Tivoli Storage Manager for AIX

Version 5.3

Installation Guide

GC32-1597-01

Tivoli® Storage Manager for AIX

Version 5.3

Installation Guide

GC32-1597-01

Note

Before using this information and the product it supports, read the general information in Appendix D, "Notices," on page 41.

Second Edition (October 2005)

This edition applies to Version 5 Release 3 of IBM Tivoli Storage Manager for AIX (program numbers 5608-ISM, 5608-ISX) and to any subsequent releases until otherwise indicated in new editions.

Changes since the December 2004 edition are marked with a vertical bar (|) in the left margin. Ensure that you are using the correct edition for the level of the product.

Order publications through your IBM sales representative or the branch office that serves your locality.

Your comments are important to help us provide the most accurate, quality information. If you have comments about this manual or any other IBM Tivoli Storage Manager manual, please see "Support Information" on page vii.

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Before You Begin

This publication helps you install and configure IBM Tivoli Storage Manager.

Before using this publication, you should be familiar with:
- AIX operating systems
- Workstation operating systems on which the clients reside
- Communication protocols installed on your client and server machines

Technical Changes

This section summarizes only those changes that affect installation.

The Administrative Web interface is being replaced in this release with the Administration Center. The Administration Center is a Web-based interface that can be used to centrally configure and manage Tivoli Storage Manager Version 5.3 servers. The Administration Center is the only Web interface that can be used to administer Version 5.3 or later servers. The old administrative Web interface cannot be used with Version 5.3 or later servers.

There might be new defaults set in your server options files. If you have not specified the affected options in the options files, then the new defaults will take effect immediately. If you have specified some of the options, the value they have already specified will be used and the default change will have no effect. If you want the new default to be used, you will have to change the settings.

If you install a new version of Tivoli Storage Manager over an existing version, and have NOT specified the affected option, then the new Version 5.3 defaults will be used. If you have specified values in the affected options, then installing a newer version of Tivoli Storage Manager will not override your specified values with the new defaults.

The new defaults are:
- DEFINE DEVCLASS – FILE: Defaults for mountlimit and maxcapacity parameters changed.
- DEFINE STGPOOL:
  - Primary Sequential Access - Default value for collocate changed to GROUP.
  - Copy Sequential Access - Default value for collocate will be left at NONE.
- MOVE DATA: Default for reconstruct changed.
- MOVE NODEDATA Default for reconstruct changed.

Accessibility Features

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. These are the major accessibility features of Tivoli Storage Manager:
- Server and client command-line interfaces provide comprehensive control of Tivoli Storage Manager using a keyboard.
- The Web backup-archive client interface is HTML 4.0 compliant, and accessibility is limited only by the choice of Internet browser.

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- All user documentation is provided in HTML and PDF format. Descriptive text is provided for all documentation images.

IBM Tivoli Storage Manager Publications

This section lists publications in the IBM Tivoli Storage Manager library and related documents. It also describes how to access Tivoli publications online and how to order Tivoli publications.

IBM Tivoli Storage Manager Publications

The following table lists Tivoli Storage Manager server publications.

Publication Title	Order Number
IBM Tivoli Storage Management Products License Information	GH09-4572
IBM Tivoli Storage Manager Messages	SC32-9090
IBM Tivoli Storage Manager for AIX Administrator's Guide	GC32-0768
IBM Tivoli Storage Manager for AIX Administrator's Reference	GC32-0769
IBM Tivoli Storage Manager for AIX Installation Guide	GC32-1597
IBM Tivoli Storage Manager Basic Concepts Poster	SC32-9464

Accessing Publications Online

The product CD contains the publications that are in the product library. The format of the publications is PDF, HTML, or both. To access the publications using a Web browser, open the infocenter.html file. The file is in the appropriate publications directory on the product CD.

IBM® posts publications for this and all other Tivoli® products, as they become available and whenever they are updated, to the Tivoli software information center Web site at the following Web address:

http://publib.boulder.ibm.com/tividd/td/tdprodlist.html

In the Tivoli Technical Product Documents Alphabetical Listing window, scroll down to the <**S**> section. Click the appropriate <**IBM Tivoli Storage Manager**> product link.

Note: If you print PDF documents on other than letter-sized paper, set the option in the **File → Print** window that allows Adobe Reader to print letter-sized pages on your local paper.

Ordering Publications

You can order many Tivoli publications online at the following Web site:

http://\www.elink.ibmlink.ibm.com/public/applications/publications/cgibin/pbi.cgi

You can also order by telephone by calling one of these numbers:

- In the United States: 800-879-2755
- In Canada: 800-426-4968

In other countries, see the following Web site for a list of telephone numbers:

http://www.ibm.com/software/tivoli/order-lit/

Tivoli Technical Training

For Tivoli technical training information, refer to the following IBM Tivoli Education Web site:

http://www.ibm.com/software/tivoli/education

Support Information

This section describes the following options for obtaining support for IBM products:

- "Searching knowledge bases"
- "Obtaining fixes"

Searching knowledge bases

If you have a problem with your IBM software, begin by searching the available knowledge bases to determine whether the resolution to your problem is already documented.

Search the information center on your local system or network

IBM Tivoli Storage Manager provides an information center on a CD. You can run the information center from the CD, or copy it to your local computer or an intranet server. You can use the search function of this information center to query conceptual information, instructions for completing tasks, reference information, and support documents.

Search the Internet

If you cannot find an answer to your question in the information center, search the Internet for the latest, most complete information that might help you resolve your problem. To search multiple Internet resources for your product, go to the support web site for the product: www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html and look for the section to search the support knowledge base. From this section, you can search a variety of resources including:

- IBM technotes
- IBM downloads
- IBM Redbooks
- Forums and newsgroups

Obtaining fixes

A product fix might be available to resolve your problem. You can determine what fixes are available for your IBM software product by checking the product support Web site:

1. Go to the IBM Software Support Web site (http://www.ibm.com/software/support).
2. Under **Products A - Z**, select your product name. This opens a product-specific support site.
3. Under **Self help**, follow the link to **All Updates**, where you will find a list of fixes, fix packs, and other service updates for your product. For tips on refining your search, click Search tips.

4. Click the name of a fix to read the description and optionally download the fix.

To receive weekly e-mail notifications about fixes and other news about IBM products, follow these steps:

1. From the support page for any IBM product, click **My support** in the upper-right corner of the page.
2. If you have already registered, skip to the next step. If you have not registered, click register in the upper-right corner of the support page to establish your user ID and password.
3. Sign in to **My support**.
4. On the My support page, click **Edit profiles** in the left navigation pane, and scroll to **Select Mail Preferences**. Select a product family and check the appropriate boxes for the type of information you want.
5. Click **Submit**.
6. For e-mail notification for other products, repeat Steps 4 and 5.

For more information about types of fixes, see the *Software Support Handbook* (http://techsupport.services.ibm.com/guides/handbook.html).

Chapter 1. Installing IBM Tivoli Storage Manager

Installing IBM Tivoli Storage Manager consists of the following:

1. Installing the Tivoli Storage Manager server and related components on the server machine.
2. Installing Tivoli Storage Manager client code on every machine that will transfer data to Tivoli Storage Manager server-managed storage.

Tivoli Storage Manager for AIX® software is distributed on four CDs. See "Tivoli Storage Manager Installation CDs" on page 2.

This chapter and the following chapter provide instructions for installing the Tivoli Storage Manager server and related components, including the following tasks:

Task:	**Procedure:**
Migrate to Tivoli Storage Manager Version 5.3 from a previous version of Tivoli Storage Manager.	"Migrating to Tivoli Storage Manager Version 5.3" on page 3
Install Tivoli Storage Manager for the first time.	"Installing Tivoli Storage Manager" on page 9
Install the Tivoli Storage Manager backup/archive client.	"Installing the Tivoli Storage Manager Backup-Archive Client Locally" on page 14
Verify your Installation.	"Verifying Your Installation" on page 17
Set up the server.	"Getting Started" on page 18
Install the Integrated Solutions Console and the Administration Center.	Chapter 2, "Installing the Integrated Solutions Console and the Administration Center," on page 21

To remove an installed version of the server, see Appendix C, "Removing the IBM Tivoli Storage Manager Server," on page 39.

If you are planning to use Tivoli Storage Manager in a High Availability Cluster Multi-Processing (HACMP™) environment, see *Setting Up a Tivoli Storage Manager Server in an HACMP Cluster* in the *Administrator's Guide* before you install Tivoli Storage Manager.

See the *Administrator's Guide* for information on the following advanced topics:

- Operational Reporting
- Customizing Tivoli Storage Manager
- Measuring Database Log Size
- Using Tape Devices and Optical Devices

System Requirements

Before you install Tivoli Storage Manager, ensure the following:

- You have an appropriately configured RISC System/6000® or pSeries® computer with at least 200 MB of free disk storage and 1 GB of memory.
- You have AIX 5.1 or later.

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- If you are installing Tivoli Storage Manager Version 5.3 on AIX Version 5.1, you must first upgrade the C++ Runtime for AIX to Version 6. This is fileset xlC.rte.6.0.0.0. It can be obtained from: http://www-1.ibm.com/support/docview.wss?rs=0= C%2b%2b+Runtime= swg24008374=en_US=iso-8859-1ç=us=en

  xlC.rte.6.0.0.0 is installed by default on AIX 5.2 and later.
- Your communication method is configured.
- You have a CD device available for installation.
- If you have an IBM 3570, 3590 or Ultrium tape library or drive, install the most current device driver ***before*** you install Tivoli Storage Manager 5.3. You can locate the device drivers at ftp://ftp.software.ibm.com/storage/devdrvr/

! For the latest updates on requirements, supported devices, client code, and fixes, go to the Tivoli Storage Manager Web site at:

www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html

After you have installed Tivoli Storage Manager and before you customize it for your use, go to the Tivoli Storage Manager Web site. Download and apply any applicable fixes.

Tivoli Storage Manager Installation CDs

These are the CDs you need in order to install Tivoli Storage Manager, the Integrated Solutions Console, and the Administration Center.

