Sun
microsystems

Sun HighGround™ Storage Resource Manager 5.0.5

and

Sun HighGround™ Storage Resource Manager for Exchange Servers 4.0.3

Configuration and Installation Guide

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Contents

Preface

This guide has been developed as a reference tool for Sun HighGround™ Storage Resource Manager (Sun HighGround SRM) software users who will configure the Sun HighGround SRM environment and install the software. For information about using Sun HighGround SRM software, see the Sun HighGround SRMHelp.

How This Guide is Organized

This guide is organized as follows:

Chapter 1 provides procedures to ensure that your environment is adequately prepared for Sun HighGround SRM installation.

Chapter 2 provides lists of necessary prerequisites for each Sun HighGround SRM component.

Chapter 3 provides installation procedures for each Sun HighGround SRM component.

Chapter 4 provides installation modification procedures.

Chapter 5 provides information about installing and registering plug-ins.

Appendix A provides information about the key concepts of Sun HighGround SRM.

Appendix B provides a detailed explanation of Sun HighGround SRM's security.

Appendix C provides information abou the Sun HighGround SRM SQL Server database.

Appendix D provides post-installation reference information and procedures.

Appendix E provides information about installing, configuring, and using Remote Scanning for Sun HighGround SRM software.

Related Documentation

To learn about:	See:	Located here:
Late-breaking information on installation	*Sun HighGround™ SRM and SRM for Exchange Release Notes*	Sun HighGround SRM CD-ROM
Information on configuring and installing Sun HighGround Storage Resource Manager File Prospector Option	*Sun HighGround™ Storage Resource Manager File Prospector Option Configuration and Installation Guide*	Sun HighGround SRM CD-ROM

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Installation Preparation

This chapter includes procedures to make your installation of Sun HighGround SRM smooth and easy. These procedures enable you to check each computer to ensure that the necessary prerequisite software is installed, configure your SQL Server database, verify that your SQL Server installation is configured for Sun HighGround SRM, and create Windows NT/Windows 2000 accounts needed by Sun HighGround SRM.

All procedures in this chapter are optional; however, Sun strongly recommends that you perform at least the prerequisite check on each computer where you will install Sun HighGround SRM. It will save you time during installation.

1.1 Verify Sun HighGround SRM Prerequisites

The most common installation problem is improperly or incompletely installed prerequisites. A good way to ensure that you are ready to install Sun HighGround SRM is to run the Prerequisite Check program from the Sun HighGround SRM Installation CD-ROM. Setup checks the local computer for the prerequisites needed for the components you specify. *This feature is available for the local computer only.* Sun HighGround SRM does not support prerequisite checking remotely. The prerequisites needed for each Sun HighGround SRM component are listed in Chapter 2.

Run the prerequisite check program

1. Insert the Sun HighGround SRM CD-ROM in the CD-ROM drive. If **Auto Start** is enabled, the Installation Menu launches automatically.

   If **Auto Start** is not enabled, run **i386\autorun.exe** from the CD-ROM.

2. Click **Check Prerequisites** on the Installation Menu.

3. Click **Next** on the **Welcome to the Prerequisite Check Program** dialog box. You can also click **View Readme** on this dialog to review the Sun HighGround SRM release notes in the computer's default browser.

4. Select the checkbox of the components you want checked on the **Select Components** dialog box. Clear the checkboxes of the components you do not need checked.

5. Click **Next**.

If the prerequisite check passes, the **Prerequisite Check OK** dialog box is displayed.

If one or more prerequisites are missing or outdated, the **Installation Prerequisites Not Met** dialog box is displayed.

Click **Details** to view a prerequisite check report, **Exit** to return to the installation menu, or **Cancel** to exit.

6. If any prerequisite check failed, resolve the discrepancies and rerun Setup.

1.2   Verify that DCOM is Enabled

Sun HighGround SRM and Sun HighGround SRM for Exchange Servers use the Distributed Component Object Model (DCOM) to allow server and agent communication. Be sure that DCOM is enabled.

Verify that DCOM is enabled on the target SRM or SRM for Exchange Servers Agent computer

1. Go to **Start → Run** and type **dcomcnfg** in the Open: field. Click **OK** to display the **Distributed COM Configuration Properties** dialog box:
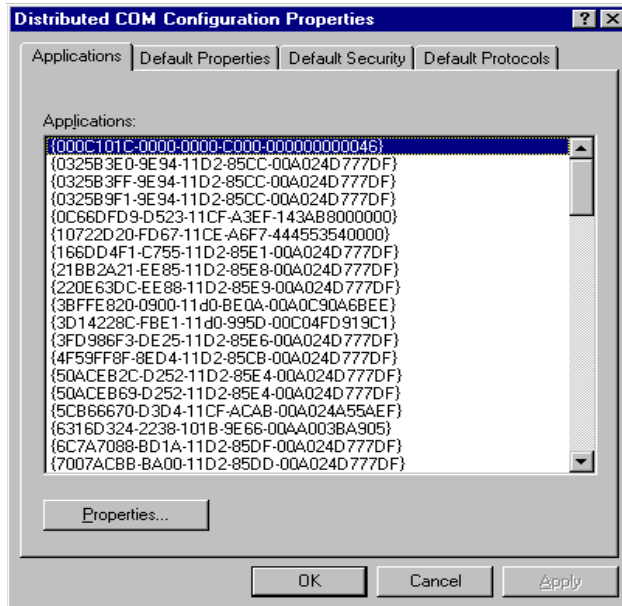
2. Select the **Default Properties** tab to display the properties page:
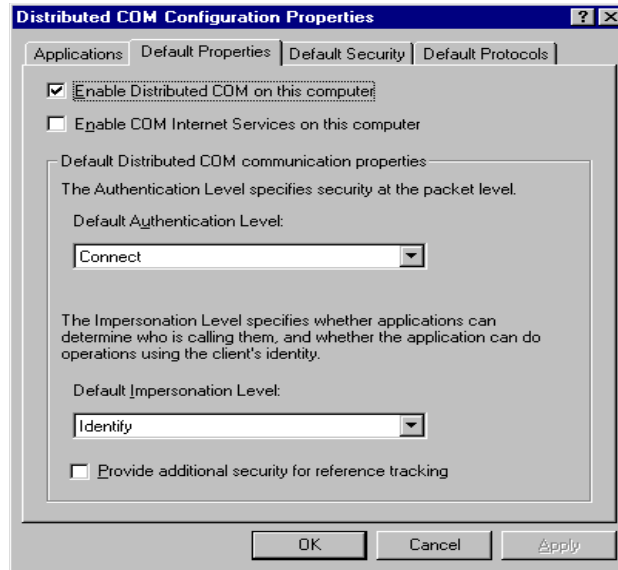
3. Verify that the checkbox for **Enable Distributed COM on this computer** is selected. If it is unchecked, select it.

4. Click **OK**. The **Distributed COM Configuration Properties** dialog box is closed. Distributed COM is now enabled on this computer.

1.3 Prepare SQL Server for Sun HighGround SRM

This section contains two kinds of SQL Server information for Sun HighGround SRM:

- **Confirm Sun HighGround SRM SQL Server Settings**. This section explains how to prepare SQL Server for a Sun HighGround SRM installation. This information presumes that Sun HighGround SRM's installation program creates and configures the database.
- **SRM SQL Server Database Configuration**. This section explains how to configure an SQL Server database manually for Sun HighGround SRM. This information presumes that you are creating and configuring the database manually prior to the Sun HighGround SRM installation. In this case, the Sun HighGround SRM installation program locates and uses this database.

This document does not explain how to create the SRM database on an SQL Server. Creating an SQL Server database prior to Sun HighGround SRM installation is *optional*. You can modify the default database at any time after installation using the SQL Server Enterprise Manager.

If you are unfamiliar with configuring SQL Server databases, it is recommended that you consult your Microsoft SQL Server documentation or your database administrator before following these procedures.

1.3.1 Confirm SQL Server Settings for Sun HighGround SRM

To ensures that your SQL Server installation is configured to meet the needs of your SRM database, confirm that the following parameters are set within the Microsoft SQL Server 7.0 or Microsoft SQL Server 2000:

- Install Microsoft SQL Server on the SQL Server computer.
- Select these SQL Server configuration settings:

  - **Sort Order:** Any case-insensitive sort order (case-insensitive is required).

  User Connections: Set the number of connections at least equal to the number of client access licenses (CALs) assigned to the Sun HighGround SRM installation.

  Ensure that you have adequate CALs for SRM database access, if you are using an SQL Server licensing model that requires CALs. Sun HighGround SRM requires a minimum of two CALs, one for the SRM Server and one for access to the database via Sun HighGround SRM's web.

  - **Net Libraries:** Must be set to **Named Pipes** or **Multi-protocol.**
  - **Open Objects:** Set to 1,000 or greater.

1.3.2 SRM SQL Server Database Configuration

This *optional* procedure contains SRM SQL Server database configuration requirements and guidelines for SQL databases; it does not explain how to create the database.

This section uses standard SQL Server terminology. If you are unfamiliar with these terms or with creating and configuring SQL Server databases, it is recommended that you consult your Microsoft SQL Server documentation or your database administrator.

An SRM SQL Server database is created in the same location as the master database. Sun HighGround SRM creates and schedules a maintenance task for the database, and configures database security. Both of these are described in Appendix C.

Configure an SRM SQL Server database

1. Install SQL Server on the SQL Server computer.

2. Create the database for the Sun HighGround SRM's SRM database.

   The new database must be empty. It cannot contain tables, procedures, indexes, or data.

3. Use the following guidelines to ensure adequate disk space for a typical Sun HighGround SRM installation:

   - 200 MB for Sun HighGround SRM's data device (5 MB minimum).
   - 20 MB for Sun HighGround SRM's database transaction log required on the master device's disk, if Sun HighGround SRM creates the database.
   - Set the SQL Server tempdb and its log to automatically expand as needed.
   - Enough space for online backups dependent on your backup strategy.

4. Go to the target SRM Server computer and create a new System DSN for the SQL Server ODBC driver and name it **SRMDB**. Configure this new System DSN to point to the database you just created:

   - Let the SQL Server driver select the translation method for the character set translation option.
   - Make sure that **SRMDB** appears in the **Name** field of the first dialog box.
   - Verify that the SQL Server name in the **Server** field of the first dialog box is correct.
   - Make sure the **Change the default database to** field in the third dialog box points to the new database.
   - Setup configures all other SRMDB data source settings during installation.

   Note – Modifying any data source settings after installation results in unpredictable behavior.

5. Optional configuration steps:

   - Define the database maintenance configuration.
   - Run the following maintenance tasks:

     SRM Maint SRMDB_ <*SRM Server computer name*>, which runs, by default, at 1:15 A.M.

     SRM MaintS SRMDB_<*SRM Server computer name*>, which runs, by default, at 2:40 P.M.

   - See Appendix C for the default database maintenance configurations set during installation.
   - Ensure adequate transaction log backup space.

Sun HighGround SRM provides no transaction log management. If you choose to save and back up transaction logs, you must ensure adequate space for Sun HighGround SRM to write its scan data to the database.

The frequency of your updates depends on your scan schedules. If you alter Sun HighGround SRM's default scan schedules, you might need to change your maintenance schedules. The volume of updated data depends on the size of your installation.

■ Configure database security to meet your specific needs.

Sun HighGround SRM's only security requirement is database access granted to Sun HighGround SRM's Service Login account. Sun HighGround SRM's installation program grants this permission. Database security is detailed in Appendix C.

1.3.3   SQL 2000 Configuration Details

If you are using Microsoft SQL 2000:

■ The server *must* be configured to use mixed mode authentication. Using only SQL Server authentication or only Windows authentication may cause unpredictable results.
■ Do not install any other SQL Server versions on the machine with SQL 2000. Also avoid multiple SQL 2000 instances. Multiple versions or instances can lead to unpredictable results.
■ On the Instance Name panel of the Microsoft SQL 2000 install, the **Default** box *must* be checked; failing to install in Default mode results in failed Sun HighGround SRM installations.

1.4   Create Sun HighGround SRM's Service Login Account

Sun HighGround SRM server runs as a Windows NT/Windows 2000 service, which needs an authorized account to run. By default, this account is **SRMSvcUser.** It is recommended that you use the default account; however, you are free to use an account specific to your environment.

Sun HighGround SRM's Service Login account is used by the SRM Server to authenticate communication with SRM and SRM for Exchange Server Agents. The Service Login account is granted access to the SRM SQL Server database. All database interaction is handled by this account.

This account is created for each machine on which Sun HighGround SRM server is installed, whether in a domain or workgroup.

The installation program creates this account on the server automatically; creating this account before installation is *optional*. However, if you create this account for the SRM Server before installation in a multidomain environment, you must create it in the Master domain, or in a domain that is trusted by all SRM server and agent domains.

Note – Windows NT/Windows 2000 account creation and modification requires domain administrator privileges, which you must have for this procedure.

During account creation, you establish the password for Sun HighGround SRM's Service Login account. If you change this password later, you must also make this change in the Microsoft Transaction Server (MTS) and on each UNIX agent and Windows NT agent that uses the account whose password has changed. For more information or for assistance, contact Customer Support.

Note – Sun highly recommends that you do not change accounts or passwords.

Create Sun HighGround SRM's Service Login Account (Windows NT and Windows 2000)

1. Create the **SRMSvcUser** account.

2. Make this account a member of the following local groups for the SRM Server computer:
   - Backup Operators
   - Administrators

3. Grant the **Logon as a Service** right to the **SRMSvcUser** account.

1.5   Create the SRMAdmin Group

Setup creates a local group called **SRMAdmin** on each computer where SRM Server and SRM for Exchange Servers Server software is installed. This group is created, but not populated. It is provided as a management convenience.

SRMAdmin group membership on the SRMServer computer gives all the privileges needed to administer Sun HighGround SRM (change settings) through the Sun HighGround SRM Options pages, and provides access to Sun HighGround SRM for Exchange Servers. If you want an SRM user or user group to have these access rights, add them to the **SRMAdmin** group.

Note – By default, local administrators have write access to Sun HighGround SRM and SRM for Exchange Servers.

Manually creating this group before installation is *optional*; the installation program creates the group on each SRM server automatically.

Note – Windows NT/Windows 2000 group creation requires administrator privileges on the computer. You must have these privileges to perform this procedure.

Create the SRMAdmin group (Windows NT)

1. On the computer where you will install the SRM Server software and/or SRM for Exchange Servers Server software, log in to an account with Administrator privileges.

2. Go to **Start → Programs → Administrative Tools → User Manager for Domains.**

3. If the computer is a domain controller, go to Step 4.

   If the computer is in a domain, but is *not* a domain controller, go to **User → Select Domain** and enter the computer's name in the **Domain** field.

4. Go to **User → New Local Group** and create a new local group named **SRMAdmin**.

5. Assign group membership as desired.

6. Click **OK** to apply your configuration.

Create the SRMAdmin group (Windows 2000)

1. On the computer where you will install the SRM Server and/or SRM for Exchange Servers Server software, log in to an account with Administrator privileges.

2. Go to **Start → Programs → Administrative Tools → Computer Management**.

3. In the console tree, expand **Local Users and Groups**.

4. Right-click the **Groups** folder, and then create a new group named **SRMAdmin**.

5. Assign group membership as desired.

For more information on creating Windows NT/Windows 2000 groups, see your Windows NT/Windows 2000 documentation.

1.6   Create the SRMUser Group

Setup creates a local group called **SRMUser** on each computer where SRM Server and SRM for Exchange Servers Server software is installed. This group is created, but not populated. It is provided as a management convenience.

Manually creating this group before installation is *optional*; the installation program creates the group on each computer automatically.

Note – Windows NT/Windows 2000 group creation requires local administrator privileges on the computer. You must have these privileges to perform this procedure.

By default, everyone has read access to Sun HighGround SRM. Use the **SRMUser** group membership to restrict access as follows:

■ Remove **Everyone** from the access control lists (ACLs) on the \Program Files\StorageResourceManager folder, and grant read access to the **SRMUser** group.
■ Then add users to the **SRMUser** group to allow them read access.

Create the SRMUser group (Windows NT)

1. On the computer where you will install the SRM Server and/or SRM for Exchange Servers Server software, log in to an account with Administrator privileges.

2. Go to **File ➔Start Programs ➔ Administrative Tools ➔ User Manager for Domains**.

3. If the computer is in a workgroup or is in a domain and is a domain controller, go to Step 4.

   If the computer is in a domain, but is *not* a domain controller, go to **User ➔ Select Domain** and enter the name of the computer in the **Domain** field.

4. Go to **New ➔ Local Group** and create a new local group named **SRMUser**.

5. Assign group membership as desired.

Note – You can add **Everyone** to allow any user from other trusted domains access to Sun HighGround SRM information.

6. Click **OK** to apply your configuration.

Create the SRMUser group (Windows 2000)

1. On the computer where you will install the SRM Server and/or SRM for Exchange Servers Server software, log in to an account with Administrator privileges.

2. Go to **Start → Programs → Administrative Tools → Computer Management**.

3. In the console tree, expand **Local Users and Groups**.

4. Right-click the **Groups** folder, and then create a new group named **SRMUser**.

5. Assign group membership as desired.

Note – You can add **Everyone** to allow any user from other trusted domains access to Sun HighGround SRM information.

For more information on creating Windows NT/Windows 2000 groups, see your Windows NT/Windows 2000 documentation.

1.7   Create the SRMLiveDrillDown Group

Setup creates a local group called **SRMLiveDrillDown** on each computer where SRM for Exchange Servers Server software is installed. This group is created, but not populated. It is provided as a management convenience.

SRMLiveDrillDown group membership on the SRM for Exchange Servers Server works in conjunction with **SRMAdmin** group membership to allow drill-down access to all mailboxes on all SRM for Exchange Servers Agent computers monitored by the SRM Server. *Drill-down access* is the ability to view all mailboxes, the subject lines of their mail messages, the file size of the messages, and whether or not a message has an attachment (and what type of attachment file it is).

If you want an SRM user or user group to have these access rights, add them to the **SRMAdmin** and **SRMLiveDrillDown** groups.

Manually creating this group before installation is *optional*; the installation program creates the group on each computer automatically.

Note – Windows NT/Windows 2000 group creation requires local administrator privileges on the computer. You must have these privileges to perform this procedure.

Create the SRMLiveDrillDown group (Windows NT)

1. On the computer where you will install the SRM Server and SRM for Exchange Servers Server software, log in to an account with Administrator privileges.

2. Go to **Start Programs → Administrative Tools → User Manager for Domains**.

3. If the computer is in a workgroup or is in a domain and is a domain controller, go to Step 4.

   If the computer is in a domain, but is *not* a domain controller, go to **User → Select Domain** and enter the name of the computer in the **Domain** field.

4. Go to **File →New → Local Group** and create a new local group named **SRMLiveDrillDown**.

5. Assign group membership as desired.

Note – You can add **Everyone** to allow any user from other trusted domains access to mailbox information.

6. Click **OK** to apply your configuration.

Create the SRMLiveDrillDown group (Windows 2000)

1. On the computer where you will install the SRM Server and/or SRM for Exchange Servers Server software, log in to an account with Administrator privileges.

2. Go to **Start → Programs → Administrative Tools → Computer Management**.

3. In the console tree, expand **Local Users and Groups**.

4. Right-click the **Groups** folder, and then create a new group named **SRMLiveDrillDown**.

5. Assign group membership as desired.

Note – You can add **Everyone** to allow any user from other trusted domains access to Sun HighGround SRM information.

For more information on creating Windows NT/Windows 2000 groups, see your Windows NT/Windows 2000 documentation.

Sun HighGround SRM Installation Prerequisites

Setup verifies all installation prerequisites and provides a report of any missing or outdated prerequisites. Although you can complete the installation program with missing or outdated prerequisites, Sun recommends a system restart after you rectify the prerequisite discrepancy to ensure that Sun HighGround SRM runs smoothly. MDAC software is available on the Sun HighGround SRM CD-ROM.

This chapter includes complete checklists of all prerequisite software needed for each Sun HighGround SRM component.

2.1 SRM Server and SRM for Exchange Servers Server

This checklist includes all requirements for installing an SRM Server and an SRM for Exchange Servers Server on a single Intel-compatible computer. (SRM Server must be installed with, or prior to, installation of SRM for Exchange Servers Server.) These prerequisites apply whether you install SRM Server only, or SRM Server and SRM for Exchange Servers Server.

2.1.1 Required Software

- Microsoft Windows NT Server 4.0 with SP6A and security patches

  – or –

  Microsoft Windows 2000 Server or Microsoft Windows 2000 Advanced Server (in an NT domain) with SP2 and security patches

- Microsoft Internet Information Server (IIS) 4.0 (IIS 5.0 for Windows 2000) and security patches

  IIS 4.0 is part of the Windows NT 4.0 Option Pack typical installation, which includes the specific components needed for Sun HighGround SRM.
- Internet Explorer 5.5, SP2 or later and security patches; or Internet Explorer 6.0 and security patches
- Microsoft Data Access Components (MDAC) 2.1 or later
- TCP/IP
- Microsoft SQL Server 7.0 with SP2 or later or Microsoft SQL Server 2000

2.1.2 Required Account Information

Setup prompts for certain information during installation. Gather the following information beforehand to save time:

- Obtain the login ID and password for the account to use for database creation or access. This is either the SQL **sa** account or a Windows NT/Windows 2000 account that has SQL **sa** account privileges.
- If installing from an account that is not a domain administrator account, obtain the login ID and password for one of the following:
  - An existing Service Login Account for the service(s) to run under. By default, **SRMSvcUser**.

