

This document is an excerpt from an unreleased version of the *Supervisor User's Guide*, a manual for Supervisor, a GUI tool developed for use with the Mercury Computer Systems' native development environment. I include it here as an example of my ability to document a GUI application. There are several graphic elements that had not yet been standardized by the Technical Publications Department at Mercury, and they remain unstandardized in this excerpt.

DRAFT – FOR REVIEW ONLY

2

■ *Getting Started*

Introduction	4
Starting Up Supervisor	4
Choosing a Runtime Host	7
About the Main Window	8
Supervisor Toolbar	9
Status Bar and Progress Bar	9
Basic Commands and Navigation	10
About Locking	11
Locking and Unlocking a Row	11
Locking a View	12
Using the System Tree	13
Comparing Different Elements of the Runtime Host	16
Using the Views	16
Changing Views	17
CE View	17
Cluster View	18
Process View	18
Exiting Supervisor	20
Quick Reference to Supervisor Menus	20
File Menu	20
Edit Menu	20
View Menu	21
Process Menu	21
Help Menu	21
Context-Sensitive Pop-Up Menus	21

Disconnecting from a Runtime Host System 23

Opening More Supervisor Windows 23

Introduction

This chapter explains how to start up Supervisor, and provides an overview of its basic elements, menus, and commands.

Supervisor provides a “window” into a Mercury-based system by displaying the activity of a subset of CEs at several levels of detail. You can also use Supervisor to suspend, resume, kill, and debug individual processes on the runtime Mercury host.

Starting Up Supervisor

You must run Supervisor from a *development host system*, which is the system on which you installed the Mercury DEVOS package (such as DEVNT). You will use Supervisor to connect to a *runtime host system*, which is your Mercury-based host system. To avoid confusion, the *Mercury system* will always be referred to as the *runtime host system* or the *Mercury system*. You can install your development environment, including Supervisor, on a runtime host system, which combines the development host and the runtime host on a local host system.

Note: Mercury does not support using Exceed to run Supervisor remotely on a Solaris-based development from a Windows environment. However, if you choose to use Exceed, make sure you use version 7.0 and above. Earlier versions have shown intermittent problems with, among other applications.

■ **Before starting up Supervisor:**

1. Make sure `rspmc` is running on the runtime host system.
2. If the runtime host system is using VxWorks instead of MC/OS, start the Tools Server (`tssmc`) on the runtime host, and leave it running in the background. Refer to the VxWorks documentation for more information about running background processes in its environment.
3. Make sure that `configmc init` has been successfully executed on the runtime host system and it has built the configuration database.

Do not use the `-nbi` switch, and do not issue a `configmc reset` command while Supervisor is running. For details about `configmc`, see the *Mercury System Manager's Guide*.

■ **To start Supervisor and connect to a runtime host system:**

1. For the Windows NT and Windows 2000 platforms:
 - From the Start menu, choose Run... and browse to the directory in which you installed `Supervisor.exe`. Click OK to launch the application.

Note:

You can create a desktop shortcut for Supervisor, or you can add it to the Start > Programs menu. Refer to your Windows documentation for more information.

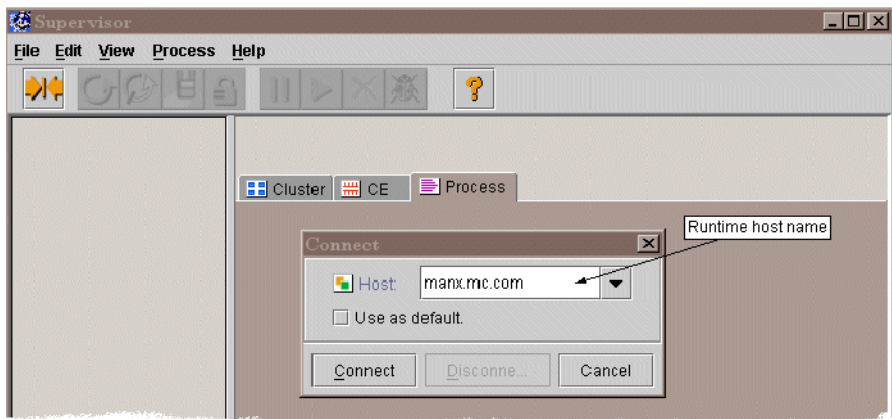
2. For the Solaris platform:

- At the command prompt, enter `supervisor &`.

Note that the installation program modified your path to include Supervisor, so there is no need to change directories.

