Enterprise SQL Server Manager™ Installation and Planning Guide

Enterprise SQL Server Manager Release 11.0
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About This Book

This book provides the information you need to install Enterprise SQL Server Manager™.

Audience

This book is intended for system administrators responsible for installing Enterprise SQL Server Manager, and assumes you are already familiar with UNIX terminology and concepts.

Documentation Roadmap

The figures on the following pages provide a visual “roadmap” for using the Enterprise SQL Server Manager documentation set.

Installation Documentation Roadmap

The following figure shows the sequence of reading to follow when installing Enterprise SQL Server Manager:

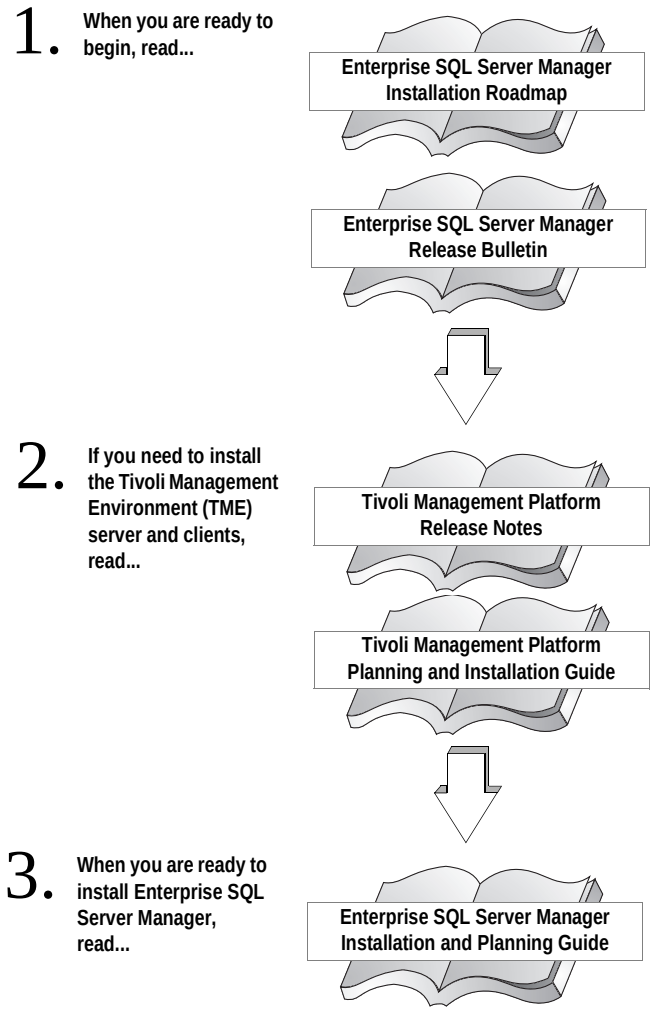

Figure 1: Installation documentation roadmap

User's Documentation Roadmap

The following figure shows the sequence of reading to follow when learning to use Enterprise SQL Server Manager:

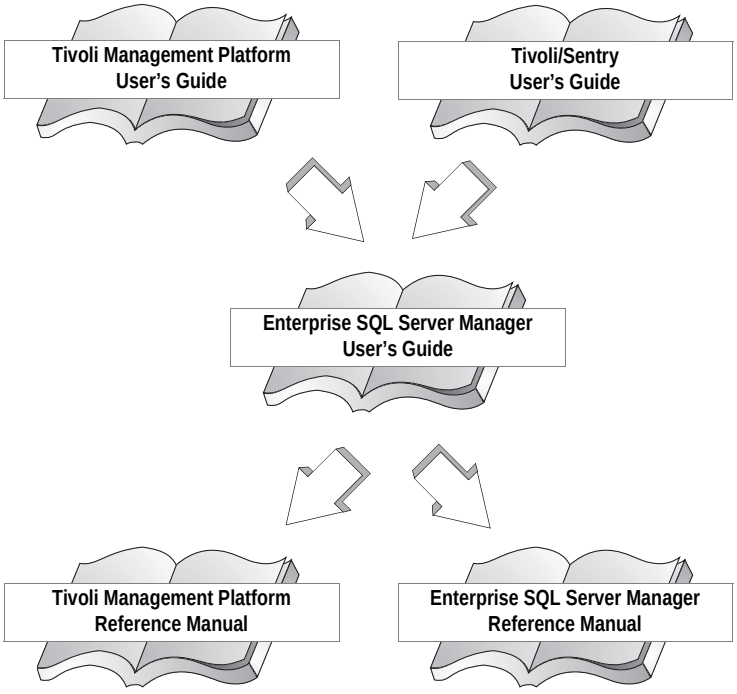

Figure 2: User's documentation roadmap

How to Use This Book

Use this book to install Enterprise SQL Server Manager in the Tivoli Management Environment (TME). This installation guide consists of the following chapters:

- Chapter 1, "Product Overview," gives a brief overview of the features in Enterprise SQL Server Manager.
- Chapter 2, "Planning an Enterprise SQL Server Manager Deployment," discusses issues you should consider when you plan an Enterprise SQL Server Manager installation.
- Chapter 3, "Preparing to Install Enterprise SQL Server Manager," describes the preparations you must make before installing Enterprise SQL Server Manager.
- Chapter 4, "Installing Enterprise SQL Server Manager," describes how to install Enterprise SQL Server Manager as a TME management application.
- Chapter 5, "Upgrading from a Previous Release of Enterprise SQL Server Manager," discusses the upgrade process.
- Chapter 6, "Installing Patches," describes how to install any required patches specified in *Enterprise SQL Server Manager Release Bulletin*.
- Chapter 7, "Getting Started with Enterprise SQL Server Manager," describes how to begin using Enterprise SQL Server Manager after you have installed the product.
- Appendix A, "Troubleshooting," lists common installation problems and suggested solutions.

Related Documents

The Enterprise SQL Server Manager documentation set consists of online help and the following Sybase and Tivoli books:

- *Tivoli Management Platform Release Notes* describe important release-specific information for the release of TME included with your Enterprise SQL Server Manager software.
- *Tivoli Management Platform Planning and Installation Guide* describes how to install the TME server and clients.
- *Enterprise SQL Server Manager Release Bulletin* describes release-specific information, including special installation instructions and known software and documentation issues.
- *Enterprise SQL Server Manager Installation and Planning Guide* (this book) provides step-by-step instructions on how to install Enterprise SQL Server Manager.
- *Tivoli Management Platform User's Guide* describes important concepts and features of the TME. Because Enterprise SQL Server Manager is a TME management application, it is important that you have a general understanding of the TME before you use Enterprise SQL Server Manager.
- *Enterprise SQL Server Manager User's Guide* describes Enterprise SQL Server Manager features and how to use them.
- *Tivoli/Sentry User's Guide* describes the Tivoli/Sentry management application tool. Using Tivoli/Sentry, you can configure Enterprise SQL Server Manager Event Monitoring Services to monitor SQL Server for specific events.
- *Enterprise SQL Server Manager Reference Manual* describes the Enterprise SQL Server Manager command line interface and contains reference pages for each command.
- *Tivoli Management Platform Reference Manual* contains reference pages for TME commands and policy methods.

Conventions

The following sections describe the style and syntax conventions used in this book.

Style Conventions

In this manual, the following conventions identify special information:

Table 1: Text formats

Text format	Identifies...
boldface	Terms that are being defined or emphasized text
italics	File names, variable names, and book titles
`Courier`	Characters that you type or that appear in output
Helvetica	Command names and keywords

Table 2: Margin symbols

Margin symbol	Identifies...
	Information you should write down for future use
	Documentation you should read and have readily available

Command Notation

Examples showing the use of commands appear in boldface Courier font as:

```
sgetlogin –onlynames –server AGRA
```

Type only the characters that are in boldface (Examples do not include the command prompt). Examples of output appear as:

```
*** Logins on Server: AGRA ***
harryc
jhodges
jimmyh
paulgonz
russellp
```

For a command with too many options to fit on one line, such as:

```
sgetlogin –name harryc –summary
–ownershipinfo –passwordinfo
```

you do not need to include line breaks when you enter the command.

Syntax Conventions

In this book, all command syntax statements use the following notational conventions:

Table 3: Command syntax conventions

Example	Description
`scrtlogin`	Command keywords appear in lowercase.
`filename`	Variable arguments (words that stand for values that you supply in the command) appear in italic.
`[-help]`	Brackets mean that including the enclosed items in the command is **optional**. Do not include the brackets in your command.
`{`*`name`* `[-wildcard]}`	Braces mean that you **must** include one or more of the enclosed items. Do not include the braces in your command.
`{true | false}`	The vertical bar means that you may select only one of the two items that appear. Do not include the vertical bar in your command.
`[, device size]...`	Ellipses (...) indicate that you may repeat the preceding item as many times as you like in the command. Do not include the ellipsis in your command.

Include all other characters (commas, parentheses, and others) just as they appear in the command syntax statement.

Roles

Many activities in Enterprise SQL Server Manager are restricted to users with specific TME and SQL Server roles. This manual specifies required roles at the beginning of each procedure, for example:

	TME	ESSM	SQL Server
Required roles	none	**security**	**sso_role**

If You Need Help

Help is available for Enterprise SQL Server Manager in the form of documentation, online help, Sybase Technical Support, and training.

Online Help

Online help provides easy access to all Enterprise SQL Server Manager features. You can access online help from the TME desktop in either of the following ways:

- From the Help menu on any Enterprise SQL Server Manager window's menu bar, choose a help command.
- Choose the Help button that appears on Enterprise SQL Server Manager dialog boxes.

Technical Support

Each Sybase installation site has one person (or more) designated to contact Sybase Technical Support. If you cannot resolve a problem using the manuals or online documentation, ask the designated person at your site to call Sybase Technical Support for help.

Training

Sybase offers a comprehensive SQL Server and database administration class called "SQL Server Administration." For details, contact:

Mail: Education Registrar
Sybase Professional Services
77 South Bedford Street
Burlington, MA 01803

Phone: (800) 8-SYBASE or (617) 564-6970

Fax: (800) 792-2733 or (617) 564-6960

E-mail: *registrars@sybase.com*

1 Product Overview

This chapter presents a brief introduction to Enterprise SQL Server Manager (ESSM). It describes the product's features and its relationship to the Tivoli Management Environment (TME). A complete description of these features is in *Enterprise SQL Server Manager User's Guide*. If you are already familiar with Enterprise SQL Server Manager, skip this chapter and proceed to Chapter 2, "Planning an Enterprise SQL Server Manager Deployment" or Chapter 3, "Preparing to Install Enterprise SQL Server Manager," depending on your needs.

Enterprise SQL Server Manager is a SQL Server administration tool. It is designed to address the needs of an organization that has implemented an enterprise-based client / server architecture. Enterprise SQL Server Manager offers a highly scalable, interoperable, and extensible solution that adheres to a common, standards-based, object-oriented architecture. Running as a TME application, Enterprise SQL Server Manager lets administrators manage multiple SQL Servers that are distributed across multiple hosts from a single desktop.

Enterprise SQL Server Manager as a TME-based Application

Enterprise SQL Server Manager runs as a TME-based management application that installs into the Tivoli Management Platform (TMP) framework.

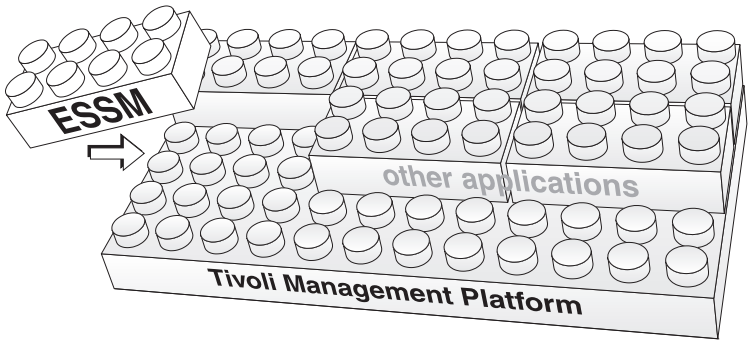

Figure 1-1: Tivoli Management Environment

Running in this interoperable environment, Enterprise SQL Server Manager shares the same framework services used by other management applications. These shared services include:

- Administrator **role** assignment services
- Implementation of rules through policies and policy regions
- Distribution of SQL Server and database objects through TME profile management services
- A common event management facility through Tivoli Monitoring Technology (TMT) and Tivoli / Sentry profiles
- A common notification facility through the TME Bulletin Board services
- Job automation and scheduling through TME Task Library and scheduler services

User Interface

Enterprise SQL Server Manager consists of a graphical user interface (GUI) that you access from the TME desktop and a command line interface that you access from the operating system command line.

Graphical User Interface

Enterprise SQL Server Manager uses both the Tivoli desktop and the following special Enterprise SQL Server Manager windows:

- SQL Server window
- SQL Server Profile Manager window
- Database Profile Manager window

These three windows, also referred to generically as Voyager windows, use a hierarchical list to display all objects managed by Enterprise SQL Server Manager and allow flexibility in managing SQL Server.

