with Alerts

This section contains information about how you can work with alerts in the event list.

Selecting Alerts

To work an alert, you must first select it. Once you have selected the alert, you can use the options available from the **Alerts** menu.

Note: If you right-click an alert, a popup Alerts menu appears. The Alerts menu is configured by your system administrator.

Alert selection methods are described in Table 13.

Table 13: Alert Selection Methods (1 of 2)

To select...	Do this...
One alert and deselect all other alerts	Click the mouse button on the alert.
Multiple, nonsequential alerts	Hold the Control key and click each alert.
Multiple, sequential alerts	Click (Shift-click on Windows), hold the mouse button, and drag the pointer up or down the list.

Table 13: Alert Selection Methods (2 of 2)

To select...	Do this...
All alerts	Select **Edit→Select All**.
All alerts that match a particular field value (*smart matching*)	Press the Shift key (Control+Alt on Windows) and click the left mouse button over the field to be matched. For example, to select all alerts where the status field is "closed", find an alert that displays the status field as "closed", move the mouse pointer over that field, then Shift-click the mouse button.

Deselecting Alerts

To deselect all alerts in the event list, select **Edit→Deselect All**.

To deselect an alert in a selection of multiple rows, hold the Control key and click the alert.

Acknowledging an Alert

To acknowledge all selected alerts, select **Alerts→Acknowledge**.

The status line displays the number of acknowledged alerts and alerts that could not be acknowledged because they are not assigned to you.

Note: You can only acknowledge an alert if you have permission to do so. See *Event List Security* on page 46.

Deacknowledging an Alert

To deacknowledge all selected alerts, select **Alerts→Deacknowledge**.

The status line displays the number of deacknowledged alerts and alerts that could not be deacknowledged because they are not assigned to you.

Note: You can only deacknowledge an alert if you have permission to do so. See *Event List Security* on page 46.

Prioritizing Alerts

You can prioritize alerts by:

- Changing the alert severity
- Escalating/de-escalating the alert

- Suppressing the alert
- Hiding the alert
- Indicating the alert is “in maintenance”

Note: You can only prioritize an alert if you have permission to do so. See *Event List Security* on page 46.

Each prioritization method is described below.

Changing the Severity of an Alert

Each alert in the event list has an associated severity, which is indicated by the color in the display. For example, all critical severity alerts are red by default.

To change the severity of selected alerts, select **Alerts→Prioritize→Change Severity**. Select a priority setting from the sub-menu.

The status line displays the number of alerts that have had their severity set and alerts whose severity could not be set because they are not assigned to you.

Escalating and De-escalating Alerts

You can escalate alerts if, for example, you need to call attention to the alerts so that different levels of support staff can manage them. Escalating and de-escalating alerts works in conjunction with the Escalated event list filter (see *Default Monitor Boxes* on page 39). The escalation levels are:

- Normal
- Escalated
- Escalated-Level 2
- Escalated-Level 3

To escalate or de-escalate selected alerts, select **Alerts→Prioritize→Suppress/Escalate**. Select an escalation level from the sub-menu. Escalated alerts appear in the Escalated monitor box.

To remove the escalated status from selected alerts, select **Alerts→Prioritize→Suppress/Escalate→Normal**.

Suppressing Alerts

You can suppress alerts that do not need any direct action taken. For example, you may receive secondary alerts that are related to the actual alert that needs to be dealt with.

When you suppress an alert it is suppressed in all operators’ event lists.

To suppress selected alerts, select **Alerts→Prioritize→Suppress/Escalate→Suppress**.

To remove the suppressed status from selected alerts, select **Alerts→Prioritize→Suppress/Escalate→Normal**.

Hiding Alerts

You can hide alerts that you no longer want to view in the event list. Hidden alerts do not appear in any monitor boxes or event lists, except for those using the All Events filter (see *Default Monitor Boxes* on page 39).

When you hide an alert it is hidden in all operators' event lists.

To hide selected alerts, select **Alerts→Prioritize→Suppress/Escalate→Hidden**.

To remove the hidden status from alerts, open an event list that uses the All Events filter; then, select the alerts and select **Alerts→Prioritize→Suppress/Escalate→Normal**.

Indicating that an Alert Is in Maintenance

The Maintenance priority works in conjunction with the Maintenance event list filter (see *Default Monitor Boxes* on page 39). If the problem that caused an alert is being dealt with, you can indicate an alert is "in maintenance".

To indicate that selected alerts are "in maintenance", select **Alerts→Prioritize→Suppress/Escalate→Maintenance**. The alerts appear in the In Maintenance monitor box.

To remove the "in maintenance" status from selected alerts, select **Alerts→Prioritize→Suppress/Escalate→Normal**.

Assigning Alerts

You can assign alerts to another user, another group, or yourself.

Note: The users or groups to which you can assign alerts depends on your security permissions. See *Event List Security* on page 46.

Assigning an Alert to Another User

To assign selected alerts to another user, select **Alerts→Ownership→Assign to User** and select a user from the sub-menu.

Assigning an Alert to Another Group

To assign selected alerts to another group, select **Alerts→Ownership→Assign to Group** and select a group from the sub-menu.

When you assign an alert to another group, the alert is owned by the `nobody` user in that group.

Assigning an Alert to Yourself

To assign selected alerts to yourself, either select your name from the **Alerts** menu or select **Alerts→Ownership→Take Ownership**.

Deleting an Alert

To delete all currently selected alerts, select **Alerts→Delete**.

Note: You can only delete an alert if you have permission to do so. See *Event List Security* on page 46.

Resolving Alerts

To display a list of known resolutions, which are determined by the class of the alert, select **Alerts→Resolve**.

This option is normally grayed-out due to the dynamic nature of the **Alerts** menu.

Displaying Alert Information

To display additional information about a selected alert, double-click the alert or select **Alert→Information**.

This displays the *Event Information* window, which contains the full details of the alert. There are three tabs on the *Event Information* window, described in Table 14.

Table 14: Event Information Window Tabs

Tab	Description
Alert Fields	Contains information about each alert field, which is stored in the ObjectServer `alerts.status` table.
Alert Details	Provides details about the alert, which are stored in the ObjectServer `alerts.details` table.
Journal	Shows the journal details for the alert, which are stored in the ObjectServer `alerts.journal` table. The **Add To Journal** button on the **Journal** tab opens the full *Journal* window for the currently selected alert. See *Viewing and Adding to the Journal* on page 56.

Use the **Next** and **Previous** buttons to display detail information for the next or previous selected item in the event list. This can fail if alerts have been deleted elsewhere in the system.

Copying Alert Information

To copy alert information from the *Event Information* window to the clipboard:

1. Select the information that you want to copy.
2. Right-click the selected text and select **Copy to Clipboard** from the popup menu.

Adding an Alert to the Task List

The Task List enables you to identify those alerts that require special attention. Adding alerts to the Task List works in conjunction with the Task List event list filter (see *Default Monitor Boxes* on page 39).

To add selected alerts to the Task List, select **Alerts→Task List→Add to Task List**. The alerts appear in the Task List monitor box.

To remove selected alerts from the Task List, select **Alerts→Task List→Remove from Task List**.

Viewing Related Events

The event list contains tools that can help you locate related events on the network. To view events that are related to the currently selected alert, select one of the menu options in Table 15. Each of these tools opens a separate event list window containing any related events.

Table 15: Related Events Tools

Menu Option	Description
Alerts→Near-End Events→Entire Node	Locates events that are on the same node as the node indicated by the selected alert.
Alerts→Near-End Events→Managed Object Instance	Locates events that are on the same node and for the same local root object indicated by the selected alert.
Alerts→Far-End Events→Entire Node	Locates: • Events for a node that is indicated as the remote node by the selected alert. • All events that indicate the node from the selected alert as a remote node.
Alerts→Far-End Events→Managed Object Instance	Locates: • Events for a node that is indicated as the remote node by the selected alert and for which its local root object matches the remote root object of the selected alert. • All events which indicate the node from the selected alert as a remote node and which indicate a remote root object that matches the local root object the selected alert.

Restricting the Number of Rows Displayed

Your system administrator can use the View Builder to restrict the number of rows that are visible to you in the event list. See *Using the View Builder* on page 87 for more information. Your system administrator may give you the ability to change the number of rows displayed between specified limits.

Figure 13 shows an event list where the system administrator has permitted the user to display between 10 and 30 alerts, with 20 alerts currently displayed.

Figure 13: Restricting Rows Displayed in the Event List - the Top [Min-Max] Text Box

To change the number of rows displayed, enter the required number in the **Top** [***Min-Max***] text box.

If the text box label reads **Top** [**FIXED**], you are not permitted to change the number of alerts displayed.

If the text box label reads **Top** [**OFF**], there is no restriction on the number of alerts displayed.

Viewing and Adding to the Journal

To view the journal for a selected alert, select **Alerts→Journal** or, on the *Event Information* window, click the **Add to Journal** button. This displays the *Journal* window, where you can enter and store alert history information. Figure 14 shows the *Journal* window.

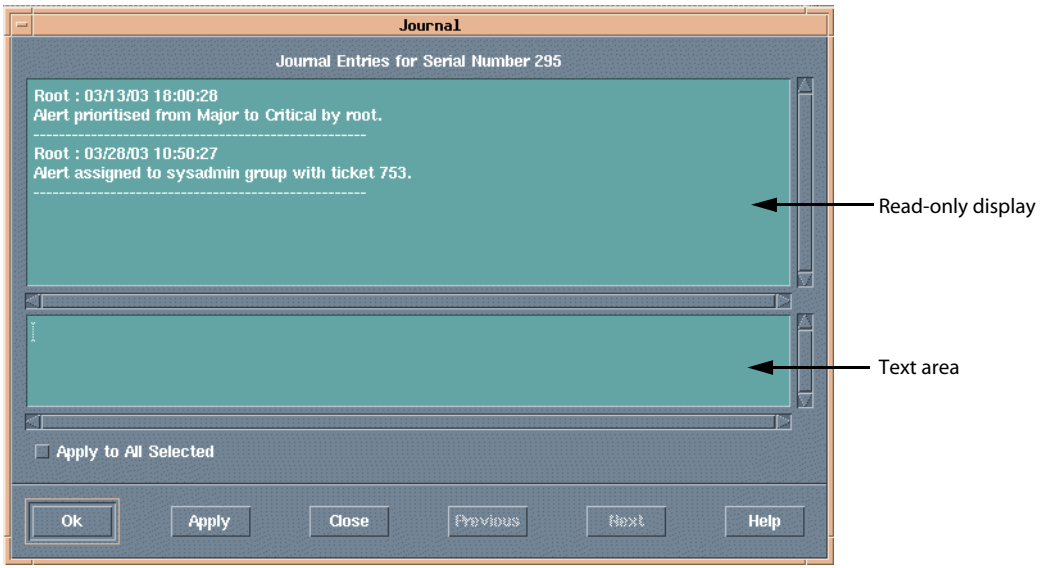


Figure 14: Journal Window

The *Journal* window is made up of two text areas. The top area is read-only and displays the existing journal history text, complete with the time it was entered and the name of the user who entered it.

You can enter text to be added to the journal in the lower text area. Once you have completed the text entry, click **OK** to add the new text to the end of the journal, automatically time-stamping it. There is a limit of 4096 characters for each journal entry.

To apply journal text to all selected alerts, not just the alert whose serial number is displayed at the top of the window, click the **Apply to All Selected** check box. When you click **OK**, the journal text is added to all selected alerts and the window closes.

Use the **Next** and **Previous** buttons in the *Journal* window to move to the journal entry for the next or previous selected alert in the event list.

You can use the **Alerts** menu in this window by right-clicking the top text window. For information about the **Alerts** menu, see *Using the Event List* on page 45.

Finding Fields in the Event List

To find a field that matches a particular value in the event list:

1. Select **View→Find**. The *Find* window appears.
2. Select a field name from the list.
3. Enter the value you wish to match in the **Value** field.
4. Select the type of match from the **Options** frame:
   - **Exact Match** finds a row where the selected field exactly matches the entered value.
   - **Regular Expression** finds a row where the selected field matches the entered regular expression. For information about regular expressions, see *About Regular Expressions* on page 100.
   - **Sub String** finds a row where the selected field contains the entered value somewhere in it.

When you click the **Find** button, if a matching row is found, any currently selected rows are deselected and the matching row is selected. Click the **Next** button to show the next match in the event list.

Using Drag and Drop With the Find Window

You can quickly define your search criteria by dragging and dropping event information from the event list into the *Find* window. Click the middle mouse button on a field in the event list and drag it to the list of fields in the *Find* window. The **Options** frame is set to **Exact Match** by default.

Quick Filtering

Quick filtering enables you to easily display alerts on the event list that match your selected criteria. For example, you can quickly display only those alerts that occurred at the same time as, or before, the selected alert.

To quick filter:

1. In the event list, select an alert field on which to base the quick filter.
2. Select **Alerts→Quick Filter**. A quick filter menu appears, which contains the following options:
   - Equals
   - Not Equals
   - Greater Than
   - Greater Than or Equals
   - Less Than

- Less Than or Equals
- Like
- Not Like
- Off

3. Select the quick filtering option. The event list displays only those alerts that match the filter criteria based on the selected alert field.