Table 1. Installation CDs

CD Number	CD Title
LCD7-0419-05	IBM Tivoli Storage Manager AIX Server Version 5.3
LK4T-0343-01	IBM Tivoli Storage Manager Integrated Solutions Console Version 5.1 AIX for use with the Tivoli Storage Manager Administration Center Version 5.3
LK4T-0356-02	Tivoli Storage Manager Administration Center Version 5.3
LCD7-0505-03	IBM Tivoli Storage Manager AIX Clients Version 5.3

Note: The AIX client code can also be installed from www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html > Support and Download. For detailed Tivoli Storage Manager client installation and configuration instructions, see the *Backup-Archive Clients Installation and User's Guide*.

Evaluation (Try and Buy) Product

A 60-day evaluation (try and buy) of Tivoli Storage Manager is available by internal order via CD. The CD try and buy version provides the same functions as the standard licensed product. However, the licensing package is not available with the try and buy product, and you are limited to 50 clients.

The installation instructions in this chapter (“Installing Tivoli Storage Manager” on page 9) apply to both the standard licensed product and the CD try and buy product.

Note: You can apply maintenance to a try and buy version of IBM Tivoli Storage Manager.

To upgrade to the licensed product, do the following:

1. Mount the Tivoli Storage Manager AIX server licensed product CD in your CD drive.
2. Install the license package (*tivoli.tsm.license.rte* or *tivoli.tsm.license.aix5.rte64*).

Only the license file is installed; server or user data is not lost. After you install the license package, register any licensed features that you purchased.

IBM Tivoli Storage Manager Installation Packages

Tivoli Storage Manager uses three types of AIX installation packaging. The type used depends on the content of the delivery. It is very important to understand the consequences of each type of install.

Note: Installation will be stopped and an error message displayed if an active server or storage agent process is detected. All active server or storage agent processes must be halted before installation can proceed.

New Installation and Migration
For a new version or release of Tivoli Storage Manager, installation packages are set up to do a new installation if no prior version is installed or a migrate installation if a prior version is installed. A new installation or a migrate installation always establishes a base level for each file set. In the case of a migrate installation the prior base level and all updates to that base level are removed from the system. You cannot remove file sets installed by a migrate installation without uninstalling the product.

Update Installation
An update installation package is used with a maintenance update (Fixpack) or an Interim Fix, used to correct a small number of high impact problems. An update installation allows the package to be rejected after installation and does not force a re-basing of a file set. You should use the SMIT option **Install and Update from ALL Available Software**. Set **COMMIT software updates?** to **No** and **SAVE replaced files?** to **Yes**. However, the reject installation option is not available for a base migration installation, such as IBM Tivoli Storage Manager Version 5.3.

Note: If you COMMIT a file set, you have just rebased that file set and cannot remove it without uninstalling the product.

Migrating to Tivoli Storage Manager Version 5.3

You can install Tivoli Storage Manager Version 5.3 over a previous version of Tivoli Storage Manager. This is called a “migrate installation.” A DSMSERV UPGRADEDB operation is automatically performed during a migrate installation.

Note: If you are running several instances of the server with a separate log and database, the upgrade database that is performed during the installation will have no effect. Enter the UPGRADEDB command for each database.

The ADSM default installation directories changed for Tivoli Storage Manager. If you have previously used disaster recovery manager (DRM) to create a disaster recovery plan file, that file refers to path names that can no longer be valid. After you have installed Tivoli Storage Manager, you should back up your storage pools and database and create a new disaster recovery plan file. For the sequence and details of the procedure, see the disaster recovery manager chapter in the *Administrator's Guide*.

If you are using HACMP and migrating to Tivoli Storage Manager Version 5.3 (from any previous version), you will need to convert to the new startserver script. Device resets are no longer performed by the startserver script. They are now done by the server during initialization of the library. If the RESETDRIVES parameter is set to YES for a library, then the reset will be performed on the library manager for the library and all drives defined to it. If a library is defined as SHARED, the RESETDRIVES parameter automatically defaults to YES for the library. Otherwise, you can run the UPDATE LIBRARY command with RESETDRIVES=YES. See the appendix "Setting Up an IBM Tivoli Storage Manager Server in an HACMP Cluster" in the *Administrator's Guide* for more information.

!

To return to an earlier version of Tivoli Storage Manager, after a migrate installation, you must have a full database backup of that original version and the installation code for the server of that original version.

- You can use the DSMSERV RESTORE DB utility to restore older versions of Tivoli Storage Manger databases where needed; this utility will perform database restores from earlier releases or versions of the product. If an error is encountered, contact IBM support to diagnose the cause of the restore database failure and resolve it if possible. Note that the database backup needs to be on a currently supported device, as IBM does not support being able to read from devices that are no longer available.

Be aware of the results of returning to an earlier version of the server:

- References to client files that were backed up, archived, or migrated to the Tivoli Storage Manager Version 5.3 server will be lost.
- While running IBM Tivoli Storage Manager Version 5.3, some existing volumes might be overwritten or deleted due to operations such as migration, reclamation, a MOVE DATA command, or a DELETE VOLUME command. If so, client files that were on those volumes will no longer be accessible to the earlier version of the server.
- Definitions, updates, and deletions of objects performed on the Version 5.3 server will be lost.

Compatibility with Other Versions of IBM Tivoli Storage Manager

To ensure compatibility between the server and the storage agent, check the Tivoli Web site at www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html for maintenance level requirements and to download the latest Fixpack Level. The Tivoli Storage Manager servers for the z/OS®, AIX, HP-UX, Linux®, Sun Solaris, and Windows® operating systems support LAN-free data movement.

Starting with Tivoli Storage Manager Version 5.2, the server and storage agent are no longer backwards compatible with prior releases of the server and storage agent. If you have implemented library sharing, server-to-server, enterprise configuration, or LAN-free, it is important to note that all Tivoli Storage Manager

servers and storage agents must be upgraded to a compatible and supported level of Version 5.2 or later code before invoking any Version 5.2 library sharing, server-to-server, or LAN-free communication.

When upgrading multiple servers participating in library sharing to Version 5.3, the servers acting as library manager must be upgraded first to maintain compatibility among the servers acting as library clients or storage agents. When upgrading multiple servers participating in server-to-server to Version 5.3, all servers must be upgraded at the same time.

As a general rule, the Tivoli Storage Manager server will normally support storage agents and library clients at the same version, release, and modification level down to the modification level minus two. When the product release changes, Tivoli Storage Manager will normally support the last two maintenance releases of the previous release. For example, a Tivoli Storage Manager Version 5.3.0 server supports storage agents and library clients at the Version 5.3.0, Version 5.2.4, and Version 5.2.3 levels. An exception to this rule is where a fix or a product enhancement requires concurrent code changes to server, storage agent, and library client

A Version 5.3 servers acting as a library manager is compatible with Version 5.2 and 5.1 servers acting as library clients. However, Version 5.3 servers acting as library clients remain incompatible with Version 5.2 and Version 5.1 servers acting as library managers. When upgrading multiple servers participating in library sharing to Version 5.3, the servers acting as library managers must be upgraded first to maintain compatibility among the servers.

Migrating from AIX 4.3.3 to AIX Version 5.3

If you have Tivoli Storage Manager Version 4.2 installed on AIX Version 4.3.3, you must migrate to AIX Version 5.1 or later before you can install Tivoli Storage Manager Version 5.3. To do this, follow these steps.

1. Before you uninstall Tivoli Storage Manager Version 4.2, record all Tivoli Storage Manager device definitions.
2. Uninstall the file set *tivoli.tsm.devices.aix43.rte* by using the command:

   ```
   installp -ug tivoli.tsm.devices.aix43.rte
   ```

   This will also cause *tivoli.tsm.msg.[lang].devices* to be uninstalled, where *[lang]* is *en_US* and any other "tivoli.devices" messages file set that might be installed.
3. Migrate to AIX Version 5.1.
4. Install Tivoli Storage Manager Version 5.3. See "Installing Tivoli Storage Manager" on page 9
5. Redefine the devices previously recorded in step 1.

Before You Perform a Migrate Installation

This section describes some things to consider before you perform a migrate installation.

- The dsmserv.dsk file points to the locations of the current database and recovery log volumes. A migrate installation will not normally create a new database, recovery log, and storage pool volumes. However, if *dsmserv.dsk* is not in the */usr/lpp/adsmserv/bin* or */usr/tivoli/tsm/server/bin* directory, the installation creates the following volumes in the */usr/tivoli/tsm/server/bin* directory:
  - Database volume (*db.dsm*)

– Recovery log volume (*log.dsm*)
– Storage pool volumes (*backup.dsm*, *archive.dsm*, and *spcmgmt.dsm*)

To use your existing database, recovery log, and storage pool volumes, ensure that a copy of the *dsmserv.dsk* file is in */usr/tivoli/tsm/server/bin* and the file system is mounted before you do a migrate installation. You must not move the database, recovery log, and storage pool volumes.

- If you decide to return to the previous version of the server, you must have a backup copy of your prior database, volume history, and device configuration files. In the following example, the tape device class named TAPECLASS is used for database backups.

```
backup db type=full devclass=tapeclass
backup devconfig filenames=devconfig.jan99
backup volhistory filenames=volhistory.jan99
```

Note: This command retrieves database records into a database dump. This process does not access the recovery log. Transactions held in the log database are lost.

Store the output volumes and the device configuration and volume history files in a safe location.

- During the migrate installation, the following files are automatically copied from *usr/lpp/adsmserv/bin* to the location of the new Tivoli Storage Manager installation when they are located in usr/lpp/adsmserv/bin:
  – The *dsmserv.dsk* file
  – The accounting log file (*dsmaccnt.log*)

    If the environment variable DSMSERV_ACCOUNTING_DIR was set, you must reset it. See "Defining Environment Variables" on page 15 for details.
  – The server options file *dsmserv.opt*
  – Existing device configuration and volume history files if they are named *devconfig* and *volhist*

! If these files are not named *devconfig* and *volhist*, you should back up the files and save them in a temporary directory. You can later edit the new server options file to include the names of these files.

If the files are automatically copied, the server options file is automatically updated.

You should also save in a temporary directory any existing runfile scripts.

