



# Transition Guide – Upgrading From the iPlanet™ Directory Server 5.1 Software to the Sun ONE™ Directory Server 5.2 Software

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# Upgrading From the iPlanet™ Directory Server 5.1 Software to the Sun™ ONE Directory Server 5.2 Software

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This article contains information derived from a Sun BluePrints book titled, *LDAP in the Solaris Operating Environment – Deploying Secure Directory Services*, by Michael Haines and Tom Bialaski. This book is scheduled for publication in the Fall of 2003.

The recently released Sun™ ONE Directory Server 5.2 software introduces several significant features, and is available for download from the [www.sun.com](http://www.sun.com) web site. One of the key new features is support for the Secured LDAP Client which is part of the Solaris™ 9 Operating Environment (OE) software release, and available as a patch (108993-18 or higher) for the Solaris 8 OE.

There is no change required on the client when the Sun ONE Directory Server 5.2 software is deployed in place of iPlanet Directory Server 5.1. However, the packaging, installation, and configuration of the newer version is quite different on the server. This article takes a look at those differences, and presents tips on how to install and configure the Sun ONE Directory Server 5.2 software.

This article is intended for IT architects and administrators who have deployed earlier versions of the directory server software, and who are interested in upgrading to the Sun ONE Directory Server 5.2 version.

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# iPlanet Directory Server 5.1 Packaging

First, a little history. The iPlanet Directory Server 5.1 software shipped as part of the Solaris 9 OE distribution media, and for the first time was available in SVR4 package format. These packages are:

- IPLTadcon – Administration Server Console
- IPLTadman – Administration Server Documentation
- IPLTadmin – Administration Server
- IPLTcons – Console Client Base
- IPLTdscon – Directory Server Console
- IPLTdsman – Directory Server Documentation
- IPLTdsr – Directory Server (root)
- IPLTdsu – Directory Server (usr)
- IPLTjss – Network Security Services for Java
- IPLTnls – Nationalization Languages and Localization Support
- IPLTnspr – Portable Runtime Interface
- IPLTnss – Network Security Services
- IPLTpldap – PerLDAP

The packages are installed when the Full Distribution (SUNWC`all`) or Full Distribution+OEM (SUNWCX`all`) package cluster is selected during the installation of the Solaris 9 OE. Besides the simplified installation, other enhancements are provided in the Solaris 9 OE release such as the following:

- `/usr/bin/directoryserver` wrapper script – Takes away the path dependencies inherent in previous directory server versions. This allows you to run directory administration commands without having to know where the directory server software is loaded. The directory server setup program was modified to place the software in a fixed location rather than an arbitrary one. It also automatically creates a startup file called `/etc/init.d/directory`.
- `/usr/lib/ldap/idsconfig` script – Used to make the necessary configuration changes to support LDAP as a name service.
- `/usr/sbin/ldapaddent` program – Used to populate LDAP entries with data from name service databases in `files` format.

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# Sun ONE Directory Server 5.1 Configuration

The SVR4 packages that make up the Directory Server, Administration Server, and iPlanet Console, separate installation from configuration. That is, the software packages can be loaded without having to answer any configuration questions. After the packages are loaded, the software is placed in staging areas. These staging areas include:

- `/usr/iplanet/ds5`
- `/usr/iplanet/admserv5.1`
- `/usr/iplanet/console5.1`
- `/etc/iplanet`

Also installed is the `/usr/sbin/directoryserver` wrapper script, that is used to invoke the Directory Server, Administration Server, and Console setup program. For example:

```
# /usr/sbin/directoryserver setup
```

The `setup` parameter invokes the Directory Server `setup` program that asks several configuration questions. Upon completion, the `/var/ds5` directory is created that contains the `slapd-instance` directory for the Directory Server instance that was just created.

A silent installation can be performed by first creating a silent install configuration file using the `-k` option, then using that file as input for subsequent installations. For example:

```
# /usr/sbin/directoryserver setup -k
-- configuration questions omitted --
#
```

The `install.inf` that is created can then be used for silent installations as shown:

```
# /usr/sbin/directoryserver setup -f /usr/iplanet/ds5/setup/install.inf
```

To un-configure the Directory Server and Administration Server, the un-install option is specified. For example:

```
# /usr/sbin/directoryserver uninstall
```

Although the parameter is called `uninstall`, all the Directory Server software is not removed for the system. The `/var/ds5/slaped-instance` directory is removed, but the software contained in `/usr/iplanet/ds5` remains, so subsequent configurations can be performed without reloading the SVR4 packages that make up the Directory Server.

Before discussing the Sun ONE Directory Server 5.2 packaging and configuration, it is worth noting a couple of observations about the iPlanet Directory Server 5.1 implementation. These are:

- The Administration services are configured and un-configured with the same setup program as the Directory services.
- The `/var/ds5` target directory is pre-defined. You do not have the option of specifying an alternative location.

