# Sun OpenDS Standard Edition 2.2 Release Notes



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## **Installation Notes**

The Sun OpenDS Standard Edition directory server is a high-performance, highly-extensible, pure Java™ directory server that supports the Lightweight Directory Access Protocol (LDAPv3) and the Directory Services Markup Language (DSMLv2) through a DSML to LDAP Gateway.

Sun OpenDS Standard Edition 2.2 can also be installed as a proxy server, which acts as an interface between client applications and remote LDAP servers that contain data.

Sun OpenDS Standard Edition is based on the open source OpenDS project. However, Sun OpenDS Standard Edition provides additional functionality that is not available in the open source version. This functionality includes the ability to install as a proxy server and the Namefinder sample application. For more information, see "What's New in Sun OpenDS Standard Edition 2.2?" on page 5

For specific information about installing the Sun OpenDS Standard Edition 2.2 software, see the Sun OpenDS Standard Edition 2.2 Installation Guide.

## What's New in Sun OpenDS Standard Edition 2.2?

The Sun OpenDS Standard Edition directory server is the newest member of the Sun Directory Server product family. This "next-generation" directory server includes an LDAP core that is designed for performance (fast reads and writes), scalability (vertical and horizontal), ease of use, robust availability, extensibility (numerous plug-in points), security, and maintenance.

The Sun OpenDS Standard Edition 2.2 release fixes a number of issues found in the 2.0 release and provides the following additional features:

- Additional functionality in the graphical control panel:
  - Management of remote servers.
  - Scheduling and management of recurring tasks.
- Enhancements to the replication mechanism.
  - Ability to configure large topologies with the dsreplication command.
  - Support for fractional replication.
  - Publication of an external change log.
- Improvements to the import mechanism that address many of the issues previously faced when importing large LDIF files.

- Improvements to the support for syntaxes and matching rules, including substitution, regular expressions, enumeration syntaxes, relative time and partial time matching rules.
- Improvements to index rebuilding for large numbers of entries, and the ability to rebuild all
  indexes with one command.
- Ability to install as a proxy server. In this case, Sun OpenDS Standard Edition manages all
  the requests between the client and the remote LDAP servers (either Sun OpenDS directory
  servers or Sun DSEE servers). The proxy provides the following types of configuration:
  - Load balancing on the remote LDAP servers
  - Data distribution over several data sources

The proxy has its own installation and uninstallation interfaces and its own control panel.

 The Namefinder sample application, a web-based lookup utility for users in an LDAP database.

Note that although the features tested in this release are known to be stable and working, the command-line interfaces and APIs are still evolving and are subject to change in future releases.

The Sun OpenDS Standard Edition Java API is not a public interface and is subject to change in future releases of the product.

## **Supported Operating Systems**

Sun OpenDS Standard Edition 2.2 is supported on the following systems.

TABLE 1 Tested Operating Systems

Operating System	Description
Solaris <sup>TM</sup> 10	SPARC® 64-bit, x86 and x64 architectures
OpenSolaris <sup>TM</sup> 2009.06	SPARC, x86 and x64 architectures
Microsoft Windows 2003 Server	for x86
Microsoft Windows 2008 Server	for x86 and x64 architectures
Red Hat Linux Advanced Server 5.3	for x86 and x64 architectures
SuSE Linux Enterprise Server 10	for x86 and x64 architectures
Ubuntu Linux 8.04	for x86 and x64 architectures

Note - x64 refers to both Intel 64 and AMD 64.

For Sun OpenDS Standard Edition proxy, only x86 is supported for Microsoft Windows 2008 Server.

## **Java Requirements**

The directory server requires that your system have an installed version of at least Java SE 5.0 (Sun version 1.5.0\_08) Java runtime environment (JRE). The preferred JRE is the latest version of Java SE 6.0. Java SE runtime environments for Solaris, Linux, and Windows systems are available online at the following web site: http://java.sun.com/javase/downloads/index.jsp.

