Sun StorageTek™ Backup Manager Installation Guide

Version 1.0

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Preface

The *Sun StorageTek Backup Manager Installation Guide* provides instructions for installing and setting up the Sun StorageTek Backup Manager software to monitor backup servers and tape libraries in the data center.

Before You Read This Book

Before you begin to install the Sun StorageTek Backup Manager software, review the information in the following books:

- *Sun StorageTek Backup Manager Release Notes*
- Release notes for the supported libraries

Typographic Conventions

Typeface[*]	Meaning	Examples
AaBbCc123	The names of commands, files, and directories; on-screen computer output.	Edit your .login file. Use ls -a to list all files. % You have mail.
AaBbCc123	Book titles, new words or terms, words to be emphasized. Replace command-line variables with real names or values.	Read Chapter 6 in the *User's Guide*. These are called *class* options. You *must* be superuser to do this. To delete a file, type rm *filename*.

* The settings on your browser might differ from these settings.

Related Documentation

Application	Title	Part Number
Late-breaking information not included in the information set	*Sun StorageTek Backup Manager Release Notes*	820-2331-*nn*
Tasks for monitoring and troubleshooting	*Sun StorageTek Backup Manager Administration Guide*	820-2328-*nn*

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Sun StorageTek Backup Manager Installation Guide, 820-2327-10.

Overview

This chapter provides an overview of the Sun StorageTek Backup Manager. It contains the following sections:

■ "Product Overview" on page 1

■ "Overview of the Installation Process" on page 2

■ "Next Steps" on page 2

Product Overview

The Sun StorageTek Backup Manager provides backup administrators with software that helps them easily visualize and monitor storage environments from a central location. The Sun StorageTek Backup Manager enables you to:

■ Track tape library utilization

■ Identify backup success and failures

■ Track backup resource status and events

Overview of the Installation Process

TABLE 1-1 outlines the tasks required for installing the Sun StorageTek Backup Manager software and points to detailed procedures. To ensure a successful installation, perform these tasks in the order in which they are presented.

TABLE 1-1   Sun StorageTek Backup Manager Installation Task Overview

Step	Installation Task	Where to Find Procedure
1.	Complete the planning worksheets.	Appendix A: "Planning Worksheets" on page 39
2.	Complete the required prerequisite installations.	Chapter 2: "Installing Prerequisite Components" on page 8.
3.	Install SBM components on your Solaris server.	Chapter 2: "Installing the SBM UNIX Components" on page 13
		Chapter2: "Installing the Windows Application Components" on page 20
4.	Configure connectivity to the backup master server.	Appendix B: "Configuring Backup Agent Connectivity" on page 47
5.	[For TSM] Configure the ODBC driver and system DSN name.	Appendix C: "Installing the ODBC Data Source Administrator" on page 63
		Appendix C: "Installing the TSM ODBC Driver" on page 64
		Appendix C: "Configuring the ODBC System DSN" on page 65
6.	Configure the SBM backup cycle start time.	Chapter 3: "Configuring the Backup Cycle" on page 29
7.	Configure SBM agents.	Chapter 3: "Configuring an Agent for the First Time" on page 29
8.	Confirm the system has collected all the data.	Chapter 3: "Refreshing the Data" on page 36

Next Steps

You are now ready to install the Sun StorageTek Backup Manager software.

Installing the Software

This chapter describes how to install the software. It contains the following sections:

- "About the Software Installation CDs" on page 3
- "Before You Begin" on page 4
- "Installing Prerequisite Components" on page 8
- "Installing the SBM UNIX Components" on page 13
- "Installing the Windows Application Components" on page 20
- "Next Steps" on page 24

About the Software Installation CDs

The Sun StorageTek Backup Manager Installation software is distributed on three CDs:

- Sun StorageTek Backup Manager for x86
- Sun StorageTek Backup Manager for SPARC
- Sun StorageTek Backup Manager TSM Agent for Windows

The CDs for x86 and SPARC platforms include the following files and directories in the CD root directory:

TABLE 2-1   Sun StorageTek Backup Manager CD Layout

File or Directory Name	Contents
.version	Build version file
De-Installer.pl	De-Installer script
Installer.pl	Installation script
Pre-installer.pl	Prerequisite installation script

TABLE 2-1 Sun StorageTek Backup Manager CD Layout *(Continued)*

File or Directory Name	Contents
webapp directory	Web application software
utils directory	Utilities used during installation
postgresql directory	PostgreSQL database software
sbmjre directory	JDK which will be accessed by the SBM instance of the GlassFish server
pkg directory	Installation packages for both the infrastructure and data acquisition agents
dbSchema directory	Sun StorageTek Backup Manager database software
doc directory	Sun StorageTek Backup Manager documentation

The Sun StorageTek Backup Manager TSM Agent for Windows CD contains the executable file (setup.exe) in the root directory.

Before You Begin

Before installing the product, complete the planning worksheets. You will have all the information required as you step through the installation process.

See

Tip – Set the UNIX output window to the maximum number of lines allowed to ensure you can view all the command responses during the installation process.

SBM Installation Requirements

TABLE 2-2 lists the Sun StorageTek Backup Manager installation requirements, including prerequisites for tape libraries and backup master servers. See the release notes for updated support information.

TABLE 2-2   Sun StorageTek Backup Manager Installation Requirements

Installation Component	Version Information
Operating System: UNIX	Software • Solaris 10 11/06 Operating System (minimum) SPARC • Solaris 10 11/06 Operating System (minimum) x86 Hardware • 2 CPUs • 2 GB RAM • Minimum of 5 GB available disk space
Operating System: Windows	*[Applicable to TSM Backup Agent only]* Software Windows 2003 Standard or Enterprise Edition (recommended) w/ SP1 Windows 2003 Standard x64 or Enterprise x64 Edition (recommended) w/ SP1 Hardware • 1 CPU (1 GHz or higher) • 1 GB RAM • 500 MB available disk space
Database Server: PostgreSQL	PostgreSQL 8.2.3 (64-bit)
Web Application Server: GlassFish	• Sun Java System Application Server Platform Edition 9.1 • Sun recommended patch cluster, available on SunSolve (`http://sunsolve.sun.com/pub-cgi/show.pl?target=patchpage`) • See the GlassFish document at: `https://glassfish.dev.java.net/nonav/javaee5/docs/SJSASEERN.pdf` Note: The SBM application requires `jdk-1_5_0_09` (SPARC) or `jdk-1_5_0_11` (x86) and is installed during preinstallation.
Tape Library: STK Agent	Supported Tape Library Models: • L20, L40, L80, L180, L700, L700e, L1400 Library Prerequisites: • Version 1.0 & 2.0 of the SUN StorageTek SNMP MIB • Requires version 2.11.01 or higher firmware on L20/L40/L80 libraries • Requires version 3.01.02 or higher firmware on L180/L700/L1400 libraries • SNMP enabled on the library • Network connectivity to the library

TABLE 2-2 Sun StorageTek Backup Manager Installation Requirements *(Continued)*

Installation Component	Version Information
Tape Library: ACSLS Agent	Supported Tape Library Models: • L5500 • PowderHorn 9310 • SL500 (requires ACSLS 7.1) • SL8500 (requires ACSLS 7.1) Library Prerequisites: • Version 6.0/7.0/7.1 on Solaris 9/10 ACSLS API • Agent cannot be installed on ACSLS server or backup application server • Network connectivity to ACSLS server
Backup Software: Legato Agent	Backup Application: • NetWorker 6.1, 7.0 (Windows) • NetWorker 6.1, 7.0-7.3 (Solaris) Backup Server Platforms: • Solaris 8/9/10 • Windows 2000 /2003 Backup Server Prerequisites: (Refer to Appendix B) • Network connectivity to master backup server (For example, you can use RSH/SSH to connect the agent remotely to the master server.)
Backup Software: NetBackup Agent	Backup Application: • Netbackup 5.x & 6 Backup Server Platforms: • Solaris 8/9/10 • Windows 2000/ 2003 Backup Server Prerequisites: (Refer to Appendix B) • Network connectivity to the master backup server (For example, you can use RSH/SSH to connect the agent remotely to the master server.)

Installation Component	Version Information
Backup Software: TSM Agent	Backup Application: • TSM 5.2, 5.3 Backup Server Platforms: • Solaris 10 • Windows 2000/2003 server Note: The TSM Agent runs on a Windows server and communicates with backup server platforms that run Solaris 10 and Windows and 2000/2003.a Backup Server Prerequisites: (Refer to Appendix C) • Network connectivity to the TSM server • Configured ODBC Data Source Name (DSN) on the Windows server • Obtained a valid login and password on the TSM server with permissions the TSM agent can use to log into and issue queries for each TSM database connection
Web Client: UNIX	Hardware • Solaris 10 11/06 Operating System (minimum) SPARC • Solaris 10 11/06 Operating System (minimum) x86 Software • Mozilla 1.4 and above • Netscape 6.2 and above • FireFox 1.0 and above
Web Client: Windows	Operating System • Windows 98, Windows XP, Windows 2000, Windows Server 2003 Software • Internet Explorer 5.5 and above • Mozilla 1.4 • FireFox 1.0 and above • Netscape 6.2 and above

Installing Prerequisite Components

Before you install the Sun StorageTek Backup Manager software, you must install the prerequisite software components on the SBM server.

Note – The prerequisite components are only required for the Solaris platform.

TABLE 2-3 lists the Sun StorageTek Backup Manager preinstallation requirements.

TABLE 2-3   Preinstallation Component Requirements

Application	Version
PostgreSQL Database Server	PostgreSQL 8.2.3 (64-bit)
GlassFish Web Application Server	Sun Java System Application Server Platform Edition 9.0_01 (build b02-p01) jdk 1.5

The following procedures are contained in this section:

- "Running the Preinstallation Script" on page 8
- "Reviewing the Preinstallation Log Files" on page 11
- "Verifying the Preinstallation of SBM Components" on page 11

Running the Preinstallation Script

1. **Log in as** `root` **on the server where you want to install SBM.**

2. **Insert the SBM preinstallation CD into a local drive.**

    If the compressed installation files do not appear in a directory window:

    a. **Change to the /**`cdrom/cdrom0` **directory:**

       `cd /cdrom/cdrom0`

    b. **Display the contents of the CD:**

       `ls -l`

3. **To initiate the Installer program, type:**

   ```
   ./Pre-Installer.pl
   ```

   The following menu is displayed.

