

Sun Management Center - Tivoli TEC Adapter Installation Guide

Sun Microsystems, Inc. 4150 Network Circle Santa Clara, CA 95054 U.S.A.

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Preface

This book describes how to install and configure the Sun Management Center Integration package for Tivoli systems. Installation and configuration of this product should be performed by an experienced Tivoli administrator, who is familiar with the Sun Management Center product.

Before You Read This Book

This book assumes that the Tivoli environment has been correctly configured. The installation of the Sun Management Center Adapter package should be performed by an experienced Tivoli administrator. In particular, the Tivoli Logfile adapter software must be installed so that the appropriate adapter directories and infrastructure exist. Refer to the Tivoli *TME10 Enterprise Console Adaptor's Guide* for Tivoli-specific procedures.

In addition, this book assumes that the Sun Management Center Console, all Sun Management Center-related .jar files, and the Sun Management Center-included JavaTM Runtime Environment have been installed on the Tivoli server where the Sun Management Center Adapter package will run. Refer to the *Sun Management Center 3.5 User's Guide* for instructions on how to install this software.

Using UNIX Commands

This book might not contain information about basic UNIX[®] commands or procedures for shutting down the system, booting the system, or configuring devices.

For this information, refer to one or more of the following references:

- Solaris Handbook for Sun Peripherals
- docs.sun.comSM online documentation for the SolarisTM operating environment
- Other software documentation that you received with your system

Typographic Conventions

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

Typeface or Symbol	Meaning	Example
AaBbCc123	The names of commands, files, and directories; on-screen computer output	Edit your .login file.
		Use 1s -a to list all files.
		machine_name% you have mail.
	What you type, contrasted with on-screen computer output	machine_name% su
		Password:
AaBbCc123	Command-line placeholder: replace with a real name or value	To delete a file, type rm <i>filename</i> .
AaBbCc123	Book titles, new words, or terms, or words to be emphasized.	Read Chapter 6 in User's Guide.
		These are called <i>class</i> options.
		You must be <i>root</i> to do this.

 TABLE P-1 Typographic Conventions

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%

TABLE P-2 Shell Prompts (Continued)

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

Related Documentation

TABLE P-3 Related Documentation

Торіс	For More Information	
Sun Management Center Installation	Sun Management Center User's Guide	
TEC adapters	TME10 Event Integration Facility User's Guide	
Tivoli task libraries and tasks	TME10 Framework User's Guide	
Tivoli BAROC file and rules	TME10 Enterprise Console Rule Builder's Guide	
Tivoli Console and tasks	TME10 Enterprise Console User's Guide	

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CHAPTER 1

Tivoli Integration Package Installation

The Tivoli Integration package is installed as an add-on to the Sun Management Center software. The software runs on the Solaris 2.6, Solaris 7, Solaris 8, and Solaris 9 operating environments. The integration supports Tivoli versions 3.6, 3.7, and 3.7.1

The Tivoli Management Environment (TME) provides general network monitoring capabilities. The Sun Management Center product provides advanced and in-depth information for monitoring Sun products. The integration of these two applications provides Tivoli administrators with a significant additional range of operations for managing networks that contain Sun products. The TME performs two functions. The first function of the product is to pass alarms from the Sun Management Center software to Tivoli Enterprise Console (TEC), after appropriate filtering and formatting. The second function of the TME is to provide access to the Sun Management Center HostDetails Task Library, thereby enabling Tivoli administrators to display the Sun Management Center HostDetails screen for the host name that is selected in the Tivoli Event Console.

This chapter provides an overview of the individual installation components for this product, as well as detailed instructions on how to install, configure, and uninstall the components.

TEC Adapter Package Overview

The following section describes the components of the TEC Adapter package.

Note – The TEC Adapter is also referred to as the Tivoli Adapter in some instances throughout this book.

Tivoli Files

Following, is a list of the Tivoli files:

- The rootdir for the Tivoli files is \$BINDIR/TME/TEC/adapters.\$BINDIR is defined in /etc/Tivoli/setup_env.sh.
- tecad_symon.baroc, tecad_symon_conf, and tecad_symon.err are located in rootdir/etc. Files that are typically necessary are the TEC Adapter event class definition file, configuration files, and error files.
- The tecad_symon and SMCTaskLib is located in rootdir/bin The adapter file that you need to run is tecad_symon. SMCTaskLib is the task library that contains the Sun Management Center HostDetails launch task for the Tivoli console.

