



Troubleshooting Guide

Solstice Enterprise Manager™ 4.1

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Preface

The *Troubleshooting Guide* provides information on how to resolve situations you might encounter with Solstice Enterprise Manager™ (Solstice EM) software. This guide provides problem definitions, their likely cause(s), and solutions.

For information on how to use the Solstice EM products for network administration or application development, see *Managing Your Network* or *Developing C++ Applications*, respectively.

Who Should Use This Guide

This guide is directed towards users encountering problems while using Solstice EM. It is not intended to serve as a troubleshooting guide for general network difficulties.

Before You Read This Guide

This guide is oriented primarily towards resolving Solstice EM problems, it does not contain detailed procedures for performing typical Solstice EM tasks. If you have just acquired Solstice EM or are trying to perform a common task, see the guides listed in “Related Books” on page ix for relevant information.

How This Guide Is Organized

This guide is divided into chapters containing specific categories of identified problems. Each chapter includes a description of the identified problem along with step-by-step procedures for solving it.

Chapter 1 “Introduction to Troubleshooting Solstice EM” is an overview of troubleshooting concepts and procedures.

Chapter 2 “Troubleshooting Installation and Startup Problems” describes how to solve identified problems with installing, configuring, and starting up Solstice EM software.

Chapter 3 “Troubleshooting Problems With Solstice EM Tools” describes how to solve known problems with specific Solstice EM applications.

Chapter 4 “Troubleshooting Network Administration Problems” describes how to solve known problems involved with network administration tasks through Solstice EM.

Chapter 5 “Troubleshooting Network Protocol Problems” describes how to solve known problems associated with using Solstice EM with different network protocols, including CMIP and RPC.

Chapter 6 “Database Error Messages” identifies Solstice EM database error messages and explains how to respond to each.

Chapter 7 “Troubleshooting SEM High Availability Problems” describes how to solve known High Availability problems encountered with Solstice EM.

Chapter 8 “Troubleshooting SEM CORBA Administration Problems” describes how to solve known issues encountered with SEM CORBA installation and administration procedures.

Chapter 9 “Troubleshooting C++ Application Development Problems” describes how to solve problems associated with developing applications that use the Solstice EM APIs.

Related Books

The following is a list of related books:

- *Installation Guide*
- *Managing Your Network*
- *Customizing Guide*
- *Management Information Server (MIS) Guide*
- *HA Installation Guide*
- *CORBA Administration Guide*
- *Developing C++ Applications*

What Typographic Changes Mean

The following table describes the typographic changes used in this guide.

TABLE P-1 Typographic Conventions

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your <code>.login</code> file. Use <code>ls -a</code> to list all files. <code>machine_name%</code> You have mail.
AaBbCc123	What you type, contrasted with on-screen computer output	<div>machine_name% su Password:</div>
<AaBbCc123>	Command-line placeholder: replace with a real name or value	To delete a file, type <code>rm filename</code> .
<i>AaBbCc123</i>	Guide titles, new words or terms, or words to be emphasized	Read Chapter 6 in <i>User's Guide</i> . These are called <i>class</i> options. You <i>must</i> be root to do this.

Shell Prompts in Command Examples

The following table shows the default system prompt and superuser prompt for the C shell, Bourne shell, and Korn shell.

TABLE P-2 Shell Prompts

Shell	Prompt
C shell prompt	machine_name%
C shell superuser prompt	machine_name#
Bourne shell and Korn shell prompt	\$
Bourne shell and Korn shell superuser prompt	#

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Also, you can view the online documentation by pointing your browser to the following URL, `file:/opt/SUNWconn/em/docs/SEMDOCHP/index.html`

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Introduction to Troubleshooting Solstice EM

This chapter introduces problem-solving procedures and definitions in the Solstice EM context. Succeeding chapters in this guide describe known problems and solutions for Solstice EM situations you may encounter.

This chapter comprises the following topics:

- Section 1.1 “Definitions” on page 1-1
- Section 1.2 “Commonly Asked Questions” on page 1-2
- Section 1.3 “Troubleshooting Processes and Procedures” on page 1-2
- Section 1.4 “Locating Troubleshooting Information” on page 1-3

The last item, Locating Troubleshooting Information, contains a list of areas in which you may have a problem, and the page number on which specific troubleshooting solutions for that area begin.

1.1 Definitions

Before you can effectively use this book to solve Solstice EM problems, it is important to confirm that the following terms are used as you would expect.

Troubleshooting — A defined approach to solving problems that may occur with the Solstice EM software. This term does not typically refer to finding information about common tasks nor does it mean that this book will tell you how to troubleshoot your network using Solstice EM.

Installation Environment Variable — `$EM_HOME` is an environment variable that translates to the location where the Solstice EM software is installed. For example: `$EM_HOME` defaults to `/opt/SUNWconn/em`.

Default Installation Partition — For all commands described in this section, `/opt` is the default installation partition. If you installed the Solstice EM software in a different location, substitute your location in place of `/opt`.

1.2 Commonly Asked Questions

TABLE 1-1 lists common questions and tells you where to find the answers.

TABLE 1-1 Common Questions

To answer this question...	Refer to...
How do I install Solstice EM?	<i>Installation Guide</i>
How do I start Solstice EM?	<i>Installation Guide</i>
How do I manage networks with Solstice EM?	<i>Managing Your Network</i>
How do I install and manage the High Availability option of Solstice EM?	<i>HA Installation Guide</i>
How do I manage the CORBA Administration feature of Solstice EM?	<i>CORBA Gateway Administration Guide</i>
How do I develop applications that use the Solstice EM platform?	<i>Developing C++ Applications</i> <i>Developing Java Applications</i> <i>Developing CORBA Applications</i>

1.3 Troubleshooting Processes and Procedures

This section provides one approach to problem solving.

- 1. Determine whether the problem is a Solstice EM problem, another software package problem, or a hardware problem.**
- 2. Identify the specific area of Solstice EM that is affected.**
- 3. Create a detailed problem statement, including specific key indicators of the problem, reproducibility, etc.**
- 4. Verify that you are using Solstice EM as described in the Solstice EM documentation.**
- 5. Refer to the appropriate chapter in this book for information on a specific problem area and follow the specified procedure.**
- 6. If you continue to experience the problem, contact your Customer Support.**

1.4 Locating Troubleshooting Information

The subsequent chapters in this book provide detailed information about solving specific Solstice EM problems. Each chapter covers a different set of problem areas. Each problem area contains specific problem topics. Each topic consists of a description, and a solution. Some topics also have a description of the possible cause of the problem.

The following list shows you where to find troubleshooting information.

- “Installation Problems” on page 2-1
- “Solstice EM Startup Problems” on page 2-4
- “General Tool Problems” on page 3-1
- “Network Discovery Problems” on page 3-6
- “Alarms Tool Problems” on page 3-8
- “Log Entries Problems” on page 3-10
- “Network Views Problems” on page 3-10
- “MIS Communication Problems” on page 3-11
- “Tools for Evaluating Your Network” on page 4-1
- “Evaluating Network Failures” on page 4-2
- “Working With CMIP” on page 5-1
- “Working With SNMP” on page 5-3
- “Database Error Messages” on page 6-1
- “SEM HA Administration” on page 7-3
- “Troubleshooting SEM CORBA Administration Problems” on page 8-1
- “Solstice EM API Problems” on page 9-1
- “GDMO Problems” on page 9-4

Troubleshooting Installation and Startup Problems

This chapter provides information on resolving installation, configuration, and startup problems.