   ```
   Pre-installer is performing environment checking.  Please wait...
   Please select component(s) to install.  Select [0] to install All
   components.
   Select [3] once you are done with selection.

           [0] [ ] All Components
           [1] [ ] PostgreSQL Database Server
           [2] [ ] Web Application Server
           [3] [ ] Done Selection
           [4] [ ] Quit the installation.

   [ [X] Indicates selected option.]
   [ [INSTALLED] indicates the item is already installed on system. ]
   [ Selecting [INSTALLED] item will re-install it. ]
   [ To toggle on/off option press the selected number again. ]
   [ Press [0] to select All Components.

   Input :
   ```

   Each line is written in the following format:

   ```
   [Menu #] [Selection Status] Component Name [Install Status]
   ```

   The first time you run the install script, you will notice the Selection Status field
   (indicated by the brackets [ ]) is empty. The Install Status field is also empty [ ] if
   a component is not installed or has been de-installed.

4. **To select the component you want to install, type the corresponding number.**

If you want to install...	Type this...
All components	0
PostgreSQL Database Server	1
Web Application Server	2

5. **Press Return.**

   An "[X]" is displayed beside the selected component.

6. **Repeat Step 4 and Step 5 for each component you want to install.**

   You can deselect a component by typing its number again.

7. **(Optional) To exit the script without installing any components, type** 4**.**

8. **When you finish selecting components, type** 3 **and press Return.**

   Result: The software initiates the preinstallation process and displays a message indicating the process has completed. The menu displays `[INSTALLED]` after the name of each component currently installed.

   You will be asked the following questions during the installation process.

Question...	Explanation / Action...	Default Value

`Pre-installer is creating sbm,`
`sbmdb, and sbmapp unix user`
`accounts.Please enter existing base`
`directory for sbm, sbmdb, and sbmapp`
`login home directories.`
`Base directory [/export/home]?`
	Displays if you are running the installer for the first time and the user accounts do not exist. You can:
	• Accept the default location by pressing `Enter`.
	• Change the default location by entering the new value and pressing `Enter`.
		`/export/home`

`SBM install path [/opt/sbm] ?`	Displays the first time the preinstallation script is run. You can: • Accept the default location by pressing `Enter`. • Change the default location by entering the new value and pressing `Enter`.	`/opt/sbm`
`PostgreSQL listening port [4000] ?`	Displays during the PostGreSQL database server installation process. You can: • Accept the default port by pressing `Enter`. • Change the default port by entering the new value and pressing `Enter`.	`4000`
`Do you agree to the above license` `terms? [yes or no]`	Displays during the Web Application Server installation process. You must agree to accept the Binary Code License Agreement to continue with the installation. Type: `yes`. **Note**: If you do not accept the agreement, the application will exit the installation.	
`Accept or Decline? [A,D,a,d]`	Displays during the Web Application Server installation. You must accept the GlassFish Software License Agreement to continue with the installation. Type either "`A`" or "`a`". **Note**: If you do not accept the agreement, the application will exit the installation.	

Reviewing the Preinstallation Log Files

The installation process creates log files to support the PostgreSQL database and web application server installations. The third party vendor also creates a log file. You can review these files to verify or troubleshoot the preinstallation.

Web Application Server Log File

To access the web application server log file, go to the following directory:
SBM_install_path/sbmapp/log/SBMAPP_PreInstall_log

To access the server log file, go to the following directory.
SBM_install_path/sbmapp/glassfish/domains/domain1/log/server.log

PostgreSQL Database Server Log File

To access the database log file, go to the following directory:
SBM_install_path/sbmdb/log/SBMDB_PreInstall_log

To access the server log file, go to the following directory.
SBM_install_path/sbmdb/postgresql/log/server.log

Verifying the Preinstallation of SBM Components

You must verify that each of the components was installed successfully.

PostgreSQL Database Server

TABLE 2-4 describes how to verify the database server was installed successfully.

TABLE 2-4 PostgreSQL Database Server Installation Verification Procedure

Step	Verify...	Action

1.	Install package ran successfully and the database server is running.	To display the PostgreSQL status, type:
		`# svcs postgresql:sbm`
		
		Command Output:
		`STATE    STIME    FMRI`
		`online   1:28:10  svc:/application/sbm/database/postgresql/sbm`
		
		Note: The database server is controlled by the Service Management Facility (SMF).

2.	PostgreSQL data directory exists.	To display the status of the directory, type: `svcprop -p sbmpg/data postgresql:sbm` Command Output: */SBM_install_path*/sbmdb/postgresql/data

Web Application Server

TABLE 2-5 describes how to verify the SBM database was installed successfully.

TABLE 2-5 Web Application Server Installation Verification Procedure

Step	Verify...	Action
1.	Web Application Server Admin site is accessible.	From a browser, type: `http://`*SBM_Server*`:4848` This may take a few minutes the first time you launch this site.

Installing the SBM UNIX Components

The Sun StorageTek Backup Manager (SBM) installation process requires that you install three major components: the SBM database, web server, and agents.

TABLE 2-6   SBM Installation Components

Component	Description
SBM Database	Stores the collected device information.
SBM Web Server	Provides the user interface.
SBM Agents	Collects the data. There are three agent components: • Infrastructure Agents - Collects the information from the lower-level device agents and passes them to the database. • Data Acquisition Agents - Collects data from backup applications and tape libraries. SBM supports one agent per supported device. You decide which agents to install based on what devices you want to monitor. • Agent Util package - Provides additional tools used by the SBM application.

You can install the Sun StorageTek Backup Manager software on a SPARC or x86 system running the Solaris 10 Operating System.

Note – Before continuing, please verify the prerequisites are installed. For information, see "SBM Installation Requirements" on page 5 and "Installing Prerequisite Components" on page 8.

The following procedures are contained in this section:

- "Running the Installation Script" on page 13
- "Reviewing the Installation Log Files" on page 16
- "Verifying the Installation of SBM Components" on page 16

Running the Installation Script

1. **Log in to the Solaris OS as** `root`**.**

2. **Insert the SBM installation CD into a local drive.**

3. **Change to the /**cdrom/cdrom0 **directory:**

   ```
   cd /cdrom/cdrom0
   ```

4. **Display the contents of the CD:**

   ```
   ls -l
   ```

Note – For a list of the CD contents, see .

---

5. **To initiate the Installer program, type:**

   ```
   ./Installer.pl
   ```

   The "Installation Menu" is displayed.

```
Please select component(s) to install.  Select [0] to install All
Components. Select [11] once you are done with selection.
      [0] [ ] All Components
       [1] [ ] Database Instance and Schema
       [2] [ ] Web Application
       [3] [ ] All Infrastructure and Device Agents
               [4] [ ] SBM Agent Util package
               [5] [ ] SBM Routing Agent package
               [6] [ ] SBM Aggregator package
               [7] [ ] SBM ACSLS Agent package
               [8] [ ] SBM Legato Agent package
               [9] [ ] SBM Netbackup Agent package
               [10] [ ] SBM STK Agent package
       [11] [ ] Done Selection
       [12] [ ] Quit the installation.
=========================== MENU HELP ===========================
[ [X] indicates selected option. ]
[ [INSTALLED] indicates the item is already installed on system. ]
[ Selecting [INSTALLED] item will re-install it. ]
[ To toggle on/off option press the selected number again. ]
[ Press [0] to select All Components.  Press [3] to select All
agent sub-components. ]

Input :
```

Note – The TSM agent does not display in the list of agents. The TSM agent must be installed on the Windows operating system. For more information, see "Installing the TSM Agent" on page 21.

Each line is written in the following format:

```
[Menu #] [Selection Status] Component Name [Install Status]
```

The first time you run the install script, you will notice the Selection Status field (indicated by the brackets [ ]) is empty. The Install Status field is also empty [ ] if a component is not installed or has been de-installed.

6. **To select a component you want to install, type the corresponding number.**

To install...	Type this...
All components	0
Database Instance and Scheme	1
Web application	2
All agents	3
Agent Util package	4
SBM Routing Agent	5
SBM Aggregator	6
SBM ACSLS Agent	7
SBM Legato Agent	8
SBM Netbackup Agent	9
SBM STK Agent	10

You must install at least one agent.

The minimum installation requires that you install components #1, #2, #4, #5, and #6 from the Installation Menu.

Note – The first time you install an agent, you must also install the Agent Util package. You only need to install this package once.

7. **Press Return.**

An "[X]" is displayed beside the selected component.

8. **Repeat** Step 6 **and** Step 7 **for each component you want to install.**

You can deselect a component by typing its number again.

9. **(Optional) To exit the script without installing any components, type** `12`**.**

10. **When you finish selecting components, type** `11` **and press Return.**

    Result: The software initiates the installation process and displays a message indicating when the process has completed. The Installation Menu displays "`[INSTALLED]`" after the name of each component currently installed.

Reviewing the Installation Log Files

The SBM installation process creates log files to support the database and web application installations. Log files are not produced for agent installations.

You can review these files to verify or troubleshoot the installation.

SBM Web Application Log File

To access the SBM web application log file, go to the following directory:

SBM_install_path`/sbmapp/log/SBMAPP_Install_log`

SBM Database Log File

To access the SBM database log file, go to the following directory:

SBM_install_path`/sbmdb/log/SBMDB_Install_log`

Verifying the Installation of SBM Components

You must verify that each of the components was installed successfully.

SBM Database

TABLE 2-7 outlines the tasks required for verifying the SBM database was installed successfully.

TABLE 2-7   SBM Database Installation Verification Procedure

Step	Verify...	Action
1.	Install package ran successfully.	Review install output (on the screen) and verify the following message is displayed: `executing install_opt_1 is done...`

2.	`LD_LIBRARY_PATH` environmental variable is initialized to point to the location of the `libpq.so` library.	Using the account you are currently logged into, type:
		`echo $LD_LIBRARY_PATH`
		
		Command Output:
		`/opt/sbm/sbmdb/postgresql/lib`
		
		If the variable is not initialized and does not return the result above, temporarily log in to the user account.
		From the command line, type:
		`su - sbmdb`
		`echo $LD_LIBRARY_PATH`
		
		Command Output should now display:
		`/opt/sbm/sbmdb/postgresql/lib`

3.	SBM database instance is accessible.	From the command line, type: `/opt/sbm/sbmdb/postgresql/bin/psql -h` *host_name* `-p` *port_number* `-U bbuser -d` *bb* where • *host_name* - IP of the local host • *port_number* - To find the port number, type: `svcprop -p sbmpg/port postgresql:sbm`

SBM Web Application

TABLE 2-8 describes how to verify the SBM database was installed successfully.

TABLE 2-8   SBM Web Application Installation Verification Procedure

Step	Verify...	Action
1.	SBM GUI interface is accessible.	From a browser, type: `http://`*hostname*/*IP*`:8080/sbm` This may take a few minutes the first time you launch this site.

Agents

TABLE 2-9 describes how to verify the individual SBM Agent packages were installed successfully.