- Tivoli Storage Manager device definitions are saved during a migrate installation from Tivoli Storage Manager Version 5.1, Version 5.2, and Version 5.3. To install the new Tivoli Storage Manager drivers, you must have the output from the following commands:

```
lsdev -Cc tape

lsdev -Cc library
```

This is not required for the IBM 3494, 3495, 3570, 3575, or 3590, which use drivers supplied with the devices.

! During a migrate installation, Fibre Channel Protocol definitions will be lost. Save existing FCP definitions before a migrate installation or else they will have to be reinstalled.

Performing a Migrate Installation

Installation will be stopped and an error message displayed if an active server or storage agent process is detected. All active server or storage agent processes must be halted before installation can proceed.

Before migrating the Tivoli Storage Manager server to the new release, perform some clean up by running the EXPIRE INVENTORY command. If your server is currently at a release earlier than Version 5.2, there might be additional steps you should take in preparation for migration to Version 5.3. Search the support site at www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html for more information.

You can migrate directly to Tivoli Storage Manager Version 5.3 from any previous version of Tivoli Storage Manager. The amount of time to migrate from Version 5.2 to 5.3 is negligible. The change in database size between Version 5.2 and 5.3 is also negligible. Versions prior to 5.2 will take longer to migrate. The older the version, the longer this process will take. If migrating to Tivoli Storage Manager from any previous release, you should take actions to clean up system objects.

1. Consider whether you need to install any operating system patches or a new operating system level before installing the latest Tivoli Storage Manager server.
2. Back up critical server information by using the BACKUP DB, BACKUP DEVCONFIG, and BACKUP VOLHIST commands. For example, the following command backs up device configuration information to files that you have identified in the dsmserv.opt file, with the DEVCONFIG option. You can instead specify file names with this command.

   ```
   backup db type=full devclass=tape_device
   backup devconfig
   ```

   The following command backs up volume history information to files that you have identified in the dsmserv.opt file, with the VOLUMEHISTORY option. You can instead specify file names with this command.

   ```
   backup volhistory
   ```

   If you need to revert to a previous release, you will have to restore from this database backup.
3. Save the following important files, which are in the default directory for the Tivoli Storage Manager server:

   volhist (file name depends on what you specified with the backup volhistory command)
   devconfig (file name depends on what you specified with the backup devconfig command)
   dsmserv.opt
   dsmserv.dsk
4. Ensure that no tapes are mounted. Use the QUERY MOUNT command.
5. Ensure that no Tivoli Storage Manager processes are running. Use the QUERY PROCESS command. Cancel processes if needed, by using CANCEL PROCESS *PROCESSNUMBER*. Installation stops if any Tivoli Storage Manager processes are running.
6. Stop the server if it is running by entering:

   ```
   halt
   ```

   If you started the server as a background process, connect to the server as an administrative client and issue the HALT command.

7. Check the README file for any special instructions or specific information for your operating system.
8. If you have created scripts that have paths to */usr/lpp/adsmserv/bin*, change the paths to */usr/tivoli/tsm/server/bin*.
9. Install the latest Tivoli Storage Manager server software (see "Installing Tivoli Storage Manager" on page 9).

   Note: Until the new version is installed and any required licenses are reregistered (step 12), clients will not be able to connect to the server.
10. **Optional:** Load sample server scripts into the database. Tivoli Storage Manager is shipped with sample command scripts that can be loaded into the database and run from either an administrative client or from the server console. They can also be included in administrative command schedules. The sample scripts, located in *scripts.smp*, are primarily SELECT queries.

    Note: The sample scripts might have been loaded when a previous version Tivoli Storage Manager was installed. Loading the sample scripts again at this point will overlay any existing scripts of the same name and any modifications made to those scripts will be lost.

    To load the sample scripts into the database, issue the following command:

    ```
    ./dsmserv runfile /usr/tivoli/tsm/server/bin/scripts.smp
    ```
11. Verify that the installation was successful by starting the server.

    ```
    ./dsmserv
    ```
12. Register licences. Your licenses from the previous version are no longer valid and must be registered again. See "Registering Licenses" on page 19.

    Note: The *tivoli.tsm.license* package is required to register licenses. This package is installed when you install the server package.

Installation Directories

Here is an overview of the installation directories:

- **Server Directory** (*/usr/tivoli/tsm/server/bin*), which contains:
  - Storage pool volumes (*backup.dsm*, *archive.dsm*, *spcmgmt.dsm*)
  - Database volume (*db.dsm*)
  - Recovery log volume (*log.dsm*)
  - Server code and licensing
- **Related Server Directories**:
  - The message repository, online help, and supported languages (*/usr/lib/nls/msg/*). The message repository is called *dsmserv.cat* and the command and message help is called *dsmserv.hlp*
  - Device and StorageTek support (*/usr/tivoli/tsm/devices/bin* and */etc*)
  - Tivoli inventory (*/usr/tivoli/tsm/tivinv*)
  - Event receiver (*/etc/tivready/monitorslfs*)
- **Device Directories**
  - */usr/tivoli/tsm/devices/bin*
  - */etc/drivers*
  - */etc/methods*
- **Language Directory**

– For language-dependent portions of the program: */usr/lib/nls/msg/[lang]/* file. U.S. English, German, French, Italian, Spanish, Brazilian Portuguese, Korean, Japanese, traditional Chinese, simplified Chinese, Chinese GBK, Chinese Big5, Russian, Czechoslovakian, Hungarian, and Polish are supported.

  United States English (ISO8559), the en_US Cultural convention and Language translation environment, is a required installation regardless of the language environment you are using.

Installation Restrictions

This section lists restrictions that should be considered prior to installing Tivoli Storage Manager.

Installation will be stopped and an error message displayed if an active server or storage agent process is detected. All active server or storage agent processes must be halted before installation can proceed.

Installation of the Tivoli Storage Manager server and Tivoli Storage Manager storage agent on the same machine is not supported.

During server installation, *rmitab autosrvr* is run. This can remove customized autosrvr entries. The installation can remove all lines with the identifier *autosrvr* even if you have customized other options and commands under this identifier.

Installing Tivoli Storage Manager

Use the following System Management Interface Tool (SMIT) procedure to install the server and device support. You can use either "Installing Tivoli Storage Manager using the Command Line" or "Installing Tivoli Storage Manager using the Motif GUI" on page 12 to install the server and device support.

Installing Tivoli Storage Manager using the Command Line

1. Halt the Tivoli Storage Manager server from the Tivoli Storage Manager server console or from an Administrative client session.
2. Log in as the root user. If you do not log in as root, certain key Tivoli Storage Manager functions will not work properly.
3. Load the AIX server CD into the selected drive.
4. Access SMIT and make selections according to the level of your AIX operating system.

   Note: If you select a language other than U.S. English, selection paths differ from those shown here. See Appendix A, "National Language Support," on page 35.

   Enter:

   ```
   smitty install_update
   ```

   Then select:

   ```
   Install and Update Software
      Install and Update from ALL Available Software
   ```

5. Select the INPUT device that you are using for the installation. You can enter the drive name in the window or press F4 to access the device list.

If you press F4, select the CD drive that you are using for the installation (for example, /dev/cd0).

6. Press **Enter**.
7. Select **Software to Install**. The value of the environment variable LANG controls which translated messages, help, and device selection messages in SMIT are automatically installed.
8. Press **F4** or **Esc + 4** for the latest available software packages.
9. Select the appropriate file sets to install for your configuration. Supported file sets are listed by configuration.

Table 2. 32-bit hardware, 32-bit AIX kernel

32-bit hardware, 32-bit AIX kernel	Description
tivoli.tsm.devices.acsls	STK Silo support (optional)
tivoli.tsm.devices.aix5.rte	Device support for AIX 5.1 or 5.2, 32- and 64-bit
tivoli.tsm.license.cert	License certificates
tivoli.tsm.license.rte	License enablement module, 32-bit kernel
tivoli.tsm.msg.en-US.devices	SMIT menu catalogs
tivoli.tsm.msg.en_US.server	Message library and help
tivoli.tsm.server.com	Server samples and diagnostic utilities
tivoli.tsm.server.rte	Server runtime, 32-bit
tivoli.tsm.webcon	Web Console

Table 3. 64-bit hardware, 64-bit AIX kernel

64-bit hardware, 64-bit AIX kernel	Description
tivoli.tsm.devices.acsls	STK Silo support (optional)
tivoli.tsm.devices.aix5.rte	Device support for AIX 5.1 or 5.2, 32- and 64-bit
tivoli.tsm.license.aix.rte64	License enablement module, 64-bit kernel
tivoli.tsm.license.cert	License certificates
tivoli.tsm.msg.en-US.devices	SMIT menu catalogs
tivoli.tsm.msg.en_US.server	Message library and help
tivoli.tsm.server.aix5.rte64	Server runtime, AIX 5.1 or 5.2 64-bit
tivoli.tsm.server.com	Server samples and diagnostic utilities
tivoli.tsm.webcon	Web Console

Table 4. 64-bit hardware, 32-bit AIX kernel

64-bit hardware, 32-bit AIX kernel	Description
tivoli.tsm.devices.aix5.rte	Device support for AIX 5.1 or 5.2, 32- and 64-bit
tivoli.tsm.license.cert	License certificates
tivoli.tsm.license.rte	License enablement module, 32-bit kernel
tivoli.tsm.msg.en-US.devices	SMIT menu catalogs
tivoli.tsm.msg.en_US.server	Message library and help
tivoli.tsm.server.com	Server samples and diagnostic utilities

Table 4. 64-bit hardware, 32-bit AIX kernel (continued)

64-bit hardware, 32-bit AIX kernel	Description
tivoli.tsm.server.rte	Server runtime, 32-bit
tivoli.tsm.webcon	Web Console

10. You must accept new license agreements to install the server. To view the license agreement, select **Yes** on the **Preview new LICENSE agreements?** option. To accept the license agreement, select **Yes** on the **Accept new LICENSE agreements?** option. The license agreements are translated in many languages. The language environment that you set determines the version that is displayed.
11. If you are working in a language other than US English, you must also install your specific language pack in addition to the required U.S. English language pack.

tivoli.tsm.msg.*yourlanguage*.server	Message library and help
tivoli.tsm.msg.*yourlanguage*.devices	SMIT menu catalogs

12. Press **Enter**.
13. Set **COMMIT software updates?** to yes.
14. Set **SAVE replaced files?** to no.
15. Check the default settings for the options on this window. Ensure all your selected file sets show **success**.
16. Press **Enter**..