    – or –

  - A Windows NT/Windows 2000 account with privileges to create a Service Login account for this SRM Server to run under.

Note – If installing from a local (nondomain) account, you cannot specify a domain, other than Local, for Sun HighGround SRM's Service Account. It is recommended that you log in using a Domain User/Local Admin account.

2.1.3 Required Hardware

- Intel-compatible Pentium processor
- 128 MB memory
- 50 MB free disk space

Note – Increase your memory and disk space allotments if you are installing SQL Server and SRM Server on the same computer.

2.2 SRM for Windows NT/Windows 2000 Agents

This checklist includes all the requirements for installing an SRM Agent on a single Intel-compatible computer.

Note – The prerequisites for a remote installation are the same as for a local installation. During remote installations, Setup performs the prerequisite check on the remote computer as if it were a local computer.

2.2.1 Required Software

- Microsoft Windows NT Server or Workstation 4.0 with SP5, or later

  – or –

  Microsoft Windows 2000 with latest service packs
- DCOM must be set to **enabled**
- TCP/IP
- Microsoft Internet Explorer V4.0 or greater (when performing a local installation to allow agents to register with the server).

2.2.2 Important Information

Setup prompts for certain information during installation. Gather the following information beforehand to save time:

Obtain the name and password of the SRM Server Service Login account that you want this Agent to run under. Setup can create a Service Login account for this Agent, or you can use the default, the Windows NT/Windows 2000 System Account on the computer.

Sun recommends that you use the default account. However, the default account (the system account) cannot be used for clusters or for the NetApp proxy.

- Obtain the name of the SRM Server that you want to register and monitor the Agent, if registering the Agent during installation. This is not needed, if the SRM Server registers the new Agent after installation.

2.2.3 Required Hardware

- Intel-compatible Pentium processor
- 64 MB memory
- 5 MB free disk space

2.3 SRM for Exchange Servers Agents

This checklist includes all the requirements for installing a SRM for Exchange Servers Agent on a single Intel-compatible computer.

Note – The prerequisites for a remote installation are the same as for a local installation. During remote installations, Setup performs the prerequisite check on the remote computer as if it were a local computer.

2.3.1 Required Software

- Microsoft Windows NT Server 4.0 with SP5, or later
  -or-
  Microsoft Windows 2000 Advanced Server (including Active Directory Service) with SP1 or later

- DCOM must be set to **enabled**
- TCP/IP
- Microsoft Internet Explorer 5.5, SP1 or later
- Microsoft Exchange 5.5, SP3 or later
- A MAPI Exchange client must be properly installed on the Exchange Server

For example, Outlook, a MAPI client, must be able to run on the specified Exchange Server and read an Exchange mailbox.

2.3.2 Important Information

Setup prompts for certain information during installation. Gather the following information beforehand to save time:

- Obtain the Login ID and password for the Exchange Service Login account. This is the account under which Exchange Server runs; it was established during Exchange installation.

■ If registering the Agent during installation, obtain the name of the SRM Server that you want to register and monitor the Agent, .

2.3.3   Required Hardware

■ Intel-compatible Pentium processor
■ 64 MB memory
■ 5 MB free disk space

2.4   SRM for UNIX or Linux Agents

The following checklist includes all the requirements for installing an SRM for UNIX or SRM for Linux Agent on a single UNIX or Linux system. There is no remote installation feature for SRM for UNIX or Linux Agents; they must be installed locally.

2.4.1   Required Software

■ One of the following versions of UNIX:

IBM AIX 4.3.3
Sun Solaris 2.6, 2.7, and 2.8 (SPARC only)
HP-UX 10.20 and 11.00
– or –

Red Hat Linux 6.1, 6.2, and 7.0 (Intel 32 only)

■ Ksh, or Korn Shell (for Linux machines)

Note – Using any other Linux product or version may yield unpredictable results.

■ SRM Server 5.1 must be installed on the network and able to manage this agent.

2.4.2   Important Information

Setup prompts for certain information during installation. Gather the following information beforehand to save time:

■ Agent listening port number (defaults to 11225, 11226, or 11227, but can be any port number).

- SRM Server name (or IP address) and web server port number (by default, 80).
- The name, password, and domain of the Service Login account for the SRM Server that you want to monitor this Agent. This is the account under which the SRM Server runs, and was established during the Sun HighGround SRM installation.

2.4.3 Required Hardware

- 128 MB memory
- 5 MB free disk space

2.5 Web Browser Shortcut

The Web Browser shortcut starts your default web browser and displays Sun HighGround SRM's web-based user interface. Use the browser to access the information stored in an SRM database. Obtain the name of the target SRM Server computer before you perform this installation; Setup prompts you for this during installation. The Web Browser shortcut can be installed on any Intel-compatible PC where you want quick access to your Sun HighGround SRM-relevant data.

The following are required for a Web Browser shortcut installation and on all browsers used to access Sun HighGround SRM:

- Microsoft Internet Explorer 5.0, SP1 or later

  – or –

  Netscape Navigator 4.08, or later

- Disable any *proxy server for local (intranet) servers* settings
- Enable Cookie acceptance

Installing Sun HighGround SRM

This chapter describes how to install the following Sun HighGround SRM components:

- SRM Server and SRM for Exchange Servers Server
- SRM for Windows NT/Windows 2000 Agent
- SRM for Exchange Servers Agent
- SRM Web Browser Shortcut
- SRM for UNIX or Linux Agents

These procedures presume that you have run Sun HighGround SRM's prerequisite check on the target computer, and have ensured that the computer meets the prerequisite requirements for the component being installed.

3.1 Installation Privileges

The only privilege required to install a Sun HighGround SRM for Windows NT/Windows 2000 component is local administrator privilege on the computer. Setup prompts you for additional privileged account information as needed. Each component's procedure lists the additional privileged account information Setup needs to install that component. Obtaining this information beforehand saves time during installation.

The only privilege needed to install a SRM for UNIX or Linux Agent is superuser privilege.

All Sun HighGround SRM for Windows NT/Windows 2000 Setup dialog boxes have detailed help information; click **Help** on any dialog box for specific information.

3.2   Sun HighGround SRM for Windows NT/Windows 2000 Components Common Installation Steps

When you install the Sun HighGround SRM for Windows NT/Windows 2000 components, you follow the same initial steps listed here. The specific component installation procedures begin with the next dialog box in the sequence.

Begin Sun HighGround SRM for Windows NT/Windows 2000 components installation

1. Exit all Windows programs and insert the Sun HighGround SRM CD-ROM into the CD-ROM drive.

   If **Auto Start** is enabled, the installation menu launches automatically:

Note – If **Auto Start** is not enabled, run **i386\setup.exe** from the Sun HighGround SRM CD-ROM. This menu does not appear; instead, you first see the **Welcome** dialog box. Click **Next**.

Sun recommends that you check prerequisites before you begin installation.

If Setup detects any prerequisites are still missing, the **Missing General Requirements** dialog box is displayed. Satisfy the prerequisite listed, and begin the installation again.
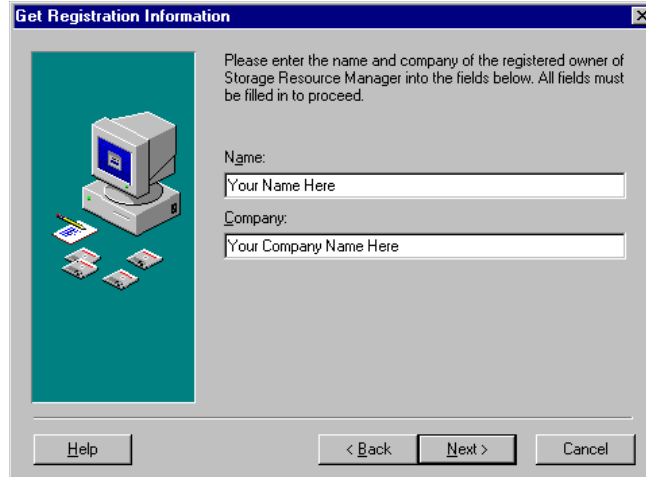
2. Click **Install**. To read the Release Notes, click **Read Me First**. The **Welcome** dialog box is displayed.
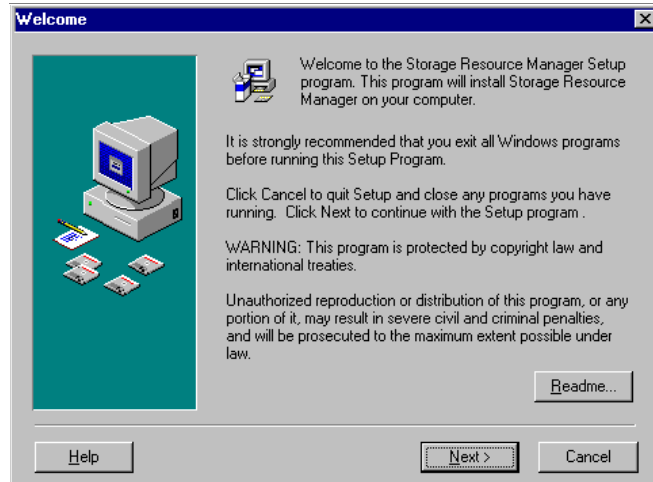
3. Review the information, then click **Next**. The **License Agreement** dialog is displayed:
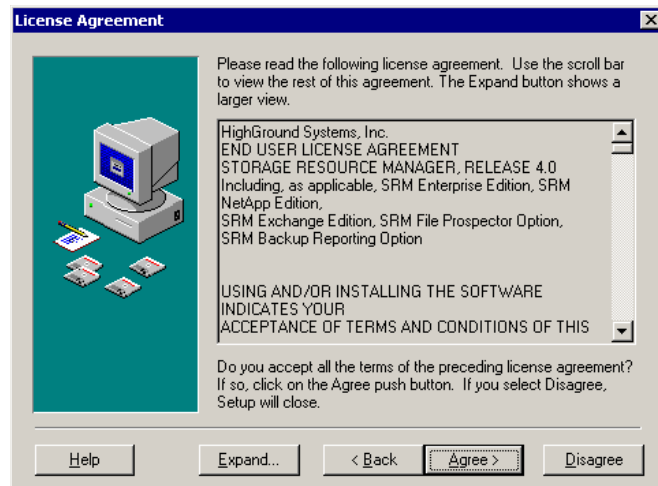
4. Carefully review the license agreement, and click **Agree**. The **Get Registration Information** dialog box is displayed.

5. Enter your name and the name of your company in their respective fields and click **Next**. The **Select Components** dialog box is displayed.

6. Go to the specific installation procedure for the component you are installing.

3.3 SRM Server and SRM for Exchange Servers Server

Beyond local administrator privilege on the computer, Setup prompts for database creation privileges on the target SQL Server computer. Without proper access, Setup cannot create and configure your database.

Note – If you choose to create a new Service Login Account for Sun HighGround SRM, but the account you are logged into is not a Domain Administrator, Setup prompts for an account with account creation (typically domain administrator) privilege for the new Service Login account's domain. (Windows NT/Windows 2000 requires this for account creation.)

Follow this procedure to install an SRM Server and SRM for Exchange Servers Server on a local Intel-compatible computer. SRM Server and SRM for Exchange Servers Server can be installed locally *only*; there is no remote installation capability for these components.

Install SRM Server and SRM for Exchange Servers

1. Ensure that you are logged in to an account with local administrator privileges on the computer, and have any additional privileged account information you may need.

2. Insert the Sun HighGround SRM CD-ROM into the CD-ROM drive. Advance through the dialogs to the **Select Components** dialog box:
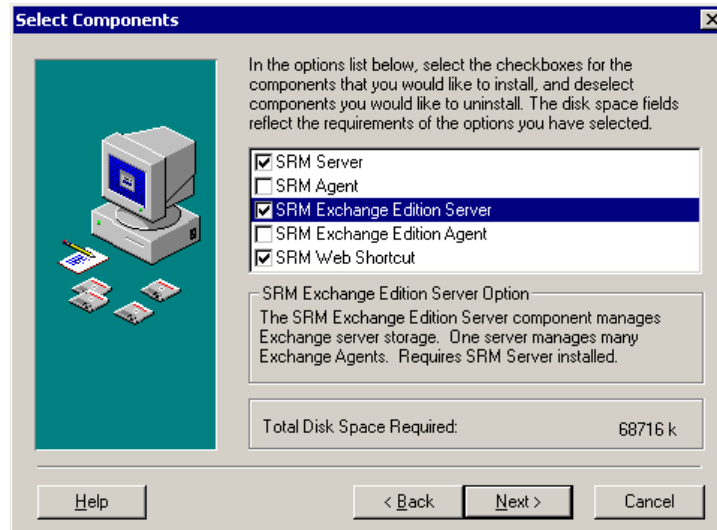
Note – When you select SRM Server, SRM Web Shortcut is automatically selected. If you do not want to install the SRM Web Shortcut, clear the check box.

3. Select **SRM Server** and **SRM Exchange Edition Server** check boxes. Click **Next**. The **Enter License Key** dialog box is displayed:

   a. If you selected **SRM Server** in the **Select Components** dialog box (previous screen), enter the license key for Sun HighGround SRM.

     If you purchased a **full license**, a certificate containing the license key is included in the kit.

     To obtain an **evaluation license** key:

      i. Call the Sun Support phone number listed on the Sun HighGround SRM CD-ROM jacket.

      ii. Supply the requested information about your company and the token number listed on the Sun HighGround SRM CD-ROM jacket.

       You will be given a license key that enables Sun HighGround SRM to collect data for a limited amount of time from a limited number of servers. To extend the evaluation period or to increase the number of servers to be managed, contact your Sun account manager.

   b. If you selected only **SRM Exchange Edition Server** in the **Select Components** dialog box (previous screen), enter the Exchange Option Key.

Note – If you do not enter a license key at this point, you can still install Sun HighGround SRM. However, the first time you run the Sun HighGround SRM software, you are asked to enter a license key. Also, agent registration is prohibited until you enter the license key.

4. Click **Next**. The **Get SQL Server Name** dialog box is displayed:
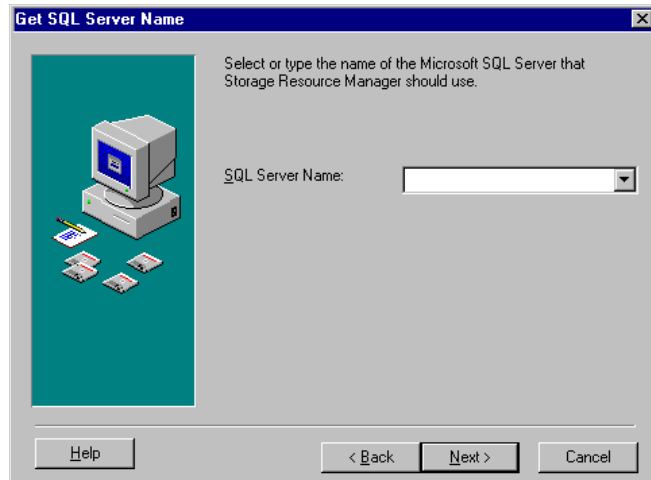
5. Enter the name of the computer where SQL is installed. For Microsoft SQL 2000 databases you must specify the server name and instance (servername\instance). For example: databaseserver\DB1.

6. Click **Next**.

7. If you are logged in to an account with administrator privileges on this SQL Server, the **Get Database Size** dialog box is displayed. Go to the next step and continue.

If Setup determines that the account you are logged in to does not have administrator privileges on this SQL Server, the **Privileged Account Required** dialog box is displayed:

8. Specify an account type and fill in the appropriate information. Click **Next**. The **Get Database Size** dialog box is displayed.

SQL 7 allows for dynamic space allocation for the SRM database. It is recommended that you set the initial database size to under 100 MB.

9. Click **Next** to accept the initial default settings. The **Get Service Login Information** dialog box is displayed.

Note – SQL Server databases cannot be smaller than 30 MB.
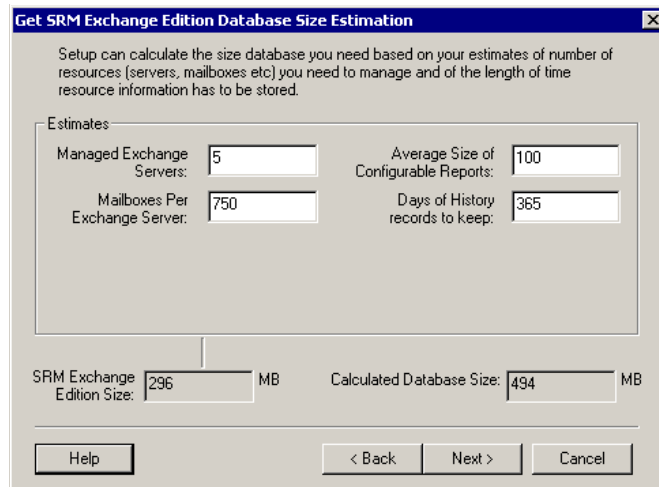
Or, click **Advanced** to go to the **Get Database Size Estimation** dialog box and edit the default initial database size:

10. Review the settings. Make any desired changes, and click **Next**.

The **Get SRM Exchange Edition Database Size Estimation** dialog box is displayed:

11. Review the settings. Make any desired changes, and click **Next**.

    The **Get Database Size** dialog box is redisplayed, and reflects the changes you made on the estimation dialog boxes.

12. Verify the values and click **Next**. The **Get Service Login Information** dialog box is displayed:

13. Select the option that best meets your needs and enter the required information.

Note – This is the Service Login account that you want this SRM Server to use to run on this computer.

- If you created the service login account before running Setup, the dialog has the **Use an Existing Account** option selected with the account name that you created in the **LoginID** field. Enter the **Domain** and **Password** for this account, and click **Next**.
- If you choose to create a new account and Setup determines that you do not have account creation privileges, the **Privileged Account Required** dialog box is displayed.

Note – If installing from a local (nondomain) account, you cannot specify a domain, other than Local, for Sun HighGround SRM's Service Account. Sun recommends that you log in using a Domain User/Local Admin account.
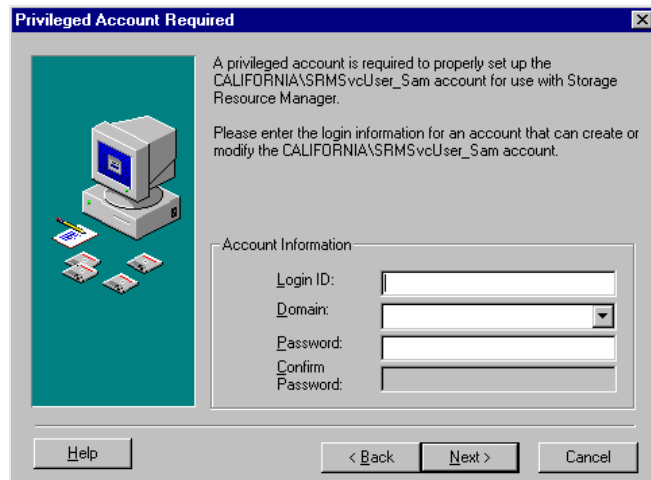
14. Provide information for an account that Setup can use to create the new Service Login account. Typically, this is an account with domain administrator privileges in the target domain.

15. Click **Next**. The **Choose Destination Location** dialog box is displayed:
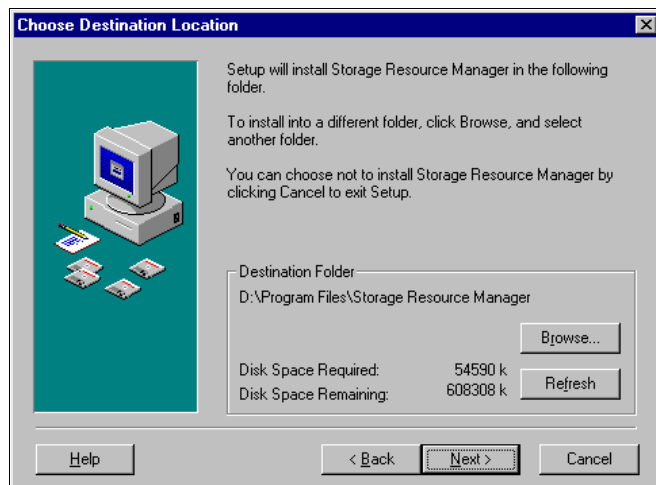
16. Specify the installation location for the Server software. It is recommended that you accept the default location. Click **Browse** to install the SRM and/or SRM for Exchange Servers files in a different location. Click **Next**. The **Choose Web Destination Location** dialog box is displayed:
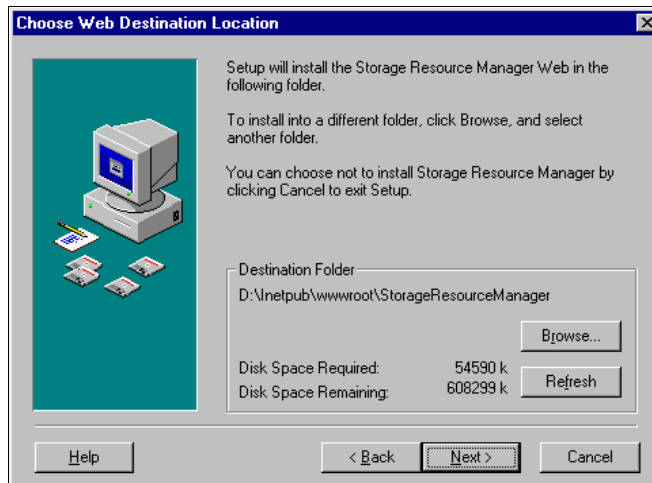
17. Specify the installation location for the SRM web.