TABLE 2-9   SBM Agent Package Installation Verification Procedure

Step	Verify...	Action

1.	Agents were installed on the local host.	To see all agents installed on the box, type:
		`svcs -a | grep sbm\/agent`
		where
		"\/" is typed as back slash "\" followed by the forward slash "/".
		Command Output:
		`online Jun_27 svc:/application/sbm/agents/routingAgent:default`
		`online Jun_27 svc:/application/sbm/agents/acslsAgent:default`
		`online Jun_27 svc:/application/sbm/agents/legatoAgent:default`
		`online Jun_27 svc:/application/sbm/agents/netbackupAgent:default`
		`online Jun_27 svc:/application/sbm/agents/stkAgent:default`
		`online Jun_27 svc:/application/sbm/agents/aggregator:default`
		`v210:obe-70#`
		
		Note: All agents are controlled by the Service Management Facility (SMF).

2.	Individual agent package is installed.	Search the command output for "status: completely installed"
		Type:
		`pkginfo -l SUNWsbm`*agent name*
		Note: The following example output displays for the STK Library agent. You must repeat this step for each agent you install.
		
		`Command Output:`
		`   PKGINST:   SUNWsbmstk`
		`      NAME:   Sun STK Library Agent`
		`  CATEGORY:   application`
		`      ARCH:   sparc`
		`   VERSION:   prod-1.0.9-qa`
		`   BASEDIR:   /opt/sbm`
		`    VENDOR:   Sun Microsystems, Inc.`
		`      DESC:   Agent binaries and support files for`
		`monitoring STK Library`
		`Environments`
		`    PSTAMP:   qabuild@sbur-bldsol01-20070619`
		`  INSTDATE:   Jun 27 2007 11:33`
		`    STATUS:   completely installed`
		`     FILES:        13 installed pathnames`
		`                    3 shared pathnames`
		`                    7 directories`
		`                    5 executables`
		`                10277 blocks used (approx)`

Installing the Windows Application Components

The IBM Tivoli Storage Manager (TSM) agent can only be installed on the Windows platform.

Before you install the TSM agent:

- Install the ODBC requirements as described in "Windows Operating System Prerequisites" on page 63
- Gather the required information using the "TSM Server Worksheet" on page 44

The following procedures are contained in this section:

- "Installing the TSM Agent" on page 21
- "Verifying TSM Agent Installation" on page 23

TABLE 2-10 lists the installation requirements for the Windows operating system and TSM backup agent.

TABLE 2-10   TSM Installation Requirements for Windows

Category	Version
Windows Operating System	<u>Software</u> Windows 2003 Standard or Enterprise Edition (recommended) with SP1 Windows 2003 Standard x64 or Enterprise x64 Edition (recommended) with SP1 <u>Hardware</u> • 1 CPU (1 GHz or higher) • 1 GB RAM • 500 MB available disk space
Backup Software	<u>Backup Application:</u> • TSM 5.2 , 5.3 <u>Backup Server Platforms:</u> • Solaris 10 • Windows 2000/2003 server <u>Prerequisites: (Refer to Appendix C)</u> • Network connectivity to the TSM server • Configured ODBC Data Source Name (DSN) on the Windows server • Obtained a valid login and password on the TSM server with permissions the TSM agent can use to log into and issue queries for each TSM database connection

When you have met the ODBC requirements described in TABLE 2-10 and completed the "TSM Server Worksheet" on page 44", you are ready to install the TSM Agent.

Installing the TSM Agent

1. **On a Windows system, insert the Sun StorageTek Backup Manager Windows Installation CD into the CD-ROM drive.**

2. **From the CD-ROM drive, double-click the** `setup.exe` **file.**

3. **From the "Welcome to the Install Wizard for Sun Microsystems TSM Agent" screen, click Next.**

4. **From the License Agreement screen, click "I accept" to accept the terms of the software license agreement.**

5. **Click Next.**

6. **Modify the User Name and Organization.**

7. **Click Next.**

8. **Modify the Destination Folder details.**

    If you want to change the default destination, click Change and browse through the directory list until you find the correct location. Click Next to continue with the installation.

9. **Click Install.**

    Once the installation is complete the "Enter Text" screen appears.

10. **Modify the SBM server IP address entry for the Routing Agent to which the TSM agent will talk.**

11. **Click Next.**

12. **Click Finish.**

Result: The TSM agent is installed on the Windows server. The agent runs from the Windows server, but stores the data on the SBM server.

Verifying TSM Agent Installation

1. **Verify the TSM Agent software exists in the following directory:**

   `C:\Program Files\Sun Microsystems\SBM\Agents\Sun TSM Agent`

2. **Verify the Sun TSM Agent service is in the list of services.**

   a. **From the Windows desktop, click Start.**

   b. **Go to Control Panel > Administrative Tools > Services.**

   c. **Scroll down the list of services for "Sun TSM Agent" and verify the following settings.**

Field...	Value...
Startup Type	`Automatic`
Status	`<blank>`

   d. **Close the Services dialog box.**

3. **Start the TSM Agent service.**

   The status of the service changes to `Started`.

Next Steps

1. **After the agents have been installed, verify you have completed the tasks listed in** TABLE 2-11**.**

TABLE 2-11   Installation Verification Checklist

Verify Task is complete...	Where to find procedures...
☐ Tape library and backup software prerequisites are met	• "SBM Installation Requirements" on page 5
☐ PostgreSQL database server and GlassFish web application server are installed	• "Reviewing the Preinstallation Log Files" on page 11 • "Verifying the Preinstallation of SBM Components" on page 11
☐ SBM database, SBM web application, and SBM agents are installed	• "Reviewing the Installation Log Files" on page 16 • "Verifying the Installation of SBM Components" on page 16 • "Verifying TSM Agent Installation" on page 23

2. **Set up agent connectivity with the backup master server and tape libraries as outlined in** TABLE 2-12**.**

TABLE 2-12   Agent Connectivity Checklist

Task...	Where to find procedures...
☐ Set up network connectivity between the SBM server and UNIX or Windows backup master servers	• "Setting Up Connectivity for NetWorker Backup Master Servers" on page 48 • "Setting up Connectivity for NetBackup Master Servers" on page 54
☐ Set up network connectivity between the SBM server and the TSM server	• "Installing the ODBC Data Source Administrator" on page 63 • "Installing the TSM ODBC Driver" on page 64 • "Configuring the ODBC System DSN" on page 65
☐ Verify network connectivity exists between the SBM server and tape libraries	• Verify that SNMP is configured and running for each tape library

3. **After you set up and verify network connectivity for each agent, log in to the SBM browser interface and perform the initial configuration as described in** Chapter 3**.**

CHAPTER **3**

Performing the Initial Configuration

This chapter describes how to perform the initial configuration of the Sun StorageTek Backup Manager application. It contains the following sections:

Accessing the SBM Browser Interface

The Sun StorageTek Backup Manager provides a browser interface to perform basic configuration tasks and view reports for the tape libraries and backup software in your storage environment. There are two levels of access for users:

- View-only access - available to all Sun StorageTek Backup Manager users
- Administrator access - password-protected access available to Backup Administrators who configure the system.

You can access the SBM software from any system that is on the same network as the SBM server.

1. Open a supported web browser.

Note – For information about supported web browsers, see the *Sun StorageTek Backup Manager Release Notes*.

---

2. **Enter the IP address of the SBM management server using this format:**

   `http://`*sbm-management-server*`:8080/sbm`

   where

   sbm-management-server is the IP address of the machine where you installed the Sun StorageTek Backup Manager software.

   Result: The Sun StorageTek Backup Manager browser interface displays. You can click a link to get details about a selected item.
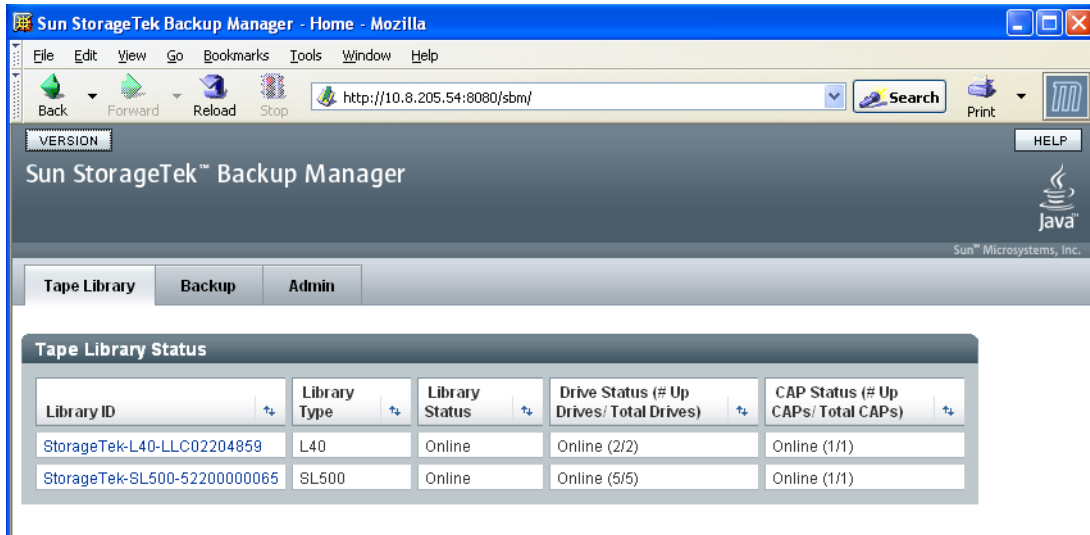
The browser interface provides you with an easy-to-use interface to monitor backup jobs and tape library status.

3. **Before you begin configuring the system, you should become familiar with the components of the browser interface and how to get help.**

   You can navigate through the browser interface as you would a typical web page. Use the tabs to move among pages within the application.

Using Help

To view additional information about the software, click Help in the banner of the web browser or subpage. The help window consists of a navigation pane on the left and a topic pane on the right.

To display a help topic, use the navigation pane's Contents, Index, and Search tabs. Click the Search tab and click Tips on Searching to learn about the search feature. The following table describes the help tabs.

TABLE 3-1   Help Tabs

Tab	Description
Contents	Click a folder icon to display subtopics. Click a page icon to display the help page for that topic in the Topic pane.
Index	Click an index entry to display the help page for that topic.
Search	Type the words for which you want to search and click Search. The Navigation pane displays a list of topics that match your search criteria in order of relevancy. Click a topic link to display the help page for that topic.
	To search for a particular word or phrase within a topic, click in the Topic pane, press Ctrl+F, type the word or phrase for which you are searching, and click Find.

Logging into the Admin Page

To perform administration tasks such as configuring backup agents and setting the backup start time, you must log in to the Admin page.