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## Sun ONE Directory Server 5.2 (SVR4 Packages)

Like the iPlanet Directory Server 5.1 version, the Sun ONE Directory Server 5.2 version is distributed as SVR4 packages. However, the package names have changed and the number of packages has increased. Some of the packages contain updates to packages in the Solaris OE distribution, some are required to run the Directory Server in 64-bit mode, and some are only required with the Solaris 8 OE.

A complete list of all packages in alphabetical order is:

- `SUNWasha` – Sun ONE Administration Server component for Sun Cluster
- `SUNWasvc` – Sun ONE Administration Console
- `SUNWasvcp` – Sun ONE Administration Server Console Plug-in
- `SUNWasvr` – Sun ONE Administration Server (Root)
- `SUNWasvu` – Sun ONE Administration Server (Usr)
- `SUNWdsha` – Sun One Directory Server Component for Sun Cluster
- `SUNWdsvcp` – Sun ONE Directory Server Console Plug-in
- `SUNWdsvh` – Sun ONE Directory Server Heap Allocator

- SUNWdsvhx – Sun ONE Directory Server Heap Allocator (64-bit)
- SUNWdsvpl – Sun ONE Directory Server PerLDAP modules
- SUNWdsvr – Sun ONE Directory Server (Root)
- SUNWdsvu – Sun ONE Directory Server (Usr)
- SUNWdsvx – Sun ONE Directory Server (64-bit)
- SUNWicu – International Components for Unicode User Files
- SUNwicux – International Components for Unicode User Files (64-bit)
- SUNWjss – Network Security Services for Java (JSS)
- SUNWldk – LDAP C SDK
- SUNWldkx – LDAP C SDK (64-bit)
- SUNWpr – Netscape Portable Runtime
- SUNWprx – Netscape Portable Runtime (64-bit)
- SUNwsasl – Simple Authentication and Security Layer
- SUNwsaslx – Simple Authentication and Security Layer (64-bit)
- SUNwtls – Network Security Services
- SUNwtlsx – Network Security Services (64-bit)

These packages are designed to support both the Solaris 8 and the Solaris 9 OE and both the 32-bit and 64-bit mode of the Directory Server. Some are not specific to the Directory Server and are used by other applications. The Administration Server and Sun ONE Server Console applications are also included among these packages.

To understand the role each package plays, it is helpful to group them in the following manner.

## Shared Packages (32-bit)

Shared packages are those that are not unique to the Directory Server, Administration Server, or Console. These include:

- SUNWicu
- SUNwtls
- SUNwsasl
- SUNWjss
- SUNWldk
- SUNWpr

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**Note** – The version of SUNWicu depends on whether you are running Solaris 8 OE or Solaris 9 OE. The SUNWpr, SUNWsas1, and SUNWt1s packages require patches based on whether you are running Solaris 8 OE or Solaris 9 OE. See the *Installation and Tuning Guide* for Sun ONE Directory Server 5.2 for specific patch information.

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## Shared Packages (64-bit)

These packages are layered on top of the previous ones to enable 64-bit operations of applications:

- SUNWicux
- SUNWt1sx
- SUNWsas1x
- SUNWldkx
- SUNWprx

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**Note** – The version of SUNWicux depends on whether you are running Solaris 8 OE or Solaris 9 OE. The SUNWprx, SUNWsas1x, and SUNWt1sx packages require patches based on whether you are running Solaris 8 OE or Solaris 9 OE. See the *Installation and Tuning Guide* for Sun ONE Directory Server 5.2 for specific patch information.

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## Sun ONE Server Console Packages

This is contained in a single package, which is:

- SUNWasvc

## Sun ONE Administration Server

These include:

- SUNWasvu
- SUNWasvr
- SUNWasvcp

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**Note** – There is no 64-bit version of the Administration Server.

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## Directory Server Packages (32-bit)

These include:

- SUNWdsvpl
- SUNWdsvu
- SUNWdsvr
- SUNWdsvcp

## Directory Server Packages (64-bit)

This is contained in a single package, which is:

- SUNWdsvx

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**Note** – The SUNWdsvx package is layered on top of the 32-bit packages.

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## Solaris 8 OE Specific Packages

These packages help increase Directory Server performance:

- SUNWdsvh
- SUNWdsvhx

## Sun Cluster HA Agents

Separate agents for the Directory and Administration Servers are included as:

- SUNWasha
- SUNWdsha

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**Note** – To use these agents, you need to set up the Sun Cluster software (version 3.1 at minimum).

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# Sun ONE Directory Server 5.2 Configuration

Before you configure the Directory Server or Administration Server, you need to make sure the appropriate packages are installed and proper patches are applied. Check the *Installation and Tuning Guide* for more information. You do not need to remove the iPlanet Directory Server 5.1 software, but you should make sure no Directory Server or Administration Server instances are running. Otherwise, you would not be able to use the port numbers they are running on.