To remove quick filtering, select **Alerts→Quick Filter→Off** or click the **All Events** button on the distribution status bar.

Note: The **All Events** button on the distribution status bar is only enabled when using quick filtering or severity filtering. On UNIX platforms, this button flashes to indicate filtering is active.

Severity Filtering

Severity filtering enables you to quickly display only those alerts that match a particular severity. To use severity filtering, click the desired severity color on the event list distribution status bar. Figure 15 shows an event list with no severity filtering.

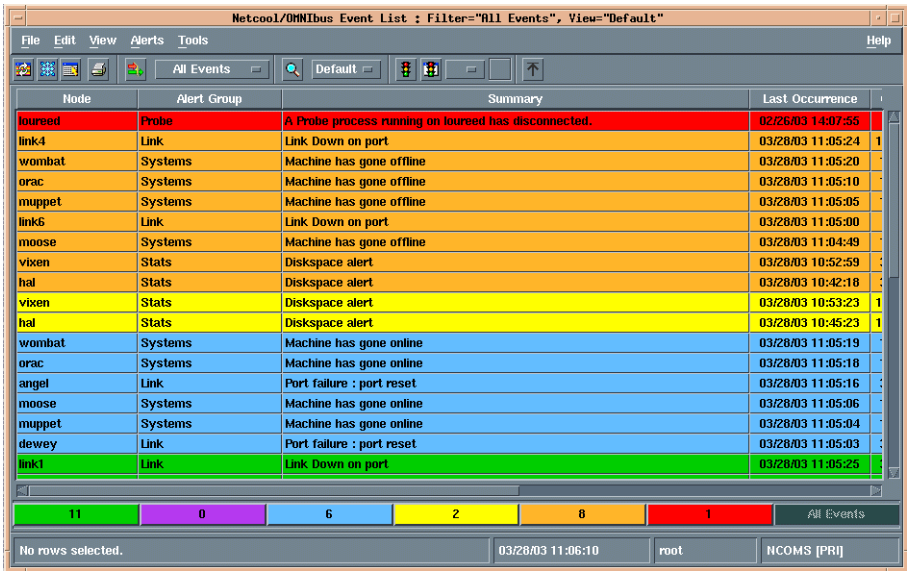


Figure 15: Event List with No Severity Filtering

To see only those alerts with a severity level of `minor` (yellow), click the yellow section of the distribution status bar, as shown in Figure 16.

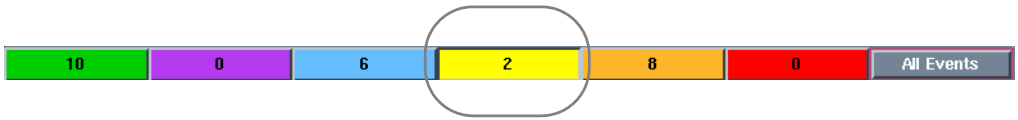


Figure 16: Severity Filtering with the Distribution Status Bar

The event list is filtered so that only alerts with a severity level of `minor` are displayed, as shown in Figure 17.

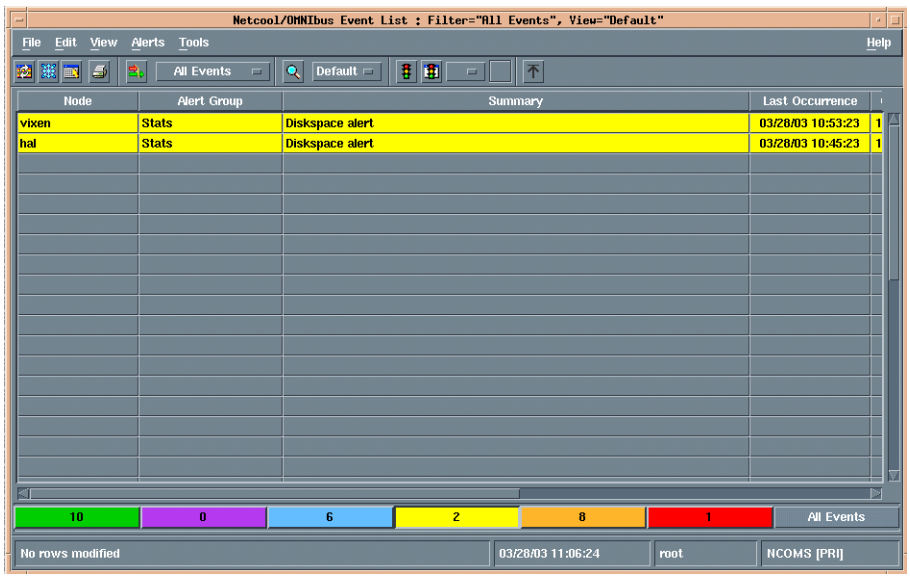


Figure 17: Event List with Severity Filtering

Note: The **All Events** button on the distribution status bar is only enabled when using quick filtering or severity filtering. On UNIX platforms, this button flashes to indicate filtering is active.

Using Jump to Top

Jump to Top controls how the event list scrolls when an update occurs. When Jump to Top is enabled, the event list automatically jumps to the top row when an update occurs. If you disable Jump to Top, the event list does not jump when updates occur. Jump to Top can help you quickly review updated alerts.

To enable or disable Jump to Top, select **View→Jump To Top**.

Note: To ensure that Jump to Top is enabled every time you open an event list, on the event list monitor box window, select **Windows→Preferences**. On the **Misc** tab, enable the **Jump Button on By Default** option.

Copying from the Event List

You can copy information from an alert on the event list to the clipboard for use in other applications. To do this:

1. Select an alert field. A black box surrounds the field.
2. Select **Edit→Copy to Clipboard**.

You can also copy alert information from the *Event Information* window. See *Displaying Alert Information* on page 53.

Selecting a Different Filter

To select a different filter to use in the event list, click the filter drop-down list on the toolbar and select from the list of available filters.

Selecting a Different View

To select a different view for the event list, click the view drop-down list on the toolbar and select from the list of available views.

Editing the Current Filter

To edit the current filter used by the event list, select **Edit→Edit Filter**. The Filter Builder appears, which you can use to edit the filter.

See Chapter 4: *Using the Filter Builder* on page 69 for more information.

Editing the Current View

To edit the current event list view, select **Edit→Edit View**. The View Builder appears, which you can use to edit the view.

See *Using the View Builder* on page 87 for more information.

Printing an Event List

To print the current view of an event list, select **File→Print**. The *Print* window appears.

Printing the UNIX Event List

On UNIX platforms you can control the formatting of the output using the *Print* window. Table 16 describes the *Print* window items.

Table 16: UNIX Print Window Items

Window item	Description
Printer	Sends the alert information to a printer. Enter the name of the printer in the **Printer** field.
File	Sends the alert information to a file. Enter the name of a file in the **File** field, or select the **File** button to display a file selection dialog.
All Alerts In View	Prints all the alerts in the current event list.
Selected Alerts	Prints only selected alerts.
Row Separators	Inserts row separators into the output; for example, a dashed line between each row.
Row Numbers	Adds the row number to each row output.
Column Separators	Inserts column separators into the output; for example, a | character at the start and end of fields.
Column Headings	Adds the name of the column to the top of the output file.

Printing the Windows Event List

When you print an event list on Windows, the standard *Print* window appears. Complete the window options and click **OK** to print the event list.

Using Tools

Your system administrator can define tools to be used on selected alerts in the event list. Select **Alerts→Tools** to display the sub-menu of tools.

3.5 Using the Event List Preferences Window

To display the *Event List Preferences* window, on the monitor box window, select **Windows→Preferences**.

The *Event List Preferences* window contains the following tabs:

- Monitors
- Refresh
- Notification
- Flashing
- Misc

Each tab is described in the following sections.

Setting Monitor Box Preferences

Use the **Monitors** tab to select the types of information displayed by monitor box indicators on the event list. Table 17 describes the **Monitors** tab items.

Table 17: Event List Preferences Window Monitors Tab Items

Window Item	Description
Show Count	Displays the number of alerts matching the filter on monitor boxes.
Show Highest Severity	Displays the highest severity among the alerts that match the filter on monitor boxes.
Show Lowest Severity	Displays the lowest severity among the alerts that match the filter on monitor boxes.
Show Metric	Displays the selected filter metric value on monitor boxes. See *Setting the Filter Metric* on page 85.
Show Severity Border	Displays a colored border around monitor boxes. The border color changes according to the highest severity among the alerts that match the filter.
Show Lavalamp	Display the distribution indicator as a horizontal bar.
Show Histogram	Display the distribution indicator as a bar graph.

Setting Refresh Preferences

Use the **Refresh** tab to configure the event list to update at a selected time interval rather than awaiting notification of updates from the ObjectServer. Table 18 describes the **Refresh** tab item.

Table 18: Event List Preferences Window Refresh Items

Window Item	Description
Timed Refresh	Select the check box to enable timed refresh. In the field, enter the refresh interval (in seconds). All the latest data from the ObjectServer will be sent to the event list at the selected time interval. **Note:** If the `AllowTimedRefresh` ObjectServer property, described in the *Netcool/OMNIbus Administration Guide*, is set to `FALSE`, refresh timers are disabled and updates occur based on notification from the ObjectServer.

Note: Timed Refresh forces the event list to reload all its data at a set interval. Do not set the refresh to a low value (for example, less than 60 seconds) as this has an impact on ObjectServer performance and network traffic.

Setting Notification Preferences

Use the **Notification** tab to set notification options when the event list is iconized (minimized). Table 19 describes the **Notification** tab items.

Table 19: Event List Preferences Window Notification Tab Items

Window Item	Description
Notify When Iconised	Select to activate event list notification.
When	Indicate when to notify: • **New** when a new alert has appeared. • **Change** when an existing alert has changed. • **Delete** when an existing alert has been deleted.
How	Indicate how to notify: • **Ring Bell** to sound the workstation/terminal bell once. • **Alert Icon** to flash an exclamation mark over the event list icon (UNIX) or flash the minimized event list (Windows). • **Open Window** to open the event list on the screen. If you use a window manager with interactive placement, the event list opens as the active window. • **Run External Command** to run a command. Enter the command name in the text field below the **Run External Command** toggle button. This must only be used for simple desktop notification, and is not designed for handling paging applications.

Setting Flash Preferences

Use the **Flashing** tab to indicate flashing event list options. Table 20 describes the **Flashing** tab items.

Table 20: Event List Preferences Window Flash Tab Items

Window Item	Description
Enable Flashing	Select to enable event list flashing.
Fast/Slow	Use the slider to indicate how quickly the event list flashes.
Bright/Dark	Use the slider to indicate the brightness of the flashing.

Setting Miscellaneous Preferences

Use the **Misc** tab to set other event list preferences. Table 21 describes the **Misc** tab items.

Table 21: Event List Preferences Window Misc Tab Items

Window Item	Description
Show Colors	Indicate the severity color of alerts in event list. You can deselect this option to change the event list to monochrome and not show the severity color.
Show Distribution Summary	Display the distribution summary bar in the event list.
Show Toolbars	Make the toolbars available on the event list.
Jump Button On by Default	Enable the Jump To Top feature by default. See *Using Jump to Top* on page 59.
Sort Information Details	Sort the detail fields in the *Event Information* window alphabetically by name of field. When this is not selected, the detail fields are displayed in an order determined by the ObjectServer.

3.6 Netcool/Internet Service Monitors in the Event List

Netcool/Internet Service Monitors (ISMs) work in conjunction with the rest of the Netcool/OMNIbus product suite. Events generated by both monitors and probes can be forwarded to the same ObjectServer and you can manipulate these events using the same desktop.

When you install Netcool/ISM, the installation program makes two changes to the standard Netcool/OMNIbus desktop:

- Two new buttons and a drop-down list are added to the event list window
- A new *Services* window is added

These are described in the following sections.

Event List Window with Netcool/ISM Installed

When Netcool/ISM is installed, two new buttons and a drop-down list are added to the event list, as shown in Figure 18.

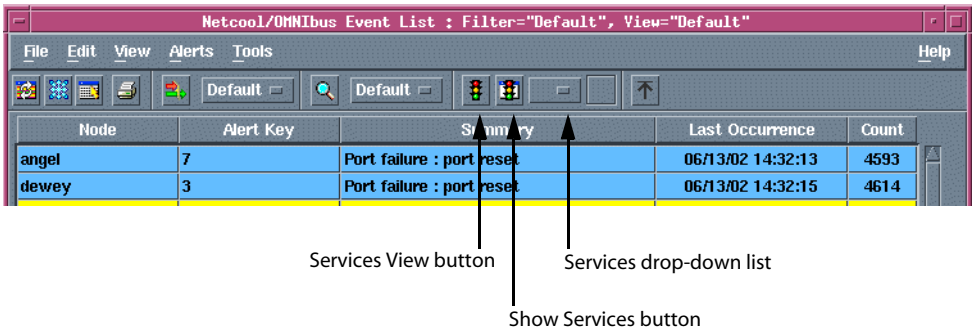


Figure 18: The Event List Window with Netcool/ISM Installed

Table 22 contains descriptions of the event list buttons for Netcool/ISM.