Note – For security, the connection to the Admin page closes automatically if there is no activity for approximately 30 minutes.

1. **Click the Admin tab.**
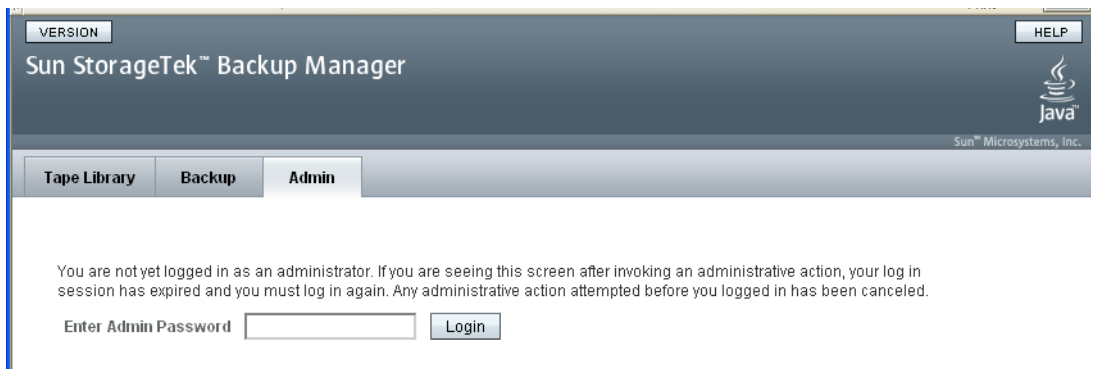
2. **Type the password and click Login.**

   The default password is `storage`.

Sun recommends you change this password to a unique and secure password once you log in for the first time.

3. **Change the Administrator password to a unique password.**

   a. **Click Change Password.**

   b. **Enter the password information.**

      Maximum length is 26 characters. Alphanumeric and special characters are allowed.

      You must enter text in these fields correctly. If the New Password and Confirm New Password fields do not match, a message displays when you click the Change button and you must start again.

   c. **Click Change.**

      Result: A message displays confirming the password was changed.

You can carry out the initial configuration tasks described in the following subsections, including configuring the backup cycle start time, configuring agents, and refreshing the data.

Configuring the Backup Cycle

You can change the time you want the reporting period to start. SBM uses the backup time you specify as the default time frame for starting backup reports.

The default start time is 12:00 a.m. local to the time zone set on the SBM server.

1. **Go to Admin > Configure Backup Cycle.**

2. **From the Cycle Start at drop-down box, select the time you want reporting to start.**

3. **Click Save.**

Result: SBM saves the new start time and displays a message confirming the backup cycle has changed.

Configuring an Agent for the First Time

You must configure the SBM data acquisition agent before you can begin using the reporting and monitoring functions of the SBM application.

Note – The advanced settings are reserved for support personnel who are troubleshooting problems.

This section contains the following procedures:

- "Configuring the EMC (Legato) NetWorker Agent" on page 30
- "Configuring the Veritas NetBackup Agent" on page 31
- "Configuring the Sun StorageTek (STK) Library Agent" on page 32
- "Configuring the IBM Tivoli Storage Manager (TSM) Agent" on page 33
- "Configuring the ACSLS Agent" on page 35

Configuring the EMC (Legato) NetWorker Agent

1. **From the Agents Status table, click the Change Configuration link for the Legato agent.**

2. **Click Add a Legato Server.**

3. **Enter the appropriate data for each field.**

Tip – If you are adding multiple servers, you might need to scroll down to view the input fields for each server.

For this field...	Type this...	Default
Remote Connection	(Optional) Type of connection, local or remote, used to connect to this device.	True
Remote Host	Host name or IP address of the remote machine.	
Remote Operating System	Operating system installed on the remote machine (for example, `unix` or `win`).	`unix`
Remote Shell Command Path On SBM server	Fully qualified path to the remote shell command on the SBM server used to connect to the remote machine.	`/usr/bin/ssh`
Remote User Name	(Optional) User name to be used when logging onto the remote machine.	
Networker's Messages Log File Name	Name of NetWorker's messages log file that includes the fully qualified path location.	

Networker's CLI Executable Path	Fully qualified path to NetWorker's CLI commands.	Solaris:
		`/usr/sbin`
		Windows Equivalent:
		`c:\program files\nsr\bin`

4. **(Optional) To add another server, repeat** Step 2 **and** Step 3**.**

5. **Click Save.**

   A message displays indicating that the changes have been applied to the agent and agent will be restarted.

6. **Click Close.**

7. **To check the "Configuration Status" for the agent, refresh the browser page.**

   Wait for the Status column to display `up` and Configuration Status displays `Configured`.

8. **To verify the agent is collecting data, refer to** "Refreshing the Data" on page 36**.**

Configuring the Veritas NetBackup Agent

1. **From the Agents Status table, click the Change Configuration link for the NetBackup agent.**

2. **Click Add a NetBackup Server.**

3. **Enter the appropriate data for each field.**

Tip – If you are adding multiple servers, you might need to scroll down to view the input fields for each server.

For this field...	Type this...	Default
Remote Connection	(Optional) Type of connection, local or remote, used to connect to this device.	True
Remote Host	Host name or IP address of the remote machine.	
Remote Operating System	Operating system installed on the remote machine (for example, `unix` or `win`).	`unix`
Remote Shell Command Path On SBM Server	Fully qualified path to the remote shell command on the SBM server used to connect to the remote machine.	`/usr/bin/ssh`
Remote User Name	(Optional) User name to be used when logging onto the remote machine.	
Remote User Password	(Optional) User password to be used when logging onto the remote machine.	

For this field...	Type this...	Default

Netbackup Command Path	Fully qualified path to NetBackup's CLI commands.	<u>Solaris:</u>
		`/usr/openv/netbackup`
		<u>Windows Equivalent:</u>
		`c:\program files\`
		`veritas\netbackup`

Volume Manager Command Path	Fully qualified path to NetBackup's Volume Manager.	<u>Solaris:</u>
		`/usr/openv/volmgr`
		<u>Windows Equivalent:</u>
		`c:\program files\`
		`veritas\volmgr`

Report Activity Period	Number of hours of NetBackup activity to report on.	72

4. **(Optional) To add another server, repeat** Step 2 **and** Step 3**.**

5. **Click Save.**

   A message displays indicating the changes have been applied to the agent and the agent will be restarted.

6. **Click Close.**

7. **To check the "Configuration Status" for the agent, refresh the browser page.**

   Wait for the Status column to display `up` and Configuration Status displays `Configured`.

8. **To verify the agent is collecting data, refer to** "Refreshing the Data" on page 36**.**

Configuring the Sun StorageTek (STK) Library Agent

1. **From the Agents Status table, click the Change Configuration link for the STK Library agent.**

2. **Click Add a STK Library.**

3. **Enter the appropriate data for each field.**

For this field...	Type this...	Default
Tape Library Address	Host name or IP address of the tape library	
SNMP Port	SNMP port number of the tape library	161
SNMP Community String	SNMP community string of the tape library	public

4. **(Optional) To add another library, repeat** Step 2 **and** Step 3.

5. **Click Save.**

   A message displays indicating that the changes have been applied to the agent and agent will be restarted.

6. **Click Close.**

7. **To check the "Configuration Status" for the agent, refresh the browser page.**

   Wait for the Status column to display up and Configuration Status displays Configured.

8. **To verify the agent is collecting data, refer to** "Refreshing the Data" on page 36.

Configuring the IBM Tivoli Storage Manager (TSM) Agent

1. **From the Agents Status table, click the Change Configuration link for the TSM agent.**

2. **Click Add a TSM Server.**

3. **Enter the appropriate data for each field.**

For this field...	Type this...	Default
TSM ODBC DSN	ODBC data source name **Note**: This is the name you supplied during the ODBC configuration.	
TSM Server Name Prefix	(Optional) prefix to be added to the TSM server name to guarantee server name uniqueness	
TSM Server User Name	Name of the TSM user account to be used when logging onto the TSM server	
TSM Server User Password	TSM user password to be used when logging onto the TSM server	
TSM Server Look Back Period	In hours, the look back period used when performing historical queries on the TSM server	24

4. **(Optional) To add another server, repeat** Step 2 **and** Step 3.

5. **Click Save.**

   A message displays indicating that the changes have been applied to the agent and agent will be restarted.

6. **Click Close.**

7. **To check the "Configuration Status" for the agent, refresh the browser page.**

   Wait for the Status column to display up and Configuration Status displays Configured.

8. **To verify the agent is collecting data, refer to** "Refreshing the Data" on page 36.

Configuring the ACSLS Agent

1. **From the Agents Status table, click the Change Configuration link for the ACSLS agent.**

2. **Enter the appropriate data for each field.**

For this field...	Type this...	Default
ACSLS Connection	(Optional) Indicate whether you wish to configure an ACSLS Server	ACSLS Server
ACSLS Server	Host name or IP address of the ACSLS server	

3. **Click Save.**

   A message displays indicating that the changes have been applied to the agent and agent will be restarted.

4. **Click Close.**

5. **To check the "Configuration Status" for the agent, refresh the browser page.**

   Wait for the Status column to display up and Configuration Status displays Configured.

6. **To verify the agent is collecting data, refer to** "Refreshing the Data" on page 36.

Refreshing the Data

Periodically, you might find it necessary to refresh the database with the latest information available.

For example, it is a good practice to refresh the data after configuring an agent for the first time or after modifying agent settings. In both cases, you want to verify the agent is collecting data.

1. **From the Configure Agents page, review the "Configuration Status" of the agents.**

Note – Agents must be in a "Configured" state before you can proceed to the next step.

2. **Click Refresh Report Data.**

3. **Click Refresh Data.**

Result: The SBM application displays a message indicating the refresh was initiated. All report data is marked for immediate collection.

Note – This process can take some time depending on the number of devices managed by the various backup agents.

4. **A message, similar to the following, will be displayed:**

Next Steps

You are now ready to begin managing and monitoring the entire backup solution. For information, see the *Sun StorageTek Backup Manager Administration Guide*.

Planning Worksheets

Use these worksheets to help collect information required to configure the backup master servers and tape libraries you are monitoring with the Sun StorageTek Backup Manager software.

The following worksheets are provided:

- SBM Management Server
- PostgreSQL Environment Details
- NetBackup Master Server Worksheet
- EMC NetWorker (Legato) Backup Worksheet
- TSM Server Worksheet
- STK Tape Library Worksheet
- ACSLS Server Worksheet
- Web Server Worksheet

SBM Management Server

Use the following worksheet to collect information for the SBM server.