When the new packages are installed, be aware of the following:

- The existing `/usr/sbin/directoryserver` wrapper script is renamed `/usr/sbin/directoryserver.51bak`.
- The `/usr/sbin/directoryserver` wrapper script is replaced with a link to an updated one located at `/usr/ds/v5.2/sbin/directoryserver`.
- The `/etc/init.d/directory` startup script is overwritten.
- A new wrapper script called `/usr/sbin/mpsadmserver`, that is used to manage the Administration Server, is installed.
- The `SUNWzlib` and `SUNWzlibx` packages must be loaded in order to un-compress the Directory Server packages.
- The `SUNWj3rt` package must contain Java Runtime Environment 4.1 and a version of 4.1.1 or higher is highly recommended.
- There is a new script to start the Console: `/usr/sbin/mpsconsole`

## Performing the Configuration

The `/usr/sbin/directoryserver` wrapper script is used to perform configuration on the Directory Server. Some noticeable differences from the prior version are:

- The `configure` option is specified instead of `setup`.
- The configuration program uses a graphical interface unless the `-nodisplay` option is specified.
- The Administration Server configuration is not performed.

To configure the Directory Server without the graphical display, run the following:

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

During the configuration, you are prompted for the server root or installation directory. This is where the Directory Server instance files you created will be placed along with Administration Server configuration data. The default is `/var/mps/serverroot`. You should not specify a symbolic link because this affects the ability to start the Administration Server as any user other than `root`.

To configure the Administration Server, run the following command:

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

# Silent Installations

To run the Directory Server installation in silent mode, edit the following template file and specify it as input to the `directoryserver(1M)` command. An example of the template, with comments removed is shown below.

```
# cat /usr/ds/v5.2/setup/typical.ins
[STATE_BEGIN Sun ONE Directory Distribution
727642c18dde6631814c2884e6eb5e676eb89bb0]

ProductServerRoot = ProductServerRootPathValue

FullMachineName = FullMachineNameValue

ServerUser = UserID
ServerGroup = GroupID

UseExistingConfigDirectory = 0

UseExistingUserDirectory = 0

DirectoryIdentifier = InstanceName
DirectoryPort = LDAPPort
DirectorySuffix = BaseSuffix

ConfigDirectoryAdminID = AdminUserID
ConfigDirectoryAdminPwd = AdminUserPasswd

AdminDomain = AdministrationDomain

DirectoryManager = DirectoryManagerDN
DirectoryManagerPwd = DirectoryManagerPasswd

[STATE_DONE Sun ONE Directory Distribution
727642c18dde6631814c2884e6eb5e676eb89bb0]
#
```

After renaming the template file, run the following command to perform the silent installation.

```
# /usr/sbin/directoryserver configure -nodisplay -noconsole -state
mydirconfig.ins
```

The Administration Server can be configured silently in a similar manner by editing a template file and specifying it as input to `mpsadmserver(1M)`.

```
# cat /usr/sadm/mps/admin/v5.2/setup/admin/typicalInstall.ins
[STATE_BEGIN Sun ONE Administration Distribution
470bfd35d167a2a0ddde6c29a2ea8d4fb4e39fe6]

ProductServerRoot = ProductServerRootPathValue

FullMachineName = FullMachineNameValue

ServerUser = UserID
ServerGroup = GroupID

ConfigDirectoryHost = ConfigDirectoryHostValue
ConfigDirectoryPort = ConfigDirectoryPortValue

ConfigDirectoryAdminID = ConfigDirectoryAdminIDValue
ConfigDirectoryAdminPwd = ConfigDirectoryAdminPwdValue

AdminDomain = AdminDomainValue

AdminPort = AdminPortValue

[STATE_DONE Sun ONE Administration Distribution
470bfd35d167a2a0ddde6c29a2ea8d4fb4e39fe6]
#
```

```
# /usr/sbin/mpsadmserver configure -nodisplay -noconsole -state
myadminconfig.ins
```

# Changes to RFC 2307 Schema Files

Several changes have been made to the `11rfc2307.ldif` file in the Sun ONE Directory Server 5.2 schema directory. Some of these changes might affect you if you have an existing deployment of the Secured LDAP Client. Issues include:

- Removal of the `automount` object class and the `automountInformation` attribute.

These are added to the `99user.ldif` schema file when the `idsconfig(1M)` command is run to configure the Directory Server to support Secured LDAP Clients. This should have no effect because those definitions would have to be manually removed for the `11rfc2307.ldif` file anyway before running `idsconfig(1M)`.

- The `ipHost` object class no longer allows the `o`, `ou`, `owner`, `seeAlso`, and `serialNumber` attributes.

If you used the `ldapaddent(1M)` command to populate the directory, there will be no issue. If you defined your own `ipHost` entries that specify those attributes, you must use the old schema or modify the entries.

- The `ieee802Device` object class no longer includes `cn` as a mandatory attribute nor allows the `l`, `o`, `ou`, `owner`, `seeAlso` and `serialNumber` attributes.

This will have an impact if `ldapaddent(1M)` is used to create entries for the `ethers` database because `cn` is defined as an attribute.

- The `bootableDevice` object class no longer includes `cn` as a mandatory attribute nor allows the `l`, `o`, `ou`, `owner`, `seeAlso` and `serialNumber` attributes.

This will have an impact if `ldapaddent(1M)` is used to create entries for the `bootparams` database because `cn` is defined as an attribute.

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## About the Authors

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