Installation Guide

Sun^{TM} ONE Directory Proxy Server

Version 5.2

Contents

About This Guide

Welcome to Sun™ Open Network Environment (Sun ONE) Directory Proxy Server. This book provides an overview of design and planning decisions you need to make before installing Directory Proxy Server. The book also describes different installation methods that you can use.

This preface contains the following sections:

- Prerequisite Reading (page 7)
- Conventions Used In This Guide (page 8)
- Related Information (page 8)

Prerequisite Reading

Before you install Directory Proxy Server, we recommend that you read the *Sun ONE Directory Server Deployment Guide*. The *Deployment Guide* covers key concepts on how to design and plan your directory service. To locate this book, see section "Related Information," on page 8.

You may also want to review the deployment scenarios described in the *Directory Proxy Server Administrator's Guide*.

After you finish planning your directory service, follow the steps in this book to install Directory Proxy Server and its related software components.

Conventions Used In This Guide

This section explains the conventions used in this book.

`Monospaced font`—This typeface is used for any text that appears on the computer screen or text that you should type. It is also used for filenames, functions, and examples.

> symbol—The greater than symbol (>) is used as a separator for successive menu selections. For example, Object > New > User means that you should pull down the Object menu, drag the mouse down to highlight New, and drag the mouse across to the New submenu in which you must select User.

NOTE	Notes and Cautions mark important information. Make sure you read the information before continuing with a task.

Throughout this book you will see path references of the form:

`/var/Sun/mps/dps-<hostname>/`

The `/usr/sun/servers` directory is the default installation directory. If you have installed Directory Proxy Server in a different location, you should adapt the path accordingly. `<hostname>` represents the name of the host machine on which you installed Directory Proxy Server. For example, if you installed Directory Proxy Server on a machine named `pilot`, then the actual path would be:

`/var/Sun/mps/dps-pilot/`

All paths specified in this book follow the UNIX convention.

Related Information

The complete set of Directory Proxy Server documentation for this release includes the following:

Sun ONE Directory Proxy Server Release Notes

Contains information on new features of this release, software/hardware requirements for installing the product, important notes and known bugs, last-minute product information, and how to send feedback.

Sun ONE Directory Proxy Server Installation Guide (this document)

Describes how to plan for and install Directory Proxy Server. Read this document next, after you have read these release notes. Both HTML and PDF versions of this document are provided.

Sun ONE Directory Proxy Server Administrator's Guide

Provides detailed information on configuring and maintaining Directory Proxy Server. Both HTML and PDF versions of this document are provided.

Sun ONE Directory Proxy Server Frequently Asked Questions

This document contains answers to frequently asked questions, clarifications on Directory Proxy Server features, and troubleshooting information. Both HTML and PDF versions of this document are provided. Note that the same document is included as an appendix in the *Directory Proxy Server Administrator's Guide.*

After you run the `setup` script as described in the installation instructions, check this file for a list of documentation installed with the product:

`<server-root>/manual/en/dps/index.htm`

where `<server-root>` is your Directory Proxy Server installation directory.

For the latest information about Directory Proxy Server, including current release notes, technical notes, and deployment information, check this web site:

`http://docs.sun.com`

Other useful information can be found at the following Internet locations:

*   Product documentation on line—`http://docs.sun.com`

*   Product support and status—
    `http://www.sun.com/service/support/software/`

*   Sun Enterprise Services for Solaris patches and support—
    `http://www.sun.com/service/`

*   Developer information—`http://www.sun.com/developers/`

*   Support and Training—`http://www.sun.com/supportraining`

*   Product data sheets—`http://www.sun.com/software/`

Accessibility Features

Based on the Java[TM] Foundation Classes (JFC), the Sun ONE Directory Proxy Server console provides support for the assistive software and technologies that make software accessible to users with disabilities. This appendix describes the accessibility features of the Sun ONE Directory Proxy Server console, and the improvements that have been made to the document set to make it more accessible.

Console Accessibility Features

Most of the accessibility features described in the following section are provided automatically through the use of JFC/Swing! components.

Accessible names and descriptions

All objects have accessible names (succinct explanations of the object's purpose). These names can be used by assistive technologies to present the objects to the user. Accessible descriptions are more verbose explanations that provide additional information on objects, where this is necessary.

Customizable fonts

The style and size of fonts in text panes, menus, labels, and information messages, can be customized.

Although color coding is used to convey information, it is not the only means of doing so.

Dynamic GUI layout

The dynamic layout allows users to specify the size and position of Directory Proxy Server windows, or for this to be determined by the user's settings.

Keyboard traversable components

This accessibility feature caters for users who have difficulty using a mouse. Pressing the tab key moves the input focus from component to component and shift-tab moves the focus in the opposite direction. The arrow keys allow users to navigate trees without using the mouse.

The focus is programmatically exposed so that assistive software can track focus and focus changes.

Text equivalents for non-text elements

When an image represents a program element, the information conveyed by the image is also available in the text.

Documentation Accessibility Features

The Sun ONE Directory Proxy Server 5.2 document set is delivered in both PDF and HTML format. This section describes accessibility features in the HTML version of the documentation.

Text equivalents for non-text elements

Alternative text labels are assigned to links or graphics. Where graphics provide detailed descriptions, text versions of these descriptions are provided either within the surrounding text, or in a separate file.

Tables that can be interpreted by assistive technology

All tables now include descriptive headers. A brief description of the table contents is also provided in the surrounding text.

Accessibility Features

Preparing for Installation

Before you begin installing Directory Proxy Server we recommend that you have an understanding of the various Directory Proxy Server components and the design and configuration decisions you need to make.

To help you prepare for your Directory Proxy Server installation, you should be familiar with the concepts contained in the following sections:

- Installation Components

- Configuration Decisions

- Installation Process Overview

- Installation Privileges

The *Sun ONE Directory Server Deployment Guide* contains basic directory concepts as well as guidelines to help you design and successfully deploy your directory service. Be sure you understand the concepts presented in this manual before proceeding with the installation process.