    SMIT responds:

    ```
    ARE YOU SURE?...
    ```

17. Press **Enter**..

    This installation can take several minutes.
18. After the installation is complete, press F10 to exit from SMIT, and remove the CD.

    Note: The Database, Recovery Log and default storage pools are created (or should be) by the installation process.
19. Redefine your Tivoli devices, if necessary.
20. To start the server from the */usr/tivoli/tsm/server/bin* directory, enter: `nohup ./dsmserv` or run in the background with `nohup ./dsmserv &`
21. When running the server from a directory other than the default (*/usr/tivoli/tsm/server/bin*), you must set the environment variable DSMSERV_DIR to point to the location of the server installation (*/usr/tivoli/tsm/server/bin*). If you intend to use a different dsmserv.opt you should set the DSMSERV_CONFIG file to point to the location of you dsmserv.opt file.
22. Install a backup-archive client and an administrative client. See "Installing the Tivoli Storage Manager Backup-Archive Client Locally" on page 14 for instructions.
23. When you install or upgrade the server to IBM Tivoli Storage Manager Version 5.3, you must give your servers unique names. If all of your servers have the default name, SERVER1, you will only be able to add one of them to the Administration Center. Use the SET SERVERNAME command to specify

the new server name. The maximum length of the name is 64 characters. Example: to name the server WELLS_DESIGN_DEPT

```
set servername wells_design_dept
```

. See the *Administrator's Reference* for more details on this command.

24. To verify your installation, see "Verifying Your Installation" on page 17.
25. To install the Integrated Solutions Console and the Administration Center, go to Chapter 2, "Installing the Integrated Solutions Console and the Administration Center," on page 21.

Installing Tivoli Storage Manager using the Motif GUI

1. Halt the Tivoli Storage Manager server from the Tivoli Storage Manager server console or from an Administrative client session.
2. Log in as the root user. If you do not log in as root, certain key Tivoli Storage Manager functions will not work properly.
3. Load the AIX server CD into the selected drive.
4. In the Common Desktop Environment, access SMIT in the System_Admin folder of the Application Manager and make selections according to the level of your AIX operating system.

   Note: If you select a language other than U.S. English, selection paths differ from those shown here. See Appendix A, "National Language Support," on page 35.

   Click the SMIT icon, then select Software Installation and Maintenance.
5. Select the INPUT device that you are using for the installation. You can enter the drive name in the window or click on **List** to access the device list.

   If you click on **List**, select the CD drive that you are using for the installation (for example, /dev/cd0).
6. Click **OK**
7. **Software to Install** appears now.
8. Set both **Automatically Install Required Software** and **Accept New License Agreement** to yes.
9. Select the file sets you want to install for your configuration. Supported file sets are listed by configuration.

Table 5. 32-bit hardware, 32-bit AIX kernel

32-bit hardware, 32-bit AIX kernel	Description
tivoli.tsm.devices.acsls	STK Silo support (optional)
tivoli.tsm.devices.aix5.rte	Device support for AIX 5.1 or 5.2, 32- and 64-bit
tivoli.tsm.license.cert	License certificates
tivoli.tsm.license.rte	License enablement module, 32-bit kernel
tivoli.tsm.msg.en-US.devices	SMIT menu catalogs
tivoli.tsm.msg.en_US.server	Message library and help
tivoli.tsm.server.com	Server samples and diagnostic utilities
tivoli.tsm.server.rte	Server runtime, 32-bit
tivoli.tsm.webcon	Web Console

Table 6. 64-bit hardware, 64-bit AIX kernel

	Description
tivoli.tsm.devices.acsls	STK Silo support (optional)
tivoli.tsm.devices.aix5.rte	Device support for AIX 5.1 or 5.2, 32- and 64-bit
tivoli.tsm.license.aix.rte64	License enablement module, 64-bit kernel
tivoli.tsm.license.cert	License certificates
tivoli.tsm.msg.en-US.devices	SMIT menu catalogs
tivoli.tsm.msg.en_US.server	Message library and help
tivoli.tsm.server.aix5.rte64	Server runtime, AIX 5.1 or 5.2 64-bit
tivoli.tsm.server.com	Server samples and diagnostic utilities
tivoli.tsm.webcon	Web Console

Table 7. 64-bit hardware, 32-bit AIX kernel

64-bit hardware, 32-bit AIX kernel	**Description**
tivoli.tsm.devices.aix5.rte	Device support for AIX 5.1 or 5.2, 32- and 64-bit
tivoli.tsm.license.cert	License certificates
tivoli.tsm.license.rte	License enablement module, 32-bit kernel
tivoli.tsm.msg.en-US.devices	SMIT menu catalogs
tivoli.tsm.msg.en_US.server	Message library and help
tivoli.tsm.server.com	Server samples and diagnostic utilities
tivoli.tsm.server.rte	Server runtime, 32-bit
tivoli.tsm.webcon	Web Console

10. If you are working in a language other than US English, you must also install your specific language pack in addition to the required U.S. English language pack.

tivoli.tsm.msg.*yourlanguage*.server	Message library and help
tivoli.tsm.msg.*yourlanguage*.devices	SMIT menu catalogs

11. Click **OK**.

    SMIT responds:

    ```
    ARE YOU SURE?...
    ```

12. To continue, select **OK**.

    This installation can take several minutes.

13. Check the default settings for the options on this window. Ensure all your selected file sets show **success**.
14. After the installation is complete, click **Exit**, remove the CD, and exit from SMIT.

    Note: The Database, Recovery Log and default storage pools are created (or should be) by the installation process.

15. Redefine your Tivoli devices, if necessary.
16. To start the server from the */usr/tivoli/tsm/server/bin* directory, enter: `nohup ./dsmserv` or run in the background with `nohup ./dsmserv &`
17. When running the server from a directory other than the default (*/usr/tivoli/tsm/server/bin*), you must set the environment variable DSMSERV_DIR to point to the location of the server installation (*/usr/tivoli/tsm/server/bin*). If you intend to use a different dsmserv.opt you should set the DSMSERV_CONFIG file to point to the location of you dsmserv.opt file.
18. Install a backup-archive client and an administrative client. See "Installing the Tivoli Storage Manager Backup-Archive Client Locally"for instructions.
19. When you install or upgrade the server to IBM Tivoli Storage Manager Version 5.3, you must give your servers unique names. If all of your servers have the default name, SERVER1, you will only be able to add one of them to the Administration Center. Use the SET SERVERNAME command to specify the new server name. The maximum length of the name is 64 characters. Example: to name the server WELLS_DESIGN_DEPT

    ```
    set servername wells_design_dept
    ```

    . See the *Administrator's Reference* for more details on this command.
20. To verify your installation, see "Verifying Your Installation" on page 17.
21. To install the Integrated Solutions Console and the Administration Center, go to Chapter 2, "Installing the Integrated Solutions Console and the Administration Center," on page 21.

Installing the Tivoli Storage Manager Backup-Archive Client Locally

The Tivoli Storage Manager backup-archive client is on a separate CD. You should install the Tivoli Storage Manager backup-archive client on the Tivoli Storage Manager server machine to help you validate your server configuration. For further details, see the *IBM Tivoli Storage Manager for UNIX and Linux: Backup-Archive Clients Installation and User's Guide*

This installation procedure is designed to install directly from the CD-ROM using a local or remote-mounted CD-ROM drive.

If you are copying the client files into a local directory first, a .toc file is automatically created by the installp command. You can create a .toc file manually by running /usr/sbin/inutoc in the local directory to which you copied the Tivoli Storage Manager image. From the AIX command line, enter:

```
/usr/sbin/inutoc /usr/sys/inst.images
```

A **.toc** file is created in that directory.

To install Tivoli Storage Manager from the CD-ROM:

1. Log in as the root user, insert the CD-ROM into the CD-ROM drive device. You will need to manually mount the CD-ROM device for remote or NFS installations.
2. From the AIX command line, type **smitty install** and press Enter.
3. Select **Install and Update Software** and press Enter.
4. Select **Install and Update From ALL Available Software** and press Enter.

5. At the **INPUT device/directory for software** prompt, press the F4 key and select the CD-ROM device containing the installation CD-ROM or specify the directory containing the installation images. Press Enter.
6. At the **SOFTWARE to install** prompt, press the F4 key. Select the Tivoli Storage Manager file sets you want to install and press Enter.
7. Select the options you want and press Enter to begin the installation.

The Tivoli Storage Manager files are installed in the `/usr/tivoli/tsm/client/ba/bin` directory. If you move the Tivoli Storage Manager files to another directory, you must perform the following steps:

1. Make sure the permissions of the installed files have not changed.
2. Update the symbolic links for the installed files in the following directories:
   - The `/usr/bin` directory
   - The /usr/lib directory for Tivoli Storage Manager libraries
   - The directory that contains symbolic links for each language package you install (for example, `/usr/lib/nls/msg/en_US`).
3. Ensure that every user of Tivoli Storage Manager sets the DSM_DIR environment variable to the newly installed directory.

Defining Environment Variables

An environment variable describes the operating environment of a process, such as the home directory or terminal in use. To run the server from a directory other than the default directory (*/usr/tivoli/tsm/server/bin*), you might have to define environment variables. For example, to define the DSMSERV_DIR environment variable to point to the */usr/tivoli/tsm/server/bin* directory so that the server can find files, use *ksh* and enter:

```
export DSMSERV_DIR=/usr/tivoli/tsm/server/bin
```

You can define an environmental variable to point to the dsmserv.dsk file. This file is important because it contains the location of the database and recovery log volumes. The dsmserv.dsk file is in either the default */usr/tivoli/tsm/server/bin* directory, or the DSMSERV_DIR, if set. It is indirectly managed by the DSMSERV_DIR.

You can define an environment variable to point to the server options file (*dsmserv.opt*). This allows two Tivoli Storage Manager servers running on the same machine to share the same options file. For example, to define the DSMSERV_CONFIG environment variable to point to *dsmserv.opt*, enter:

```
export DSMSERV_CONFIG=/usr/tivoli/tsm/server/bin/dsmserv.opt
```

You can define an environment variable to point to the accounting log file.

