

DirXML License Auditing Tool

Version 1.1 User's Guide

Overview

The DirXML[®] License Auditing Tool (DLAT) enables you to determine the number of DirXML licenses being used in a given tree, as well as the number of licenses used for specific additional fee drivers.

A DirXML license is counted for each object with any DirXML Driver association that has a valid association key and isn't marked as disabled. Additional driver licenses are counted for any object that has one or more valid non-disabled associations to an additional fee driver. This concept is more thoroughly explained in the DLAT Output section of this document.

The DLAT generates reports on demand or you can schedule audits to run at a later time. After an audit has been scheduled, the DLAT's UI is locked to prevent tampering. It remains locked until after the audit completes. You can, however, unlock the UI by provided a password.

The results of an audit can be saved to a file. In addition to DirXML licenses, DLAT 1.1 provides the capability to count Novell[®] SecretStore[®] licenses and ProtoComm SecureLogin licenses as part of performing the audit. See the Sample Output section to see this information in a report.

Installation

When the DLAT is installed on a computer, the following files are copied:

FILE	LOCATION
DLAT.EXE	User-specified location
DLATHLP.HTM	User-specified location
MFC42.DLL	<i>windows\system32</i>
MSVCRT.DLL	<i>windows\system32</i>
LDAPSDK.DLL	<i>windows\system32</i>
LDAPSL.DLL	<i>windows\system32</i>
LDAPX.DLL	<i>windows\system32</i>

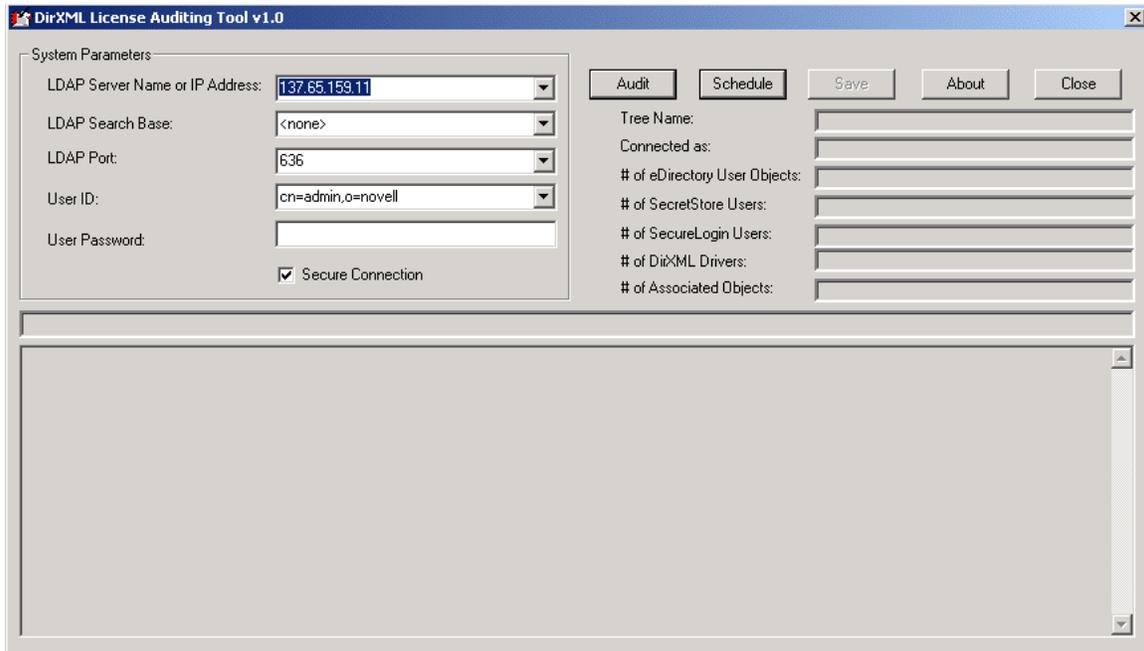
Registry keys are also added to allow the DLAT to record auditing parameters used against various servers audited from that machine.

The DLAT contains an uninstall program that allows you to remove the software from your computer.

Using The DirXML License Auditing Tool

To run the DLAT, double-click DLAT.EXE.

Figure 1: DLAT.EXE prior to starting an audit



Configuring DLAT Parameters

In order to run an audit, you should use the following information as you configure the six required DLAT parameters.

LDAP Server Name or IP Address

This parameter specifies the LDAP server that DLAT connects to in order to audit the tree. The server may be specified by IP address or by DNS name.

LDAP Search Base

This parameter specifies the container in the tree where DLAT performs its audit. It must be a valid LDAP DN, for example *ou=dirxml,o=provo*, or it may be specified as <none>. Selecting <none> or blanking the field causes DLAT to perform the audit from the root of the tree.

LDAP Port

This parameter specifies the port where DLAT will try to locate LDAP services on the server specified. There are two default LDAP port values. Port 389 is the default port to access LDAP. Port 636 is the default port to access LDAP via a Secure Sockets Layer (SSL) connection. Note that the Novell® eDirectory™ LDAP server port values are configurable, so using the default values may not be valid. <none> may also be specified.