Supervisor displays an empty main window and immediately opens the Connect dialog box, as shown in [Figure 2-1](#):

Figure 2-1. Initial Window



3. Enter the name or IP address of the runtime Mercury system and click Connect.

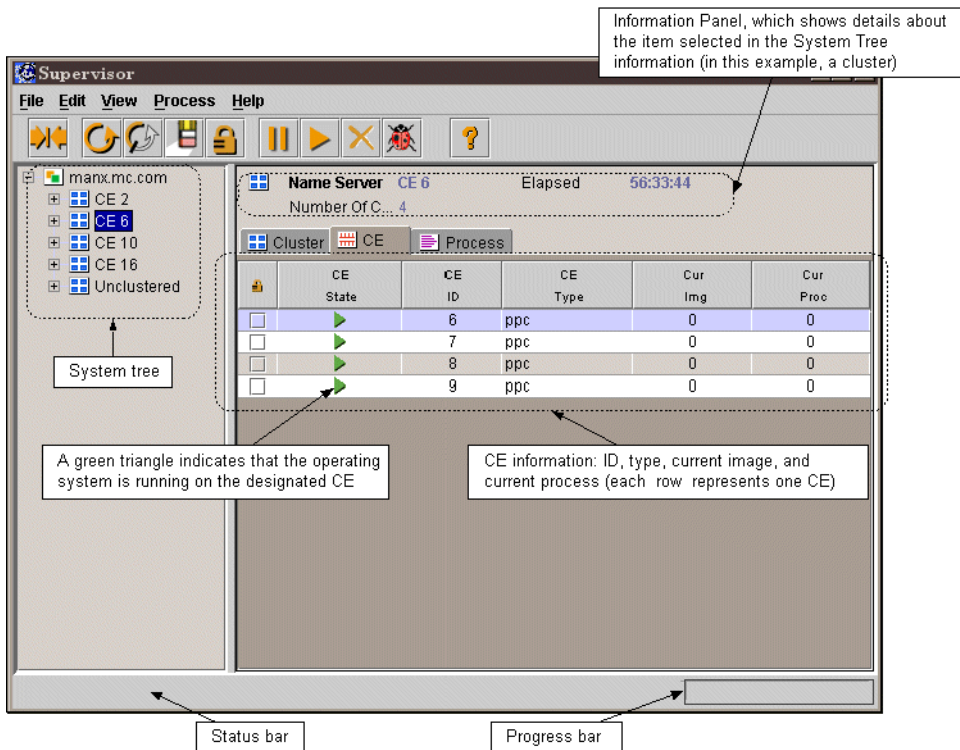
For example:

- IP address – **138.36.123.521**
- Full system name – **system1.mc.com**
- Short system name (from within a network) – **system1**

Note: If you close the Connect dialog box before you make a connection to a runtime Mercury system, most of Supervisor will be unavailable. You will only be able to make changes to the fields in the Options dialog box, the User Preferences dialog box, and/or the Customization dialog box.

When the first connection is established, Supervisor displays the runtime system tree, expanded to CE level, in the left pane of the main window. The right pane displays information about the runtime host system in the CE View, as shown in [Figure 2-2](#).

Figure 2-2. CE View at start-up



The last View left open before exiting Supervisor is stored with the user's profile. It becomes the starting View for the next Supervisor session for that user.

Choosing a Runtime Host

The first time you use Supervisor, enter the name of the runtime host system by typing it into the Host field, as described in the previous section. Supervisor stores the names of up to six runtime hosts in a drop-down list attached to the Host field. Optionally, you can set up a default runtime host system that Supervisor will display at startup.

If there is no default runtime host system set and this is not the first Supervisor session, the Host field is pre-filled with the runtime host system from the most recent connection. You can enter a new runtime host, or choose from the drop-down list as it accumulates data.

If you want to connect to a different runtime host during a Supervisor session, you must disconnect from the active runtime host as described in [“Disconnecting from a Runtime Host System”](#), before you can connect to another runtime host.

■ To set a default runtime host system:

1. Click the Connect button in the toolbar or choose File > Connection... .

The Connect dialog box appears.

2. Enter the name of the runtime host system, or choose its name from the drop-down list, then click the Use as default checkbox.

All subsequent Supervisor sessions will fill the Host field of the Connect dialog box with the default runtime host.

Keep in mind that when you open a new Supervisor window, as explained in [“Opening More Supervisor Windows,”](#) it is part of the same Supervisor session, and is connected to the same runtime host.

Note:

If there is no default runtime host set, and `MC_remote_host` is set on the development host, Supervisor fills the Host field with the value for `MC_remote_host`.

