IBM Tivoli Storage Productivity Center
Version 5.2.4

Quick Installation Guide

IBM

About this guide

IBM® Tivoli® Storage Productivity Center manages storage infrastructure by centralizing, automating, and simplifying the management of complex and heterogeneous storage environments. IBM Tivoli Storage Productivity Center for Replication helps you manage data-copy functions. Use this guide to complete the steps that are required to install these products, including planning for installation and configuration.

Who should read this guide

This publication is intended for administrators or users who are installing IBM Tivoli Storage Productivity Center on a single server.

Administrators and installers should be familiar with the following topics:
- General procedures for installing software on Microsoft Windows, IBM AIX®, and Linux.
- Storage Area Network (SAN) concepts
- Tivoli Storage Productivity Center concepts
- IBM DB2® Database for Linux, AIX, and Windows
- Simple Network Management Protocol (SNMP) concepts

Publications

A number of publications are provided with Tivoli Storage Productivity Center and Tivoli Storage Productivity Center for Replication. The following section describes how to access these publications online.

Accessing publications online

Publications for this product and other related products are available online.

Information about installing, configuring, upgrading, and uninstalling Tivoli Storage Productivity Center and related products is available online. Use Table 1 on page iv to view and download these publications. Translated documents are available for some products.

IBM Tivoli Documentation Central also provides links to the information centers for all Tivoli products. For information about referenced Tivoli products, such as Tivoli Storage Manager and Tivoli Enterprise Console®, go to the home page for Tivoli Documentation Central.

Table 1. Locations of publications for Tivoli Storage Productivity Center and related products

Product	Online location
IBM Tivoli Storage Productivity Center and IBM Tivoli Storage Productivity Center for Replication	http://www.ibm.com/support/knowledgecenter/SSNE44/ In the navigation pane, click the release of Tivoli Storage Productivity Center that you want. To obtain PDF documents for a release of Tivoli Storage Productivity Center, click the release and then click **Printable documentation**. To view previous versions of the Tivoli Storage Productivity Center Information Center, go to the Tivoli Storage Productivity Center page in Tivoli Documentation Central.
IBM DB2 Database for Linux, UNIX, and Windows	http://www.ibm.com/support/knowledgecenter/SSEPGG/welcome
Jazz™ for Service Management	http://www.ibm.com/support/knowledgecenter/SSEKCU/welcome
IBM WebSphere® Application Server Network Deployment	http://www.ibm.com/support/knowledgecenter/SSEQTP/mapfiles/product_welcome_was.html

Downloading publications

IBM publications are available in electronic format to be viewed or downloaded free of charge.

You can download IBM publications from ↪ http://www.ibm.com/support/knowledgecenter/.

Accessibility features for Tivoli Storage Productivity Center

Accessibility features help users who have a disability, such as restricted mobility or limited vision, to use information technology products successfully.

To read about the accessibility features for Tivoli Storage Productivity Center, go to the product documentation at ↪ http://www.ibm.com/support/knowledgecenter/SSNE44_5.2.4/com.ibm.tpc_V524.doc/fqz0_r_accessibility.html.

For more information about IBM's commitment to accessibility, see the IBM Human Ability and Accessibility Center website at http://www.ibm.com/able/.

Chapter 1. Planning

You can install Tivoli Storage Productivity Center and its components on a single server by using the installation wizard. Before you run the wizard, be familiar with the target operating systems, hardware and software requirements, and the related components.

When you install Tivoli Storage Productivity Center, you must also install the following components:

DB2 Tivoli Storage Productivity Center stores the information that it collects about storage resources in a DB2 database.

Jazz for Service Management and Tivoli Common Reporting (optional)
Install this component if you want to use Tivoli Storage Productivity Center reports in the web-based GUI. You can use the reporting tool to create reports and view predefined reports to analyze multiple storage systems, switches, servers, and hypervisors.

You can also use the reporting tool to complete the following tasks:
- Compare performance metrics across multiple resources, such as storage systems.
- View a report about the aggregate volume load that is on a server or hypervisor.
- Schedule reports to run on different systems and with different options.
- Specify different schedules and output formats for reports, and different ways to share the them.

If you do not install Tivoli Storage Productivity Center reports when you install Tivoli Storage Productivity Center, you can install it later to enable the reporting tool in the web-based GUI. For more information about installing Tivoli Storage Productivity Center reports later, see "Installing Tivoli Storage Productivity Center reports later in a single-server environment by using the wizard" on page 24.

For large storage environments where one server is not sufficient to manage all the Tivoli Storage Productivity Center components, you can install the product on multiple servers. In this type of environment, Jazz for Service Management and Tivoli Common Reporting can run on a separate server. For more information about installing Tivoli Storage Productivity Center on multiple servers, go to the product documentation at ⇨ http://www.ibm.com/support/knowledgecenter/ SSNE44_5.2.4/com.ibm.tpc_V524.doc/fqz0_r_installing_tpc_multiple_server.html.

Hardware requirements

The Tivoli Storage Productivity Center server can require a large amount of memory, disk space, network bandwidth, and processor resources. In many cases, the server performs best when other applications are not installed on the same system.

These values are general recommendations to install Tivoli Storage Productivity Center:

Processor
These are the recommended processor values:
- Intel Xeon or greater, at least 4 processors at 2.5 GHz CPUs (Windows or Linux)
- IBM POWER5 or later, at least 4 processors at 2.3 GHz CPUs (AIX)

Memory
At least 8 GB of RAM

Disk Space
These are the recommended disk space values:
- 15 GB (Windows and Linux)
- 22 GB (AIX)

For the latest information about the hardware and software requirements for Tivoli Storage Productivity Center, see the support matrix at ➡ http://www.ibm.com/support/docview.wss?uid=swg21386446.

Software requirements for LDAP servers

LDAP repositories, that are available on Windows, Linux and AIX operating systems, can be used with Tivoli Storage Productivity Center.

The Tivoli Storage Productivity Center installation program establishes a default authentication configuration using the federated repositories feature of the WebSphere Application Server. You can add an LDAP repository to this authentication configuration as a post-installation activity.

For information about the LDAP repositories that are supported, see one of the following WebSphere Application Server web pages. On the **Supported Software** tab, click **LDAP Servers**.

- For the Windows operating system: ➡ http://www-969.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=1227216762841&osPlatform=Windows

- For the AIX operating system: ➡ http://www-969.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=1227216762841&osPlatform=AIX

- For the Linux operating system: ➡ http://www-969.ibm.com/software/reports/compatibility/clarity-reports/report/html/softwareReqsForProduct?deliverableId=1227216762841&osPlatform=Linux

Requirements for Jazz for Service Management and Tivoli Common Reporting

If you plan to use Tivoli Storage Productivity Center reports, you must install Jazz for Service Management Version 1.1.0.3 and IBM Tivoli Common Reporting Version 3.1.0.2.

For more information about the requirements to install Jazz for Service Management Version 1.1.0.3 and IBM Tivoli Common Reporting Version 3.1.0.2, go to the *Jazz for Service Management Detailed System Requirements* document at ➡ http://www-01.ibm.com/support/docview.wss?uid=swg27038732.