18. Click **Browse** to install the SRM web in a different location. Click **Next**. The **Start Installation** dialog box is displayed:
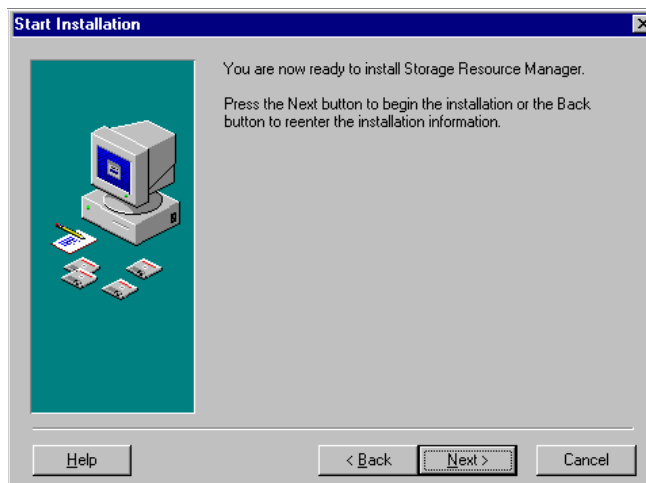
19. Click **Next** to begin installing files on your computer.

The **Installing** dialog box displays the progress of the installation. For example:
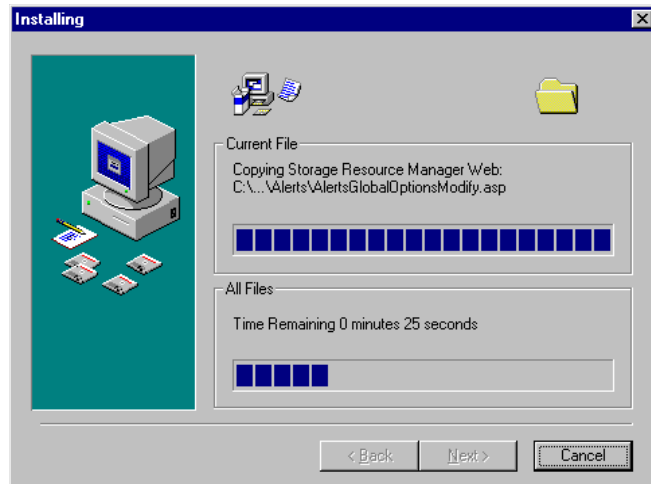
After the software is installed, the **Installation Complete** dialog box is displayed:
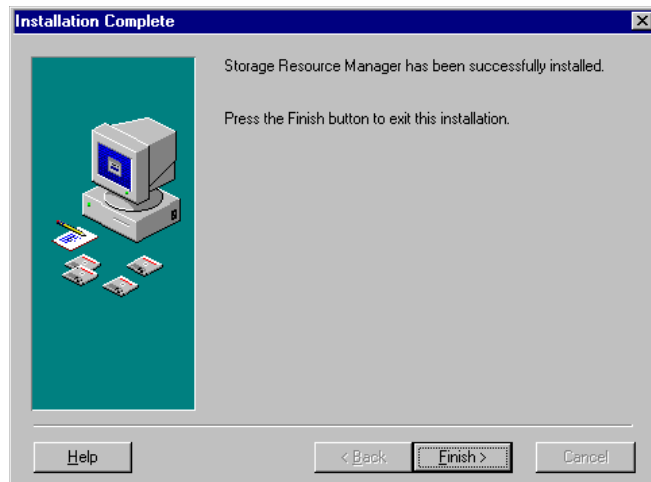
20. Click **Finish** to allow Setup to complete the installation.

3.4 SRM for Windows NT/Windows 2000 Agent (Local Installation)

Follow this procedure to locally install an SRM for Windows NT/Windows 2000 Agent on an Intel-compatible computer. Remote installation of an SRM for Windows NT/Windows 2000 Agent is performed from the Sun HighGround SRM user interface.
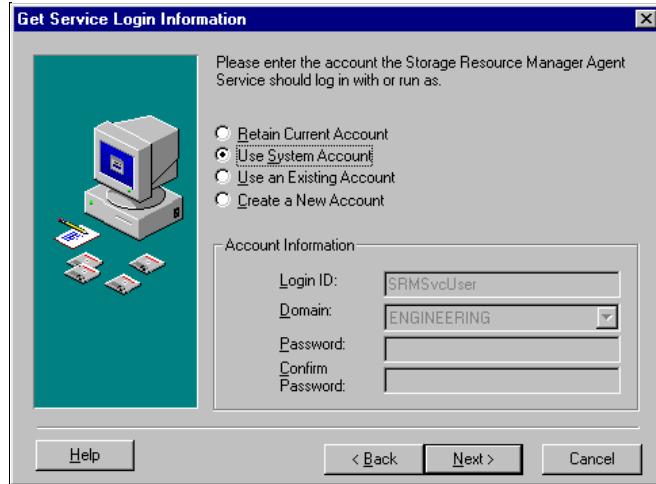
If you choose to create a new Service Login Account, Setup prompts for an account with account creation (typically domain administrator) privileges for the Agent's domain. (Windows NT/Windows 2000 requires domain administrator privileges for account creation.)

Install an SRM for Windows NT/Windows 2000 Agent

1. Ensure that you are logged in to an account with the following privileges:

    ■ Local administrator privileges for the computer

2. Insert the Sun HighGround SRM CD-ROM into the CD-ROM drive and advance through the dialog boxes to the **Select Components** dialog box:
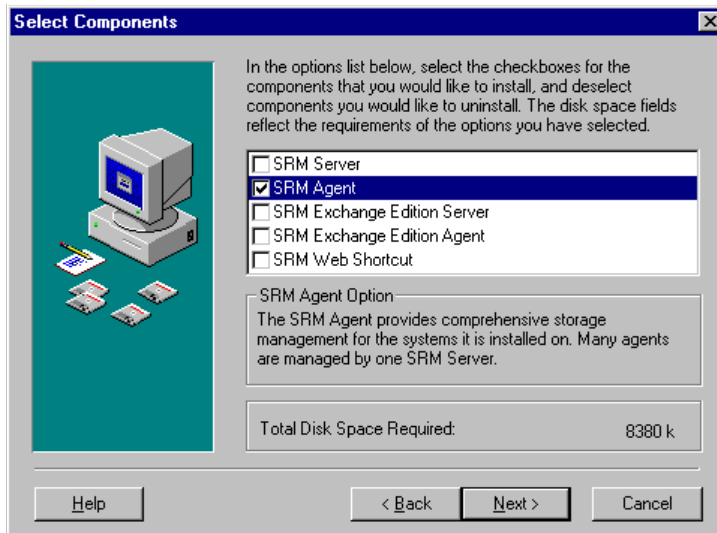
3. Select the **SRM Agent**. Click **Next**. The **Get Service Login Information** dialog box is displayed:
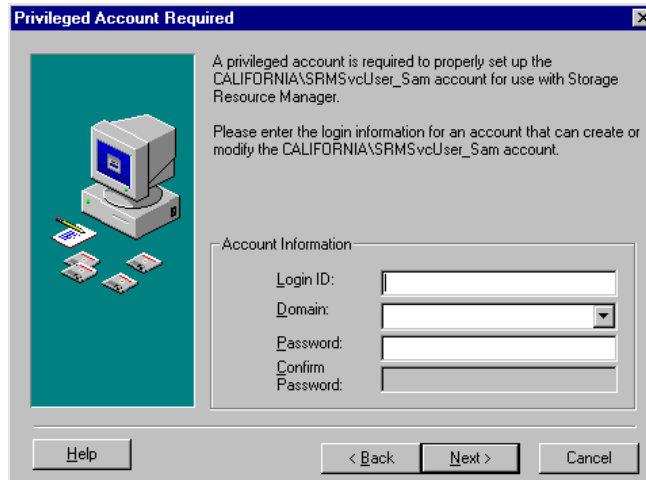
4. Select the option that best meets your needs.

Note – This is the service login account for this SRM Agent to run as on this computer.

- The default selection is **Use System Account**, which requires no account information.   Sun recommends using the default selection.
- If this agent is acting as a proxy server for a NetApp agent, or if the agent is installed on a Microsoft cluster, this agent must run as a user account. Sun recommends that you use the **SRM Server Service** account.
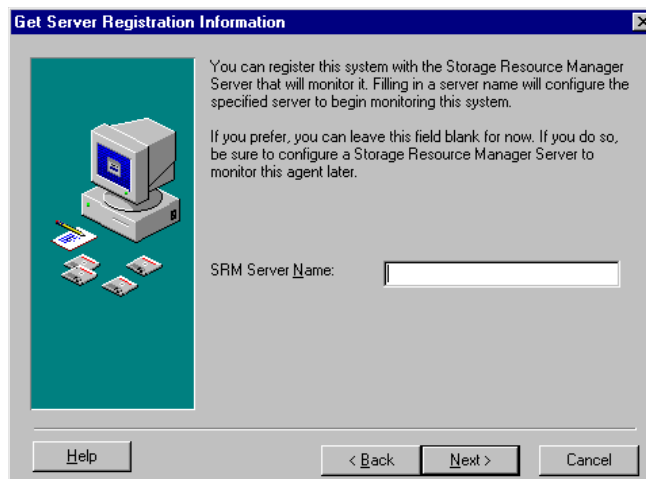
- If you choose to create a new account, and your login account does not have account creation privileges, the **Privileged Account Required** dialog box is displayed:

Provide information for an account Setup can use to create the new Service Login Account. Typically, this is an account with domain administrator privileges in the target domain.

5. Click **Next**. The **Get Server Registration Information** dialog box is displayed:

6. Type the name of the SRM Server that you want to monitor this Agent, and click **Next**.

   Enter the name of a SRM Server only if you want this Agent registered during installation. If you plan to manually register this Agent from a Server after installation, leave this dialog box blank and click **Next**. You proceed directly to the **Choose Destination Location** dialog box.

   After you enter the Server name, click **Next**. The **Advanced Agent Security Setting** dialog box is displayed (because the server is on another computer).

Note – Be sure that the version of Microsoft Internet Explorer on the Agent machine matches the version listed in Chapter 2.

---
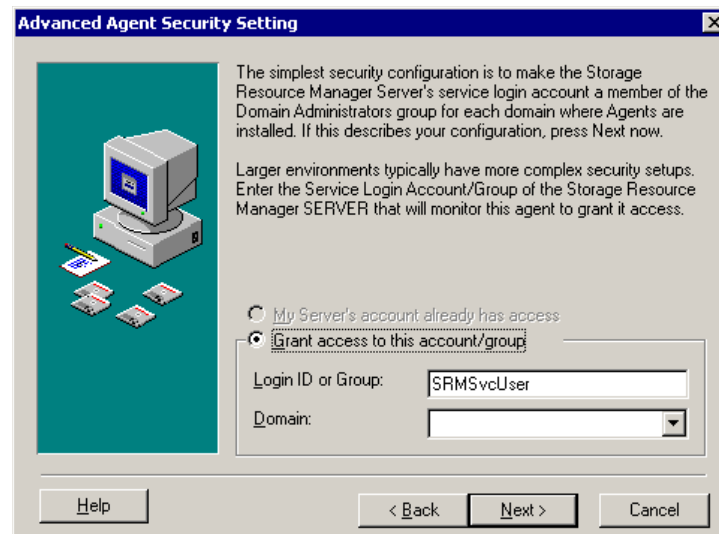
7. Enter the SRM Server Service account and domain.

   Click **Next**. The **Choose Destination Location** dialog box is displayed:
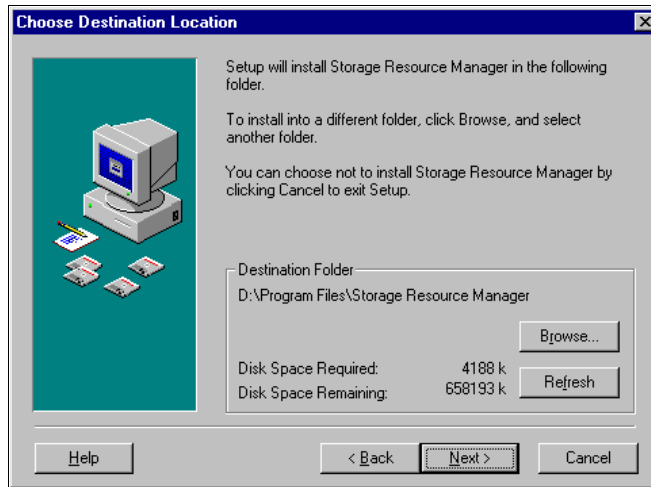
8. Specify the installation location for the Agent software.

   Click **Browse** to install the Agent in a different location.

9. Click **Next**. The **Start Installation** dialog box is displayed:
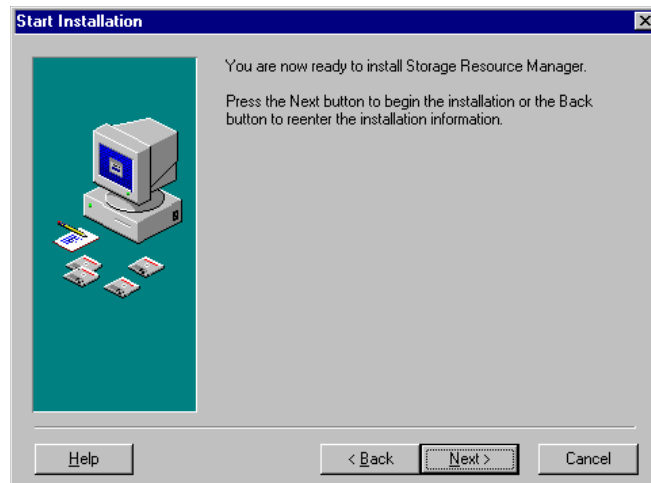
10. Click **Next** to begin installing files on your computer. The **Installing** dialog box displays the progress of the installation:

If you are registering this Agent with a SRM Server during installation, the **Agent Registration** dialog box is displayed:
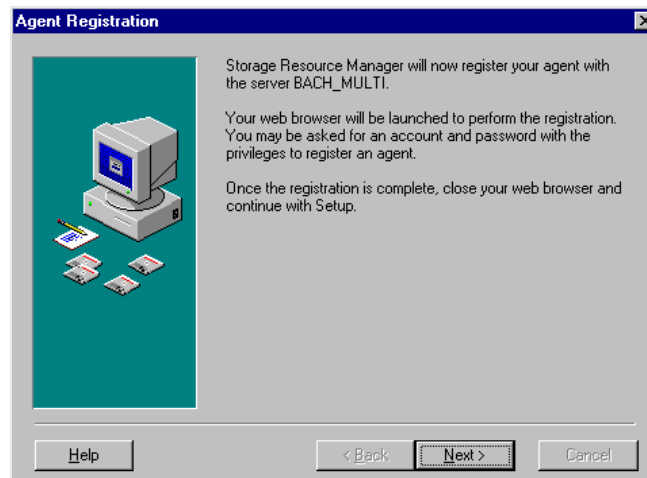
11. Click **Next**. Setup launches the default browser on this computer and registers the Agent with the SRM Server you specified. When the registration is finished, the browser is minimized and a Success message is displayed.

12. Close the browser window. The **Installation Complete** dialog box is displayed:
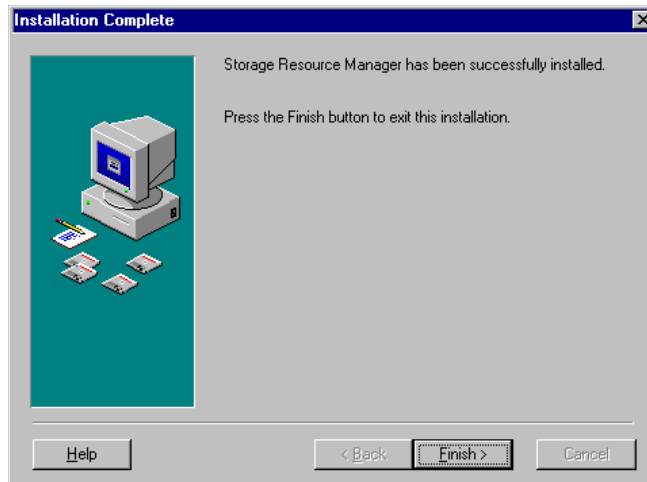
13. Click **Finish** to allow Setup to complete the installation.

3.5 SRM for Exchange Servers Agent (Windows NT Only) -- Local Installation

You can install and run SRM for Exchange Servers Agents on Windows NT and Windows 2000 computers only. You must be running Microsoft Exchange 5.5.

Note – Microsoft Exchange Server 5.5 with SP3 or later must be installed on this computer for this Agent installation to succeed.

Install a SRM for Exchange Servers Agent
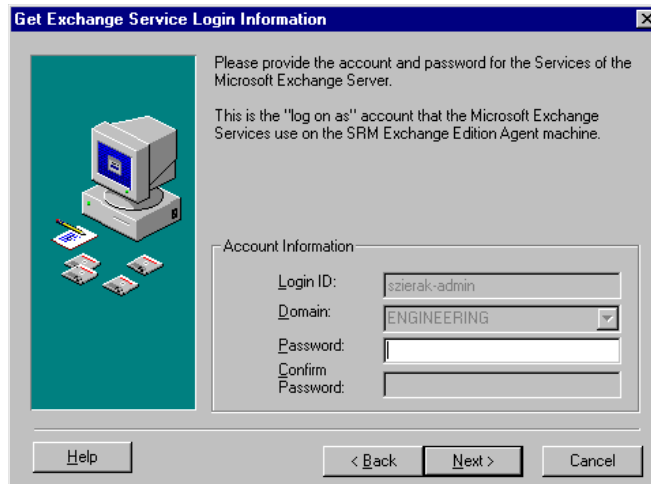
1. Ensure that Microsoft Exchange Server 5.5 SP3 or later is installed on this computer.

2. Obtain the password for the Exchange Service Login account; you need this during installation.

   This is the account that Exchange is running under on this computer. The name and password were specified in the **Site Services Account** dialog box during the Exchange installation.

3. Insert the Sun HighGround SRM CD-ROM into the CD-ROM drive and advance through the dialogs to the **Select Components** dialog box:
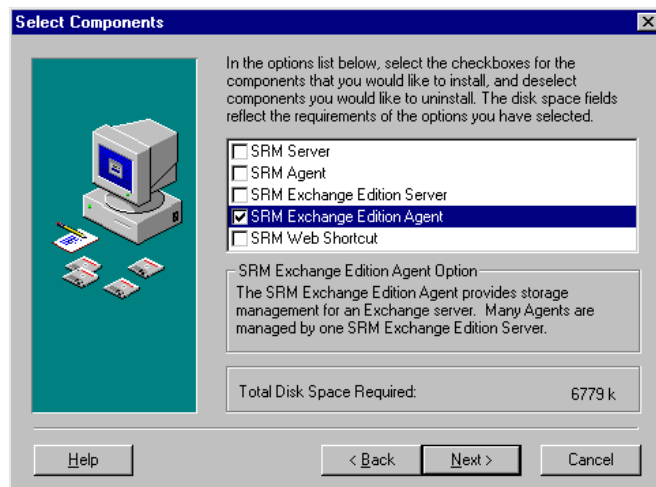
4. Select the **SRM Exchange Edition Agent**. Click **Next.**
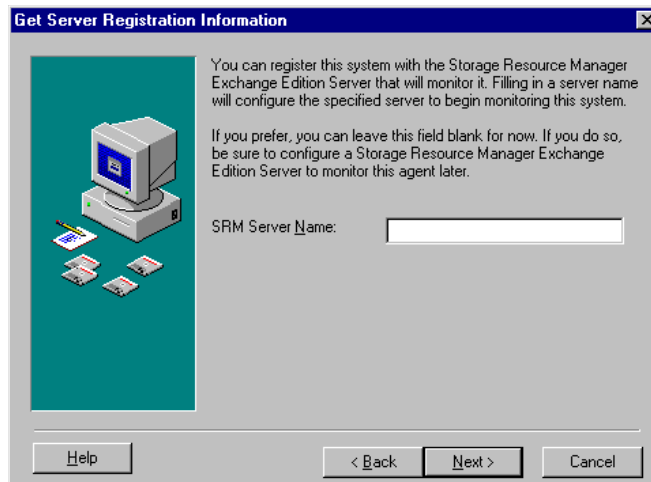
   The **Get Exchange Service Login Information** dialog box is displayed:

5. Setup retrieves the name of the Exchange Service Login account and displays it in the **Login ID** field. Enter the password for this account, and click **Next**.