NOTE	Both the Administration Server and Directory Proxy Server requires that an instance of Sun ONE Directory Server 5.2 or higher is already installed and accessible on the network. The Directory Server serves as the Directory Proxy Server configuration repository.

Installation Components

Directory Proxy Server contains the following software components:

- **Sun ONE Console**—Sun ONE Console provides the common user interface for all Sun ONE directory-related server products. From it you can perform common server administration functions such as stopping and starting servers and managing user and group information. Sun ONE Console can be installed as a standalone application on any machine. You can also install it on your network and use it to manage remote servers.

- **Sun ONE Administration Server**—Sun ONE Administration Server is a common front-end to many Sun ONE servers. It receives communications from Sun ONE Console and passes those communications on to the appropriate Sun ONE server. Your site will have at least one Administration Server for each server root in which you have installed an Sun ONE server.

- **Sun ONE Directory Proxy Server**—An LDAP gateway that routes requests from the client to Directory Server(s). Directory Proxy Server runs as a daemon process (UNIX system) or as a service (Windows system).

Configuration Decisions

During Directory Proxy Server installation, you are prompted for basic configuration information. Decide how you are going to configure these basic parameters before you begin the installation process. You are prompted for some or all of following information, depending on the type of installation that you decide to perform:

- Port number (see Choosing Unique Port Numbers)

- Server root (see Selecting a New Server Root).

- Configuration administrator and password (see Defining Authentication Entities).

Choosing Unique Port Numbers

Port numbers can be any number from 1 to 65535. Keep the following in mind when choosing a port number for your Directory Proxy Server:

* The standard Directory Proxy Server (LDAP) port number is 389.

* Port 636 is reserved for LDAP over SSL. Therefore, do not use port number 636 for your standard LDAP installation, even if 636 is not already in use. You can also use LDAP over TLS on the standard LDAP port.

* Port numbers between 1 and 1024 have been assigned to various services by the Internet Assigned Numbers Authority. Do not use port numbers below 1024 other than 389 or 636 for directory services as they will conflict with other services.

* On UNIX platforms, Directory Proxy Server must be run as root if it will listen on ports less than 1024.

* Make sure the ports you choose are not already in use. Additionally, if you are using both LDAP and LDAPS communications, make sure the port numbers chosen for these two types of access are not identical.

* When migrating from an earlier version, and the installation to be migrated is on the same host, make sure you do not have port conflicts. Upon migration your port number becomes the one you set in the previous version of Directory Access Router.

For information on how to set up LDAP over SSL (LDAPS) for Directory Proxy Server, check the *Directory Proxy Server Administrator's Guide*.

Selecting a New Server Root

Your server root is the directory where you install your Sun ONE servers. The server root must meet the following requirements:

* The server root must be a directory on a local disk drive; you cannot use a networked drive for installation purposes. The file sharing protocols such as AFS, NFS, and SMB do not provide suitable performance for use by Directory Proxy Server's logging.

* The server root must *not* be the server root of an old instance of Directory Access Router.

* The server root directory must not be the same as the directory from which you are running the installer program.

By default, the server root directory is one of the following:

* `/var/Sun/mps` (on UNIX systems)

- `C:\Program Files\Sun\MPS` (on Windows systems)

Defining Authentication Entities

As you install Directory Proxy Server, you are asked for a Configuration Directory Administrator ID and password.

The configuration directory administrator is the person responsible for managing all the Sun ONE servers accessible through Sun ONE Console. If you log in with this user ID, then you can administer any Sun ONE server that you can see in the server topology area of Sun ONE Console.

For security, the configuration directory administrator should not be the same as the directory manager. The default configuration directory administrator ID is `admin`.

Determining the Location of the Configuration Directory

Many Sun ONE servers, including Directory Proxy Server, use an instance of Sun ONE Directory Server to store configuration information. This information is stored in the `o=NetscapeRoot` directory tree. Your *configuration directory* is the Directory Server that contains the `o=NetscapeRoot` tree used by your Sun ONE servers.

For ease of upgrades, you should use a Directory Server instance that is dedicated to supporting the `o=NetscapeRoot` tree; this instance should perform no other function with regard to managing your enterprise's directory data.

Because the configuration directory normally experiences very little traffic, you can allow its server instance to coexist on a machine with an Directory Proxy Server instance. However, for very large sites that are installing a large number of Sun ONE servers, you may want to dedicate a low-end machine to the configuration directory so as to not hurt the performance of your other production servers.

Also, as with any directory installation, consider replicating the configuration directory to increase availability and reliability. See the *Sun ONE Directory Server Deployment Guide* for information on using replication and DNS round robins to increase directory availability.

CAUTION	Corrupting the configuration directory tree can result in the necessity of reinstalling all other Sun ONE servers that are registered in that configuration directory. Remember the following guidelines when dealing with the configuration directory:
	Always back up your configuration directory after you install a new Sun ONE server.
	Never change the host name or port number used by the configuration directory.
	Never directly modify the configuration directory tree. Only the installer program for the various Sun ONE servers should ever modify the configuration.

Installation Process Overview

You can use one of several installation processes to install Directory Proxy Server. Each one guides you through the installation process and ensures that you install the various components in the correct order.

The following sections outline the installation processes available, how to upgrade from an earlier release of Directory Proxy Server, and how to unpack the software to prepare for installation.

Selecting an Installation Process

You can install Directory Proxy Server software using one of the two installation methods provided in the installer program:

- **Typical Installation.** Use this if you are performing a normal install of Directory Proxy Server. Typical installation is described in Chapter 3, "Installation."

- **Silent Installation.** Use this if you want to script your installation process. This is especially useful for installing multiple consumer servers around your enterprise. Silent install is described in Chapter 4, "Silent Installation."