This chapter comprises the following topics:

- Section 2.1 “Installation Problems” on page 2-1
- Section 2.2 “Solstice EM Startup Problems” on page 2-4

2.1 Installation Problems

This section describes the following topics:

- “Hardware Failure” on page 2-1
- “Corrupted Software” on page 2-2
- “CMIP MPA Error” on page 2-2
- “Ping-up Storage Errors” on page 2-3
- “Installation Failure” on page 2-3

2.1.1 Hardware Failure

Problem: A hardware failure occurred while you were installing Solstice EM.

Solution: Use the following steps to troubleshoot the problem.

- 1. Check the hardware and fix the hardware problem.**
- 2. Remove existing Solstice EM software from the system (to prevent corruption).**
- 3. Reinstall Solstice EM software.**

See Also: the hardware documentation and the *Installation Guide*.

2.1.2 Corrupted Software

Problem: An error occurred during installation that corrupted the Solstice EM software.

Solution: Use the following steps, reinstall the corrupted software.

Note – Typically, only a specific package and not all Solstice EM software will be corrupted.

1. **To check which packages are corrupted, use the `pkgchk` utility. `pkgchk` verifies file size and checks certain attributes to ensure files copy correctly from the installing location.**
2. **Reinstall Solstice EM software for the corrupted package. The corrupted files will be overwritten. `pkgadd` or `em-install` will install the product.**

See Also: *Installation Guide*.

2.1.3 CMIP MPA Error

Problem: `mpa_error: Cannot boot emApplicationInstance` displays during installation, after `SUNWemcpa` is installed.

Possible Cause: The CMIP MPA tries to connect to a Solstice EM MIS when it is installed. If the MIS does not start the CMIP MPA prints this error.

Solution: Use these steps to fix the problem.

1. **Start the MIS after the packages have been installed. You can then start the CMIP MPA using `/etc/rc2.d/<s98cmip>mpa` command. This ensures that the MPA is connected to the MIS.**
2. **CMIP MPA can be run on systems that do not have the MIS installed. Before you install `SUNWemcpa`, set the environment variable `EM_MIS_DEFAULT_HOST` to the system on which the MIS is running. When you install `SUNWemcpa`, the MIS host name is obtained from the `EM_MIS_DEFAULT_HOST` variable. No other environment variables are needed.**

See Also: Chapter 12 of the *Customizing Guide*.

2.1.4 Ping-up Storage Errors

Problem: You receive the following error message during installation.

Storing ping_up condition failed!

Adding ping_up condition failed!

Possible Cause: These error messages occurred during MIS initialization. Some of the GDMO/ASN.1 files are part of the SNM Compatibility package and are needed for network management templates such as `device_reachable` and `pingUpOrDown`.

Solution: You need to install the SNM Compatibility package (`SUNWembc`) on your system. Use the following steps:

1. **Change to the directory where the CD-ROM directory is mounted. Typically, this is `/cdrom/solstice_em_4_1/`.**
2. **Use the following command to install the package:**

```
pkgadd -d SUNWembc
```

See Also: *Installation Guide*.

2.1.5 Installation Failure

Problem: Your installation fails but no error messages indicate the reason for failure.

Possible Cause: You did not verify hardware or software before installing Solstice EM.

Solution: Use the following steps to check for verification errors.

1. **Check your hardware for sufficient memory and disk space.**
2. **Check the operating system on which you installed the software.**
3. **Use the Solaris utility `pkgchk` to see if you installed all files into the correct directories.**

See Also: *Installation Guide* and the *Release Notes*.

2.2 Solstice EM Startup Problems

This section describes the following:

- “Application Startup Problems” on page 2-4
- “License File Location Errors” on page 2-5
- “MIS Restart Error” on page 2-5
- “License Server Start Error” on page 2-5
- “License File Missing Error” on page 2-6
- “License Date Error” on page 2-6
- “Inconsistent License Key Error” on page 2-6
- “Exceeded Limit License Error” on page 2-7
- “Network Discovery Startup Error” on page 2-7
- “em_services Reload Error” on page 2-8
- “Cannot Start Network Tools” on page 2-8
- “The MIS Does Not Start” on page 2-9
- “Applications Do Not Start From Network Tools” on page 2-10
- “Solstice EM Does Not Start on Hosts With Multiple Ethernet Interfaces” on page 2-10

2.2.1 Application Startup Problems

Problem: A specific Solstice EM tool does not start with the expected properties.

Possible Cause: Most of the Solstice EM tools have configurable properties. When you change these properties, you must save them for the changes to take effect the next time you start the applications as well as in the current session.

Solution: Reconfigure the properties to the desired settings and save the properties.

Tip – For information on configuring a specific tool, see the section for that tool in *Managing Your Network*.

2.2.2 License File Location Errors

Problem: When you try to run a tool, you get the following error message:

```
Cannot Get LM_LICENSE_FILE environment variable
```

Possible Cause: A license file was not found in the default location, or the default location was not set for the command used (em_obed, for example).

Solution: Set the LM_LICENSE_FILE variable to the path of the password file:

```
/etc/opt/licenses/ssp.em.lic,#[additional license files]
```

(# = instance of license).

2.2.3 MIS Restart Error

Problem: When trying to restart the MIS using em_services, you receive the following message:

```
Can't register with the event dispatcher:  
Cannot register as an event rendezvous:
```

Solution: Kill the existing inetd process and restart the MIS using the following steps:

1. **Find the existing inetd process using the command:**

```
ps -ef | grep inetd
```

2. **Kill the inetd process. For example:**

```
kill -HUP 111
```

3. **Restart the MIS, using the command:**

```
em_services -start
```

2.2.4 License Server Start Error

Problem: When you try to access Solstice EM, you get the following message:

```
License Error: Cannot connect to the license server for feature  
ssp.em.app. License server may not have been started.
```

Possible Cause: The license server is not running.

Solution: Start the license server by typing the command:

```
# /etc/rc2.d/S85lmgrd start
```

2.2.5 License File Missing Error

Problem: When you try to access Solstice EM, you get the following message:

```
License Error: Cannot find license file (/usr/local/flexlm/
licenses/license.dat) which contains the feature ssp.em.mis. The
product has not been installed properly. There are no license files
in following path:/etc/opt/licenses/licenses_combined: Cannot find
license file (-1,73:2)
```

Possible Cause: No license has been installed, or a license has been installed in a non-default location and the variable `LM_LICENSE_FILE` has not been set to the new location.

Solution: Install a license using the License Installation Tool, or set the `LM_LICENSE_FILE` variable to the correct location.

2.2.6 License Date Error

Problem: When you try to access Solstice EM, you get the following message:

```
License Error: Licensing feature ssp.em.mis. License File: /etc/opt/
licenses/licenses_combined Invalid date format in license file
(-11,239:146) Connection refused
```

Possible Cause: The date was entered in an incorrect format when installing a demo license, or an expiration date was entered when installing a regular license.