Table 22: Event List Buttons for Netcool/ISM (1 of 2)

Button	Description
	Click the **Services View** button to display service alerts in the event list window. You can change the service type using the Services drop-down list, described in this table.

Table 22: Event List Buttons for Netcool/ISM (2 of 2)

Button	Description
	Click the **Show Services** button, to start the *Services* window from the event list.
	Use the **Services** drop-down list to change the type of service status events displayed in the event list window. For example, selecting a monitor type from the list displays all the service status events from that type of monitor.

Viewing Services in the Event List

When Netcool/ISM is installed, the *Services* window is installed automatically as part of the event list.

To view services information:

1. From the Conductor, open the event list. The monitor box window and the *Services* window are displayed. The *Services* window contains a list of the different service types available.
2. In the *Services* window, double-click the service type you want to view. An event list is displayed containing a list of events for that service type. You can manipulate the service alerts in the list in the same way as alerts received from probes.

Using the Services Window

When Netcool/ISM is installed, the *Services* window shown in Figure 19 is opened automatically whenever you access the monitor box window from the Conductor.

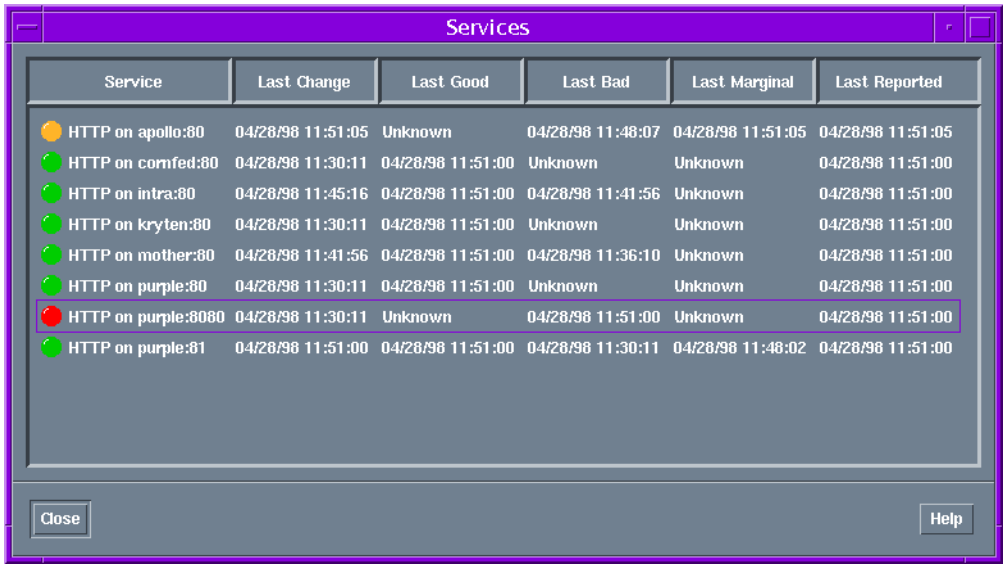


Figure 19: Services Window

Each line in the *Services* window indicates a different service. Double-click any row in the *Services* window to open an event list window containing events of that type. Table 23 contains descriptions of the *Service* window items.

Table 23: Services Window Items (1 of 2)

Window Item	Description
Colored symbols	The colored symbols to the left of each line indicate the status of the last alert the ObjectServer received from that service. They are color-coded, as follows: • Red - The service level agreement is not being met • Amber - There are some problems with the service • Green - There are no problems with the service • Black - The status of the service is unknown
Service	Name of the service being monitored.
Last Change	Last time the service status changed.
Last Good	Last time the service was good.

Table 23: Services Window Items (2 of 2)

Window Item	Description
Last Bad	Last time the service was bad.
Last Marginal	Last time the service was marginal.
Last Reported	Last time a report was generated for the service.

Chapter 4: Using the Filter Builder

You can use filters to display only those alerts that you want to see in the event list. You can use the Filter Builder to create, edit, and manage filters.

This chapter contains the following sections:

- *Introduction to the Filter Builder* on page 70
- *Creating a Filter* on page 71
- *Saving Filters* on page 83
- *Dragging and Dropping Filters* on page 84
- *Setting the Filter Metric* on page 85
- *Direct SQL Editing* on page 86

4.1 Introduction to the Filter Builder

You can use filters to define SQL queries of the ObjectServer `alerts` database tables in order to display custom alert information in monitor boxes and event lists. You can use the Filter Builder to create and edit filters.

Starting the Filter Builder

Start the Filter Builder in one of the following ways:

Table 24: Starting the Filter Builder

From...	Do this...
the event list	Click the **Filter Builder** button on the event list toolbar.
a monitor box	Click the filter name button.
the UNIX Conductor	Click the **Filter Builder** button on the Conductor or double-click a saved filter (`.elf`) file in the personal library.

Figure 20 shows the UNIX Filter Builder.

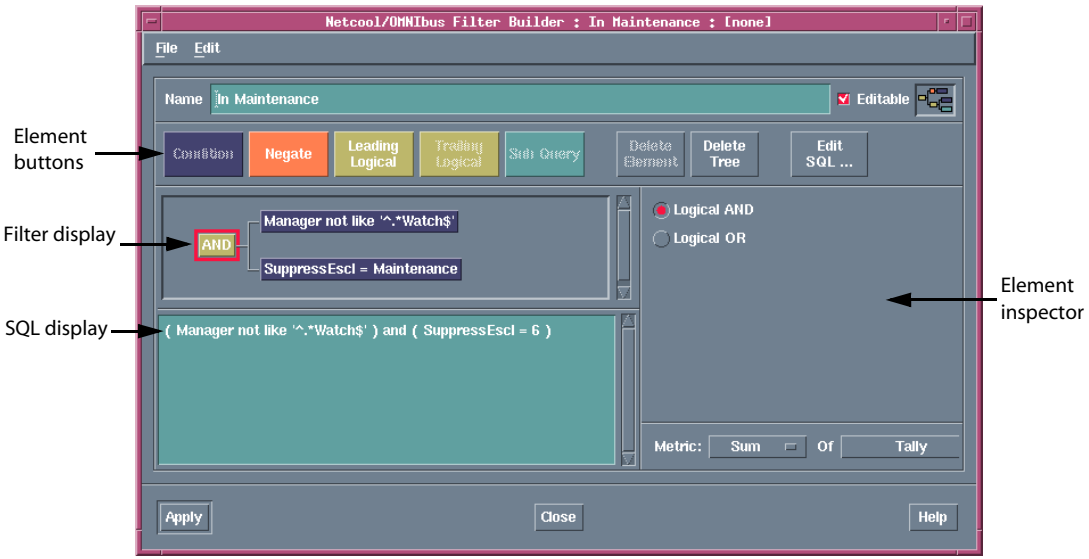


Figure 20: Filter Builder on UNIX

4.2 Creating a Filter

To create a filter in the Filter Builder:

1. In the **Name** field, enter a name for the filter. This name is used to select the filter in event list menus.
2. If you have permission to do so, use the **Editable** check box to indicate whether users are able to edit this filter.
3. Build the filter using filter elements. The next sections contain information about types of filter elements and how to create them.

Types of Filter Elements

A filter is made up of *elements*. The elements are displayed as blocks on the filter display and are arranged in a tree showing how the elements relate. Table 25 contains descriptions of the available element types.

Table 25: Filter Element Types

Element type	Description
Condition	A comparison made between fields and values. This is the most basic filter element.
Logical	An `AND`, `OR`, or `NOT` operator. It allows you to build filters with multiple conditions.
Subquery	A query in a condition using the `alerts.status`, `alerts.journal`, or `alerts.details` tables.

Creating Condition Elements

To create a condition element in the Filter Builder:

1. Click the **Condition** button.
2. Click the **Expression Type** drop-down list and choose either **Simple** or **Complex**.

   For more information, see *Selecting the Expression Type* on page 72.
3. Click the **Column** drop-down list and select a field. For example, select **Acknowledged**.

   For more information, see *Selecting the Field* on page 72.
4. Click the **Operator** drop-down list and select an operator.

   For more information, see *Selecting the Operator* on page 72.
5. In the field below the **Operator** drop-down list, enter a comparison value.

The following sections describe in detail how to edit the field, operator, and value attributes in the element inspector.

Selecting the Expression Type

Click the **Expression Type** drop-down list to select either simple or complex expressions to be used in the condition element.

If you select a complex expression type, you can click the **Edit** button to display the *Filter SQL Edit* window. Any expressions entered in the *Filter SQL Edit* window are automatically parsed and added to the condition element.

See *Direct SQL Editing* on page 86 for more information about using the *Filter SQL Edit* window.

Selecting the Field

To display a menu of all the available fields to be used in the comparison, click the **Column** drop-down list.

The Filter Builder automatically determines which fields are available. By default, the list contains the names of the fields in the `alerts.status` database table. There are situations where this list will be different; these special cases are described in *Creating Subquery Elements* on page 80.

Selecting the Operator

To display the comparison operation to be used for the condition element, click the **Operator** drop-down list.

The range of comparisons available is determined by the field selected on the **Column** drop-down list. Some comparisons are unavailable for certain fields. For example, it is not possible to have a `LIKE` operation on a numeric field such as `Severity`.

Entering the Value Field

There are three data types for value fields:

- String
- Integer
- Date/time

These types are described in the following sections.

You can also enter a list of values, rather than a single value, using **In** or **Not in**. Depending on the data type of the **Value** field, a different element inspector is displayed.

String Value Fields

String values are displayed as text fields. Enter a string into the field; surrounding quotation marks are not required. For example, Figure 21 shows the element inspector for the `Agent` field.

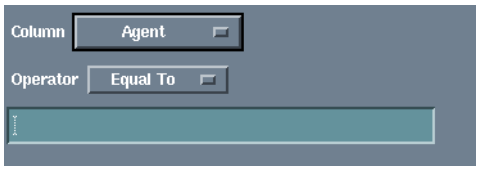


Figure 21: Element Inspector for the Agent Field

Some characters in the string can be escaped with a back slash (\) in the SQL text where they would otherwise have unintended effects on the operation of the filter. For example, single and double quotation marks are automatically escaped.

Integer Value Fields

For integer values, the drop-down list is only active where a numeric field has conversions set up for it. If there are no conversions available, the drop-down list is grayed out.

In the UNIX Filter Builder, the value field is split into three parts: the value drop-down list, the numeric value field, and arrow buttons.

Figure 22 shows the element inspector from the UNIX Filter Builder for the `Severity` field.

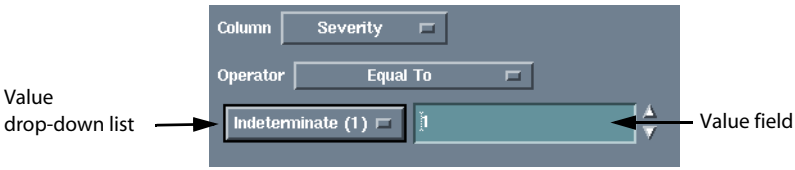


Figure 22: Integer Values on UNIX

In the Windows Filter Builder, select a value from the **Value** drop-down list, as shown in Figure 23.

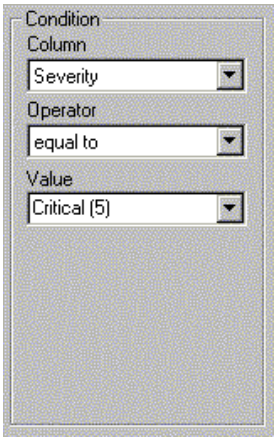


Figure 23: Integer Values on Windows

In the above example, the `Severity` field is stored internally as an integer value, but has a set of conversions to map those numbers to various severity strings; for example, `0` means `Closed`, and `5` means `Critical`. Where conversions like this exist for a field, the string names are displayed in the drop-down list.

Select an entry on the drop-down list to place the numeric value in the field next to the drop-down list. If you are setting a comparison with `Severity` and select **Major** from the drop-down list, `4` is entered into the numeric field.

On UNIX, you can also enter a numeric value directly into the text field.

Date and Time Value Fields

Date and time value fields have the following modes of operation:

- **Absolute**, which is an exact moment in time
- **Relative**, which is a time relative to the present

Figure 24 shows the element inspector for the `FirstOccurrence` field in absolute mode on the UNIX Filter Builder.

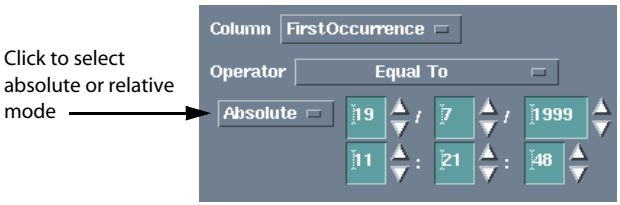


Figure 24: Date/Time Values on UNIX

The six fields that follow the drop-down list represent day, month, and year (top row) and hour, minutes, and seconds (bottom row). You can enter a date directly into these fields or increase and decrease the values by using the arrow buttons to the right of each field. The date and time displayed is always initialized to the current date when an element is created.

Figure 25 shows the element inspector for the `FirstOccurrence` field in absolute mode on the Windows Filter Builder.