Java Runtime Environment Tested up to Version:

Sun JRE 1.5.0\_20 (32-bit and 64-bit)

Sun JRE 1.6.0\_16 (32-bit and 64-bit)

(performs better on the latest revision of Sun Java 6.0)

## Supported Application Servers

The DSML gateway and the NameFinder sample application that are provided with Sun OpenDS Standard Edition 2.2 are supported on the following application servers:

- Apache Tomcat 6.0.20
- Sun Web Server 7
- GlassFish<sup>TM</sup> v3

## **Supported Locales**

Sun OpenDS Standard Edition 2.2 has been translated into the following languages:

- French
- German
- Japanese
- Simplified Chinese
- Spanish

**Note** – Certain error messages (specifically, the SEVERE and FATAL messages) are displayed in English only.

The Sun OpenDS Standard Edition 2.2 Release Notes are translated into the supported languages. All other documentation is available in English only for this release.

#### **Software Environment Limitations and Recommendations**

The Sun OpenDS Standard Edition 2.2 software has some limitations that might affect the initial deployment of your directory server. Follow the recommendations for deployments in this section.

Administrators also should appropriately tune the Sun OpenDS Standard Edition directory server and its Java Virtual Machine ( $JVM^{TM}$ ) to ensure that adequately sized hardware is made available to support heavy write operations. For more information, see "Configuring the JVM, Java Options, and Database Cache" in *Sun OpenDS Standard Edition 2.2 Installation Guide*.

#### Sun OpenDS Standard Edition 2.2 Limitations

- The Sun OpenDS Standard Edition directory server provides full LDAP v3 support, except for alias dereferencing, and limited support for LDAPv2.
- Account lockout is supported in a single-server environment only.
- Sun OpenDS Standard Edition 2.2 is not fully integrated with the Windows environment. However, it can be run as a service and is therefore displayed in the Windows Services Control Panel.
- Sun OpenDS Standard Edition 2.2 provides a subset of the features that are available in Sun Directory Server Enterprise Edition. Sun OpenDS Standard Edition is constantly evolving and is expected to converge with Sun Directory Server Enterprise Edition in a future release. A replication mechanism between the two products will also be provided in a future release.
- Although the Sun OpenDS Standard Edition software has been designed for n-way multi-master replication, testing has focused on up to eight replication servers in a topology.
- It is recommended that you start with a clean installation of the Sun OpenDS Standard Edition 2.2 software, rather than upgrading from Sun OpenDS Standard Edition 2.0.
- To maximize performance when running the server as a proxy, you should restrict queries so that the proxy returns only the required attributes rather than all the attributes of an entry.
- Although all of the Sun OpenDS Standard Edition components have undergone extensive
  testing, the global index catalog feature of the proxy server is a relatively new feature. As
  such, it has not been subject to validation and testing across a variety of deployments. The

specific known limitations of the global index feature are described in "Known Issues When Using the Sun OpenDS Standard Edition Proxy" on page 17.

#### **Sun OpenDS Standard Edition Software Recommendations**

- The Sun OpenDS Standard Edition directory server provides better performance when the database files are cached entirely into memory.
- To fully benefit from the testing of the Sun OpenDS Standard Edition software, use the Solaris 10 or Linux operating systems.
- The default settings of the Sun OpenDS Standard Edition directory server are targeted initially at evaluators or developers who are running equipment with a limited amount of resources. For this reason, you should tune the Java virtual machine (JVM) and the directory server itself to improve scalability and performance, particularly for write operations. For more information, see "Configuring the JVM, Java Options, and Database Cache" in Sun OpenDS Standard Edition 2.2 Installation Guide.
- If you update the password policy in a replicated environment, make sure to update the password policy on all of the directory servers in the topology.
- Due to a limitation of the GUI setup import feature, the GUI setup can import a maximum of 2000 entries at a time. To import more than 2000 entries, use the setup utility to perform the initial configuration and then use the import-ldif utility to import the remaining data.
- Importing large LDIF files by using the import-ldif command requires that you use the
   --skipDNvalidation option. However, if you are not certain that the LDIF file is valid,
   using this option is not advised.