Solution: Use the License Installation Tool to re-install the license.

See also the *Installation Guide*.

2.2.7 Inconsistent License Key Error

Problem: When you try to access Solstice EM, you get the following message:

```
License Error: Licensing feature ssp.em.mis.License File:
/etc/opt/licenses/licenses_combined Invalid license key
(inconsistent license key) (-8,130:2)
```

Possible Cause: The number of Rights to Use is incorrect or the password is incorrect.

Solution: Use the License Installation Tool to re-install the license with the correct password and number of Rights to Use.

See also the *Installation Guide*.

2.2.8 Exceeded Limit License Error

Problem: When you try to access Solstice EM, you get the following message.

License Error: Maximum number of licensed users for feature (ssp.em.app) has been reached. Licensed number of users already reached (-4,132)

Possible Cause: The maximum number of Rights to Use has been reached.

Solution: Use the following steps to solve this problem.

1. **As root, go to the licenses directory by typing the following:**
`cd /etc/opt/licenses`
2. **Type the following command to display the available licenses:**
`./lmstat -a -c ./licenses-combined`
3. **If this command generates an error message, call the nearest Sun License Center for a valid license password.**
4. **Use the License Installation Tool to install a valid license password:**
`./lit`

Tip – Refer to Chapter 5 in *Installation Guide*. Purchase more licenses by calling the nearest Sun License Center.

2.2.9 Network Discovery Startup Error

Problem: After you install *Solstice EM* and start Network Discovery, you get the following message:

```
/opt/EM/SUNWconn/em/bin/em_discover ld.so.1: /opt/EM/
SUNWconn/em/bin/em_discover: fatal: libtopo_api.so.2: can't open
file: errno=2
```

Possible Cause: Solstice EM is installed in non-default directory.

Solution: Use the following steps to fix the problem.

1. **Become superuser.**
`su`
2. **Create a directory in the default location using the command:**
`mkdir -p /opt/SUNWconn/em`

3. Create a link between the actual lib directory and the default location using the following command where `NEW_PKG_BASEDIR` is the location where Solstice EM is installed:

```
ln -s NEW_PKG_BASEDIR/lib /opt/SUNWconn/em/lib
```

4. For example, if Solstice EM is installed in `/usr/SUNWconn/em`, you should type

```
ln -s /usr/SUNWconn/em/lib /opt/SUNWconn/em/lib
```

2.2.10 `em_services` Reload Error

Problem: When you are trying to restart Solstice EM, you receive the following error message:

```
Port number mismatch error during em_services -reload.
```

Possible Cause: The error message indicates the specific daemon that is experiencing the problem (for example, `em_snmp-trap`). This indicates that a daemon is trying to start using a specific port, but another daemon has that port in use.

Solution: Use the following steps to correct this error.

1. Use the `ps` command to look for another process that might have that port locked up (for example, a partially completed `em_services` command).
2. Kill the old process and run `em_services -reload`.

2.2.11 Cannot Start Network Tools

Problem: Executing the `em` command fails with the message:

```
Could not connect to MIS on hostname...  
LoginClient: Couldn't receive message from em_login...
```

Possible Cause: The MIS may not be running.

Solution: Check that the MIS is running. See “The MIS Does Not Start” on page 2-9” for instructions on how to do this task and how to correct any problems.

2.2.12 The MIS Does Not Start

Problem: Solstice EM does not start when you try to start Network Tools.

Possible Causes:

- Solstice EM software has not been installed correctly.
- Solstice EM software is corrupted.
- The environment is not set up correctly or completely.

Solution: Use following steps to fix the problem:

Note – You must log in as `root` to fix this problem.

1. **Verify that the MIS is running by executing the command:**

```
/opt/SUNWconn/bin/em_services -status
```

2. **If you do not see a display similar to “`em_mis: PID=2345,`” then restart the MIS (Step 3).**

3. **To restart the MIS, log in as `root` to the machine on which the MIS is running, and execute the command:**

```
/opt/SUNWconn/bin/em_services -start
```

4. **If the MIS is running, but you see the error message `em_host: can't open display, exiting...` when you try to start Network Tools, you need to set appropriate environment variables (Step 5).**

5. **If you logged in remotely, use the `setenv` command to set the display to your workstation. For example, if your workstation is called `my_host` and you have just opened a window on `other_host`, execute the following command in the window on `other_host`:**

```
setenv DISPLAY my_host:0
```

6. **If the MIS is running, but you see the error messages:
“`Xlib: connection to “my_host:0.0” refused by server`
`Xlib: Client is not authorized to connect to Server`
`Error: Can't open display: my_host:0.0`”
you must provide access to your host from the MIS server (Step 7).**

7. **Use the `xhost` command to authorize access to your workstation's X server. For example, if your workstation is called `my_host` and you are trying to run Solstice EM from `other_host`, execute the following command from a window attached to your workstation:**

```
xhost other_host
```

8. **Try to start Network Tools again.**

9. If Network Tools still fails to start, it is likely that your Solstice EM software has been corrupted (perhaps due to a disk problem). Re-install Solstice EM software.

See Also: *Installation Guide*.

2.2.13 Applications Do Not Start From Network Tools

Problem: When you click on one of the tools in the Network Tools window, the application does not start.

Solution: Use the following steps to correct this problem.

1. Log in as root to the machine on which the MIS should be running.
2. Verify that the MIS is running by typing the command:

```
ps -eaf | grep mis
```
3. If you do not see a display similar to the following, restart the MIS:

```
root 1508 1 80 09:15:52 pts/5 0:21 em_mis
```
4. Start the MIS by executing the following command:

```
/opt/SUNWconn/bin/em_services -start
```
5. After you have verified that the MIS is running, try to access the tool again.
6. If the MIS is running and this is a new installation of Solstice EM, refer to the Installation section of this chapter for more information.

See Also: *Installation Guide*.

2.2.14 Solstice EM Does Not Start on Hosts With Multiple Ethernet Interfaces

Problem: When you try to run Solstice EM on a system with more than one ethernet interface, Solstice EM does not start. The following error is listed in the file `/var/opt/SUNWconn/em/debug/database.log`:

```
err -25572: Network driver cannot bind a name to the port
```

Possible Cause: Solstice EM cannot resolve the IP address for the system because the interfaces use the same official host name and different IP addresses. For example, consider a system with the official host name of `planets`. The system has two network interface boards. Its `/etc/hosts` file looks like the following:


```
127.0.0.1 localhost
123.45.67.22 planets mars
123.45.68.22 planets venus
```

The official name for both interfaces is `planets`, with the aliases `mars` and `venus`.

The `uname -n` command returns the name `planets` rather than `mars` or `venus`.

Solution: Use the following steps to correct this error, substituting the correct IP addresses and host names for your system:

1. Use `sys-unconfig` to unconfigure the system.
2. Reboot the system. When it comes up, you will be prompted for the official host name. In this case, you should specify either `mars` or `venus`, not `planets`.
3. Update `/etc/hosts` to reverse the order of the official name and aliases, as follows.

```
127.0.0.1 localhost
123.45.67.22 mars planets
123.45.68.22 venus planets
```

4. Use `ifconfig` to configure the second network interface board.
5. Update any other files or systems depending on whether you are using DNS or NIS. For example, you may have to remove `/etc/hostname.xx0` and update `/etc/hostname.le0` and `/etc/hostname.le1`.