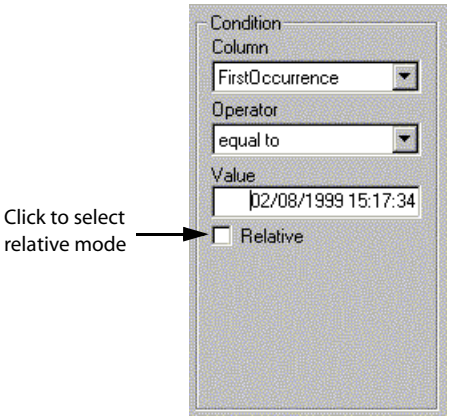


Figure 25: Date/Time Values on Windows

Figure 26 shows the element inspector for the `FirstOccurrence` field in relative mode on UNIX.

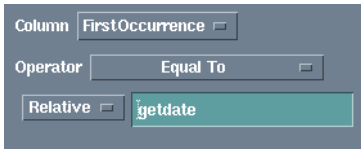


Figure 26: Relative Mode Values on UNIX

Figure 27 shows the element inspector for the `FirstOccurrence` field in relative mode on Windows.

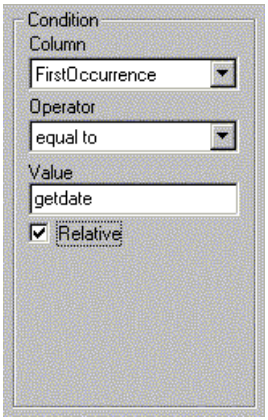


Figure 27: Relative Mode Values on Windows

The `getdate` function is an ObjectServer SQL function that returns the current date and time. You can use this in a calculation to establish a time relative to the present. The calculation is made in seconds, so `300` represents 300 seconds or 5 minutes. For example, to represent the time 10 minutes previous, enter `getdate - 600`.

In and Not In Operators

The In and Not In comparison uses a list of values, rather than a single value. When you select In or Not In as an operator, a value list appears.

Figure 28 shows the element inspector value list on UNIX.

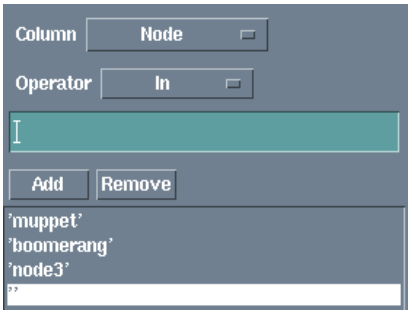


Figure 28: Value List for In and Not In Fields on UNIX

To add a value to the list, enter the value and click the **Add** button or press Enter. To remove a value from the list, select the value in the list and click the **Remove** button.

Figure 29 shows the element inspector value list on Windows.

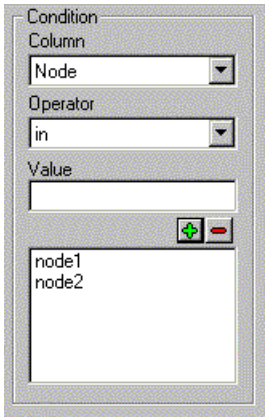


Figure 29: Value List for In and Not In Fields on Windows

To add a value in the list, enter the value and click the **Plus** button or press Enter. To remove a value from the list, select the value in the list and click the **Minus** button.

Creating Logical Elements

When you use a single condition element, you are limited to simple comparisons.

Logical elements allow two elements to be combined for more complex comparisons. A logical element has one of the following boolean operators:

- AND
- OR
- NOT

Creating a Logical Element on UNIX

There are two ways to insert the AND and OR logical elements: the **Leading Logical** and **Trailing Logical** buttons.

To create a logical element:

1. Select an existing element; for example, a condition.
2. Click either the **Leading Logical** or **Trailing Logical** button.

3. Select the boolean operator.
4. Click the **Condition** button to add another condition branch.

Table 26 shows what happens if you select either a conditional or logical element and then click one of the logical buttons.

Table 26: Logical Filter Element Buttons

Element	Leading Logical button used	Trailing Logical button used
Condition Element	Creates a logical element as the child of the parent of the condition element. The condition element becomes the child of the logical element.	Disabled: Condition elements cannot have children.
Logical Element	Creates a logical element as the child of the parent of the logical element. The condition element becomes the child of the logical element.	The logical element is added as a child of the existing logical element. If the insertion point already has two children, this button is disabled.
No Element Selected	Creates a single logical element.	Creates a single logical element.

Creating a Logical Element on Windows

To create a logical element:

1. Select an existing element; for example, a condition.
2. Select either the **And** condition button or the **Or** condition button.
3. Change the condition attributes on the new condition.
4. Click the **Apply** button to save the changes.

Example Logical Comparison

This example uses the logical `AND` element. To find all alerts that have been acknowledged and are greater than major severity, use two condition elements: `Acknowledged = Yes` and `Severity > Major`.

The translates to the SQL condition:

```
(Acknowledged = 1) and (Severity > 4)
```

Acknowledged is an integer value for which `0` equates to `No` and `1` equates to `Yes`. Severity names map to integer numbers `0-5`. Integers are used rather than string values because the Filter Builder manages the translations between names and values.

When a logical element is selected, the element inspector displays two buttons: **And** and **Or**. Logical elements are created by default as AND elements. To use an OR element, select the element and then select **Or** in the element inspector.

Figure 30 shows this example as displayed in the UNIX Filter Builder.

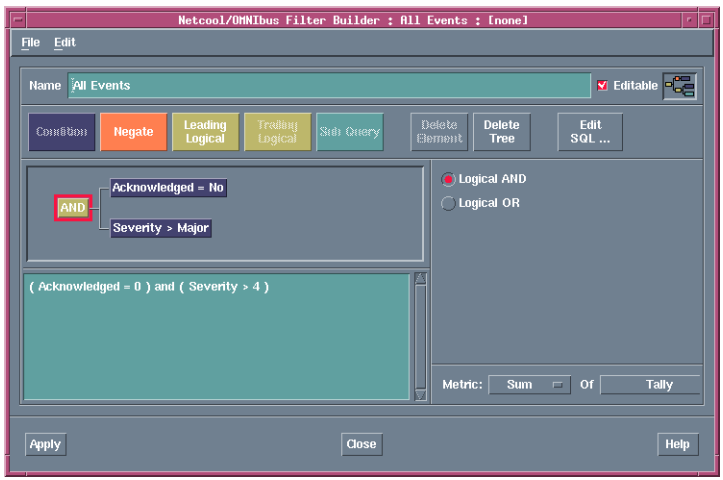


Figure 30: Example Logical Comparison in the UNIX Filter Builder

Negate Element

The negate element is a logical element, but unlike the AND and OR logical elements, it can only have one parent and one child.

The negate element is always inserted before the current insertion point. The negate element inverts the result of what follows it in the tree.

Although a negate element has only one child in the tree, it can generally be manipulated as a logical element.

Negate Example on UNIX

You can enter a conditional element that finds all the alerts that have a severity of warning, as shown in the Filter Builder on UNIX in Figure 31.

Figure 31: Example Negate Filter Condition on UNIX (Part 1)

To negate the condition, select the element; then, click the **Negate** button, as shown in Figure 32.

Figure 32: Example Negate Filter Condition on UNIX (Part 2)

Note: It is not possible to insert a negate logical element before an existing negate logical element; however, when editing a filter, it is possible to delete a section of a tree to leave two negate elements one after another. You must delete one of these to create a valid filter.

Negate Example on Windows

To negate a condition, select the element; then, click the **Negate** button. For example, you can enter a conditional element that finds all the events that have a severity of `warning`, as shown in Figure 33.

Figure 33: Example Negate Filter Condition on Windows (Part 1)

To negate the condition, click the **Negate** button, as shown in Figure 34.

Figure 34: Example Negate Filter Condition on Windows (Part 2)

Creating Subquery Elements

A subquery allows you to make a query in a condition. For example, you might want to look for alerts that have journal entries in the `alerts.journal` table, or look for alerts that have a particular detail attribute in the `alerts.details` table.

To create a subquery element:

1. Click the **Sub Query** button.
2. From the **Column** drop-down list, select the field to be used in the search.

3. From the **Operator** drop-down list, select either:
   - **In** to search for the contents of the field
   - **Not in** to search for the absence of the contents of the field
4. From the **Select** drop-down list, select the field to be used when building the list, against which the **In** or **Not In** operation is to be performed. The options in this list are determined by the **From** button.
5. From the **From** drop-down list, select the table from which to derive the information. This can be `alerts.details`, `alerts.journal`, or `alerts.status`.

Example Subquery Element

Figure 35 shows a subquery element that compares the **Identifier** fields of the `alerts.status` table and the `alerts.details` tables.

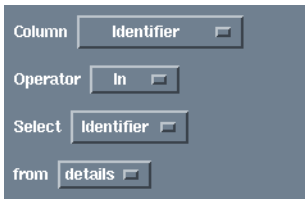


Figure 35: Example Subquery Element on UNIX

Using Subquery Elements with Other Elements

A subquery element can be followed by conditional, logical, and subquery elements. These elements allow you to specify selection criteria for the information from another table. For example, you can select only alerts that have a particular detail attribute.

Figure 36 shows how the subquery element is displayed in the UNIX Filter Builder.

Figure 36: Example Subquery Element with Other Elements on UNIX

Figure 37 shows how this subquery element is displayed in the Windows Filter Builder.

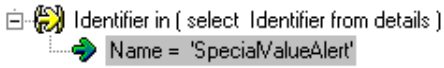


Figure 37: Example Subquery Element with Other Elements on Windows

This example element compares the **Identifier** fields in the `alerts.status` table and the `alerts.details` table, where the records in the `alerts.details` table also contain a **Name** field with the value **SpecialValueAlert**. The elements that follow the subquery element also refer to the same table as the subquery.

Deleting Elements

To remove only the currently selected element, click the **Delete Element** button or select **Edit→Cut**.

To delete an element tree, click the **Delete Tree** button. This removes the currently selected element and all child elements.

When you delete filter elements, the Filter Builder attempts to link the child elements into the filter. This does not work if you try to remove a logical element with two children or a subquery that has children.

Copying and Pasting Elements

To copy the selected element tree, select **Edit→Copy**.

When you paste elements elsewhere into the filter, the Filter Builder attempts to insert them relative to the currently selected element.

4.3 Saving Filters

You must save filters with an `.elf` file extension.

You can apply changes to the filter without saving it by using the **Apply** button. Click **Close** to close the window and discard the changes.

Note: On the UNIX Filter Builder, the **Apply** button does not appear when it is run from the Conductor. When run from the Conductor, all filters must be saved using the **File→Save** or **File→Save As** menu items.

4.4 Dragging and Dropping Filters

You can create filters using drag and drop on UNIX platforms. You can drag and drop from:

- One Filter Builder to another
- An event list window into the Filter Builder

Dragging and Dropping from One Filter Builder to Another

To use drag and drop from one Filter Builder to another:

1. Move the mouse pointer over the drag point icon (to the right of the **Editable** check box).

Figure 38: Filter Builder - Drag Point Icon

2. Click and hold the middle mouse button over the icon.
3. Drag the mouse to another Filter Builder. When the cursor is over a valid drop area, it changes color to green.
4. Release the mouse button to drop the filter.

   If the filter is not valid or is incomplete, a red cross appears on the drag point icon and you cannot drag and drop.

Figure 39: Filter Builder - Invalid Drag Position

Dragging and Dropping from the Event List to the Filter Builder

You can create condition elements in filters by dragging and dropping alert information from the event list into the Filter Builder. The condition element is created using the value of the column from where the drag and drop was started.

For example, if you click the middle mouse button over the event list in the **Severity** column on an alert that has a **Critical** value, and then drop this into the Filter Builder, a condition element is created and set to `Severity=Critical(5)`.

Repeat this process to create more condition elements joined to the existing tree with logical elements. Logical elements are discussed in *Creating Logical Elements* on page 77.

4.5 Setting the Filter Metric

All filters can have a metric associated with them. A metric is a measurement that can be applied to the filter so that it calculates a useful figure. You can select the type of metric used when you are creating the filter. Metrics can be displayed in monitor boxes. For example, a metric could be an average, count, or sum of all the alerts.

The **Metric** panel consists of two drop-down lists, as shown in Figure 40.

Figure 40: Filter Metric

The first drop-down list allows you to choose the measurement to be used. The types of measurement are described in Table 27.

Table 27: Types of Measurement for the Metric Panel

Option	Type of Measurement
Average	Returns the average value of the selected field for all alerts that match the filter.
Count	Returns a count of all the alerts that match the filter. The selected field is not used for this calculation.
Sum	Returns the sum of the selected field for all alerts that match the filter.
Minimum	Returns the lowest value of the selected field in alerts that match the filter.
Maximum	Returns the highest value of the selected field in alerts that match the filter.

The second drop-down list allows you to select a field to which the measurement is applied. Only the integer and time fields in an alert are available for the metric calculation.

4.6 Direct SQL Editing

If you want to edit ObjectServer SQL directly in the Filter Builder, click the **Edit SQL** button. A window is displayed in which you can enter the SQL text.

Figure 41 shows the *Filter SQL Edit* window.