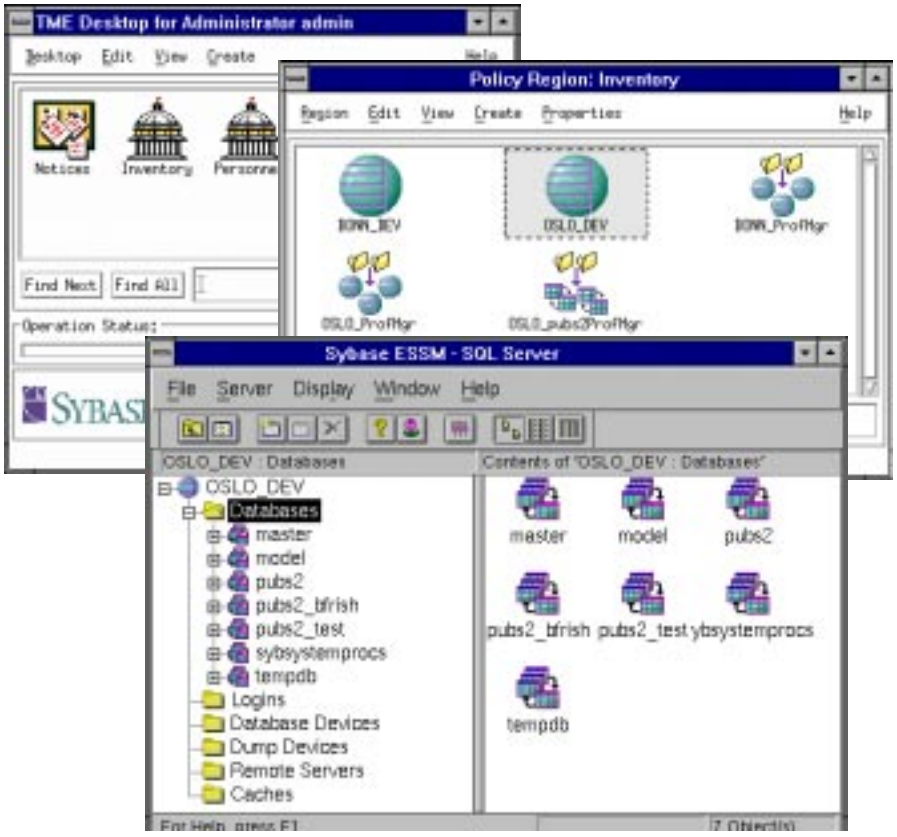

Figure 1-2: The Enterprise SQL Server Manager graphical user interface

For more information about using the TME desktop, see *Tivoli Management Platform User's Guide*. For information about the Enterprise SQL Server Manager GUI, see *Enterprise SQL Server Manager User's Guide*.

Command Line Interface

Enterprise SQL Server Manager includes a comprehensive command set that you can use to perform administration activities from the operating system command line.

Figure 1-3: The Enterprise SQL Server Manager command line interface

In addition to being an alternative to using the graphic interface, Enterprise SQL Server Manager commands offer some features that are not available from the graphic interface. These include:

- Auditing
- Ability to compare objects
- Ability to copy objects

You can create scripts that combine Enterprise SQL Server Manager commands and Tivoli commands with virtually any scripting language, to facilitate batch processing of repetitive or large-scale administrative chores. You can automate this work by saving the scripts as tasks in a TME task library and scheduling them in the desktop scheduler to execute automatically.

For more information about the Enterprise SQL Server Manager command line interface, see *Enterprise SQL Server Manager Reference Manual.*

Policy Region Resources

To allow you to manage and configure SQL Server and database objects in TME policy regions, Enterprise SQL Server Manager adds resource types to the TMR database. These resource types appear in the list of available resource types in every policy region. Enterprise SQL Server Manager uses the following types of resources:

- Managed SQL Server.
- SQL Server Profile Manager.
- Database Profile Manager.
- The profile types used by Enterprise SQL Server Manager.

Default and Validation Policy

You can configure policy for the attributes of SQL Server profiles.

- **Default policy** methods generate default values for attributes of an object in a profile when you create the object.
- **Validation policy** methods check that an object's attribute values comply with those established for that profile type when you create or change the object.

Profile Management

Enterprise SQL Server Manager **profile** management is a powerful tool that allows you to distribute SQL Server and database objects to many SQL Servers across the enterprise in a single step.

The ability to create and distribute profiles is the key to managing your enterprise. Without profile **distribution**, you can manage only one SQL Server installation at a time. With profile distribution, you can manage hundreds of SQL Server installations at a time.

For information about Enterprise SQL Server Manager profile management features, see Chapter 12, "Managing ESSM Profiles," in *Enterprise SQL Server Manager User's Guide*.

Event Monitoring Services

You can use Event Monitoring Services to monitor SQL Server for specific events and to manage responses to the events. Event Monitoring Services are based on Tivoli Monitoring Technology (TMT). TMT is the same event management technology that Tivoli/Sentry uses.

An event occurs when a SQL Server characteristic surpasses a user-defined threshold. For example, you can use Event Monitoring Services to notify you when the number of network packets sent exceeds a specific number or if an error log file records an access error.

For more information about Enterprise SQL Server Manager Event Monitoring Services, see Chapter 14, "Using Event Monitoring Services," in *Enterprise SQL Server Manager User's Guide*.

2 Planning an Enterprise SQL Server Manager Deployment

This chapter helps you plan an Enterprise SQL Server Manager deployment. It provides worksheets for gathering information and a rationale for their use. The material in this chapter does not replace the information in *Tivoli Management Platform Planning and Installation Guide*; this chapter supplements that information and applies it specifically to Enterprise SQL Server Manager.

The general steps for planning an Enterprise SQL Server Manager deployment are:

1. Describe the current enterprise:
   - Business function
   - Database administrator team
   - SQL Server installations
   - SQL Server management environment
2. Plan the components of an Enterprise SQL Server Manager deployment that meets your business needs:
   - Tivoli Management Regions (TMRs)
   - Policy regions
   - Administrator assignments
   - Event monitoring

Before you read this chapter, be familiar with:

- Planning and installation issues discussed in *Tivoli Management Platform Planning and Installation Guide*
- Tivoli Management Platform TMRs, policy regions, profile management, tasks, task scheduling, and policy as described in *Tivoli Management Platform User's Guide*
- The Enterprise SQL Server Manager implementation of profile management and policy as described in Chapters 11 through 13 of *Enterprise SQL Server Manager User's Guide*
- Event Monitoring Services as described in Chapter 14 of *Enterprise SQL Server Manager User's Guide*

Tivoli Management Environment Basics

This section summarizes the components of a Tivoli Management Environment (TME) deployment with specific emphasis on their use with Enterprise SQL Server Manager.

Tivoli Management Region (TMR)

A TMR is a TME Server and the set of clients that it serves. Tivoli recommends that the number of clients be limited to no more than 200 per TMR.

Figure 2-1 illustrates the possible types of clients and servers that you can use in your Enterprise SQL Server Manager deployment and the applications they run. Enterprise SQL Server Manager can also manage SQL Server installations on platforms that are not supported by Enterprise SQL Server Manager (no client software is installed). For more information about managing SQL Server on unsupported platforms, see "Managing SQL Server on Unsupported Platforms" on page 2-36.

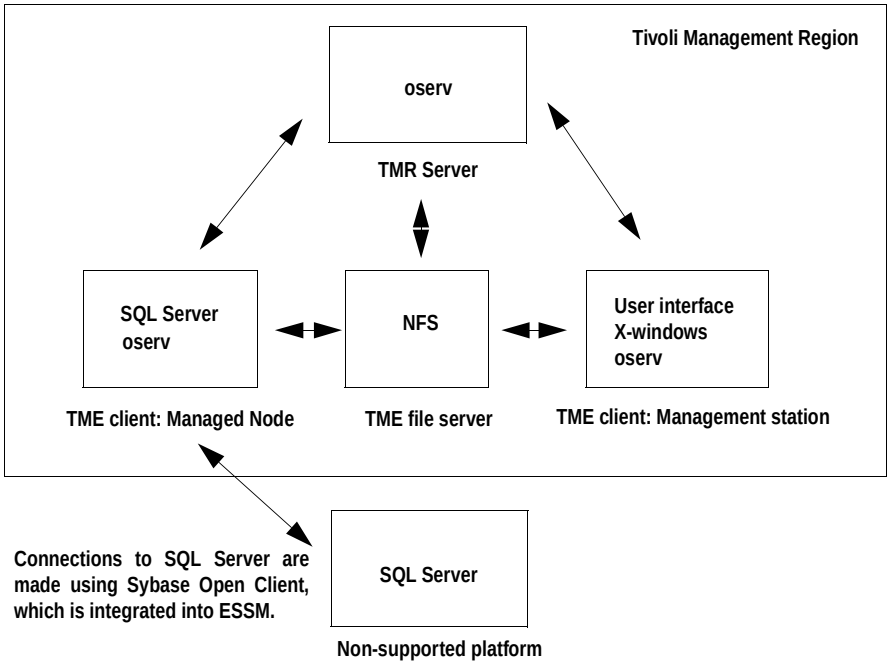

Figure 2-1: Tivoli Management Region configuration

Configuration Summary

This section summarizes information found in *Tivoli Platform Planning and Installation Guide*. Installing Enterprise SQL Server Manager on each of these platforms will require additional disk space. See *Enterprise SQL Server Manager Release Bulletin* for details.

TME Management Server

Also known as the TMR Server, the TME management server manages the authorization, location, and inheritance of TME objects within the TMR. It manages all communication among the oserv daemons within the TMR. Characteristics of a TME server are:

- RAM: 64MB
- SWAP: 128MB
- Good integer performance is more important than floating point performance
- Good networking performance
- Should not run a large number of non-TME applications

The type of system used has significant impact on the overall TME performance. Managing SQL Server from the TME server can degrade Enterprise SQL Server Manager performance.

TME Client (Managed Node)

A TME client is a managed node within a TMR. Typically, this is where SQL Server is running. Characteristics of a TME client are:

- RAM: 64MB
- SWAP: Each Voyager window uses 7MB of swap space

TME File Server

Tivoli suggests that the binaries and manual pages be shared from an NFS file server. This will minimize the disk space required across the enterprise. However, local installations may improve performance. The installation file packs require additional disk space.

TME Management Station (Desktop)

This is the workstation from which an administrator runs the Tivoli Desktop and Enterprise SQL Server Manager. For best performance this machine is neither the TME server or a managed node. Characteristics of a TME management station are:

- RAM: 64MB
- SWAP: 96

  See *Enterprise SQL Server Manager Release Bulletin* for RAM and SWAP requirements of Enterprise SQL Server Manager on different platforms.
- Moderately powerful
- Capable of MOTIF intensive processing
- Good networking performance
- Should not run a large number of non-TME applications

Describing Your Enterprise

The first step in planning your Enterprise SQL Server Manager deployment is to describe your current enterprise. Understanding the following aspects of your enterprise will help you allocate hardware and personnel for your Enterprise SQL Server Manager deployment and map current practices to Enterprise SQL Server Manager features:

- Business functions
- Database administrator team
- SQL Server installations
- SQL Server management environment

Describe the Business Functions

You are implementing Enterprise SQL Server Manager to achieve certain business goals in the management of your enterprise. You can compartmentalize your business functions into Tivoli Management Regions (TMRs) and policy regions. To help plan the logical groups that form the basis for TMRs and policy regions, answer the questions on the Business Functions Description worksheet. This information will help you decide how you want to implement policy regions, profiles, and policies. For more information about these features, see *Tivoli Management Platform User's Guide*, and *Enterprise SQL Server Manager User's Guide*.

Business Functions Description

What are the business functions you want to manage with Enterprise SQL Server Manager?

What processing takes place in these business functions?

What are the relationships among the business functions?

What business units handle these functions?

Where are the business units located?

Describe the Administrator Team

For each administrator who will work with Enterprise SQL Server Manager, record the following information:

- Name
- Location
- Level of responsibility (in whatever terms your business uses)

Use the Administrator Survey to gather administrator information. Later, you will determine which administrators are responsible for which tasks and assign them TME, ESSM, and SQL Server roles.

Administrator Survey

Administrator	Task	Level of Responsibility

Describe SQL Server Installations

Create a map (graphic or textual) of the SQL Server installations that service the business functions you want to manage. Figure 2-2 is a graphic map.

Determine the release level of each SQL Server installation and its host platform for compatibility with Enterprise SQL Server Manager. Use the SQL Server Survey to record the information.

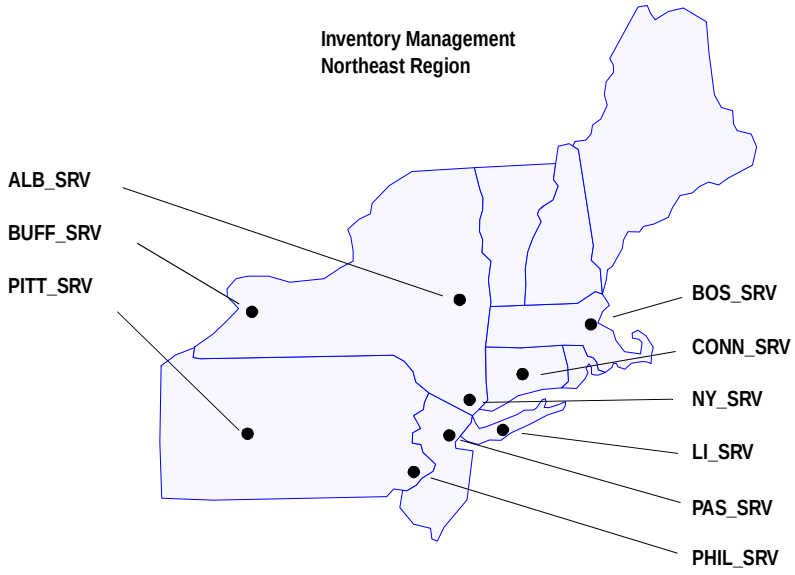

Figure 2-2: Map of SQL Server installations

SQL Server Survey

SQL Server Name	Host	Operating System	O/S Supported by Tivoli/ ESSM?	Location	Memory	Disk space

Describe the Current SQL Server Management Environment

Use the SQL Server Inventory to describe your existing SQL Server management philosophy and implementation:

- Identify any scripts you use to manage day-to-day tasks and the language in which they are written.

  If you rewrite scripts using Enterprise SQL Server Manager commands, you can take advantage of the Enterprise SQL Server Manager security features. You can run tasks on multiple servers in parallel rather than serially. See *Enterprise SQL Server Manager Reference Manual* for information about writing scripts.

- Identify rules for managing SQL Server.