Unpacking the Software

If you have obtained Directory Proxy Server software from the Sun ONE web site, you will need to unpack it before beginning installation.

1. Create a new directory for the installation:

    ```
    # mkdir dps
    ```

    ```
    # cd dps
    ```

2. Download the product binaries file to the installation directory.

3. On a UNIX system, unpack the product binaries file using the following command:

    ```
    # gzip -dc file_name.tar.gz | tar -xvf -
    ```

    where *file_name* corresponds to the product binaries that you want to unpack.

    On a Windows system, unzip the product binaries.

Installation Privileges

On Linux and Solaris systems, you may install using root or any valid login. However, if you install as root and choose to run the server on a port below 1024, then non-root users will not be able to start the server.

On Windows systems, you must run the installation as administrator.

Computer System Requirements

Before you can install Sun ONE Directory Proxy Server, you must make sure that the systems on which you plan to install the software meet the minimum hardware and operating system requirements.

These requirements are described in detail for each platform in the following sections:

- Supported Platforms (page 19)

- Operating System Requirements (page 20)

- Hardware Requirements (page 20)

Supported Platforms

Directory Proxy Server is supported on the following platforms:

- Sun Solaris 8 or 9 for SPARC (32 bit) operating environment

- Sun Solaris 9 for Intel

- Windows 2000 Server and Advanced Server with Windows 2000 Service Pack 3

- Redhat Linux 7.2

- Sun Linux 5.0

NOTE   For each platform, check the required patches and kernel parameter settings, as described in the sections that follow.

Hardware Requirements

On all platforms, you will need:

- Roughly 300 MB of disk space for a minimal installation.

- 256 MB of RAM.

Operating System Requirements

This section covers the required operating system version, patches, and utilities for each platform.

- Solaris Environment

- Windows Environment

- Obtaining Patches

Solaris Environment

If you plan to run Directory Proxy Server on a Solaris environment, you must ensure that the recommended patch cluster is installed. Solaris patches are identified by two numbers, for example, 106125-10. The first number (106125) identifies the patch itself. The second number identifies the version of the patch, in the example above the patch is version number 10. We recommend installing the latest version of the patch in order to benefit from the latest fixes.

For advice on guarding against potential security threats, see the *Solaris Operating Environment Security Sun Blueprint* at this site:
`http://www.sun.com/blueprints/0100/security.pdf`

Required System Modules

Directory Proxy Server is optimized for systems with the UltraSPARC chipsets.

Use of Solaris 8 or 9 with the Sun recommended patches is required. See Verify System Tuning for procedures for ensuring all required patches are present.

This release of Sun ONE Directory Server is supported on Solaris x86 for Solaris 9 only.

This release of Sun ONE Directory Server is not supported on Solaris 2.5.1 or earlier, Solaris 2.6, or Solaris 7.

Verify System Tuning

Deployment of a service based on Sun ONE directory products will require system tuning to achieve optimal performance. Basic Solaris tuning guidelines are available from several books, including *Sun Performance and Tuning: Java and the Internet* (ISBN 0-13-095249-4). Advanced tuning information is available in the *Solaris Tunable Parameters Reference Manual* (806-4015).

The program `idsktune`, which is available in your installation in the unpacked package directory, analyzes the Solaris kernel tuning parameters and reports any changes that should be made to improve performance. This program does not modify the system.

File Descriptors

The system-wide maximum file descriptor table size setting will limit the number of concurrent connections that can be established to Directory Proxy Server. The governing parameter, `rlim_fd_max`, is set in the `/etc/system` file. By default if this parameter is not present the maximum is 1024. It can be raised to 4096 by adding to `/etc/system` a line

```
set rlim_fd_max=4096
```

and rebooting the system. This parameter should not be raised above 4096 without first consulting your Sun Solaris support representative as it may affect the stability of the system.

TCP Tuning

The TCP/IP implementation in a Solaris kernel is by default not correctly tuned for Internet or Intranet services. The following `/dev/tcp` tuning parameters should be inspected, and if necessary changed to fit the network topology of the installation environment.

The `tcp_time_wait_interval` in Solaris 8 specifies the number of milliseconds that a TCP connection will be held in the kernel's table after it has been closed. If its value is above 30000 (30 seconds) and the directory is being used in a LAN, MAN or under a single network administration, it should be reduced by adding a line similar to the following to the `/etc/init.d/inetinit` file:

```
ndd -set /dev/tcp tcp_close_wait_interval 30000
```

The `tcp_conn_req_max_q0` and `tcp_conn_req_max_q` parameters control the maximum backlog of connections that the kernel will accept on behalf of the Directory Proxy Server process. If the directory is expected to be used by a large number of client hosts simultaneously, these values should be raised to at least 1024 by adding a line similar to the following to the `/etc/init.d/inetinit` file:

```
ndd -set /dev/tcp tcp_conn_req_max_q0 1024
ndd -set /dev/tcp tcp_conn_req_max_q 1024
```

The `tcp_keepalive_interval` specifies the interval in seconds between keepalive packets sent by Solaris for each open TCP connection. This can be used to remove connections to clients that have become disconnected from the network. The Specify timeout option on the Directory Proxy Server console configuration screen, with a value in seconds, can also be used for this purpose, as it will time out idle connections.

The `tcp_rexmit_interval_initial` value should be inspected when performing server performance testing on a LAN or high speed MAN or WAN. For operations on the wide area Internet, its value need not be changed.

The `tcp_smallest_anon_port` controls the number of simultaneous connections that can be made to the server. When `rlim_fd_max` has been increased to above 4096, this value should be decreased, by adding a line similar to the following to the `/etc/init.d/inetinit` file:

```
ndd -set /dev/tcp tcp_smallest_anon_port 8192
```

The `tcp_slow_start_initial` parameter should be inspected if clients will predominately be using the Windows TCP/IP stack.