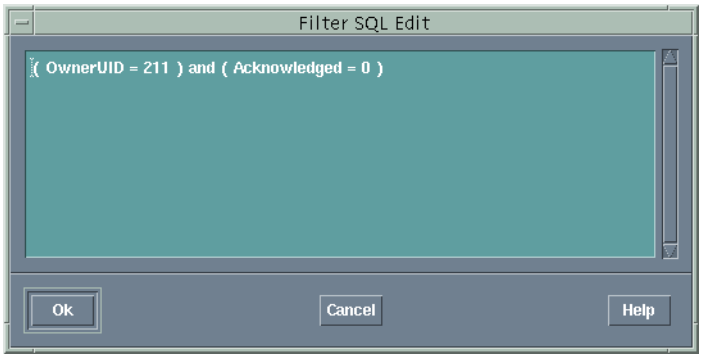


Figure 41: Filter SQL Edit Window

When you click the **OK** button, the Filter Builder attempts to parse the SQL text and build a filter tree. If there are any SQL errors, a dialog appears and you must correct the errors before you can continue.

Chapter 5: Using the View Builder

You can use views to display a selection of alert fields in the event list. You can use the View Builder for creating, editing, and managing views.

This chapter contains the following sections:

- *Introduction to the View Builder* on page 88
- *Creating a View* on page 91
- *Saving Views* on page 97
- *Dragging and Dropping Views (UNIX Only)* on page 98

5.1 Introduction to the View Builder

Views define the type and formatting of information that appears in event lists. For each view, you can specify:

- Fields to include in the event list
- Field titles
- Field formatting
- How information is sorted
- Whether to restrict the number of rows displayed in the event list

You can use the View Builder to create and edit views.

Starting the View Builder

You can start the View Builder in the following ways:

Table 28: Starting the View Builder

From...	Do this...
the event list	Click the **View Builder** button on the event list toolbar.
the UNIX Conductor	Click the **View Builder** button on the Conductor or double-click a saved view (`.elv`) file in the personal library.

Figure 42 shows the UNIX View Builder.

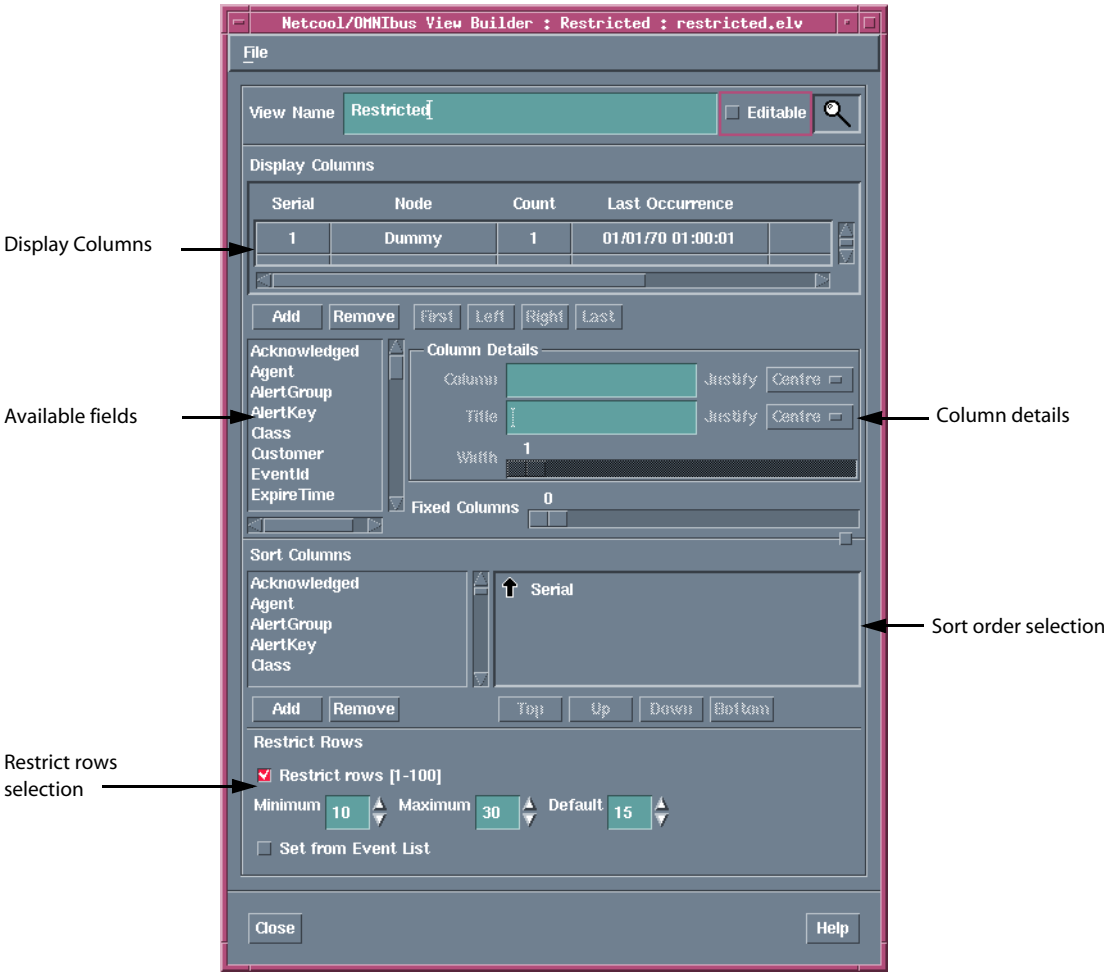


Figure 42: View Builder on UNIX

Figure 43 shows the Windows View Builder.

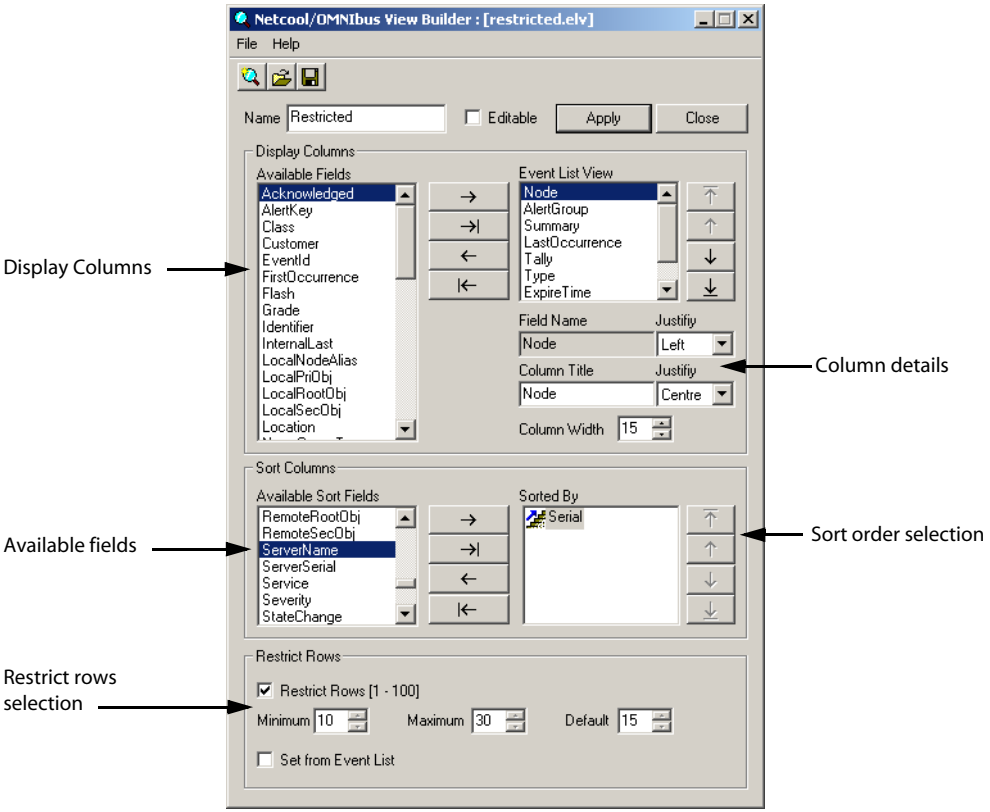


Figure 43: View Builder on Windows

5.2 Creating a View

To create a view in the View Builder:

1. In the **Name** field, enter a name for the view. This name is used in the event list.
2. If you have permission to do so, use the **Editable** check box to indicate whether users are able to edit this view.
3. You can now:
   - Add columns to the view
   - Remove columns from the view
   - Change the appearance of a view column
   - Change the view column sort order
   - Restrict the number of rows to display in the event list

The following sections contain descriptions for each of the above tasks.

Adding a Column to a View

To add a column to a view:

1. In the **Display Columns** area, select a field from the list.
2. Click the **Add** button (right arrow button on Windows).

   On UNIX, the field is added to the view as the right-most column. If necessary, use the horizontal scroll bar to view the new column. On Windows, the field is added to the **Event List View** list.

Using Drag and Drop (UNIX only)

On UNIX, you can also add a column with drag and drop:

1. Select a field from the field list.
2. Click and hold the middle mouse button.
3. Drag the pointer over the sample display columns.
4. Release the mouse button. The field is added to the view as the right-most column.

Removing a Column from a View

To remove a column from a view:

1. In the **Display Columns** area (**Event List View** list on Windows), select the column to remove.
2. Click the **Remove** button (left arrow button on Windows). The column is removed from the view and appears back in the **Available Fields** list.

Using Drag and Drop (UNIX only)

On UNIX, you can also remove a field with drag and drop:

1. In the **Display Columns** area, click and hold the middle mouse button on the column to remove.
2. Drag the pointer over the field list.
3. Release the mouse button. The column is removed and placed back in the **Available Fields** list.

Changing the Order of View Columns

To change the order of the view columns, in the **Display Columns** area (**Event List View** list on Windows), select a column. You can now change its position using the buttons in Table 29.

Table 29: View Column Order Selection Buttons

UNIX button	Windows button	Description
First		Moves the selected column to the first (left-most) column of the view.
Left		Moves the selected column one position to the left in the view.
Right		Moves the selected column one position to the right in the view.
Last		Moves the selected column to the last (right-most) column of the view.

Changing the Appearance of a View Column

In the View Builder **Display Columns** area (**Event List View** list on Windows), click the column to change. Use the **Column Details** fields to change how the column will appear in the event list. The **Column Details** fields are described in Table 30.

Table 30: View Builder Column Details

Window item	Description
Column Field Name (Windows)	Displays the name of the currently selected database field. Use the **Justify** drop-down list to the right of this field to select the alignment of the data as it will appear in the event list.
Title Column Title (Windows)	The title for this database field as it will appear in the event list. Use the **Justify** drop-down list to the right of this field to select the alignment of the title.
Width Column Width (Windows)	Select the column width as it will appear in the event list.
Fixed Columns (UNIX only)	You can have a number of fixed columns on the left-hand side of the event list. Fixed columns do not move off the screen if you scroll across the columns in the view. This slider allows you to fix up to one less than the total number of columns in the view.

Changing the View Column Sort Order

You can use the **Sort Columns** area to configure the sort order of rows for an event list view. Figure 44 shows the **Sort Columns** area in the UNIX View Builder. The rows are sorted by the `Serial` field.

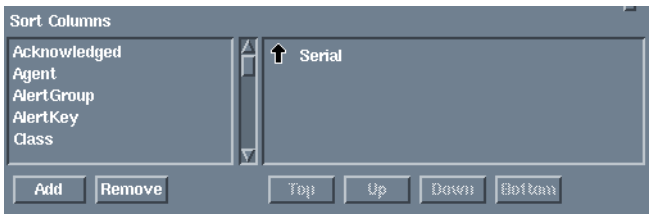


Figure 44: Sort Columns Area in the UNIX View Builder

Adding Sort Fields

To add a field to the sort list:

1. In the **Sort Columns** list, select the field to add.
2. Click the **Add** button (right arrow button in Windows). The field is added to the bottom of the sort list.

Using Drag and Drop (UNIX only)

On UNIX, you can use drag and drop to add a field. To add a field using drag and drop:

1. In the **Sort Columns** list, select the field to add.
2. Click and hold the middle mouse button over the field.
3. Drag the pointer over the list of sorting fields.
4. Release the mouse button. The field is added to the bottom of the sort list and is removed from the **Sort Columns** list.

Removing Sort Fields

To remove a field from the sort list:

1. In the sort list, select the field to remove.
2. Click the **Remove** button (left arrow button in Windows). The field is removed from the sort list.

Using Drag and Drop (UNIX only)

On UNIX, you can use drag and drop to remove a field:

1. In the sort list, select the field to remove.
2. Click and hold the middle mouse button over the field.
3. Drag the pointer to the **Sort Columns** list.
4. Release the mouse button. The field is removed from the sort list and returned to the **Sort Columns** list.

Changing the Sort Direction

In the sort list, an arrow appears next to each entry. By default, this arrow points upwards, indicating the field will be sorted in ascending alphabetic order.

To change the order to descending order, double-click the arrow.

Changing the Sort Precedence

The field at the top of the sort list has the highest precedence when sorting. If you add a second field to the list, and the first field is identical for a number of entries, the second field is used to sort in those entries.