  If you currently have rules for creating or changing SQL Server and database objects, you can enforce them with default and validation policy. Default policy supplies default values when you create an object. Validation policy ensures that the attributes of newly created objects and modified objects conform to values you specify.

- Identify timing of scheduled tasks or batch jobs.

  You can use the Tivoli Scheduler to run tasks at times that are convenient for your organization.

- Identify activities that will not be necessary after you deploy Enterprise SQL Server Manager.

  Using profile management and task scheduling, activities of current administrators can be automated or completed by fewer people.

- Identify dependencies that must be synchronized to take advantage of profile management.

  Some profiles have prerequisites for successful distribution. The SQL Server Inventory helps identify SQL Server installations that do not meet prerequisites.

For each SQL Server, record the information requested on the SQL Server Inventory. Use this information when you create tasks and task libraries, plan policy, and plan profile management.

SQL Server Inventory

SQL Server Startup and Shutdown

List UNIX shell scripts used to start or shut down SQL Server. Do you do anything special in these scripts that needs to be preserved?

_____

_____

_____

_____

_____

Do the scripts do any related processing such as logging server status to an external log file, copying and then truncating the errorlog file, or sending notices? You may be able to incorporate these scripts into tasks during the implementation phase. Describe the processing:

_____

_____

_____

_____

_____

SQL Server Logins Management

Is there a mechanism to synchronize logins across multiple servers using either a BCP or T-SQL script file? If yes, describe:

_____

_____

_____

_____

_____

You can manage these tasks in Enterprise SQL Server Manager using profile management.

SQL Server Inventory, page 2

Database Devices

List database devices and their sizes. If you plan to distribute database profiles, the source and target devices must be the same size for the distribution to be successful. Therefore, if you want to use this feature, you must know your current device sizes, and plan to make them all the same size.

Duplicating Databases and Database Objects Across SQL Servers

Do administrators periodically copy complete databases or smaller objects such as tables across servers? If so, identify the motivations and mechanisms behind such activities. You can use profile management to take over some of these activities.

Backup and Recovery

What is the backup schedule? Distinguish between full and incremental backups.

SQL Server Inventory, page 3

List script files for managing backup and recovery:

_____

_____

_____

_____

_____

List related processing or logging that you may want ported to Enterprise SQL Server Manager:

_____

_____

_____

_____

_____

_____

Rules

List default values that you use when you create SQL Server and database objects:

_____

_____

_____

_____

_____

_____

_____

_____

SQL Server Inventory, page 4

List rules that you apply to SQL Server and database objects, for example naming conventions for devices, minimum character length for names, and so on:

_____

_____

_____

_____

_____

_____

_____

List scripts that you use to enforce rules for creating and changing SQL Server and database objects:

_____

_____

_____

_____

_____

Other Scheduled Jobs

Are there any other regularly scheduled jobs run in support of SQL Server administration either at the server level or at the database level?

_____

_____

_____

_____

_____

Describe Monitoring Practices

Enterprise SQL Server Manager Event Monitoring (EMON) Services monitor over 50 different events or states. Use the Monitoring Survey to list events that you currently monitor and how you monitor them. When you plan your Enterprise SQL Server Manager deployment, decide which of these events you want to monitor using current methods and which you want to monitor using Event Monitoring Services.

Monitoring Survey

List the events you currently monitor on SQL Server. Check the appropriate column for how you monitor the event.

SQL Server	Event	Script	SQL Server Monitor

Planning the Enterprise SQL Server Manager Deployment

Once you have gathered the information described in the previous sections, begin to plan your Enterprise SQL Server Manager deployment. Plan your deployment in the following phases (worksheets are on following pages):

- TMR – TMR Plan
- Policy regions – Policy Region Configuration
- Profile managers – Profile Manager Configuration
- Administrators – Administrator Role Assignment
- Event monitoring – Event Monitoring Plan
- Task management – Task Management

Planning TMRs

Decide how many TMRs you need and complete a TMR Planning worksheet for each TMR.

You can organize management of more than one business function in a TMR by creating policy regions devoted to each function. Alternatively, create a TMR for each major business function. Base this decision on the business functions you are managing, the number of nodes you plan to manage, and the geographical distribution of the nodes.

Use the high level information in the Business Function Description and the information in your SQL Server Survey to help make these decisions.

Avoid managing a SQL Server installation from more than one TMR. This can create synchronization problems.

Managing SQL Server on Nonsupported Platforms

To maximize performance, Sybase recommends one management host per managed SQL Server. This is particularly important if you are managing a SQL Server installation on a platform that does not have Enterprise SQL Server Manager installed or is not supported by the TMP. If you must manage more than one SQL Server from a management host, try to minimize the number per host.

TMR Plan

Complete one worksheet for each TMR.

TMR server: _____

Will this TMR share resources with another TMR? If so, will connections be one-way or two-way? What resource types will you share between the TMRs?

_____

_____

_____

_____

List client machines:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

List policy regions to be created:

_____

_____

_____

_____

_____

_____

_____

_____

Planning Policy Regions

For each policy region listed on the TMR Plan, complete a Policy Region Configuration worksheet. Policy Region Configuration asks for the following information for each policy region:

- Overall purpose of the region
- SQL Server installations to be included in the policy region.
- Profile managers to be created in each policy region

For each profile manager, complete Profile Manager Configuration:

- Define the profiles that you want to manage
- Define the members for each profile
- List the policies needed for each profile
- List the subscribers

Table 2-1 on page 2-24 lists the profiles that you can include in a SQL Server Profile Manager. Table 2-2 on page 2-24 lists the profiles that you can include in a Database Profile Manager.

Planning Policies

As mentioned earlier, default policy supplies default values when you create an object. Validation policy ensures that the attributes of newly created objects and modified objects conform to values you specify.

In Enterprise SQL Server Manager, policies are applied to attributes of profiles in Enterprise SQL Server Manager profile managers. Use the list of rules and default values on the SQL Server Inventory to plan the policies that you want to enforce in Enterprise SQL Server Manager.

Table 2-3 lists the objects and attributes that can be subjected to policy. The *Enterprise SQL Server Manager User's Guide* describe profile managers and policy.

Policy Region Configuration

Complete one worksheet for each policy region.

TMR name: _____

Policy region name: _____

Purpose of policy region:

_____

_____

_____

_____

Managed SQL Server installations in region:

SQL Server SQL Server Host Management Host

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Profile managers in region:

Name Purpose

_____

_____

_____

_____

_____

_____

Profile Manager Configuration

Complete one worksheet for each profile manager in a policy region.

Profile manager type: SQL Server Database

Name: _____

Source: **SQL Server** _____ **Database** _____

Profiles to include (available types listed in Table 2-1 and Table 2-2.):

Profile Type	Profile Name	Populate with	Policies for this Profile

Subscribers to this profile manager:

Table 2-1: SQL Server Profile Manager profile types

Profile Type	Profile operations
SQLServerProfile	Modify SQL Server configuration (you cannot create or delete SQL Servers using profile management)
SQLDumpDeviceProfile	Create, delete dump devices
SQLDbDeviceProfile	Create, modify, and delete database devices
SQLDatabaseProfile	Create databases, modify database options, delete databases
SQLLoginProfile	Create, modify, and delete logins
SQLRemoteServerProfile	Create, modify, and delete remote servers and remote logins
SQLCacheProfile (SQL Server Release 11.0 only)	Create, modify, and delete named caches

Table 2-2: Database Profile Manager profile types

Profile type	Profile operations
SQLDatabaseProfile	Modify database options
SQLSegmentProfile	Create, modify, and delete segments
SQLGroupProfile	Create, modify, and delete groups
SQLUserProfile	Create, modify, and delete database users
SQLDefaultProfile	Create, modify, and delete defaults
SQLRuleProfile	Create, modify, and delete rules
SQLDataTypeProfile	Create, modify, and delete user datatypes
SQLTableProfile	Create, modify, and delete tables
SQLIndexProfile	Create, modify, and delete indexes
SQLViewProfile	Create, modify, and delete views
SQLProcedureProfile	Create, modify, and delete procedures
SQLTriggerProfile	Create, modify, and delete triggers

Table 2-3: Object attributes subject to policy

Profile	Attributes	Type
SQLLoginProfile	Default Database Default Language Login Roles Password (validation policy only)	string string string list string
SQLDbDeviceProfile	Controller Number Logical Name Physical Name Size VDevNo	number string string number number
SQLDumpDeviceProfile	Device Physical Name Size	string string number
SQLRemoteServerProfile	Default Login Map Local Login Remote Server Timeout Encrypt	Boolean string string Boolean Boolean
SQLDatabaseProfile	Database Owner	string string
SQLCacheProfile	Cache Name	string
SQLUserProfile	Aliases Group Login Name User	list string string string
SQLGroupProfile	Name	string
SQLSegmentProfile	Device Names Name	list string
SQLTableProfile	Table Owner Segment	string string string
SQLViewProfile	Name Owner Name	string string
SQLIndexProfile	Index Name Owner Name Segment Name	string string string

Table 2-3: Object attributes subject to policy (continued)

Profile	Attributes	Type
SQLTriggerProfile	Name Owner Name	string string
SQLProcedureProfile	Name Owner Name	string string
SQLRuleProfile	Name Owner Name	string string
SQLDefaultProfile	Name Owner Name	string string
SQLDataTypeProfile	User Datatype Name User Phystype	string string string

Planning Administrator Assignments

Once you decide how to deploy your SQL Server installations, you must decide who will manage them. Use the information on the Administrator Survey worksheet as your starting point for this section. Using the Administrator Role Assignment worksheet:

- Assign the administrators to policy regions or the TMR.
- Assign administrators their responsibilities.
- Add role information to the Administrator Role Assignment worksheet.

Ideally, a hierarchy of administrator tasks is established for the enterprise. Within each TMR, a supervisory administrator assigns other administrators the roles and SQL Server logins they need to accomplish their assigned tasks. This process ensures that SQL Server configurations created and distributed using Enterprise SQL Server Manager cannot be compromised by administrator actions at the local SQL Server level.

To maintain security, an administrator must have the super role for the TMR or policy region to change any SQL Server login and password.

Use the tables in Appendix A of the *Tivoli Management Platform Planning and Installation Guide* to determine the roles required for TMP management tasks.

Enterprise SQL Server Manager roles and their associated tasks are listed in Table 2-4. The *Enterprise SQL Server Manager Reference Manual* and the *Enterprise SQL Server Manager User's Guide* list the role requirements of individual commands and tasks.

Table 2-4: Enterprise SQL Server Manager administrator roles

Role	Authorizes an administrator to perform...
dump	Database backup in managed SQL Servers.
load	Database restore in managed SQL Servers.
server	SQL Server configuration. An administrator can modify a server configuration, manage SQL Servers, display and stop SQL Server processes, and start and stop managed SQL Servers.
security	Authentication, authorization, and auditing. An administrator can create, modify, and delete logins, users, groups, remote servers, and remote logins. Lets an administrator modify object permissions, command permissions, server auditing, and object auditing.
space	SQL Server device configuration and allocation. An administrator can create, modify, and delete devices, dump devices, databases, device mirrors, segments, and thresholds.
schema	Schema management. An administrator can create, modify, and delete defaults, views, user datatypes, triggers, stored procedures, tables, rules.
cache	Cache operations. An administrator can create, modify, and delete named caches.
monitor	Launch of SQL Server Monitor.

Administrator Role Assignment

Administrator	Policy Region	Task	TME/ ESSM Role	SQL Server Role

Planning Event Monitoring

Event Monitoring Services lets you monitor SQL Server for various events or states and initiate responses. Using the Monitoring Survey as your starting point, list the events you want to monitor with Event Monitoring Services. Record the following information:

- Event to monitor
- Profile manager in which you will create a profile for this monitor
- Name of the profile
- Subscribers to this profile (the SQL Server installations that you will monitor for this event)

➤ ***Note***

Event Monitoring Services uses Tivoli profile managers and Sentry profiles, not SQL Server Profile Managers or Database Profile Managers.

For more information about Event Monitoring Services, see "Event Monitoring Services" in *Enterprise SQL Server Manager User's Guide*.

Event Monitoring Plan

Event	Profile Manager	Profile Name	Subscribers

Plan Task Management Using Tivoli Task Libraries

The TME lets you schedule execution of tasks using the Scheduler and task libraries. Use the information from the SQL Server Inventory worksheets to develop a plan for scheduling tasks. You can use existing scripts, rewrite scripts using Enterprise SQL Server Manager commands, and create scripts for tasks that currently are not automated.

For information about the task library, see Chapter 8, “Task Library” in *Tivoli Management Platform User’s Guide*.

Task Management

List tasks to add to the TME task libraries:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

List user tasks to automate through scripts and profile management:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Deploying Enterprise SQL Server Manager

After you complete the TMR Planning worksheet, the Policy Region Configuration worksheet, and the Profile Manager Configuration worksheet, follow the procedures in the rest of this manual to install Enterprise SQL Server Manager. If you are implementing multiple TMRs, implement one TMR at a time, then integrate them.

The rest of this section cross references the worksheets you filled out as part of your planning process to the relevant manuals.

Create Policy Regions

Tivoli Management Platform User's Guide explains how to create policy regions. Use the information on Policy Region Configuration to create the policy regions.

Create Managed SQL Servers

In this manual, Chapter 7, "Getting Started with Enterprise SQL Server Manager," explains how to create managed SQL Servers. Use the information on Policy Region Configuration to create the managed SQL Servers.

Create Administrators

Tivoli Management Platform User's Guide explains how to add administrators to a TMR. In this manual, Chapter 7, "Getting Started with Enterprise SQL Server Manager," explains how to assign SQL Server logins to administrators. Use the information on Administrator Role Assignment to assign roles to the administrators for this TMR.

Create Profile Managers and Profiles

Enterprise SQL Server Manager User's Guide explains how to create profile managers. Use the information on Policy Region Configuration and Profile Manager Configuration to create the profile managers in each policy region.