The `tcp_ip_abort_cinterval` controls how long in milliseconds Directory Proxy Server should wait for an LDAP server to respond when establishing a new connection. This value should normally be reduced by adding a line similar to the following to the `/etc/init.d/inetinit` file:

```
ndd -set /dev/tcp tcp_ip_abort_cinterval 10000
```

In some environments, it may also be necessary to change the `tcp_ip_abort_interval` and `tcp_strong_iss` tuning parameters.

Windows Environment

This section describes how to prepare your system for installation of Directory Proxy Server on Windows environments.

Privileges

Log on as a user with `Administrator` privileges.

TEMP Environment

Set the `TEMP` environment variable to a valid folder for temporary files.

Display Driver

Ensure the display driver supports at least 256 colors.

Obtaining Patches

Unless you plan to install the Solaris packaged version of the product, ensure required patches are installed at this point. Table 2-1 suggests where to look for required patches.

Table 2-1   Where to Obtain Patches, By Platform

Platform	Browse...
Sun Solaris™ Operating Environment	http://sunsolve.sun.com/
Microsoft Windows	http://support.microsoft.com/
Red Hat Linux	http://www.redhat.com/
Linux from Sun	http://sunsolve.sun.com/

Installation

This chapter describes how to perform basic installation activities. Directory Proxy Server installation differs depending on whether you are installing on UNIX or Windows.

The following sections outline the different procedures.

- "Installation of Native Packages on Solaris"

- "Installing From a Compressed Archive on All Platforms"

Installation of Native Packages on Solaris

After performing the procedure outlined in "Operating System Requirements," on page 20, perform the package installation and configuration procedures:

- Installing the Administration Server

- Installing Directory Proxy Server

- Installing Required Patches

- Configuring Administration Server

- Configuring the Directory Proxy Server Instance

You install the Solaris packages using the pkgadd(1M) utility. Use pkginfo(1) to determine which packages are already installed, when performing an upgrade for example. When installing packages on multiple hosts, you may define default installation actions through the installation defaults file described in admin(4).

Refer to the Solaris Operating Environment system administration documentation for further information on handling software packages.

Installing the Administration Server

Table 3-1 and Table 3-2 list the Administration Server Solaris packages provided for this release.

1. Consider the full list of packages listed in Table 3-1 or Table 3-2.

Table 3-1   Solaris Packages Provided (SPARC Platforms)

Package	Description
SUNWasha	Sun ONE Administration Server Component for Sun Cluster
SUNWasvc	Sun ONE Administration Console
SUNWasvcp	Sun ONE Administration Server Console Plug-In
SUNWasvr[1]	Sun ONE Administration Server (Root)
SUNWasvu	Sun ONE Administration Server (Usr)
SUNWicu	International Components for Unicode User Files
SUNWjss	Network Security Services for Java (JSS)
SUNWldk	LDAP C SDK
SUNWpr	Netscape Portable Runtime Interface
SUNWsasl	Simple Authentication and Security Layer
SUNWtls	Network Security Services

1. SUNWasvr cannot be relocated.

Table 3-2   Solaris Packages Provided (x86 Platforms)

Package	Description
SUNWasvc	Sun ONE Administration Console
SUNWasvcp	Sun ONE Administration Server Console Plug-In
SUNWasvr[1]	Sun ONE Administration Server (Root)
SUNWasvu	Sun ONE Administration Server (Usr)
SUNicu	International Components for Unicode User Files
SUNWjss	Network Security Services for Java (JSS)
SUNWldk	LDAP C SDK

Table 3-2 Solaris Packages Provided (x86 Platforms) *(Continued)*

Package	Description
SUNWpr	Netscape Portable Runtime Interface
SUNWsasl	Simple Authentication and Security Layer
SUNWtls	Network Security Services

1. SUNWasvr cannot be relocated.

2. Become super user.

3. Verify that the packages you want are not yet installed using pkginfo.

   Do not reinstall packages that have already been installed on the system.

4. Use the pkgadd(1M) utility to transfer product packages to the system.

   For example:

   # pkgadd –d *dirContainingPackages*

   Ensure all required product packages are installed before leaving pkgadd.

After installing the packages, ensure required patches are installed.

Installing Directory Proxy Server

Table 3-1 lists the Directory Proxy Server Solaris packages provided for this release for both SPARC and x86 platforms.

1. Consider the full list of packages listed in Table 3-3.

Table 3-3 Solaris Packages Provided (SPARC and x86 Platforms)

Package	Description
SUNWdps	Sun ONE Directory Proxy Server v5.2 Server
SUNWdpsg	Sun ONE Directory Proxy Server v5.2 Configurator
SUNWdpsi	Sun ONE Directory Proxy Server v5.2 Server Instance

2. Become super user.

3. Verify that the packages you want are not yet installed using `pkginfo`.

   Do not reinstall packages that have already been installed on the system.

4. Use the `pkgadd`(1M) utility to transfer product packages to the system.

   For example:

   ```
   # pkgadd -d dirContainingPackages
   ```

   Ensure all required product packages are installed before leaving `pkgadd`.

After installing the packages, ensure required patches are installed.

Installing Required Patches

There may be updates available updated to include recent fixes, and on recommended system patches.

1. Using `pkginfo`(1) with the `-x` option, determine which of these packages are installed on your system. Verify specifically that the appropriate package versions have been installed for your system, as shown in Table 3-4.

Table 3-4   Appropriate Versions and Patches For Components

System Version and Architecture	SUNWpr(x) Version	SUNWtls(x) Version	Patch
Solaris 9 (SPARC platforms)	4.1.2 or later	3.3.2 or later	114049 115342
Solaris 9 (x86 platforms)	4.1.3 or later	3.3.3 or later	114050 115343
Solaris 8 (SPARC platforms)	4.1.2 or later	3.3.2 or later	114045 115328

2. Using `showrev`(1M) with the `-p` option, determine whether the appropriate patches listed in Table 3-4 have been applied for your platform.