## **Related Documentation**

The Sun OpenDS Standard Edition 2.2 documentation is available at http://docs.sun.com/coll/2508.2, and includes the following documents:

- Sun OpenDS Standard Edition 2.2 Installation Guide
- Sun OpenDS Standard Edition 2.2 Deployment Planning Guide
- Sun OpenDS Standard Edition 2.2 Administration Guide
- Sun OpenDS Standard Edition 2.2 Configuration Reference
- Sun OpenDS Standard Edition 2.2 Architectural Reference
- Sun OpenDS Standard Edition 2.2 Command-Line Usage Guide
- Sun OpenDS Standard Edition 2.2 Glossary of LDAP and Directory Terminology

## Known Issues in Sun OpenDS Standard Edition 2.2

This section lists the directory server bugs that are known to exist at the time of the Sun OpenDS Standard Edition 2.2 release.

**Note** – The issue numbers in this section refer to issues logged in Issue Tracker. Numbers that begin with "CR..." refer to issues logged in BugTraq.

Issue Number	Description	Workaround
4393	With a small default heap, the Control Panel can generate an OutOfMemory error after performing a relatively small number of tasks.	Increase the default heap by updating the Java arguments for the control-panel command in the config/java.properties file. as follows:
		Change
		control-panel.java-args=-client -Xms8m
		to
		<pre>control-panel.java-args=-client -Xms64m -Xmx128m</pre>
4391	The performance of the rebuild-index command decreases as the database IDs become unordered over time.	Avoid reindexing large databases if possible.
4390	If a client application provides a malformed RDN in a modifyDN request, the server accepts the request.	Ensure that input is validated on the client side.
4386	When an attempt is made to add an entry in which an attribute has duplicate values, the server might generate a Null Pointer Exception and close the connection (after returning an appropriate error).	
4385	Searching using an ExtensibleMatch filter without a matching rule generates a Null Pointer Exception.	N/A

Issue Number	Description	Workaround
4381	If you enable Sun OpenDS Standard Edition as a Windows service when the server is running, the newly created service cannot assess the status of the server instance.	
4373 & 4378	After a long period of updates, replication initialization can cause the server startup time to be fairly long.	
4372	If multiple actions are performed in the Control Panel, the equivalent CLI commands are sometimes displayed on a single line, instead of as separate commands.	
4371 & 4376	Running the setup with a PKCS12 certificate results in a Null Pointer Exception if the certificate has no alias. The error message provided by the server in this situation ("no available ciphers") is insufficient.	Provide an alias for the PKCS12 certificate.
4361	When you use the External Change Log in draft-compatible mode, the value of the last change number is temporarily incorrect after several thousand updates. The value is corrected as soon as the ECL is searched.	
4359	When you use the External Change Log in draft-compatible mode, resetting the change numbers after several updates can take a considerable amount of time.	
4300	When a replicated topology includes only two replication servers, which are not on the same JVM as the directory servers, stopping one of the replication servers can cause an out of memory error.	Use at least three replication servers in the topology.
4270	The external change log establishes unnecessary connections between replication servers.	N/A
4269	Running dsreplication pre-external-initialization then dsreplication initialize-all does not reset the change number on the peer server (when you use the External Change Log in draft-compatible mode).	N/A

Issue Number	Description	Workaround
4259	TheskipDNValidation andthreadCount options of the import-ldif command are not available for data imports using the Control Panel.	N/A
4258	The Control Panel cannot be used for large LDIF imports.	Use the import-ldif command with theskipDNValidation option for large imports.
4053	On Windows systems, the CLI output of non-ASCII characters is garbled in all locales other than English.	Right-click on the title bar of the cmd.exe window and select Properties. On the Font tab, change the font to Lucida Console and click OK. In the cmd.exe window, run the following command: C:\> chcp 1252
4034	Some error messages are not translated. Errors with level SEVERE and FATAL are available in English only.	N/A
3901	Setup fails when adding a server to an existing replicated topology and importing a large volume of data. Because the new server uses the default JVM options, attempting to initialize the server with a large volume of data fails with an <i>out of memory</i> error. There is no way to configure the JVM options during the setup.	Set up the server in the topology, without initializing it with data, first. Configure the JVM options to be able to handle large volumes of data (see "Configuring the JVM, Java Options, and Database Cache" in Sun OpenDS Standard Edition 2.2 Installation Guide). Initialize the server with data by using dsreplication initialize (see "Initializing a Replicated Server With Data" in Sun OpenDS Standard Edition 2.2 Administration Guide).
3435	On Windows systems no SNMP trap is sent if the server is stopped by using stop-ds with no credentials. The server is, however, stopped correctly. The SNMP trap is sent if the server is stopped by using stop-ds -D <i>bindDN</i> -p <i>password</i> .	N/A
3430	The manage-account get-remaining-grace-login-count subcommand returns a value of one less than the actual number of remaining grace logins.	N/A
3376	The output of thehelp subcommand of all the command-line utilities is garbled in non-UTF-8 locales.	N/A
2798	In rare cases, on particularly slow hardware, the default connection timeout of 10 seconds for some command-line tools is too short. This can result in these commands timing out before a connection has been established.	N/A