The `uname -n` command should return the name `mars` or `venus` (whichever you specified as the official name).

See the *Solaris Naming Administration Guide* and the *Solaris Naming Setup and Configuration Guide* in the *Solaris System Administrator Collection* for more information.

Troubleshooting Problems With Solstice EM Tools

This chapter provides information on resolving problems with specific Solstice EM tools.

This chapter comprises the following topics:

- Section 3.1 “General Tool Problems” on page 3-1
- Section 3.2 “Network Discovery Problems” on page 3-6
- Section 3.3 “Alarms Tool Problems” on page 3-8
- Section 3.4 “Log Entries Problems” on page 3-10
- Section 3.5 “Network Views Problems” on page 3-10
- Section 3.6 “MIS Communication Problems” on page 3-11

3.1 General Tool Problems

This section describes the following topics:

- “Cannot Use Tools” on page 3-2
- “Adding a Tool to Network Tools” on page 3-2
- “Tool Does Not Start” on page 3-3
- “Need to Remove Unused Tools” on page 3-4
- “Need to Disable a Tool” on page 3-4
- “Tools Do Not Run” on page 3-5

3.1.1 Cannot Use Tools

Problem: Buttons are “grayed out,” or functionality is restricted.

Solution: The user does not have full access to the tool or the features of the application. Use the following steps to correct this problem.

- 1. Bring up Security and check the user’s privileges as follows:**
 - a. In the Security window, click the Users tab to list the users.**
 - b. Select the user.**
 - c. Click Actions->Properties to display the Properties dialog for the selected user.**
 - d. Click the Tasks tab to view access privileges information.**
- 2. Add the user to the appropriate group or change the privileges for the group to which the user currently belongs.**

See Also: *Managing Your Network* guide.

3.1.2 Adding a Tool to Network Tools

Problem: You want to add an application to the Network Tools panel.

Solution: Follow these instructions to add the application.

- 1. In the Network Tools window, click File->Customize to display the Customize dialog.**
- 2. In Path To Executable field, enter the pathname for the executable.**
- 3. In Path To Icon field, enter the pathname for the button graphic file.**

By default, Solstice EM glyph files are located in `/opt/SUNWconn/em/glyphs`.

- 4. In Icon Name, enter the string to be used as the button label.**

To create a multi-line entry, add “\n” where you want the line to break. For example: Solstice EM 4.0 \nDocumentation.

- 5. Specify (Yes/No) whether the application is a Solstice EM tool.**

If the application is a default Solstice EM tool or a user-developed application that uses Solstice EM’s security features, click Yes.

- 6. In Solstice EM Tool Name, enter the name that the tool or application uses to connect to the MIS.**

The Solstice EM tool name is often the same as the executable used to run the tool. For example, the Solstice EM tool name for Network Views is `em_viewer`, which is also the name of the executable. The names are not *required* to be the same, however. If you do not know an application's Solstice EM tool name, use the Security tool to look up the application names by selecting View->Privilege Components->Applications List.

- 7. In Number Of Columns, specify the number of button columns you want displayed in the Network Tools window.**

- 8. Click Add**

The button you added now displays in the Network Tools window.

- 9. Click Save.**

Changes are saved in the `em_panel.cf` configuration file.

See Also: *Managing Your Network* guide.

3.1.3 Tool Does Not Start

Problem: The Network Tools panel does not wait for a tool to start.

Solution: Use these steps to fix the problem.

- 1. Change `em_panel.response` to 1 in the `$EM_HOME/config/em_panel.cf` file.**
- 2. Exit Network Tools.**
- 3. Restart Solstice EM.**

See Also: *Managing Your Network* guide.

3.1.4 Need to Remove Unused Tools

Problem: The Network Tools panel contains applications that you wish to remove.

Solution: Follow these steps to remove the applications.

1. **In the Network Tools window, click File->Customize to open the Customize dialog.**
2. **In Applications listbox, select the tool or application to be removed.**

The fields in the Application Information area should now reflect the information for your selection.

3. **Click Delete.**
4. **Click Save to open a standard Select File dialog and specify the path and file name where the modified configuration is to be saved.**

The default file is `~/em_panel.cf`.

See Also: *Managing Your Network* guide.

3.1.5 Need to Disable a Tool

Problem: The icon for a Solstice EM tool is not disabled (“grayed out”) when the privileges granted in Security indicate that it should be disabled.

Solution: Use the following steps to ensure that the tool is subject to security restrictions which disable the tool.

1. **Make sure Yes is selected for Solstice EM Tool in the Customize window.**
If No is selected, the application cannot be disabled because it is not subject to security restrictions.
2. **Verify that the Solstice EM Tool Name is the same as the name the application uses to connect to the MIS.**

The Solstice EM tool name is often the same as the executable used to run the tool. For example, the Solstice EM tool name for Network Views is `em_viewer`, which is also the name of the executable. The names are not *required* to be the same, however. If you do not know an application’s Solstice EM tool name, use the MIS Objects tool to look up the values for `applicationName` under `/em-name="accessControlContainer"/em-name="applicationContainer"`.

See Also: *Managing Your Network* guide.

3.1.6 Tools Do Not Run

Problem: Tools selected from pop-up menus or from the Tools menu in Network Views do not run.

Solution: The configuration information used to run the tools may not be correct. Use these steps to fix the problem.

1. **Verify that the correct executable is used in the Configure Pop-up Menus for the tool you want to run.**
 - a. **In Network Views window, select File->Customize->Pop-up Menus.**
 - b. **Select the device type of the managed device you are interested in.**
 - c. **In the Menu Options list, select the name of the tool that does not run.**
 - d. **Make sure the path displayed in the Command field is correct.**

Tip – Compare the path used here to that used in the Network Tools window. Select Files->Customize in Network Tools to see the paths used.

2. **Verify that the correct executable is used in the Tools menu.**
 - a. **In Network Views window, select File->Customize->Tools Menu.**
 - b. **In the Configure Tools window, select the application that does not run.**
 - c. **In the Path to Executable field, ensure the path displayed is correct.**

In the Arguments field, ensure that any options for the command use correct syntax.

Note – See the *Managing Your Network* guide for information about command syntax for starting Solstice EM tools from the command line.

3. **Determine if this tool runs from another access point (for example, directly from Network Tools or from the command line).**

See Also: *Managing Your Network* guide.

3.2 Network Discovery Problems

This section describes the following problems:

- “No Discovery” on page 3-6
- “Mixed Flat and Hierarchical Discovery” on page 3-6
- “Partial Discovery Only” on page 3-7
- “No Containers to Monitor” on page 3-7

3.2.1 No Discovery

Problem: Network Discovery does not start.

Probable Cause: If you are not root and you install Solstice EM in a non-default directory, Network Discovery will not start. This is because Network Discovery runs as a `setuid` process and the `LD_LIBRARY_PATH` variable is not inherited.

Solution: Try the following solutions.