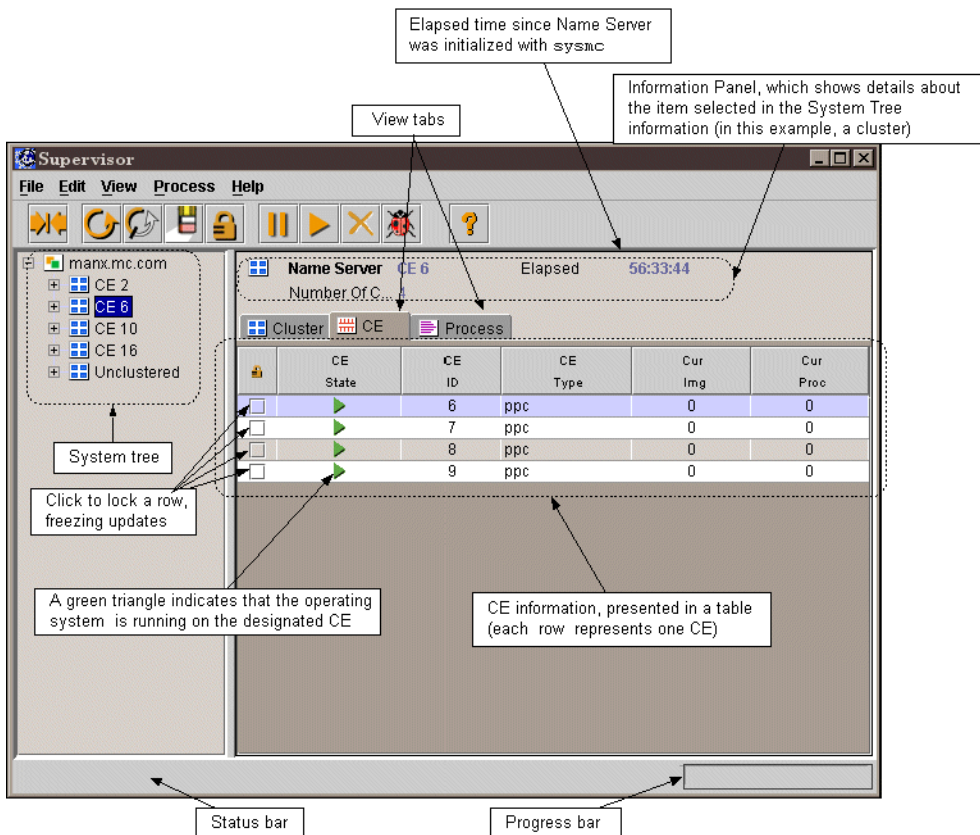
A default host configured with the Connect dialog box takes precedence over any previous value of `MC_remote_host`.

About the Main Window

The Supervisor Main Window displays information about the runtime host system at different levels of detail, depending on which item is selected, which view you choose, and how you have configured the view. This section explains the common elements of the Main Window that are present in most configurations of most views. For detailed information about customizing views, refer to [Chapter 3](#).

The first time you use Supervisor, all its views are set to their default appearances. When you have successfully connected to a runtime host system, Supervisor displays its information in the CE View. [Figure 2-3](#) shows the CE View with the system tree expanded to cluster level, with the second cluster selected.

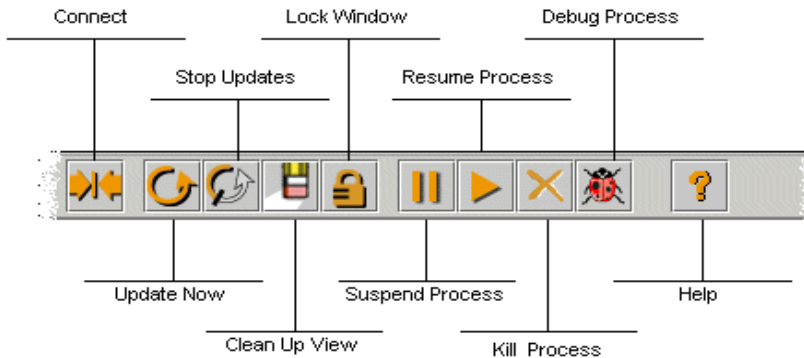
Figure 2-3. The Supervisor Main Window



Supervisor Toolbar

The toolbar provides quick access to frequently-used commands:

Figure 2-4. Supervisor Toolbar



By default, it is visible, but you can toggle the display of the toolbar by choosing View> Toolbar.

If you leave the cursor pointing to a Toolbar button for a few seconds, Supervisor displays Tool Tips:



Status Bar and Progress Bar

The Status Bar and the Progress Bar are located at the bottom of the Main Window.

The Status Bar describes any active network-related operation, such as connecting to the runtime system, or updating the table of information. If the View is locked, it is noted in the Status Bar, since a locked Window cannot show any network-related activities. If there is no active operation, the Status Bar remains blank.

The Progress Bar displays information about any active operation, in words, and with a colored horizontal bar that is filled in as the operation completes. If there is no active operation, the Progress Bar remains blank.

For example, as shown in Figure 2-5, while the displayed data is being updated with new information from the runtime host, the Status Bar displays the message

Updating... and the Progress Bar tracks the percentage of the operation that has completed.