Issue Number	Description	Workaround
2606	Running the ldif-diff command on LDIF files over a certain size (around 600 Kbytes on Windows systems, larger on UNIX systems) results in a memory error similar to the following: Exception in thread "main" java.lang.OutOfMemoryError: Java heap space.	Increase the heap size and rerun the command. For more information, see "Configuring the JVM, Java Options, and Database Cache" in Sun OpenDS Standard Edition 2.2 Installation Guide
1752	In a replicated topology, if a server crashes directly after receiving delete operations, the delete operations might not be replicated to the other servers in the topology.	The delete operations must be replayed manually on another server in the topology.

# Known Issues When Using the Sun OpenDS Standard Edition Proxy

This topic lists the known issues when using the Sun OpenDS Standard Edition proxy.

Issue Number	Description	Workaround
6733584	In dsconfig interactive mode, the password value set for the remote-ldap-server-bind-password property displays in clear format.	You provide the password in a text file and use remote-ldap-server-bind-password-file to configure the path to that file, instead of providing directly the password.
6772793	In the admin connector workflow, all the backend types are private except the backends that are created by users when installing the product.	N/A
6779424	It is possible to create two network groups with the same priority. However if two or more network groups have the same priority and match the client request, the network group that will handle the request is random, among those matching the client request. Therefore, it is recommended to use a different priority for each network group created.	N/A
6804154	The Sun OpenDS Standard Edition proxy configured with distribution does not support some controls (for instance server side sort) but does not return any error, even if the control was critical.	For a list of supported controls, see Chapter 8, "Supported Controls and Operations," in Sun OpenDS Standard Edition 2.2 Architectural Reference
6811837	The Sun OpenDS Standard Edition proxy cannot monitor the remote LDAP server if the LDAP extension property monitoring-check-interval is set to a value smaller than 1 s.	Set the monitoring-check-interval property to a value higher than 1 second.
6812819	Uninstalling Sun OpenDS Standard Edition proxy with partially configured global index replication fails.	Stop the server and remove the installed files.

Issue Number	Description	Workaround
6816510	If DNs are not indexed in global index, the modify DN operation is supported. Otherwise, only the modify RDN operation is supported.	N/A
6816531	When starting the Sun OpenDS Standard Edition proxy after setting up global index replication, initialization of global index is not instantaneous.	Wait 10 seconds after the Sun OpenDS Standard Edition proxy restart, for global index replication to operate correctly.
6819317	When the disk is full, the gicadm status command displays an untrapped exception. It should display an informative error message.	N/A
6819573	During the global index replication, the disk can become full because of the number and size of the files generated.	Tune the changelog purge to cover the duration of an import. To tune the changelog purge, set the replication-purge-delay property on the replication server.
		You can also set the changelogDB directory by setting the replication-db-directory property so that the changelog is on a partition with enough space.
6832974	If a global index is replicated, disabling replication on one server leaves traces of that server in the other server config.	Execute gicadm disable-replication on all global indexes of the same replication domain if you plan to reuse the removed server in another replication domain.
6840119	The Sun OpenDS Standard Edition proxy does not scale with SEARCH operations when retrieving full entries.	Restrict queries so that the proxy returns only the required attributes instead of retrieving the entire entry.
6841537	If the server stops or crashes while executing a gicadm import, then the server will come back with the global index catalog remote LDAP set to enabled=false. Trying to replay the import will generate an error.	Enable the remote LDAP server using: dsconfig set-backend-propbackend-name catalogset enabled:truehostname acadieport 4444trustAllbindDN cn=Directory\ ManagerbindPassword ******
6849916	Using command dsconfig set-work-queue-propreset num-worker-threads resets workers to 25, not 100.	N/A
6851573	start-ds may be slow due to service tag servicetag.xml, which registers the instance on start-up, but does not unregister.	Unregister the instances using service tag public interface (stclient).
6851640	gicadm might hang when using JDK 5.	Use JDK 6.