Java Runtime Support Files

- /opt/SUNWsymon/addons/Tivoli/classes file Contains .jar files
- /opt/SUNWsymon/addons/Tivoli/sbin file Contains the following Bourne shell scripts:
 - private/LaunchHDBean.sh file Called from SMCTaskLib to pass required Sun Management Center event parameters to LaunchHDBean.class
 - SunMC_Tivoli Bourne shell scripts to *start* and *stop* the adapters
 - si-start.sh Bourne shell script that sets the appropriate environment variables and starts the SyMONInt application

Other Actions of the Tivoli-Related Setup Script

- The Tivoli-related setup script adds the event server's name to the tecad_symon.conf file.
- The script creates a Tivoli source group for Sun Management Center software.
- The script compiles and adds the Sun Management Center Task Library.
- The script creates, compiles, and loads a Sun Management Center rule base. The script then provides you with the option of restarting the event server. Restarting the event server is required for the new rule base to be recognized.

Preliminary Preparations

Before you begin the installation process for the Tivoli Integration package for Sun Management Center, complete the following preinstallation tasks.

Preinstallation Checklist

Installation of the Tivoli Integration package follows the standard Sun Management Center 3.5 add-on installation procedures. Sun Management Center 3.5 supports graphical user interface (GUI-based) installation and command-line installation. This document explains the installation of the Tivoli Integration package when using the command-line installation method. For more information about add-on installation, refer to the *Sun Management Center 3.5 Installation and Configuration Guide*.

Before beginning the installation, ensure that the following conditions have been met:

- The TME Framework is installed.
- The TEC server is installed.
- The TEC console is installed.
- The C preprocessor cpp is installed in /usr/ccs/lib.
- In Tivoli, that an administrator has been created with the TME Roles admin, senior, and super. See "Creating an Administrator" on page 12.
- JDK[™] version 1.3.1 or higher is installed on machines that are designated for the Sun Management Center server and console components. You can download the JDK software from http://java.sun.com/.
- The \$PATH and the \$JAVA HOME environment variables are set.

Ensure that the DISPLAY and $JAVA_HOME$ environment variables are set in the root login account and in any account that is used to run the Sun Management Center Web or $Java^{TM}$ console.

The default location for JDK version 1.3.1 and 1.4 is /usr/j2se.

Note – For specific instructions on how to set the Java environment variables, see "Java Environment Variables and Path" in the *Sun Management Center 3.5 Installation and Configuration Guide.*

- The Sun Management Center server that you want to connect to has been started.
- You are running the appropriate version of the Sun Management Center software. The Tivoli Integration package for Sun Management Center is supported only for Sun Management Center versions 2.1 or later.

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Limitations of the Tivoli Adapter

The physical host must be a Sun system. The Sun Management Center server layer runs only under the Solaris operating environment. You must size, configure, and balance your system appropriately to satisfy performance and overall operation requirements of both server layers. Consult the appropriate Sun Management Center and Tivoli documentation for further assistance.

Creating an Administrator

Before you install the Tivoli Integration package, you must create an administrator. The admin role is used for log in purposes when you use the \$tec_console & command. This role is also used to view events from Sun Management Center.

To Create an Administrator

1. Start the Sun Management Center processes by typing the following command as superuser:

```
# cd /opt/SUNWsymon/sbin/
# ./es-start -A
```