Create Event Monitors

Enterprise SQL Server Manager User's Guide explains how to configure Event Monitoring Services. Use the information in the Event Monitoring Configuration worksheet to set up the profiles and event monitors you need. See *Tivoli/Sentry User's Guide* for additional information.

Create Task Libraries and Tasks

Tivoli Management Platform User's Guide explains how to create tasks and task libraries. Use the information you listed on the Task Management worksheet to help you create tasks and libraries.

General Considerations for Planning Use of Enterprise SQL Server Manager

Managing SQL Server on Unsupported Platforms

Although Enterprise SQL Server Manager allows you to manage SQL Server running on host machines that Tivoli and Enterprise SQL Server Manager do not support, the following restrictions apply:

- You cannot use Enterprise SQL Server Manager to start SQL Server on an unsupported management host. This includes starting SQL Server using:
  - Start SQL Server dialog box
  - **sstartserver** command
  - Restart Server After Shutdown check box on the Stop SQL Server dialog box
  - **–restart** option of the **sstopserver** command
- You cannot delete operating system files designated as the device's physical device name when you delete database devices for a SQL Server running on an unsupported host.
- You cannot use the **sinstallaudit** command to install the Audit System on SQL Server running on an unsupported host.
- You cannot use Event Monitoring Services to monitor error log entries.

You must manage SQL Server from a supported platform.

Performance

There are several factors that affect the performance of Enterprise SQL Server Manager:

- Number of database administrator operations performed
- Number of objects having an operation being performed on them
- RAM and processing speed of the management host
- Type and speed of the distributed network topology
- Type and speed of the NFS file systems
- Overall performance of the managed SQL Server installations

If you are managing SQL Server installations that are on platforms not supported by Enterprise SQL Server Manager, Sybase recommends that you manage one SQL Server per management host. Managing more than one SQL Server per management host can result in reduced performance.

Network I/O Issues

Depending on your network performance, you may not want to install the TME or Enterprise SQL Server Manager across the network. If not, create a TMR locally and perform the installation of Enterprise SQL Server Manager locally.

In addition to the built-in limitations on TMR size and the enterprise needs that determine policy regions, consider network performance when you plan your TMRs.

3 Preparing to Install Enterprise SQL Server Manager

This chapter describes what you should do before you install Enterprise SQL Server Manager.

Installation Overview

You install Enterprise SQL Server Manager as a management application in the Tivoli Management Environment (TME). This requires the following steps:

1. Install the TME server and clients.

   For information about installing the TME, see *Enterprise SQL Server Manager Release Bulletin*, *Tivoli Management Platform Planning and Installation Guide* and *Tivoli Management Platform Release Notes* (Tivoli documentation and media are included with Enterprise SQL Server Manager). Also, be sure that any Tivoli patches are installed as directed in *Tivoli Management Platform Release Notes* or *Enterprise SQL Server Manager Release Bulletin*.

2. If you are installing Enterprise SQL Server Manager from tape, extract the Enterprise SQL Server Manager files into an installation directory. (If you are installing from a CD, install directly from the CD.)

3. Install Enterprise SQL Server Manager and required patches on the TEM server and desired TME clients using the TME desktop's Product Install and Patch Install dialog boxes.

The remaining sections in this chapter describe what to do before you install Enterprise SQL Server Manager.

Fill out the Enterprise SQL Server Manager Installation Worksheet as you read through this chapter and refer to it as you install Enterprise SQL Server Manager. Keep the completed worksheet for future reference. You may need to refer to this information if you call Sybase Technical Support.

➤ ***Note***

As you read this chapter, watch for the pencil symbol ✎ in the margin to identify information to record on the worksheet.

The Enterprise SQL Server Manager Installation Worksheet is on the next two pages. You can remove it from the manual or photocopy it to have it available when you install Enterprise SQL Server Manager.

Enterprise SQL Server Manager Installation Worksheet

Information from "Install the TME Before You Proceed" on page 3-5

❑ TME version and installed patches meet requirements for this release of Enterprise SQL Server Manager.

To find out what software and patches are installed, follow this procedure:

1. In the Tivoli desktop, choose Desktop→ About.
2. In the About TME dialog box, click Installed Products.

The Installed Products dialog box lists installed products. To find out which patches are installed, click Patches.

Information from "Preparing to Install Enterprise SQL Server Manager From Tape" on page 3-8

❑ Adequate space exists for the Enterprise SQL Server Manager installation directory (for all platforms; tape install only)

✎ Enterprise SQL Server Manager installation directory path name (for all platforms; tape install only):

_____

HP9000 HP-UX

CD media information (if applicable)

✎ CD-ROM device name: _____

Tape media information (if applicable)

✎ Tape device name: _____

Remote media information (if applicable)

✎ Remote machine name: _____

IBM RS/6000 AIX

CD media information (if applicable)

✎ CD-ROM device name: _____

Tape media information (if applicable)

✎ Tape device name: _____

Remote media information (if applicable)

✎ Remote machine name: _____

Sun SPARC Solaris

CD media information (if applicable)

✎ CD-ROM device name: _____

Tape media information (if applicable)

✎ Tape device name: _____

Remote media information (if applicable)

✎ Remote machine name: _____

Information from "Preparing to Install Enterprise SQL Server Manager" on page 3-6

- ❑ TME server and clients installed and running
- ❑ TMR is backed up and in maintenance mode
- ❑ Enterprise SQL Server Manager files for all platforms extracted from Sybase media into installation directory (tape install only)

✎ Tivoli TMR license key:

_____

Information from "Preparing to Install Patches" on page 3-12

Record any patches included with Enterprise SQL Server Manager that you need to install (see the *Enterprise SQL Server Manager Release Bulletin*):

✎ Patch ID: _____

✎ Patch ID: _____

✎ Patch ID: _____

✎ Patch ID: _____

✎ Patch ID: _____

Install the TME Before You Proceed

Enterprise SQL Server Manager is a TME management application, and you install it using the TME desktop's standard Install Product dialog box. Therefore, before installing Enterprise SQL Server Manager, you must have the TME server and clients already installed and running.

TME Software

Your Sybase package includes the Tivoli software and documentation compatible with this release of Enterprise SQL Server Manager. The TME software is on a Tivoli CD and ready to install. To install the TME, follow the directions in *Tivoli Management Platform Planning and Installation Guide* and *Tivoli Management Platform Release Notes*.

If you are already a Tivoli user and want to install Enterprise SQL Server Manager into an existing TME installation, verify that the TME release level and any installed TME patches meet the requirements printed in *Enterprise SQL Server Manager Release Bulletin* for this release of Enterprise SQL Server Manager.

If your existing TME installation meets these requirements (or you are installing from the Tivoli CD included with Enterprise SQL Server Manager), check off "*TME version and installed patches meet requirements for this release of Enterprise SQL Server Manager.*" on your worksheet.

TMR License Keys

If you are installing the TME from the Tivoli CD included with Enterprise SQL Server Manager, your Tivoli Management Region (TMR) license key is on the packing slip accompanying your Sybase software and documentation.

If you plan to create additional regions, you will need a unique license key for each TMR. You can obtain additional keys by sending an e-mail request to *essm@sybase.com*. You will receive an e-mail reply with further instructions.

Documentation to Read

Before you install the TME server and clients, read:

- *Enterprise SQL Server Manager Release Bulletin* (for last minute updates to the Tivoli installation procedure)
- *Tivoli Management Platform Release Notes*
- *Tivoli Management Platform Planning and Installation Guide*
- Your Sybase packing slip (to obtain your TMR license key)

Preparing to Install Enterprise SQL Server Manager

Before installing Enterprise SQL Server Manager from the TME desktop, verify that:

- The TME server and clients are installed and running (see "Install the TME Before You Proceed" on page 3-5)
- You have backed up the TMR in which you are installing Enterprise SQL Server Manager (see Chapter 6, "TME Maintenance and Troubleshooting," in the *Tivoli Management Platform Planning and Installation Guide* for information on how to back up a TMR)

Verify these prerequisites, then check off the corresponding items on your worksheet before beginning the Enterprise SQL Server Manager installation (Chapter 4, "Installing Enterprise SQL Server Manager").

If you are installing from tape, go to "Preparing to Install Enterprise SQL Server Manager From Tape" on page 3-8.

CD-ROM Device Names

Different operating systems use different device naming conventions. If you have trouble finding the names of available CD-ROM devices on your system, see your operating system documentation or system administrator for specific device naming conventions.

➤ ***Note***

The Sybase CD-ROM format is ISO 9660. Your operating system reads this format by default. However, if you experience CD-ROM reading errors, check your operating system to verify that the ISO 9660 option is set.

For each platform on which you are installing Enterprise SQL Server Manager, use your worksheet to record the CD-ROM directory name you intend to use.

Documentation to Read

When you are ready to install Enterprise SQL Server Manager from the TME desktop, read:

- Chapter 4, “Installing Enterprise SQL Server Manager”
- *Enterprise SQL Server Manager Release Bulletin*

Preparing to Install Enterprise SQL Server Manager From Tape

If you are installing Enterprise SQL Server Manager from tape, you must first extract the product files from the tape for each platform into a common installation directory.

The installation directory can be anywhere you choose, and you can give it any name. However, it is important that you:

- Verify that the TME administrator installing Enterprise SQL Server Manager from the TME desktop has permission to read from the Enterprise SQL Server Manager installation directory.
- Verify that there is enough space to hold the Enterprise SQL Server Manager files. The amount of space you need depends on the platforms for which you are extracting files. You can calculate the amount of disk space you need by adding together the disk space estimates for each platform as listed in the *Enterprise SQL Server Manager Release Bulletin*.

To verify that there is adequate space for the Enterprise SQL Server Manager installation directory, use the UNIX **df** command (or **bdf** for HP-UX). For example, if you plan to create the installation directory within the */nfs* directory, you can list the available free space by entering:

```
df /nfs
```

or, for HP-UX:

```
bdf /nfs
```

Compare the free space reported by this command with the required space calculated from the *Enterprise SQL Server Manager Release Bulletin*. After verifying that there is adequate space, check off "*Adequate space exists for the Enterprise SQL Server Manager installation directory (for all platforms; tape install only)*" on your worksheet.

Next, provided there is adequate space, create the installation directory to hold the Enterprise SQL Server Manager files. For example:

```
mkdir /work/essm_install
```

Record the full directory path name of the Enterprise SQL Server Manager installation directory on your worksheet.

Tape Device Names

When you extract Enterprise SQL Server Manager files from a tape, you must specify the appropriate device name of the tape drive.

Different operating systems use different device naming conventions. If you have trouble finding the names of available tape devices on your system, see your operating system documentation or system administrator for specific device naming conventions.

For each platform on which you are installing Enterprise SQL Server Manager, use your worksheet to record the device name of the tape device you intend to use.

Local and Remote Tape Media

You can load files from local or remote tape media.

- The media is **local** if the tape device is connected to the computer on which you are extracting the Enterprise SQL Server Manager files.
- The media is **remote** if the tape device is connected to another computer. In this case, you must know the name of the computer to which the media device is connected and the name of the device.

For either remote or local devices, verify your networking connection to the host machine to which the media device is connected. Do this verification for each platform on which you are installing Enterprise SQL Server Manager. For verification instructions, see Appendix A, “Troubleshooting.”

Documentation to Read

When you are ready to install Enterprise SQL Server Manager from the TME desktop, read:

- Chapter 4, “Installing Enterprise SQL Server Manager”
- *Enterprise SQL Server Manager Release Bulletin*

Extracting Enterprise SQL Server Manager Files from Tape

Follow this procedure to extract files from the Enterprise SQL Server Manager tape:

1. Change to the installation directory.

   If you are not currently in the Enterprise SQL Server Manager installation directory, change to that directory. Refer to your installation worksheet for the specific directory name to use. For example:

   ```
   cd /work/essm11
   ```

2. Load the platform-specific Sybase tape into the tape drive on the corresponding platform.
3. Extract the Enterprise SQL Server Manager files from tape media, into the current directory.

- For **local media devices**, enter one of the commands that appear in Table 3-1 on page 3-11, according to the Sybase media platform you are using
- For **remote media devices**, enter one of the commands that appear in Table 3-2 on page 3-11, according to the Sybase media platform you are using

  For more information about local or remote media, see “Local and Remote Tape Media” on page 3-9.

  In the following tables, *remote_machine* is the name of the host machine to which the tape device is connected (for remote media). For HP-UX, *device_name* is the media device name, and *slot_number* is the number of the slot in which the cartridge is loaded in the autochanger.

Refer to your installation worksheet for the specific device and host machine names to use.

Table 3-1: Extracting ESSM from local tape media

Platform	Commands to extract files
IBM RS/6000 AIX	`dd if=device_name ibs=48k | tar xvf –`
HP9000 HP-UX (cartridge, 9-track, DAT)	`tar Nxvbf 20 /dev/device_name`
HP9000 HP-UX (autochanger)	`tcio -uV -l slot_number device_name` `tar Nxvbf 20 device_name`
Sun SPARC Solaris	`tar xvbf 20 /dev/device_name`

Table 3-2: Extracting ESSM from remote tape media

Platform	Commands to extract files
IBM RS/6000 AIX	`rsh remote_machine dd if=device_name ibs=48k | tar xvf –`
HP9000 HP-UX (cartridge, 9-track, DAT)	`remsh remote_machine dd if=device_name ibs=10k | tar Nxvbf 20 -`
HP9000 HP-UX (autochanger)	`remsh remote_machine tcio -uV -l slot_number` `remsh remote_machine dd if=device_name ibs=10k | tar Nxvbf 20 -`
Sun SPARC Solaris	`rsh remote_machine dd if=device_name ibs=20b | tar xvf –`

Step 4: Unload the Sybase Tape

Remove the Sybase tape from the tape drive and store it in a safe place.

Preparing to Install Patches

This release of Enterprise SQL Server Manager may include Enterprise SQL Server Manager patches or TME patches (or both) that you need to install before using the product. *Enterprise SQL Server Manager Release Bulletin* lists all required patches included with the Enterprise SQL Server Manager files on the Sybase distribution media.