   The **Get Server Registration Information** dialog box is displayed:

6. Enter the name of the SRM for Exchange Servers Server that you want to monitor this SRM for Exchange Servers Agent, and click **Next**.

Enter the server name only if you want this Agent registered during installation. If you plan to manually register this Agent after installation, leave this dialog blank and click **Next**. You will proceed directly to the **Choose Destination Location** dialog box.

The **Advanced Agent Security Setting** dialog box is displayed:
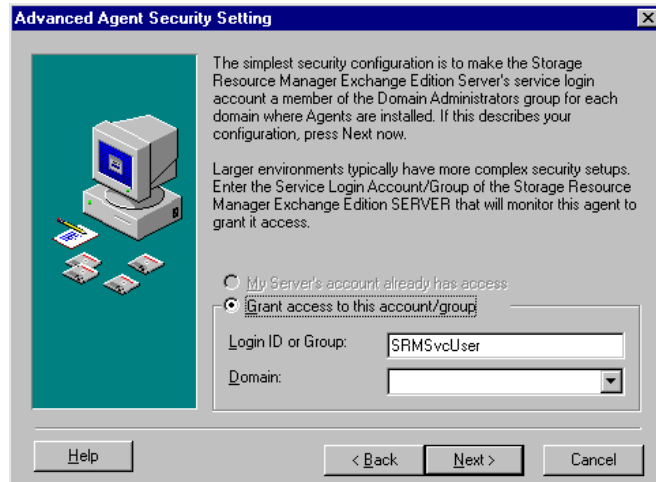
7. The default SRM Service Login Account name appears in the **Login ID or Group** field. Make sure that the information in this dialog box reflects the Service Login Account for the SRM for Exchange Servers Server that you want to monitor this SRM for Exchange Servers Agent. (The Server you specified in the **Get Server Registration Information** dialog box.)

8. Specify the account's domain using the pull-down list in the **Domain** field.

   Click **Next**. The **Choose Destination** dialog box is displayed:
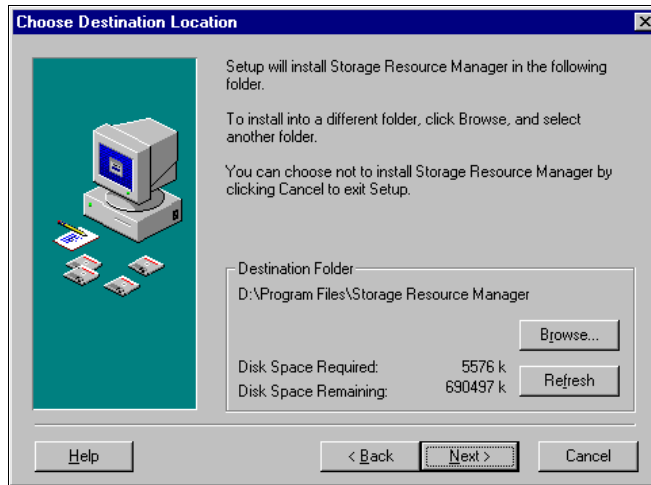
9. Specify the installation location for the SRM for Exchange Servers Agent software. Sun recommends that you accept the default.

   If you want to install the SRM for Exchange Servers Agent in a different location, click **Browse** and navigate to that location.

10. Click **Next**. The **Start Installation** dialog box is displayed:
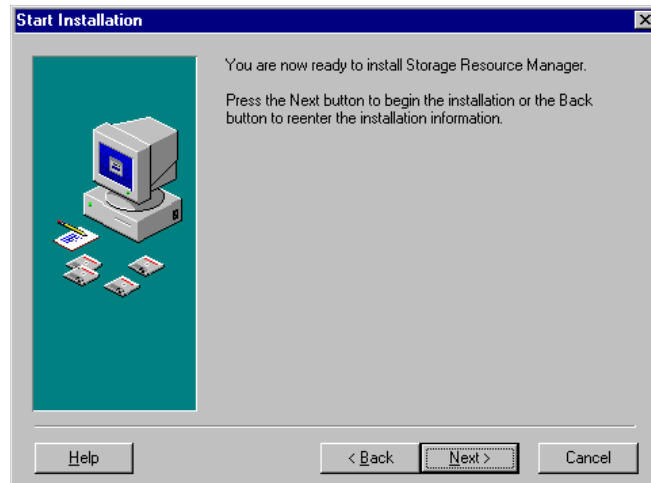
11. Click **Next** to start the installation. The **Installing** dialog box displays the progress of the installation:
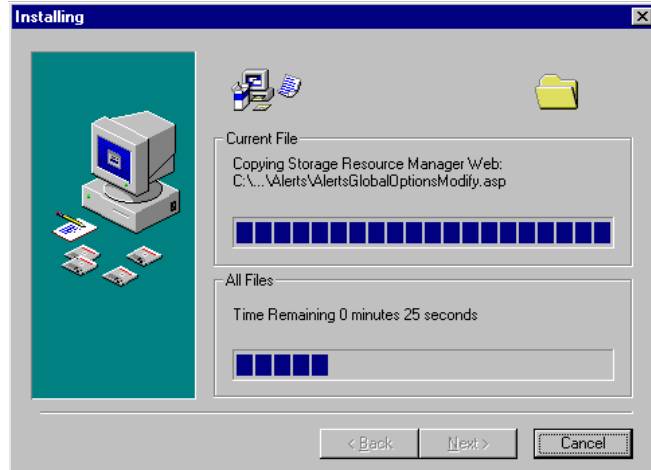
If you are registering this Agent with a SRM for Exchange Servers Server during installation, the **Agent Registration** dialog box is displayed:
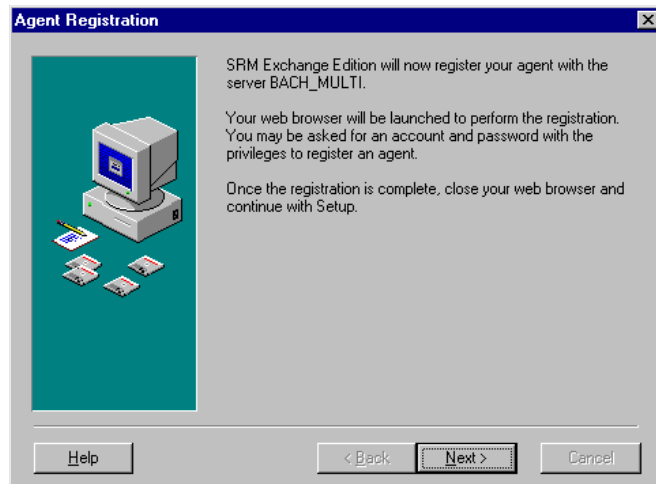
This dialog box explains that Setup will launch the default browser on this computer and register this Agent with the SRM for Exchange Servers Server you specified. The browser does not close when the registration is finished. Close the browser, and trigger Setup to complete the installation.

12. Click **Next** and watch for Sun HighGround SRM for Exchange Servers to open in the browser. If you are installing from a privileged account, the main page is displayed:
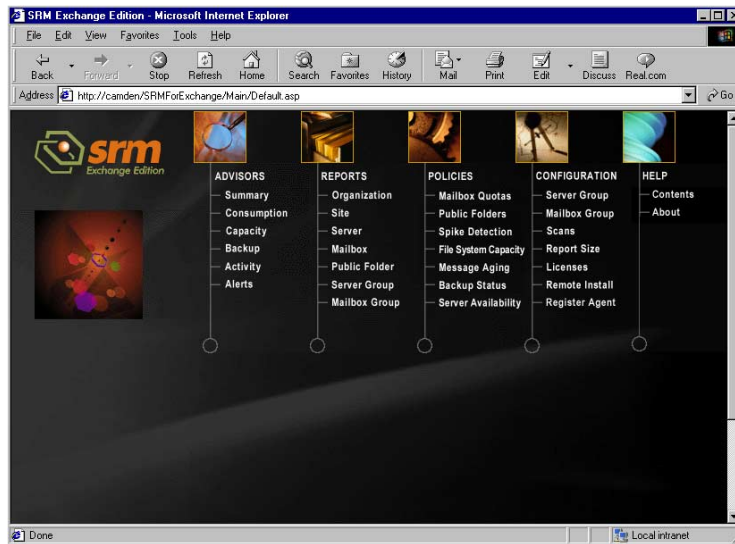
Note – If your account is nonprivileged (no Sun HighGround SRM administrator privileges), an error message is displayed.

Close the browser window. The **Installation Complete** dialog box is displayed:
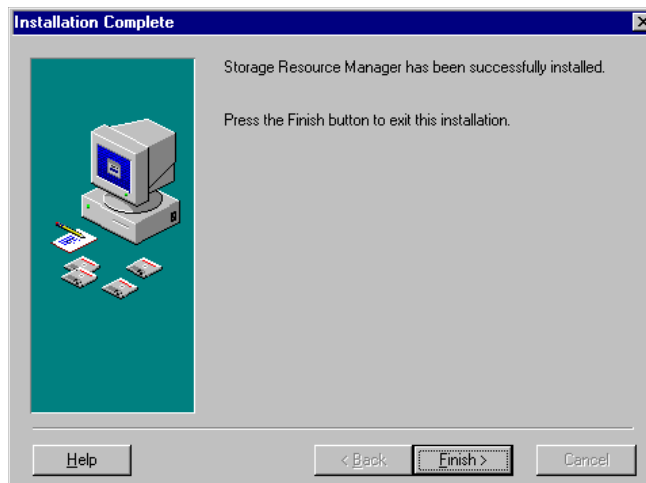
13. Click **Finish** to allow Setup to complete the installation.

# 3.6 SRM Web Browser Shortcut

The SRM Web Browser shortcut can be installed on any computer from which you want to view Sun HighGround SRM data. There is no additional privileged account information needed. Follow the steps below.

Install an SRM Web Browser shortcut

1. Insert the Sun HighGround SRM CD-ROM into the CD-ROM drive and advance through the dialogs to the **Select Components** dialog box:
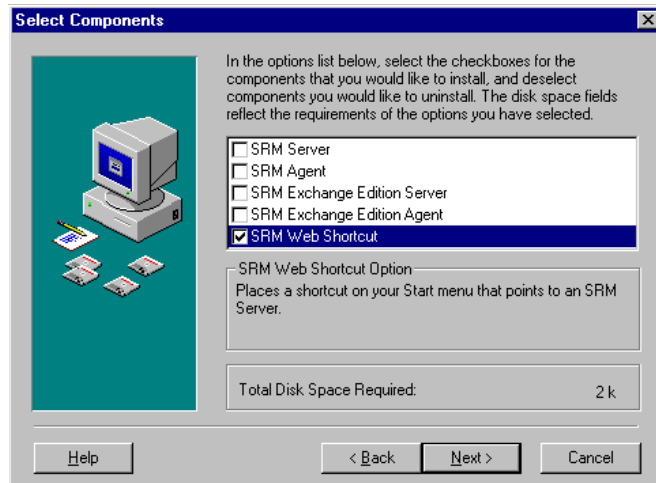
2. Select the **SRM Web Browser Shortcut** and click **Next**. The **Choose Destination Location** dialog box is displayed:
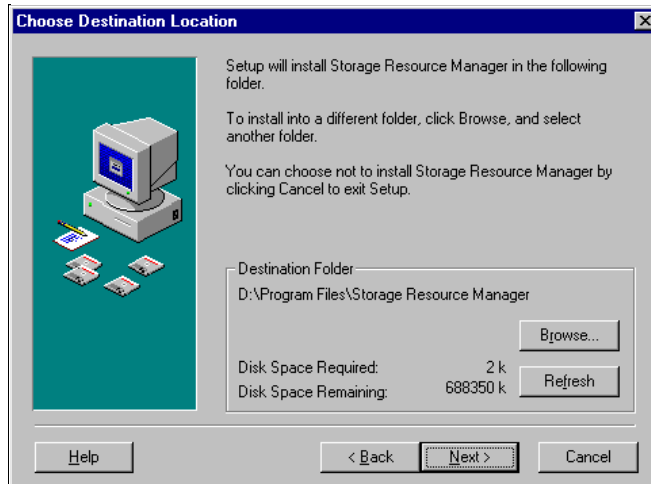
3. Specify the location for the Web Browser shortcut. Sun recommends that you accept the default location.

   Click **Browse** to install the shortcut in a different location.

4. Click **Next**. The **Start Installation** dialog box is displayed:
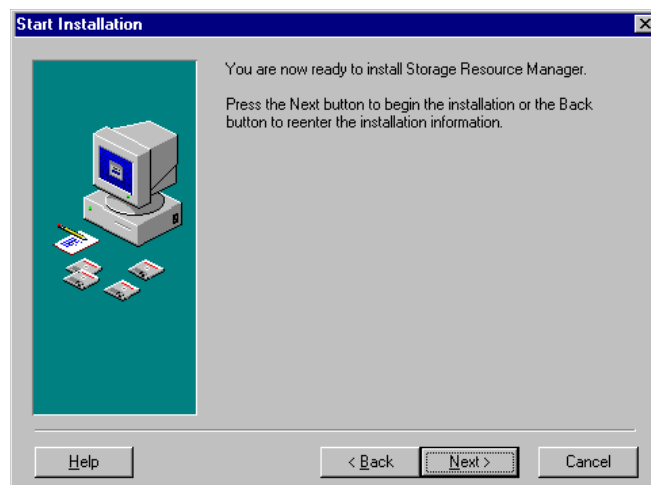
5. Click **Next** to begin installing files on your computer.

The **Installing** dialog box displays the progress of the installation. For example:
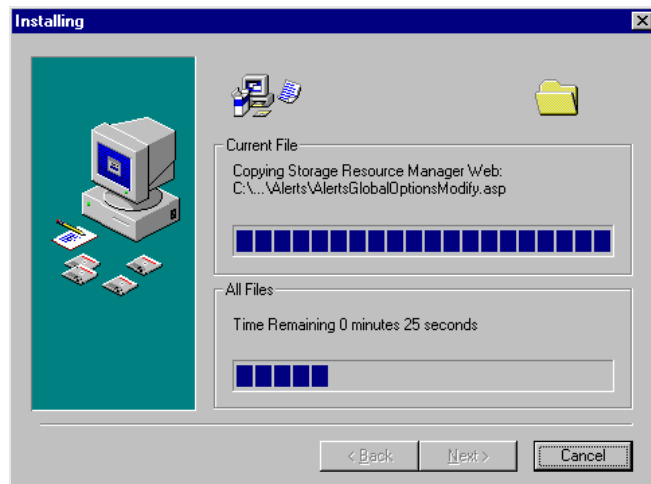
After the software is installed, the **Installation Complete** dialog box is displayed:
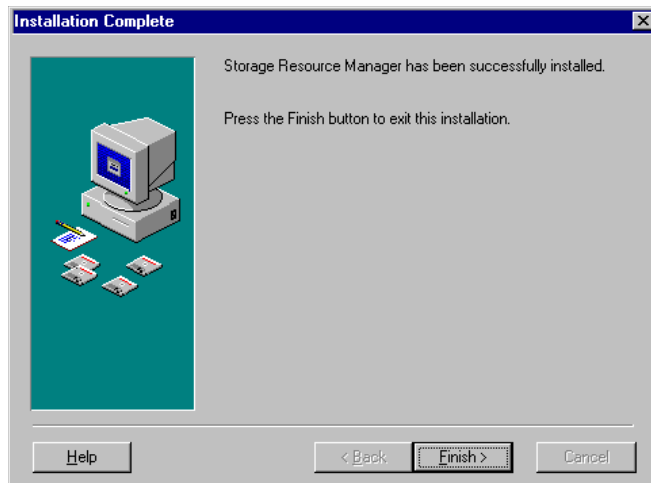
6. Click **Finish** to allow Setup to complete the installation.

3.7 SRM for UNIX or Linux Agents

SRM for UNIX or Linux Agents can be installed with superuser privileges; no additional privileged account information is required. Follow these steps to install SRM for UNIX Agents on a UNIX or Linux system.

Install an SRM for UNIX or Linux Agent

1. The Sun HighGround SRM Installation CD contains directories containing installation files for UNIX and Linux.

   UNIX agent files are in the unix_agents directory
   Linux agent files are in the linux_agents directory

2. Copy or make accessible all the files from the proper directory on the Installation CD to each target system. This can be done using FTP or through an NFS mount.

Note – If you copy the files, you can delete them when Sun HighGround SRM is fully installed.

---

3. Use **chmod** to make the installsrm script executable.

4. Type **./installsrm** to start the installation.

   This command decompresses and un-tars the product files into their target location, based on the platform and operating system version of the target system. The scripts are:

   - **/usr/srmagent/srmagent.exe** Agent executable
   - **/usr/srmagent/removesrm** Agent uninstall script
   - **/usr/srmagent/revertsrm** Script to revert Agent to earlier version
   - **/usr/srmagent/registersrm** Script to register/unregister Agent with SRM Server, or change existing registration

5. Watch for the port confirmation request.

   After **installsrm** puts the files in place, it invokes the **registersrm** script. If **registersrm** detects no previous Agent version, it enters into a dialog to determine what port the Agent will listen on. It tries these ports:

   11125, 11126, 11127

   If one of these ports is found, **registersrm** requests confirmation:

   I am proposing to use port *port number* as the Agent listening address in INETD. Is this OK?

6. Enter **y** or **n**.

   If you enter **n**, the following is displayed:

```
Please enter port to use:
```

7. Enter the port you want to use.

   If the proposed port is not available, the following message is displayed:

```
Port port number is already in use. Please select another.
```

8. After the port is specified, the installation script proceeds with the following
   Agent registration dialog. Respond to each message appropriately.

```
What is the name (or IP address) of the SRM Server?

Please enter any alternate port for the web server for server name;
default is 80:

What is the SRM Service Login Account on server name (<enter> means
'SRMSvcUser')?

What is the NT Domain for SRMSvcUser on server name? (<enter> means
use default)

What is the password for account domain name/service login account
name on server name?

Re-enter password:
```

9. When your responses are redisplayed you are prompted by the following:

```
Confirm: Registering with SRM Server:server name
  on default port 80
  with SRM Service Login Account domain name/service login account
name with supplied password

Is this correct? (y or n)
```

10. Enter **y** or **n**.

   ■ If you enter **n**, the script loops back to allow you to change your responses.
   ■ If you enter **y**, a message is displayed to tell you whether or not registration was
     successful. Then this message is displayed:

```
Do you want to register with another SRM server (y/n)?
```

Enter **y** or **n**.
   ■ If you enter **n**, the script exits.
   ■ If you enter **y**, the Agent installation begins again, allowing you to register this
     Agent with another SRM Server.

Modifying Your Sun HighGround SRM Installation

All modifications to Sun HighGround SRM and Sun HighGround SRM for Exchange Servers installations are performed from the **Change Installation Settings** dialog box, which appears when you run Setup. All modifications to UNIX or Linux installations are performed from the command prompt.

4.1 Database Transaction Logs and Sun HighGround SRM Upgrading/Reinstalling

Each time you reinstall or upgrade an SRM Server, the database is upgraded. During this upgrade, the database is temporarily stored in the SQL Server transaction log. You must ensure that the transaction log is configured to accommodate the database during the upgrade. If the transaction log becomes full during a database upgrade, the installation program completes, but the database is not completely upgraded. Make sure that you have adequate disk space to accommodate the larger log file.

Modify SQL Server transaction log settings

1. Back up your current SRM database and store the backup in a secure location.

2. Go to **Start → Microsoft SQL Server → Enterprise Manager**.

3. Expand **SQL Server Group**.

4. Expand the appropriate computer name in the list.

5. Expand **Databases**.

6. Highlight the appropriate database name in the list. By default, this is **srmdb_*SRMServerName***. Right-click and select **Properties** from the context menu.

7. Make sure that adequate disk space is available for the log file to grow. The log file might grow up to 70% of your database size.

   a. Select the **General** tab and note the amount of space allocated for the database. Calculate 70% of this number; this is the amount of disk space you need to hold the log file.

   b. Check to see that the disk where the SQL log file resides has that amount of free space to hold the log file.

8. Select the **Transaction Log** tab and verify that the following settings are selected:

   a. Automatically grow file

   b. Unrestricted file size (this is under Maximum file size)

9. Click **OK** to apply any changes and close the dialog box.

10. You are ready to reinstall or upgrade your SRM Server installation.

4.2 Modify a Sun HighGround SRM for Windows NT/Windows 2000 or Sun HighGround SRM for Exchange Servers Installation

The first step in modifying your Sun HighGround SRM for Windows NT/Windows 2000 or Sun HighGround SRM for Exchange Servers installation is to access the **Change Installation Settings** dialog box,which appears when you run Setup.

Access Sun HighGround SRM's Change Installation Settings dialog box

1. Insert the Sun HighGround SRM CD-ROM in the CD-ROM drive. If Auto Start is enabled, the installation menu launches automatically.