	Required for Agent Setup	Example	Server Information
Host name / IP address	Y	10.8.205.26	
Operating system and version	N	Solaris 10 SPARC	
SBM install path	Y	/opt/sbm (default)	
User account path	Y	/export/home (default)	
Available memory	N	1 GB RAM	
Number of CPUs	N	1 CPU	
Available disk space	N	500 MB	

PostgreSQL Environment Details

Use the following worksheet to collect information for the PostgreSQL database.

	Required for Agent Setup	Example	PostgreSQL Information
Listening port	Y	4000 (default)	

NetBackup Master Server Worksheet

Use the following worksheet to collect information for each NetBackup master server that is connected to the SBM server.

	Required for Agent Setup	Example	Master Server 1	Master Server 2
Backup Master Server				
Host name / IP address	Y	10.8.205.41		
Operating system	Y	unix		
NetBackup home directory	Y	/usr/openv/netbackup		
Volume Manager home directory	Y	/usr/openv/volmgr		
NetBackup version	N	6.0		
Remote Connections Information				
Will the SBM NetBackup agent communicate remotely with the backup master server? If Yes, then...				
IP address of SBM server	Y	10.8.205.44		
OS and version of SBM server	N	Solaris 10 SPARC or Solaris x86		
Connection protocol	Y	SSH or RSH		
Qualified path name (location and name) of remote connection shell executable on SBM server	Y	/usr/bin/ssh		
User name for remote log in to the backup master server	N	sbm		

NetBackup Master Server Worksheet (Continued)

	Master Server 3	Master Server 4	Master Server 5	Master Server 6
Backup Master Server				
Host name / IP address				
Operating system				
NetBackup home directory				
Volume Manager home directory				
NetBackup version				
Remote Connections Information				
Will the SBM NetBackup agent communicate remotely with the backup master server? If Yes, then...				
IP address of SBM server				
OS and version of SBM server				
Connection protocol				
Qualified path name (location and name) of remote connection shell executable on SBM server				
User name for remote log in to the backup master server				

EMC NetWorker (Legato) Backup Worksheet

Use the following worksheet to collect information for each NetWorker backup master server that is connected to the SBM server.

	Required for Agent Setup	Example (for Windows)	Master Server 1	Master Server 2
Backup Master Server				
Host name / IP address	Y	10.8.205.42		
Operating system	Y	win		
`root` password for access to backup master server	N	********		
Full path name (location and name) of NetWorker 'messages' log	Y	`C:\Program Files\Legato\ nsrlogs\messages`		
Path name of NetWorker CLI executables	Y	`C:\PC:\Program Files\Legato\ nsr\bin`		
NetWorker version	N	7.0		
Remote Connections Information				
Will the SBM Legato NetWorker agent communicate remotely with the backup master server? If Yes, then...				
IP address of SBM server	Y	10.8.205.44		
OS and version of SBM server	N	Solaris 10 Sparc or Solaris x86		
Connection protocol	Y	RSH		
Qualified path name (location and name) of remote connection shell executable on SBM server	Y	/usr/bin/rsh		
User name for remote log in to the backup master server	N	sbm		

TSM Server Worksheet

Use the following worksheet to collect information for each TSM server that is connected to the SBM server.

	Required for Agent Setup	Example	TSM Server 1	TSM Server 2
Backup Master Server				
IP address	N	10.8.205.43		
ODBC Data source	Y	TSM_PROD_1		
TSM server password	N	admin		
TSM server user name	Y	admin		
TSM version	N	5.3		
TSM server prefix	Y	SERVER1(obe)		

	TSM Server 3	TSM Server 4	TSM Server 5	TSM Server 6
Backup Master Server				
IP address				
ODBC Data source				
TSM server password				
TSM server user name				
TSM version				
TSM server prefix				

STK Tape Library Worksheet

Use the following worksheet to collect information for each STK tape library that is connected to the SBM server.

	Required for Agent Setup	Example	Tape Library 1	Tape Library 2
IP Address	Y	10.8.205.99		
SNMP port	Y	161		
SNMP community string	Y	public		
SNMP version	N	2		
Model number	N	L40		
Firmware version	N	2.11.01		

	Tape Library 3	Tape Library 4	Tape Library 5	Tape Library 6
IP Address				
SNMP port				
SNMP community string				
SNMP version				
Model number				
Firmware version				

ACSLS Server Worksheet

Use the following worksheet to collect information for the ACSLS server that is connected to the SBM server.

	Required for Agent Setup	Example	ACSLS Server Information
IP address of server	Y	10.8.205.59	
API version installed on server	N	7.0	
Number of tape libraries	N	1	
Tape library models connected to server	N	SL500	

Web Server Worksheet

Use the following worksheet to collect information for the GlassFish web server.

	Required for Agent Setup	Example	GlassFish Server Information
Is GlassFish running on the server?			
If Yes... Port number this instance is listening on	Y		
If No... Port number this instance is listening on	N		
SBM port number for listening	Y	4000	

Configuring Backup Agent Connectivity

This appendix provides instructions for remote configuration of backup agents. It contains the following sections:

Version Support Matrix

The following matrix describes the SBM support for secure shell (SSH) and remote shell (RSH).

TABLE B-1   SSH and RSH Version Support Matrix

	Windows 2000	Windows 2003	Solaris 8/9	Solaris 10
SSH	--	--	Included with OS Install	Included with OS Install
RSH	Microsoft Windows Services for UNIX 3.5 (SFU 3.5)	Microsoft Windows Services for UNIX 3.5 (SFU 3.5)	Included with OS Install	Included with OS Install

Setting Up Connectivity for NetWorker Backup Master Servers

This section describes how to set up connectivity to enable backup agents to collect data from a NetWorker backup master server using secure shell (SSH) or remote shell (RSH). RSH for Windows is available from the Microsoft Windows Services for UNIX 3.5 (SFU 3.5) application.

The following procedures are provided in this section:

Note – By default SBM installs and runs the agents using the SBM user account. If you have problems using this user account, you can run the agent as the `root` user. For information about running the agent as `root`, see the troubleshooting section of the *Sun StorageTek Backup Manager Administration Guide*.

Connecting to a NetWorker UNIX Backup Master Server Using SSH

The following procedure describes how to set up secure shell (SSH) connectivity between the SBM server and a UNIX NetWorker backup master server. You will use two sessions to complete this procedure, one on the SBM server and one on the backup master server.

1. **Log in as** `root` **user on the SBM server.**

2. **Log in as the SBM user.**

   ```
   su - sbm
   ```

3. **Change directory to** `~/.ssh`.

   ```
   cd ~/.ssh
   ```

Note – If the `.ssh` directory does not exist, run the `ssh` key generation command to create the directory and accept all default values. This will create two files in the `~/.ssh` directory: `id_dsa` and `id_dsa.pub`. The file, `id_d.pub`, has the shared key in it.

   a. **If the `.ssh` directory does not exist, run the following command:**

      ```
      ssh-keygen -t dsa
      ```

   b. **Change directory to ~/.ssh.**

      ```
      cd ~/.ssh
      ```

4. **Open another session and log in to the backup master server as `root`.**

5. **On the backup master server, create the SBM user account.**

   ```
   useradd -c "SBM account" -m -s /usr/bin/bash -d /export/home/sbm sbm
   ```

6. **Set a password for the SBM user.**

   ```
   passwd sbm
   ```

7. **Log in to backup master server as the SBM user you just created.**

   ```
   su - sbm
   ```

8. **On the backup master server, create the directory:** `~/.ssh`.

   ```
   mkdir ~/.ssh
   ```

9. **From the SBM server, copy the public key to the backup master server:**

   ```
   scp -p id_dsa.pub backup_masterserver_hostname:~sbm/.ssh/id_dsa.pub.sbm
   ```

10. **On the backup master server, create the file:** `authorized_keys2`

    ```
    cd ~/.ssh
    cat id_dsa.pub.sbm >> authorized_keys2
    cat authorized_keys2
    ```

    Verify the SBM server IP address or host name entry is added to the `authorized_keys2` file.

11. **Logged in as the SBM user on the SBM server, build the known host file and check the connectivity:**

    ssh *backup server hostname*

    ssh *backup server IP*

    ssh *backup server fully qualified domain name*

    You will be prompted to confirm authentication for each host identifier you add.

Result: After you perform this procedure, you will be able to log in as the SBM user to the backup master server without being prompted for a password.

Connecting to a NetWorker UNIX Backup Master Server Using RSH

The following procedure describes how to set up remote shell (RSH) connectivity between the SBM server and a NetWorker UNIX backup master server. You will use two sessions to complete this procedure, one on the SBM server and one on the UNIX backup master server.

1. **Log in as** `root` **to the backup master server.**

2. **Set a password for the SBM user.**

   `passwd sbm`

3. **On the backup master server, create the file** `~/.rhosts` **under the user's home directory.**

   `touch ~/.rhosts`

4. **On the backup master server, edit the** `~/.rhosts` **file to add an entry for the SBM server:**

   sbmserver_hostname `sbm`

   where *sbmserver_hostname* is the IP address or host name of the SBM server.

5. **Log in to the SBM server as SBM user, and check the connectivity:**

   `rsh` *backup_server_hostname* `set`

Connecting to a NetWorker Windows Backup Master Server Using RSH

The following procedure describes how to set up remote shell (RSH) connectivity between the SBM server and a NetWorker Windows backup master server. You will use two sessions to complete this procedure, one on the SBM server and one on the Windows backup master server.

1. **On the Windows backup master server, log in as administrator and create the SBM user account.**

2. **Add the SBM user to the remote desktop user group so that you can log in remotely to the Windows backup master server as sbm.**

3. **Install SFU 3.5 on the Windows backup master server as described in** .

Verifying NetWorker Permissions on UNIX

1. **On the backup master server as** `root`**, log in as SBM user:**

   `su - sbm`

2. **Enter the** `mminfo` **command:**

   `/usr/sbin/mminfo`

You will see output similar to the following:

```
volume          client        date      size    level   name
BBL005           sburlabsol03 07/23/07   4   B    incr  /diskstaging
BBL005           sburlabsol03 07/23/07   4   B    incr  /devices
BBL005           sburlabsol03 07/23/07 5581 KB   incr  /system/object
BBL005          sburlabsol03 07/23/07   5 KB    incr  /system/contract
BBL005           sburlabsol03 07/23/07   4   B    incr  /sds
BBL005           sburlabsol03 07/23/07 23 MB     incr  /
BBL005           sburlabsol03 07/23/07 110 MB    incr  /var
BBL005          sburlabwin04.east.sun.com 07/23/07 4  B incr C:\Users
BBL005           sburlabsol03 07/24/07   4   B    incr  /diskstaging
BBL005          sburlabsol03 07/24/07   6 KB    incr  /system/contract
BBL005           sburlabsol03 07/24/07 5581 KB   incr  /system/object
BBL005           sburlabsol03 07/24/07 10 KB     incr  /devices
BBL005           sburlabsol03 07/24/07   4   B    incr  /sds
BBL005           sburlabsol03 07/24/07 107 MB    incr  /var
BBL005           sburlabsol03 07/24/07 23 MB     incr  /
BBL005          sburlabwin04.east.sun.com 07/24/07 4  B incr C:\Users
$
```

If the permissions are set incorrectly, you will see output similar to the following:

```
mminfo: no matches found for the query
```

Granting Permission to the SBM User on a NetWorker Windows Backup Master Server

You can enable the SBM user to run CLI commands on the EMC NetWorker (also known as Legato NetWorker) server by configuring the permissions on the NetWorker backup master server. You can add the SBM user using the CLI or NetWorker Console web interface.