- Always run Network Discovery as root unless you are a user in the Full Access or Operator groups.
- Create `/opt/SUNWconn/bin/lib` and create a link to `libpmi.so` in the `lib` directory of the non-default location where Solstice EM is installed.

See Also: *Managing Your Network* guide.

3.2.2 Mixed Flat and Hierarchical Discovery

Problem: You ran a flat discovery followed by a hierarchical discovery, and the hierarchical discovery added nodes under the resulting view of the flat discovery.

Probable Cause: A flat discovery corrupts the network topology tree. A subsequent hierarchical discovery produces incorrect results.

Solution: Collect the information into a single view (for example, collect all the routers into a view):

1. **Run a regular discovery.**
2. **In Network Views, use Actions-> Find to collect all the information you want into a single view.**

See Also: *Managing Your Network* guide.

3.2.3 Partial Discovery Only

Problem: Network Discovery does not find managed objects that you know exist. This is indicated by the absence of a known object in Network Views.

Solution: Use these steps to correct the problem.

1. **Ensure that the object is visible outside of Solstice EM.**

For example, can you “ping” the object?

2. **If you know the object exists, try running Network Discovery from the command line as follows:**

```
em_discover -device device_name
```

3. **The form of discovery described in Step 2 finds the object regardless of the subnetwork on which it resides.**

See Also: *Managing Your Network* guide.

3.2.4 No Containers to Monitor

Problem: The Monitor window indicates there are no containers to monitor.

Solution: Follow these steps to fix the problem.

1. **Check to see if you have run a discovery yet. If not, do so, then run the Monitor again.**

2. **If you have run a discovery, verify that the MIS is running by typing the command:**

```
ps -eaf | grep mis
```

3. **If the MIS is not running, restart it. To restart the MIS, login as `root` to the machine on which the MIS resides and type the following command:**

```
/opt/SUNWconn/bin/em_services -start
```

4. **If the MIS is running and this is a new installation of Solstice EM, see Chapter 2 “Troubleshooting Installation and Startup Problems” for more solutions.**

5. **After you have verified that the MIS is running, start the Monitor again.**

See Also: *Managing Your Network* guide.

3.3 Alarms Tool Problems

This section describes the following problems:

- “Cannot Change Alarm Status” on page 3-8
- “Alarms Tool Starts Slowly” on page 3-9
- “Error Message When Starting Alarms Tool” on page 3-9

3.3.1 Cannot Change Alarm Status

Problem: When a user clicks on the Acknowledge or Clear buttons, the alarm status does not change.

Probable Causes:

- The user may be trying to change the status of an alarm instance when Associations are on. Actions can only be taken on alarm instances if Associations are off.
- The user may not have privileges to perform these tasks in the Alarms tool.

Solutions:

- If you want to acknowledge or clear a single alarm, turn off Associations by selecting View->Association Rules and selecting Off for Associations.
- Verify that the user has privileges to acknowledge and clear alarms using the following procedure. You must have been granted all privileges or must be logged in as root to do this.

1. **Start the Security tool.**
2. **In the Security window, click the Privilege Groups tab.**
3. **Select the group containing the user and click Actions->Properties to display the Properties dialog for the selected group.**
4. **On the Task tab, select Specify Task Access by Application and click Edit to display the Edit Task Access By Application dialog.**
5. **In Application Names, select `em_alarmmgr`.**
6. **In Access to Tasks in Selected Application, select Specify Tasks.**
7. **Clear the Ack/Unack alarm and Clear/Unclear alarm tasks to allow users to acknowledge and clear alarms.**

If a checkmark appears before a task, users of the group are denied the ability to perform the task. Click the checkbox to clear it.

8. Click Apply and then click Close.

The group profile data in the MIB is updated.

See Also: Chapter 6 in the *Managing Your Network* guide.

3.3.2 Alarms Tool Starts Slowly

Problem: The Alarms tool takes a long time to start.

Probable Causes:

- If you have a large number of alarms in your alarm log, the Alarms tool may take longer to start.
- If the Show Duplicates option is selected in the Alarm Summary Rules, the Alarms tool operations will be slow.

Solutions:

- Cleared alarms are not automatically deleted, so the alarm log can grow quite large. Delete cleared alarms, or set up Alarms to automatically delete cleared alarms that meet specified criteria. See Chapter 6 in the *Managing Your Network* guide for more information.
- Specify that you do not want to show duplicates as follows:
 - In the Alarms window, select View->Summary Rules.
 - In the Alarm Summary Rules window, turn Summary on, and select Off for Show Duplicate Alarms.

3.3.3 Error Message When Starting Alarms Tool

Problem: When you start the Alarms tool, the Alarms window displays an error message.

Solution: Ensure the configuration file is pointing at the MIS the user wants to access.

See Also: *Managing Your Network* guide.

3.4 Log Entries Problems

3.4.1 Log Entries Tool Does Not Start

Problem: When you start the Log Entries tool, the window displays an error message.

Probable Cause: When you start the Log Entries tool, it references its configuration file (`$HOME/.em_logview.cf`) to see which logs are declared (using the `log_name=` statement).

Either the configuration file is missing (in which case the tool tries to use the default in `/opt/SUNWconn/em/config`) or your configuration file does not include a `log_name` statement with your log name.

Solution: Ensure that the configuration file exists and that it points to the correct configuration file.

See Also: *Managing Your Network* guide.

3.5 Network Views Problems

3.5.1 Alarms Do Not Show Up

Problem: Alarms which are displayed in the Alarms tool are not visible in the Network Views tool.

Solution: Verify that you have not changed the `/etc/hosts` file. If you have changed the file, you must restart the trap daemon using the `em_trapd start` command before the alarms become visible in Network Views.

See Also: *Customizing Guide*.

3.6 MIS Communication Problems

3.6.1 No MIS-to-MIS Communication

Problem: MIS does not communicate with an MIS on another machine or system.

Probable Causes:

- The host is having a problem looking up the host name of the other system, particularly if the hosts are in different domains.
- Events are not being forwarded from MIS to MIS.
- The remote MIS is not recognizing the local MIS as a trusted host.

Solutions:

- Use the IP address rather than the host name to identify the remote MIS when making the connection, to avoid the possible name lookup problem.
- If you want to forward events to another MIS, you must use MIS Connections to define the EFD (Event Forwarding Discriminator) to enable this capability.
- Ensure the security rules on the remote MIS specify the local MIS as a trusted host. Security rules can be changed dynamically, and someone could have changed the rules while you were connected. You can see a list of trusted hosts by using the Security tool on the remote host and selecting Actions->Security Defaults. If the local MIS is not listed as a trusted host, type the local host name in the Trusted Host field, and click Add.

See Also: *Management Information Server Guide* and the *Managing Your Network* guide.

3.6.2 Cannot View Remote MIS

Problem: You are unable to view information on a remote MIS.

Solutions: Try the following to troubleshoot this problem.

- Ensure the security rules on the remote MIS specify the local MIS as a trusted host. Security rules can be changed dynamically, and someone could have changed the rules while you were connected. You can see a list of trusted hosts by using the Security tool on the remote host and selecting Actions->Security Defaults. If the local MIS is not listed as a trusted host, type the local host name in the Trusted Host field, and click Add.