   If Auto Start is not enabled, run **i386\autorun.exe** from the CD-ROM.

2. Click **Install** on the Installation Menu.

3. Click **Next** on the **Display Registration Information** dialog box. The **Change Installation Settings** dialog box is displayed:
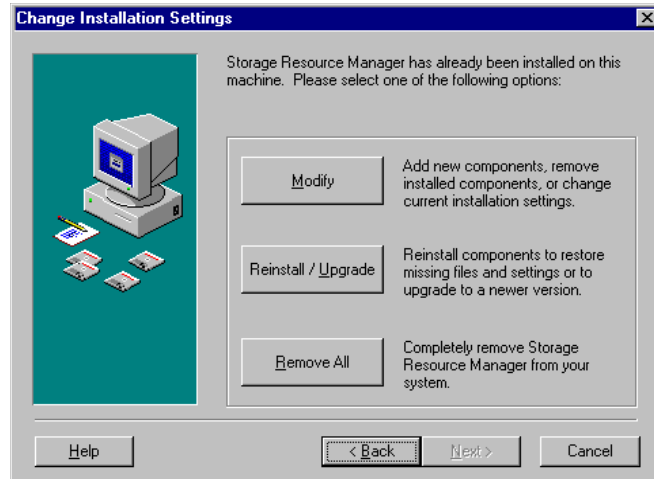
From this dialog box, you can modify your installation, reinstall or upgrade your software, or uninstall your Sun HighGround SRM software. See the procedures that follow for more information.

4.2.1   Modify Installed Components

Use the **Modify** option in the **Change Installation Settings** dialog box to add or remove selected Sun HighGround SRM components from the local computer. Only Windows agents and Windows Exchange agents can be modified remotely.

Note – If you are adding components to an existing installation, make sure that you select the check box of each component you want on the computer when Setup is finished. If you clear an installed component's check box, that component is uninstalled.

Modify your installation

1. Click **Modify** on the **Change Installation Settings** dialog box.

   The **Select Components** dialog box is displayed. Components currently installed on the computer are selected; those not installed are not selected.

2. Select the check boxes of all components you want installed on this computer when Setup is finished. Clear the check boxes of all components you do not want on the computer. Click **Next**.

3. The **Enter License Key** dialog box is displayed:

   a. If you selected **SRM Server** in the **Select Components** dialog box (previous screen), enter the license key for Sun HighGround SRM.

   b. If you selected only **SRM Exchange Edition Server** in the **Select Components** dialog box (previous screen), enter the Exchange Option Key.

Note – If you do not enter a license key at this point, you can still modify your Sun HighGround SRM installation. However, any pre-version-5.1 agent licenses are nullified, and agent registration is prohibited until you enter the license key. In addition, agents no longer scan. (Existing scan data is not lost.)

The first time you run the Sun HighGround SRM software after modifying the installation, an error screen is displayed, explaining that your licenses have expired. Click the **Enter a valid key** button to go to the Add New License page, and enter your license key.

To reset agent licenses, go to **Options ➔ Licenses ➔ Manage Licenses,** and select the **Using a License** checkbox for the appropriate agents.

---

4. The dialog boxes that are displayed now depend upon your selections. Click **Help** in any dialog box for details.

5. When Setup has all information needed to perform the add/remove, the **Start Installation** dialog box is displayed. Click **Next**.

   Setup adds and/or removes the selected components.

4.2.2   Reinstall Components

Use the **Reinstall/Upgrade** option on the **Change Installation Settings** dialog box to install Sun HighGround SRM components over existing copies, or upgrade to a newer version of a Sun HighGround SRM installed component. You can reinstall Windows NT/Windows 2000 agents locally, or remotely using Sun HighGround SRM's Remote Installation feature.

Note – When you upgrade Sun HighGround SRM, it may take 15 minutes or longer for your database to upgrade. Please be patient during this part of the upgrade.

Reinstall Sun HighGround SRM or Sun HighGround SRM for Exchange Servers components

1. Click **Reinstall/Upgrade** on the **Change Installation Settings** dialog box.

2. The **Enter License Key** dialog box is displayed:

    a. If you are reinstalling/upgrading **SRM Server**, enter the license key for Sun HighGround SRM.

    b. If you are reinstalling/upgrading only **SRM Exchange Edition Server**, enter the Exchange Option Key.

Note – If you do not enter a license key at this point, you can still reinstall/upgrade your Sun HighGround SRM installation. However, any pre-version-5.1 agent licenses are nullified, and agent registration is prohibited until you enter the license key. In addition, agents no longer scan. (Existing scan data is not lost.)

The first time you run the Sun HighGround SRM software after reinstalling/upgrading the installation, an error screen is displayed, explaining that your licenses have expired. Click the **Enter a valid key** button to go to the Add New License page, and enter your license key.

To reset agent licenses, go to **Options ➔ Licenses ➔ Manage Licenses,** and select the **Using a License** checkbox for the appropriate agents.

---

3. Click **Next** on the **Start Reinstall/Upgrade** dialog box.

    Setup begins reinstalling or upgrading the Sun HighGround SRM components currently installed on the computer.

4. Click **Finish** on the **Installation Complete** dialog box.

4.2.3   Uninstall Components

Use the **Remove All** option on the **Change Installation Settings** dialog box to completely uninstall Sun HighGround SRM and Sun HighGround SRM for Exchange Servers from the local computer. Windows agents can be uninstalled locally, or remotely using Sun HighGround SRM's Remote Installation feature.

Uninstall Sun HighGround SRM or Sun HighGround SRM for Exchange Servers for Exchange Servers

1. Click **Remove All** on the **Change Installation Settings** dialog box.
    Select the appropriate radio button to keep or delete the database.

2. Click **Next** on the **Perform Uninstall?** dialog box.

    Setup removes all Sun HighGround SRM software from the computer.

3. Click **Finish** on the **Uninstallation Complete** dialog box.

4.2.4 Upgrade or Reinstall an SRM for UNIX or Linux Agent

As with any SRM Agent, SRM for UNIX Agents can be upgraded or reinstalled as needed.

Upgrade or Reinstall a SRM for UNIX or Linux Agent

1. Mount the Sun HighGround SRM CD-ROM in a system from which you can make the installation files available to all target systems.

2. Transfer the files to each target system, for instance using FTP or remotely mounting (using NFS) a directory containing the files.

   UNIX agent files are in the **unix_agents** directory.

   Linux agent files are in the **linux_agents** directory.

3. Type **./installsrm** to start the installation program.

   When **installsrm** detects that file **/usr/srmagent/srmagent** already exists, it queries the agent to determine the version. The following dialog is displayed:

   ```
   Version <ver> of the UNIX SRM Agent is currently installed. Do you
   want to retain this version in a local compressed TAR file in case
   you need to return to it (y/n)?
   ```

4. Enter **y** for yes. The following message is displayed:

   ```
   Backup archive stored at /usr/srmagent/backup/srmverver.tar.Z
   ```

   Setup copies the files for the version being installed and invokes the newly installed **registersrm** script.

   When the **registersrm** script detects a previous installation, it uses the previous configuration information, attempting to repair any deficiencies in the set of configuration files **/etc/services, /etc/inetd.conf, and /etc/srmagent/agentconfig**.

   The following messages are displayed for each installation step:

   ```
   Existing SERVICES entry found for srmagent using port portnumber

   Existing srmagent configuration file found
   (/etc/srmagent/agentconfig) with the following SRM server(s)
   configured:

   list of SRM Servers
   ```

5. To change the configured srmagent listening port, you must uninstall and then reinstall the agent to change the listening port.

6. For each SRM Server listed, respond using one of these codes:
   - **k** keep the SRM server configured as is
   - **r** re-register the SRM server
   - **d** delete the registration

7. Verify the new Agent installation and operation.

The new agent's computer name appears in the Managed Computers report after the initial computer scan is completed.

To display the Managed Computers report, click **Computers** from Sun HighGround SRM's Resources page or from a resource report's left-hand navigation frame.

4.2.5 Update a SRM for UNIX or Linux Agent

Use the **registersrm** script to update SRM for UNIX or Linux Agent registration information without installing the software.

Update SRM for UNIX or Linux Agent registration information

1. Type the following at the command line on the UNIX or Linux system:

/usr/srmagent/registersrm

2. Follow any prompts as they are displayed.

4.2.6 Unregister a SRM for UNIX or Linux Agent

Use the **registersrm** script to unregister a SRM for UNIX or Linux Agent without uninstalling the software.

Unregister a SRM for UNIX or Linux Agent

1. Type the following at the command line on the UNIX or Linux system:
   /usr/srmagent/registersrm –r

2. Follow any prompts as they are displayed.

4.2.7 Revert to a Previous Version of SRM for UNIX or Linux Agent Software

Use the **revertsrm** script to revert to an earlier version of SRM for UNIX or Linux.

1. Type the following at the command line from the **/usr/srmagent/backup** directory on the UNIX or Linux system:

/usr/srmagent/revertsrm

If no **.tar.Z** files are in the directory, this message is displayed:

```
No backup version found
```

2. If there are no previous versions of the software to revert to, you must exit.

   If there is one **.tar.Z** file in the directory, this message is displayed:

```
Do you want to revert to tar file srmverver.tar.Z (y/n)
```

3. Answer appropriately. Answering **y** overwrites the current software in the **/usr/srmagent** directory with the file specified.

If there are multiple **.tar** files in the directory, this message is displayed, listing as many files as were found:

```
List of SRM UNIX Agent versions available for reversion:
1. srmverver1.tar.A
2. srmverver2.tar.A
Please select code for a version to revert to, 0 for none:
```

4. Type the number of the version you want to overwrite the current software in the **/usr/srmagent** directory. If you do not want to proceed, type 0.

Installing and Registering Plug-Ins

This chapter describes installation and registration procedures for the plug-ins provided with Sun HighGround SRM. For information about a particular plug-in, refer to the Readme file included in the same directory as the plug-in you want to install.

5.1   What are Plug-Ins?

A *plug-in* is software that allows Sun HighGround SRM to scan, collect, and report information from various types of objects, such as network-attached storage systems or SAN switches. By installing a plug-in onto a system where an SRM Windows NT 4.0/Windows 2000 Agent is installed, you allow that SRM Agent to become a proxy for the SRM Server to use for communication with the object that the installed plug-in supports.

5.2   Plug-In Types

A different plug-in is defined for each type of object that Sun HighGround SRM supports. The following list describes the plug-in types:

- **Database** — Databases, which can be scanned through an appropriate plug-in and viewed by Sun HighGround SRM as a managed database.
- **NAS** — Network-attached storage systems, which can be scanned through an appropriate plug-in and viewed by Sun HighGround SRM as a managed computer.
- **NetWare** — Novell® NetWare® server systems, which can be scanned through an appropriate plug-in and viewed by Sun HighGround SRM as a managed computer.

- **RAID** — RAID subsystems (redundant array of independent disks). These plug-ins report on the enclosure, controller, and logical drive configuration of a RAID subsystem on your enterprise storage network.
- **SAN Switch** — A storage area network (SAN) object called a switch. These plug-ins report information about the configuration of a given SAN switch, including operating parameters and port information.

Reports available in the graphical user interface display the information reported by the plug-ins. NAS and NetWare systems are listed in the Managed Computers report. All other plug-in types have sections devoted to them.

5.3 Plug-In Kits Provided with Sun HighGround SRM

Plug-in kits are on your Sun HighGround SRM CD-ROM in a directory named **PlugIns**. This directory contains a subdirectory for each type of plug-in. Each subdirectory contains one or more executable files that install the selected plug-in on an SRM Agent computer.

The following plug-ins are provided with this release:

- Databases
  - **SRM Plug-In for Database Scanning (databasescannerplugin.exe) —** This plug-in allows an SRM Agent to report information about managed databases including information about allocated size and log files.
- NAS devices
  - **Network Appliance Plug-In (NetAppPlugIn.exe)** — This plug-in allows you to integrate data about your Network Appliance Filer system into the Managed Computers report.
- NetWare devices
  - **NetWare Plug-In (NetWarePlugIn.exe)** — This plug-in allows you to integrate data about your Novell NetWare 4.2 and 5.1 server systems into the Managed Computers report.
- RAID devices
  - **Compaq SmartArray Plug-In (CompaqSmartArrayPlugIn.exe)** — This plug-in allows an SRM Agent to report information about the Compaq SmartArray series of backplane RAID controllers.
- SAN switch devices
  - **Brocade Plug-In (BrocadePlugIn.exe)** — This plug-in allows an SRM Agent to report information about the Brocade family of Fibre Channel switches.

5.4 Plug-In Prerequisites

You must install an SRM Windows NT/Windows 2000 Agent on a computer *before* you install a plug-in.

Each plug-in also has additional system requirements. For more information about requirements for a particular plug-in, refer to the Readme file that comes with each plug-in.

5.5 Installing a Plug-In

After you have selected an SRM Agent computer on which to install the plug-in, perform the following steps to install it.

Install the plug-in

1. Insert the Sun HighGround SRM CD-ROM into your SRM Agent computer and locate the appropriate plug-in installation kit in the **PlugIns** directory.

2. In Windows Explorer, click the executable file to start the installation process. The Installation Wizard is launched.

If prompted for a password, enter the password that is supplied with your Sun HighGround SRM CD-ROM. If you do not have a password, contact your sales or customer support representative to learn more about acquiring one.

3. Follow the Installation Wizard prompts. When the installation is done, the **Installation Complete** dialog box is displayed.

4. Do one of the following:

   - If you are prepared to register the object to be managed with the SRM Server, select this check box.

     See *Registering an Unmanaged Object* for information on how to use the Plug-In Registration Wizard to register unmanaged objects.

   - If you are not prepared to register an unmanaged object, clear the check box.

5. Click **Finish**. Your SRM Agent computer is now capable of supporting the unmanaged objects that the plug-in you just installed is designed to support.

5.6 Uninstalling a Plug-In

If you want to remove a plug-in from a computer, use the **Add/Remove Programs** applet in Windows Control Panel to do so. You must do this on the computer where you installed the plug-in. For more information about removing a particular plug-in, refer to the Readme file provided with each plug-in.

Note – If you uninstall the SRM Agent from a computer, all plug-ins installed on that computer are also removed.

5.7 Registering a Plug-In

Once you have installed a plug-in, you are ready to register it with the SRM Server so that it can be scanned and reported on. Each plug-in provided with Sun HighGround SRM includes a registration utility called the Plug-In Registration Wizard. The wizard takes you through the steps required to register an unmanaged object with an SRM Server.

For detailed registration information about a particular plug-in, refer to the Readme file included in the same directory (on the CD-ROM) as the plug-in installation executable file.

Understanding Sun HighGround SRM Software

Sun HighGround SRM software enables administrators of Windows NT/Windows 2000 domains and workgroups to manage distributed storage resources across the enterprise both effectively and efficiently. Sun HighGround SRM automatically creates configuration and usage reports organized by domain and workgroup, computer, disk, file system, group, and user.

Sun HighGround SRM for Exchange Servers provides centralized reporting, analysis, and policy-based alerting on your Microsoft Exchange resources.

A.1   SRM Servers and Agents

An SRM Server can manage several kinds of Agents: Windows NT/Windows 2000, Exchange, UNIX, Linux, network-attached storage (NAS), and NetWare servers. All these Agents can be managed from a single SRM Server, provided that the appropriate Agent software is installed on the computer you want to monitor.

Plug-ins are available to additionally manage SAN switches, and RAID Array controllers. A plug-in must be installed on a computer where an SRM Windows NT/Windows 2000 Agent is installed. The SRM Agent acts as a proxy for the SRM Server to use for communication with the object that the installed plug-in supports.

A.2 Domain Planning

There are three concepts to remember for multiple domain planning:

- The relationship between the SRM Server and Agents, for communication authentication.
- The relationship between the SRM Server and the SQL Server, for database access.
- The location of the SRM Server's Service Login account. The domain of each SRM element must trust the domain of the SRM Server's Service Login account.

The sections that follow contain worksheets to help you plan your multiple domain trusts. The worksheets provide an explanation of the trusts needed in two possible multiple domain configurations: the SRM Service Login account and the SRM Server in the same domain, and the SRM Service Login account and the SRM Server in different domains. Both worksheets assume the default name of SRMSvcUser for the service login account, and that the SRM Server installation includes an SRM Agent.

If you use these worksheets to define your environment's configuration before installation, be sure to make a note of the SRM Server's Service login account password; you will need it during your Sun HighGround SRM installations. Keep the password in a secure place.

Feel free to print the worksheet that best describes your environment and fill it in. Then see Section B.3, "Configuring One-Way Trust Relationships" on page B-75 for the trust configuration procedure.

A.2.1 SRM Server and Service Login Account in the Same Domain

This worksheet shows how the trusts are configured when the SRM Server's Service Login Account and the SRM Server reside in the same domain, and the SQL Server and SRM Agents reside in other domains.
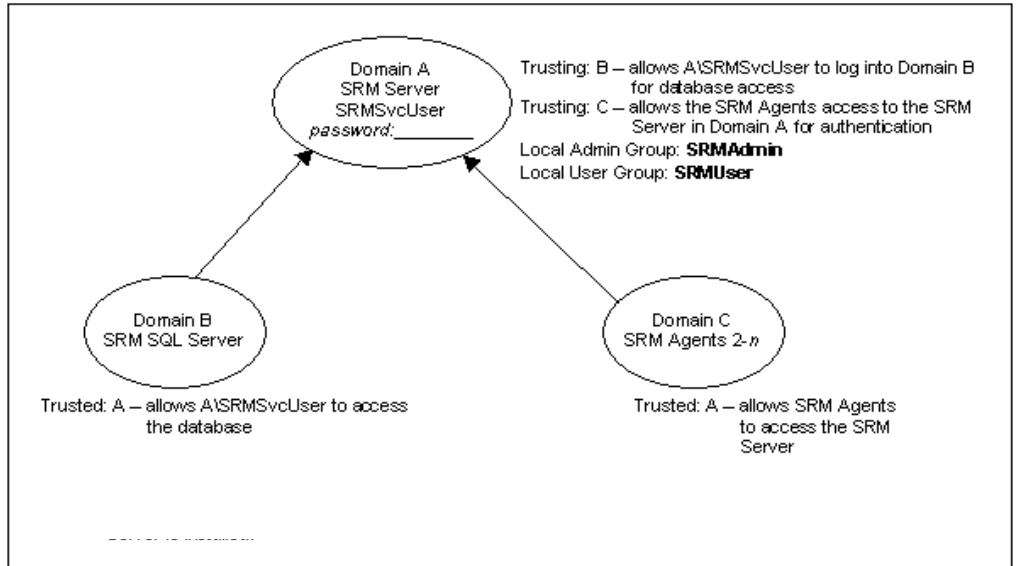
A.2.2 SRM Server and Service Login Account in Different Domains

This worksheet shows how the trusts are configured when the Server's Service login account and its password are maintained in one domain, and the SQL Server, SRM Server, and SRM Agents are all installed in other domains.

If your Server's Service Login account uses a nondefault name, make a note of it here: _____.

Record the password for your SRM Server's Service Login account here: _____.
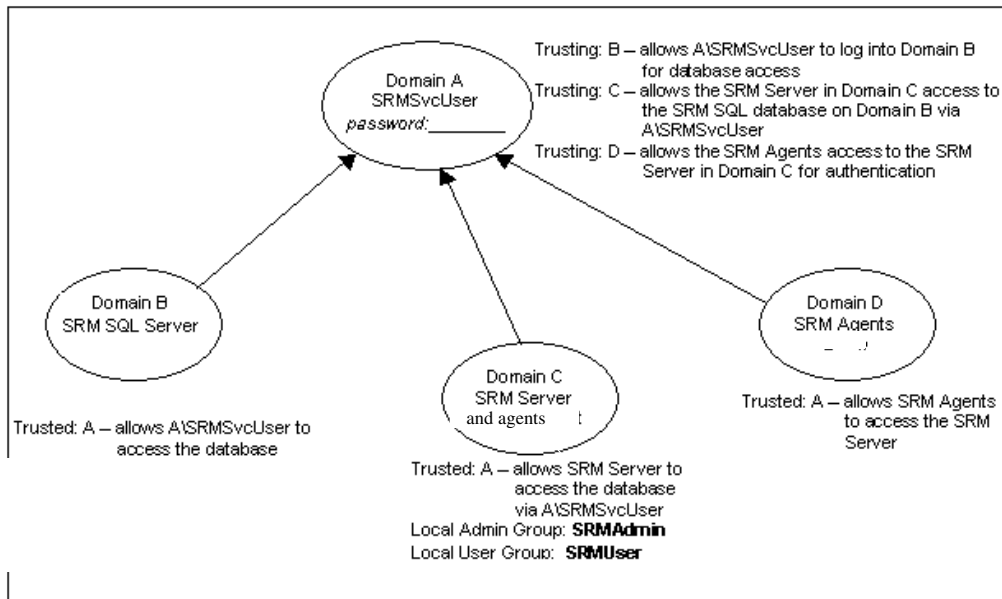
A.3   Sun HighGround SRM and SQL Server

Sun HighGround SRM uses Microsoft SQL Server as its database engine. You must have Microsoft SQL Server installed and configured on your network prior to installing an SRM Server. See Section 1.3.1, "Confirm SQL Server Settings for Sun HighGround SRM" on page 1-5 for the configuration settings needed for Sun HighGround SRM.