Before installing any of the patches, verify the names of the patches you need to install.

On your worksheet, record the IDs of any required patches included with the Enterprise SQL Server Manager files before beginning patch installation (see Chapter 6, “Installing Patches”).

➤ ***Note***

When you extract Enterprise SQL Server Manager files from tape, patches are also extracted. They are in a directory called *patches*.

Documentation You Need to Read

When you are ready to install any required patches included with Enterprise SQL Server Manager, read:

- Chapter 6, “Installing Patches”
- *Enterprise SQL Server Manager Release Bulletin*

4 Installing Enterprise SQL Server Manager

This chapter explains how to install Enterprise SQL Server Manager.

Before You Begin

Before you begin installing Enterprise SQL Server Manager:

- Read the *Enterprise SQL Server Manager Release Bulletin*.
- Install the TME.
- Verify that you have the **install_product** TMR role for the TMR in which you are installing Enterprise SQL Server Manager. For more information about Tivoli authorization roles, see Chapter 3, "Tivoli Administrators," in the *Tivoli Management Platform User's Guide*.
- If you plan to use Event Monitoring Services, you must add "root" as a UNIX login name for the root Tivoli administrator before you install Enterprise SQL Server Manager.
- If you are installing from CD, the CD-ROM drive must be mounted and accessible from the machine on which you are performing the installation.
- If you are installing from tape, you must have extracted the Enterprise SQL Server Manager files into an installation directory as described in Chapter 3, "Preparing to Install Enterprise SQL Server Manager."
- Complete the tasks listed in "Preparing to Install Enterprise SQL Server Manager" on page 3-6 and fill out the appropriate sections on the "Enterprise SQL Server Manager Installation Worksheet".
- If you are upgrading from a previous release of Enterprise SQL Server Manager, skip this chapter. Go to Chapter 5, "Upgrading from a Previous Release of Enterprise SQL Server Manager."

Installing Enterprise SQL Server Manager

To install Enterprise SQL Server Manager, follow these steps:

1. Start the TME desktop.
2. From the Desktop menu, choose Install, and then choose Install Product.

Figure 4-1: Install Product menu command

The Install Product dialog box opens:

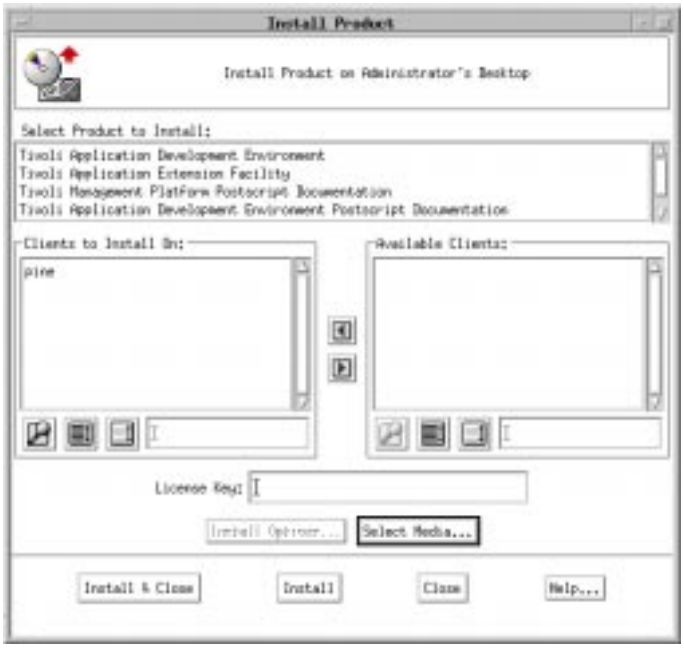

Figure 4-2: Install Product dialog box

➤ ***Note***

You may get an error stating that media settings are incorrect. In most cases, this error message appears because the default media path is set to a directory that does not contain any products to install. Choose OK to close the message box. The File Browser dialog box opens. Go to step 3.

3. Insert the Sybase Enterprise SQL Server Manager installation CD into your CD-ROM drive.
4. Choose Select Media. The File Browser dialog box opens:

Figure 4-3: File Browser dialog box

5. In the Path Name text box, enter the path name of your CD-ROM device. (If you are installing from tape, enter the Enterprise SQL Server Manager installation directory.) Refer to your installation worksheet for the pathname to use.
6. Choose Set Media & Close to return to the Install Product dialog box.

7. In the Select Product to Install list box select “Sybase Enterprise SQL Server Manager”.

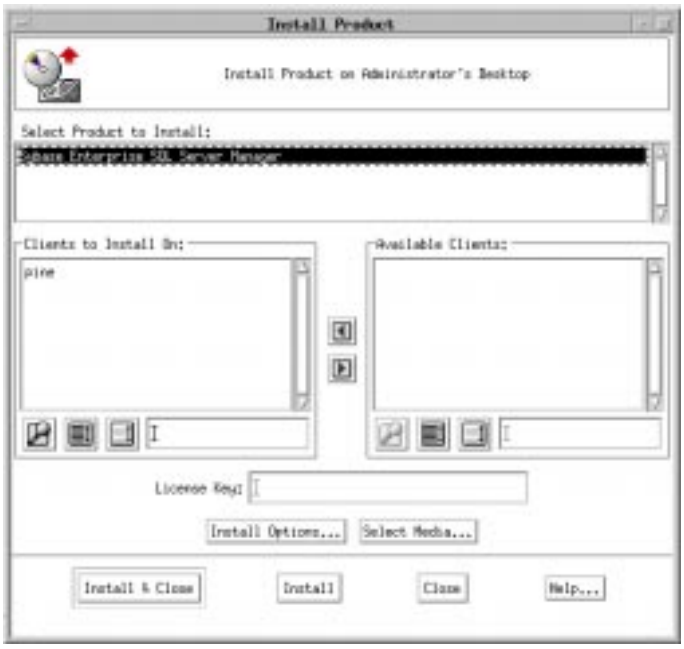

Figure 4-4: Install Product dialog box with product selected

The Install Options dialog box opens:

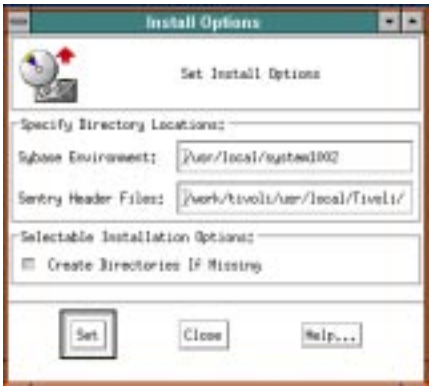

Figure 4-5: Install Options dialog box

8. Fill in the Sybase Environment text box using the following criteria:
   - If you are installing Enterprise SQL Server Manager on a system that will not be a management host, this information is not used. Accept the default or enter any existing directory. (The Create Directories if Missing option will not create this directory.)
   - If you are installing Enterprise SQL Server Manager on a system that will be a management host, enter the path of a SQL Server installation.

➤ ***Note***

You must have a supported release of SQL Server installed on a management host. If you do not have SQL Server installed, the Enterprise SQL Server Manager installation will appear to be complete, but you will not be able to manage any SQL Servers.

9. Set the Sentry Header Files pathname to the directory in which you want the files to be installed, or accept the default pathname. You must have write access to this directory.

   The Sentry header files are required for installing Tivoli Monitoring Technology and any Sentry UNIX monitors.
10. Select the Create Directories if Missing check box.
11. Choose Set to set the new path and return to the Install Product dialog box.
12. Use the Clients to Install On and Available Clients list boxes to specify the clients on which you want to install Enterprise SQL Server Manager.

    By default, all of the server and clients (hosts) you specified during the TME installation appear in the Clients to Install On list box. Select the clients on which you **do not** want to install Enterprise SQL Server Manager and choose the right-pointing arrow button to move them into the Available Clients list box.

Notes for Step 12

- You must install Enterprise SQL Server Manager on the TME server.

- Each Enterprise SQL Server Manager CD contains files for a specific operating system. When you select the clients on which to install the software, be sure that they are running the correct operating system for the CD from which you are installing.
- When you install Enterprise SQL Server Manager on multiple clients simultaneously, the installation utility applies the same Sybase directory path (specified in step 8 on page 4-5) to all clients in the group (the clients specified in the Clients to Install On list box). If the clients on which you are installing Enterprise SQL Server Manager require different Sybase directory paths, you must run the installation procedure separately for each group of clients requiring a particular Sybase directory path.

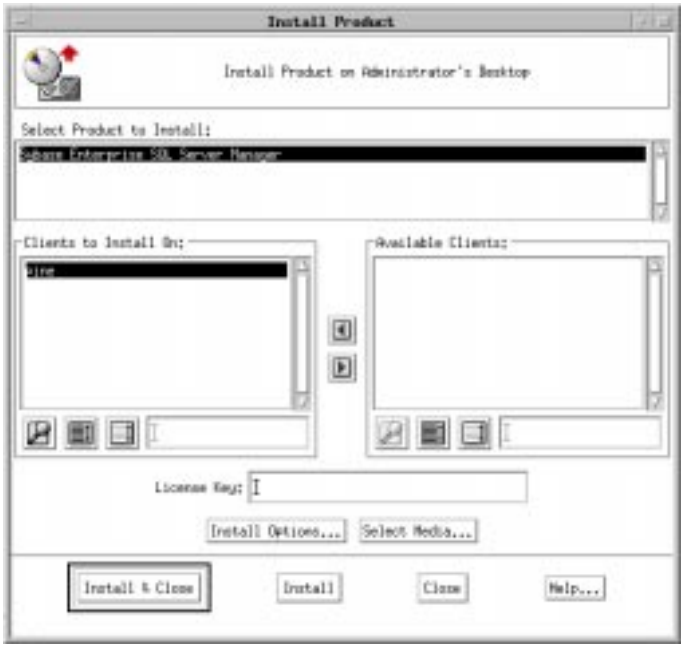

Figure 4-6: Install Product dialog box with client specified

13. Leave the License Key text box empty. Enterprise SQL Server Manager does not require a license key.

14. Do one of the following:

    - If you plan to install Enterprise SQL Server Manager on additional clients or to install additional TME applications, choose Install to begin installing Enterprise SQL Server Manager. The Install Product dialog box remains open after installation completes.
    - If you do not want to return to the Install Product dialog box, choose Install & Close to begin installing Enterprise SQL Server Manager on the specified TME clients. The Install Product dialog box closes after installation completes.

    When you select either button, the Product Install dialog box opens, listing the actions the installation is about to perform, and prompting you to confirm those installation actions.

Figure 4-7: Product Install window showing installation messages

15. Choose Continue Install to continue, or Cancel to stop the installation.

    When the installation completes, the message

    `Finished product installation.`

    appears in the Product Install dialog box.

Figure 4-8: Product Install window showing installation completion message

16. Choose Close to close the Product Install dialog box.
17. Remove the CD from the CD-ROM drive.

18. Repeat this procedure for each platform on which you are installing Enterprise SQL Server Manager.

Installing Enterprise SQL Server Manager on More Clients

If you want to install Enterprise SQL Server Manager on additional clients, do one of the following:

- If the Install Product dialog box is open (step 14 on page 4-7), repeat the Enterprise SQL Server Manager installation procedure beginning with step 7 on page 4-4.
- If you are starting from the TME desktop, repeat the Enterprise SQL Server Manager installation procedure beginning with step 2 on page 4-2.

In either case, specify a Sybase directory appropriate for the clients on which you are installing.

➤ ***Note***

After you finish installing Enterprise SQL Server Manager, close the TME desktop, then start it again. Some parts of the Enterprise SQL Server Manager interface are not available until you restart the TME.

Installing Patches

After you install Enterprise SQL Server Manager on all TME clients and on all platforms, check *Enterprise SQL Server Manager Release Bulletin* to see if you have to install any patches. If you have to install patches, go to Chapter 6, “Installing Patches.”

Getting Started

Chapter 7, “Getting Started with Enterprise SQL Server Manager,” explains how to configure the Tivoli environment to use Enterprise SQL Server Manager and describes how to manage SQL Server.

5 Upgrading from a Previous Release of Enterprise SQL Server Manager

The upgrade procedure allows you to bring your Tivoli and Enterprise SQL Server Manager software to the latest release. It replaces binary files and libraries that have changed, but preserves the configuration information in the Tivoli database. The upgrade procedure has two parts:

- Upgrade the TMP to the latest release supported by Enterprise SQL Server Manager
- Upgrade Enterprise SQL Server Manager software to the new release

See *Enterprise SQL Server Manager Release Bulletin* for a description of possible upgrade scenarios and the procedure for installing the upgrade.

6 Installing Patches

The Enterprise SQL Server Manager files on the Sybase media may include one or more patches that remedy known problems with Enterprise SQL Server Manager or the TME. *Enterprise SQL Server Manager Release Bulletin* lists all the patches that you should install.

Install the patches from the TME desktop by using the TME Install Patch dialog box. The procedure for installing patches from the TME desktop is the same for all patches. This chapter describes how to install a patch.

Before You Begin

Before you install a patch from the TME desktop:

- Complete the tasks listed in "Preparing to Install Patches" on page 3-12 and fill out the appropriate sections on the "Enterprise SQL Server Manager Installation Worksheet".
- Read *Enterprise SQL Server Manager Release Bulletin*.
- Patches may include a "README" file. This text file contains important information about the patch and the problems it fixes. The online text file for any patch has the file name extension ".README" and resides in the following directory:

  /device*/patches/*patch_id

  where *device* is the name of the CD-ROM drive or the installation directory, and *patch_id* is the patch ID of the patch you are installing. If a required patch has a README file, read the file before you install it.
- Verify that you have the **install_product** TMR authorization role for the TMR in which you are installing patches.

Installing A Patch

To install a patch from the TME desktop, follow these steps:

1. Determine which patch you want to install. Refer to your installation worksheet for the list of patch IDs you need to install.
2. From the Desktop menu, choose Install, and then choose Install Patch.