Figure 2-5. Status Bar and Progress Bar

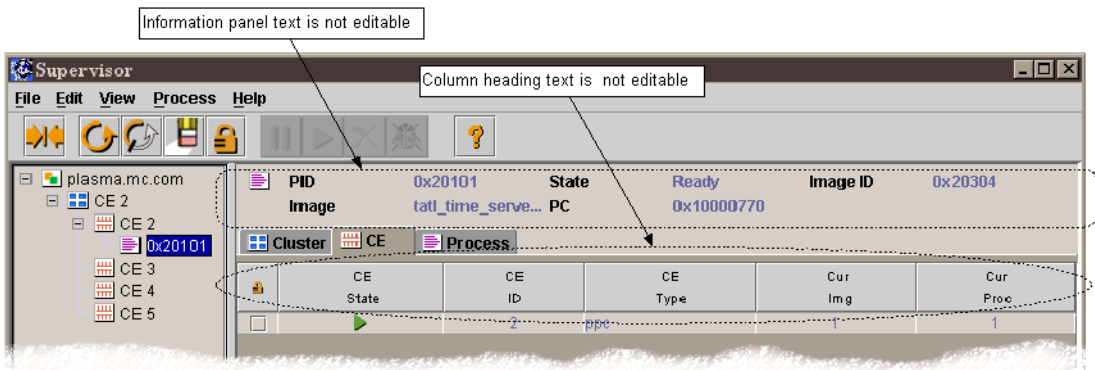


Basic Commands and Navigation

The left pane in Supervisor's main window shows the Mercury architecture model for the runtime host system, displayed as a tree. Use the system tree to control what is displayed in the right pane. The right pane is a table of detailed information about the item selected in the left pane.

Views, and View customizations, only affect the appearance of the right pane. You can control which columns are displayed in the table, and whether the Information panel is displayed or hidden, but you cannot edit the text of these elements. (For details about customizing Views, see [Chapter 3](#).)

Figure 2-6. Elements of a View



The background colors of table rows are alternately dark and light. Selected rows change to a third color. The exact colors used depend on your system configuration and on whether you have reset your preferences, as described in “[Choosing Display Colors](#)” on page 28.

■ To select multiple rows in the table:

Use Shift-Click to select contiguous rows. Click on one row, then Shift-Click on the last row of the desired range.

Use Ctrl-Click to select non-contiguous rows.

The information in the right pane is updated periodically when Supervisor retrieves new data from the runtime host system. You can control how often Supervisor updates data, force an update, stop an update, or lock part or all of the table so that it remains static.

About Locking

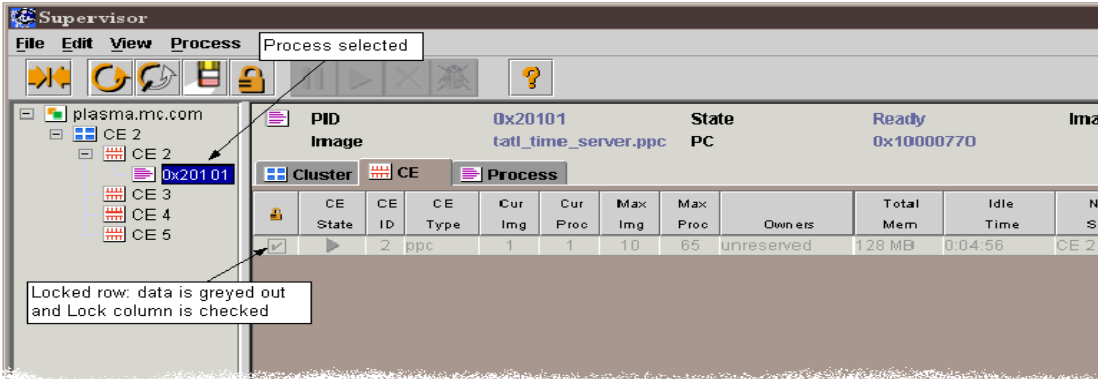
Locking a row or View means that its data is not refreshed when Supervisor makes an update call to the runtime system and retrieves new data. For example, if runtime host terminates a process and reclusters its CEs but Supervisor does not display those changes if the corresponding row or View is locked. You can issue suspend, resume, kill, or debug commands on processes that are part of a locked row or View, but Supervisor cannot display the command's results until the row or View is unlocked and updated.

Locking and Unlocking a Row

Locking a row in the table freezes the data in that row. All other, unlocked, rows in the table are refreshed when Supervisor updates the display.

For example, if you are in the CE View with a process selected in the system tree, you can lock the process by clicking in the Lock column of the its row, as shown in [Figure 2-7](#):

Figure 2-7. Locking a Row



The row remains locked, even if you select a different element in the system tree.

■ **Other ways to unlock a row:**

- Click in the Lock column to un-check it.
- Click on the row to select it, then choose Edit > Unlock Item.
- Click on the row to select it, then right-click to bring up the context-sensitive pop-up menu, then choose Unlock.