To raise or lower a field's sort precedence, select the field in the sort list and use the following buttons:

Table 31: View Column Order Selection Buttons

UNIX button	Windows button	Description
Top		Moves the selected entry to the top of the list.
Up		Moves the selected entry up one place in the list.
Down		Moves the selected entry down one place in the list.
Bottom		Moves the selected entry to the bottom of the list.

These buttons are not available if the operation is inappropriate. For example, if you select the top entry in the list, the **Top** and **Up** buttons are unavailable because the entry is already at the top and cannot be moved up.

Popup Menus in the Sort List

Alternatively, you can use a popup menu to:

- change the sort order of a field
- change the precedence of a field
- remove a field

To display the popup menu, click the right mouse button over an entry in the sort list.

Restricting the Number of Rows Displayed in the Event List

You can use the **Restrict Rows** area to restrict the number of rows displayed in the event list.

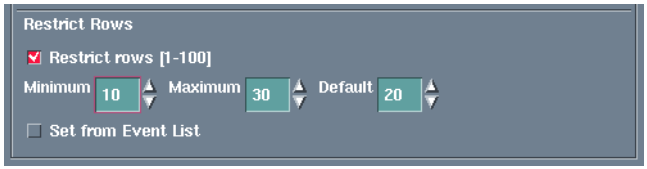


Figure 45: Restrict Rows Area in the UNIX View Builder

From the View Builder:

1. In the **Restrict Rows** area, select the **Restrict rows** [**1-100**] check box. The **Minimum**, **Maximum**, and **Default** number entry fields are enabled.
2. Enter the desired values for the fields.
3. Select the **Set from Event List** if you want event list view users to be able to choose the number of events to display in their event list view.

If you select **Set from Event List**, the number of events that users can choose to view using the event list controls is constrained by the **Minimum** and **Maximum** values specified in the View Builder.

If you do not select **Set from Event List**, the number of events displayed will always be the specified **Default** value.

Note: If you select the **Restrict rows** [**1-100**] check box, and save the configuration as an `.elv` file, the `.elv` file is not compatible with Netcool/OMNIbus version 3.6 and earlier.

5.3 Saving Views

You must save views with an `.elv` file extension.

You can apply changes to the view without saving it by using the **Apply** button. Click **Close** to close the window and discard the changes.

5.4 Dragging and Dropping Views (UNIX Only)

You can use drag and drop with views on UNIX platforms. You can drag and drop from:

- One View Builder to another
- The View Builder to an *Event List Configuration* window

To drag and drop a view:

1. Move the mouse pointer over the drag point icon (to the right of the **Editable** check box).

Figure 46: View Builder - Drag Point Icon

2. Click and hold the middle mouse button.
3. Drag the mouse to another View Builder or an *Event List Configuration* window. When the cursor is over a valid drop area, it changes color to green.
4. Release the mouse button to drop the view.

Appendix A: Regular Expressions

This appendix explains how to use regular expressions. It contains the following sections:

- *About Regular Expressions* on page 100
- *Using the NETCOOL Regular Expression Library* on page 101
- *Using the TRE Regular Expression Library* on page 103

A.1 About Regular Expressions

Regular expressions are sequences of *atoms* that are made up of normal characters and metacharacters. An atom is a single character or a pattern of one or more characters in parentheses. Normal characters include uppercase and lowercase letters, and numbers. Metacharacters are non-alphabetic characters that possess special meanings in regular expressions.

Two types of regular expression libraries are available for use with the ObjectServer:

- `NETCOOL` - This library is useful for single-byte character processing, and is recommended for optimal system performance. For information on the regular expression syntax that can be used with the `NETCOOL` library, see *Using the NETCOOL Regular Expression Library* on page 101.
- `TRE` - This library enables use of the POSIX 1003.2 extended regular expression syntax, and provides support for both single-byte and multi-byte character languages. Be aware, however, that use of this library can lead to a marked decrease in system performance. For information on the regular expression syntax that can be used with the `TRE` library, see *Using the TRE Regular Expression Library* on page 103.

You can use the ObjectServer property `RegexpLibrary` to specify which library should be used for regular expression matching. The `NETCOOL` regular expression library is enabled by default for optimal system performance. For instructions on enabling regular expression libraries using this ObjectServer property, see the *Netcool/OMNIbus Administration Guide*.

A.2 Using the NETCOOL Regular Expression Library

Table A1 describes the set of metacharacters supported by the NETCOOL regular expression library.

Table A1: Metacharacters (1 of 2)

Metacharacter	Description	Examples
*	Matches zero or more instances of the preceding atom. Matches as many instances as possible.	goo* matches my godness, my goodness, and my gooodness, but not my gdness.
+	Matches one or more instances of the preceding atom. Matches as many instances as possible.	goo+ matches my goodness and my gooodness, but not my godness.
?	Matches zero or one instance of the preceding atom.	goo? matches my godness and my goodness, but not my gooodness or my gdness. colou?r matches color and colour. end-?user matches enduser and end-user.
$	Matches the end of the string.	end$ matches the end, but not the ending.
^	Matches the beginning of the string.	^severity matches severity level 5, but not The severity is 5.
.	Matches any single character.	b.at matches baat, bBat, and b4at, but not bat or bB4at.
[abcd]	Matches any character in the square brackets.	[nN][oO] matches no, nO, No, and NO. gr[ae]y matches both spellings of the word 'grey' - that is, gray and grey.
[a-d]	Matches any character in the range of characters separated by a hyphen (–).	[0-9] matches any decimal digit. [ab3-5] matches a, b, 3, 4, and 5. ^[A-Za-z]+$ matches any string that contains only upper or lowercase characters.
[^abcd] [^a-d]	Matches any character except those in the square brackets or in the range of characters separated by a hyphen (–).	[^0-9] matches any string that does not contain any numeric characters.
()	Indicates that the characters within the parentheses should be treated as a character pattern.	A(boo)+Z matches AbooZ, AboobooZ, and AbooboobooZ, but not AboZ or AboooZ. Jan(uary)? matches Jan and January.

Table A1: Metacharacters (2 of 2)

Metacharacter	Description	Examples
|	Matches one of the atoms on either side of the pipe character.	`A(B|C)D` matches `ABD` and `ACD`, but not `AD`, `ABCD`, `ABBD`, or `ACCD`. `(AB | CD)` matches `AB` and `CD`, but not `ABD` and `ACD`.
\	Indicates that the metacharacter following should be treated as a regular character. The metacharacters listed in this table require a backslash escape character as a prefix to switch off their special meaning.	`\*` matches the `*` character. `\\` matches the `\` character. `\.` matches the `.` character. `\[[0-9 ]*\]` matches an opening square bracket, followed by any digits or spaces, followed by a closed bracket.

A.3 Using the TRE Regular Expression Library

The TRE regular expression library supports usage of the POSIX 1003.2 extended regular expression syntax in the form of:

- Metacharacters
- Minimal or non-greedy quantifiers
- Bracket expressions
- Internationalization constructs
- Backslash sequences

Using Metacharacters

The set of metacharacters that can be used in extended regular expression syntax is as follows:

```
* + ? $ ^ . () | \ {} [
```

Table A2 describes all of these metacharacters except the square bracket `[`, which is described in Table A4 on page 107.

Table A2: Metacharacters (1 of 2)

Metacharacter	Description	Examples
`*`	Matches zero or more instances of the preceding atom. Matches as many instances as possible.	`goo*` matches `my godness`, `my goodness`, and `my goooodness`, but not `my gdness`.
`+`	Matches one or more instances of the preceding atom. Matches as many instances as possible.	`goo+` matches `my goodness` and `my goooodness`, but not `my godness`.
`?`	Matches zero or one instance of the preceding atom.	`goo?` matches `my godness` and `my goodness`, but not `my goooodness` or `my gdness`. `colou?r` matches `color` and `colour`. `end-?user` matches `enduser` and `end-user`.
`$`	Matches the end of the string.	`end$` matches `the end`, but not `the ending`.
`^`	Matches the beginning of the string. (See also Table A4 on page 107 for an alternative use of `^`.)	`^severity` matches `severity level 5`, but not `The severity is 5`.

Table A2: Metacharacters (2 of 2)

Metacharacter	Description	Examples
`.`	Matches any single character.	`b.at` matches `baat`, `bBat`, and `b4at`, but not `bat` or `bB4at`.
`()`	Indicates that the characters within the parentheses should be treated as a character pattern.	`A(boo)+Z` matches `AbooZ`, `AbooboooZ`, and `AbooboobooZ`, but not `AboZ` or `AboooZ`. `Jan(uary)?` matches `Jan` and `January`.
`|`	Matches one of the atoms on either side of the pipe character.	`A(B|C)D` matches `ABD` and `ACD`, but not `AD`, `ABCD`, `ABBD`, or `ACCD`. `(AB | CD)` matches `AB` and `CD`, but not `ABD` and `ACD`.
`\`	Indicates that the metacharacter following should be treated as a regular character. The metacharacters listed in this section require a backslash escape character as a prefix to switch off their special meaning. (See also Table A6 on page 109 for alternative usage of `\`.)	`\*` matches the `*` character. `\\` matches the `\` character. `\.` matches the `.` character.
`{m , n}`	Matches from `m` to `n` instances of the preceding atom, where `m` is the minimum and `n` is the maximum. Matches as many instances as possible. **Note:** `m` and `n` are unsigned decimal integers between `0` and `255`.	`f{1,2}ord` matches `ford` and `fford`. `N/{1,3}A` matches `N/A`, `N//A`, and `N///A`, but not `NA` or `N////A`.
`{m ,}`	Matches `m` or more instances of the preceding atom.	`Z{2,}` matches two or more repititions of `Z`.
`{m}`	Matches exactly `m` instances of the preceding atom.	`a{3}` matches `aaa`. `1{2}` matches `11`.

Using Minimal or Non-greedy Quantifiers

Regular expressions are generally considered *greedy* because an expression with repititions will attempt to match as many characters as possible. The asterisk (`*`), plus (`+`), question mark (`?`), and curly braces (`{}`) metacharacters exhibit 'repititious' behavior, and attempt to match as many instances as possible.

To make a subexpression match as few characters as possible, a question mark (?) can be appended to these metacharacters to make them *minimal* or *non-greedy*. Table A3 describes the non-greedy quantifiers.

Table A3: Minimal/Non-greedy Quantifiers (1 of 2)

Quantifier	Description	Examples
`*?`	Matches zero or more instances of the preceding atom. Matches as few instances as possible.	Given an input string of `Netcool Tool Library`: • The first group in `^(.*l).*$` matches `Netcool Tool.` • The first group in `^(.*?l).*$` matches `Netcool`.
`+?`	Matches one or more instances of the preceding atom. Matches as few instances as possible.	Given an input string of `little`: • `.*?l` matches `l`. • `^.+l` matches `littl`.
`??`	Matches zero or one instance of the preceding atom. Matches as few instances as possible.	`.??b` matches `ab` in `abc`, and `b` in `bbb`. `.?b` matches `ab` in `abc`, and `bb` in `bbb`.

Table A3: Minimal/Non-greedy Quantifiers (2 of 2)

Quantifier	Description	Examples
`{m , n} ?`	Matches from `m` to `n` instances of the preceding atom, where `m` is the minimum and `n` is the maximum. Matches as few instances as possible. **Note:** `m` and `n` are unsigned decimal integers between `0` and `255`.	Given an input string of `Netcool Tool Cool Fool Library`: • `^((.*?ool)*).*$` matches `Netcool Tool Cool Fool`. • `^((.*?ool)+).*$` matches `Netcool Tool Cool Fool`. • `^((.*?ool)+?).*$` matches `Netcool`. • `^((.*?ool){2,5}).*$` matches `Netcool Tool Cool Fool`. • `^((.*?ool){2,5}?).*$` matches `Netcool Tool`. • `^((.*?ool){2,5}) [FL].*$` matches `Netcool Tool Cool Fool`. • `^((.*?ool){2,5}?) [FL].*$` matches `Netcool Tool Cool`.
`{m ,} ?`	Matches `m` or more instances of the preceding atom. Matches as few instances as possible.	Given an input string of `Netcool Tool Cool Fool Library`: • `^((.*?ool){2,}).*$` matches `Netcool Tool Cool Fool`. • `^((.*?ool){2,}?).*$` matches `Netcool Tool`. • `^((.*?ool){2,}) [FL].*$` matches `Netcool Tool Cool Fool`. • `^((.*?ool){2,}?) [FL].*$` matches `Netcool Tool Cool`.

Using Bracket Expressions

Bracket expressions can be used to match a single character or collating element, as described in Table A4.

Table A4: Bracket Expresssions

Expression	Description	Examples
`[abcd]`	Matches any character in the square brackets.	`[nN][oO]` matches `no`, `nO`, `No`, and `NO`. `gr[ae]y` matches both spellings of the word 'grey' - that is, `gray` and `grey`.
`[a-d]`	Matches any character in the range of characters separated by a hyphen (`-`).	`[0-9]` matches any decimal digit. `[ab3-5]` matches `a`, `b`, `3`, `4`, and `5`. `[0-9]{4}` matches any four-digit string. `^[A-Za-z]+$` matches any string that contains only upper or lowercase characters. `\[[0-9 ]*\]` matches an opening square bracket, followed by any digits or spaces, followed by a closed bracket.
`[^abcd]` `[^a-d]`	Matches any character except those in the square brackets or in the range of characters separated by a hyphen (`-`).	`[^0-9]` matches any string that does not contain any numeric characters.
`[.ab.]`	Matches a multi-character collating element.	`[.ch.]` matches the multi-character collating sequence `ch` (if the current language supports that collating sequence).
`[=a=]`	Matches all collating elements with the same primary sort order as that element, including the element itself.	`[=e=]` matches `e` and all the variants of `e` in the current locale.