Prerequisite: Before modifying the files in this section, make a backup copy of each file for easy rollback.

Using the NetWorker Console

1. **Open a web browser to connect to the NetWorker console and type the URL:**

   `http://`*ipaddress*`:9000`

2. **From the NetWorker Console web interface, click Enterprise and the name of the master server.**

3. **Double-click NetWorker to open a new page.**

4. **In the left pane, click User Groups.**

5. **Right-click Users and select Properties.**

6. **In the Properties window, add the** sbm@*hostname* **user and click OK.**
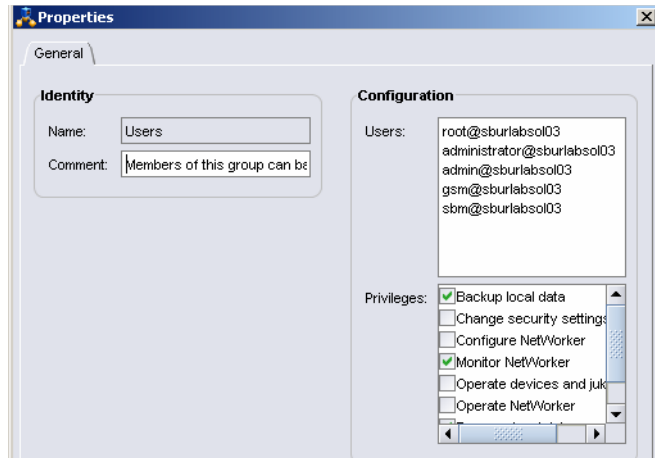
Members of this group have the following default privileges:

- Backup local data
- Monitor NetWorker
- Recover local data

Verifying NetWorker Permissions on Windows

1. **Log in to the backup master server as user** sbm.

2. **Enter the** mminfo **command:**

    ```
    C:\>mminfo
    ```
    You will see output similar to the following:

    ```
    volume        client       date     size   level   name
    slabwin.004 sburlabwin01 7/23/2007 23 MB incr  C:\Program Files\Storability
    slabwin.004 sburlabwin01 7/24/2007 23 MB incr  C:\Program Files\Storability
    slabwin.004.RO sburlabwin01 7/23/2007 23 MB incr C:\Program Files\Storability
    slabwin.004.RO sburlabwin01 7/24/2007 23 MB incr C:\Program Files\Storability
    ```

    If the permissions are set incorrectly, you will see output similar to the following:

    ```
    mminfo: no matches found for the query
    ```

Setting up Connectivity for NetBackup Master Servers

This section describes how to set up connectivity to enable backup agents to collect data from a NetBackup master server using secure shell (SSH) or remote shell (RSH). RSH for Windows is available from the Microsoft Windows Services for UNIX 3.5 (SFU 3.5) application.

The following procedures are provided in this section:

- "Connecting to a NetBackup UNIX Master Server Using SSH" on page 54
- "Connecting to a NetBackup UNIX Backup Master Server Using RSH" on page 55
- "Connecting to a NetBackup Windows Backup Master Server Using RSH" on page 56

Connecting to a NetBackup UNIX Master Server Using SSH

The following procedure describes how to set up secure shell (SSH) connectivity between the SBM server and a NetBackup UNIX master server. You will use two sessions to complete this procedure, one on the SBM server and one on the backup master server.

1. **Log in as** `root` **user on the SBM server.**

2. **Log in as the SBM user.**

   `su - sbm`

3. **Change directory to ~**/.ssh**.**

   `cd ~/.ssh`

Note – If the `.ssh` directory does not exist, run the `ssh` key generation command to create the directory and accept all default values. This will create two files in the `~/.ssh` directory: `id_dsa` and `id_dsa.pub`. The file, `id_d.pub`, has the shared key in it.

---

   a. **If the** `.ssh` **directory does not exist, run the following command:**

      `ssh-keygen -t dsa`

b. **Change directory to ~**/.ssh.

   ```
   cd ~/.ssh
   ```

4. **Open another session and log in to the backup master server as** `root`.

5. **On the backup master server, create the directory:** `~/.ssh`.

   ```
   mkdir ~/.ssh
   ```

6. **From the SBM server, copy the public key to the backup master server:**

   ```
   scp -p id_dsa.pub
   root@backup_masterserver_hostname:~/.ssh/id_dsa.pub.sbms
   ```

7. **On the backup master server, create the file:** `authorized_keys2`

   ```
   cd ~/.ssh
   ```

   ```
   cat id_dsa.pub.sbm >> authorized_keys2
   ```

   ```
   cat authorized_keys2
   ```

   Verify the SBM server IP address or host name entry is added to the
   `authorized_keys2` file.

8. **Logged in as the SBM user on the SBM server, build the known host file and
   check the connectivity:**

   ssh root@*backup server hostname*

   ssh root@*backup server IP*

   ssh root@*backup server fully qualified domain name*

   You will be prompted to confirm authentication for each host identifier you add.

Result: After you perform this procedure, you will be able to log in as the SBM user
to the backup master server without being prompted for a password.

Connecting to a NetBackup UNIX Backup Master Server Using RSH

The following procedure describes how to set up remote shell (RSH) connectivity
between the SBM server and a NetBackup UNIX backup master server. You will use
two sessions to complete this procedure, one on the SBM server and one on the
UNIX backup master server.

1. **Log in as** `root` **to the backup master server.**

2. **On the backup master server, create the file** `~/.rhosts` **under the user's home
   directory.**

   ```
   touch ~/.rhosts
   ```

3. **On the backup master server, edit the** `~/.rhosts` **file to add an entry for the SBM server:**

   sbmserver_hostname `sbm`

   where *sbmserver_hostname* is the IP address or host name of the SBM server.

4. **Log in to the SBM server as SBM user, and check the connectivity:**

   `rsh` *backup_server_hostname* `set`

Connecting to a NetBackup Windows Backup Master Server Using RSH

The following procedure describes how to set up remote shell (RSH) connectivity between the SBM server and a NetBackup Windows backup master server. You will use two sessions to complete this procedure, one on the SBM server and one on the Windows backup master server.

1. **On the Windows backup master server, log in as administrator and create the SBM user account.**

2. **Add the SBM user to the administrators group. Doing so allows you to:**
   - Log in remotely to the Windows backup master server as the SBM user
   - Run NetBackup commands as the SBM user

3. **Install SFU 3.5 on the Windows backup master server as described in** "Installing and Setting Up RSH for Windows" on page 56**.**

Installing and Setting Up RSH for Windows

The following procedure describes how to set up remote shell (RSH) connectivity between the SBM server and a NetWorker or NetBackup Windows backup master server. You will use two sessions to complete this procedure, one on the SBM server and one on the Windows backup master server. RSH for Windows is available from the Microsoft Windows Services for UNIX 3.5 (SFU 3.5) application.

1. **Download SFU 3.5 to the Windows backup master server using the following link:**
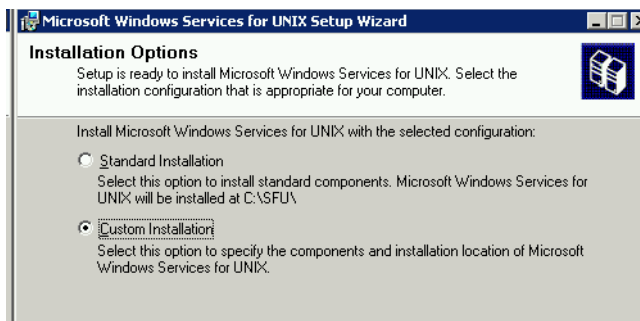
   http://www.microsoft.com/windowsserversystem/sfu/downloads/default.mspx

2. **Follow the instructions provided by Microsoft to install RSH.**

Use the following example as a guide to install RSH on Windows.
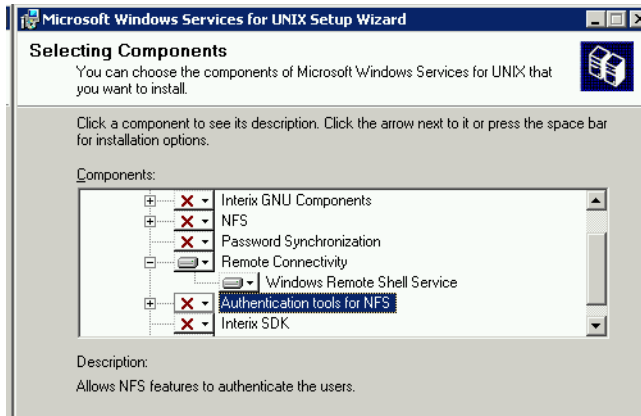
a. **Launch the installation.**
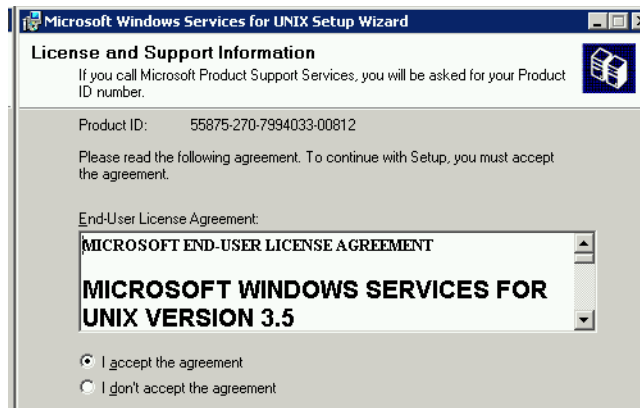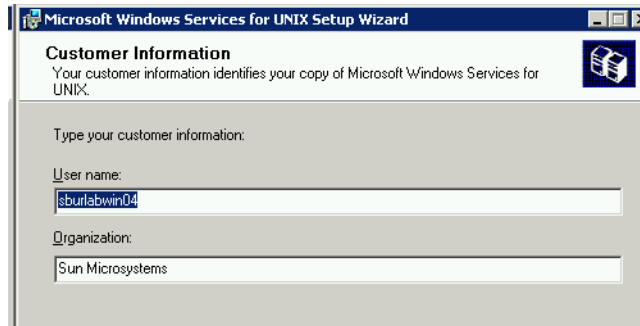
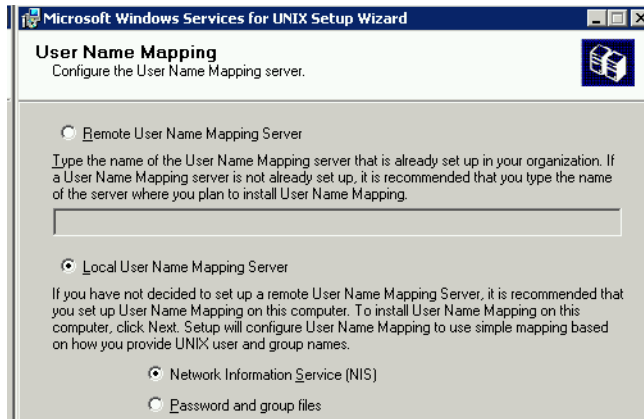b. **Choose Custom Installation to install the Remote Shell service.**