3. Use the hints in Table 3-5 to determine whether to patch components.

Table 3-5   Whether to Patch Components

On your system...	Do this...
The packages are already installed, and the patch has been applied.	Proceed to Step 4.

Table 3-5   Whether to Patch Components *(Continued)*

On your system...	Do this...
The packages are already installed, but the patch has not been applied.	Apply the appropriate patch for your platform provided with Directory Proxy Server.
The packages are not yet installed.	Install the pre-patched packages provided with Directory Proxy Server.

4. Run the following command as super user:

    ```
    # ./idsktune -q > idsktune.out
    ```

    idsktune is found in the same directory where the setup command resides.

    idsktune suggests changes you may make to the system. The subcommand itself makes no changes to the system.

5. Fix at least all ERROR conditions indicated.

    If you do not fix ERROR conditions, installation may fail. Notice that the idsktune sub-command reports as missing *all* patches recommended at the time of release and not installed on the system, even patches for packages not installed on the system.

    You may download patches from http://sunsolve.sun.com/.

Configuring Administration Server

1. Start the configuration program.

    To use the graphical user interface:

    ```
    # /usr/sbin/mpsadmserver configure
    ```

    To use the command-line interface:

    ```
    # /usr/sbin/mpsadmserver configure -nodisplay
    ```

    The first installation screen appears.

2. Follow the instructions on each screen.

Configuring the Directory Proxy Server Instance

To configure the Directory Proxy Server instance perform the following steps.

NOTE	The owner (user id) of the Administration Server must be the same owner of the Directory Proxy Server instance (can be non root).

1. Start the configuration program.

   To use the command-line interface change directory to:

   ```
   # cd /usr/sadm/mps/admin/v5.2/dps
   ```

2. Use the `quickstart.tcl` script for example:

```
# /usr/sadm/mps/admin/v5.2/bin/tcl8.2/tclsh quickstart.tcl -cid
<cid_path> -listen <port number> -password <password>  -serverroot
<serverroot_path> -userid <dn>
```

The following lists `quickstart.tcl` arguments and their descriptions.

Argument	Description
-cid	(Optional) The fully qualified path such that the program can assert that following directory exists: <cid_path>/bin/dps/install/script
-serverroot	A fully qualified path to an installed, and configured, Administration Server. The script will validate that the following files exists: <serverroot_path>/admin-serv/config/adm.conf <serverroot_path>/admin-serv/config/jvm12.conf
-listen	Port number that Directory Proxy Server will listen on.
-userID	(Optional) User distinguished name of the Administration Server administrator.
-password	Password of the Administration Server administrator.

The Directory Proxy Server is now minimally configured and started.

Installing From a Compressed Archive on All Platforms

To install from a compressed archive:

1. On Windows systems log in as a user with administrator privileges.

2. If you have not already done so, download the product binaries file to the installation directory.

3. Uncompress the product binaries files as necessary.

4. Start the installation program in the directory containing the unpacked software.

   (Windows) Double-click `setup.exe`.

   (Other platforms, graphical user interface)

   ```
   # ./setup
   ```

   (Other platforms, command-line interface)

   ```
   # ./setup -nodisplay
   ```

   The first installation screen appears.

5. The installer program asks if you would like to proceed with the installation. Click on Next to continue the installer program.

6. For server root, enter a full path to the location where you want to install your server. Click on Browse to use the browse feature to find locations.

   The location that you enter must be some directory other than the directory from which you are running installer.

   On Windows systems, the installer program provides the following path:

   ```
   C:\Program Files\Sun\MPS
   ```

   If you want to install the software into this directory tree, click on Next; otherwise, supply your own path.

7. The Select Components window appears. Verify that Sun ONE Directory Proxy Server 5.2 Components are selected for installation and press Next.

8. For Configuration Directory Administrator ID and password, enter the name and password that you will log in as when you want to authenticate to the console with full administrator privileges.

9. For the Directory Proxy Server port, select the default (389) unless you already have another application using that port.

10. Enter a name for this instance of Directory Proxy Server.

    This name represents a grouping of configuration information and scripts that control this instance of Directory Proxy Server.

11. The setup program the lists a summary of the components you have selected to install. Click on Install Now to begin installation.

    A Progress bar appears during installation. The server is then unpackaged, minimally configured, and started.

12. Once completed, the setup program displays an installation summary page. Press Details to view the installation log. Press Close to exit setup.

Silent Installation

Silent installation allows you to use a file to predefine all the answers that you would normally supply interactively to the setup program. This provides you with the ability to script the installation of your Sun ONE Directory Proxy Servers.

Using Silent Installation

To use silent installation, you must:

- Create the saveState file
- Install with the saveState File

Create the saveState file

To create the state file, you have two options:

- Run an installation with the -savestate *file_name* option. This installs the product and creates a state file reflecting your installation, as described in Step 1 through Step 4 below.

- You may also copy and edit an existing saveState file for further installations using the command described at Step 5, or create the state file manually using the sample and directly use it by using the command described at Step 5.

1. Create a new directory:

   ```
   # mkdir dps
   # cd dps
   ```

2. If you have not already done so, download the product binaries file to the installation directory.

3. Uncompress the product binaries.

4. Run the setup program with the `-saveState <file name>` command line options:

   Start the installation program in the directory containing the unpacked software.

   (Other platforms, command-line interface)

   ```
   # ./setup -saveState file_name
   ```

   where *file_name* is the path and file name of your choice that will contain the installation directives.

   The responses are recorded to the state file as you go through all typical installation procedures. (See Installation).