Accounting records are stored in the *dsmaccnt.log* file. The DSMSERV_ACCOUNTING_DIR environment variable specifies the directory where the accounting file is opened. If this variable is not set when the server is started, the *dsmaccnt.log* file is placed in the current directory when the server starts.

For example, to set the environment variable to place the accounting records in the */home/engineering* directory, enter this command:

```
export DSMSERV_ACCOUNTING_DIR=/home/engineering
```

The DSMLABEL utility, a standalone utility for labeling sequential access volumes, must read the *dsmserv.opt* file to pick up the language option. Therefore, DSMLABEL must be issued from the */usr/tivoli/tsm/server/bin/* directory, or the DSMSERV_DIR and DSMSERV_CONFIG environment variables must be set.

Notes:

1. You can also use the `-o` parameter of the DSMSERV command to specify an options file name.
2. Use the following command if your shell is in the csh family:

   ```
   setenv DSMSERV_DIR /usr/tivoli/tsm/server/bin
   ```

   To save this environment, save this entry in the *.cshrc* or *.kshrc* file of your $HOME directory.
3. Use the following command if your shell is in the ksh family:

   ```
   export DSMSERV_DIR=/usr/tivoli/tsm/server/bin
   ```

   To save this environment, save this entry in the *.cshrc* or *.kshrc* file of your $HOME directory.
4. The *dsmserv.dsk* is always read from the directory in which the server is started.

Running Multiple Servers on a Single Machine

To run multiple Tivoli Storage Manager servers on the same machine, you must create multiple pairs of ports and database and recovery log files. Each server needs its own ports and its own database and recovery log. If the DSMSERV_DIR environment variable points to the dsmserv.dsk file, you do not have to copy the server executable files in more than one directory.

Note: You need a separate license for each unique instance of the server in order to run additional servers.

When running multiple servers, note that running a server from a directory other than the installation directory is only supported by setting the DSMSERV_DIR environment variable. This is because the base install directory is used for more than just finding the executables. To run a server from a directory other than the installation directory, you set the DSMSERV_DIR environment variable to point to the installation directory and add /usr/tivoli/tsm/server/bin to your path.

Use the following procedure to set up an additional server:

1. Make the directory where you want the files created (for example */usr/local/newserv*) and copy the server options file into that directory:

   ```
   mkdir /usr/local/newserv
   cp /usr/tivoli/tsm/server/bin/dsmserv.opt /usr/local/newserv/dsmserv.opt
   ```

   You must use a different options file for each server.

2. Modify the copy of the options file with the unique value for the ports. Ensure that the communication method parameters are unique; for example, the servers cannot use the same TCPPORT, or SHMPORT or TCPADMINPORT.
3. During installation, set your path on the server console or from an AIX terminal session by defining the environment variables (see "Defining Environment Variables" on page 15). Ensure that you are in the new directory before continuing.
4. Format the database and recovery logs files. For example, to format two 300 MB database volume and a 30 MB recovery log volume, enter:

```
dsmfmt -db dbvol2 300 dbvol3 300
dsmfmt -log dbvol2 30
```

5. Initialize the database and recovery log in the new server directory:

```
dsmserv format 1 logvol2 2 dbvol2 dbvol3
```

Verifying Your Installation

You can verify your server installation by issuing the following QUERY commands from either the server console or from an administrative client. Once installed, the server runs in the background, so you must start the server in the foreground or use an administrative client to issue the commands.

- QUERY STATUS (shows if the server is enabled or disabled)
- QUERY STGPOOL (shows the stgpools automatically set up by the installation)
- QUERY DB (shows a basic database set up by the installation)
- QUERY LOG (shows a basic log set up by the installation)

You can verify the complete Tivoli Storage Manager installation by backing up client data from a backup-archive client. The client must have been installed from the UNIX® client CD. If the backup-archive client is not installed, see the *Backup-Archive Clients Installation and User's Guide* for instructions.

! Do not select files to back up that exceed your storage pool capacity. An 8MB backup storage pool, an 8MB archive storage pool, and an 8MB space management pool were allocated at installation.

1. The server must be running before you can use the administrative and backup-archive clients. See "Starting and Stopping the Server" on page 18 for the procedure for starting the server.
2. Configure the backup-archive client by doing the following:
   a. Copy the sample client system options file (*dsm.sys.smp*) and the sample client user options file (*dsm.opt.smp*). The sample files are in */usr/tivoli/tsm/client/ba/bin/*.
   b. Edit the options files to include the options listed below:

      In *dsm.opt*:

      ```
      servername server_name
      ```

      In *dsm.sys*:

```
servername server_name
commmethod tcpip
  tcpport port_address
  tcpserveraddress server_address
nodename client
```

Note: The server names specified in *dsm.opt* and *dsm.sys* must match. See the *Backup-Archive Clients Installation and User's Guide* for more information.

3. Start the backup-archive client graphical user interface by entering the following command:

```
dsmj
```

   The default ID and password for the backup-archive client are:
   - **ID Name:** *client*
   - **Password:** *client*
4. To back up several files, perform the steps listed below. For more detailed information and other backup procedures, see the appropriate Tivoli Storage Manager client manual.
   a. Click on **Backup**. The Backup window displays.
   b. You can select files from a directory tree, or you search a drive or directory to select files:
      - To select files from a directory tree, expand the tree and click on the files you want to back up.
      - To search for files, do the following:
        1) Click on the **Find** icon on the tool bar. The **Find Files (Backup)** window is displayed.
        2) Enter your search criteria in the **Find Files (Backup)** window.
        3) Click on **Search**. The **Matching Files (Backup)** window displays.
        4) Click on the selection boxes next to the files you want to back up.
        5) Close the **Matching Files (Backup)** window by clicking on the backup-archive icon on the menu bar and selecting **Close**.
   c. Click on **Always Backup** from the **Type of Backup** list.
   d. Click on **Backup**. The **Backup Status** window displays the backup processing status. You will receive a message when the backup has completed successfully.

Getting Started

This section describes the following tasks:

- "Starting and Stopping the Server"
- "Registering Licenses" on page 19

Starting and Stopping the Server

To start the server from the */usr/tivoli/tsm/server/bin* directory, enter: `nohup ./dsmserv` or run in the background with `nohup ./dsmserv &`

You can stop the server without warning if an unexpected problem requires you to return control to the operating system. To avoid losing administrative and client node connections, stop the server only after current sessions have completed or been canceled.

To stop the server, issue the following command from the Tivoli Storage Manager command prompt: `halt`.

Registering Licenses

You should immediately register any Tivoli Storage Manager licensed functions that you purchase. Use the REGISTER LICENSE command to do this, documented in the *Administrator's Reference* and the *Administrator's Guide*. Also, be sure to see the Tivoli Storage Manager readme file for the latest information regarding enrollment certificate files.

Chapter 2. Installing the Integrated Solutions Console and the Administration Center

Prior to installing Integrated Solutions Console and the Administration Center, you must already have installed, configured, and started the Tivoli Storage Manager server. Installation of the Administration Center is a two-step process:

1. You must first install the Integrated Solutions Console Version 6.0.1.
2. Next, you can install the Administration Center into the Integrated Solutions Console.

The installation wizards for the Integrated Solutions Console and the Administration Center are on separate CDs. The Integrated Solutions Console will only be available via your regular order system such as Passport Advantage or the Advanced Administrative System (AAS). If you obtain your IBM software electronically through Passport Advantage, you must have an authorized user ID and password. If you obtain your software from a software order system such as AAS, you will need to request an MES update (miscellaneous equipment update). If you have questions regarding AAS, see your System Engineer (SE). See the Administration Center Readme for specific information. You can obtain a PDF or HTML version of the readme file from the IBM Tivoli Information Center (http://publib.boulder.ibm.com/infocenter/tivihelp/v1r1/index.jsp). After both applications are installed, you will be able to administer Tivoli Storage Manager from anywhere in your network via a web browser.

The Administration Center is also available via the normal service FTP site.

These are the CDs you need to install the Integrated Solutions Console and the Administration Center:

Table 8. Integrated Solutions Console and Administration Center Installation CDs

CD Number	CD Title
LK4T-0343-01	IBM Tivoli Storage Manager Integrated Solutions Console Version 5.1 AIX for use with the Tivoli Storage Manager Administration Center Version 5.3
LK4T-0356-02	Tivoli Storage Manager Administration Center Version 5.3

This chapter provides instructions for installing the Integrated Solutions Console and the Administration Center, including the following tasks:

Task:	Procedure:
Configure the IP Address	"Configuring the IP Address" on page 23
Overview: Install the Integrated Solutions Console and the Administration Center	"Overview: Installing the Integrated Solutions Console and the Administration Center" on page 24
Install the Integrated Solutions Console	"Installing the Integrated Solutions Console" on page 25
Install the Administration Center	"Installing the Administration Center" on page 26

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Task:	Procedure:
Upgrade the Administration Center	"Upgrading the Administration Center" on page 27
Verify your Installation	"Verify Your Installation" on page 26
Uninstall the Administration Center	"Uninstalling the Administration Center" on page 27
Uninstall the Integrated Solutions Console	"Uninstalling the Integrated Solutions Console" on page 28
Manually Uninstall the Integrated Solutions Console	"Manually Uninstalling the Integrated Solutions Console" on page 28

Note: For setting up the secure sockets layer (SSL) procedure, see the *Administrator's Guide* appendix.

System Requirements

Check this website for the latest platform support updates:

```
www.ibm.com/software/sysmgmt/products/support/
IBMTivoliStorageManagerVersionRelease.htm
```

Search for **Administration Center** to find the Administration Center system requirements.

The Tivoli Storage Manager server can require a large amount of memory, network bandwidth, and processor resources. In many cases, the server performs best when other applications are not installed on the same system. If the system meets the combined requirements for the server and the Administration Center (for example, it has at least 2 GB of physical memory), it can support both applications. However, if you plan to use the Administration Center to manage an environment with a large number of servers or administrators, consider installing the Administration Center on a separate system.

An operating system which meets the systems requirements given below must be installed on the machine before you can install the Administration Center and Integrated Solutions Console. Ensure that your system meets the prerequisites for the type of installation you will perform. The memory needed for the Administration Center is additional memory beyond what is needed for the operating system and your existing applications.