Locking a View

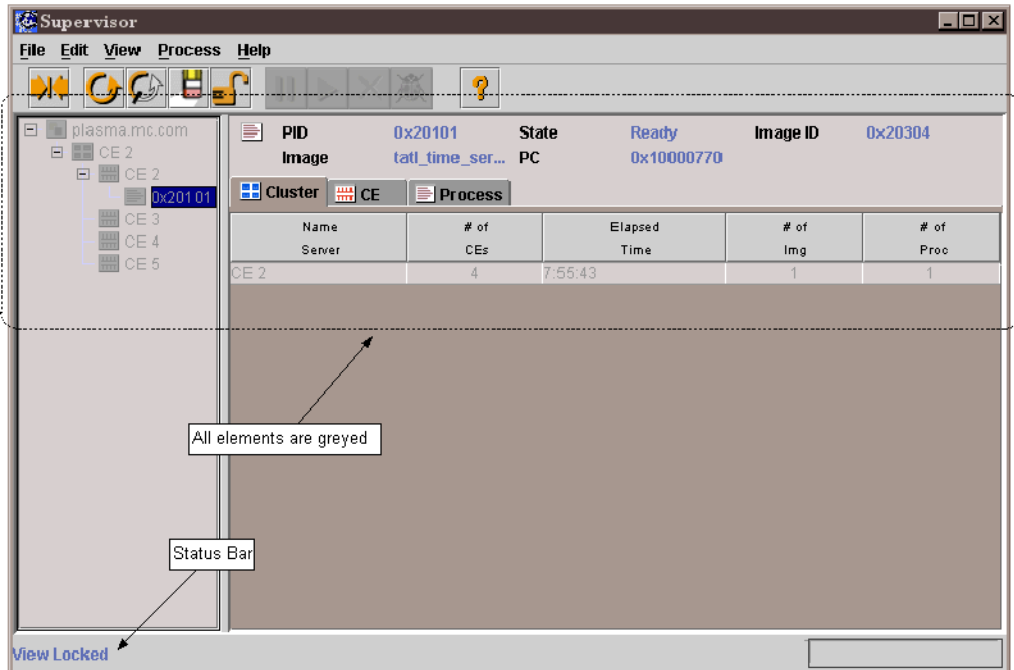
When you lock a View, all rows of the table and the Information panel are frozen, and the data is not updated. The system tree and the table are greyed, as shown in [Figure 2-8](#). You can change Views, but you cannot use the system tree to change the items displayed in the table. The Lock View commands are toggles; whenever you use them, they change the View to the opposite state.

■ **To lock/unlock a View:**

Click the Lock icon in the Toolbar.

Choose View > Lock View.

Figure 2-8. A Locked View

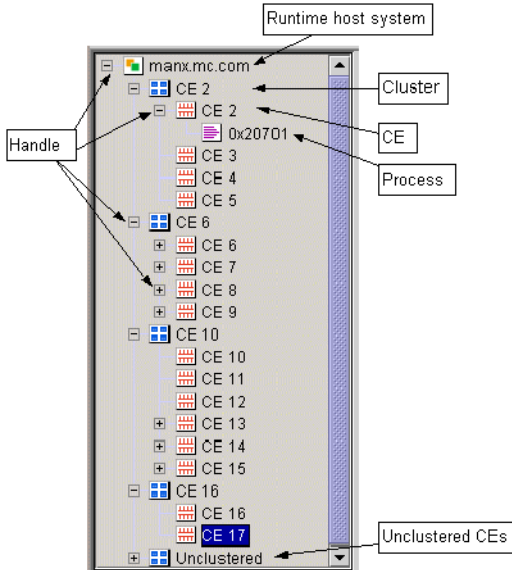


Using the System Tree

The system tree displays the Mercury architectural model of the runtime host system. You can expand and contract the tree by clicking on an item's handle, as

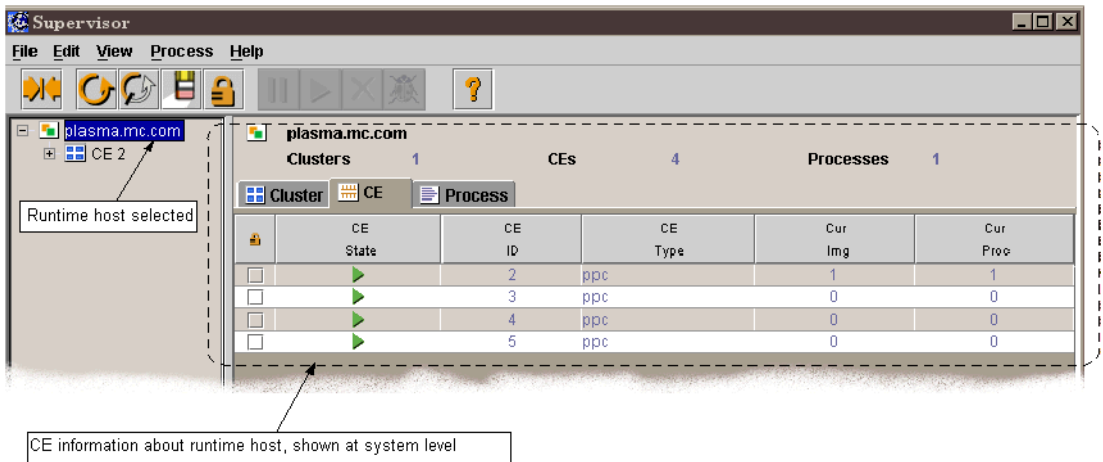
shown in [Figure 2-9](#). The detail shown in the right pane table corresponds the item selected in the system tree.