Figure 6-1: Install Patch menu command

The Install Patch dialog box opens.

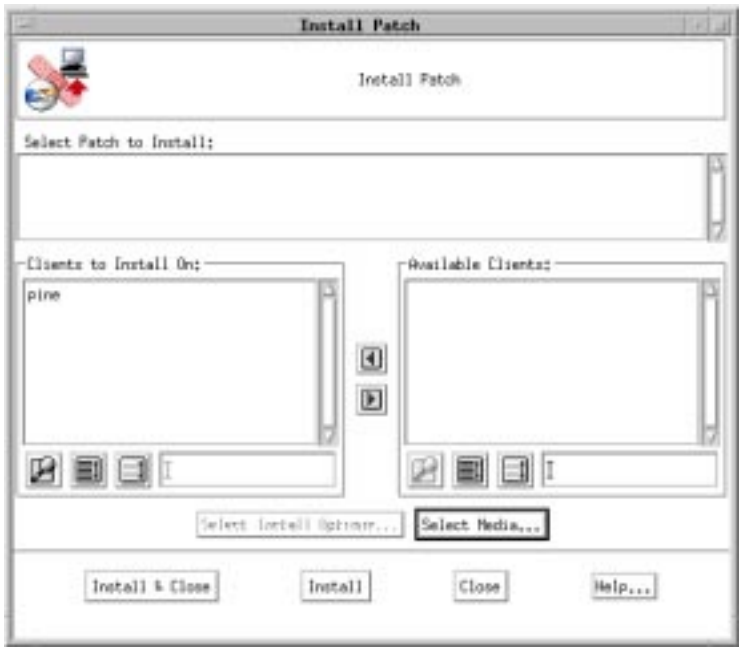

Figure 6-2: Install Patch dialog box

➤ ***Note***

You may get an error stating that media settings are incorrect. In most cases, this error message appears because the default media path is set to a directory that does not contain any patches to install. Choose OK to close the message box. The File Browser dialog box opens. Go to step 3.

3. Choose Select Media. The File Browser dialog box opens.

Figure 6-3: File Browser dialog box

4. In the Path Name text box, enter the following directory path name:

   mount_point/patches/patch_id

   where *mount_point* is the directory name of the CD-ROM device and *patch_id* is the patch ID of the patch you want to install. Refer to your installation worksheet for the patch ID to use.

   If you are installing from tape, enter the following path name:

   essm_install_directory*/patches/*patch_id

   where *essm_install_directory* is the name of the Enterprise SQL Server Manager installation directory. Refer to your installation worksheet for the installation directory path name.

5. Choose Set Media & Close to return to the Install Patch dialog box.

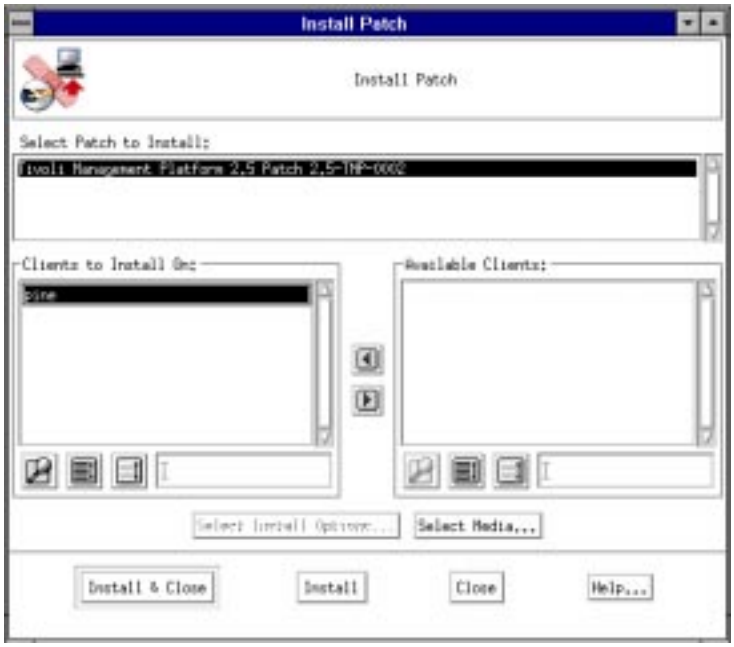

Figure 6-4: Install Patch dialog box with patch selected

6. Select the patch you want to install from the Select Patch to Install list box. Refer to your installation worksheet for the list of patch IDs you need to install.
7. Use the Clients to Install On and Available Clients list boxes to specify the clients on which you want to install the patch. By default, all of the server and clients (hosts) you specified during the TME installation appear in the Clients to Install On list box.

   Select the clients on which you **do not** want to install the patch and choose the right-pointing arrow button to move them into the Available Clients list box.

8. Do one of the following:
   - If you plan on immediately returning to the Install Patch dialog box (perhaps to install additional patches), choose Install to begin installing the patch on the specified TME clients. The Install Patch dialog box remains open after the patch installation completes.
   - If you do not plan on immediately returning to the Install Patch dialog box, choose Install & Close to begin installing the patch on the specified TME clients. The Install Patch dialog box closes after the patch installation completes.

   The Patch Install dialog box opens, listing the actions the patch installation is about to perform, and prompting you to confirm the installation actions.

Figure 6-5: Patch Install window showing installation messages

9. Choose Continue Install to continue, or Cancel to stop the installation.

   When the installation completes, the message

   `Finished patch installation.`

   appears in the Patch Install dialog box.

Figure 6-6: Patch Install window showing completed installation message

10. Choose Close to close the Patch Install dialog box.

Installing More Patches

If you need to install more patches, do one of the following:

- If you left the Install Patch dialog box open (step 8 on page 6-6) repeat the patch installation procedure beginning with step 6 on page 6-5.
- If you are starting again from the TME desktop, repeat the patch installation procedure beginning with step 1 on page 6-2.

In either case, specify a new patch ID. Refer to your installation worksheet for the list of patch IDs you need to install.

Getting Started

Chapter 7, “Getting Started with Enterprise SQL Server Manager,” explains how to configure the Tivoli environment to use Enterprise SQL Server Manager and describes how to manage SQL Server.

7 Getting Started with Enterprise SQL Server Manager

This chapter describes how to begin using Enterprise SQL Server Manager.

Back Up the TMR

After you install Enterprise SQL Server Manager and any Sybase-supplied patches, back up the TMR in which you installed Enterprise SQL Server Manager. For information about how to back up a TMR, see Chapter 6, "TME Maintenance and Troubleshooting," in *Tivoli Management Platform Planning and Installation Guide*.

Preparing the TME to Manage SQL Servers

Before you can use Enterprise SQL Server Manager, you must prepare the TME to manage SQL Server by:

- Assigning the appropriate Enterprise SQL Server Manager roles to administrators to allow them to perform management tasks on managed SQL Servers
- Assigning SQL Server logins to administrators to allow connections to SQL Server installations
- Configuring one or more policy regions with Enterprise SQL Server Manager resources
- Adding managed SQL Server resources to the policy regions
- Adding profile managers to the policy regions

All of these Enterprise SQL Server Manager activities require at least one existing TME administrator and one policy region. If your TMR does not have a policy region, create one now.

- For information about creating and configuring Tivoli administrators, see Chapter 3, "Tivoli Administrators," in *Tivoli Management Platform User's Guide*.
- For information about creating and configuring policy regions, see Chapter 5, "Policy and Policy Regions," in *Tivoli Management Platform User's Guide*.

Creating Enterprise SQL Server Manager Administrators

When you install Tivoli, a TME administrator is created. This administrator has the name "root@policy_region". After Enterprise SQL Server Manager is installed, you should create additional Tivoli administrators and associate them with the UNIX logins of the people who will administer Enterprise SQL Server Manager. Initially, only the root administrator can create new administrators and assign TME and Enterprise SQL Server Manager roles to them. Once the new administrators are created, they can start the TME under their names and begin the tasks involved in configuring your Enterprise SQL Server Manager installation.

To give a TME administrator access to SQL Server management functions, you must assign Enterprise SQL Server Manager roles to the administrator and assign one or more SQL Server logins for the administrator to use when connecting to managed SQL Servers.

Enterprise SQL Server Manager Administrator Roles

Enterprise SQL Server Manager extends the standard set of TME administrator roles with the following roles:

Table 7-1: Enterprise SQL Server Manager administrator roles

Role name	Authorizes an administrator to perform...
dump	Database backup operations. Lets an administrator back up databases within managed SQL Servers.
load	Database restore operations. Lets an administrator restore database backups within managed SQL Servers.
server	SQL Server configuration operations. Lets an administrator modify a server configuration, manage SQL Servers, display and stop SQL Server processes, and start and stop managed SQL Servers.
security	Authentication, authorization, and auditing operations. Lets an administrator create, modify, and delete logins, users, groups, remote servers, and remote logins. Lets an administrator modify object permissions, command permissions, server auditing, and object auditing.
space	SQL Server device configuration and allocation operations. Lets an administrator create, modify, and delete devices, dump devices, databases, device mirrors, segments, and thresholds.

Table 7-1: Enterprise SQL Server Manager administrator roles

Role name	Authorizes an administrator to perform...
schema	Schema management operations. An administrator can create, modify, and delete defaults, views, user datatypes, triggers, stored procedures, tables, rules.
cache	Cache operations. An administrator can create, modify, and delete named caches.
monitor	Launch of SQL Server Monitor.

Ideally, a hierarchy of administrator tasks is established for the enterprise. Within each TMR, a supervisory administrator assigns other administrators the roles and SQL Server logins they need to accomplish their assigned tasks. This process ensures that SQL Server configurations created and distributed using Enterprise SQL Server Manager cannot be compromised by administrator actions at the local SQL Server level.

To maintain security, an administrator must have the super role for the TMR or policy region to change any SQL Server login and password.

An administrator must have the appropriate combination of Tivoli, Enterprise SQL Server Manager, and SQL Server roles to perform an Enterprise SQL Server Manager administration task. The Tivoli roles allow an administrator to perform standard TMP operations. The Enterprise SQL Server Manager roles allow an administrator to perform Enterprise SQL Server Manager tasks within the TMP and control access to SQL Server. The SQL Server roles allow the administrator to perform tasks that directly act on SQL Server.

For example, to distribute a SQL Server profile, an administrator must have the TME role **admin**, **senior**, or **super**, the ESSM role **server**, and the SQL Server role **sa_role**. The combination of roles varies according to the task. For the roles required for each Enterprise SQL Server Manager administration task, see the *Enterprise SQL Server Manager User's Guide*.

➤ ***Note***

When assigned using Enterprise SQL Server Manager commands, the SQL Server roles are specified as **sa_role**, **sso_role**, and **oper_role**. When assigned through the graphic interface, SQL Server roles are specified as System Administrator, System Security Officer, and Operator.

Assigning Enterprise SQL Server Manager Roles to Administrators

You can assign Enterprise SQL Server Manager roles at both the TMR and the resource level. Roles assigned at the **TMR level** apply to all resources within a TMR. Roles assigned at the **resource level** apply only to a specific resource on the administrator's desktop. The following steps describe how to assign TMR roles to an administrator. For more information about assigning administrator authorization roles, see Chapter 3, "Tivoli Administrators," in *Tivoli Management Platform User's Guide.*

➤ ***Note***

To assign a TMR role to an administrator, you must have the Administrators collection icon on your TME desktop and you must have **super** or **senior** role over the Administrators resource.

1. Open the Administrators window to see the icons representing the defined TME administrators.
2. Locate the administrator you want to modify, and choose Edit TMR Roles from that administrator icon's pop-up menu:

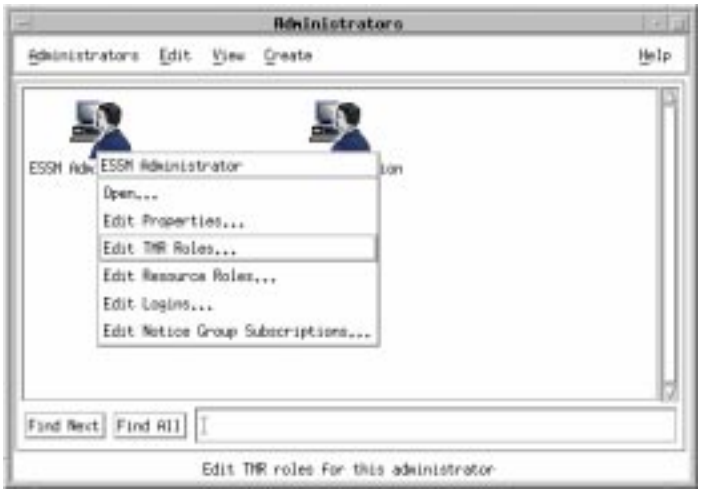

Figure 7-1: Administrator's popup menu

The Set TMR Roles dialog box opens:

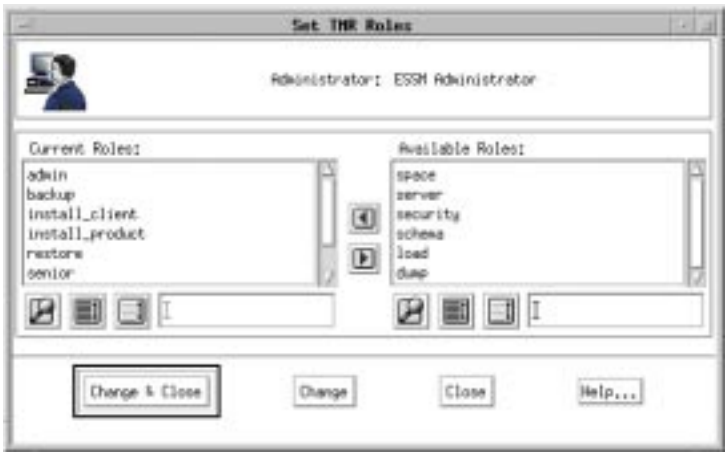

Figure 7-2: Set TMR Roles dialog box

3. In the Available Roles list box, select the roles you want to assign to the administrator. The Enterprise SQL Server Manager roles are:
   - **server**
   - **space**
   - **security**
   - **dump**
   - **load**
   - **schema**
   - **cache**
   - **monitor**

   For example, if you want the administrator to be able to create managed SQL Server resources, the administrator needs the **server** role.
4. Click the left-pointing arrow to move the selected roles to the Current Roles list box.
5. Choose Change & Close to set the roles for the administrator and return to the Administrators window.
6. Repeat these steps, beginning with step 2, for each Enterprise SQL Server Manager administrator you want to configure.