2. Start the Tivoli desktop.

```
# setenv DISPLAY ${hostname}:0.0
# . /etc/Tivoli/setup_env.sh
# tivoli &
```

- 3. Select the Administrators icon. Choose the Create menu in the window that is displayed; select Create Administrator.
- 4. Enter the appropriate information in the Administrator Name, User Login Name, and Group Name fields.
- 5. Select the Set TMR Roles property. The Set TMR Roles window is displayed.
- 6. Select admin, senior, and super from the Available Roles window. Click the left arrow to move these roles to the Current Roles window. Click Set or Set & Close to validate the settings.
- 7. In the Create Administrator window, select Set Logins.

```
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```

The Set Login Names window is displayed.

8. Type the login name and press Return.

The login name will be displayed in the Current Login Names window. You can also select the Remove button to remove the login names that are displayed.

- 9. Select the Set or Set & Close button to validate the Current Login Names.
- 10. In the Create Administrator window, select the Set Resource Rules and Set Notice Groups buttons to set corresponding parameters.

For more information on creating an administrator with admin, senior, and super TMR roles, refer to *Tivoli Framework User's Guide*.

Tivoli Integration Package for Sun Management Center Installation

Once you have completed all of the preinstallation tasks, you are ready to install and configure the Tivoli Integration package for Sun Management Center.

▼ To Run the Installation Script

- 1. As superuser, type the following command to run the installation script:
 - # /opt/SUNWsymon/sbin/es-inst

The /opt directory is where Sun Management Center is installed. If the installation directory for your system is different, substitute the correct directory for your system when typing the command.

2. When prompted, enter the source directory for the Tivoli Integration package files.

Please enter the source directory:

/Tivoli Integration package directory/disk1/image

3. To install the Tivoli Integration package, answer yes when prompted.

The es-inst script installs the Tivoli Integration package.

Tivoli Integration Setup

After the installation has completed, you need to run the Tivoli Integration setup script for Sun Management Center. You can run this script for all Sun Management Center components found on the system or for only the newly installed add–on.

▼ To Set Up the Tivoli Integration

To set up the Tivoli Integration, choose one of the following options:

- If you want to run the setup script for all Sun Management Center components found on the system, answer y when prompted.
- If you want to run the setup script for the newly installed add-on only, answer n after the installation.
- As superuser, run the Tivoli Integration setup script.
 - # /opt/SUNWsymon/sbin/es-setup -p Tivoli

where /opt is the directory where Sun Management Center is installed. If this directory is different on your system, substitute the name of the correct directory when you run the command.

Note – Running the Sun Management Center setup script automatically invokes the setup script for add-ons.

Parameters Checklist Setup

After you install the Tivoli Adapter package, the setup script prompts you for the following information:

- *Tivoli Adapter port number* The default is port 2323. However, if port 2323 conflicts with another application that is using that port, you can specify a different port when prompted.
- Tivoli Policy Region The script prompts you for the Tivoli Policy Region in which the Sun Management Center Task Libraries should be created. The policy region must already exist, or the script will fail.
- Tivoli Event Server Prompts you to restart the Tivoli Event Server. Restarting the Tivoli Event Server is required for the new Sun Management Center rule base to be recognized by Tivoli. If you choose not to have the installation script restart the

server, you must restart the server manually before the integration will function correctly.

Ensure that the Tivoli Event Server restarts successfully and without errors. If the Event Server doesn't restart successfully, neither the adapter nor the SyMONInt application can be started by using the installation script. You will need to perform these steps manually.

 TEC Adapter – If you want the installation script to start the TEC adapter, answer yes. If you answer yes, the adapter will be started by invoking the \$BINDIR/TME/TEC/adapters/bin/tecad_symon executable.

Note – If the TEC adapter does not start successfully, the SyMONInt application cannot be started automatically. You will need to perform these steps manually. See "Starting the TEC Adapter and SyMONInt Applications Separately" on page 20

SyMONInt startup application – Prompts you to start the SyMONInt startup application. If you answer yes, the script /opt/SUNWsymon/addons/Tivoli/sbin/si-start.sh is run. This application must be running in order for the integration to work correctly. If you choose to not have the installation script start the application, you must start the application manually.

You will need to restart the SyMONInt startup application in the following instances:

- After rebooting the system
- If the process dies
- If the process is killed by manually running the si-start.sh program

TEC Adapter Package Setup

When setting up the TEC Adapter package, watch for error messages, particularly failures of Tivoli commands. Most errors are likely to be permission-related. There is also the possibility of encountering Tivoli-generated errors when compiling the task library or creating and compiling the rule base.

To set Up the TEC Adapter Package