- Ensure your user name has access permission on the remote MIS to use the Solstice EM application.
- Run `em_obed` on the local host to see if the MIT contains an object for the remote host. If an object exists, Solstice EM configuration and network connection should be okay. If no object exists for the remote host, there may be a problem with either the network connection or the Solstice EM configuration.
- Test the network connection as follows:
 - Try to connect to the remote MIS via the `em_obed` program, using the command `em_obed -host remote-mis-host`
 - If you cannot connect with `em_obed`, test the network connection with the command `ping remost-mis-host`
 - If you cannot reach the remote host with ping, check your network hardware.
- If the network connection is okay, try to debug the configuration using the command:


```
em_debug -host remote-mis-name on oamrmt_debug
```

 See the *Developing Applications* guide for information about analyzing output from `em_debug`.

See Also: Any standard network administration book or the *Managing Your Network* guide.

Troubleshooting Network Administration Problems

This chapter provides information on resolving network administration problems with Solstice EM.

This chapter comprises the following topics:

- Section 4.1 “Tools for Evaluating Your Network” on page 4-1
- Section 4.2 “Evaluating Network Failures” on page 4-2

For detailed information on how to use Solstice EM to perform network administration tasks, see the *Managing Your Network* guide.

4.1 Tools for Evaluating Your Network

Most of the Solstice EM core tools help you monitor network status and respond to network events. In particular, the following tools provide specific information:

- Network Views—Provides a visual display of the managed objects in your network.
- Network Discovery—Allows you to find out what objects are visible in your network and to monitor communications among those objects.
- Event Logs—Allows you to keep a record of events that occur on your network.
- Alarms—Allows you to respond to events that occur on your network.
- Request Controllers —Allows you to identify events to respond to and default values for responding to those events.

For more information about using these Solstice EM tools, see the *Managing Your Network* guide.

4.2 Evaluating Network Failures

4.2.1 Solstice EM Cannot Discover Your Network

Problem: Network Discovery is running on your network, but finds nothing.

Solution: Use these steps to correct the problem.

- Your network connection might be down. Check the hardware and fix the problem, if needed.
- Verify that Network Discovery is functioning correctly by viewing its progress in the Network Discovery window.
- If you specify search parameters, such as specific devices or an IP range, ensure that they in fact exist on your network.
- Run Network Discovery from a command line using the debugging options discussed in Chapter 3 of the *Managing Your Network* guide.

4.2.2 Physical Network and Solstice EM Network Topology Inconsistent

Problem: The network physical configuration does not agree with what Solstice EM displays in the Network Views window.

Solutions: Try these procedures to correct the problem.

- To populate the MIS automatically, use Network Discovery, which finds hosts, routers, networks, links, and SNMP devices to manage. When Network Discovery finds one of these elements, it creates a record in the MIS for that element.
- Recent changes to the configuration might not be visible in Network Views yet. Try shutting down and restarting Network Views.
- The MIS database can also become corrupted. In this case, manually remove objects that appear to be incorrect and run a new discovery. Or, use the following command to discover a specific device:

```
/opt/SUNWconn/bin/emdiscover -device device_name
```

See Also: *Managing Your Network* guide.

4.2.3 Configured Events Do Not Appear

Problem: Particular events have been configured, but when the events occur, Solstice EM does not display them.

Probable Cause: You have not defined the event forwarding discriminators (EFDs) appropriately.

Solution: Use the MIS Connections tool to specify event forwarding discriminators. The on-line help accessed through the MIS Connections tool includes help about EFDs and CMIS filters.

See Also: *Developing C++ Applications* manual.

Troubleshooting Network Protocol Problems

This chapter provides information on resolving problems that may occur when working with various network protocols.

This chapter comprises the following topics:

- Section 5.1 “Working With CMIP” on page 5-1
- Section 5.2 “Working With SNMP” on page 5-3

5.1 Working With CMIP

This section describes the following:

- “Configuring CMIP Agents” on page 5-1
- “CMIP MPA Does Not Work” on page 5-2
- “MIS-to-MIS Communication” on page 5-2
- “Remote MIS Problems” on page 5-2
- “CMIP PMI Events Errors” on page 5-2

5.1.1 Configuring CMIP Agents

Problem: You do not know how to configure a CMIP agent.

Solution: If the agent has not been added as an object, use the Network Views -> Actions -> Create -> Object window to create it. If the agent object already exists and you want to modify it, use the Network Views -> Object Properties window. You can also invoke these windows from the command line by typing the command:

```
/opt/SUNWconn/em/bin/em_oct -cmip
```

See Also: *Managing Your Network* guide.

5.1.2 CMIP MPA Does Not Work

Problem: The CMIP MPA does not start.

Solution: Solstice EM's daemons start when you execute the command:
`/etc/rc2.d/s98cmipmpa start`

See Also: *Installation Guide*.

5.1.3 MIS-to-MIS Communication

Problem: You do not know how to set up communications from one MIS to another.

Solution:

- If you only want to view event information on multiple MISs, you can access the second MIS directly from the Log Entries -> Properties window.
- If you want to forward events to another MIS, you have to define the Event Forwarding Discriminator (EFD) as defined in `em_oct -cmip` (field: entity name) to enable this capability.

See Also: *Management Information Server Guide* and the *Managing Your Network* guide.

5.1.4 Remote MIS Problems

Problem: You are unable to view any of the information on a remote MIS.

Probable Causes:

- MIS-MIS communication is not configured correctly. Use MIS Connections to configure MIS-MIS communication.
- The remote MIS server is down.
- The network connection between your current MIS and the remote MIS is broken.

See Also: *Management Information Server Guide* and the *Managing Your Network* guide.

5.1.5 CMIP PMI Events Errors

Problem: You receive an error in special processing of PMI events and you cannot find module CMIP-1.

Solutions: Try these procedures to fix the problem.

- If two CMIP MPAs are running using the same port number. Reconfigure them.

- Ensure the CMIP stack is started.

5.2 Working With SNMP

5.2.1 Cannot Delete Entry From MIB

Problem: Attempts to delete an entry from an SNMP MIB either through the SNMP Data tool or from within a user-developed code function does not work.

Solution: Perform the following setup steps to enable Solstice EM to delete entries from SNMP MIBs.

1. **Compile the MIB to its GDMO and ASN.1 files using the Load Data Definitions tool in Solstice EM's Administration Tools window. If the MIB has already been compiled, ignore this step.**
2. **Consult the text definitions of the table entries in the MIB and find the attribute used for deletion of the entry and its value.**
3. **In the corresponding GDMO file for the entry's name bindings, modify the following values:**

```
CREATEDLETEATT  
CREATEDLETEVALUE
```

Look at the following example for MIB-II. In `rfc1213.mib`, you have the following:

```
ipNetToMediaType OBJECT-TYPE  
    SYNTAX INTEGER {  
        other(1),  
        invalid(2),  
        dynamic(3),  
        static(4)  
    }
```

In `rfc1213.gdmo`, you might have something like this:

```
MULTIPLEINSTANCES  
    INDEX  
        ipNetToMediaIfIndex,  
        ipNetToMediaNetAddress;  
    CREATEDLETEATT ipNetToMediaType  
    CREATEDLETEVALUE 2  
ENDMULTIPLEINSTANCES
```

See Also: *Customizing Guide* for information on working with network protocols

Database Error Messages

This chapter provides a list of Solstice EM database error messages, what each message means and a suggested response.