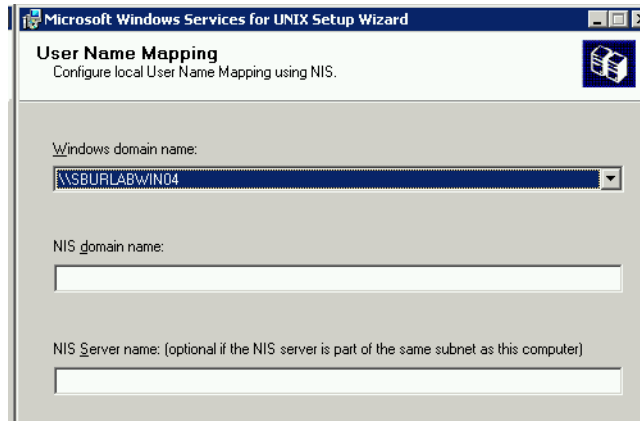c. **Select Remote Connectivity > Windows Remote Shell Service from the list of components.**

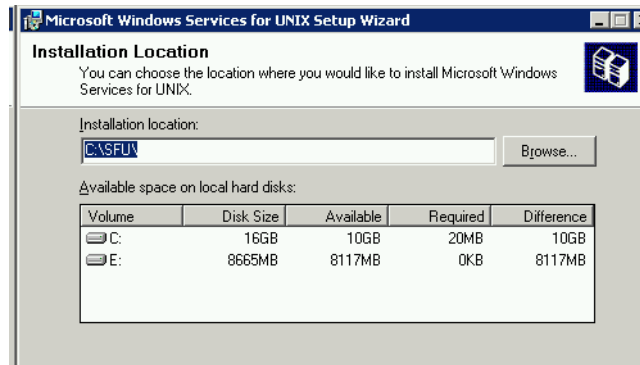d. **Select Windows Remote Shell Services and unselect all other default services.**

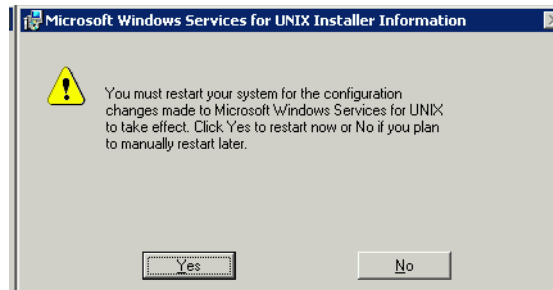e. **Click Next to select the default selections.**

f. Click Next to select the default selections.

**g. Select the drive on which to install the services.**

h. If the installation prompts you to reboot your system, rstart the server.

i. Open the Services console separately or as part of the console as shown below.

j. **Then, enable the service to start automatically or manually, as appropriate for your system.**

k. **Verify that the Remote Shell Service has started. If it has not started, start the service.**
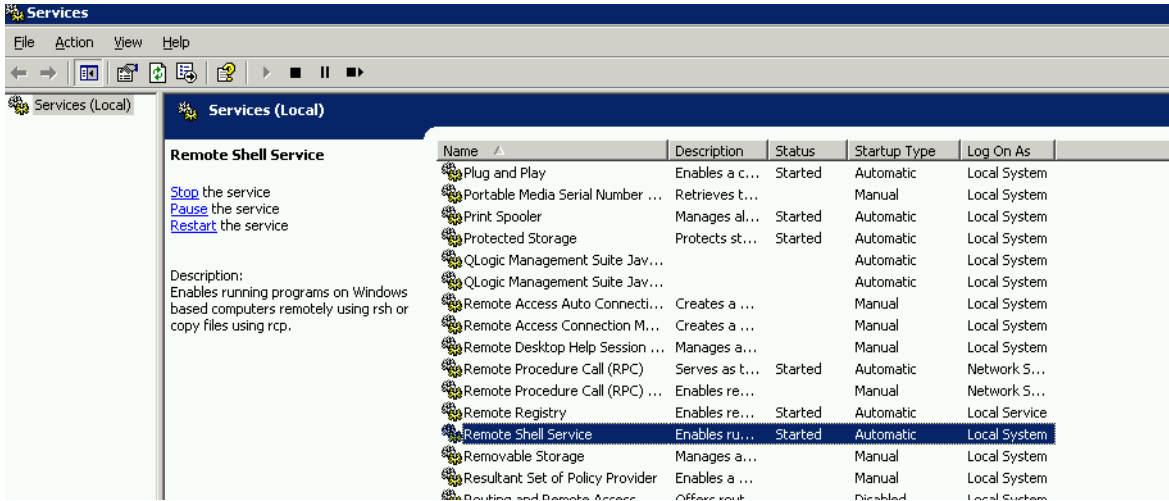
3. **Set up RSH on Windows as described in the instructions posted at the following link:**

   http://www.microsoft.com/technet/interopmigration/unix/sfu/sfu35rsh.mspx

---

Note – **The Microsoft instructions include references to the target server and originating server. In this environment, the backup master server is the target server and the originating server is the SBM server.**

---

4. **Set up RSH using the instructions provided by Microsoft.**

   Use the following example as a guide to set up RSH on Windows.

   a. **On the Windows backup master server, log in as administrator.**

   b. **Create a** `.rhosts` **file in the following directory on the Windows backup master server:**

   ```
   %windir%\system32\drivers\etc
   ```

c. **Edit the** `.rhosts` **file to add an entry for the SBM server. If the file does not exist, create it.**

   sbmserver_hostname `sbm`

   where

   sbmserver_hostname is the IP address or host name of the SBM server.

d. **Log in to the Windows backup master server as SBM user.**

e. **Run** `rshpswd` **to store the user password.**

f. **From the SBM server, log in as SBM user.**

   `su - sbm`

g. **Run the** `rsh` **command to check the connectivity.**

   rsh *backup_server_hostname* **set**

   where

   backup_server_hostname is the IP address or host name of the backup master server.

Next Steps

After you verify the agent can communicate with the backup master server, you are ready to log in to the SBM browser interface and configure the agent as described in Chapter 3.

APPENDIX **C**

Windows Operating System Prerequisites

This appendix provides reference information related to installing the IBM Tivoli Storage Manager (TSM). It contains the following procedures:

Installing the ODBC Data Source Administrator

The ODBC Data Source Administrator is a Microsoft executable, `odbcad32.exe`.

1. **Confirm the executable exists on your platform.**

   The location of the data source administrator executable is platform specific.

- On a 32-bit environment the Data Source Administrator exists in the directory:

   x:\WINDOWS\system32

   where *x*:\ is the drive letter where Windows is installed (usually C:).

- On a 64-bit environment the Data Source Administrator exists in the directory:

   x:\WINDOWS\SysWOW64

   where x:\ is the drive letter where Windows is installed (usually C:).

If the machine does not have the ODBC data source administrator installed, it can be downloaded from Microsoft. It is distributed as part of the Microsoft Data Access Components.

a. **Download the Data Access components using the following link:**

`http://www.microsoft.com/downloads/details.aspx?FamilyID=`
`6c050fe3-c795-4b7d-b037-185d0506396c&DisplayLang=en`

b. **Follow the instructions on the Microsoft web site to install the Data Access components.**

2. **To start the ODBC Data Source Administrator, open the Control Panel and go to Administrative Tools > Data Sources (ODBC).**

Installing the TSM ODBC Driver

The TSM ODBC driver is provided by IBM as part of the TSM software.

1. **Check to see if the ODBC driver is installed on your machine. If it is, go to Step 3.**

   If the driver is not already installed, you can:

   - install it from the TSM distribution media
   - download/install it from this FTP site

2. **If the TSM distribution media is not available, download the software from IBM using the following FTP site:**

   `ftp://ftp.software.ibm.com/storage/tivoli-storage-`
   `management/maintenance/client/v5r4/Windows/x32/v540`

   a. **Download the** `5.4.0.0-TIV-TSMODBC-WinX32.exe` **and** `5.4.0.0-TIV-TSMODBC-README_enu.htm` **files.**

   The `.exe` is the installation program and the `.htm` file contains the installation instructions.

   b. **Follow the installation instructions in** `5.4.0.0-TIV-TSMODBC-README_enu.htm`**.**

3. **Run the** `.exe` **executable.**

Configuring the ODBC System DSN

You must configure the Data Source Name (DSN). The following procedure is an example of how to configure the DSN on a Windows 2003 platform.

1. **From the Windows desktop, click Start.**

2. **Go to Control Panel > Administrative Tools.**

3. **Select Data Sources ODBC to launch the ODBC Data Source Administrator.**

Note – If you are in a 64-bit Windows environment, you must launch the ODBC Data Source Administrator manually. From the `/x/:\WINDOWS\SysWOW64\` directory, launch the `odbcad32.exe` file.

---

4. **Click the System DSN tab.**

5. **Click Add.**

6. **Scroll down the list, select the TSM ODBC Driver for the data source you are creating, and click Finish.**

7. **Enter a descriptive name for the System DSN that will be used to connect to a TSM database server in the Data source name field.**

8. **Enter the address to connect to the TSM database server in the TCP/IP address field.**

9. **Click OK.**

10. **Verify the connection to the TSM server using the System DSN.**

Note – Sun recommends using a third-party ODBC query tool (for example, QTADO) to verify the System DSN.

Next Steps

After you verify the connection to the TSM server, you are ready to log in to the SBM browser interface and configure the agent as described in Chapter 3.