Attention: You must install Jazz for Service Management from the Tivoli Storage Productivity Center installation program. For more information about installing Tivoli Storage Productivity Center, see "Installing Tivoli Storage Productivity Center in a single-server environment" on page 21.

Chapter 2. Installing DB2

Before you install Tivoli Storage Productivity Center, you must install DB2 as the database repository. You can install DB2 on Linux, AIX, or Windows.

DB2 Version 10.1 Fix Pack 3a is shipped with Tivoli Storage Productivity Center and the installation instructions that are in this guide are for this version.

Although DB2 Version 10.1 Fix Pack 3a is provided with Tivoli Storage Productivity Center, you can use another version of DB2 that Tivoli Storage Productivity Center supports. For a list of DB2 versions that you can use with Tivoli Storage Productivity Center, go to ⮕ http://www-01.ibm.com/support/docview.wss?uid=swg27039833#Databases.

Installing DB2 on Windows

You can install DB2 on servers that run the Windows operating system.

Preparing to install DB2 on Windows

If you have an administrator user ID that you want to use to install DB2 and Tivoli Storage Productivity Center, this user ID must be a member of the DB2ADMNS and the Administrator groups.

When you install DB2, these groups are created:
- DB2ADMNS, which has all the required user rights that are assigned for administrative authority
- DB2USERS, which has user rights that are assigned to DB2 users

Assign users who need administrative authority to the DB2ADMNS group and DB2 users to the DB2USERS group. When you assign a user ID to either group, the user ID has all the user rights required for that group. You do not have to assign individual user rights to each user ID.

Important: The Windows Administrator user ID does not have the authority to create the Tivoli Storage Productivity Center database TPCDB. The DB2 administrator user ID that you need when you install Tivoli Storage Productivity Center must have DB2 administrative rights. The user ID that you need to install Tivoli Storage Productivity Center must be a member of the DB2ADMNS and Administrator groups. The DB2 user ID db2admin, which was created when you installed DB2, has the authority for Tivoli Storage Productivity Center. For valid DB2 user IDs and passwords, go the product documentation at ⮕ http://www-01.ibm.com/support/knowledgecenter/SSEPGG_10.1.0/com.ibm.db2.luw.admin.dbobj.doc/doc/c0007248.html?lang=en.

When you assign the Windows Administrator user ID to the DB2ADMNS group, this authority is active the next time the Administrator user ID logs in.

8.3 short file names

If DB2 is installed on a drive on which 8.3 file names are disabled, and the DB2 installation directory name has spaces in it, DB2 must be reinstalled on a drive that has 8.3 file names enabled, or in a directory that does not have spaces in the name.

To check the current 8.3 file name settings for a drive, in a DB2 command window, run the **'fsutil.exe behavior query disable8dot3'** command.

These are the values when you run the command:
- 0 = Create 8.3 short file names (default)
- 1 = Do not create 8.3 file names
- 2 = Set 8.3 file names on a per volume basis
- 3 = Disable 8.3 file names on all volumes, except the system volume

The registry state of NtfsDisable8dot3NameCreation is 0 , which means that 8.3 file names are enabled on all volumes.

To enable 8.3 file names on a global basis, run the **fsutil.exe behavior set disable8dot3 0** command.

Installing DB2 on Windows

You can install DB2 on Windows by using a graphic user interface (GUI) installation program.

Note: Windows platforms do not support systems that are configured only for IPv6. (Windows is enabled for IPv6 and IPv4.)

To install DB2 on a Windows operating system, complete the following steps:
1. Log on with a user ID that has Administrator authority on Windows.
2. Insert the DB2 product DVD into the DVD drive or use the extracted DB2 installation image. Windows Autorun starts the launchpad.

   If you are using Windows Autorun, the installation program should start in 15-30 seconds. If the installation program does not start, complete one of the following steps:
   - In a command prompt, to start the DB2 set up page, go to the DVD-ROM\server directory or the *web image extraction*\server folder and run the **setup.exe** command.
   - In Windows Explorer, go to the DVD-ROM\server directory or the *web image extraction*\server folder, and double-click the setup.exe file.
3. In the DB2 Setup Launchpad, click **Install a Product**.
4. Click **Install New** for **DB2 Enterprise Server Edition Version 10.1 Fix Pack 3**.
5. On the welcome page of the DB2 Setup wizard, click **Next**.
6. On the Software License Agreement page, review and accept the license agreement, and click **Next**.
7. On the Select the installation type page, click **Typical**, and click **Next**.
8. On the Select the installation, response file creation, or both page, select **Install DB2 Enterprise Server Edition on this computer and save my settings in a response file**.
9. Enter a response file name or accept the default, and click **Next**.

10. On the Select the installation folder page, enter a directory or accept the default, and click **Next**.
11. On the Select the IBM SSH server installation folder and startup option page, enter a directory or accept the default, and click **Next**.
12. On the Set user information for the DB2 Administration Server page, enter the following user information:
    a. Leave **Domain** field blank.
    b. In **User name** field, type the DB2 user ID that you want to use or accept the default.
    c. In the **Password** field, type a password and confirm the password by typing it again in the **Confirm password** field.
13. Select the **Use the same account for the remaining DB2 services** check box and click **Next**.
14. On the Configure DB2 instances page, click **Next**.

    For information installing DB2 by using a Windows domain user account, go to the user documentation at ➡ http://www-01.ibm.com/support/knowledgecenter/SSNE44_5.2.4/com.ibm.tpc_V524.doc/fqz0_r_install_db2_win_domain_acct.html?lang=en.
15. On the Set up notifications page, clear the **Set up your DB2 server to send notifications** check box, and click **Next**.
16. On the Enable operating system security for DB2 objects page, accept the defaults, and click **Next**.

    The default is to enable operating system security.

    Note: If you installed DB2 before on this system, and the DB2ADMS group exists, when you click **Next**, the following message is displayed: :
    ```
    Warning
    The group name "DB2ADMS" already exists
    in the system and will be granted complete
    access to the DB2 folders and objects through
    the operating system.
    Click OK to continue installation, or click
    Cancel to input another group name.
    ```
17. On the Start copying files and create response file page, review the summary information, and click **Finish**.
18. On the Setup is complete page, review the information, and click **Next**.
19. On the Install additional products page, do not install more products, click **Finish**. The setup wizard closes and DB2 First Steps interface opens.
20. Click **Check for Product Updates**, install the necessary updates, and click **Exit**.
21. Restart the system.

Installing DB2 on UNIX or Linux

You can install DB2 on the UNIX or Linux operating systems.

Preparing to install DB2 on UNIX or Linux

To operate DB2 on operating systems such as UNIX or Linux, the instance owner, the fenced user, and the DB2 administration server user are required. These users and groups are automatically created when DB2 is installed.

The user ID you need to install IBM Tivoli Storage Productivity Center must be the owner of the instance that you want to use. This user ID and password are created when you install DB2.