TABLE 6-1 Database Error Messages

Error Message	Description and Response
-951: User is not known on remote host	Incorrect password or user is not known on the database server. This statement refers to a database on another computer system, you must have a valid login identity on any computer system you access. See your network administrator about getting a login ID.
-952: User (<user-id>)'s password is not correct for the database server.	The password specified is incorrect. The database server does not accept (or cannot find) your account password. Check that your password is specified correctly, and try again.

TABLE 6-1 Database Error Messages *(Continued)*

Error Message	Description and Response
-387 No connect permission.	You cannot access the database that this statement requests because you have not been granted CONNECT privilege to it. Have a system administrator grant CONNECT privileges to that database through the Security tool.
-389 No DBA permission	This statement cannot be executed because you have not been granted DBA privilege for this database. Contact a person who has DBA privilege for the database and ask to be granted DBA privilege (or simply ask to have this statement executed for you).
-201 A syntax error has occurred	This general error message indicates mistakes in the form of a SQL statement. Look for missing or extra punctuation, keywords misspelled, keywords misused, keywords out of sequence, or a reserved word used as an identifier.

Troubleshooting SEM High Availability Problems

This chapter provides information on resolving High Availability (HA) administration problems with Solstice EM.

This chapter describes the following topics:

- Section 7.1.1 “Monitoring the Status of Sun Cluster” on page 7-3
- Section 7.1.2 “Clearing the stop_failed Status” on page 7-4
- Section 7.1.3 “Bringing Resources and Resource Groups Offline or Online” on page 7-4
- Section 7.1.4 “Shutting Down a Sun Cluster” on page 7-5

7.1 SEM HA Administration

7.1.1 Monitoring the Status of Sun Cluster

Problem: Determining the status of Sun Cluster resources.

Solution: The resource state, resource group state, and resource status are all maintained by the Resource Group Manager (RGM) on each node, based only on which methods have been invoked on the resource.

The `scstat` command displays the current state of the Sun Cluster and its components. One instance of the `scstat` is adequate to run on any machine in the Sun Cluster configuration.

```
scstat [-DWgnpv[v]q] [-h node]
```

The command options allow you to request status information for specific components.

When the `stop` method of a resource fails, its status is marked as `stop_failed`, and the cluster will not allow it to be started until its status is cleared. See section on “Clearing the `stop_failed` Status” on page 7-4 of Sun Cluster and its Components to resolve this.

The possible resource states are:

`online`, `offline`, `start_failed`, `stop_failed` or `online_not_monitored`.

The possible resource group states are:

`unmanaged`, `online`, `offline`, `pending_online`, `pending_offline`, or `error_stop_failed`.

See Also: *Sun Cluster Administration Guide*.

7.1.2 Clearing the `stop_failed` Status

Problem: Clearing the `stop_failed` error flag of a given resource.

Solution: After the `stop` method has run successfully on a resource on a given node, the resource’s state will be `offline` on that node. If the `stop` method exits non-zero or times out, then the state of the resource will be `stop_failed`.

Use the `scswitch -c -h node [,node,...] -j resource_name -f STOP_FAILED` command option to clear the `stop_failed` error flag on the resources on the indicated set of nodes.

Clearing the `stop_failed` state places the resources into the `offline` state on the given node.

7.1.3 Bringing Resources and Resource Groups Offline or Online

Problem: How to bring resources offline or online.

Solution: Use the `scswitch` command to bring resource groups or disk device offline or online.

Getting a resource group offline:

```
scswitch -F -g resource_grp_name
```

For each resource group specified by the `-g` option, `-F` disables all resources and their monitors, moves the resource group into `unmanaged` state and brings the resource group offline on all the default primaries. Without the `-g` option, `scswitch` attempts to bring all resource groups offline.

Getting a resource group online:

```
scswitch -Z -g resource_grp_name -h hostname
```

For each resource group specified by the `-g` option, `-Z` enables all resources and their monitors, moves the resource group into managed state, and brings the resource group online on all the default primaries. Without the `-g` option, `scswitch` attempts to bring all resource groups online.

Getting a resource offline:

```
scswitch -n -j resource_name
```

Getting a resource online:

```
scswitch -e -j resource_name
```

Note – The resource group that the resource belongs to must also be online while attempting to bring a resource online.

7.1.4 Shutting Down a Sun Cluster

Problem: To shut down the sun cluster gracefully.

Solution: The `scshutdown` command shuts down the entire cluster in an orderly fashion.

```
scshutdown [-y] [-g grace-period] [message]
```

Before the shutdown, `shutdown` can send a warning message, and a final message asking for confirmation. The `scshutdown` command should be run from one node.

When shutting down a cluster, `scshutdown` performs the following:

- Changes all functioning resource groups on the cluster to an offline state. If any transition fails shutdown does not complete, and an error message is displayed.
- Unmounts all cluster file systems. If any unmount fails, `scshutdown` does not complete, and an error message is displayed.
- Shuts down all active device services. If any of the transitions fail, `scshutdown` does not complete, and an error message is displayed.
- Runs “`/usr/sbin/init 0`” on all nodes.

grace-period changes the number of seconds from the default 60 seconds.

message is a string that is sent out following the standard warning message “The system will be shut down in...seconds before `scshutdown` begins.”

Troubleshooting SEM CORBA Administration Problems

This chapter provides information on resolving Common Object Request Broker Architecture (CORBA) Gateway process and administration situations encountered with Solstice EM.

This chapter describes the following topics:

- Section 8.1 “Troubleshooting Gateway Processes” on page 8-1
- Section 8.2 “Problems Starting the SEM CORBA Gateway” on page 8-2
- Section 8.3 “Problems Connecting to the CORBA Gateway” on page 8-3
- Section 8.4 “Problems Connecting to the Event Gateway” on page 8-4

8.1 Troubleshooting Gateway Processes

When troubleshooting CORBA Gateways the first thing to do would be to check the log files associated with the CORBA Gateway processes. These files contain the error messages that are logged by the gateway. TABLE 8-1 lists the log files that are generated by default by the CORBA Gateway. These files are located at:

```
/var/opt/SUNWconn/em/debug/
```

You can specify different files to be used as log files by changing the values of the log file configuration variables.

TABLE 8-1 SEM CORBA Gateway Log Files

File	Description
em_corba_epr.log	Event Port Registry log file
em_corba_rgw.log	Request Gateway log file

TABLE 8-1 SEM CORBA Gateway Log Files

em_corba_mgw.log	Metadata Gateway log file
em_corba_eds1.log	CORBA EDS 1 log file
em_corba_eds2.log	CORBA EDS 2 log file

8.1.1 Locating Vendor Specific Log Files

The above files are located in `/var/opt/SUNWconn/em/debug/` directory.