During the setup process, you will be prompted to enter configuration information. Enter the information that is appropriate for your system in response to the following prompts: 1. Type the display name.

For example: *host name* :0.0.

- 2. Type the port number. The default port number is 2323.
- 3. Type the region name. This is the name of an existing Tivoli Policy Region.
- 4. Type y at the prompt to restart the Event Server, or n if you do not want to restart the server.
- 5. Type y at the prompt to restart the Sun Management Center Adapter, or n if you do not want to restart the adapter.
- 6. Type y at the prompt to restart the Java Application, or n if you do not want to restart the application.

During the setup process, the script performs the following actions:

- Copies files from the Tivoli Integration packages to the following directories:
 - \$BINDIR/TME/TEC/adapters
 - /opt/SUNWsymon/addons/Tivoli
- Adds the event server's name to the \$BINDIR/TME/TEC/adapters/etc/tecad_symon.conf file.
- Creates a Tivoli source group for Sun Management Center software.
- Compiles and installs the Sun Management Center Task Library to the Tivoli Policy Region.
- Creates, compiles, and loads the Sun Management Center rule base to Tivoli.
- If you answered yes to restart the Event Server, restart the SunMC Adapter, or
 restart the Java Application when setting up the adapter package, the Event Server,
 the Sun Management Center Adapter, and the Java Application will be restarted.

Uninstalling the TEC Adapter Package

▼ To Uninstall the TEC Adapter

- 1. To uninstall the TEC Adapter package, run the following command as superuser:
 - # /opt/SUNWsymon/sbin/es-uninst

where /opt is the directory where Sun Management Center is installed. If this is not the installation directory for your system, substitute the name of the correct directory when you run the command.

2. From the list of products that are displayed, choose Sun Management Center Tivoli Integration.

The script removes any relevant files and stops any active processes.

To Delete the Sun Management Center Task Library

If Sun Management Center Task Library is not deleted, you can delete it manually from the Tivoli console.

- 1. Go to the appropriate Tivoli Policy Region.
- 2. Select the SunMC Task Library icon.
- 3. Select Edit \Rightarrow Delete.

Troubleshooting the Tivoli Integration for Sun Management Center Installation

If you encounter problems with the installation, verify the following information:

- The Tivoli Framework and TEC server have been installed.
- The Sun Management Center console and Sun Management Center-supported Java Runtime Environment have been installed.
- The Tivoli Event Server is running.
- The Sun Management Center server is running.
- The Tivoli Policy Region name you specified exists in the Tivoli server.
- The C preprocessor cpp exists in the /usr/ccs/lib directory.

Additional Help

Further assistance with Tivoli problems can be found at http://www/support/tivoli.com.

Online Sun Management Center documentation may be found at http://www.sun.com/sunmanagementcenter.

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CHAPTER 2

Starting and Using the Tivoli Applications

This chapter describes how to start and stop the TEC Adapter and the SyMONInt application. Instructions for performing the Tivoli application tasks are also included in this chapter.

The SyMONInt application:

- 1. Retrieves Sun Management Center events from a Sun Management Center server, based on user login and filter input.
- 2. Maps some of the fields into Tivoli equivalents.
- 3. Creates a Tivoli-ready event string and passes that string to the tecad_symon TEC Adapter.

Both the tecad_symon process and the SyMONInt applications need to be running for this product to function correctly. The applications can be started either together or separately.

Starting the TEC Adapter and SyMONInt Application Together

Use the SunMC_Tivoli command to start the TEC Adapter and the SyMONInt application together. The command syntax is:

/opt/SUNWsymon/addons/Tivoli/sbin/SunMC_Tivoli [start | stop] [
-c filename [-u username]] | [-h]

If no parameters are specified, the SyMONInt GUI will start. The following parameters are optional:

- -c *filename* Reads configuration parameters from *filename* to start the TEC Adapter and the SyMONInt application.
- -u user name Specifies the user name to be connected to Sun Management Center server. The -u parameter may be specified only if the -c parameter has been specified.
- -h Prints usage message for SunMC_Tivoli.

To Start the TEC Adapter and the SyMONInt Application Together

1. Change directories to the sbin directory.

cd /opt/SUNWsymon/addons/Tivoli/sbin

2. As superuser, set the \$JAVA HOME environment variable.

For more information about setting the \$JAVA_HOME variable, see the "Preinstallation Checklist" on page 11.

3. Run the SunMC_Tivoli command.

SunMC_Tivoli start

Starting the TEC Adapter and SyMONInt Applications Separately

Under certain conditions, you might need to start the TEC Adapter and the SyMONInt applications separately. For example:

- One of the processes dies.
- You need to change the filtering criteria for an event. In this instance, you would
 restart the SyMONInt process only.

Note – If you are starting the applications separately, you must start the TEC Adapter before the SyMONInt spplication.

The tecad_symon command opens a socket to the SyMONInt application and accepts Tivoli-ready event strings.

To Start the TEC Adapter

1. Set the Tivoli environment.

If you are running the Bourne shell, type the following command:

- # . /etc/Tivoli/setup_env.sh
- If you are running the C shell, type the following command:
- # source /etc/Tivoli/setup_env.csh

2. Start the TEC Adapter.