Table 2. DB2 Setup wizard default user and group names

Required user	Default user name	Default group name	Description
instance owner	db2inst1	db2iadm1	Created in the instance owner home directory. This user ID controls all DB2 processes and owns all file systems and devices used by the databases contained within the instance.
fenced user	db2fenc1	db2fadm1	Used to run user-defined functions (UDFs) and stored procedures outside of the address space used by the DB2 database.
DB2 administration server user	dasusr1	dasadm1	Used to run the DB2 administration server on your system. Used by the DB2 GUI tools to perform administration tasks. This user does not contain databases and there is only one administration server per machine.

Note: For more information about valid DB2 user IDs and passwords, go the product documentation at ➥ http://www-01.ibm.com/support/knowledgecenter/ SSEPGG_10.1.0/com.ibm.db2.luw.admin.dbobj.doc/doc/c0007248.html?lang=en.

Installing DB2 on UNIX or Linux

You can install DB2 on operating systems such as UNIX or Linux by using a graphic user interface (GUI) installation program.

Note: Before you install DB2 by using the GUI, install the X11 graphic capability.

To install DB2 on an operating system such as UNIX or Linux, complete the following steps.

1. Log in as a user ID with root authority.
2. Select one of the following options:
   - If you are not installing from a DVD, skip to step 5 and run **db2setup** from the directory where you have the DB2 source installation program.

     If the installation program is compressed, you must use an extraction tool to decompress the downloaded file.
   - If you are installing from a DVD, create a mount point that is called /cdrom by entering **mkdir /cdrom**.

You can also select an existing mount point.

3. Insert the DB2 DVD and mount the DVD file system at the mount point that you want.

4. Run the following commands to mount the DB2 DVD.

   ```
   mkdir /cdrom
   mount -o ro /dev/cdrom /cdrom
   ```

5. If you are not installing from a DVD, run **db2setup** from the directory where you have the DB2 source installation program. If you are installing from a DVD, enter **cd /cdrom/server** and then **./db2setup**.

6. In the DB2 Setup Launchpad, click **Install a Product**.

7. Click **Install New** for **DB2 Enterprise Server Edition Version 10.1 Fix Pack 3**.

8. On the welcome page of the DB2 Setup wizard, click **Next**.

9. On the Software License Agreement page, review and accept the license agreement, and click **Next**.

10. On the Select the installation type page, click **Typical**, and click **Next**.

11. On the Select the installation, response file creation, or both page, select **Install DB2 Enterprise Server Edition on this computer and save my settings in a response file**.

12. Enter a response file name, or accept the default, and click **Next**.

13. On the Select the installation folder page, enter a directory or accept the default, and click **Next**.

14. On the Set user information for the DB2 Administration Server page, click **New user**, and enter the following information.
    a. User name and password of the DB2 user account that you want to use.
    b. Group name
    c. Password
    d. Home directory

15. Select **Use default UID** and **Use default GID**, and click **Next**. The DAS user is used to administer the DB2 database.

16. On the Set up a DB2 instance page, select **Create a DB2 instance**, and click **Next**.

17. On the Set up partitioning options for the DB2 instance page, click **Single partition instance**, and click **Next**.

18. On the Set user information for the DB2 instance owner page, select **New user**, and enter the following information. The DB2 instance owner user is the user that you enter when you install Tivoli Storage Productivity Center.
    - User name
    - Group name
    - Password
    - Home directory

19. Select **Use default UID** and **Use default GID**, and click **Next**.

20. On the Set user information for the fenced user page, select **New user**, and enter the following information:
    - User name
    - Group name
    - Password and confirm password
    - Home directory

21. Select **Use default UID** and **Use default GID**, and click **Next**.

22. On the Set up notifications page, click **Do not set up your DB2 server to send notifications at this time**, and click **Next**.

23. On the Start copying files and create response file page, review the summary information, and click **Finish**.

24. On the Setup has completed successfully page, review the information, and click **Finish**.

To ensure that DB2 starts when the server starts, run the following command:

```
DB2_installation_directory/bin/db2iauto -on instance_name
```

Where *DB2_installation_directory* is the location of DB2 and *instance_name* is the instance name. For example, db2inst1.

Installing DB2 on AIX

You can install DB2 on systems that run the AIX operating system.

Installing DB2 on AIX by using the command line

You can install DB2 on an operating system such as AIX by using commands.

Ensure that you have:
- 2 - 3 GB of hard disk drive space for the DB2 installation `tar` file and extracted files.
- Chosen a file system with at least 30 GB for the Tivoli Storage Productivity Center repository.

To install DB2 on the AIX operating system by using the command line, complete the following steps.

1. Log in with a user ID that has root authority.

2. Do one of the following steps.
   - If you are not using a DVD, skip to step 5 and work from the directory where you have the DB2 source installation program.
   - If you are using a DVD, create a mount point that is called `/cdrom` by entering `mkdir /cdrom`.

3. Insert the DB2 DVD into the DVD drive and mount the file system at the mount point. On AIX, you can use the **crfs** command to add an entry to `/etc/filesystems` for the mount point.

4. Run the following commands,
   ```
   /usr/sbin/crfs -v cdrfs -p ro -d'cd0' -m'/cdrom' -A'no'
   mount /cdrom
   ```

   The **crfs** command must be run only one time for a mount point. For each DVD you insert after that, you can use **mount** and **umount**, for example, **mount /cdrom** and **umount /cdrom**.

5. Enter `cd /cdrom` and go to the directory where the DVD-ROM is mounted.

6. Install the DB2 Manager.
   a. Create a temporary directory (for example, `db2temp`) to hold the DB2 installer `tar` file and extracted files.
   b. Copy or download the DB2 installer into `db2temp`. The name of the file varies depending on the location from where the file is downloaded or copied and the language to which it is associated.

c. Optional: If the DB2 installer file is compressed, use the appropriate extracting tool. For example, if the name of the file is v10.1fp3_aix64_server.tar.gz, enter **gunzip v10.1fp3_aix64_server.tar.gz**. In this example, v10.1fp3_aix64_server.tar.gz is displayed in the db2temp directory.

d. Create an installation directory by entering, for example, `mkdir install`.

e. Enter `cd install` to change to the new installation directory.

f. Extract the DB2 installation file. For example, if the name of the installation file is v10.1fp3_aix64_server.tar , enter `tar xvf ../v10.1fp3_aix64_server.tar`.

g. Enter `cd /db2temp/installer/ese/disk1` and go to the directory that contains the DB2 installation program db2_install.

h. Enter `./db2_install` to run the command-line installation program.

i. Select **DB2.ESE**. The Installation Summary is displayed, which indicates a successful installation. DB2 is installed in /opt/ibm/db2.