TABLE 8-2 Vendor Specific Log Files

File	Description
cos_naming.log	Naming Service log file
osagent.log	OSAGENT log file (VisiBroker specific)

8.2 Problems Starting the SEM CORBA Gateway

Problem: When you attempt to start CORBA Gateway services for Orbix you get the error message:

```
- could not load naming: missing shlib_name config variable
ERROR: could not load naming: missing shlib_name config variable
```

Probable Cause: The Orbix runtime environment has not been setup on the machine where the SEM CORBA Gateway is being started.

Solution: Install Orbix runtime environment on the machine and then start the CORBA Gateway. Please refer to Chapter 3 in *CORBA Gateway Administration Guide* for details.

8.3 Problems Connecting to the CORBA Gateway

Problem: When you try connecting to the CORBA Gateway, you get the error message:

```
Could not get the root naming context
```

Probable Cause:

- Naming service is not running on the server side.
- Mismatch of `EM_CNS_PORT` variable between client and server sides.
- The client has not sourced `em_corba_env.sh` environment file.

Solutions:

1. **Run `em_services -start -debug` to start the service on the server side.**
2. **On the client side source `/opt/SUNWConn/em/bin/em_corba.env.csh` and run client.**

Problem: You get the following error message when you try connecting to the CORBA Gateway:

```
VisiBroker: Unable to locate agent. Will try every 15 seconds  
to locate agent
```

```
DSUser:: Unable to contact agent. Make sure there is an agent  
running on this network
```

Probable Causes:

- Mismatch of env variable “`OSAGENT_PORT`” between the client and server.
- `OSAGENT` daemon is not running on the server side.

Solutions:

1. **Source `/opt/SUNWConn/em/bin/em_corba.env.csh` on the client side as well to ensure that the env variables are same on both sides.**
2. **Start `em_services` on server side by executing following command:**

```
em_services -start -debug
```

8.4 Problems Connecting to the Event Gateway

Problem: While accessing the Event Gateway channel on a client machine you get the error message:

```
Obtained 0 Event Channels  
FAILED to setup_event_channel: CORBA::BAD_PARAM  
CORBA::BAD_PARAM
```

```
Terminating...
```

Probable Cause: VisiBroker/Orbacus specific event service is not running.

Solution:

1. **If server side is up and running, then on the client side ensure that the event services is started.**

As an example vendor specific event services is started in the following way:

- `% events <testChannel>` for VisiBroker
- `% eventserv -i` for Orbacus

2. **Run your client program.**

Troubleshooting C++ Application Development Problems

This chapter provides information on resolving problems with Solstice EM from a development perspective. For detailed information on working with Solstice EM from an application development perspective, see the *Developing C++ Applications* guide.

This chapter discusses the following topics:

- Section 9.1 “Solstice EM API Problems” on page 9-1
- Section 9.2 “GDMO Problems” on page 9-4

9.1 Solstice EM API Problems

9.1.1 PMI Album Derivation is Slow to Complete

Problem: When multiple GETs are scoped through the Portable Management Interface (PMI) with the responses buffered, performance degrades.

Probable Cause: When the MIS processes a GET, it sends a response to the PMI. Upon receiving the response, the PMI attempts to construct an image out of the response to be included in the Album. To do so, it needs the Meta Data Repository (MDR) information for the class. Upon checking the cache, it finds no such information and sends an ACTION to the MIS to get the MDR information. The MIS, however, cannot get to the ACTION until all the responses have been completed. Thus, the PMI queues the remaining responses until the ACTION is satisfied.

Solution: To avoid making the PMI wait for the MIS responses to complete, pre-cache the information from the MDR.

Replace the following code:

```
album.set_derivation("xxxxxx/LV(1)");  
album.derive();
```

with the following code:

```
Image im(duNONE, <objectClass>);  
im.boot;  
album.set_derivation("xxxxxx/LV(1)");  
album.derive();
```

See Also: *C++ API Reference* for information about the specific syntax of API functions and classes and *Developing C++ Applications* guide.

9.1.2 Missing Application Error Messages

Problem: PMI calls are compiled in your application, but when you run the application, you do not see any error messages and it does not do what you expected.

Probable Cause: Verify that the appropriate error handling routines are called in your application.

See Also: *C++ API Reference* for information on the `Error` Class.

9.1.3 Rogue Wave Class Errors

Problem: Rogue Wave classes (for example, `Tools.h++`) display error messages during compilation that appear to blame the Rogue Wave class files. The errors will be similar to

```
"/opt/SUNWspro/.../include/CC/rw/regex.h," line 74: Error: "}"  
expected instead of "(" . And, "/opt/SUNWspro/.../include/CC/rw/  
regex.h", line74: Error: no direct declarator preceding "(" .
```

Solution: You must include the Rogue Wave classes before the PMI classes.

For example, if you had the following series of include statements:

```
#include <pmi/hi.hh>
#include <rw/cstring.h>
#include <rw/regex.h>
#include <rw/rstream.h>
```

you should change the sequence to:

```
#include <rw/cstring.h>
#include <rw/regex.h>
#include <rw/rstream.h>
#include <pmi/hi.hh>
```

See Also: *Developing C++ Applications* guide.

9.1.4 Synchronous Confirmed Requests Do Not Work in Event Callbacks

Problem: A synchronous, confirmed request (also called a “round-trip request”) `viewerapi_send_request()` in an event callback (handler) was sent and did not work.

Probable Cause: This does not work because the response would come to the event queue of the sending process, but the sending process would not be able to examine the queue because it was already in an event callback. Only after the callback completes can the event queue be examined. Therefore, `viewerapi_send_request()` would be blocked until time-out, but the request may be sent out and executed successfully in the remote process.

Solution: Try these actions to solve the problem:

- Send an asynchronous request:
`viewerapi_start_send_request()`.
- Or in simple cases, send an unconfirmed request:
`viewerapi_send_request_unconfirmed()`.

If possible, do the synchronous, confirmed request outside the callback.

See Also: *C++ API Reference* guide For information about the specific syntax of API functions and classes.

9.2 GDMO Problems

9.2.1 Notification Error

Problem: You create a new GDMO document with your notification and add a mapping in every object so that your event will be logged as an emAlarmRecord.

Everything goes smoothly (no GDMO compilation errors), but when the event is sent, probableCause and specificProblems are not logged even though they were present in the event.

Your GDMO document looks like this:

```
myEvent      NOTIFICATION
BEHAVIOUR      snmAlarmEventBehaviour;
WITH INFORMATION SYNTAX Notification-ASN1Module.AlarmInfo
AND ATTRIBUTE IDS      probableCause probableCause,
specificProblems specificProblems;
REGISTERED AS {em-mpa-notification 1};
myEventBehaviour
BEHAVIOUR
DEFINED AS
"This notification is used to send my event duh";
```

probableCause and specificProblems are defined in a different GDMO document and this was not caught during compilation. When the logRecord is created, the log module cannot find those attributes so it bypasses them.

Solution: The attributes should be defined as follows:

```
AND ATTRIBUTE IDS
probableCause
"Rec. X.721 | ISO/IEC 10165-2 : 1992": probableCause,
specificProblems
"Rec. X.721 | ISO/IEC 10165-2 : 1992":specificProblems;
```

For detailed information about GDMO, see the *ITU X.722 ISO/IEC 10165-4 Guidelines for the Definition of Managed Objects (GDMO)*.

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