   This is an example of a save state file:

   ```
   # Wizard Statefile created: Tue May 27 15:34:01 CDT 2003
   #              Wizard path:
   /tmp/dps1/setup_data/./Sun_ONE_Directory_Proxy_Server_v5_2.class
   #
   #
   # Install Wizard Statefile section for Sun ONE Directory Proxy
   Server v5.2
   #
   #
   [STATE_BEGIN Sun ONE Directory Proxy Server v5.2
   684ac863607992f06b9e37fb2b294db8553196e6]
   defaultInstallDirectory = /var/Sun/mps
   currentInstallDirectory = /var/sample
   com.sun.dps.setup.DpsComponentPanel.selectedcomponents = Sun ONE
   Directory Proxy Server v5.2 Components,Sun ONE Directory Proxy
   Server v5.2 Server,Sun ONE Directory Proxy Server v5.2 Server
   Installer,Sun ONE Directory Proxy Server v5.2 Configurator,Sun
   ONE Directory Proxy Server v5.2 Configurator Installer,Sun ONE
   Directory Proxy Server v5.2 Instance,Sun ONE Directory Proxy
   Server v5.2 Instance Installer,Sun ONE Directory Proxy Server
   v5.2 Server,Sun ONE Directory Proxy Server v5.2 Server
   Installer,Sun ONE Directory Proxy Server v5.2 Configurator,Sun
   ONE Directory Proxy Server v5.2 Configurator Installer,Sun ONE
   Directory Proxy Server v5.2 Instance

   FullMachineName = thrush.example.sun.com
   ConfigDirectoryPort = 19389
   ConfigDirectoryHost = spleen.example.sun.com
   ConfigDirectoryAdminPwd = secret00
   ```

```
ConfigDirectoryAdminID = admin
AdminDomain = example.sun.com
AdminPort = 1760
AdminSysGroup = wheel
AdminSysUser = test user
ServerGroup = wheel
ServerUser = test user
DPS_LISTEN_PORT = 1761
DPS_INSTANCE_SUFFIX = thrush
ldapServerURL =
ldapBindingDN =
ldapPasswd =
[STATE_DONE Sun ONE Directory Proxy Server v5.2
684ac863607992f06b9e37fb2b294db8553196e6]
```

NOTE	In this example the sequence numbers following STATE_BEGIN and STATE_DONE are example values. The actual sequence number to use can be revealed using the -id option for setup.

Install with the saveState File

5. To run a silent installation based on the savestate file created above enter the following command:

```
# ./setup -state file_name
```

Using Silent Installation

Uninstallation

After the initial installation of Sun ONE Directory Proxy Server, you may need to remove unwanted Directory Proxy Server instances or uninstall Directory Proxy Server altogether from a system.

You should remove Directory Proxy Server only when Administration Server is running. If Administration Server is shut down, be sure to start it. To minimize security risks, shut down the Administration Server when you have finished using Sun ONE Console or completed the uninstallation.

This section contains the following:

- Uninstalling on UNIX Platforms

- Uninstalling on Windows Platforms

- Using the Uninstallation Program

Uninstalling on UNIX Platforms

Uninstallation removes the software and associated data from a computer. Directory Proxy Server becomes unavailable and you lose all settings and data.

Uninstallation removes not only server software, but also registry data stored on the system. If you delete files manually before using the uninstallation program, you may corrupt your registry. To avoid corrupting the registry, use the uninstallation program before deleting any product files manually.

Proceed according to the appropriate section:

- Uninstalling Native Packages on Solaris

- Uninstalling on Other Unix Systems

Uninstalling Native Packages on Solaris

Follow these procedures to remove the Directory Proxy Server packages installed in "Installation of Native Packages on Solaris," on page 25. Major steps include:

- Removing the Directory Proxy Server Instance

- Removing Packages

Removing the Directory Proxy Server Instance

Unconfigure the Directory Proxy Server instance using the script `rminstance`. The `rminstance` script accepts only a file name as an argument. When `quickstart` ran, it deposited a "context" file in the instance root:

<instance_root>`/uninstallContext.tcl.`

Note *<instance_root>* is *<serverroot_path>*/dps-*<hostname>*.

To remove an instance:

1. Change your current working directory to:

```
/usr/sadm/mps/admin/v5.2/dps
```

2. Enter the following command:

```
./rminstance /var/test/dps-hostname/uninstallContext.tcl
```

In the above example tclsh is assumed to be in the PATH environment variable, otherwise enter:

```
/usr/sadm/mps/admin/v5.2/bin/tcl8.2/tclsh  ./rminstance.tcl
/var/test/dps-hostname/uninstallContext.tcl
```

NOTE	Removing Directory Proxy Server via `rm -rf` will not clean up the configuration Directory Server host.

Unconfiguring Administration Server

1. Start or be sure that the Administration Server is running.

2. Delete the Administration Server configuration.

```
# /usr/sbin/mpsadmserver unconfigure
```

The first uninstallation screen appears. Follow the instructions on each screen.

Removing Packages

Using the `pkgrm(1M)` utility, remove the packages installed in "Installation of Native Packages on Solaris," on page 25.

Refer to the Solaris Operating Environment system administration documentation for further information on handling software packages.

1. Become `root`.

   ```
   $ su
   Password:
   #
   ```

2. Use the `pkgrm`(1M) utility to remove product packages from the system.

   If the product packages have already been installed on the system, do not reinstall them. Also, it is recommended that you install the packages under a root path that is writable, such as `/var`. For example:

   ```
   # pkgrm SUNWdpsi SUNWdpsg SUNWdps
   ```

Uninstalling on Other Unix Systems

On other UNIX platforms you may remove Directory Proxy Server either interactively or silently using the command line.

Interactive Uninstall

To uninstall Directory Proxy Server:

1. Open a terminal window to your server.

2. In a Unix system, log in either as `root` or using the server's user account (if that is how you installed the server).

3. At the command-line prompt, enter the following line:

```
uninstall_Sun_ONE_Directory_Proxy_Server_v5_2
```

   The uninstallation program starts. (See "Using the Uninstallation Program".)

Silent Uninstall

To uninstall Directory Proxy Server from the command line without use of the uninstall interface:

1. Open a terminal window to your server.

2. In a Unix system, log in either as `root` or using the server's user account (if that is how you installed the server).