7. Create users and groups for use with DB2.

   a. Enter `mkgroup id=999 db2iadm1`.

   b. Enter `mkgroup id=998 db2fadm1`.

   c. Enter `mkgroup id=997 dasadm1`.

   d. Enter `mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1 home=/home/db2inst1 db2inst1`.

   e. Enter `mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1 home=/home/db2fenc1 db2fenc1`.

   f. Enter `mkuser id=1002 pgrp=dasadm1 groups=dasadm1 home=/home/dasusr1 dasusr1`.

   g. Verify the owner of the directories by entering `ls -ld /home/db2inst1`. The directory ownership is displayed as follows:

      - /home/db2inst1 shows group db2iadm1 and user db2inst1
      - /home/db2fenc1 shows group db2fadm1 and user db2fenc1
      - /home/dasusr1 shows group dasadm1 and user dasusr1

      If the directory ownership is not correct, run the following commands as appropriate:

      ```
      chown -R db2inst1:db2iadm1 /home/db2inst1
      chown -R db2fenc1:db2fadm1 /home/db2fenc1
      chown -R dasusr1:dasadm1 /home/dasusr1
      ```

   h. Enter `passwd db2inst1` *password*, where *password* represents the password you want to use for the DB2 instance.

   i. Enter `pwdadm -f NOCHECK db2inst1`.

   j. Enter `passwd db2fenc1` *password*, where *password* represents the password you want to use for the fenced user.

   k. Enter `pwdadm -f NOCHECK db2fenc1`.

   l. Enter `passwd dasusr1` *password*, where *password* represents the password you want to use for the DB2 administration server (DAS) user.

   m. Enter `pwdadm -f NOCHECK dasusr1`.

   n. Enter `chgroup users=db2inst1,root db2iadm1`.

8. Create a DB2 Administrative Server (DAS) and enter /opt/db2/V10.1/instance/dascrt -u dasusr1

9. Create a DB2 instance:

   a. Enter /opt/db2/V10.1/instance/db2icrt -a server -u db2fenc1 db2inst1

    b. Enter `. /home/db2inst1/sqllib/db2profile`.

10. Change the default location for database repositories. By default, this location is `/home/db2inst1`. `/home` is typically not large enough for database repositories.

11. To change the default location:

    a. Enter `db2 update dbm cfg using DFTDBPATH` *new_repository_path* `IMMEDIATE`, where *new_repository_path* represents the new location for the repository.

    b. Enter `chown -R db2inst1:db2iadm1` *new_repository_path* to assign ownership to db2inst1 and permission to anyone in db2iadm1(same as the ownership for `/home/db2inst1`.

12. Configure DB2 communication:

    a. Edit `/etc/services` and verify or add the following line at the end of the file: `db2c_db2inst1 50000/tcp`

    b. Enter `db2 update dbm cfg using svcename db2c_db2inst1`.

    c. Enter `db2set`. An example of the output is `DB2COMM=tcpip`.

13. In a command window, do the following to test your DB2 instance:

    a. Enter `. /home/db2inst1/sqllib/db2profile` to source the environment.

    b. Enter `db2level` to get information about the instance and DB2.

    c. Enter `db2 create db test` to create a test database.

    d. Enter `db2 list db directory` to list information about all the databases that are created for this instance.

    e. Enter `db2 connect to test user db2inst1 using` *password* to connect to the test database, where *password* is the password you defined in step 7 for the DB2 instance.

    f. Enter `db2 disconnect test` to disconnect from the test database.

    g. Enter `db2 drop db test` to drop the test database.

Installing DB2 on AIX 6.1 POWER7 Systems

You can install DB2 on AIX 6.1 POWER7® Systems.

Ensure that you run `export JAVA_COMPILER=none` from a command window. This command is necessary as a result of APAR IC63450.

To install DB2, complete the following steps:

1. Log on using a user ID with root authority.

2. Do one of the following actions.

    • If you are not using a CD, you can skip to step 5 and run **db2setup** from the directory where you have the DB2 source installation program.

    • If you are using the CD, enter, for example, `mkdir /cdrom` to create a mount point that is called `/cdrom`,

3. Insert the DB2 CD into the CD drive.

    On AIX, you can use the **crfs** command to add an entry to `/etc/filesystems` for the CD mount point.

4. Mount the CD file system at the wanted mount point.

5. Run the following commands:

    `/usr/sbin/crfs -v cdrfs -p ro -d'cd0' -m'/cdrom' -A'no' mount /cdrom`

    The **crfs** command must be run only one time for a specific mount point. For each CD or DVD you insert after that, you can use **mount** and **umount**, for example, `mount /cdrom` and `umount /cdrom`.

6. Enter `cd /cdrom` and change to the directory where the CD is mounted.
7. Run the following command from the installation image:

   `./db2_install`

   Enter the necessary information.

   Note: If the following message is displayed,

   `WARNING: A minor error occurred while installing`

   check the installation log for errors. If you do not see any errors, ignore this warning message.
8. Create DB2 groups, users, and instances.
   a. For the DB2 groups, run the following commands.

      ```
      mkgroup id=999 db2iadm1
       mkgroup id=998 db2fadm1
       mkgroup id=997 dasadm1
      ```

   b. For the DB2 users, run the following commands.

      ```
      mkuser id=1004 pgrp=db2iadm1 groups=db2iadm1
       home=/home/db2inst1 db2inst1
       mkuser id=1003 pgrp=db2fadm1 groups=db2fadm1
       home=/home/db2fenc1 db2fenc1
       mkuser id=1002 pgrp=dasadm1 groups=dasadm1
       home=/home/dasusr1 dasusr1
      ```

   c. Set the password for db2inst1, db2fenc1, and dasusr1 by running the following commands:

      ```
      passwd db2inst1
       passwd db2fenc1
       passwd dasusr1
      ```

   d. Setting the new passwords might require that you log in one time to change the initial password.

      `login db2inst1`

      Change the initial password and replace with a new password. Repeat this step for db2fenc1 and dasusr1 users.

   e. Create the db2inst1 instance by running the following command:

      `/opt/IBM/db2/V10.1/instance/db2icrt -a server -u db2fenc1 db2inst1`

   f. Create the dasusr1 instance by running the following command:

      `/opt/IBM/db2/V10.1/instance/dascrt dasusr1`

9. Assign a communication port for the DB2 instance in the /etc/services file.
   a. Select a name that is related to the instance name.
   b. Select a free port, for example, 50000. Add the following line to the /etc/services file:

      `db2inst1c 50000/tcp`

10. Configure the communication port in the database manager configuration for the instance:

    `db2 update dbm cfg using SVCENAME db2inst1c`

11. Enable TCP/IP for the instance:

    `db2set DB2COMM=TCPIP`

Note: After you install DB2, edit the file /etc/group and add root to the db2iadm1 group. The db2iadm1 line in /etc/group looks similar to the following line.

`db2iadm1:x:102:root`

Chapter 3. Installing Tivoli Storage Productivity Center

The following information and instructions pertain to installing Tivoli Storage Productivity Center on a single server.

For information about installing Tivoli Storage Productivity Center in a multiple-server environment, go to the product documentation at

http://www.ibm.com/support/knowledgecenter/SSNE44_5.2.4/ com.ibm.tpc_V524.doc/fqz0_r_installing_tpc_multiple_server.html.

You can install Tivoli Storage Productivity Center in a single-server environment in one of the following ways:
- The installation wizard

  For information about installing Tivoli Storage Productivity Center by using the installation wizard, see "Installing Tivoli Storage Productivity Center in a single-server environment by using the wizard" on page 22.
- The command line in silent mode

  For information about installing Tivoli Storage Productivity Center by using silent mode, go to the product documentation at http://www-01.ibm.com/ support/knowledgecenter/SSNE44_5.2.4/com.ibm.tpc_V524.doc/ fqz0_t_installing_tpc_silent_mode_single_server.html?lang=en.