Figure 2-9. The System Tree



When you select an item in the system tree, Supervisor displays information about the item in a table in the right pane, as shown in [Figure 2-10](#).

Figure 2-10. CE View of Runtime Host



- **To de-select an item:**

Click on another item to select it.

An item is always selected in the system tree.

- **To expand the system tree:**

Click the box-and-cross handle to the left of the item, or double-click the item, which also selects it.

The right pane displays information at the level of the selected item.

- **To contract the system tree:**

Click the box-and-dash handle to the left of the item, or double-click the item, which also selects it.

The right pane displays information at the level of the selected item.

Select this in the system tree...	to show details about...
<i>RuntimeHost ID</i>	<i>The Runtime Host</i> : how many clusters are configured, how many CEs are present, how many processes are running, as shown in Figure 2-10 .
a cluster	<i>The Cluster</i> : ID of the Name Server on the runtime host, the number of CEs in the selected cluster, and the time elapsed since the Name Server was initialized
a CE	<i>The CE</i> : its ID number, the type of processor, its state, the number of processes running, and the number of images loaded
a process	<i>The Process</i> : its ID number, its state, the image's ID number, the image's file name (but not its full path), and the current program counter value

Comparing Different Elements of the Runtime Host

Only one selection in the left pane can be displayed in the right pane. To compare different elements of the Mercury model for the same runtime host system, open another Supervisor window and navigate to the appropriate element. You can place the open windows side by side on your screen for easy visibility. You can open two windows that display the same process or CE in different Views.

Note that selecting objects or customizing the display affects only the Supervisor window in which you issue the commands. No other open Supervisor windows are changed in any way.

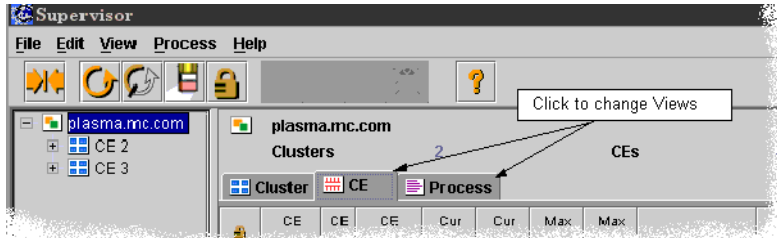
Using the Views

Each View organizes information about the runtime host system to emphasize one level of the system hierarchy: Clusters, CEs, or Processes. The exact display of this information depends on how the View has been customized, and on which item has been selected in the system tree.

Changing Views

To change to a different View, click the appropriate tab, as shown in [Figure 2-11](#):

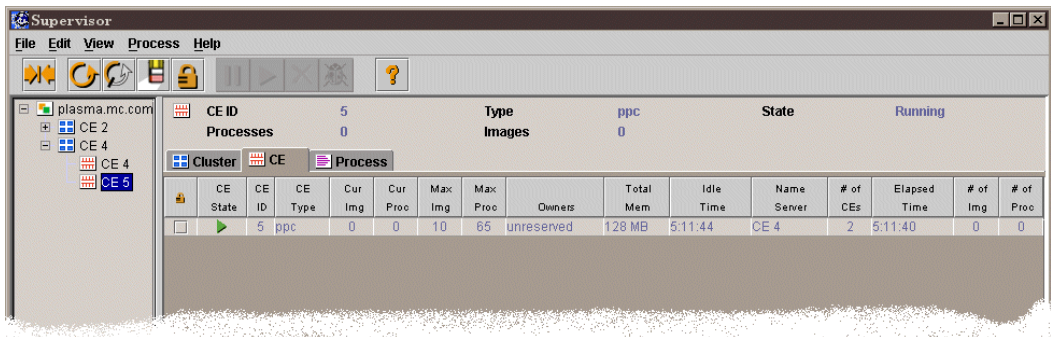
Figure 2-11. View Tabs



CE View

The CE View shown in [Figure 2-12](#), displays detailed information about the selected CE.

Figure 2-12. CE View, CE selected



To display details about...

In the system tree, select the...

All CEs in the runtime host system

Runtime host system

All CEs in a specific cluster

Cluster

A specific CE

CE

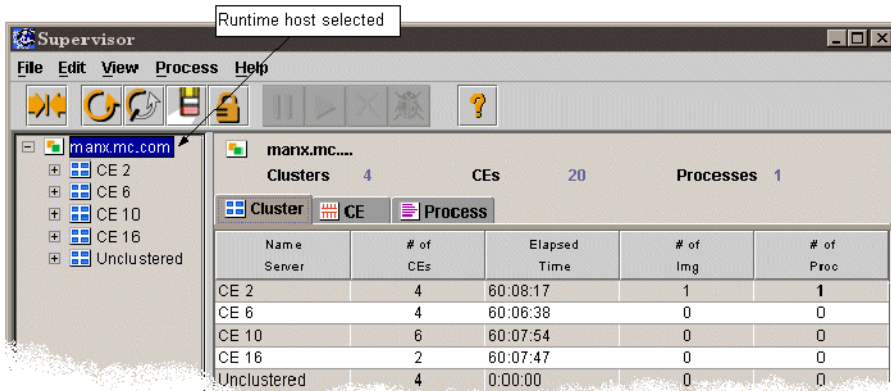
The host CE of a specific process

Process

Cluster View

The Cluster View shown in [Figure 2-13](#) displays detailed information about the runtime host configuration.