3. Get your state file serial number. At the command line enter:

```
./uninstall_Sun_ONE_Directory_Proxy_Server_v5_2 -id

684ac863607992f06b9e37fb2b294db8553196e6
```

4. Edit the state file created by the `-saveState` option during setup. See "Create the saveState file," on page 33.

If necessary, replace the serial number in your save state file with the one provided by the `-id` option above.

This is an example of a save state file:

```
# Wizard Statefile created: Tue May 27 15:34:01 CDT 2003
#               Wizard path:
/tmp/dps1/setup_data/./Sun_ONE_Directory_Proxy_Server_v5_2.class
#
#
# Install Wizard Statefile section for Sun ONE Directory Proxy
Server v5.2
#
#
[STATE_BEGIN Sun ONE Directory Proxy Server v5.2
684ac863607992f06b9e37fb2b294db8553196e6]
defaultInstallDirectory = /var/Sun/mps
currentInstallDirectory = /var/sample
com.sun.dps.setup.DpsComponentPanel.selectedcomponents = Sun ONE
Directory Proxy Server v5.2 Components,Sun ONE Directory Proxy
Server v5.2 Server,Sun ONE Directory Proxy Server v5.2 Server
Installer,Sun ONE Directory Proxy Server v5.2 Configurator,Sun
ONE Directory Proxy Server v5.2 Configurator Installer,Sun ONE
Directory Proxy Server v5.2 Instance,Sun ONE Directory Proxy
Server v5.2 Instance Installer,Sun ONE Directory Proxy Server
v5.2 Server,Sun ONE Directory Proxy Server v5.2 Server
Installer,Sun ONE Directory Proxy Server v5.2 Configurator,Sun
ONE Directory Proxy Server v5.2 Configurator Installer,Sun ONE
Directory Proxy Server v5.2 Instance

FullMachineName = thrush.example.sun.com
ConfigDirectoryPort = 19389
ConfigDirectoryHost = spleen.example.sun.com
ConfigDirectoryAdminPwd = secret00
ConfigDirectoryAdminID = admin
AdminDomain = example.sun.com
AdminPort = 1760
```

```
AdminSysGroup = wheel
AdminSysUser = test user
ServerGroup = wheel
ServerUser = test user
DPS_LISTEN_PORT = 1761
DPS_INSTANCE_SUFFIX = thrush
ldapServerURL =
ldapBindingDN =
ldapPasswd =
[STATE_DONE Sun ONE Directory Proxy Server v5.2
684ac863607992f06b9e37fb2b294db8553196e6]
```

5. At the command-line prompt, enter the following line:

```
uninstall_Sun_ONE_Directory_Proxy_Server_v5_2 -state <filename>
```

The Directory Proxy Server instance is removed from your system.

Uninstalling on Windows Platforms

To remove files pertaining to Directory Proxy Server from a host system, run the uninstallation program. Uninstalling Directory Proxy Server removes all the corresponding Directory Proxy Server instances from the navigation tree of Sun ONE Console. You may remove Directory Proxy Server using either of the Windows Add/Remove Programs utility or from the command line.

Windows Add/Remove

To remove Directory Proxy Server by using the Windows Add/Remove Programs utility:

1. Log in as administrator.

2. From the Start menu, choose Settings, then Control Panel.

3. In the Control Panel, choose Add/Remove Programs.

4. In the Add/Remove Programs Properties window, select the entry that corresponds to the Sun ONE Directory Proxy Server, and click Add/Remove.

5. In the Sun ONE Directory Proxy Server Uninstall window, make sure all the components are selected, and click Uninstall.

The uninstallation program starts. (See "Using the Uninstallation Program".)

Command Line

To uninstall Directory Proxy Server using the command line:

1. Log in using the server's user account that you used to start the server.

1. Open a terminal window to your server.

2. At the command-line prompt, enter the following line:

```
cd <server_root>

java "-Djava.library.path=<server_root>/setup"
uninstall_Sun_ONE_Directory_Proxy_Server_v5_2
```

The uninstallation program starts. (See "Using the Uninstallation Program".)

Using the Uninstallation Program

1. At the Welcome screen click on Next.

At any point in the program you may go back to the previous window by pressing Back. You may also cancel the uninstallation by pressing Cancel.

2. At the Uninstall screen check the box next to Full and click on Next.

You may also select partial and chose form a list of Directory Proxy Server components to uninstall.

3. When prompted enter the Administrator's identification and password.

4. A summary window appears. Confirm the components you with to uninstall and click on Uninstall Now.

The Directory Proxy Server instance is unconfigured and unistalled while the system paints an overall progress bar.

5. You may click on Details to show the uninstall log files.

6. Click on Close to exit the uninstall program.

Appendix

Appendix A, "Migration of Configuration"

Migration of Configuration

When installing Sun ONE Directory Proxy Server version 5.2 there are migration issues. Migration from iPlanet Directory Access Router 5.0 installation to Directory Proxy Server 5.2 version requires:

- Both iPlanet Directory Access Router 5.0/SP1 and Directory Proxy Server 5.2 are installed.

- Running a migration script.

- If necessary, configuring SSL on the Directory Proxy Server 5.2 server.

The appendix has the following section:

- Preparing for Migration

- Migrating to Directory Proxy Server 5.2

- Configuring SSL

Preparing for Migration

Note the following before starting the migration:

- Directory Proxy Server must be installed on a separate server root. Do not install it on top of an existing Directory Access Router installation.

- Port numbers of the old and new instance must be such that they do not conflict during upgrade. If the two services have a conflict with their ports, then be sure to only run one of the two services at any one time after migration.

- You can continue to use your old server instance after the upgrade or uninstall it.

- You may migrate from either Directory Access Router version 5.0 or 5.0 SP1.

- You must use an existing Configuration Directory Server.

- If you are migrating from one type platform to another (for example a UNIX to Windows platform) your configuration path name may be incorrect. Modify them for the appropriate platform.