Tivoli Storage Productivity Center installation

You can install Tivoli Storage Productivity Center by using the installation wizard or the command-line in silent mode. Installing Tivoli Storage Productivity Center by using console mode is not supported.

Fully qualified host names

Some systems might be configured to return a short host name such as server22, instead of a fully qualified host name such as server22.myorg.mycompany.com. Tivoli Storage Productivity Center requires fully qualified host names, so you must install the product on a computer that has a fully qualified host name.

Installation methods

You can install Tivoli Storage Productivity Center by using the installation wizard or the command-line in silent mode. In silent mode, a command is provided with the values in a response file.

Use the installation wizard to install Tivoli Storage Productivity Center with minimal user interaction. Use the silent-mode installation if your system is running from a terminal that cannot display graphics.

Important: On UNIX operating systems (for example, AIX or Linux) you must have X Window System support to display the installation wizard graphical user interface (GUI).

Tivoli Storage Productivity Center reports

You must install Jazz for Service Management before you install Tivoli Storage Productivity Center reports. The Tivoli Storage Productivity Center installation program guides you to starting the Jazz for Service Management installation program and also checks whether Jazz for Service Management is installed and running. You can install Tivoli Storage Productivity Center without reports and then later install Jazz for Service Management and the Tivoli Storage Productivity Center reports. For more information about installing Jazz for Service Management in a single-server environment, see "Installing Tivoli Storage Productivity Center in a single-server environment by using the wizard" on page 22.

You can run Tivoli Storage Productivity Center reports in the Tivoli Storage Productivity Center web-based GUI.

You can create reports and view predefined reports to analyze multiple storage systems, switches, servers, and hypervisors. For example, you can compare performance metrics across multiple storage systems. You can also view a report about the aggregate volume load that is on a server or hypervisor. You can also use the reporting tool to schedule reports to run on different systems and with different options. You can specify different schedules and output formats for the reports, and different ways to share the reports. Use the web-based GUI when you want to view details about resources individually, for example when you want to troubleshoot a resource. For more information about running reports in the web-based GUI, see the product documentation at ➡ http://www-01.ibm.com/support/knowledgecenter/SSNE44_5.2.4/com.ibm.tpc_V524.doc/fqz0_c_webbasedgui_rpting_ic_ov.html?lang=en.

Tivoli Storage Productivity Center Installation images

The following installation images are included with Tivoli Storage Productivity Center:
* Tivoli Storage Productivity Center for AIX
* Tivoli Storage Productivity Center for Linux
* Tivoli Storage Productivity Center for Windows
* Tivoli Storage Productivity Center Storage Resource agent, which includes the following files:
  – SRA.zip
  – SRA.tar

The Tivoli Storage Productivity Center installation image has the following disks:

Disk 1

> **Disk 1, Part 1** contains the following components:
> * The Tivoli Storage Productivity Center installation program
> * Base Tivoli Storage Productivity Center components
> * Database repository
> * Data server
> * Storage Resource agent
> * Stand-alone GUI
> * Command-line interface
> * Web server

- The web-based GUI
- The `TPC_VMWareVSpherePlugin` folder

  The contents of the `TPC_VMWareVSpherePlugin` folder, which is in the `web` folder, include the Tivoli Storage Productivity Center plug-in deployment utility, supporting libraries, plug-in client, and service packages.

Disk 1, Part 2 contains the following components:
- Device server
- Replication server
- Embedded IBM WebSphere Application Server
- WebSphere Application Server Liberty Profile

Download each of the **Disk 1** compressed image files to the same directory (for example, `c:\tpcdownload`). After you download the files, extract each file into the same target directory (for example, `c:\tpcinstall`) in order. For example, extract the **Disk 1 - part 1** files first, then the **Disk 1 - part 2** files, and so on. During the extraction, if you are prompted to merge (or replace) folders or files with the same name, click **Merge/Replace**.

Disk 2

Disk 2 contains the following components:
- **Disk 2, itm_unix1 and itm_unix2** contains the Tivoli Storage Productivity Center Monitoring Agent installation program for IBM Tivoli Monitoring on the UNIX operating system.
- **Disk 2, itm_windows** contains the Tivoli Storage Productivity Center Monitoring Agent installation program for IBM Tivoli Monitoring on the Windows operating system.
- **Disk 2, sde_unix** is the IBM System Discovery Engine on the UNIX operating system.
- **Disk 2, sde_windows** is the IBM System Discovery Engine on the Windows operating system.

The following DB2 installation images are included with Tivoli Storage Productivity Center:
- DB2 10.1 Fix Pack 3a for Windows (64-bit)
- DB2 10.1 Fix Pack 3a for Linux (64-bit)
- DB2 10.1 Fix Pack 3a for AIX (64-bit)

Jazz for Service Management installation package

The following installation packages are included for Jazz for Service Management:
- Jazz for Service Management
- Tivoli Common Reporting
- IBM WebSphere Application Server

Start the installation program

There are various methods to start the Tivoli Storage Productivity Center installation programs and on various operating systems.

Installation images

If you are using electronic images, you must select an installation image. For a list of installation images, see "Tivoli Storage Productivity Center installation" on page 15.

Storage Resource agent

Contains the files to run local Storage Resource agent installations. You must download the file for the system on which you want the agent to be in.

- The Storage Resource agent location and operating system file name is the same as the disk 1 image.
- The Storage Resource agent image is in *DVD*/data/sra/ *operating_system_name*.

The operating systems that are supported are listed in the following table.

Table 3. Operating system for Storage Resource agents.

Operating system	Operating system name
AIX	aix_power
HP-UX	hp-ux_itanium
Linux x86	linux_ix86
Linux for Power Systems™ Servers	linux_power
Linux s390	linux_s390
Oracle Solaris	solaris_spark
Windows	windows

Note:

- If you are using Tivoli Storage Productivity Center electronic installation images that are decompressed in a directory that has spaces in the name, Tivoli Storage Productivity Center does not install correctly.

  For example, if you have the following directory name:
  - On Windows operating systems:

    `C:\tpc 52 edition\disk1\TPC`
  - On AIX and Linux operating systems:

    `/temp/tpc 52 edition/disk1/TPC`

  Tivoli Storage Productivity Center does not install correctly.

  When you remove the spaces, and rename the directory, for example:
  - On Windows operating systems:

    `C:\tpc52edition\disk1\TPC`
  - On AIX and Linux operating systems:

    `/temp/tpc52edition/disk1/TPC`

  Tivoli Storage Productivity Center installs correctly.

- If you are using Tivoli Storage Productivity Center electronic installation images for Linux or AIX operating systems and you download the images to a directory, ensure that your folder name *does not* contain a **.** at the end of the folder name.

  For example, if you have a directory name

  `C:\tpc52edition\disk1\TPC.`

When you rename the folder and remove the **.** at the end of the name, for example:

```
C:\tpc52\disk1\TPC.August3
```

Tivoli Storage Productivity Center installs correctly.
- If you are deploying the Storage Resource agent on the AIX or Linux operating system, you must use `root` as the user name.