Figure 2-13. Cluster View, Runtime Host Selected



To display information about...	In the system tree, select the...
Its host cluster	Process
Its host cluster	CE
The selected cluster	Cluster
All clusters in the system	Runtime host system

Process View

[Figure 2-14](#) and [Figure 2-15](#) show how the Process View displays different information when the runtime host is selected, and when a cluster is selected.

Figure 2-14. Process View, Host Selected

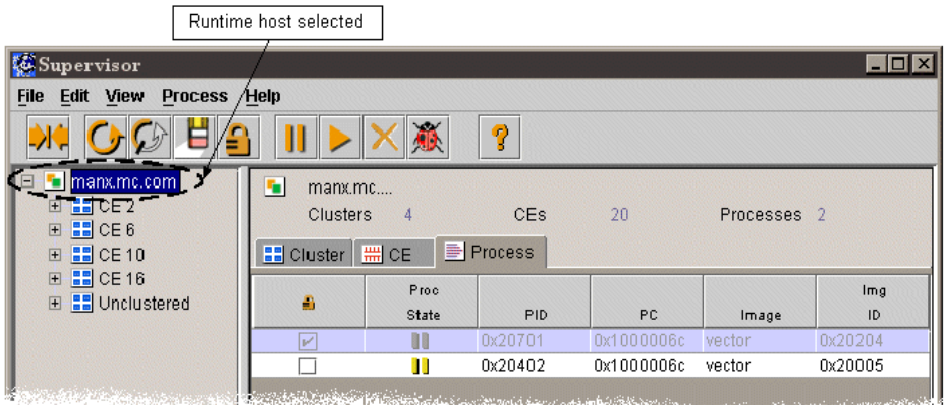
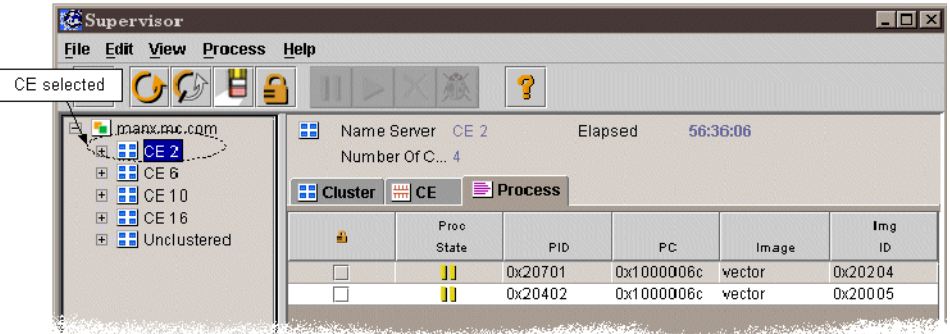


Figure 2-15. Process View, Cluster Selected



To display information about...	In the system tree, select the...
The selected process	process
All processes running on the CE	CE
All processes running on the cluster	cluster
All processes running on the runtime host system	runtime host system

Exiting Supervisor

- **To close the active window:**

Choose File > Close.

If this is the only open window, this command also exits Supervisor.

- **To exit Supervisor:**

Choose File> Exit.

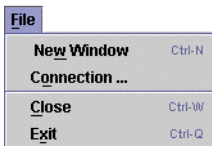
Note: If the active window is the only open window, File > Close exits the application.

When you exit Supervisor, it saves your preferences and View customizations. If you have several open Supervisor windows with different settings, it saves your preferences and customizations from the window from which you issued the Exit command (or from the last window you close).

Quick Reference to Supervisor Menus

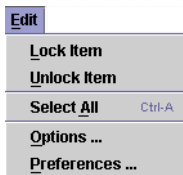
The Supervisor menu bar contains these menus: File, Edit, View, Process, and Help. The following sections show each menu (with keyboard shortcuts and mnemonics for its commands) with brief descriptions of its commands.

File Menu



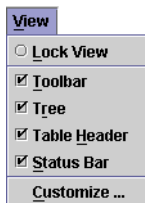
Use the commands in the File menu to open and close Supervisor windows, connect to and disconnect from a runtime host, and to exit Supervisor.

Edit Menu



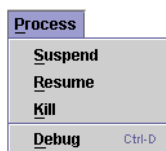
Use the commands in the Edit menu to control the update interval, to set preferences for screen appearance and utilities, and to select all items in a View. You can also lock and unlock a selected item; a locked item is not updated when Supervisor refreshes the data from the runtime host.

View Menu



Use the commands in the View menu to toggle the display of elements in the Supervisor Main Window, to customize any of the three views, and to lock and unlock Views.