```
# $BINDIR/TME/TEC/adapters/bin/tecad_symon -1 \
  $BINDIR/TME/TEC/adapters/etc/tecad_symon.conf \
  -p TEC-adapter-port-number &
```

To Start the SyMONInt Application

- 1. Change directories to the /opt/SUNWsymon/addons/Tivoli/sbin directory.
- 2. Set the \$JAVA_HOME environment variable.

For more information about setting the \$JAVA_HOME variable, see the "Preinstallation Checklist" on page 11.

3. Run si-start.sh to start the SyMONInt GUI.

This script sets the appropriate environment and invokes the SyMONInt.class program. The parameter-entry window is displayed.

- 4. In the parameter-entry window, enter appropriate the information for all mandatory fields. Enter the appropriate information for any optional fields you choose.
- 5. Select the File \Rightarrow Save menu.

The File Dialog menu is displayed.

- 6. Specify the directory and file name in which to save the current configuration information.
- 7. Select the File ⇒ Start menu choice to connect to the Sun Management Center server.

SyMONInt Startup Parameters

The following table lists the startup parameters for the Sun Management Center Integration window.

Parameter	Mandatory/Optional	Description
User name and Password	Mandatory	Valid Sun Management Center user name and corresponding password.
Sun Management Center Server	Mandatory	Host name of the Sun Management Center server from which you want to receive events.
Tivoli-server	Mandatory	Host name of the Tivoli server to which you want to send events.
TEC Adapter Port Number	Mandatory	Port number for the TEC Adapter's socket connection with the Sun Management Center integration Java [™] application. The default port is 2323. If you chose a different value at installation time, you must enter that new port number here.
Sun Management Center Server RMI Port Number	Mandatory	Port number at which the Sun Management Center server receives RMI connections. The default port is 2099. If you chose a different value for your Sun Management Center configuration, you must enter that new port number here.
Domain to filter on	Optional	If you only want to see Sun Management Center events from a specific Sun Management Center domain, enter that domain name here. The default is to receive events from all Sun Management Center domains set up on the specified Sun Management Center server.
host name or host names to filter on	Optional	If you only want to see Sun Management Center events originating from a specific machine, enter those host names here, separated by spaces. The default is to receive events from all machines that are monitored by the specified Sun Management Center server.
Alarm State or States to filter on	Optional	If you only want to see events in a specific state, Open, Closed, Fixed, check the appropriate boxes. The default is to receive events in all states.

Parameter	Mandatory/Optional	Description
Acknowledgement State or States to filter on	Optional	If you want to only see acknowledged or unacknowledged events, check the appropriate box. The default is to receive events in both states.
Severity State or States to filter on	Optional	If you want to only see events with specific Sun Management Center severity states, check the appropriate box or boxes. Refer to the <i>Sun Management</i> <i>Center User's Guide</i> for additional information about Sun Management Center's severity levels. The default is to receive events in all severity states.

Note – If the Domain to filter on and host name to filter on are set at the same time, the parameter for Domain to filter on has the higher priority.

Stopping the Tivoli Applications

Use the ${\tt SunMC_Tivoli}$ command to stop the TEC Adapter and the SyMONInt application together.

To Stop the TEC Adapter and SyMONInt Applications

- 1. Change directories to the /opt/SUNWsymon/addons/Tivoli/sbin directory.
- 2. As superuser, type the following command:
 - # SunMC_Tivoli stop

Tivoli Application Tasks

The following section provides instructions for performing Tivoli tasks.

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▼ To View the Sun Management Center-Generated Events

1. Start the Tivoli Enterprise Console.

For more information about starting the Tivoli Enterprise Console, refer to the *Tivoli Enterprise Console User's Guide*.

2. Create an event group.

An event group must be created to view Sun Manangement Center events in the event console.

3. Add the Tivoli administrator that you created in the previous chapter to the event group.

See "Creating an Administrator" on page 12.

- 4. Create a filter for this event group to view only events with the source as SunManagementCenter.
- **5.** Double-click inside the Administrator's Event Console. The Event Sources window is displayed.
- 6. Select either the All or SunMC group choices for event viewing. The Sun Management Center-generated event window is displayed.

▼ To Start the HostDetails Task

To view or manipulate the attributes and properties associated with the hosts managed by the Sun Management Center software, run a TEC task to launch the console window that contains the host detail information.

- 1. Select a Sun Management Center-generated event from the event list.
- 2. For the event you selected in the previous step, choose Selected ⇒ Task Execution for the event.

The Tasks window is displayed.

- 3. Select the Execute Task button and then Launch SunMC HostDetails.
- 4. When prompted for a host name for which you wish the Sun Management Center windows to be displayed, enter the host name, then select Execute. A scaled-down version of the Sun Management Center login screen is displayed.
- 5. To display the HostDetails window, enter a valid Sun Management Center user name and password, then select Login. The HostDetails window for the host you selected is displayed.
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Troubleshooting the Tivoli Applications

The following section provides troubleshooting suggestions for problems you might encounter while using the Tivoli applications.

TEC Adapter Cannot Start Up Successfully

If the TEC Adapter does not start up successfully, verify the following information:

- The TEC server is running.
- The current port number is used.
- The Tivoli environment has been set correctly. To set the environment correctly, type the following command, if you are running the Bourne shell:

```
# . /etc/Tivoli/setup_env.sh
```

If you are running the C shell, type the following command:

```
# source /etc/Tivoli/setup_env.csh
```

SyMONInt Application Cannot Start Up Successfully

If the SyMONInt application does not start up successfully, verify the following information:

The TEC Adapter is running. To determine if the TEC Adapter is running, type the following command:

ps - ef | grep tecad_symon netstat -a | grep TEC-Adapter-port-number

- The Sun Management Center server is running. The Sun Management Center server's version must be 2.1 or later.
- The Sun Management Center user name and password are valid.
- The \$JAVA HOME environment variable is set.

For more information about setting the \$JAVA_HOME variable, see the "Preinstallation Checklist" on page 11.

The Sun Management Center Console, version 2.1 or later, has been installed.

Sun Management Center Alarms Cannot Transfer to Tivoli

If the Sun Management Center Alarms cannot transfer to Tivoli, verify the following information:

- The TEC Adapter and the SyMONInt application are running correctly.
- The TEC server has been restarted after the installation.
- Events are successfully reaching the console. Use the Tivoli wtdumpr1 and wtdumper commands to determine if events are successfully reaching the console.
 Depending upon how the time parameters for receiving events are set, it is possible for old, closed events to reach Tivoli. However, these events might be discarded because they are closed and older than the Tivoli server is set to accept.

Cannot Run Sun Management Center Task Library

If you cannot run the Sun Management Center Task Library, verify the following information:

- The current user has senior, user, and admin roles.
- The xhost permissions for displaying the task from the Tivoli server to the admin machine are set correctly.

If you encounter permissions problems when running the Sun Management Center Task Library, complete the following steps to determine that correct permissions are set in the Task Library:

▼ To Verify Permissions in the Sun Management Center Task Library

- Double-click the icon of the appropriate Tivoli Policy Region in which the Sun Management Center Task Library was installed. The Policy Region window is displayed.
- 2. Double-click the Sun Management Center Task Library icon. The Task Library window is displayed.
- **3. Press mouse button 3 on the HostDetails icon, then select Edit Task.** The Edit Task window is displayed.
- 4. Verify that Roles Required has the admin, senior, and super roles selected. Verify that there is an asterisk,*, in both the User Name and Group Name fields.

Note – The admin, senior, and super roles are the default permissions, so you should not need to change anything.

5. Select Change&Close to return to the Sun Management Task Library.