Starting the installation program on the Windows operating system

To start the Tivoli Storage Productivity Center installation program by using an electronic image, complete the following steps.
1. Download the image into a directory.
2. Extract the file.
3. At the command prompt, enter cd `source_installation_directory`\TPC and then enter **setup.bat**.

To start the Tivoli Storage Productivity Center installation program by using the disk 1 DVD, complete the following steps.
1. Open Windows Explorer and go to the Tivoli Storage Productivity Center DVD drive or directory.
2. In Windows Explorer, go to the `TPC` directory on the Tivoli Storage Productivity Center DVD.
3. Double-click the `setup.bat` file.

Starting the installation program on the Linux operating system

To start the Tivoli Storage Productivity Center installation program from the electronic image (disk 1), complete the following steps.
1. Enter the following to create a directory:

   ```
   mkdir /tpcinst
   ```
2. Enter cd tpcinst.
3. Enter ftp `filename`.tar to transfer the Tivoli Storage Productivity Center installation `tar` file into the `tpcinst` directory.
4. Enter this command to extract the files that are in the `tar` file:

   ```
   tar -xvf filename.tar
   ```
5. Ensure that the user name that you plan to use as the Tivoli Storage Productivity Center common user is in the `root` group and the `db2iadm1` group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is db2inst1.

   ```
   usermod -a -G root db2inst1
   usermod -a -G db2iadm1 db2inst1
   ```
6. Navigate to the /tpcinst/TPC directory by entering:

   ```
   cd /tpcinst/TPC
   ```
7. Set up your shell environment to point to the instance where the database repository is installed. Source the `db2profile` for the instance that you want. For example, if the DB2 instance is db2inst1, you can source the `db2profile` by entering:

   ```
   . /home/db2inst1/sqllib/db2profile
   ```

   Remember: There is a space between **.** and /home.

8. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

To start the Tivoli Storage Productivity Center installation program from the disk 1 DVD, complete the following steps:

1. At the command prompt, enter `mkdir /cdrom` to create a mount point.

2. Insert the DVD into the DVD drive.

3. Mount the DVD file system at the appropriate mount point. For example, to mount a DVD into a DVD drive known as /dev/cd0 at mount point /cdrom, enter the following command:

   `mount -o ro /dev/cdrom /cdrom`

4. Enter `cd /cdrom` to go to the directory where the DVD is mounted.

5. Ensure that the user name that you plan to use as the Tivoli Storage Productivity Center common user is in the `root` group and the `db2iadm1` group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is db2inst1.

   ```
   usermod -a -G root db2inst1
   usermod -a -G db2iadm1 db2inst1
   ```

6. Navigate to the `/cdrom/TPC` directory by entering:

   `cd /cdrom/TPC`

7. Set up your shell environment to point to the instance where the database repository is installed. Source the `db2profile` for the instance that you want. For example, if the DB2 instance is `db2inst1`, you can source the `db2profile` by entering:

   `. /home/db2inst1/sqllib/db2profile`

   Remember: There is a space between `.` and /home.

8. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

   If the **setup.bin** command exits prematurely because the media (DVD) is not ready, run the **./setup.bin** command again until the installation wizard is displayed.

Starting the installation program on the AIX operating system

To start the Tivoli Storage Productivity Center installation program from the electronic image (disk 1), complete the following steps:

1. Enter the following to create a directory:

   `mkdir /tpcinst`

2. Enter `cd tpcinst`.

3. Enter `ftp` *filename*`.tar` to transfer the Tivoli Storage Productivity Center installation `tar` file into the `tpcinst` directory.

4. Enter this command to extract the files that are in the `tar` file:

   `tar -xvf` *filename*`.tar`

5. Ensure that the user name that you plan to use as the Tivoli Storage Productivity Center common user is in the `system` group and the `db2iadm1` group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is db2inst1.

   ```
   usermod -G system db2inst1
   usermod -G db2iadm1 db2inst1
   ```

6. Navigate to the `/tpcinst/TPC` directory by entering:

   `cd /tpcinst/TPC`

7. Set up your shell environment to point to the instance where the database repository is installed. Source the db2profile for the instance that you want. For example, if the DB2 instance is db2inst1, you can source the db2profile by entering:

```
. /home/db2inst1/sqllib/db2profile
```

Remember: There is a space between `.` and `/home`.

8. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

To start the Tivoli Storage Productivity Center installation program from the disk 1 DVD, complete the following steps:

1. Insert the DVD into the DVD drive and mount the DVD file system at the wanted mount point. On the AIX operating system, you can use the **crfs** command to add an entry to /etc/filesystems for the mount point. Enter the following commands:

```
/usr/sbin/crfs -v cdrfs -p ro -d'cd0' -m'/cdrom' -A'no'
mount /cdrom
```

The **crfs** command must be run once for a mount point. After that you can use **mount** and **umount** for each DVD you insert, for example, **mount /cdrom** and **umount /cdrom**.

2. Enter `cd /cdrom` to go to the directory where the DVD is mounted.

3. Ensure that the user name that you plan to use as the Tivoli Storage Productivity Center common user is in the system group and the db2iadm1 group. If the user name is not in a group, you can add the user as shown in the following example commands. In these examples, the user name is db2inst1.

```
usermod -G system db2inst1
usermod -G db2iadm1 db2inst1
```

4. Navigate to the /cdrom/TPC directory by entering:

```
cd /cdrom/TPC
```

5. Set up your shell environment to point to the instance where the database repository is installed. Source the db2profile for the instance that you want. For example, if the DB2 instance is db2inst1, you can source the db2profile by entering:

```
. /home/db2inst1/sqllib/db2profile
```

Remember: There is a space between `.` and `/home`.

6. Start the installation program by running the **./setup.bin** command from the same command shell that you used in step 7.

If the **setup.bin** command exits prematurely because the media (DVD) is not ready, run the **./setup.bin** command again until the installation wizard is displayed.

Installing Tivoli Storage Productivity Center in a single-server environment

Installing Tivoli Storage Productivity Center in a single-server environment is a simple process and can be completed successfully by most Tivoli Storage Productivity Center customers.

Attention: You must install Jazz for Service Management from the Tivoli Storage Productivity Center installation program.

Installing Tivoli Storage Productivity Center in a single-server environment by using the wizard

You can use the Tivoli Storage Productivity Center installation wizard to install Tivoli Storage Productivity Center and to start the Jazz for Service Management Version 1.1.0.3 installation program in a single-server environment. You need Jazz for Service Management Version 1.1.0.3 to run Tivoli Storage Productivity Center reports.

Before you start the Tivoli Storage Productivity Center installation wizard on the AIX or Linux operating systems, you must source the user profile (`db2profile`) for the instance owner of the DB2 database. For example:

`. /home/db2inst1/sqllib/db2profile`

To install Tivoli Storage Productivity Center in a single-server environment by using the wizard, complete the following steps:

1. Log on to the computer where you want to install Tivoli Storage Productivity Center. Ensure that you have the administrator privileges to install applications on the computer.

2. Install DB2 Enterprise Server Edition. For more information about installing DB2, see Chapter 2, "Installing DB2," on page 5.