- **AIX server** (32-bit operating system on either 32-bit or 64-bit hardware)
  - Operating System:
    - AIX 5.1 with Maintenance Level 4 (*see Note below)
    - AIX 5.2 with Maintenance Level 1 and APAR IY44183
    - AIX 5.2 with Maintenance Level 5 on Power 32-bit and 64-bit
    - AIX 5.3 with Maintenance Level 1 on Power 32-bit and 64-bit
  - Processor: RISC System/6000 at 450 MHz minimum; higher for production environments.

  Note: Though AIX Version 5.1 is supported with the Integrated Solutions Console Version 6.0.1, it is recommended that you upgrade to Version 5.2 or later.
- **Web Browsers**

You need a Web browser to log in and use the Integrated Solutions Console. The Web browser can be installed on the same system or a separate system. The following browsers can be used:

- Microsoft® Internet Explorer 6.x (Windows systems only) or later with Java Plug-in 1.4.1.
- Mozilla 1.6 or later.

- **Static IP Address**

  The host system must be configured to use a static IP address. See "Configuring the IP Address."

- **Physical memory:** 512 MB minimum; 1 GB or more recommended for runtime installations.
- **Disk space:** To install the console on a system for the first time and use the WebSphere® Application Server that is embedded in the Administration Center, you need:
  - 650 MB to satisfy the installation program disk space check.
  - An additional 75 MB in the /tmp directory (which is also checked during the installation).
  - 505 MB for the installation media location.
- **Virtual memory/swap space:** Double your physical memory. At a minimum, this should be at least equal to your physical memory.
- **Network connectivity:** To use the Administration Center across a network, the following items are required for the Administration Center machine:
  - A network adapter and connection to a physical network that can carry IP packets (for example, Ethernet, Token Ring, and ATM).
  - A static IP address.
  - A configured, fully-qualified host name. Administration Center must be able to resolve an IP address from its fully-qualified host name. To verify that the host name is configured correctly, issue the ping command from a command line. For example:

    ```
    ping hostname.yourco.com
    ```

    where *hostname.yourco.com* is the fully-qualified host name.
- **Defaults**
  - iscadmin – The default Integrated Solutions Console ID. You will also specify a password for this ID.
  - 8421 – The default Web administration port (HTTP).
  - 8422 – The default secure Web administration port (HTTPS).

Configuring the IP Address

The Administration Center assumes that the host system is using a static IP address instead of a dynamically assigned IP address. A static IP address is necessary because the Administration Center server must be listed on the domain name servers, which map the host name to the physical address of the system.

On a system that is not connected to the network, you must configure your system so that the IP loopback port is mapped to the fully-qualified host name. To enable that mapping, perform the following procedure.

1. Go to the system where the Administration Center will be installed.
2. Locate the TCP/IP host file on your system.

- Look in the path/etc.

3. Use a text editor to open the host file.
4. At the end of the host file, add lines similar to the following:

```
127.0.0.1      localhost
127.0.0.1      your.server.name
```

   where your.server.name is the fully-qualified host name for the Administration Center system.
5. Save the host file.

Overview: Installing the Integrated Solutions Console and the Administration Center

The time to install the Integrated Solutions Console varies depending on the speed of your processor and the memory in your machine. For example, if you have a 1.2 GHz processor with 3 GB of memory running on AIX Version 5.3, it will take 17 minutes for a new installation of the Integrated Solutions Console and an additional 6 minutes for the Administration Center. For more configuration examples, see the README file.

Basic steps for setting up the Integrated Solutions Console and the Administration Center:

1. Install and start your Tivoli Storage Manager Version 5.3 servers. Give each server a unique name.
2. Use the Integrated Solutions Console CD or eGA image to install the Integrated Solutions Console. During the installation process, create an Integrated Solutions user ID and password.
3. Use the Administration Center CD or eGA image to install the Administration Center, on the same system as the Integrated Solutions Console. The Administration Center (along with the Integrated Solutions Console) can be installed on the same system as a Tivoli Storage Manager server if the system meets the combined requirements for both applications (at least 2 GB). However, if you plan to use the Administration Center to manage an environment with a large number of servers or administrators, consider installing the Administration Center on a separate system.
4. Log onto the Integrated Solutions Console using a Web browser. You will be able to administer Tivoli Storage Manager from a browser anywhere in your network.
5. Add connections for the Tivoli Storage Manager servers you want to manage.
6. The default Integrated Solutions Console ID is iscadmin. You must specify a password for this ID. You can create additional Integrated Solutions Console user IDs and passwords for any other administrators who will access the Administration Center.

For FAQs about the Administration Center, see

`http://www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html`

and search for **Administration Center**.

Installing the Integrated Solutions Console

The Integrated Solutions Console is required to use the Administration Center and it needs to be installed prior to installing the Administration Center. If an earlier version of the Integrated Solutions Console is already installed, you will have the option of upgrading to Version 6.0.1.

Notes:

1. The time for the installation process to complete depends on the speed of your processor and memory. See the Administration Center Readme for more information.
2. The Integrated Solutions Console installation media and the Administration Center should be extracted to different directories.
3. If you are upgrading to the Integrated Solutions Console Version 6.0.1:
   - You must also upgrade the Administration Center to Version 5.3.2.
   - Your Integrated Solutions Console Version 5.1 directory will not be removed because it contains log files. Once your upgrade completes successfully, you can delete this directory.
   - There is a possibility that the Integrated Solutions Console Version 5.1 will not properly uninstall, following the migration. If you encounter this situation, you will need to manually uninstall Version 5.1 and then stop and restart the Administration Center. See "Manually Uninstalling the Integrated Solutions Console" on page 28 and "Starting and Stopping the Console Server and Console Help Server" on page 27.

To install the Integrated Solutions Console:

1. Insert the Integrated Solutions Console CD in your CD drive.
2. If you do not already have a **mount point/file system** defined for your CD, create the CD-ROM file system

   crfs -v cdrfs -d /dev/cd0 -m /cdrom -p ro
3. Mount the file system **mount /cdrom**.
4. Open a command window or go to a command prompt.
5. Change to the CD-ROM directory. If you are installing from the eGA image, **TSM_ISC_5320_<PLATFORM>.bin** , issue the following command:

   ```
   chmod u+x TSM_ISC_5320_AIX.bin
   TSM_ISC_5320_AIX.bin
   ```
6. Enter one of the following commands to install the Integrated Solutions Console:
   - For the installation wizard : `setupISC`
   - For the console installation wizard :`setupISC -console`
   - For silent installation, enter the following command on a single line:

     ```
     setupISC -silent -W ConfigInput.adminName="<user name>"
     -W ConfigInput.adminPass="<user password>"
     -W ConfigInput.verifyPass="<user password>"
     -W PortInput.webAdminPort="<web administration port>"
     -W PortInput.secureAdminPort="<secure administration port>"
     -W MediaLocationInput.installMediaLocation="<media locaton>"
     -P ISCProduct.installLocation="<install location>"
     ```
7. To release the CD, make sure you are no longer in the CD-ROM's directory, then **umount /cdrom**.
8. If your system is configured to use a browser, go to the following URL , which will display the logon screen for the Integrated Solutions Console:

http://<machine_name>:<Web Administration Port>/ibm/console. This indicates a successful installation of the Integrated Solutions Console.

Installing the Administration Center

The Integrated Solutions Console must be running when installing the Administration Center.

Note: The Administration Center can display information in languages other than English. You can enable language support during installation. If this support is enabled, the Administration Center attempts to display the same language as the Web browser used to access it. If the Web browser uses a different language than the Tivoli Storage Manager server, some information will be displayed in the language used by the server. To change the default language used by the Web browser, see the browser documentation.

To install the Administration Center:

1. Insert the Administration Center CD in your CD drive.
2. If you do not already have a **mount point/file system** defined for your CD, create the CD-ROM file system

   crfs -v cdrfs -d /dev/cd0 -m /cdrom -p ro
3. Mount the file system **mount /cdrom**.
4. Open a command window or go to a command prompt.
5. Change the directory to the CD-ROM directory. If you are installing from an eGA image with the **TSMAdminCenter5320.tar** file, issue the following command:

   ```
   tar -xf TSMAdminCenter5320.tar
   ```
6. Run one of the following commands to install the Administration Center:
   - For the installation wizard : `startInstall.sh`
   - For the console installation wizard : `startInstall.sh -console`
   - For silent install, enter the following command on a single line:

     ```
     startInstall.sh -silent -W AdminNamePanel.adminName="<user name>"
     -W Passwordinput.adminPass="<user password>"
     -W Passwordinput.verifyPass="<user password>"
     -W MediaLocationInput.InstallMediaLocation="<media locaton>"
     -W PortInput.webAdminPort="<web administration port>"
     -P AdminCenterdeploy.installLocation="<install location>"
     ```
7. To release the CD, make sure you are no longer in the CD-ROM's directory, then **umount /cdrom**.

Verify Your Installation

After installing the Integrated Solutions Console and Administration Center:

1. Enter the following address in a supported Web browser: http:/<machine_name> /:8421/ibm/console. The machine_name is the network name or IP address of the machine on which you installed the Administration Center.
2. To get started, log in using the Integrated Solutions Console user ID and password you created during the installation. After you successfully log in, the Integrated Solutions Console welcome page is displayed. Expand the Tivoli Storage Manager folder in the **Work Items** list and click **Getting Started** to display the Tivoli Storage Manager welcome page. This page provides instructions for using the Administration Center.

Starting and Stopping the Console Server and Console Help Server

The Integrated Solutions Console server and help are automatically started after a successful installation.

If you shut down the system after the initial installation, any Integrated Solutions Console servers that were started will be stopped. This section describes the commands you use to start and stop the Integrated Solutions Console servers.

In the following commands, the variables have these meanings:

- *<isc_home>* is the root directory for your Administration Center installation.
- *<iscadmin>* is the administrator user ID for Administration Center if the installation uses the WebSphere Application Server embedded in the console runtime. If the installation uses a separate WebSphere Application Server installation, administrator is the administrator user ID for the WebSphere Application Server installation.
- *<iscpass>* is the password for the administrator.