Uninstalling SBM Components

This appendix provides instructions for uninstalling Sun StorageTek Backup Manager components. It contains the following sections:

Uninstalling Preinstallation Components

You can uninstall individual SBM components in one of the following ways:

- Run `De-Installer.pl` from the SBM CD
- Run `De-Installer.pl` from the `/opt/sbm` directory

If you run the program from the `/opt/sbm` directory, you will need to delete the `/opt/sbm` directory structure after the De-Installer program removes the software.

Running the Uninstall Script

1. **Log in as** `root` **on the server where the SBM components are installed.**

2. **Insert the SBM pre-installation CD into a local drive.**

   If the compressed installation files do not appear in a directory window:

   a. **Change to the /**`cdrom/cdrom0` **directory:**

      ```
      cd /cdrom/cdrom0
      ```

   b. **Display the contents of the CD:**

      ```
      ls -l
      ```

3. **To initiate the De-Installer program, type:**

   ```
   ./De-Installer.pl
   ```

   The "De-Installation Menu" is displayed.

```
Please select component(s) to de-install.  Select [0] to de-install
All Components.
Select [15] once you are done with selection and de-installation
will begin.
        [0] [ ] All Components
        [1] [ ] Pre-Req Components
                [2] [ ] Postgresql database server   [INSTALLED]
             [3] [ ] GlassFish web application server  [INSTALLED]
        [4] [ ] SBM Components
                [5] [ ] Database instance and schema   [INSTALLED]
                [6] [ ] Web application
                [7] [ ] All Infrastructure and Device Agents
                        [8] [ ] SBM Agent Util package
                        [9] [ ] SBM Routing Agent package
                        [10] [ ] SBM Aggregator package
                        [11] [ ] SBM ACSLS Agent package
                        [12] [ ] SBM Legato Agent package
                        [13] [ ] SBM Netbackup Agent package
                        [14] [ ] SBM STK Agent package
        [15] [ ] Done Selection
        [16] [ ] Quit the de-installation.

================================= MENU HELP ===============
[ [X] indicates selected option. ]
[ [INSTALLED] indicates the item is already installed on system. ]
[ To toggle on/off option press the selected number again. ]
[ Press [0] to select All Components. ]
[ Press [1] to select All Pre-req Components. ]
[ Press [4] to select All SBM Components. Press [7] to select All
SBM sub-agent components. ]
================================= ERROR/WARNING ==========

Input:
```

   Each line is written in the following format:

   ```
   [Menu #] [Selection Status] Component Name [Install Status]
   ```

   The Selection Status field (indicated by the brackets [ ]) is empty if a component is not installed or has been uninstalled].

4. To select a component you want to uninstall, type the corresponding number.

If you want to uninstall...	Type this...
All components	0
All Pre-Req Components	1
PostgreSQL Database Server	2
GlassFish web application server	3

5. Press Return.

An "[X]" is displayed beside the selected component.

6. Repeat Step 4 **and** Step 5 **for each component you want to uninstall.**

Deselect a component by reyping its number.

7. (Optional) To exit the script without uninstalling any components, type 16**.**

8. When you finish selecting components, type 16 **and press Return.**

Result: The software initiates the De-Installer process and displays a message indicating that the process has completed. The De-Installation Menu displays "[ ]" after the name of each component currently not installed.

Verifying Prerequisites Components Are Removed

You must verify that each of the components was uninstalled successfully.

PostgreSQL Database

TABLE D-1 describes how to verify the SBM database was uninstalled successfully.

TABLE D-1 PostgreSQL Database De-Installer Verification Procedure

Step	Verify...	Action
1.	Uninstall package ran successfully and the database server is running.	To display the PostgreSQL status, type: `# svcs postgresql:sbm`

Web Application Server

describes how to verify the SBM database was uninstalled successfully.

TABLE D-2   Web Application Server De-Installer Verification Procedure

Step	Verify...	Action
1.	Uninstall package ran successfully.	From a browser, verify the web server Admin site is not accessible by typing: `http://<hostname/IP>:4848`

Uninstalling Installation Components

You can uninstall individual SBM components from the Solaris platform.

Running the Uninstall Script

1. **Log in as `root` on the server where the SBM components are installed.**

2. **Insert the SBM installation CD into a local drive.**

   If the compressed installation files do not appear in a directory window:

   a. **Change to the /`cdrom/cdrom0` directory:**

      ```
      cd /cdrom/cdrom0
      ```

   b. **Display the contents of the CD:**

      ```
      ls -l
      ```

3. **To initiate the De-Installer program, type:**

    ```
    ./De-Installer.pl
    ```

    The "De-Installation Menu" is displayed.

```
Please select component(s) to de-install.  Select [0] to de-install
All Components.
Select [15] once you are done with selection and de-installation
will begin.
        [0] [ ] All Components
        [1] [ ] Pre-Req Components
                [2] [ ] Postgresql database server  [INSTALLED]
              [3] [ ] GlassFish web application server  [INSTALLED]
        [4] [ ] SBM Components
                [5] [ ] Database instance and schema  [INSTALLED]
                [6] [ ] Web application
                [7] [ ] All Infrastructure and Device Agents
                        [8] [ ] SBM Agent Util package
                        [9] [ ] SBM Routing Agent package
                        [10] [ ] SBM Aggregator package
                        [11] [ ] SBM ACSLS Agent package
                        [12] [ ] SBM Legato Agent package
                        [13] [ ] SBM Netbackup Agent package
                        [14] [ ] SBM STK Agent package
        [15] [ ] Done Selection
        [16] [ ] Quit the de-installation.

================================= MENU HELP ===============
[ [X] indicates selected option. ]
[ [INSTALLED] indicates the item is already installed on system. ]
[ To toggle on/off option press the selected number again. ]
[ Press [0] to select All Components. ]
[ Press [1] to select All Pre-req Components. ]
[ Press [4] to select All SBM Components. Press [7] to select All
SBM sub-agent components. ]
================================= ERROR/WARNING =========

Input:
```

Each line is written in the following format:

```
[Menu #] [Selection Status] Component Name [Install Status]
```

The Selection Status field (indicated by the brackets [ ]) is empty if a component is not installed or has been uninstalled].

4. To select a component you want to uninstall, type the corresponding number.

If you want to uninstall...	Type this...
All components	0
All SBM components	4
Database instance and schema	5
Web application	6
All Infrastructure and Device Agents	7
SBM Agent Util package	8
SBM Routing Agent package	9
SBM Aggregator package	10
SBM ACSLS Agent package	11
SBM Legato Agent package	12
SBM NetBackup Agent package	13
SBM STK Agent package	14

5. Press Return.

An "[X]" is displayed beside the selected component.

6. Repeat Step 4 **and** Step 5 **for each component you want to uninstall.**

You can deselect a component by typing its number again.

7. (Optional) To exit the script without uninstalling any components, type 16**.**

8. **When you finish selecting components, type 16 and press Return.**

   Result: The software initiates the De-Installer process and displays a message indicating that the process has completed. The De-Installation Menu displays "[ ]" after the name of each component currently not installed.

   You will be asked the following questions during the De-Installer process.

Question...	Explanation / Action...

The following package is currently installed:
 SUNWsbmutils Sun Backup Manager utilities (sparc) prod-1.0.11-qa
 	
 Do you want to remove this package? [y,n,?,q]
	Displays for each Agent you are uninstalling.
	• To uninstall the agent, type y.
	• To exit the De-Installer process, type n.
	• To receive more information, type ?. The following message displays:
	 `To respond in the affirmative, enter y,`
	 `yes, Y, or YES. To respond in the`
	 `negative, enter n, no, N, or NO.`
	
	 `Do you want to remove this package?`
	 `[y,n,?,q]`
	• To quit the De-Installer process, type q. The following message displays:
	 `1 package was not processed!`

This package contains scripts which will be executed with super-user permission during the process of removing this package.
 	
 Do you want to continue with the removal of this package [y,n,?,q]
	Displays for each agent you are uninstalling.
	• To continue to uninstall the Agent, type y.
	• To exit the De-Installer process, type n.
	• To receive more information, type ?. The following message displays:
	 `During the removal of this package,`
	 `certain scripts provided with the`
	 `package will execute with super-user`
	 `permission. These scripts may modify`
	 `or otherwise change your system without`
	 `your knowledge. If you are certain`
	 `of the origin of the package being`
	 `removed and trust it worthiness, answer`
	 `'y' to continue the package removal`
	 `process.`
	
	 `Do you want to continue with the removal`
	 `of this package [y,n,?,q]`
	
	• To quit the De-Installer process, type q. The following message displays:
	 `1 package was not processed!`

9. If you ran the De-Installer program from the `/opt/sbm` directory, remove the `/opt/sbm` directory structure.

Verifying the SBM Components Are Removed

You must verify that each of the components was uninstalled successfully.

SBM Database

TABLE D-3 describes how to verify the SBM database was uninstalled successfully.

TABLE D-3   SBM Database De-Installer Verification Procedure

Step	Verify...	Action

1.	Uninstall package ran successfully and the database server is not running.	Review uninstall output and verify the following message is displayed:
		`DROP DATABASE`
		`        DROP ROLE`
		
		`        executing deinstall_opt_5 is`
		`done...`

SBM Web Application

TABLE D-4 describes how to verify the web application server was uninstalled successfully.

TABLE D-4   SBM Web Application De-Installer Verification Procedure

Step	Verify...	Action
1.	Uninstall package ran successfully.	From a browser, verify the SBM GUI Interface is not accessible by typing: `http://`*hostname*/*IP*`:8080/sbm`

Agents

TABLE D-5 describes how to verify the individual SBM Agent packages were uninstalled successfully.

TABLE D-5   SBM Agent Package De-Installer Verification Procedure

Step	Verify...	Action
1.	Agents were uninstalled on the local host.	Type: `svcs -a	grep sbm\/agent`

Uninstalling the TSM Agent

The IBM Tivoli Storage Manager (TSM) agent can only be uninstalled from the Windows platform.

1. **From the Windows desktop, click Start.**

2. **Open the Control Panel and click Add or Remove Programs.**

3. **Scroll through the list of Currently installed programs and select the "Sun Microsystems TSM Agent" program.**

4. **Click Remove.**

5. **Click Yes.**

    Result: The Install process begins. Once completed the Sun Microsystems TSM Agent program is removed and the Uninstall progress is now complete.

Verifying the TSM Agent Is Removed

1. **Ensure the TSM Agent software does not exist in the following directory:**

    `C:\Program Files\Sun Microsystems\SBM\Agents\Sun TSM Agent`

2. **Ensure the Sun TSM Agent service is not in the list of services.**

    a. **From the Windows desktop, click Start.**

    b. **Open the Control Panel and double-click Administrative Tools.**

    c. **Select Services.**

    d. **Scroll down the list of services to verify the "Sun TSM Agent" is not in the list.**

    e. **Close the Services dialog box.**

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