Issue Number	Description	Workaround
6852466	If the monitoring-bind-dn of an LDAP server extension is set to an unknown user, and the remote LDAP server is a Sun Directory Server Enterprise Edition 7 server, the LDAP server is seen as down.	Use a valid monitoring bind DN.
6852499	start-ds -s does not take into account dsjavaproperties changes.	N/A
6857617	In vdp-setup GUI, although OpenDS servers may be properly discovered (when using Add Sun Servers button from the Back-End Servers panel), the setup will fail if LDAPS is configured but disabled on the OpenDS servers.	Either enable or unconfigure LDAPS on the OpenDS servers.
6859059	The commands listed on the Review page of vdp-setup, when selecting Show Command, are not correct for Windows.	Modify the path to the correct one: install-dir\bat\*
6859096	Some error messages appear in English even if the user locale is in a language other than English	N/A
6859127	JVM becomes full when using global index catalog, if the CPU load is at 100% for a long period of time.	Make sure the CPU load does not reach 100% for an extended period.
6860832	gicadm list-indexes returns -1 with 64-bits JVM on OpenSolaris-Sparc. This is caused by a known issue in OpenSolaris 2009.06.	Rename or remove the \$JAVA_HOME/jre/lib/accessibility.properties file and launch the command again.
6861652	Status indicates Replication is disabled, even though the global index catalog is replicated	N/A
6863734	Populating global index catalog takes much longer when doing gicadm import after gicadm initialize-all	Use the procedure as described in "Configuring Global Index Catalogs" in Sun OpenDS Standard Edition 2.2 Administration Guide.
6887285	$\label{local-equation} \mbox{vdp-setup GUI shows cn=changelog in the list} \\ \mbox{of naming context}$	Uncheck the checkbox to make sure the suffix is not added to the list of suffixes to configure.
6891832	psearch can be done on remote LDAP servers even if the psearch control is not in the list of supported controls	Define the list of supported controls on the remote LDAP server.

## Issues Corrected in Sun OpenDS Standard Edition 2.2

This section lists the major issues reported in the *Sun OpenDS Standard Edition 2.0 Release Notes* that have been fixed in this release.

**Note** – The issue numbers in this section refer to issues logged in Issue Tracker. Numbers that begin with "CR..." refer to issues logged in BugTraq.

Issue Number	Description
4355	In the Control Panel, if a branch was collapsed while loading, the load was aborted and incomplete information was cached.
4338	The Default ACIs were too permissive and allowed users to modify all attributes of their own entries. A restricted set of attributes is now editable by default.
4336	It was not possible to refresh the entry view in the Control Panel.
4335	The scroll wheel was too slow, when using the Control Panel.
4292	The Control Panel Browse Entries window systematically used the ManageDSAIT control.
4286	The Account Usability Control incorrectly reported accounts as unusable, when their passwords were only due to expire in the future.
4283	There was no way to add an operational attribute to an entry by using the Control Panel.
4264	The Control Panel gave an incorrect equivalent command for multiple attribute modifications.
4082	If the directory server was running as a Windows Service, running stop-ds as a task did not stop the service.
4030	LDAP client connections record various monitoring statistics for total time and total requests. etimes are recorded in each LDAP connection handler monitor, using attributes of the form ds-mon-resident-time-operation-operations-total-time. In previous releases, the etime-related statistics were calculated incorrectly.
4029	On Windows systems, recurring backups did not work as expected.