- When you migrate the old SSL configuration, this new configuration is created but the SSL parameters on the client side are cleared. Existing SSL configuration must be re-configured manually. For more information see Configuring SSL. You should record your current SSL configuration prior to migration.

- If your logging is configured to go to <server root>/idar-<host>/logs/fwd.log in the current configuration, it continues going there after migration. If this is not the desired behavior, change your current configuration before, or after migration.

Migrating to Directory Proxy Server 5.2

1. Make sure no other application is modifying Directory Access Router/Directory Proxy Server configuration in the Configuration Directory Server. Close both Directory Proxy Server and Directory Access Router consoles. Do not modify configurations while migration is taking place.

2. Install Directory Proxy Server 5.2 on a different server root than your old installation.

NOTE   At this time your Directory Access Router 5.0 console is no longer functional.

---

3. The migration utility is located in the Directory Proxy Server directory tree. Execute the migration utility `migratefromidar50` by entering:

```
<install root>/bin/dps_utilities/migratefromidar50 -b <Backup file
name> -o <path to tailor.txt file of the Directory Access Router 5.0
Server Instance> -n <path to tailor.txt file of the Directory Proxy
Server 5.2 Server Instance>
```

The following describes `migratefromidar50` arguments and their meanings:

Argument	Function
-b	Enter a backup file name. A backup of the "ou=dar-config,o=NetscapeRoot" branch will be made for all configuration directories that appear in the new startup configuration file (specified with the -n flag). A numeric suffix (0..n) will be added to the file name specified to indicate which directory the backup belongs to. The suffix will be '0' for the first entry in the startup configuration file.

Argument	Function
-o	Identify the path to the tailor.txt file of the Directory Access Router 5.0 Server Instance.
-n	Identify the path to tailor.txt file of the Directory Proxy Server 5.2 Server Instance.

The configuration is migrated.

4. If migration fails delete the `ou=dar-config, o=NetscapeRoot` subtree and replace then with the entries saved with the -b *<Backup file name>* argument. The Directory Access Router 5.0 console is no longer fully functional at this point.

The migration has failed if any of the following conditions exist:

- The last line of the migration output is not "`all done.`"

- The console fails to read configuration.

- The server fails to start after migration and after all SSL related configuration has been manually migrated.

5. Restore the backup using `ldapadd` (ldif format) or via the Directory Server console.

6. If SSL was not configured in the previous Directory Access Router instance restart the new Directory Proxy Server. If SSL was configured then proceed to "Configuring SSL."

Configuring SSL

If you had SSL configured with previous versions of Directory Access Router use these procedures to migrate your configuration.

If you have an existing installation of Directory Access Router 5.0, you either request and configure a new SSL certificate and key from a Certificate Authority (CA) source or reconfigure your existing SSL certificate and key so that it is recognized by Directory Proxy Server 5.2 software.

1. Create an SSL certificate database using the Sun ONE Console.

Refer to "Configuring System Parameters" in the *Sun ONE Directory Proxy Server Administrator's Guide* for more information.

NOTE   If you are converting existing SSL certificates and keys proceed to Step 2. If you are requesting new SSL Certificates and keys skip to Step 4.

---

2. In order to insert your old certificate and private key pair into the just created certificate database, you must convert your certificate/key pair into PKS12 format. OpenSSL provides a utility that converts PEM certificate/key pairs to PKCS12 format.

NOTE   The conversion of certificates using the `openssl` utility is not recommended and is not supported by Sun Microsystems. Request new certificates and private key pairs from a Certificate Authority if possible. See the *Directory Proxy Server Release Notes* for the latest information.

Find OpenSSL at:

`http://www.openssl.org`

The documentation for OpenSSL is found at:

`http://www.openssl.org/docs/apps/openssl.html`

3. Once you have the certificate/key pair converted to PKCS12 format, use the `pk12util` software available at the following location to insert them in the certificate database.

`<serverroot>/shared/bin`

The documentation for `pk12util` is found at:

`www.mozilla.org/projects/security/pki/nss/tools/pk12util.html`

4. If you are requesting a new SSL certificate and key use the Sun ONE Directory Proxy Server console to generate a certificate request which you can then submit to a Certificate Authority (CA).

Refer to "Configuring Directory Proxy Server for TLS/SSL-enabled Communication" in the *Sun ONE Directory Proxy Server Administrator's Guide* for more information.

5. Once the SSL certificate and key is ready for use with Directory Proxy Server 5.2, configure your system objects as necessary.

Refer to "Configuring System Parameters" in the *Sun ONE Directory Proxy Server Administrator's Guide* for more information.

6. To confirm proper SSL Operation stop and then restart the Directory Proxy Server software.

Check the log files for the following entry:

`560212 Now listening on port <port number> and socket <socket nember> for secured connections.`

7. Before making the new Directory Proxy Server 5.2 installation your production server, make sure that SSL is migrated correctly. Make sure that:

- The Directory Proxy Server SSL port is set.

- That clients can establish SSL connections to Directory Proxy Server.

- If applicable, Directory Proxy Server can establish SSL connections to its backend servers.

Configuring SSL

Index

A

Administration Server 14
authentication entities 16

C

configuration decisions 14
configuration directory administrator 16
configuration directory, defined 16

D

Directory Proxy Server, defined 14

I

idsktune 23, 29
installation
    configuration decisions 14
    process overview 17
        new installations 17
    registry 37

installation directory, default 15

M

migration issues 45

N

netscape root directory tree 16
NSHOME 15

P

patches
    required 23, 28
platform requirements 19
port numbers
    selecting 15

R

required system modules
   Solaris 20

S

server root 15
setup program, using from command line 34
silent install, defined 17
silent install, using 33
Sun ONE Console 14

T

typical install, defined 17
typical install, using
   on NT 31

U

uninstalling Directory Proxy Server 41
   from the command line 39
   using Windows NT Add/Remove Programs
     utility 41