Assigning SQL Server Logins to Administrators

For each SQL Server on which an administrator is to perform management tasks, the administrator must have a valid SQL Server login assigned. The login must already exist on the SQL Server installation the administrator is to access.

SQL Server Logins for Multiple UNIX Logins

A single TME administrator can have more than one UNIX login associated with it. For example, the administrator "Northeast_Region" could be mapped to the UNIX logins of several administrators who have responsibilities in the Northeast policy region. Enterprise SQL Server Manager allows you to specify a different SQL Server login for each UNIX login associated with the administrator.

SQL Server Logins for Multiple Management Levels

You can configure SQL Servers logins at the following levels:

- For all managed SQL Servers within a TMR (enterprise-wide)
- For all managed SQL Servers within a policy region (supersedes any enterprise-wide SQL Server login assignment)
- For a specific managed SQL Server (supersedes any enterprise-wide or policy region SQL Server login assignment)

➤ ***Note***

Event Monitoring Services allows you to monitor the relationship between the Enterprise SQL Server Manager Administrator login and the administrator's SQL Server login and password. If the SQL Server password changes, the Enterprise SQL Server Manager Administrator cannot log in to SQL Server. Therefore, you may want to use the Sybase Login Status monitor to contact you if this relationship changes.

Be sure that the SQL Server login you assign to an administrator has the correct SQL Server roles for the Enterprise SQL Server Manager tasks that the administrator is to perform. Set SQL Server roles from the command line or in the graphic interface. See *Enterprise SQL Server Manager User's Guide* for SQL Server role requirements.

➤ ***Note***

Assigning SQL Server logins to Enterprise SQL Server Manager administrators requires the **super** role.

Assigning ESSM Administrator SQL Server Logins for the Enterprise

To set an enterprise-wide SQL Server login for an administrator:

1. Open the Administrators window.
2. From the administrator's pop-up menu, choose Edit Logins.

   The Set Login Names dialog box opens.

Figure 7-3: Set Login Names dialog box

3. In the Current Login Names list box, select the UNIX login name for the administrator.
4. Choose Set SQL Server Logins. The SQL Server Logins for Administrator dialog box opens, displaying the Enterprise Level tab. The options on this tab let you set the enterprise-wide SQL Server login for the selected administrator UNIX login.

Figure 7-4: SQL Server Logins for Administrators: Enterprise Level

5. In the SQL Server Login box, enter the SQL Server login name that the administrator will use when accessing any managed SQL Server in the TMR. In Figure 7-4, the Tivoli administrator "jhodges" is associated with the SQL Server login "sa".
6. In the SQL Server Password box, enter the existing password in SQL Server for this SQL Server login name.
7. In the Confirm Password box, retype the password to confirm that it is correct.
8. Choose Apply to record the login assignment in the TMR database.
9. Choose Done to close the dialog box.
10. Repeat these steps, beginning with step 3, for each UNIX login you want to configure for the selected Enterprise SQL Server Manager administrator icon, selecting a new UNIX login each time.

Assigning ESSM Administrator SQL Server Logins for Policy Regions

1. Open the SQL Server Logins for Administrators dialog box as described in the procedure on page 7-7.
2. Select the Policy Region Level tab. The Policy Region Level tab shows a list of all current policy region SQL Server login assignments for the administrator.

Figure 7-5: SQL Server Logins for Administrators: Policy Region Level

3. In the Policy Region Level group box, specify the list of policy regions and associated SQL Server logins you want to assign to the administrator, one pair at a time. You can add, remove, or change policy region SQL Server login assignments until you are satisfied with the list. In Figure 7-5, the Tivoli administrator "jhodges" is associated with the SQL Server login "sa" in the Northeast policy region. Data has been entered to associate "jhodges" with the SQL Server login "sso" in the Inventory policy region.
4. After you finish making SQL Server login assignments for the administrator, click Done to close the dialog box.

Assigning ESSM Administrator SQL Server Logins for Managed SQL Servers

1. Open the SQL Server Logins for Administrators dialog box as described in the procedure beginning on page 7-7.
2. Select the SQL Server Level tab. The SQL Server Level tab shows a list of all current policy region SQL Server login assignments for the administrator.

Figure 7-6: SQL Server Logins for Administrators: SQL Server Level

3. In the SQL Server Level group box, specify the list of managed SQL Servers and associated SQL Server logins you want to assign to the administrator, one pair at a time. You may add, remove, or change managed SQL Server login assignments until you are satisfied with the list. In Figure 7-6, Tivoli administrator “jhodges” is associated with the SQL Server login “sa” in SQL Server OSLO_DEV and data has been entered to associate “jhodges” with the SQL Server login “oper” in SQL Server BONN_DEV.
4. After you finish making SQL Server login assignments for the administrator, click Done to close the dialog box.

Configuring Policy Regions for Managed SQL Server Resources

Administrators manage SQL Server by creating managed SQL Server resources within policy regions. Managed SQL Servers can reside in a policy region along with other types of resources (managed nodes, task libraries, and so forth), which allows you to group and organize resources to suit your needs.

However, before you can create a managed SQL Server resource within a policy region, you must add the resource type (*ManagedSQLServer*) to the policy region's list of valid resources. Doing this adds ManagedSQLServer to the policy region's Create menu.

In addition to the *ManagedSQLServer* resource type, add all other Enterprise SQL Server Manager resources. Doing so enables all Enterprise SQL Server Manager management functions for managing SQL Servers in the policy region.

The list of available Enterprise SQL Server Manager resource types includes:

- *ManagedSQLServer*
- *SQLCacheProfile*
- *SQLDatabase*
- *SQLDatabaseProfile*
- *SQLDatabaseProfileMgr*
- *SQLDataTypeProfile*
- *SQLDbDeviceProfile*
- *SQLDefaultProfile*
- *SQLDumpDeviceProfile*
- *SQLGroupProfile*
- *SQLIndexProfile*
- *SQLLoginProfile*
- *SQLProcedureProfile*
- *SQLRemoteServerProfile*
- *SQLRuleProfile*
- *SQLSegmentProfile*
- *SQLServerProfile*

- *SQLServerProfileMgr*
- *SQLTableProfile*
- *SQLTriggerProfile*
- *SQLUserProfile*
- *SQLViewProfile*

➤ ***Note***

Adding a resource type to a policy region's list of valid resources requires the **senior** role.

To add all the Enterprise SQL Server Manager resource types to a policy region's list of valid resources, follow these steps:

1. Open the policy region you want to modify.
2. From the policy region's Properties menu, choose Managed Resources. The Set Managed Resources dialog box opens:

Figure 7-7: Set Managed Resources dialog box

3. In the Available Resources list box, select the Enterprise SQL Server Manager resource types (listed on page 7-11).
4. Select the left-pointing arrow to move the selected resource types to the Current Resources list box.
5. Choose Set & Close to add the resource type to the policy region's list of valid resources and close the Set Managed Resources dialog box.

6. Repeat these steps for each policy region in which you want to create managed SQL Server resources.

Creating a Managed SQL Server Resource in a Policy Region

To perform Enterprise SQL Server Manager administration tasks on SQL Server, you must create a corresponding managed SQL Server resource in a policy region. Doing this registers the managed resource in the TMR database. Creating a managed SQL Server resource also establishes which machine will serve as the management host for the managed SQL Server.

Enterprise SQL Server Manager Management Hosts

A **management host** is the TME client on which the Enterprise SQL Server Manager processing is to occur on behalf of the managed SQL Server. Creating a managed SQL Server resource also establishes a logical connection between the managed SQL Server and its management host. The management host may be any TME client on which Enterprise SQL Server Manager is installed.

The following figures show different configurations to consider when choosing a management host.

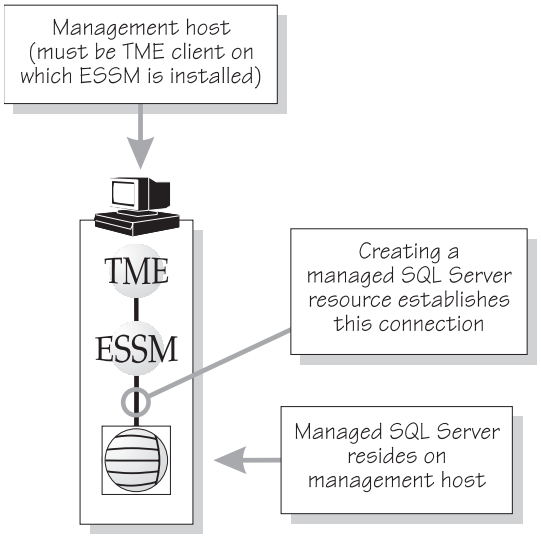

Figure 7-8: Managed SQL Server resides on management host

In Figure 7-8, the managed server's host and its management host are the same machine. SQL Server is running on a TME client with Enterprise SQL Server Manager installed. This is the most common configuration.

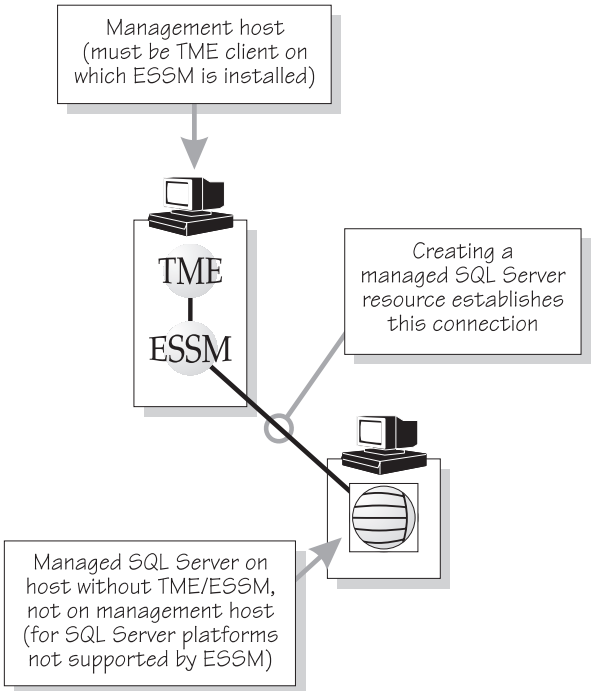

Figure 7-9: Managed SQL Server and remote management host

In Figure 7-9, the managed server's host and its management host are two different machines. SQL Server is running on a computer without the TME, and its management host is a TME client running Enterprise SQL Server Manager.

The advantage to this configuration is that you can use Enterprise SQL Server Manager to manage SQL Servers running on platforms not supported by Enterprise SQL Server Manager. This is possible because communication between Enterprise SQL Server Manager and the managed SQL Server occurs using Sybase connectivity.

The disadvantage is that when you manage SQL Server on an unsupported host, you lose some features. See "Managing SQL Server on Unsupported Platforms" in Chapter 2, "Planning an Enterprise SQL Server Manager Deployment" for more information about managing SQL Server on unsupported platforms.

Creating a Managed SQL Server Resource

	TME	ESSM	SQL Server
Required roles	**user**	**server**	none

To create a managed SQL Server resource in a policy region, follow these steps:

1. Open the policy region window in which you want to create the managed SQL Server resource. The policy region must be configured to allow this resource type (see "Configuring Policy Regions for Managed SQL Server Resources" on page 7-11).
2. From the Create menu, choose ManagedSQLServer. The Manage SQL Server dialog box opens:

Figure 7-10: Manage SQL Server dialog box

3. In the Name box, enter the name of the SQL Server you want to add to the policy region as a managed resource.

4. In the SQL Server Host box, enter the name of the machine on which SQL Server is running.
5. In the Management Host box, select the TME client that is to be the server's management host (see "Enterprise SQL Server Manager Management Hosts" on page 7-13).
6. Choose OK to create the new managed SQL Server resource in the policy region.
7. Repeat these steps, beginning with step 2, for each SQL Server resource you want to add to the policy region.

After you create a managed SQL Server, the TMP adds a SQL Server icon to the policy region. Double-clicking this icon opens a SQL Server window, the primary window in the Enterprise SQL Server Manager GUI. For information about using the SQL Server window, as well as how to create and use Profile Manager windows, see the *Enterprise SQL Server Manager User's Guide*.

➤ ***Note***

Creating a managed SQL Server takes several minutes.

Creating Profile Managers

There are two types of profile managers in Enterprise SQL Server Manager: SQL Server Profile Managers and Database Profile Managers.

Creating a SQL Server Profile Manager

	TME	ESSM	SQL Server
Required roles	**senior**	any	none

To create a SQL Server Profile Manager:

1. From the Create menu of a policy region window, choose SQLServerProfileMgr. The Create SQL Server Profile Manager dialog box opens.

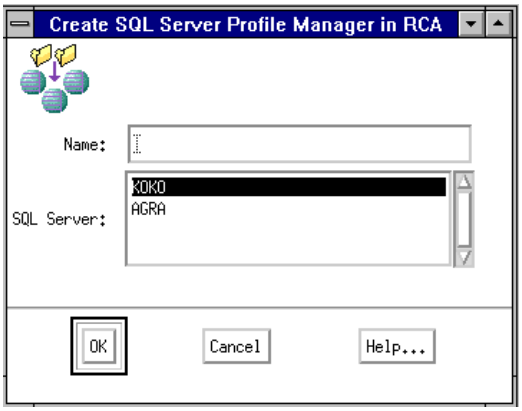

Figure 7-11: Create SQL Server Profile Manager dialog box

2. In the Name box, type a name for the profile manager.

➤ ***Note***

Once you create the profile manager, you cannot change its name, so be sure you have entered the name you want before you complete this procedure.