Because the SRM Server is an SQL Server client, you can install the SQL Server Client Utilities on the SRM Server computer if you want to configure the SQL client. *This is optional.* Sun HighGround SRM does not require that the client utilities be installed on the SRM Server computer for installation or operation.

SRM SQL databases must reside on the SQL Server computer. Your SQL Server can reside on the same computer with your SRM Server, or on another computer.

The Sun HighGround SRM installation creates and configures a default SQL Server database or allows you to use a database that you create and configure before Sun HighGround SRM installation. If you choose to install the default database configuration, you must follow the steps listed in Chapter 1 before installing Sun HighGround SRM. You can use the SQL Server administrative tools to modify the configuration at any time after installation.

When you install Sun HighGround SRM, you must have enough client access licenses (CALs), if you are using a SQL Server licensing model where they are required. Sun HighGround SRM requires a minimum of two CALs, one for the SRM Server and one for access to the database via the Sun HighGround SRM's web interface.

The installation program helps you estimate the initial maximum database size for your environment. Supply values in the database sizing tool, and the estimated maximum initial database size is automatically calculated. See Section C.2, "Database Sizing" on page C-78, for more information.

A.4 Sun HighGround SRM in Windows NT/Windows 2000 Workgroups

When installed in a Windows NT/Windows 2000 Workgroup environment, SRM Agent installation and operation is based on the peer-to-peer networking model. An SRM Server installed on a computer in a workgroup can monitor SRM Agent computers in the same or another workgroup. However, SQL Server must be on the same computer with the SRM Server for the SRM Server to monitor SRM Agents in other workgroups.

If installing a Server or Agent in an untrusted domain or in a workgroup, be sure that the service account name and password on the Agent are the same as those on the Server.

As with all installations, remember to install the SRM Server first. The service user account set up on the SRM Server (by default SRMSvcUser) must be in place before you install any SRM Agents. You must provide the service user account's password during Agent installation.

Additionally, be sure that the login account you plan to use for installation is a member of the Local Administrator group on each computer in each workgroup.

Sun HighGround SRM's Web Security

Sun HighGround SRM security is designed to manage user access to Sun HighGround SRM. The default settings established during installation provide a basic configuration that you can modify to meet the specific needs of your environment.

Sun HighGround SRM supports Windows 2000 in NT domains only. Sun HighGround SRM currently does not support an Active Directory domain hierarchy. You cannot perform the security tasks described in this chapter on a Windows 2000 server machine.

B.1 How Sun HighGround SRM Determines User Access

There are two access levels to the User Interface:

Privileged access	Provides the user with WRITE access to the SRM database by granting them access to the Options tab in the SRM User Interface. **By default**, Local Administrators have Write access to Sun HighGround SRM.
Nonprivileged access	Provides the user with READ-only access to the SRM database. Users can view SRM reports, but cannot make configuration changes to the SRM database. The Options tab is not visible. **By default**, all authenticated users have READ access to the SRM User Interface.

READ access to the SRM User Interface is determined by the NTFS Security Permissions on the **\Inetpub\wwwroot\storageresourcemanager** folder on the SRM Server. (The **\Inetpub** folder is the default folder created by the IIS installation.) By default, the SRM directory inherits its permissions from the **\wwwroot** folder, which (also by default) allows Everyone Full Access privileges.

To restrict READ access to Sun HighGround SRM, modify the permissions on the **\Inetpub\wwwroot\storageresourcemanager** folder, and remove **Everyone** from the security list. Then add the users you want to have READ access. Finally, perform the following step(s):

■ **On Windows NT:** Select **Replace permissions on existing subdirectories**
■ **On Windows 2000:**

a. Select the newly added user name.

b. Click **Advanced.**

c. Select **Reset permissions on all child objects and enable propagation of inheritable permissions** check box

d. Click **OK**.

To help facilitate the management of user access to the User Interface, the SRM Server installation creates two local NT security groups on the SRM Server: **SRMUser** and **SRMAdmin**. By default, no members are added to these groups.

To grant READ-only access, add users to the SRMUser group, and then grant the group Read permission on the **\Inetpub\wwwroot\storageresourcemanager** folder. Then you must remove the permission granting Everyone full control over the folder, which is the default condition. To grant or revoke READ-only access to the SRM User Interface, modify the **SRMUser** NT security group by adding and/or removing users. You do not need to modify the NT permissions on the folder.

To determine if a user has WRITE access to the SRM User Interface, Sun HighGround SRM checks to see if the interactive user has write access to the following registry key:

```
HKEY_LOCAL_MACHINE\SOFTWARE\HighGround\ SRManager\<SRM Version>\
Server\Options
```

By default, the Local Administrators and SRMAdmin NT groups are granted Full Control over this registry key, effectively granting **all** Local Administrators write access to the SRM User Interface. By default, the SRMAdmin group is not populated.

Sun recommends that you use REGEDIT32 to modify the registry key to remove Local Administrators. Then you can grant WRITE access to Sun HighGround SRM by modifying the local NT group SRMAdmin and adding the appropriate users.

Editing the registry key to grant users Full Control allows them access to the Options tab, but it is easier to manage Sun HighGround SRM WRITE access by modifying the SRMAdmin group. Remember that you must also give the SRMAdmin group READ access to the **\Inetpub\wwwroot\ storageresourcemanager** folder.

Note – The SRM Server Service account (**SRMSvcUser** by default) must always have full access to this registry key.

B.2 Sun HighGround SRM Security in Multiple Domains

Sun HighGround SRM depends on standard Windows NT security mechanisms for its operation. The SRM Server and Agent authenticate each other to prevent potentially sensitive information from being revealed to unauthorized programs.

Using the SRM Service Login account (**SRMSvcUser**, by default), the SRM Server logs in and runs as a Windows NT Service and executes the processes **SRProcmgr.exe** and **SRMServer.exe**, while SRM Agents log in and run as a

Windows NT Service and execute the **SRMAgent.exe** process. All access to the SRM SQL Server database from the SRM Server is through this account; no other accounts need access to the database.

When all elements (SRM SQL Server, SRM Server, SRM Agent, and SRM Service Login account) reside in the same domain, the authentication cycle and database access work based on implicit trusts. However, for the authentication cycle and database access to work properly in a multiple Windows NT security domain environment, trusts must be established among the various domains. The domains of the SRM SQL Server, SRM Server, and SRM Agent computers must trust the SRM Service Login account's domain.

Taking some time to ensure that your trust relationships are established prior to installing Sun HighGround SRM in your multiple domain environment can save a lot of time during installation. See Section A.2, "Domain Planning" on page A-66, for information and worksheets to help you configure your multiple domain trusts.

B.3 Configuring One-Way Trust Relationships

This section describes how to configure the trust relationships when the SRM Service Login account resides in a different domain from the SQL Server, SRM Server, and/or SRM Agents.

Note – In this example, the domain **Engineering** is where the SRM Service Login account resides, and **EngTest2** is the domain where you want the SQL Server, SRM Server, and/or Agent to be installed.

Engineering — Master domain

Trust

EngTest2 — Resource domain
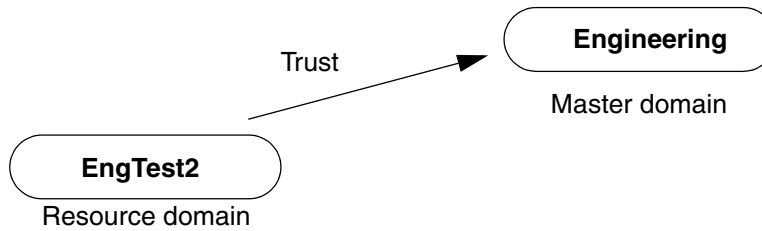
Configure one-way trusts

1. **In the Engineering domain:** add the EngTest2 domain to the list of **Trusting Domains**.

2. **In the EngTest2 domain:** add the Engineering domain to the list of **Trusted Domains**.

For more information on trusts, see your Windows documentation.

SRM Database Concepts

Sun HighGround SRM and Sun HighGround SRM for Exchange Servers software create one database where all of your SRM and Exchange mailbox data is maintained. When you install one or both servers, you can specify the database space allocation for your Sun HighGround SRM data and for your Exchange data.

C.1 Sun HighGround SRM, SQL Server, and IIS

You can configure Sun HighGround SRM with SQL Server and IIS in one of the following ways:

Configuration 1

computer 1: SQL Server

computer 2: SRM Server, IIS Server

computer *n*: Web browser

In this configuration, computers 1 and 2 can be in different domains. The SRM Service User Account (**SRMSvcUser** by default) must be defined in a domain with at least a one-way trust relationship with the domain(s) of computer 1 and computer 2. See Section A.2, "Domain Planning" on page A-66, for more information about setting up Sun HighGround SRM in multiple Windows NT/Windows 2000 security domains.

Configuration 2

computer 1: SQL Server, SRM Server, IIS Server

computer *n*: Web browser

C.2 Database Sizing

When you install Sun HighGround SRM, you can use the installation program's database sizing tool to calculate the initial maximum size in MB of your SRM SQL Server database. If you are also installing an SRM for Exchange Servers Server, you can also calculate the initial maximum space allocated to your Exchange data within your SRM database. Modifying the default values for the listed settings dynamically changes the value in the Calculated Database Size field.

You can access the sizing tool before installing Sun HighGround SRM on any Windows NT 4.0/Windows 2000 computer that has no Sun HighGround SRM components installed. You can also use it during your Sun HighGround SRM installation if no SRM Server is installed and the SRMDB data source does not point to a valid SRM SQL Server database. Otherwise, the database dialog boxes are bypassed.

If you are using the sizing tool independently of a Sun HighGround SRM installation, make a note of the size you have calculated, and enter that value in the **Get Database Size** dialog box during installation.

If you are using this sizing tool during your Sun HighGround SRM installation, calculate your database to best meet your needs, and click **OK**. Your custom database size is entered in the **Get Database Size** dialog box. This is the size database that Setup creates during installation.

Access the SRM database estimation calculator

1. Insert the Sun HighGround SRM CD-ROM into the CD-ROM drive.

2. Click **Install** on the installation menu.

3. Forward through the dialog boxes until you get to the **Get Database Size** dialog box.

4. Click **Advanced**. The sizing tool is displayed. Clicking **Next** on this dialog box displays the Exchange sizing tool. The next sectioin contains an explanation of the fields in both dialog boxes.

C.2.1 Sun HighGround SRM's Database Size Estimation Fields

Managed Computers

All computers in the domain that have a SRMAgent installed. The default is 15.

Managed File Systems per Computer

An average of the number of file systems on each managed computer.

Any file system on a managed computer is by default managed. The default is 4.

Managed File Systems per User

An average of the number of managed file systems where each user has space. The default is 2.

Users

The total number of users known to the SRM Server. A user to Sun HighGround SRM is one who owns at least one file on a managed file system. The default is 1500.

Managed Directories

The number of directories that you designate as managed. The history kept for these directories is in addition to what is kept for the user and domain history settings. The default is 100.

Days of User History

The maximum number of daily records of user group history you want stored in the database. The default is 180.

This number correlates to the setting you can specify in the **User Level History Depth Setting** field of the History Depth Report Setting using Sun HighGround SRM's Reports Summary option. Setting this value in the database sizing tool does not set this value in the Reports Summary option. You must set the value there separately.

Days of Domain History

The maximum number of daily records of domain history you want stored in the database. The default is 180.

This number correlates to the setting you can specify in the **Domain Level History Depth Setting** field of the History Depth Report Setting using Sun HighGround SRM's Reports Summary option. Setting this value in the database sizing tool does not set this value in the Reports Summary option. You must set the value there separately.

File System Report Size

The maximum number of files you want to keep track of for the File System Report Size settings. The default is 20.

This number correlates to the three File System Level Settings you can specify in the **Report Size Report Setting** using Sun HighGround SRM's Reports Summary option. Setting this value in the database sizing tool does not set the values in the Reports Summary option. You must set the values there separately.

SRM Size

The estimated maximum size, in MB, of your initial SRM SQL database. This value represents only your SRM data, no Exchange data is calculated here. The default is 198.

Calculated Database Size

The estimated maximum size, in MB, of your initial SRM SQL database. This number is calculated on the values you entered in the fields above, and changes dynamically as you make changes in those fields. The default, calculated from the default values, is 198.

C.2.2 Sun HighGround SRM for Exchange Servers's Database Size Estimation Fields

Managed Exchange Servers

All Exchange Servers in the domain that have an SRM for Exchange Servers Agent installed. The default is 15.

Mailboxes Per Exchange Server

An average of the number of mailboxes on each managed Exchange Server. The default is 750.

Report Size

The average number of entries in your Sun HighGround SRM for Exchange Servers reports. The default is 100.

Days of History Records to Keep

The maximum number of daily records of Exchange mailbox history you want stored in the database. The default is 365.

SRM Exchange Edition Size

The estimated maximum size, in MB, of the Sun HighGround SRM for Exchange Servers's data space within the SRM database. This number is calculated on the values you entered in the fields above, and changes dynamically as you make changes in those fields. The default, calculated from the default values, is 296.

Calculated Database Size

The estimated maximum size, in MB, of your initial SRM SQL database. This number is calculated based on the values in both the Sun HighGround SRM and Sun HighGround SRM for Exchange Servers estimation dialogs, and changes dynamically as you make changes in those fields. The default, calculated from values in both dialogs, is 494.

C.3 Database Maintenance

In order for SRM maintenance tasks to run, the SQL Server Agent service must be running.

You can configure your SQL Server SRM database before installing Sun HighGround SRM, or you can use the Sun HighGround SRM installation's default maintenance configuration. Whichever option you use, you can always reconfigure your SRM database maintenance task any time after installation using the **SQL Server Database Maintenance Plan Wizard**.

Tip – Using the **SQL Server Database Maintenance Plan Wizard** creates two new maintenance tasks. You must first delete the existing SRM maintenance tasks and then create the new ones. Although you can give your new maintenance tasks any name, if you do not name them **SRM Maint SRMDB_*SRM server computer name*** and **SRM MaintS SRMDB_*SRM server computer name***, Sun HighGround SRM's Uninstall utility cannot locate them for deletion.

Setup configures the SRM SQL Server database maintenance task as follows:

Backup

Daily full backup of the SRM database to the default MSSQL backup directory (for example, MSSQL\BACKUP)

No transaction log backups

Truncate log on checkpoint option set

Backups are retained for one week

Statistics Update

Daily statistics update

Database Consistency Checking

Daily database consistency checking

Rebuilding Indexes

Daily rebuild of indexes using original FILLFACTOR specification

The maintenance task is named **SRM Maint SRMDB_***SRM server computer name* and by default runs daily at 1:15 A.M.

By default, Sun HighGround SRM runs detailed file scans at 2:00 A.M. Because it is difficult to predict how long a detailed file scan will take to complete, we recommend that you make sure to schedule the maintenance task to run before the detailed file scan if you alter the file scan or maintenance task run time. This ensures that the database backup does not interfere with the file scan.

A second task named **SRM MaintS SRMDB_** *SRM server computer name* is created to refresh the optimizer statistics hourly at 20 minutes before the hour. Sun HighGround SRM's query optimizer determines the quickest way to run each query based on an estimated number of I/O calls.

C.4 Database Configuration

Read this information *only* if you must manually create a database for Sun HighGround SRM to use. Creating an SQL Server database prior to Sun HighGround SRM installation is optional. Sun HighGround SRM installation creates and configures a default database that you can later modify using the SQL Server Enterprise Manager.

If you are unfamiliar with creating and configuring SQL Server databases, we recommend that you consult your Microsoft SQL Server documentation or your database administrator. This topic contains SRM SQL Server database configuration requirements and guidelines that are applicable to Microsoft SQL databases; it does not explain how to create the database.

If you want to let the installation program create and configure your SRM SQL Server database, see Section 1.3.1, "Confirm SQL Server Settings for Sun HighGround SRM" on page 1-5, for the pre-installation requirements.

Whether you create a database or Setup creates the database, Sun HighGround SRM creates and schedules a maintenance task and configures security. Security is configured to allow the SRM Service Login Account access to the database.

When you create and configure an SQL Server database for Sun HighGround SRM to use, follow the requirements and guidelines in this checklist:

- Create the database.

  The new database must be empty. It cannot contain tables, procedures, indexes, or data. Setup locates the SRMDB data source (instructions for creating this are below), discovers that it points to an empty database, and creates the necessary tables, indexes, and data. The databases must be of an adequate size to hold SRM data. Guidelines for a typical Sun HighGround SRM installation include:

    - 200 MB for the SRM database (5 MB minimum database size)
    - 20 MB for the SRMdatabase transaction log
      required on the master database's disk if Sun HighGround SRM creates the database.
    - Set the SQL Server tempdb and its log to automatically expand as needed.
    - Enough space for online backups dependent on your backup strategy.
- On the target SRM Server computer, create a new System DSN for the SQL Server ODBC driver and name it SRMDB. Configure this new System DSN to point to the database you just created:

    - Make sure that **SRMDB** appears in the **Name** field of the first dialog.
    - Verify that the **SQL Server name** in the **Server** field of the first dialog is correct.
    - Make sure the **Change the default database to** field in the third dialog points to the new database.

- Let the SQL Server driver choose the translation method for the character set translation option.
- Setup configures all other SRMDB data source settings during installation. You **do not** have to configure them:

    i. **windows NT authentication using the network login id** — selected

    ii. **use ANSI quoted identifiers** — not selected

    iii. **use ANSI nulls, padding, and warnings** — not selected

Modifying any data source settings after the Sun HighGround SRM installation completes may result in unpredictable behavior.

Additional optional configurations you might want to define include:

- Define the database maintenance configuration. Sun HighGround SRM's maintenance task is named **SRM Maint SRMDB_*SRM server computer name*** and by default runs daily at 1:15 A.M.

    See Section C.3, "Database Maintenance" on page C-80, for the default configuration established by Setup.

- Sun HighGround SRM provides no transaction log management. If you choose to save and back up transaction logs, you must ensure that you have adequate transaction log space for Sun HighGround SRM to write its scan data to the database.

    The frequency of your updates depends on your scan schedules. If you change Sun HighGround SRM's default scan schedules, you may need to change your maintenance schedules. The volume of updated data depends on the size of your installation.

    Configure database security to meet your needs. Sun HighGround SRM's only security requirement is database access granted to the SRM Service Login account. Sun HighGround SRM's installation program grants this permission by default.

C.5   Database Security

This section is informational only; you do not need to perform any of these configurations. These actions are performed whether you install using the default database (allowing Setup to create and configure the database), or whether you create a database prior to installation.

Sun recommends that you do not alter this configuration; any changes could result in unpredictable behavior.

Remember that only one SRM user is granted access to the SRM SQL Server database: the Windows NT/Windows 2000 SRM Service User account; by default, this is **SRMSvcUser**.

Setup performs the following actions when configuring security on the SRM SQL Server database:

■ Grants SQL Server user-level access to the SRM Service user account, by default SRMSvcUser.

This is done using sp_grantlogin with SQL Server. When the access is granted, an SQL Server login is created for the SRM Service User Account. The name of this login depends on the SQL Server's default domain, and the domain of the Service User account. (Remember, you can install across domains, provided there is a one-way trust.)

If the Service User account's domain and the SQL Server's default domain are the same, the SQL Server login created is given the same name as the Windows NT/Windows 2000 account name (by default, SRMSvcUser).

If the Service User account's domain and the SQL Server's default domain are different, the SQL Server login created is given the name of the Service User account's domain. For instance, if the SQL Server default domain is ENGINEERING, and the Service User account's domain is Orion (Orion\ SRMSvcUser), the SQL Server login is named Orion_SRMSvcUser, where the underscore is whatever character you have mapped to the \ domain separator.

In either case, the Windows NT/Windows 2000 Service User account is mapped to this login, providing the needed user-level access to the database.

■ Creates a group (roles in Microsoft SQL) named SRMSvcGroup in the SQL Server database. Grants Select, Insert, Update, Delete, and DRI (declarative referential integrity) access to this group on each table in the SRM SQL Server database.

Permits the SRM Service User (SRMSvcUser by default) SQL login access to the SRM SQL Server database. This is done by creating an SQL Server user in the SQL Server database that corresponds to the SRM Service User SQL login. The user is made a member of the SRMSvcGroup, thus inheriting the group's privileges.

To support this security structure, Sun HighGround SRM requires the use of the Named Pipes or Multi-protocol Net-library for integrated security with Windows NT. This enables the mapping of the SRM Service User account to a login within SQL Server. When Sun HighGround SRM runs, all database access by the SRM Server or SRM web is done through the Service User account. This access does not require the clear-text specification of an SQL login password when Sun HighGround SRM connects to the database, which would be required if SQL Server Standard security were used.