   Tip: If you are installing DB2 on a Windows operating system, log out and then log on again before you install Tivoli Storage Productivity Center.

   When you install Tivoli Storage Productivity Center, a database that is called TPCDB is created. In this repository, the Tivoli Storage Productivity Center database schema is created, which describes the structure of the database repository. If you already have the TPCDB database on your system, Tivoli Storage Productivity Center assigns a new default database repository name with a number as a suffix, for example, TPCDB1.

3. If Jazz for Service Management is not installed, and you plan to run Tivoli Storage Productivity Center reports, download, and extract the compressed installation files in the same temporary directory.

   For more information about the installation files, go to the product documentation at ➥ http://www-01.ibm.com/support/knowledgecenter/ SSEKCU_1.1.0.3/com.ibm.psc.doc_1.1.0.3/install/ psc_t_install_adv_local_sys.html?lang=en.

   Important: You must install Jazz for Service Management from the Tivoli Storage Productivity Center installation program.

4. Start the Tivoli Storage Productivity Center installation program.

5. Review the Welcome page and make one of the following decisions:
   - If Jazz for Service Management is installed on your computer, the Welcome page displays a green check mark. Click **Next** to proceed to the next page in the Tivoli Storage Productivity Center installation program and install Tivoli Storage Productivity Center with reports.
   - If Jazz for Service Management is not installed on your computer, the Welcome page displays an **Install Now** button.
   - If you do not want to install Jazz for Service Management on your computer, click **Next** to proceed to the next page in the Tivoli Storage Productivity Center installation program and install Tivoli Storage Productivity Center without reports.

6. If Jazz for Service Management is not installed, and you want to install it on your computer, you can install it now:

   a. On the Welcome page, click **Install Now**.

   b. On the Install Jazz for Service Management page, complete the following steps:

      1) Provide the location where the Jazz for Service Management and Tivoli Common Reporting installation files were extracted.

         For example, if you are installing Jazz for Service Management on the Windows operating system, enter `c:\downloads\jazzSM`. If you are installing Jazz for Service Management on the AIX or Linux operating systems, enter `/downloads/JazzSM`.

      2) If there is a port conflict, specify a new starting value for a 15 port range, and click the **Verify Port Availability** link to ensure that the port range is usable.

      3) Click **Install Now**.

      The Tivoli Storage Productivity Center installation program pauses and the Jazz for Service Management launchpad starts.

   c. When you exit the Jazz for Service Management launchpad, you are returned to the Install Jazz for Service Management page in the Tivoli Storage Productivity Center installation program. Click **OK**.

   d. If the installation of Jazz for Service Management was successful, you are returned to the Welcome page, which now displays a green check mark.

      If the installation of Jazz for Service Management was not successful, a message is displayed, and you can click one of the following options:

      - **Install Now**, which starts the Jazz for Service Management launchpad again.
      - **Continue**, which returns you to the Welcome page.

   e. On the Welcome page, click **Next**.

   f. On the Choose Installation Location and Type page, select **Single Server**, and click **Next**.

7. If the installation of Jazz for Service Management was successful and you clicked **Next** on the Welcome page to install Tivoli Storage Productivity Center with reports, on the Configure Jazz for Service Management and Tivoli Common Reporting page, enter the following information, and click **OK**:

   - The user name that is used to log on to the Jazz for Service Management WebSphere profile.
   - The password that is associated with the user name.
   - The path for the Jazz for Service Management installation directory.

   Jazz for Service Management starts. After Jazz for Service Management starts, it might take some time before all components, including Tivoli Common Reporting, are running.

   If the Tivoli Storage Productivity Center installation program is unable to communicate with Jazz for Service Management, you can select the **Install Tivoli Storage Productivity Center reports later** check box, click **OK**, and continue installing Tivoli Storage Productivity Center without reports. After you install Tivoli Storage Productivity Center without reports, and resolve any problems with Jazz for Service Management, start the Tivoli Storage Productivity Center installation program again to install Tivoli Storage Productivity Center reports.

Important: If the installation of Jazz for Service Management was not successful and you clicked **Next** on the Welcome page to install Tivoli Storage Productivity Center without reports, the Configure Jazz for Service Management and Tivoli Common Reporting page does not display.

8. Follow the prompts in the installation wizard to install Tivoli Storage Productivity Center.

If an error occurred during the Tivoli Storage Productivity Center installation process, review the Tivoli Storage Productivity Center installation log files to find details about the error. If you installed Tivoli Storage Productivity Center without installing Tivoli Storage Productivity Center reports, see "Installing Tivoli Storage Productivity Center reports later in a single-server environment by using the wizard" to install Tivoli Storage Productivity Center reports.

Installing Tivoli Storage Productivity Center reports later in a single-server environment by using the wizard

In a single-server environment, you can install Tivoli Storage Productivity Center reports after you install Tivoli Storage Productivity Center.

Ensure that you have completed the steps in "Installing Tivoli Storage Productivity Center in a single-server environment by using the wizard" on page 22.

You can install Tivoli Storage Productivity Center reports after you install Tivoli Storage Productivity Center for one of the following reasons:
- You chose not to install Jazz for Service Management the first time you ran the Tivoli Storage Productivity Center installation program. Tivoli Storage Productivity Center was installed without Tivoli Storage Productivity Center reports.
- You attempted to install Jazz for Service Management the first time you ran the Tivoli Storage Productivity Center installation program, but the Jazz for Service Management installation did not succeed. Tivoli Storage Productivity Center was installed without Tivoli Storage Productivity Center reports.
- You successfully installed Jazz for Service Management the first time you ran the Tivoli Storage Productivity Center installation program, but there was an issue when the installation program attempted to communicate with Jazz for Service Management. Tivoli Storage Productivity Center was installed without Tivoli Storage Productivity Center reports.

This procedure assumes one of the following conditions:
- You have not yet installed Jazz for Service Management.
- You resolved any issues that you experienced during the initial attempt to install Jazz for Service Management.

To install Tivoli Storage Productivity Center reports later in a single-server environment, complete the following steps:
1. Log on to the Tivoli Storage Productivity Center computer with the appropriate user privileges.
2. If Jazz for Service Management is not installed, and you plan to run Tivoli Storage Productivity Center reports, download and extract the Jazz for Service Management and Tivoli Common Reporting compressed installation files to the same temporary directory.

For example, if you are installing Jazz for Service Management on the Windows operating system, enter `c:\downloads\jazzSM`. If you are installing Jazz for Service Management on the AIX or Linux operating systems, enter `/downloads/JazzSM`.

For more information about the installation files, go to the product documentation at ⮕ http://www-01.ibm.com/support/knowledgecenter/SSEKCU_1.1.0.3/com.ibm.psc.doc_1.1.0.3/install/psc_t_install_adv_local_sys.html?lang=en.

3. Start the Tivoli Storage Productivity Center installation program again.
4. If Jazz for Service Management is not installed, and you want to install it on your computer, you can install it now:

    a. On the Welcome page, click **Install Now**.

    b. On the Install Jazz for Service Management page, complete the following steps:

        1) Provide the location where the Jazz for Service Management and Tivoli Common Reporting installation files were extracted.