To **start** Integrated Solutions Console system servers, complete the following steps:

1. Change your directory to <isc_home>/PortalServer/bin.
2. Run the shell script `startISC.sh ISC_Portal <iscadmin> <iscpass>` .

To **stop** Integrated Solutions Console system servers, complete the following steps:

1. Change your directory to <isc_home>/PortalServer/bin.
2. Run the shell script `stopISC.sh ISC_Portal <iscadmin> <iscpass>` .

Note: It may take a few minutes for the service to stop even though the service manager indicates the server is stopped.

Upgrading the Administration Center

To upgrade the Administration Center, complete the steps in "Installing the Administration Center" on page 26

Note: The Integrated Solutions Console should already be installed. It does not need to be uninstalled and reinstalled.
See the Administration Center Readme for the latest information.

Uninstalling the Administration Center

Use the following procedure to uninstall the Administration Center. You must perform this procedure before uninstalling the Integrated Solutions Console. This procedure does not remove the Integrated Solutions Console. In the following commands, the variables have these meanings:

- *<isc_home>* is the root directory for your Integrated Solutions Console installation.
- *<iscadmin>* is the administrator user ID for Administration Center if the installation uses the WebSphere Application Server embedded in the console runtime. If the installation uses a separate WebSphere Application Server installation, administrator is the administrator user ID for the WebSphere Application Server installation.
- *<iscpass>* is the password for the administrator.

Note: The Integrated Solutions Console must be running when uninstalling the Administration Center.

1. Open a command window or go to a command prompt and change to the root directory for your Integrated Solutions Console installation. For example:

   ```
   cd <isc_home>
   ```

2. Run the following command:

   ```
   acuninst.sh <iscadmin> <iscpass>
   ```

Uninstalling the Integrated Solutions Console

Use the following procedure to uninstall the Integrated Solutions Console. Remember, you must first uninstall the Administration Center. In the following commands, the variable *<isc_home>* is the root directory for your Integrated Solutions Console installation.

1. Open a command window or go to a command prompt and change to the following directory:

   ```
   cd <isc_home>/_iscuninst
   ```

2. Run one of the following commands to uninstall the Integrated Solutions Console:
   - To run the uninstall wizard: `uninstaller`
   - To run the console uninstall wizard: `uninstaller -console`
   - To perform a silent uninstall: `uninstaller -silent`

Manually Uninstalling the Integrated Solutions Console

If the installation program fails or you are unable to uninstall with the wizard, you can try manually removing the Integrated Solutions Console and then installing it again. In the following commands, the variables have these meanings:

- *<isc_home>* is the root directory for your Integrated Solutions Console installation.
- *<iscadmin>* is the administrator user ID for Administration Center if the installation uses the WebSphere Application Server embedded in the console runtime. If the installation uses a separate WebSphere Application Server installation, administrator is the administrator user ID for the WebSphere Application Server installation.
- *<iscpass>* is the password for the administrator.

Perform the following steps:

1. Open a command window or go to a command prompt.
2. Stop the console server (which is the application server named ISC_Portal) by issuing the following command:

   ```
   <isc_home>/PortalServer/bin/stopISC.sh ISC_Portal <iscadmin> <iscpass>
   ```

3. Stop the application server named server1 by issuing the following command on a single line:

   ```
   <isc_home>/AppServer/bin/stopServer.sh server1 -user
   application_server_administrator -password
   application_server_password
   ```

4. To clean the system temporary directory, perform the following steps:
   a. Change to the system temporary directory. The temporary directory is the value of the operating system variable /tmp.
   b. Save a copy of the following files in the temporary directory:
      - ISCRuntimeInstall.log

- ISCRuntime.rsp
- ISCRuntimeUninstall.log
- All of the Portal*.log files

c. In the temporary directory, delete all of the files and the directories that begin with the string ISC (such as ISCRuntime.rsp, ISC_TEMP, ISCToolkitInstall.log) and all files that begin with the string Portal (such as PortalInit.log and PortalSetupWAS.log).

5. To clean the registry that InstallShield for Multiplatforms uses:
   a. Search for the file vpd.properties. There may be multiple files. If you find multiple copies, be sure to edit all copies of the file when you perform the edit step.
   b. Save a copy of the vpd.properties file.
   c. Use a text editor to open the vpd.properties file. Use an editor that does not wrap lines so that you can easily isolate single lines for removal. Setting the editor to use a monospace font (for example, Courier) will make it easier to see the file structure.
   d. Delete each line that refers to the path for the root directory of the console runtime. If there are no remaining lines in vpd.properties, leave the file empty or delete it.

      Note: The product registry contains entries regarding the installation, which must be manually removed. To remove those entries run vpddel. Run lslpp -L to obtain a list of everything in the product registry. Locate the entries for that contain the installation directory of the Integrated Solutions Console. Using the output from the command, construct a vpddel command for each entry. For example:

      ```
      vpddel -c integratedSolutionsConsole -v 5.0.2.0 -D /isc
      ```

      where the information for parameters is from the output of lslpp -L. See AIX documentation for more information on the usage of lslpp and vpddel.
6. To manually disable automatic restart at reboot of the console and console server, edit the operating system file /etc/inittab to remove the following line:

   ```
   isc6:23:boot:<isc_home>/PortalServer/bin/startISC.sh ISC_Portal
   ISCUSER ISCPASS
   ```
7. To stop all Java processes for the Integrated Solutions Console, perform the following steps:
   a. Issue the following command to find the processes that are using <isc_home>/AppServer/java/bin/java.exe:

      ```
      ps -ef | grep java
      ```
   b. Kill all of those processes.

   Note: There may be other Java processes running for other applications.
8. Delete the environment variable 'ISC_HOME'. Issue the following command:

   ```
   unset ISC_HOME
   ```
9. Delete the root directory for the Integrated Solutions Console.

Chapter 3. Specifying Server and Client Communications

This chapter describes how to specify communication methods between the IBM Tivoli Storage Manager server and clients. A sample server options file, called *dsmserv.opt.smp*, is created by default by the installation. To set up communications, you must create a new server options file by copying the sample file. Name the new file *dsmserv.opt* and edit the options. Each sample or default entry in the sample options file is a comment, a line beginning with an asterisk (*). When editing the options file, follow these guidelines:

- To activate an option, remove the asterisk at the beginning of the line.
- Options can begin in any column.
- Enter only one option per line, and the option must be on only one line.
- Options are not case-sensitive.
- One or more blank spaces are allowed between keywords and values.

If you change the server options file, you must restart the server for the changes to take effect. See the *Administrator's Reference* for a description of all server options.

You can specify one or more of the following communication methods:

- Shared memory
- TCP/IP
- SNMP DPI®

Note: You also can specify that no communication method be used by adding the following server option to the server options file:

```
commmethod none
```

With this option, users cannot connect to the server. It is useful for experimenting with policy commands.

Supporting Multiple Network Adapters

IBM Tivoli Storage Manager supports multiple network adapters that let an administrator specify one or more communication methods. This support lets an administrator increase server throughput by providing multiple connections to the same network or serve several physically distinct networks with the same server.

With the exception of shared memory, the server communication methods support multiple network adapters. Protocols differ in the way the use of multiple adapters is specified.

No additional server configuration is required for TCP/IP support of multiple adapters. Each of the adapters must be set up with a separate TCP/IP address. Clients are then provided with one of the addresses for their client options file. The server will accept sessions from each of the adapters. The session limit is placed on the accumulated count from all of the adapters.

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Setting Shared Memory Options

IBM Tivoli Storage Manager supports shared memory communication between clients and servers on the same machine. To use shared memory, TCP/IP must be installed on the machine. Here is a sample shared memory setting:

```
commmethod     sharedmem
   shmport     1510
```

In this example, SHMPORT specifies the TCP/IP port address of a server when using shared memory. Use the SHMPORT option to specify a different TCP/IP listen port. The default port address is 1510.

Note: The maximum number of concurrent shared memory sessions is based on available system resources. Each shared memory session uses one shared memory region of up to 4 MB, and four IPCS message queues, depending on the Tivoli Storage Manager client level.

If the server and client are not run under the same userid, then the server must be root. This will prevent shared memory communication errors.

Setting TCP/IP Options

Here is a sample TCP/IP setting:

```
commmethod        tcpip
  tcpport         1500
  tcpwindowsize   0
  tcpnodelay      yes
```

TCPPORT
The server TCP/IP port address. The default value is 1500.

TCPWINDOWSIZE
The size of the TCP/IP buffer used when sending or receiving data. The window size used in a session is the smaller of the server and client window sizes. Larger window sizes use additional memory but may improve performance.

You can specify an integer from zero to 2048. To use the default window size for the operating system, specify zero.

TCPNODELAY
Whether or not the server sends small messages or lets TCP/IP buffer the messages. Sending small messages may improve throughput but increases the number of packets sent over the network. Specify YES to send small messages or NO to let TCP/IP buffer them. The default is YES.

TCPADMINPORT
(Optional) Specifies the port number on which the server TCP/IP communication driver is to wait for requests other than client sessions. The default value is 1500. See the *Administrator's Reference* for further information.

Setting SNMP Options

Tivoli Storage Manager implements a simple network management protocol (SNMP) subagent. You can configure the SNMP subagent to send traps to an SNMP manager, such as NetView®, and to provide support for a management information base (MIB).

Note: For details about configuring SNMP for use with IBM Tivoli Storage Manager, see the *Administrator's Guide*.

The subagent communicates with the **snmpd** daemon, which in turn communicates with a management application. The **snmpd** daemon must support the DPI protocol. Agents are available on AIX.

The subagent process is separate from the Tivoli Storage Manager server process, but the subagent gets its information from the server options file. When the SNMP management application is enabled, it can get information from Tivoli Storage Manager servers.

Appendix A. National Language Support

National Language Support for the IBM Tivoli Storage Manager server allows the server to display messages and help in languages other than U.S. English. It also allows for the use of locale conventions for date, time, and number formatting. The languages supported are:

Brazilian Portuguese (pt_BR)	Japanese PC (Ja_JP)
Chinese, simplified (zh_CN)	Japanese EUC (ja_JP)
Chinese, Big 5 (Zh_TW)	Czechoslovakian (cs_CZ)
Chinese, (zh_TW)	Hungarian (hu_HU)
English (en_US)	Polish (pl_PL)
French (fr_FR)	Russian (ru_RU)
German (de_DE)	Korean (ko_KR)
Italian (it_IT)	Spanish (es_ES)

Note: English (en_US) is required and must have en_US environment support installed.