Note the following:

- The caret character (`^`) only has a special meaning when included as the first character after the open bracket (`[`). Otherwise, it is treated as a normal character.
- The hyphen character (`-`) is treated as a normal character only if it is the first or last character within the square brackets - for example, `[ab-]` or `[-xy]`, or if it is the only (both first and last) character - that is, `[-]`.
- To match a closing square bracket within a bracketed expression, the closing bracket must be the first character within the enclosing brackets - for example, `[][xy]` matches `]`, `[`, `x`, and `y`.
- Other metacharacters are treated as normal characters within square brackets, and do not need to be escaped - for example, `[ca$]` will match `c`, `a`, or `$`.

Using Internationalization Constructs

The sort order of characters (and any of their variants) is locale-dependent, so different regular expressions are generally required to match characters of the same class, in different locales. To facilitate internationalization, a set of predefined names enclosed in `[:` and `:]` can be used to represent characters of the same class. The set of valid names depends on the value of the `LC_CTYPE` environment variable of the current locale, but the names shown in Table A5 are valid in all locales.

Table A5: Internationalization Constructs

Construct	Description
`[:alnum:]`	Matches any alphanumeric character.
`[:alpha:]`	Matches any alphabetic character.
`[:blank:]`	Matches any blank character - that is, space and TAB.
`[:cntrl:]`	Matches any control characters; these are non-printable.
`[:digit:]`	Matches any decimal digits.
`[:graph:]`	Matches any printable character except space.
`[:lower:]`	Matches any lowercase alphabetic character.
`[:print:]`	Matches any printable character including space.
`[:punct:]`	Matches any printable character that is not a space or alphanumeric - that is, punctuation.
`[:space:]`	Matches any whitespace character.
`[:upper:]`	Matches any uppercase alphabetic character.
`[:xdigit:]`	Matches any hexadecimal digit.

Example Internationalization Constructs

`[[:lower:]AB]` matches the lowercase letters and uppercase `A` and `B`.

`[[:space:][:alpha:]]` matches any character that is either whitespace or aphabetic.

`[[:alpha:]]` matches to `[A-Za-z]` in the English locale (`en`), but would include accented or additional letters in another locale.

Using Backslash Sequences

The backslash character (\) can be used to:

- Turn off the special meaning of metacharacters so they can be treated as normal characters, as described in Table A2 on page 103
- Include non-printable characters in a regular expression, as described in Table A6
- Give special meaning to some normal characters, as described in Table A6
- Specify backreferences, as described in Table A6

Note: The backslash character cannot be the last character in a regular expression.

Table A6: Backslash Sequences (1 of 2)

Backslash Sequence	Description
`\a`	Matches the bell character (ASCII code 7).
`\e`	Matches the escape character (ASCII code 27).
`\f`	Matches the form-feed character (ASCII code 12).
`\n`	Matches the new-line/line-feed character (ASCII code 10).
`\r`	Matches the carriage return character (ASCII code 13).
`\t`	Matches the horizontal tab character (ASCII code 9).
`\v`	Matches the vertical tab character.
`\<`	Matches the beginning of a word, or the beginning of an identifier, defined as the boundary between non-alphanumerics and alphanumerics (including underscore). This matches no characters, only the context.
`\>`	Matches the end of a word or identifier.
`\b`	Matches a word boundary - that is, matches the empty string at the beginning or end of an alphanumeric sequence. Enables a 'whole words only' search.
`\B`	Matches a non-word boundary - that is, matches the empty string not at the beginning or end of a word.
`\d`	Matches any decimal digit. Equivalent to `[0-9]` and `[[:digit:]]`.
`\D`	Matches any non-digit character. Equivalent to `[^0-9]` or `[^[:digit:]]`.

Table A6: Backslash Sequences (2 of 2)

Backslash Sequence	Description
`\s`	Matches any whitespace character. Equivalent to `[ \t\n\r\f\v]` or [[:space:]].
`\S`	Matches any non-whitespace character. Equivalent to `[^ \t\n\r\f\v]` or `[^[:space:]]`.
`\w`	Matches a word character - that is, any alphanumeric character or underscore. Equivalent to `[a-zA-Z0-9_]` or `[[:alnum:]_]`.
`\W`	Matches any non-alphanumeric character. Equivalent to `[^a-zA-Z0-9_]` or `[^[:alnum:]_]`.
`\[1-9]`	A backslash followed by a a single non-zero decimal digit `n` is termed a *backreference*. Backreferences are used to specify that an earlier matching subexpression is matched again later. Matches the same set of characters matched by the `n`th parenthesized subexpression.

Example Backslash Constructs

`\bcat\b` matches `cat` but not `cats` or `bobcat`.

`\d\s` matches a digit followed by a whitespace character.

`[\d\s]` matches any digit or whitespace character.

`.([XY]).([XY]).` matches `aXbXc` and `aYbYc`, but also `aXbYc` and `aYbXc`. However, `.([XY]).\1.` will only match `aXbXc` and `aYbYc`.

Appendix B: Desktop Reference

This appendix contains reference information for the Netcool/OMNIbus desktop, including:

- *Event List Command Line Options* on page 112
- *Using the Transient Event List (nco_elct)* on page 116
- *SQL Commands and Variable Expressions in Tools, Automations, and Transient Event Lists* on page 122
- *Changing the Date Format in the Event List on UNIX* on page 125

B.1 Event List Command Line Options

On UNIX platforms, you can run the nco_event command to open an event list as follows:

```
$NCHOME/omnibus/bin/nco_event &
```

On Windows, the name and location of the executable file is %NCHOME%\omnibus\desktop\NCOEvent.exe.

This section describes the UNIX and Windows command line options that can be used when starting the event list from the command line.

If an instance of the event list (nco_event) is running, the nco_event command opens a new event list window. If there is no running instance of nco_event, the nco_event command starts one and displays the monitor box window.

UNIX Command Line Options

The command line options for the UNIX event list are shown in Table B1.

Table B1: UNIX Event List (nco_event) Command Line Options (1 of 2)

Command Line Option	Description
-cmap	Specifies a private color map. You cannot abbreviate this command line option.
-config *string* | URL or -elc *string* | URL	Initial configuration file to use. *string* specifies a path to an .elc file. URL specifies an .elc file located on a remote server accessible using the http or ftp protocol. The URL must be of one of the following forms: • http://*servername*[:*port*]/*path*/*filename*.elc • http://*username*:*password*@*servername*[:*port*]/*path*/*filename*.elc • ftp://*servername*[:*port*]/*path*/*filename*.elc • ftp://*username*:*password*@*servername*[:*port*]/*path*/*filename*.elc The optional port number :*port* only needs to be specified if the server is not using the default port. For information about event list configurations, see *Using Event List Configurations* on page 41.
-diagnostic	Displays extended diagnostic messages. *This option is only useful for detecting problems with the event list. Do not use this command line option unless you are advised by Micromuse Technical Support.*

Table B1: UNIX Event List (nco_event) Command Line Options (2 of 2)

Command Line Option	Description
`-dualwrite` *integer*	In a desktop ObjectServer architecture, indicates whether to enable or disable dual-write mode. Valid options are: • `0`—Disable dual-write mode • `1`—Enable dual-write mode The `-dualwrite` command line option overrides the `DualWrite` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.
`-help`	Displays help for this command and exits.
`-masterserver` *string*	In a desktop ObjectServer architecture, indicates the master ObjectServer to use. The `-masterserver` command line option overrides the `MasterServer` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.
`-networktimeout` *integer*	Specifies a time in seconds after which a login attempt or connection to the ObjectServer will time out, should a network failure occur. After the specified timeout period, the event list attempts to reconnect to the ObjectServer. If the connection is unsuccessful after a second timeout period, the event list will attempt to connect to a backup ObjectServer, where available. The default is 20 seconds.
`-nlw`	Suppresses the of display license expiry warnings.
`-password` *string*	Password to log in to the event list.
`-server` *string*	Name of the ObjectServer to which you are connecting.
`-uneditable`	Does not allow the event list configuration to be edited. When this option is used, the **Filter Builder** and **View Builder** buttons and the **Save** and **Save As** menu items are disabled.
`-username` *string*	Username to log in to the event list.
`-version`	Displays version information and exits.

Tip: The command line options for the event list can be abbreviated to their shortest unique abbreviation. For example, `-uneditable` can be abbreviated to `-un`.

Windows Command Line Options

The command line options for the Windows event list are shown in Table B2.

Table B2: Windows Event List (NCOEvent) Command Line Options (1 of 2)

Command Line Option	Description

`-config string | URL`
or
`-elc string | URL`
	Initial configuration file to use.
	string specifies a path to an `.elc` file.
	`URL` specifies an `.elc` file located on a remote server accessible using the http or ftp protocol. The URL must be of one of the following forms:
	• `http://servername[:port]/path/filename.elc`
	• `http://username:password@servername[:port]/path/filename.elc`
	• `ftp://servername[:port]/path/filename.elc`
	• `ftp://username:password@servername[:port]/path/filename.elc`
	The optional port number `:port` only needs to be specified if the server is not using the default port.
	For information about event list configurations, see *Using Event List Configurations* on page 41.

`-diagnostic`	Displays extended diagnostic messages. *This option is only useful for detecting problems with the event list. Do not use this command line option unless you are advised by Micromuse Technical Support.*
`-dualwrite integer`	In a desktop ObjectServer architecture, indicates whether to enable or disable dual-write mode. Valid options are: • `0`—Disable dual-write mode • `1`—Enable dual-write mode The `-dualwrite` command line option overrides the `DualWrite` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.
`-help`	Displays help for this command and exits.
`-masterserver string`	In a desktop ObjectServer architecture, indicates the master ObjectServer to use. The `-masterserver` command line option overrides the `MasterServer` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.

Table B2: Windows Event List (NCOEvent) Command Line Options (2 of 2)

Command Line Option	Description
`-networktimeout` *`integer`*	Specifies a time in seconds after which a login attempt or connection to the ObjectServer will time out, should a network failure occur. After the specified timeout period, the event list attempts to reconnect to the ObjectServer. If the connection is unsuccessful after a second timeout period, the event list will attempt to connect to a backup ObjectServer, where available. The default is 20 seconds.
`-password` *`string`*	Password to log in to the event list.
`-server` *`string`*	Name of the ObjectServer to which you are connecting.
`-username` *`string`*	Username to log in to the event list.
`-version`	Displays version information and exits.

B.2 Using the Transient Event List (nco_elct)

The nco_elct utility enables you to open a customized, transient event list. You can use nco_elct:

- Directly from the command line
- In a script
- As part of an event list tool

For example, you can use nco_elct to open an event list and apply a filter to view all critical alerts from a particular ObjectServer.

On UNIX platforms, nco_elct is held in the following location:

```
$NCHOME/omnibus/bin/nco_elct
```

On Windows, the name and location of the executable file is %NCHOME%\omnibus\desktop\NCOelct.exe.

This section describes the UNIX and Windows command line options that can be used when starting the transient event list from the command line.

If an instance of the event list (nco_event) is running, the nco_elct utility opens a new event list window. If there is no running instance of nco_event, the nco_elct utility starts one and displays the monitor box window and an event list window using the filter specified at the command line.

UNIX Command Line Options

The command line options for the UNIX nco_elct utility are shown in Table B3.

Table B3: nco_elct Command Line Options (1 of 2)

Command Line Option	Description
-cmap	Specifies a private color map.
-diagnostic	Displays extended diagnostic messages.
-dualwrite 1 | 0	In a desktop ObjectServer architecture, indicates whether to enable or disable dual-write mode. Valid options are: • 0—Disable dual-write mode • 1—Enable dual-write mode The -dualwrite command line option overrides the DualWrite field entry in the desktop ObjectServer master.national table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.