            For example, if you are installing Jazz for Service Management on the Windows operating system, enter `c:\downloads\jazzSM`. If you are installing Jazz for Service Management on the AIX or Linux operating systems, enter `/downloads/JazzSM`.

        2) If there is a port conflict, specify a new starting value for a 15 port range, and click the **Verify Port Availability** link to ensure that the port range is usable.

        3) Click **Install Now**.

        The Tivoli Storage Productivity Center installation program pauses and the Jazz for Service Management launchpad starts.

    c. When you exit the Jazz for Service Management launchpad, you are returned to the Install Jazz for Service Management page in the Tivoli Storage Productivity Center installation program. Click **OK**.

    d. If the installation of Jazz for Service Management was successful, you are returned to the Welcome page, which now displays a green check mark.

        If the installation of Jazz for Service Management was not successful, a message is displayed, and you can click one of the following options:

        • **Install Now** to restart the Jazz for Service Management launchpad.

        • **Continue** to return to the Welcome page.

        You must install Jazz for Service Management successfully to continue installing Tivoli Storage Productivity Center reports.

    e. If the installation of Jazz for Service Management was successful and a green check mark is displayed on the Welcome page, click **Next**.

5. On the Configure Jazz for Service Management and Tivoli Common Reporting page, enter the following information and click **Next**:

    • The user name that is used to log on to the Jazz for Service Management WebSphere profile.

    • The password that is associated with the user name.

    • The path for the Jazz for Service Management installation directory.

    If the Tivoli Storage Productivity Center installation program is unable to communicate with Jazz for Service Management, you must resolve this problem to continue installing Tivoli Storage Productivity Center reports.

6. Follow the prompts in the installation wizard to install Tivoli Storage Productivity Center reports.

Verifying the installation

After you install Tivoli Storage Productivity Center, verify whether the installation was successful by starting the web-based GUI.

Before you start Tivoli Storage Productivity Center, ensure that you are using a supported web browser. For a list of the supported web browsers, go to ⏏ http://www-01.ibm.com/support/docview.wss?uid=swg27039833#browser.

1. On a server running the Windows operating system, click **Start** > **Programs** > **IBM Tivoli Storage Productivity Center** > **TPC Web-based GUI** to open a browser to the correct address. If you are not on a server running the Windows operating system, start a web browser and enter the following address in the address field:

   `http://hostname:port/srm`

   In the preceding address, specify the following values:

   hostname
   > The Tivoli Storage Productivity Center server. You can specify the host name as an IP address or a Domain Name System (DNS) name.

   port
   > The port number for Tivoli Storage Productivity Center. The default port number for connecting to Tivoli Storage Productivity Center by using the HTTP protocol is 9568. However, this port number might be different for your site. For example, the port number might be different if the default port range was not accepted during installation. If the default port number does not work, ask your Tivoli Storage Productivity Center administrator for the correct port number.

   You might be redirected from the address that you enter to another address and port that provides secure access using the HTTPS protocol. This page is the Tivoli Storage Productivity Center logon page.

2. From the Tivoli Storage Productivity Center logon page, type your user name and password and click **Log in**. The web-based Tivoli Storage Productivity Center GUI opens in the browser.

3. Optional: If you installed Jazz for Service Management, click **Cognos** and select a menu item to verify that the reporting tool is available.

For more methods of verifying the installation, go to the *Tivoli Storage Productivity Center Information Center* and search for *Verifying the installation*.

Reinstalling the software if a failure occurs

If an installation failure occurs, you do not have to uninstall components that were successfully installed. Tivoli Storage Productivity Center provides an option to partially, or fully, roll back the installation.

A full rollback uninstalls all the components (even if they were installed successfully), and a partial rollback uninstalls only the components that were not successfully installed. The partial rollback option helps you resolve the problems that are causing the installation failure. After you resolve the problem, you can install the remaining components. For example, if the correct libraries were not

installed for the Linux operating system, and the installation stops. You can install the correct libraries and resume the installation.

If you install Tivoli Storage Productivity Center on the Windows operating system and select **Full Rollback**, you must restart the server after the rollback is complete.

If you originally selected a partial rollback, but decided to completely uninstall, you must run the uninstallation program before you reinstall Tivoli Storage Productivity Center.

The following table shows the results from a partial rollback. The components are listed in the order in which they were installed.

Table 4. Results from a partial rollback

If an installation failure occurs when you install this component...	Partial rollback results are...
Tivoli Storage Productivity Center common files and Java™ Runtime Environment	There is no partial rollback. The installation program completes a full rollback.
Database repository	The database repository is uninstalled.
Data server	The Data server is uninstalled.
Embedded IBM WebSphere Application Server	The embedded WebSphere Application Server is uninstalled.
WebSphere Application Server Liberty profile	WebSphere Application Server Liberty profile is uninstalled.
Device server	The Device server is uninstalled.
Replication server	The Replication server is uninstalled.
Storage Resource agent	The Storage Resource agent is uninstalled.
stand-alone GUI	The stand-alone GUI is uninstalled.
web-based GUI	The web-based GUI is uninstalled.
Tivoli Storage Productivity Center reports	Tivoli Storage Productivity Center reports are uninstalled.
CLI	The command-line interface is uninstalled.

Taking the first steps after installation

After Tivoli Storage Productivity Center is installed, configure it to monitor the resources in your environment.

To set up Tivoli Storage Productivity Center for monitoring and managing resources, complete the following tasks:

Add resources for monitoring

In the web-based GUI, you can add the following resources for monitoring:
- Storage systems and CIM agents
- Servers (agentless)
- Hypervisors
- Switches
- Fabrics

In the stand-alone GUI, you can add the following resources for monitoring:

- IBM Scale Out Network Attached Storage systems
- Servers (with Storage Resource agents)
- NAS filers
- Tivoli Storage Productivity Center servers as subordinate servers

Configure the retention of data in the database repository
Determine how long that Tivoli Storage Productivity Center stores data about the resources that are being monitored.

Configure alert notifications for conditions that are detected on monitored resources
Use alerts to be notified when certain conditions or violations are detected on resources that are monitored by Tivoli Storage Productivity Center.

Specify the users that can access the product and the functions that are available to them
Assign roles to groups of users to determine which functions are available in Tivoli Storage Productivity Center. When a user ID is authenticated through the GUI, CLI, or APIs, membership in an operating system or LDAP group determines the authorization level of the user.

Deploy Storage Resource agents to set up data features
Deploy Storage Resource agents on servers to enable data and policy-based management functions in the stand-alone GUI.

Monitor and manage resources
Access the Tivoli Storage Productivity Center GUIs to do the following tasks:

- Monitor the status, view capacity and asset information, and troubleshoot resources
- Set performance thresholds and alerts and the relationship between resources
- Optimize storage, configure the cloud and storage provisioning
- Generate detailed reports about resources
- Access the vSphere Web Client extension to manage virtual environments

For more information about these tasks and how to manage and monitor your resources with Tivoli Storage Productivity Center, go to the product documentation at http://www.ibm.com/support/knowledgecenter/SSNE44_5.2.1/com.ibm.tpc_V521.doc/fqz0_c_wg_managing_resources.html.

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Index

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