Post-Installation Reference

D.1 Collect SRM for Exchange Servers Agent Computer Disk Performance Statistics

To see disk I/O statistics after running a quick scan on an SRM for Exchange Servers Agent computer, you must enable **diskperf** on the computer. This procedure requires that you restart the computer, so plan accordingly. The Windows NT/Windows 2000 setting for **diskperf** is off, so until you manually enable **diskperf**, you see no disk performance statistics for the Agent computer.

Enable diskperf on an SRM for Exchange Servers Agent computer

1. For Windows NT, go to **Start → Programs → Command Prompt** to open a DOS window.

   For Windows 2000, go to **Start → Programs → Accessories → Command Prompt**.

2. At the DOS prompt, type **diskperf-Y** or **diskperf-YE**, and press **Enter**.

Note – Type **diskperf-?** to determine which is correct for your computer.

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3. Close all programs and restart the computer. After the computer restarts, **diskperf** is enabled and you see disk performance statistics after your next scan.

D.2 Uninstall Sun HighGround SRM

To uninstall Sun HighGround SRM, run Setup from the CD-ROM and select **Remove All** from the **Change Install Settings** dialog box

When you uninstall an SRM Server, you are asked if you want to keep the database. Keeping the current database allows you to add the SRM Server back onto the computer and use the data stored in this database. If you have both Sun HighGround SRM and Sun HighGround SRM for Exchange Servers installed and uninstall only the SRM for Exchange Servers Server, you do not receive this prompt.

Tip – Before uninstalling an SRM Server or an SRM for Exchange Servers Server, be sure to register any Agents it is monitoring with another SRM Server or SRM for Exchange Servers Server to ensure continued data collection.

Uninstall Sun HighGround SRM

1. Insert the Sun HighGround SRM CD-ROM in the CD-ROM drive. If Auto Start is enabled, **setup.exe** launches automatically.

   If Auto Start is not enabled, run **i386\autorun.exe** from the CD-ROM.

2. Click **Install** on the Installation Menu.

3. Click **Next** on the **Display Registration Information** dialog box.

4. Click **Remove All** on the **Change Installation Settings** dialog box.

5. If you are uninstalling a server, select the database option that best matches your needs on the **Perform Uninstall?** dialog box.

6. Click **Next**.

   Setup uninstalls all Sun HighGround SRM components currently installed on the computer.

Remotely Uninstall an SRM Agent

1. From any Options page, click **Remote Install** in the navigation pane. The **Summary of All Jobs** page is displayed.

2. Click **install agent**. The **Select Agent Installation Script** page is displayed.

3. From the drop-down list, select **SRM Agent Default Uninstall Configuration**.

4. Follow the on-screen instructions.

Click **HELP** at the bottom of any remote installation page for more information.

D.3 Start Sun HighGround SRM

Use one of these methods to start Sun HighGround SRM:

- If you have installed the Web Browser shortcut, go to **Start → Programs → Storage Resource Manager**.
- If you have not installed the Web Browser shortcut, or if you want to view Sun HighGround SRM in a web browser other than your default web browser, open the web browser and enter this URL:

  http://*<Storage Resource Manager Server Name>*/StorageResourceManager

  where *Storage Resource Manager Server Name* is the name of the computer on which you installed the SRM Server.

Note – If you have trouble accessing Sun HighGround SRM by typing this URL, check with your system administrator for the port number. If you need to type the address with a port number, add a colon and the port number after the SRM Server name. For example, http://ktw:80/StorageResourceManager.

To start Sun HighGround SRM for Exchange Servers, open your Web browser and enter this URL:

http://<*Storage Resource Manager Server Name*>/ SRMforExchange

where *Storage Resource Manager Server Name* is the name of the computer on which you installed the Sun HighGround SRM and Sun HighGround SRM for Exchange Servers.

D.4 Start the WWW Service

You might need to reset the **IIS Service**, which includes the **WWW Service**, at some time. Follow this procedure.

Start the WWW Service

1. **For Windows NT**, go to **Start → Settings → Control Panel**, and select **Services**.

   For Windows 2000, go to **Start → Settings → Control Panel → Administrative Tools**.

2. Select the **World Wide Web Publishing Service**.

3. If the service has no status or the status is Stopped, click **Start**.

4. To ensure that the WWW Service always starts up at system restart, click **Startup**. The **Service** dialog box is displayed. Under **Startup Type**, select the check box for **Automatic**, and click **OK**.

D.5 Start the SRM Process Manager Service

If an invalid password was entered or if there was an incomplete domain synchronization, you might have to start the Process Manager manually.

Start the SRM Process Manager service

1. **For Windows NT**, go to **Start → Settings → Control Panel**, and select **Services**.

   For Windows 2000, go to **Start → Settings → Control Panel → Administrative Tools**.

2. Search for **Storage Resource Manager Service**.

3. Double-click **Storage Resource Manager Service** or click **Startup**. The **Service** dialog box is displayed.

4. Re-enter the user account and valid password in the **This Account** field, and click **OK**.

5. Ensure that **Storage Resource Manager Service** is still highlighted, and click **Start**.

D.6   Monitor the SRM Process Manager Service

If you are unsure whether the SRM Process Manager Service is running, look in the **Services** panel of the Windows NT/Windows 2000 Control Panel.

Monitor the SRM Process Manager service

1. **For Windows NT**, go to **Start ➜ Settings ➜ Control Panel**, and select **Services**.

   For Windows 2000, go to **Start ➜ Settings ➜ Control Panel ➜ Administrative Tools**.

2. Search for **Storage Resource Manager Service** and ensure that the Status is marked **Started**.

D.7   Stop the SRM Process Manager Service

Follow these steps to manually stop the SRM Process Manager (**SrProcMgr**) on an SRM Server computer.

Stop the SRM Process Manager service

1. **For Windows NT**, go to **Start ➜ Settings ➜ Control Panel**, and select **Services**.

   For Windows 2000, go to **Start ➜ Settings ➜ Control Panel ➜ Administrative Tools**.

2. Search for **Storage Resource Manager Service**, and click **Stop**.

D.8 Verify Sun HighGround SRM's Application Configuration Settings

When Sun HighGround SRM is installed, the application configuration settings are inherited from the default web site configuration. It is a good idea to verify that these are properly set for Sun HighGround SRM, by ensuring that:

- Server-side script debugging is not enabled.
- The default ASP script language is VBScript.

You can perform this procedure on any computer on your network that has access to the SRM Server computer. You must perform this procedure from an account with Administrator privileges on the SRM Server computer.

Follow these steps to verify the application configuration settings.

Verify application configuration settings

1. Log in to an account that has Administrator privileges on the SRM Server computer.

2. **For Windows NT**, go to **Programs → Windows NT 4.0 Option Pack → Microsoft Internet Information Server → Internet Service Manager**.

   For Windows 2000, go to **Programs → Settings → Control Panel → Administrative Tools → Internet Services Manager**.

   The Microsoft Management Console is displayed.

3. **For Windows NT**, expand **Console Root → Internet Information Server →** *SRM Server computer* **→ Default Web Site**.

   For Windows 2000, expand **Internet Information Services →** *SRM Server computer* **→ Default Web Site**.

Note – If you are performing this procedure on a computer other than the SRM Server computer, select **Internet Information Server**. Go to **Action → Connect** and create a connection to the SRM Server computer.

4. Select **StorageResourceManager**, and right-click. Select **Properties** from the shortcut menu. The **StorageResourceManager Properties** page is displayed.

5. Click the **Virtual Directory** tab.

6. In the **Application Settings** area, select **Configuration**. The **Application Configuration** dialog box is displayed. Click the **App Debugging** tab.

Note – If you see a **Create** button, click it to replace it with the **Configuration** button.

7. In the **Debugging Flags** area, ensure that both **Enable ASP server-side script debugging** and **Enable ASP client-side script debugging** are *not* selected. If they are selected, clear their check boxes.

8. Select the **App Options** tab. Ensure that VBScript is entered in the **Default ASP language** field. If not, enter it.

9. Click **OK** in the **Application Configuration** dialog box and on the **StorageResourceManager Properties** page.

Remote Scanning Software

This appendix describes the Remote Scanning software option available with Sun HighGround SRM. It lists the supported platforms, prerequisites for installation, and installation procedures. It also describes post-installation tasks such as uninstalling and reinstalling Remote Scanning software, computer configurations, and Remote Scanning helper utilities.

E.1   Before Installing Remote Scanning Software

The Remote Scanning software is part of the Sun HighGround SRM solution to provide high-level information about the network storage environment. You can manage distributed storage resources without having to install Sun HighGround SRM Agent software on the computers in the storage network.

E.1.1 Overview

A Sun HighGround SRM Agent, with the Remote Scanning agent component installed, running on a Windows 2000 computer acts as a *proxy agent* that scans a managed, or *remote computer*. The proxy agent then returns the information to a Sun HighGround SRM Server, with the Remote Scanning server component installed, which populates the Sun HighGround SRM database. The information is the same as what is gathered from a Sun HighGround SRM Computer Group scan (Computer, File System, Disk, and Share information), though there are limitations as described in "Remote Scanning Software Limitations" on page 116. You can view the information in the Sun HighGround SRM database using the standard Sun HighGround SRM web-based user interface.

Note – For the proxy agent to gain access to a remote computer, your customer must provide login and privileged account information, including the corresponding passwords. You can assure your customer that all Sun HighGround SRM Servers place passwords in a Sun HighGround SRM database in an encrypted format. Additionally, Remote Scanning software provides the means to encrypt passwords further and to delete passwords from the Sun HighGround SRM database, which "Registering Remote Computers" on page 107 describes.

Remote Scanning features include:

- A web-based user interface that allows you to:
  - Register single remote computers that you want to scan to include them in the standard Sun HighGround SRM Managed Computers Report
  - Modify the registration settings of remote computers
  - View which remote computers are registered in the Sun HighGround SRM database
- A bulk registration method that uses Comma Separated Values (CSV) files to register multiple remote computers
- Helper utilities to:
  - Create encrypted passwords so that you do not have to include clear text passwords in CSV files
  - Remove sensitive account information from the Sun HighGround SRM database after you perform remote scans
  - Configure Network Appliance Filer remote shell access

See "After Installing Remote Scanning Software" on page 104 for more information about Remote Scanning helper utilities.

E.1.2 Supported Platforms

Remote Scanning software can remotely scan computers that run the following Sun HighGround SRM-supported operating systems:

- HP-UX Versions 10.20 and 11.00
- IBM AIX Versions 4.2 and 4.3
- NetApp ONTAP Version 5.3.7 and 6.1
- NetWare Versions 4.2 and 5.1
- Red Hat Linux Versions 6.1 and 6.2 (Intel 32 only)
- Sun Solaris Versions 2.6, 2.7, and 2.8
- Tru64 UNIX Versions 4.0F and 5.0
- Windows NT Versions 4.0 SP5 and SP6
- Windows 2000

E.1.3 Prerequisites

Table E-1 lists the software and hardware prerequisites for installing Remote Scanning software.

TABLE E-1 Remote Scanning Software and Hardware Prerequisites

Component	Hardware Requirements	Software Requirements
Sun HighGround SRM Server	Same as for a Sun HighGround SRM installation. See Chapter 2 for more information about installing the Sun HighGround SRM software.	• Sun HighGround SRM software 4.0 or greater • Windows Scripting Host Version 5.5, if you are running a version of Internet Explorer less than 5.5. You can download Windows Scripting Host Version 5.5 from: **http://www.microsoft.com/msdownload/vbscript/scripting.asp**
Sun HighGround SRM Proxy Agent	Same as for a Sun HighGround SRM installation. See Chapter 2 for more information about installing the Sun HighGround SRM software.	• Sun HighGround SRM Agent, Version 4.0 or greater, registered with a Sun HighGround SRM Server. **Note:** Do not use Remote Scanning software to register a proxy agent computer. Windows 2000 WMI (Windows Management Instrumentation). Note that WMI is part of the standard Windows 2000 installation.

Note – If you install the Remote Scanning server component on an NT computer, you **must** install the Remote Scanning agent component on a Windows 2000 computer. If you install the Remote Scanning server component on a Windows 2000 computer, you can install the Remote Scanning agent component on the same computer or on another Windows 2000 computer.

Table E-2 lists the prerequisites for remote computers.

TABLE E-2   Remote Computer Prerequisites

Computer Type	Requirement
UNIX	Telnet for remote access
Windows 2000	• WMI (Windows Management Instrumentation) must be running • Remote Registry Administration services must be running

E.2   Installing Remote Scanning Software

This section describes how to install Remote Scanning software and presumes that your computer meets the hardware and software prerequisites on page E-97.

Remember that you can install the Remote Scanning server component on a Windows NT computer, but you must install the Remote Scanning agent component on a Windows 2000 computer. If you are installing Remote Scanning software on a Windows 2000 computer, you can install both the Remote Scanning server and agent components on the same computer or on separate computers. If neither the Sun HighGround SRM Server nor the Sun HighGround SRM Agent is installed on your computer, the only option available from the installation Setup program is to exit to the installation.

See Chapter 3 for information about installing Sun HighGround SRM Server and Agent software.

E.2.1   Installation Steps

To install Remote Scanning software on your computer:

1. Exit all Windows programs and insert the Sun HighGround SRM CD-ROM into the CD-ROM drive.

2. Run **RemoteScanning\setup.ex**e from the Sun HighGround SRM CD-ROM.

3. If your computer does not meet the prerequisites in Table E-1 and Table E-2 , Setup displays the **Installation Prerequisites Not Met** dialog box:
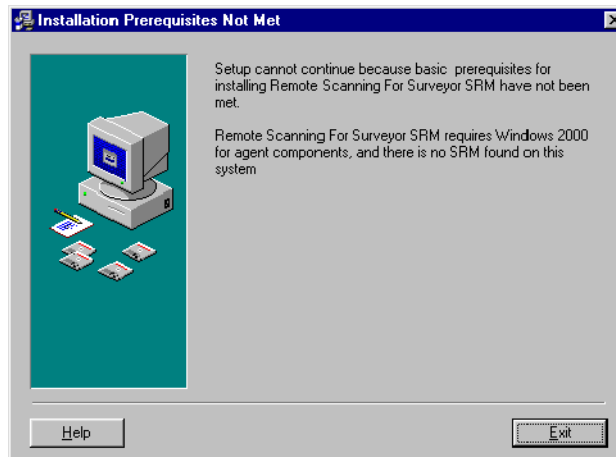
Click **Exit**. Satisfy all the software and hardware requirements and run setup.exe again.

Note – All Setup dialog boxes include a Help button that lets you access information about each dialog box.

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4. If your computer meets the prerequisites for installation, Setup displays the **Welcome** dialog box:
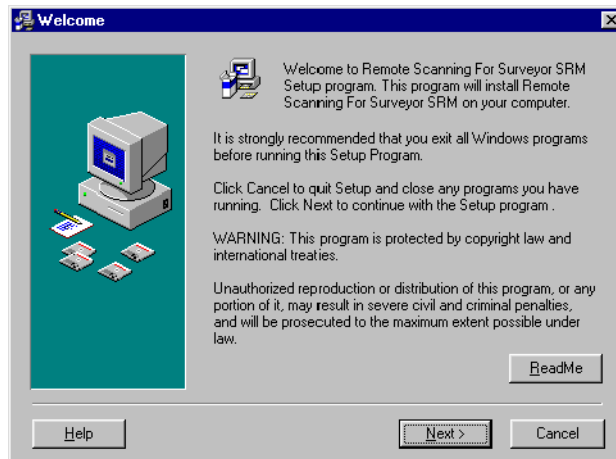
5. Click **Next** to display the **License Agreement** dialog box:
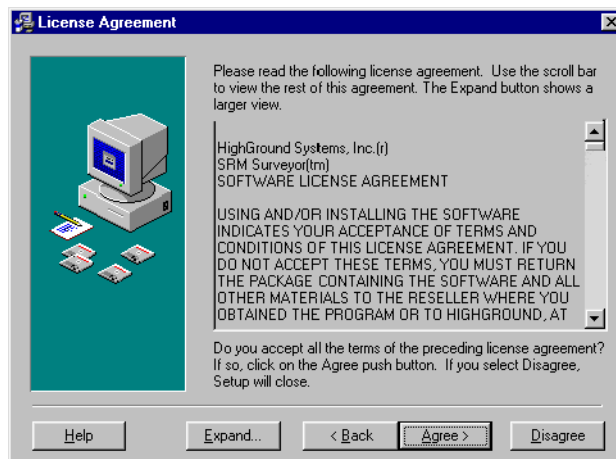
6. Click **Agree**.

   Go to Step 8, if:

   - You are installing Remote Scanning software on a Windows NT computer
   - Your computer has only the Sun HighGround SRM Server installed
   - Your computer has only the Sun HighGround SRM Agent installed

   If you are installing Remote Scanning software on a Windows 2000 computer that has both the Sun HighGround SRM Server and Agent installed, Setup displays the **Select Installation Options** dialog box:
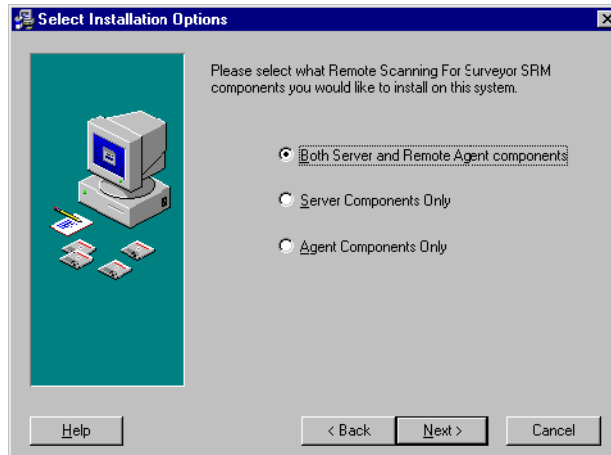
7. If you are installing the Server component only, click the appropriate radio button and then click **Next**. Go to Step 8.

   If you are installing the Agent component only or both the Server and Agent components, click the appropriate radio button and then click **Next**.

Setup displays the **Setup SRM Proxy Agent Account** dialog box, if it determines that the proxy agent service is not running as an account that has sufficient privileges for all supported remote computers:
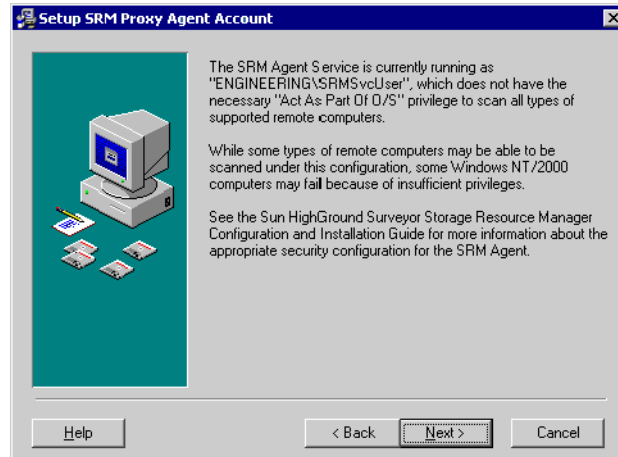
For more information about configuring the proxy agent, see "Configuring Your Computers" on page 105.

Click **Next** to proceed with the installation.

8. Setup displays the **Start Installation** dialog box that indicates which Remote Scanning components it will install on your computer:
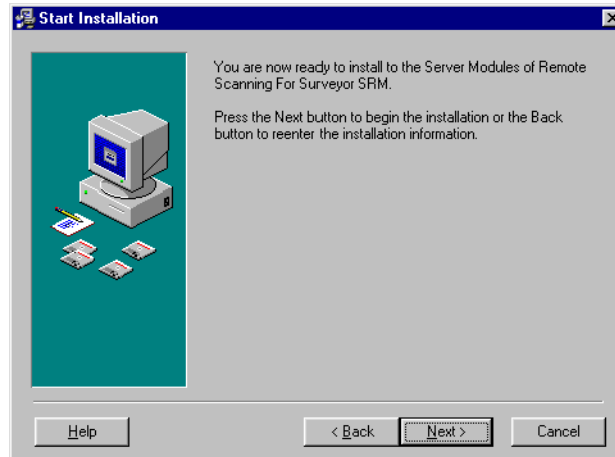
Note that the text in the dialog box reflects your installation and may be different than that shown in this example.

9. Click **Next** to begin installing files on your computer.

The **Installing** dialog box displays the progress of the installation and lists all installed components, any services that must be restarted, and instructions on resolving any installation errors:
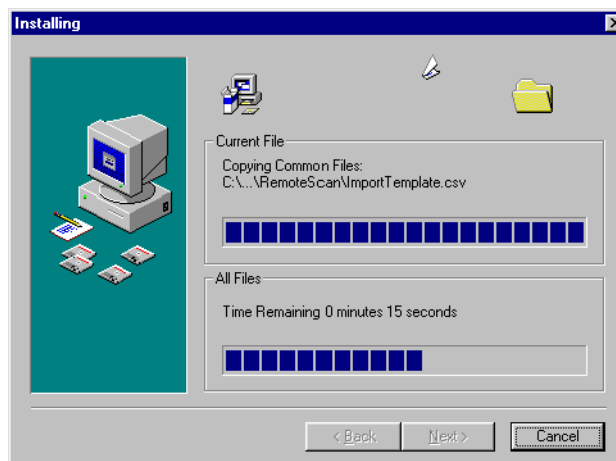
10. Review the information and click **Next** as necessary.