Table B3: nco_elct Command Line Options (2 of 2)

Command Line Option	Description
`-ffile` *string* | URL	Specifies the filter file to use for the transient event list. Event list filters have a `.elf` extension. **Note:** You can also retrieve remote `.elf` files using `http` and `ftp` protocols, as described for the `-config` command line option in Table B1 on page 112.
`-fmetric` *string*	Specifies a filter metric for the transient event list. This is ignored if you have specified an existing event list filter file using the `-ffile`.
`-fname` *string*	Specifies a name for the filter. This is ignored if you have specified an existing event list filter file using the `-ffile` option.
`-ftext` *string*	The SQL statement to use for filtering events. This is ignored if you have specified an existing event list filter file using the `-ffile` option.
`-help`	Displays help for this command and then exits.
`-masterserver` *string*	In a desktop ObjectServer architecture, indicates the master ObjectServer to use. The `-masterserver` command line option overrides the `MasterServer` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.
`-networktimeout` *integer*	Specifies a time in seconds after which a login attempt or connection to the ObjectServer will time out, should a network failure occur. After the specified timeout period, the event list attempts to reconnect to the ObjectServer. If the connection is unsuccessful after a second timeout period, the event list will attempt to connect to a backup ObjectServer, where available. The default is 20 seconds.
`-nlw`	Suppresses the of display license expiry warnings.
`-password` *string*	The password for the selected username. The `nco_elct` utility only accepts alphanumeric characters in the password. Special characters such as `#`, `/`, `>`, `@`, and `!` are not permitted.
`-server` *string*	Name of the ObjectServer to which you are connecting.
`-username` *string*	Username to log in to the event list.
`-version`	Displays version information and exits.
`-vfile` *string*|*URL*	Opens a transient event list using a specified event list view. Event list views have an `.elv` file extension. **Note:** You can also retrieve remote `.elv` files using `http` and `ftp` protocols, as described for the `-config` command line option in Table B1 on page 112.

Windows Command Line Options

The command line options for the Windows `NCOelct.exe` utility are shown in Table B4.

Table B4: NCOelct.exe Command Line Options (1 of 2)

Command Line Option	Description
`-diagnostic`	Displays extended diagnostic messages.
`-dualwrite 1 | 0`	In a desktop ObjectServer architecture, indicates whether to enable or disable dual-write mode. Valid options are: • `0`—Disable dual-write mode • `1`—Enable dual-write mode The `-dualwrite` command line option overrides the `DualWrite` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.
`-elf` *string* | *URL*	Specifies the filter file to use for the transient event list. Event list filters have an `.elf` file extension. **This is a required option.** You can use the `-params` command line option to specify filter parameters in addition to those specified in the `.elf` file. See `-params`, in this table. **Note:** You can also retrieve remote `.elv` files using `http` and `ftp` protocols, as described for the `-config` command line option in Table B1 on page 112.
`-elv` *string* | *URL*	Specifies the event list view file to use for the transient event list. Event list views have an `.elv` file extension. **Note:** You can also retrieve remote `.elv` files using http and ftp protocols, as described for the `-config` command line option in Table B1 on page 112.
`-help`	Displays help for this command and then exits.
`-masterserver` *string*	In a desktop ObjectServer architecture, indicates the master ObjectServer to use. The `-masterserver` command line option overrides the `MasterServer` field entry in the desktop ObjectServer `master.national` table. For information about desktop ObjectServer architectures, see the *Netcool/OMNIbus Installation and Deployment Guide*.
`-networktimeout` *integer*	Specifies a time in seconds after which a login attempt or connection to the ObjectServer will time out, should a network failure occur. After the specified timeout period, the event list attempts to reconnect to the ObjectServer. If the connection is unsuccessful after a second timeout period, the event list will attempt to connect to a backup ObjectServer, where available. The default is 20 seconds.

Table B4: NCOelct.exe Command Line Options (2 of 2)

Command Line Option	Description
`-params` *string*	Use to specify a string to replace a single placeholder in the `filter_text` parameter of the filter file. This placeholder must begin with the `@` symbol (for example, `@FilterText`). See *Using nco_elct Example - Command Line or Script* on page 119 and *Using nco_elct Example - In a Tool* on page 120.
`-password` *string*	The password for the selected username. The `nco_elct` utility only accepts alphanumeric characters in the password. Special characters such as `#`, `/`, `>`, `@`, and `!` are not permitted.
`-server` *string*	The ObjectServer to which you are connecting.
`-username` *string*	The username to connect as.
`-version`	Displays version information and exits.

Using nco_elct Example - Command Line or Script

The following examples show `nco_elct` commands for both UNIX and Windows platforms. These examples can be run directly from the command line or from a script.

Example nco_elct Command on UNIX

The following command creates a transient event list from the NCOMS ObjectServer using the `default.elv` view file. Only events from the node `wombat` will appear in the event list.

```
$NCHOME/omnibus/bin/nco_elct -server NCOMS -username root -password "" -vfile
"$NCHOME/omnibus/desktop/default.elv" -ftext "( Node = \'wombat\' )"
```

Example nco_elct Command on Windows

The following command creates a transient event list from the NYC ObjectServer using the `lview.elv` view file and the filter file `tool.elf`.

```
%NCHOME%\omnibus\desktop\NCOelct.exe -server NYC -username root -password "" -elv
"%NCHOME%\omnibus\ini\lview.elv" -elf "%NCHOME%\omnibus\ini\tool.elf" -params "wombat"
```

The `tool.elf` file referenced in the above `nco_elct` command is shown below:

```
filter_name = 'ToolFilter';
filter_text = '( Node = \'@NodeName\')';
filter_metric = 'avg(Severity)';
# End of file
```

When you run the command or script, the string `wombat` that follows `-params` option replaces the `@NodeName` placeholder in the `tool.elf` file, so that only events from the node `wombat` appear in the event list.

Using nco_elct Example - In a Tool

The following examples show how `nco_elct` is used in the **Show Related FE Node** and **Show Related FE Node (Windows)** tools, which are shipped with Netcool/OMNIbus. For information about creating tools, see the *Netcool/OMNIbus Administration Guide*.

Note: In a dual server desktop (DSD) configuration, use the `%desktopserver` internal value in place of the `%server` value shown in the following examples. This is to ensure that the ObjectServer sends its message to the correct client.

Example nco_elct Command Used In the Show Related FE Node Tool

```
$NCHOME/omnibus/bin/nco_elct -server "%server" -username "%username" -password
"%password" -vfile "$NCHOME/omnibus/desktop/default.elv" -ftext "( RemoteNodeAlias !=
'' and RemoteNodeAlias = '@LocalNodeAlias' ) or ( LocalNodeAlias != '' and
LocalNodeAlias = '@RemoteNodeAlias') or Node = '@RemoteNodeAlias' or RemoteNodeAlias =
'@Node'"
```

Example nco_elct Command Used In the Show Related FE Node Tool (Windows)

```
"$(NCHOME)/omnibus/desktop/NCOelct.exe" -server "%server" -username "%username"
-password "%password" -vfile "$(NCHOME)/omnibus/ini/default.elv" -elf
"$(NCHOME)/omnibus/ini/tool.elf" -params "( RemoteNodeAlias != \\'\\' and
RemoteNodeAlias = \\'@LocalNodeAlias\\' ) or ( LocalNodeAlias != \\'\\' and
LocalNodeAlias = \\'@RemoteNodeAlias\\') or Node = \\'@RemoteNodeAlias\\' or
RemoteNodeAlias = \\'@Node\\'"
```

The `tool.elf` file referenced in the above `nco_elct` command is shown below:

```
filter_name = 'ToolFilter';
filter_text = '@FilterText';
filter_metric = 'avg(Severity)';
# End of file
```

The `NCHOME` environment variable for Windows is expressed differently in a tool than the normal usage (`%NCHOME%`). This is because the variable is interpreted and resolved by the built-in tools parser and not by the Windows operating system.

When you run the tool from the event list, the entire string that follows `-params` option replaces the `@FilterText` placeholder in the `tool.elf` file. The `@LocalNodeAlias`, `@RemoteNodeAlias`, and `@Node` placeholders are replaced in the `-params` string by values from the currently selected event in the event list.

B.3 SQL Commands and Variable Expressions in Tools, Automations, and Transient Event Lists

You can use the following SQL commands and variable expressions to retrieve information from a running event list, the current event, or the operating system environment. You can use these expressions when creating a tool, trigger, or SQL procedure, or in parameters passed to a transient event list.

Table B5: SQL Commands and Variable Expressions in Tools, Triggers, Procedures, and the Transient Event List (1 of 3)

Command/Variable Expression	Button	Usage
select_command *insert_command* *update_command* *delete_command* *use_command* *service_command*		Click this button to select an SQL command from the pop-up menu. After selecting a command, the statement window is displayed. The available fields on the statement window change depending on the selected command, as described below: **Select**—In the **From** area, select the database and table on which to execute the command. Then, choose the table columns to select. **Insert**—In the **From** area, select the database and table on which to execute the command. Then, select the table columns in which to insert values. For each selected column, enter the value to insert. For `insert` statements, you must include the primary key. Primary keys are indicated with an asterisk (*). **Update**—In the **From** area, select the database and table on which to execute the command. Then, select the table columns to update. For each selected column, enter the new value. For `update` statements, you must *exclude* the primary key. Primary keys are indicated with an asterisk (*). **Note:** For inserts and updates to the `alerts.status` table, any existing conversions appear in the drop-down lists. **Delete**—Select the table to delete. **Use**—Select the database to use. **Service**—Select a service name and a value. Values can be **Good**, **Marginal**, or **Bad**.
column_name *@column_name*		Click this button to select a table column name. When prefaced with the `@` symbol, the column name is substituted with the corresponding event list row value during execution. This can be used in an SQL query or restriction filter, such as: `RemoteNodeAlias = '@LocalNodeAlias'`
conversion_name		Click this button to select from a list of available conversions. For information about conversions, see the *Netcool/OMNIbus Administration Guide*.

Table B5: SQL Commands and Variable Expressions in Tools, Triggers, Procedures, and the Transient Event List (2 of 3)

Command/Variable Expression	Button	Usage
N/A		Click this button to check the validity of SQL syntax.
`%`*`internal_value`*		Click this button to select from a list of internal values known to the current instance of the event list. For example, to run transient event list and specify the ObjectServer to connect to using the `-server` command line option, specify: `-server "%server"` The following internal values are available: **%display**—The current display running the application (UNIX only). **%password**—The password of the user running the application. **%encrypted_password**—The encrypted password of the user running the application (UNIX only). **%server**—The name of the ObjectServer to which the tool is currently connected. **%desktopserver**—The name of the desktop ObjectServer to which the tool is currently connected. **%uid**—The ObjectServer user identifier of the user running the application. **%username**—The ObjectServer username of the user running the application. You can use internal values in tools and as a parameter to the transient event list.
`$prompt.`*`prompt_name`*		Click this button to select the name of the prompt to use when querying the user. For example, to run the transient event list and prompt the user to enter their password using the `Password` prompt, specify: `-password $prompt.Password` You can use prompts in tools and as a parameter to the transient event list.

Table B5: SQL Commands and Variable Expressions in Tools, Triggers, Procedures, and the Transient Event List (3 of 3)

Command/Variable Expression	Button	Usage
`$selected_rows.column_name`	N/A	List of values of *`column_name`* for all selected alerts. For example: `update alerts.status set TaskList = 0 where Serial in ($selected_rows.serial)` Do not use this syntax if you select the Execute for each selected row check box. Instead, select the check box if the change is different for each alert.
`$(environment_variable)`	N/A	Indicates an environment variable. For example, when you run a transient event list, you can specify the filter file using the `-elf` command line option, such as: `-elf "$(NCHOME)/omnibus/ini/tool.elf` To run the tool on Windows, enclose the environment variable, such as `$(NCHOME)`, in double quotes. If there is space in the path name, it will not be interpreted correctly.

Tip: You can click the **To Clipboard** button to copy the command in a text format to the clipboard.

B.4 Changing the Date Format in the Event List on UNIX

The date format in the event list is defined by the NCO_TIME environment variable. The default format is mm/dd/yy hh:mm:ss; for example, 11/12/03 20:13:36. This format is determined by the POSIX strptime function.

To set the default format, using csh, enter the following command:

```
setenv NCO_TIME %m/%d/%y %H:%M:%S
```

To set the default format, using ksh or sh, enter the following command:

```
NCO_TIME=%m/%d/%y %H:%M:%S;export NCO_TIME
```

See the man page for strptime for details of the conversion specifiers that are available.

Note: Changing the date format in the event list does not affect the alert timestamp.

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Contact Information

Corporate

Region	Address	Telephone	Fax	World Wide Web
USA	Micromuse Inc. (HQ) 650 Townsend Street San Francisco CA 94103 USA	1-800-Netcool (638 2665) +1 415 568 9800	+1 415 568 9801	http://www.micromuse.com
Europe	Micromuse Ltd. Disraeli House 90 Putney Bridge Road London SW18 1DA United Kingdom	+44 (0) 20 8875 9500	+44 (0) 20 8875 9995	http://www.micromuse.co.uk
Asia-Pacific	Micromuse Ltd. Level 25 77 St Georges Terrace Perth WA 6000 Australia	+61 (0) 8 9213 3400	+61 (0) 8 9325 5030	http://www.micromuse.com.au

Technical Support

Region	Telephone	Fax
USA	1-800-Netcool (800 638 2665) +1 415 568 9800 (San Francisco)	+1 415 568 9801
Europe	+44 (0) 20 8877 0073 (London, UK)	+44 (0) 20 8875 0991
Asia-Pacific	+61 (0) 8 9213 3470 (Perth, Australia) +10 800 852 1012 (North China) +10 800 152 1012 (South China)	+61 (0) 8 9486 1116

Online

Team	E-Mail	World Wide Web
Licensing	Temporary Licenses: temp.licensing@micromuse.com Permanent Licenses: perm.licensing@micromuse.com	support.micromuse.com/helpdesk/licenses
Support	support@micromuse.com	support.micromuse.com