Process Menu



Use the commands in the Process menu to manage one or more selected processes, or to launch the MULTI debugger. Suspend, Resume, Kill, and Debug all take precedence over any update calls to the runtime system.

Help Menu



Use the commands in the Help menu to view more information about Supervisor. If you selected an HTML browser in the Edit > Preferences dialog box, or if your development host has a default browser configured, Help > Contents opens the browser and the online version of this *User's Guide*. Help > About displays information about this release and version of Supervisor.

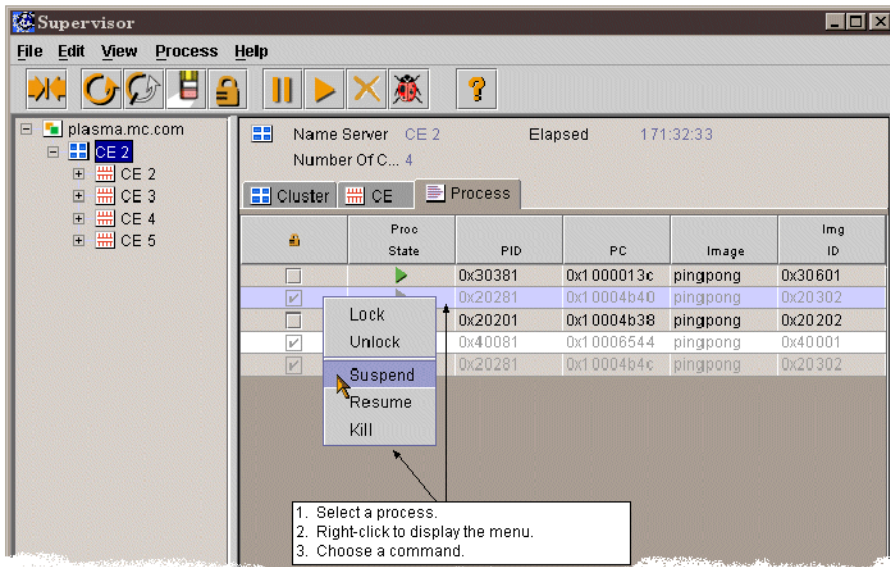
Context-Sensitive Pop-Up Menus

Right-clicking on a selected item in the Main Window typically displays a context-sensitive pop-up menu, as shown in [Figure 2-16](#) and [Figure 2-17](#). These pop-up menus provide another way to issue Supervisor commands.

You can right-click on a selected element in the system tree or on a row in the table. Only the commands that can operate one entity at the level of the selected element are active; the rest are greyed. For example, if you right-click on a cluster, all the commands in the pop-up menu are greyed. There are no Supervisor commands that treat a cluster as a single entity.

Since an object cannot be simultaneously selected in the system tree and in the right pane, the scope of the command is unambiguous. The command affects the only the selected item.

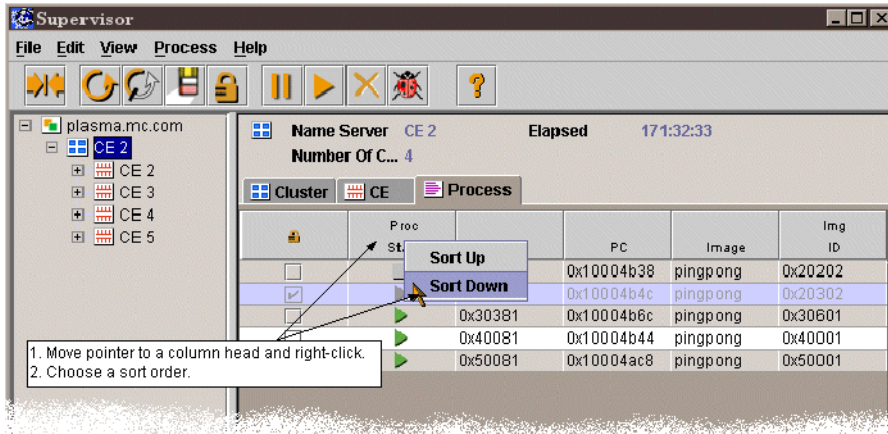
Figure 2-16. Context-sensitive pop-up menu



You can also use a pop-up menu to sort the information in a table with respect to a selected column, as shown in [Figure 2-17](#). Only the active Supervisor window is

affected by this command. Any other open Supervisor windows remain untouched.

Figure 2-17. Context-sensitive pop-up Sort menu



Disconnecting from a Runtime Host System

- To disconnect from a runtime host system, do one of the following:

Choose File > Connection... and click Disconnect in the Connection dialog box.

Click the Disconnect button in the Toolbar.

Opening More Supervisor Windows

- To open a new Supervisor window:

Choose File> New Window or type Ctrl-N.

An identical Supervisor window appears on top of the original one. They are connected to the same runtime host, but otherwise behave independently.

The new window is opened with the same configuration as the original window, but any new settings or changes in locked/unlocked elements affect only the window in which they are issued.