Setup displays the **Installation Complete** dialog box after it installs all Remote Scanning software:
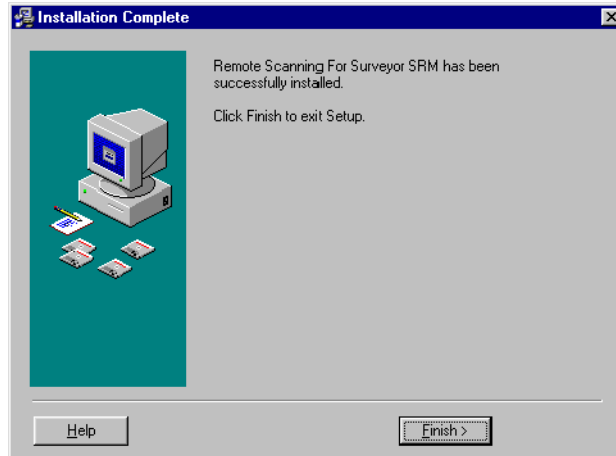
11. Click **Finish** to allow Setup to complete the installation.

Your computer might display a message that indicates you must restart it before you can use Remote Scanning software.

E.3   After Installing Remote Scanning Software

After you have successfully installed Remote Scanning software, you:

- Might need to configure the proxy agent and remote computers
- Must register the remote computers you want to scan in the Sun HighGround SRM database
- Can use Remote Scanning helper utilities to remove sensitive account and password information provided by your customer from the Sun HighGround SRM database
- Can reinstall Remote Scanning software to restore files and settings
- Can uninstall Remote Scanning software and remove all associated files from your computer

E.3.1   Configuring Your Computers

Before you can use Remote Scanning software, you might need to configure the proxy agent computer, the remote computer, or both.

E.3.1.1   Configuring Network Appliance Filers

Before you can scan remote Network Appliance Filer computers successfully, you must configure the proxy agent and the remote computers for remote shell access. If you do not configure your computers for remote shell access ahead of time, the Remote Registration user interface page provides optional fields for this information.

To configure your computers for remote shell access:

1. Make sure the proxy agent service is running as a user account that has remote shell access to the remote Network Appliance Filer you want to scan.

2. Use a privileged account with administrative privileges to grant remote shell access to the proxy agent service account. You can grant remote shell access, using either the Network Appliance Filer's user interface or a Remote Scanning helper utility.

3. To use the helper utility, access:

Program Files\StorageResourceManager\Internal\remote_setnasrsh.exe

The helper utility lets you configure remote shell access permissions on remote Network Appliance Filers without having to connect to each one. You can also use the helper utility to remove permissions. The helper utility CLI provides more information about the switches you use to configure remote shell access.

Note that you must include a space between the switches. For example:

Remote_setnasrash /nas cucumber /apw password /host cuke /han tester /confirm /Add

E.3.1.2   Configuring Novell NetWare Servers

Because NetWare offers an open API, there are no security or account considerations for scanning Novell Netware servers remotely.

E.3.1.3   Configuring UNIX Computers

To scan remote UNIX computers, you may have to provide two account names and passwords. When you register the remote UNIX computer:

1. You must include a login account name and corresponding password. The login account information allows you to use Telnet to log in to the remote UNIX computer. If the login account has root-like privileges, you can scan the remote UNIX computer successfully.

2. You might need to enter a privileged account name and corresponding password. If the login account does not have the necessary root-like privileges, you must provide a privileged account name that does have the appropriate privileges.

E.3.1.4   Configuring Windows NT/2000 Computers

It is recommended that the proxy agent computer run the Sun HighGround SRM software either as a domain account with local administrator privileges on the remote machines or by impersonating a user with a privileged account. Either option allows the proxy agent computer to access the remote computer to collect data for the Sun HighGround SRM database.

For the proxy agent computer to scan the remote computer using the credentials of the identity under which it is currently running:

■ The proxy agent service cannot be running as the local system account.
■ The account under which the proxy agent service is running must have local administrative rights on the remote computer.
■ The domain in which the remote computer resides must trust the domain under which the proxy agent computer is running.

For the proxy agent computer to scan the remote computer by impersonating a user, that is, using a provided privileged account:

- The account under which the proxy agent service is currently running must have the "Act as part of the operating system" privilege on the computer hosting the proxy agent. If the proxy agent service runs as the local system account when using a privileged account, it has sufficient rights. Note that the provided privileged account being impersonated does not require this privilege.
- The provided privileged account must be a domain account and must have local administrative rights on the remote computer.
- Both the proxy agent computer and remote computer must be able to access the provided privileged account credentials. If the provided privileged account credentials, proxy agent computer, or the remote computer reside in different domains, the provided privileged account credentials must be in a domain that is trusted by the domains in which both the proxy agent computer and the target computer reside.

E.3.2 Registering Remote Computers

Before you can gather information from remote computers, you must register them in the Sun HighGround SRM database.

E.3.2.1 Accessing the Remote Registration User Interface

To access the Remote Registration user interface page:

1. Click the Options tab in Sun HighGround SRM's banner frame to display the **Options** main page.

2. Click the **Remote Install** icon to display the Summary of All Jobs page.

3. From the left-hand navigation frame, click **register computer** to display the Register Computers page.

4. Click the **Remote Scanning** option in the Select Agent Type menu and click **Next** to display the **Remote Registration** page.

5. Refer to the Remote Scanning software's online help for information about how to register single or multiple remote computers, and modify registration settings from the Remote Registration page. See the following section for information about how to use a Comma Separated Values (CSV) file to register multiple remote computers.

E.3.2.2   Using CSV Files to Register Multiple Computers

To register more than one remote computer at a time, create a Comma Separated Values (CSV) file in which to place required registration settings. Remote Scanning software imports the CSV file and registers the listed remote computers in the Sun HighGround SRM database.

The Remote Scanning installation includes a CSV template with predefined column headings, under which you can enter registration settings in the correct format. Enter the appropriate registration information in the CSV template, which you access on your Sun HighGround SRM Server computer from:

`Program Files\StorageResourceManager\RemoteScan\ImportTemplate.csv`

You can also access a sample CSV file from:

`Program Files\StorageResourceManager\RemoteScan\ImportExample.csv`

If you create a CSV file using software other than a spreadsheet, the correct format to provide the registration settings is:

`type,computer,domain,proxy,login account,login password,password encrypted,privileged account,privileged password,password encrypted`

(The Remote Scanning installation also provides a helper utility for encrypting your customers' account passwords, which is described at the end of this section.)

Note that Remote Scanning software must find all 10 fields to be able to register the remote computers in the Sun HighGround SRM database successfully. You must indicate any optional, empty fields by delimiting commas, for example:

`type,computer,domain,proxy,login account,login password,,,,`

Table E-3 describes the registration setting fields of a Remote Scanning CSV file.

TABLE E-3 Registration Setting Fields

Field	Meaning
Type	• Enter the operating system type. Use either *NetApp*, *NetWare*, *UNIX*, or *Windows*. • This is a required field.
Computer	• Enter the name of the remote computer to be scanned. • This is a required field.
Domain	• Enter the remote computer's domain. For UNIX computers, use *UNIX*. For Novell NetWare servers, use *NETWARE*. • This is a required field.
Proxy	• Enter the name of the Windows 2000 Agent computer registered with the Sun HighGround SRM Server scans the remote computer. • This is a required field.
Login account	• Enter a login account for remote UNIX computers, which lets you access the remote computer using Telnet. This is a required field to access remote UNIX computers. • Enter the Sun HighGround SRM Agent Service account name if you need to configure remote shell access on Network Appliance Filers. This is an optional field to access Network Appliance Filers. • Leave this field blank for NetWare and Windows NT/2000 computers.
Login password	• This is a required field to access remote UNIX computers. Enter the password that corresponds to the login account. • If you enter a Sun HighGround SRM Agent Service account name to configure remote shell access on a Network Appliance Filer, you do **not** need to enter a login password.
Password encrypted	• Use *TRUE*, if you enter the login password in an encrypted format. This is a required field, if you use password encryption. • Use *FALSE*, if the login password you enter is in clear text format.

Field	Meaning
Privileged account	• This is an optional field for access to remote UNIX computers, if the login account does not include the necessary privileges for remote scanning. • This is an optional field for access to remote Windows NT/2000 computers, if the proxy agent service is not already running as a domain account with local administrator rights on the remote computer. • This is an optional field for Network Appliance Filers. If, however, you enter the SRM Agent Service account name in the login account field to configure remote shell access, this is a required field. • Leave this field blank for NetWare computers.
Privileged password	• Enter the password that corresponds to the privileged account. • This is a required field, if you enter privileged account information for Network Appliance Filers, UNIX, or Windows NT/2000 computers.
Password encrypted	• Use *TRUE,* if you enter the privileged password in an encrypted format. This is a required field, if you use password encryption. • Use *FALSE,* if the privileged password you enter is in clear text format.

See the Remote Scanning online help for more information about the registration setting fields.

Because your customer must supply you with login and privileged account information, including passwords, the Remote Scanning installation provides a password encryption helper utility. The password encryption helper utility lets you avoid entering clear text passwords in the CSV file. (Note that when you register a remote computer, whether individually through the Remote Registration user interface or by importing a CSV file, the Sun HighGround SRM Server encrypts all passwords before it inserts them in the Sun HighGround SRM database.)

Access the password encryption utility on your Sun HighGround SRM Server computer from:

`Program Files\StorageResourceManager\PasswordEncryptor.exe`

To use the password encryption utility:

1. Enter the password you want the utility to encrypt. The tool returns the password as an encrypted text string.

2. Cut the encrypted password from the command-line interface and paste it into a CSV file. Make sure that you select the entire string, which might wrap to more than one line.

3. Enter TRUE in the password-encrypted field of the CSV file.

See the Remote Scanning for Sun HighGround SRM online help for information about registering multiple computers using CSV files.

E.3.2.3 After Remote Registration

After you have registered the remote computers in the Sun HighGround SRM database, you can collect data and create reports using Sun HighGround SRM. See the Sun HighGround SRM online help for information about using Sun HighGround SRM.

E.3.3 Deleting Account Information from the Sun HighGround SRM Database

When you register a remote computer, the Sun HighGround SRM database includes login account, privileged account, and encrypted password information. The Remote Scanning installation includes a command-line helper utility to delete account information and passwords from the Sun HighGround SRM database. To use the helper utility:

1. Access the helper utility on your Sun HighGround SRM Server computer from:

```
Program Files\StorageResourceManager\De_Sensitize.exe
```

2. Enter **/q** to display help about the helper utility or **/y** to remove all the user names and passwords for remote registered computers.

Note that you can no longer scan the remote computers. You must reregister the remote computers, if you want to perform future scans.

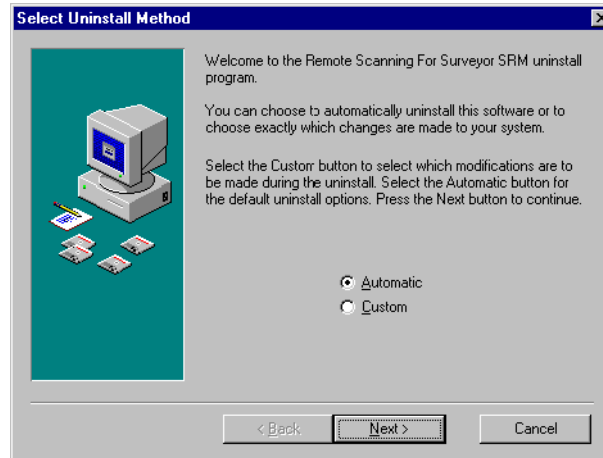## E.3.4 Reinstalling Remote Scanning Software

You may want to reinstall Remote Scanning software over an existing installation to make changes, such as account information.

Insert the Sun HighGround SRM CD-ROM into the CD-ROM drive and follow the same procedure for installing Remote Scanning software described in "Installation Steps" on page 99.

E.3.5　Uninstalling Remote Scanning Software

To remove Remote Scanning software from your computer:

1. Click Add/Remove Programs in the Control Panel, select Remote Scanning for Sun HighGround Surveyor SRM, and click the Add/Remove button to display the **Select Uninstall Method** dialog box:

To remove Remote Scanning software automatically, select the **Automatic** radio button and click **Next**. **Automatic** is the default value and the recommended choice for removing Remote Scanning software from your computer. Go to Step 5.

If you want to perform a custom uninstallation, select the **Custom** radio button and go to Step 2.
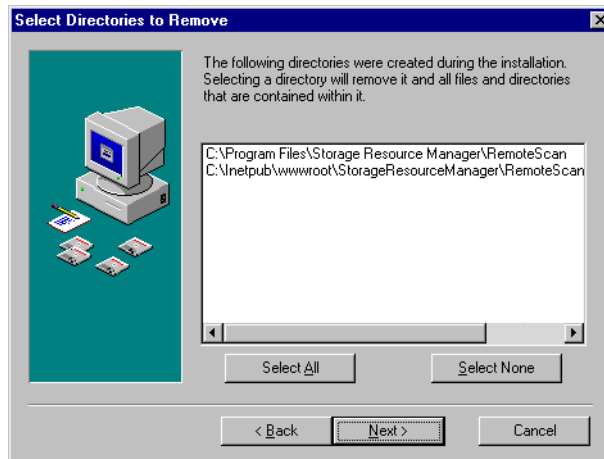
2. Click **Next** to display the **Select Private Files to Remove** dialog box:
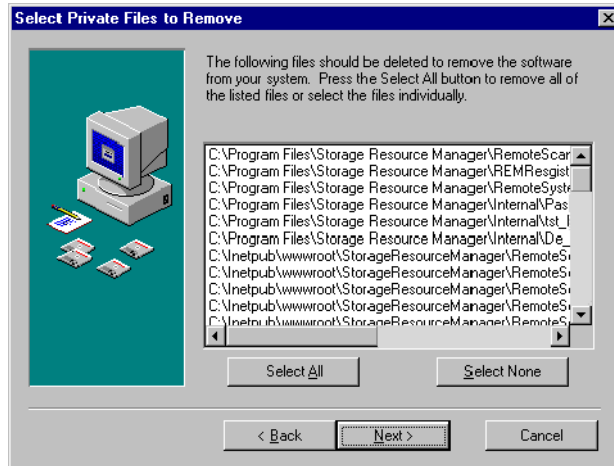
You can click:

- **Select All** to remove all the listed files from your computer
- Specific files to remove them from your computer
- **Select None** to keep all the listed files on your computer

3. Click **Next** to display the **Select Directories to Remove** dialog box:

You can click:

- **Select All** to remove all the listed directories from your computer
- Specific directories to remove them from your computer
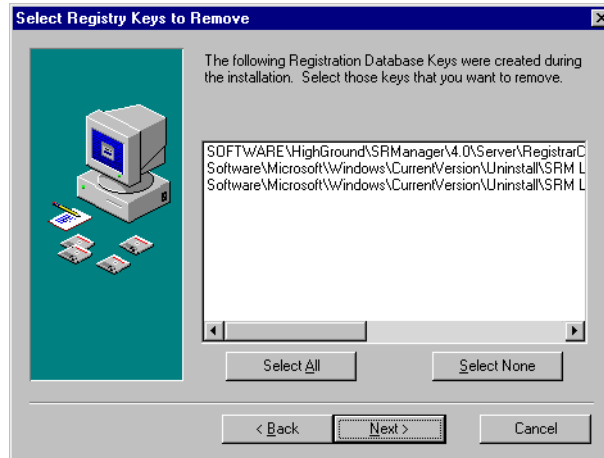- **Select None** to keep all the listed directories on your computer
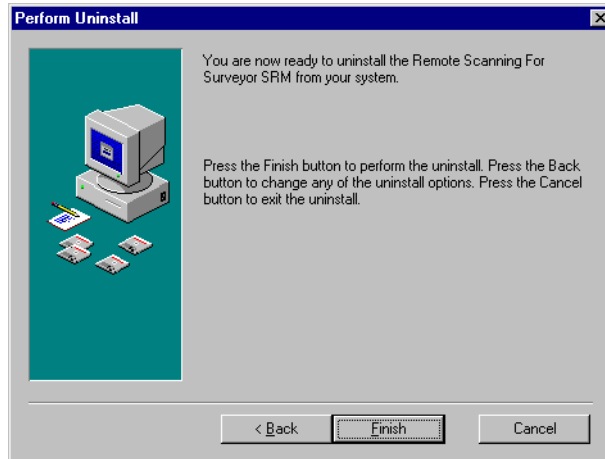
4. Click **Next** to display the **Select Registry Keys to Remove** dialog box:

You can click:

- **Select All** to remove all the listed registry keys from your computer
- Specific registry keys to remove them from your computer
- **Select None** to keep all the listed registry keys on your computer

5. Click **Next** to display the **Perform Uninstall** dialog box:

6. Click **Finish** to complete the uninstall procedure.

E.4 Remote Scanning Software Limitations

Remote Scanning software does not offer a complete solution to manage remote computers fully without installing Agent software. Therefore, there are limitations relevant to Windows NT/2000 and UNIX platforms of which you need to be aware:

■ Table E-4 lists Windows NT limitations.
■ Table E-5 lists Windows 2000 limitations.
■ Table E-6 lists UNIX limitations.
■ Table E-7 lists Network Appliance Filer and NetWare Server limitations.

TABLE E-4 Windows NT Limitations

Component	Remote Scanning Software...
Detail file system scans	Does not support **detail file system scanning**. Therefore, the Sun HighGround SRM software cannot determine detail file heuristics for users and directories without installing the Sun HighGround SRM Agent on the remote computers.
Computer Report	Does not obtain *Address Space*.
Disk Report	Does not: • Accurately report *Make, Model,* and *Revision Number* values. • Provide the true *Capacity* of the drives. Disk capacity is reported as a calculation of volume information and is always equal to or less than the true capacity. Note that any unallocated space is not reported. • Return the following values for IDE or SCSI drives: 1. Factory Defects 2. Grown Defects 3. Rotational Speed 4. Total Spares 5. AWRE Flag 6. Status (always assumed to be online) 7. Identifier (and type) 8. Bus, Target, and LUN • Might not report disk capacity, if disk administrator has not run.
Volumes Report	Might not report volume mapping, if disk administrator has not run.

TABLE E-5   Windows 2000 Limitations

Component	Remote Scanning Software…
Detail file system scans	Does not support *detail file system scanning*. Therefore, the Sun HighGround SRM software cannot determine detail file heuristics for users and directories without installing the Sun HighGround SRM Agent on the remote computers.
Computer Report	Does not obtain the *Address Space* value.
Disk Report	Does not: • Accurately report *Make*, *Model*, and *Revision Number* values. • Return the following values for IDE or SCSI drives: 1. Factory Defects 2. Grown Defects 3. Rotational Speed 4. Total Spares 5. AWRE Flag 6. Status (always assumed to be online) 7. Unique identifier (and type)
Volumes Report	Cannot: • Report the *Capacity on Raw Volumes*, even if they have been assigned a drive letter as a mount point. • Identify the *Volume Type/Description* (such as Simple, Spanning, Striping, Mirroring, and the like). You can infer spanning from other acquired data; otherwise, the volumes are reported as Simple. • Report on volumes mounted at the directory level (for example, D:\Support\Data); volumes are always reported as a single mount point. • Determine the *Hierarchy Type* associated with volumes (such as single mount point, multiple mount points and the like) because of the limitations in the preceding bullet.
Volume Map Report	Cannot get percentages of volume on multiple drives. For example, if a volume is spanning Sun HighGround SRM software cannot, determine that "x" MB on Physical Drive 0, "y" MB on Physical Drive 1, and so on).

TABLE E-6   UNIX Limitations

Component	Platform	Remote Scanning Software...
Detail file system scans	All	Does not support *detail file system scanning* for UNIX computers. Therefore, the Sun HighGround SRM software cannot determine detail file heuristics for users and directories without installing the Sun HighGround SRM Agent on the remote computers.
General	AIX	Might not report CPU speed or number of processors (if more than one exists) correctly.
	Linux	Might not report the number of processors correctly.
File Systems/Volumes	All	Reports volume type associated with file systems as *Unknown.*
Disks	All	Does not report AWRE setting and total spare blocks.
	AIX, HP/UX, Linux	Does not report primary and grown defects for SCSI drives.
	AIX, HP/UX, Linux, Solaris	Does not reportdisk speed.
	Tru64	Does not report the processor type, only the architecture type.

TABLE E-7   Network Appliance Filer and NetWare Server Limitations

Type	Remote Scanning Software...
Network Appliance Filers	Does not support *detail file system scanning* for Network Appliance Filers that you register from a CSV file. For detail file scans, you must register Network Appliance Filers using the Sun HighGround SRM plug-in wizard.
Novell NetWare Servers	Does not support *detail file system scanning* for Novell NetWare Servers that you register from a CSV file. For detail file scans, you must register Novell NetWare Servers using the Sun HighGround SRM plug-in wizard.