The SMIT installation of the server automatically installs the language that is defined by the LANG environment variable. To install a different language, use the Selective Installation. For any language, the appropriate language environment support also must be installed.

Selective Installation: During installation, select `Install Update from ALL Available` to list all the filesets, and choose those for the languages that you want. Use SMIT after installation to change the language selection. See the "SMIT Installation Procedure for the NLS Feature" on page 36.

To enable support for a given locale, do the following:

- Set the LC_MESSAGES environment variable to match that which is set in the server options file. For example, to set the environment variable for Italian, enter:

  ```
  export LC_MESSAGES=it_IT
  ```

- Set the LANGUAGE option in the server options file to the name of the locale to use. For example, to use the it_IT locale, set the LANGUAGE option to it_IT.

  If the locale successfully initializes, it will control the date, time, and number formatting for the server. This overrides the server options file definitions for date, time, and number formatting. If the locale does not successfully initialize, the server defaults to U.S. English message files, and the server options file continues to control the date, time, and number formats.

  The server console uses the locale and language that are defined by the server options language variable. However, if an administrative client connects to the server and specifies a locale that is different from the one that is specified at the server, the server tries to initialize that specified locale for returning messages to the client.

To use a language other than the one that is defined at installation, or to add translation of Tivoli Storage Manager messages and online help, see "SMIT Installation Procedure for the NLS Feature" on page 36.

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SMIT Installation Procedure for the NLS Feature

Use SMIT to perform basic installation and configuration, or to change or add a language selection. If you are upgrading from ADSM to IBM Tivoli Storage Manager, read "Migrating to Tivoli Storage Manager Version 5.3" on page 3.

Note: You can run SMIT from a command line or X Windows environment.

1. Log in as the root user.
2. From your desktop, enter `smit`.
3. Choose the following selections from within SMIT to install, change, or add language capability.

```
Software Installation and Maintenance
     Install and Update Software
        Install / Update Selectable Software (Custom Install)
           Install / Update from ALL Available Software
```

   Make your selections and, if necessary, continue at step 5 on page 12 in the "Basic Installation and Configuration" procedure to complete your installation.

For more information about SMIT, see *Getting Started: Managing IBM RISC System/6000*, and read the SMIT windows during your installation.

For more information about language support, see the LANGUAGE server option in the *Administrator's Reference*.

Note: For administrative Web interface users, some characters might not display properly if the HTML browser version is not the same language as the server. If this problem occurs, use a browser version that uses the same language as the server.

Appendix B. Applying IBM Tivoli Storage Manager Updates

This appendix describes how to use Tivoli Storage Manager maintenance updates with AIX. These updates, also referred to as Fix Packs, bring your server up to the current maintenance level. Use the System Management Interface Tools (SMIT) to apply the updates. To view a list of the latest maintenance and download fixes, visit this Web site: *www.ibm.com/software/sysmgmt/products/support/IBMTivoliStorageManager.html*

! The Tivoli Storage Manager server must **not** be running during maintenance updates.

Before Applying Maintenance Updates

Maintenance updates may contain README files that provide a summary of changes for the PTF. Review this information before you apply the update. If required, a DSMSERV UPGRADEDB operation is automatically performed when maintenance is applied.

1. Mount the CD-ROM by entering from the root directory:

```
crfs -v cdrfs -d /dev/cd0 -m /cdrom -pro

mount /cdrom
```

2. Change to a directory where you have write permission. For example, to change to the */home/temp* directory, enter:

```
cd /home/temp
```

3. List the contents of the PTF using the RESTORE command. For example:

```
restore -Tvf /cdrom/u452223.bff
```

4. Note the relative location of any README files. For example:

```
./usr/tivoli/tsm/server/bin/README.SRV
./usr/tivoli/tsm/devices/bin/README.DEV
```

5. Restore the README file. For example:

```
restore -xvf /cdrom/u452223.bff ./usr/tivoli/tsm/server/bin/README.SRV
```

6. Change to the directory containing the README and use your favorite browser to view the contents.

Using SMIT to Install Maintenance Updates on AIX

Installation will be stopped and an error message displayed if an active server or storage agent process is detected. All active server or storage agent processes must be halted before installation can proceed.

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Complete the following procedure to apply maintenance updates on the AIX system by using SMIT.

Note: To use SMIT to apply maintenance updates on AIX, you must be root user and have disk space available. SMIT can be run from the AIX command line or from the command line of an xterm or desktop window.

! The server must be halted before you begin this procedure.

It is strongly recommended that you do not commit the update until you are confident that the server is operating properly.

---

1. Log in as the root user.

   Note: To access the X Windows environment, enter: **xinit**.
2. Enter:

   ```
   smit
   ```

3. To see a list of authorized program analysis reports (APAR)s to select, choose the following selections from within SMIT:

   ```
   Software Installation and Maintenance
      Install and Update Software
         Install and Update from All Available Software
   ```

4. On the next window, select the device that you are using for the installation. You can enter the drive name in the window or click on **List** to access the device list. If you click on **List**, select the device that you are using (for example, */dev/cd0*).

   Note: The status of the drive that you select must be *Available*. Do not use */dev/mtx* for SMIT installations.
5. Click **Do**.
6. Place the cursor in "Software to Install" and press the F4 function key to list the available updates.
7. Select the updates you wish to install.
8. Check the default settings for the options on this window.

! Committing the software prevents removal of Tivoli Storage Manager from the system, and prevents you from rejecting the PTF and returning to the previous level.

---

9. Check the default settings for all of the options.
10. Click **OK** to continue.

    This installation may take several minutes.
11. After the installation is complete, click on **Done**, remove the CD-ROM, and exit from SMIT.

Appendix C. Removing the IBM Tivoli Storage Manager Server

This appendix describes what you must do before you remove the current version of the Tivoli Storage Manager server, and describes how to return to a previous version of Tivoli Storage Manager.

After you remove the IBM Tivoli Storage Manager device driver, restart your system.

To return to an earlier version of Tivoli Storage Manager after you perform a migrate install, perform a full database backup from your original version and the server install code for your original version.

If you return to an earlier version of Tivoli Storage Manager, be aware of these results:

- References to client files that were backed up, archived, or migrated to the current Tivoli Storage Manager server will be lost.
- Some volumes might be overwritten or deleted during Tivoli Storage Manager server operation. If so, client files that were on those volumes and that were migrated, reclaimed, moved (MOVE DATA command), or deleted (DELETE VOLUME command) might not be accessible to the earlier version of Tivoli Storage Manager.
- Definitions, updates, and deletions of Tivoli Storage Manager objects that were performed on the current Tivoli Storage Manager server will be lost.

Before You Remove IBM Tivoli Storage Manager

Perform the following procedure:

1. Perform a full database backup. For example, if you have a tape device class named tapeclass, enter this command to perform a full backup:

   ```
   backup db type=full devclass=tapeclass
   ```

2. Save a copy of the volume history and device configuration files that you defined on the VOLHISTORY and DEVCONFIG options in the server options file. For example, to save the volume history in a file named volhist, and the device configuration in a file named devices, enter:

   ```
   backup volumehistory filenames=volhist
   backup devconfig filenames=devices
   ```

3. Store the output volumes in a safe location.

Return to a Previous Version of Tivoli Storage Manager

Attention: You cannot restore a backed-up database from a prior version onto a newer version of the Tivoli Storage Manager server.

Installation will be stopped and an error message displayed if an active server or storage agent process is detected. All active server or storage agent processes must be halted before installation can proceed.

To return to a previous version of Tivoli Storage Manager, perform the following steps:

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1. Enter `halt` to stop the current IBM Tivoli Storage Manager server if it is currently running.
2. Delete the current device definitions.

   Enter `smit &`. Select **Devices**.

   Note: It is not necessary to remove the non-Tivoli Storage Manager devices that IBM Tivoli Storage Manager uses (3480, 3490, and 3590 drives, and 3494 and 3495 tape libraries).

   a. Select your device from the device selection screen.
   b. Select **Remove** for the device selected in the preceding step.

      Do not keep the configurations in the database, but record the device SCSI address so you can use them later to redefine the devices. On the SMIT screen (**Keep definition in database**) for defining devices, change the **yes** to **no**.
3. Remove the current Tivoli Storage Manager server software. Enter the following:

   ```
   /usr/sbin/installp -ug tivoli.tsm.license
   /usr/sbin/installp -ug tivoli.tsm.devices
   /usr/sbin/installp -ug tivoli.tsm.server
   ```

   Note: Remove any other NLS IBM Tivoli Storage Manager packages that you might have installed (for example, *tivoli.tsm.msg.Ja_JP.server*). Remove the license package.
4. If you have the previous *dsmserv.dsk*, database, and recovery log, restore them to the directory that will be used for the reinstall.
5. Reinstall the previous version of Tivoli Storage Manager and the most recent maintenance.
6. Define the IBM Tivoli Storage Manager devices to the operating system.
7. Reinitialize any database and recovery log volumes, other than those created during install, using the DSMSERV FORMAT utility. See the *Administrator's Reference* for details.
8. Reload the Tivoli Storage Manager database using the DSMSERV RESTORE DB utility.

   ```
   dsmserv restore db todate=07/04/2003
   ```

   See the *Tivoli Storage Manager Administrator's Reference* for details.
9. Start the server by entering the following command:

   ```
   dsmserv
   ```
10. Issue an AUDIT VOLUME FIX=YES command for each sequential storage pool volume that has a volume type of STGDELETE or STGREUSE to audit all disk storage pool volumes.
11. Examine the saved volume history file from step 2 on page 39.

    For every sequential volume specified in the volume history file with a volume type of STGREUSE or STGDELETE, execute the AUDIT VOLUME FIX=YES command to clean up invalid database references to the volume(s).

    If you cannot locate a volume that has a volume type of STGDELETE, use the DELETE VOLUME DISCARDDATA=YES command to remove references to the volume from the server database.

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