3. In the SQL Server list box select a name from the list.

4. Click OK.

Enterprise SQL Server Manager creates the SQL Server Profile Manager, and its icon appears in the policy region window.

➤ ***Note***

Only one SQL Server Profile Manager can be associated with a given SQL Server. (Multiple Database Profile Managers can be associated with a SQL Server; each Database Profile Manager is associated with a different database in the SQL Server.)

Creating a Database Profile Manager

	TME	ESSM	SQL Server
Required roles	**senior**	any	none

To create a Database Profile Manager:

1. From the Create menu of a policy region window, choose SQLDatabaseProfileMgr. The Create Database Profile Manager dialog box opens.

Figure 7-12: Create Database Profile Manager dialog box

2. In the Name box, type a name for the profile manager.

3. In the SQL Server box select a SQL Server from the list.

➤ ***Note***

Once you create the profile manager, you cannot change its name, so be sure you have entered the name you want before you complete this procedure.

4. Select a name from the Database drop-down list.
5. Click OK.

Enterprise SQL Server Manager creates the database profile manager, and its icon appears in the policy region window.

➤ ***Note***

Only one Database Profile Manager can be associated with a given database.

For more information about creating profile managers, see "Enterprise SQL Server Manager Profile Managers" in the *Enterprise SQL Server Manager User's Guide*.

A Troubleshooting

This appendix contains possible remedies for common problems you may encounter when installing Enterprise SQL Server Manager. It also contains information that may be helpful if you have problems installing the Tivoli Management Platform. If you cannot resolve a problem after trying the solutions listed here, ask the designated person at your site to call Sybase Technical Support for help.

Installing the Tivoli Management Platform

This section discusses Tivoli installation issues:

- Installing the TMP from a remote CD-ROM drive
- Copying the Tivoli CD to your hard disk
- Changing the Tivoli install directory
- Entering the TMR license key incorrectly

Installing the Tivoli Management Platform from a Remote CD-ROM Drive

If you try to install the TMP from a CD-ROM drive on a remote machine that is mounted on the local machine, and the two machines are on different platforms, the installation may fail due to a mismatch of file permissions and naming conventions. On Sun SPARC Solaris machines, Tivoli filenames must be in uppercase for the installation process to work.

If you have this problem, there are two courses of action:

- Install the TMP from a CD-ROM drive directly connected to the target machine.
- Use a Perl script available from Sybase Technical Support to establish a set of links from your hard drive to the CD. After you run this script, continue the TMP installation process by running */absolute pathname/WPREINST.SH* as described in the *Tivoli Management Platform Planning and Installation Guide*.

Copying Tivoli Files to a Hard Disk

If you want to install the TMP from a hard disk rather than the Tivoli CD, copy the files from the Tivoli CD to a directory on a server. Use a command similar to the following:

```
cp -rp /cdrom/* /install/tivoli2.5
```

On IBM RS/6000 AIX and Sun SPARC Solaris machines, Tivoli filenames must be in uppercase for the installation process to work. List the files on the CD using the **ls** command. If the file names are in lowercase, you can convert the filenames from lowercase to uppercase with a script provided on the Tivoli CD. The script is */bin/wcpcdrom*.

1. From the Tivoli CD, run **wpreinst.sh**. This command creates the */bin* directory in which **wcpcdrom** is located.
2. Execute **wcpcdrom** as follows:

   ```
   wcpcdrom source target
   ```

   where source is the CD or the directory into which you copied the files, and target is an empty directory on your hard disk. The command creates links from the target directory to the CD or other directory with all the filenames being uppercase.
3. Continue the TMP installation process by running */absolute pathname/WPREINST.SH* as described in the *Tivoli Management Platform Planning and Installation Guide*.

➤ ***Note***

You must run the **WPREINST.SH** and **wserver** commands from the Tivoli installation directory, treating the directory into which you copied the files as a CD-ROM.

Installing Tivoli in a Directory Other than the Default

To install Tivoli software in a directory other than the default, use the **–p** argument to the **wserver** command. This flag prefixes the Tivoli default directory paths with the pathname you specify. If you install Tivoli in a directory other than the default, you can remove Tivoli files by deleting the installation directory and all subdirectories.

Verifying the TMR License Key

If Tivoli and Enterprise SQL Server Manager appear to install correctly, but you cannot manage SQL Server, it is possible that you entered the TMR license key incorrectly. To verify that you correctly typed the TMR license key when you installed TME, compare the license key currently registered in the TMR with the one printed on your Sybase packing slip (or with the license key supplied by your Tivoli support provider). Follow these steps:

1. Display the license key currently registered in the TMR using the following Tivoli command (you must have **super** or **senior** role to do this):

   ```
   odadmin get_platform_license
   ```

2. Compare the TMR license key on your packing slip or installation worksheet with the one displayed by the **odadmin** command. The two keys should match exactly. If they differ, you must change the license key currently registered in the TMR. You can change the current TMR license key using the following Tivoli command (you must have **super** or **senior** role to do this):

   ```
   odadmin set_platform_license license_key
   ```

   where *license_key* is the new TMR license key you want to register.

   For more information about viewing and changing current license information, see Chapter 4, "TME Installation," in the *Tivoli Management Platform Planning and Installation Guide*. For more information about the **odadmin** command, see the *Tivoli Management Platform Reference Manual*.

Problems in Chapter 4, "Installing Enterprise SQL Server Manager"

You experience CD-ROM reading errors.

The Sybase CD-ROM format is ISO 9660. Your operating system reads this format by default. However, if you experience CD-ROM reading errors, check your operating system to verify that the ISO 9660 option is set.

An error message box appears when you choose the Install Product menu command.

When you choose Desktop→ Install→ Install Product, the following message box may appear:

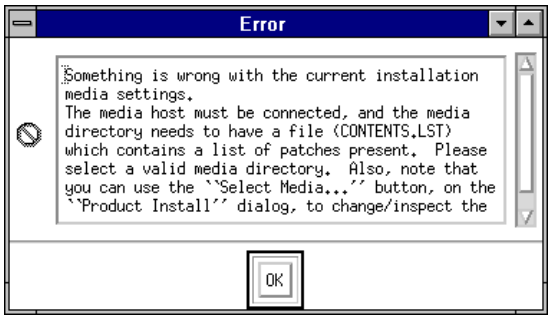

Figure A-1: Installation media settings error

In most cases, this error message appears because the default media path is set to a directory that does not contain any products to install.

Choose OK to close the message box. When you do this, the File Browser dialog box opens. Continue the normal installation procedure from step 3.

No products appear in the Select Product to Install list box on the Install Product dialog box.

Try the following procedure:

1. In the Install Product dialog box, choose Select Media to open the File Browser dialog box.
2. Remove "/auto" if it appears in the beginning of the string in the Path Name text box.
3. Choose Set Media & Close.

"Sybase Enterprise SQL Server Manager" should now appear in the Select Product to Install list box.

You have trouble installing Enterprise SQL Server Manager on multiple hosts in one operation.

You may be trying to install on the wrong operating system. Check the Enterprise SQL Server Manager CD to be sure it is the correct operating system for the machine on which you are installing.

The Sybase environment may be different on the different machines on which you are installing. If this is the case, start the installation again for the machines with different Sybase environment locations and change the information in the Install Options dialog box.

➤ ***Note***

If some Enterprise SQL Server Manager files were installed on a client before the installation failed, you must remove all Enterprise SQL Server Manager files from the client before you start the installation process again.

You specify the wrong Sybase Environment or the Sybase Environment changes.

Install Enterprise SQL Server Manager again. In the Install Options dialog box enter the correct Sybase Environment. The installation procedure changes the Sybase Environment, but does not affect any other aspects of your installation.

Problems in Chapter 6, “Installing Patches”

An error message box appears when you choose the Install Patch menu command.

When you choose Install and then Install Patch from the Desktop menu, the following message box may appear:

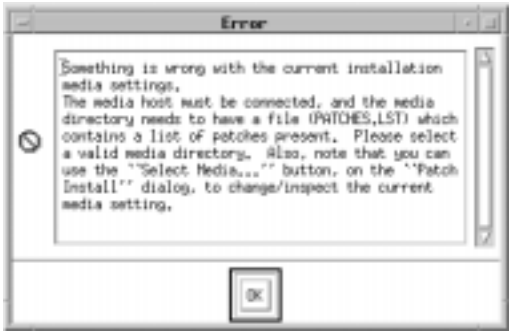

Figure A-2: Installation media settings error

In most cases, this error message appears because the default media path is set to a directory that does not contain any patches.

Choose OK to close the message box. When you do this, the File Browser dialog box opens. Continue the normal patch installation procedure from step 3 on page 6-4.

Problems in Chapter 7, “Getting Started with Enterprise SQL Server Manager”

You have trouble connecting to SQL Server.

Verify that the *ESSM_INTERFACES* object dispatcher environment variable is set correctly. This variable identifies the full path name of the interfaces file that Enterprise SQL Server Manager is using to locate the SQL Server. To check this, issue the **odadmin environ get** command at the UNIX prompt:

```
odadmin environ get
```

The output from the command shows the file name currently assigned to *ESSM_INTERFACES*. If it is not correct, you can reset the variable to a new name using the **odadmin environ set** command.

For example:

```
odadmin environ get >myfile
```

lists all object dispatcher environment variables and their values, and saves the listing in the file *myfile*. You can edit this file to alter the line:

```
ESSM_INTERFACES=interfaces
```

where *interfaces* is the full path name of the interfaces file that Enterprise SQL Server Manager is currently using to locate SQL Server. You can change this path name to identify a different interfaces file, save your changes to *myfile*, and then enter:

```
odadmin environ set <myfile
```

to update the object dispatcher environment so that Enterprise SQL Server Manager will use the new *ESSM_INTERFACES* value.

For information on the **odadmin** command, see the *Tivoli Management Platform Reference Manual*.

You have trouble creating a managed SQL Server resource.

Try one or more of the following procedures:

- Verify that your TME administrator has the proper roles for creating managed SQL Server resources. Creating a managed SQL Server resource from the TME desktop requires the **user** and **server** administrator roles (no SQL Server roles are required). See "Creating Enterprise SQL Server Manager Administrators" on page 7-2.
- Verify that there is a SQL Server login name assigned to your TME administrator UNIX login, and that it corresponds to an existing login on SQL Server. See "Assigning SQL Server Logins to Administrators" on page 7-6.
- In the policy region in which you are creating the resource, verify that the *ManagedSQLServer* resource type appears in the policy region's list of valid resources. See "Configuring Policy Regions for Managed SQL Server Resources" on page 7-11.
- Verify that you can connect to the SQL Server from its management host by running **isql** on the management host. See "Enterprise SQL Server Manager Management Hosts" on page 7-13.

Strange characters appear when you type in text boxes in the GUI.

Try the following procedure:

1. Find the location of the *XKeysymDB* file on your system.
2. Enter the following C shell command:

   ```
   setenv XKEYSYMDB /usr/lib/X11/XKeysymDB
   ```

   or for Bourne shell or Korn shell enter:

   ```
   XKEYSYMDB=/usr/lib/X11/XKeysymDB
   export XKEYSYMDB
   ```

   This example assumes the *XKeysymDB* file is in the */usr/lib/X11* directory—modify the command as necessary if your *XKeysymDB* location is different.
3. Shut down the Tivoli desktop and restart it.

If this solves the problem, you may want to set this environment variable permanently in your login file.

You get an error message relating to a SQL Server login.

Try one or more of the following procedures:

- Verify that your TME administrator has the proper roles for creating managed SQL Server resources. Creating a managed SQL Server resource from the TME desktop requires the **user** and **server** administrator roles (no SQL Server roles are required). See "Creating Enterprise SQL Server Manager Administrators" on page 7-2.
- Verify that there is a SQL Server login name assigned to your TME administrator UNIX login, and that it corresponds to an existing login in SQL Server. See "Assigning SQL Server Logins to Administrators" on page 7-6.
- Verify that the SQL Server password assigned to your TME administrator UNIX login is correct.

The Sybase logo no longer appears on the Tivoli desktop or the Set SQL Server Logins button no longer appears on the Edit Logins dialog box.

Installing an additional TME management application after installing Enterprise SQL Server Manager may have overwritten Sybase customizations to the TME desktop. To restore the customizations, enter the following command:

```
$BINDIR/SSM/essm_cust_after.sh $BINDIR/SSM
```

Verifying Remote Media Networking

If you are using a remote media device, verify that you can log in remotely to the machine to which the tape device is connected.

For each platform for which you are extracting Enterprise SQL Server Manager files from a remote media device, use the following procedure to verify that you connect to the remote host machine:

1. Log in to the local machine.
2. Run the command:

   `telnet` ***`remote_machine_name`***

   where *remote_machine_name* is the name of the machine to which the tape device is connected.

   If the **telnet** command is successful, you will get a login prompt. Log out and record the remote host machine name on your worksheet (page 3-3).

   

   If **telnet** does not allow you to log in to the remote machine from the local machine, see your network software documentation for remedies.
3. Verify that your login has permission to connect to the remote machine using the **rsh** command (or **remsh** for HP-UX). To check this, enter:

   `rsh` ***`remote_machine_name`*** **`"ls"`**

   or, for HP-UX:

   `remsh` ***`remote_machine_name`*** **`"ls"`**

   where *remote_machine_name* is the name of the machine to which the tape device is connected.

   If the **rsh** or **remsh** command is successful, you will see a directory listing produced by **ls**. Continue to verify the media networking for any remaining platforms.

   If **rsh** or **remsh** does not allow your login to connect to the remote machine, see your network software documentation for remedies.

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