User ID

This parameter specifies the User ID that DLAT will use when connecting to the LDAP server. If you are connecting via SSL, this parameter must be specified. Be sure the User ID being used has access to all objects in the tree. It is legal to select <anonymous> for this value, although anonymous access may not have enough rights to see all the objects of interest to DLAT.

User Password

This is the password for the User ID specified above. If you have selected <anonymous> for the User ID, don't enter a value here.

Secure Connection

If this box is checked, DLAT will use SSL to connect to the LDAP server.

Note: DLAT uses a special feature of Novell's LDAP SDK, which tells the LDAP SSL client that DLAT already trusts the LDAP server being used. In this case DLAT doesn't need to be configured with a copy of the server's certificate. Because of the context in which DLAT is used, this is a valid approach. This allows DLAT to use SSL without forcing the user to obtain a copy of the server's certificate and configuring DLAT to trust it.

LDAP Server Reconfiguration

DLAT reads the LDAP Server and LDAP Group objects from eDirectory to verify that the server is configured to let DLAT audit the entire tree. DLAT checks to see that the LDAP server is configured to walk the tree to fill queries involving objects not held on the LDAP server, and also makes sure there are no limits to result sets or the amount of time a query can take to complete. If these values need to be changed, DLAT saves the existing values, and reconfigures and refreshes the LDAP server. When DLAT is done with the audit, it resets the previous values and refreshes the LDAP server. Note that DLAT can't update the configuration or refresh the LDAP server without authenticating with enough rights to perform the update.

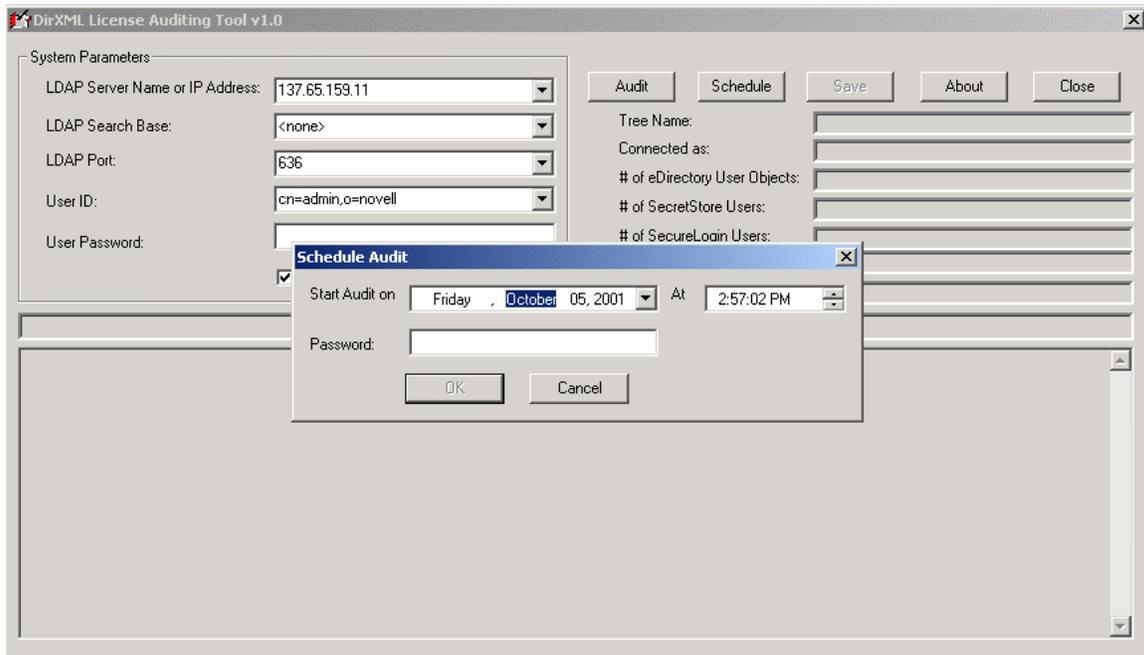
Starting an Audit

After the parameters have been entered, you can start an Audit by clicking Audit. As results are gathered from the LDAP server, the informational windows on the right side of the dialog box will be filled with data. This version of DLAT doesn't support asynchronous operations on the LDAP server, so the UI will be non-functional during an audit. Some of the LDAP operations can be so time-intensive that the UI won't update until the audit is complete, and they can appear to be hung. Do not kill the process. The audit will complete and you will regain control of the UI.

Scheduling an Audit

Auditing a customer's installation can take a fairly long time, depending on the tree size. For a time frame reference, note the start and stop times in the sample output log file in the Sample Output section of this document. To schedule an Audit, click the Schedule button to display the Schedule Audit dialog. See Figure 2.

Figure 2: Schedule Audit



Specify a start date and time. The password entered in the password field will become the key to unlock the DLAT's UI. After filling in the dialog box, click OK to schedule the audit event and lock the UI to prevent tampering with the audit parameters or results.

Figure 3 shows the DLAT in a locked state. If you want to unlock the UI prior to an audit ending or after an audit ends, press **Unlock**. The Unlock dialog will display (see Figure 4). Enter the lock password specified in the Schedule Audit dialog box to unlock the UI. If you unlock the UI prior to the scheduled audit, the audit will be unscheduled.

Figure 3: DLAT's U/I locked for a scheduled audit

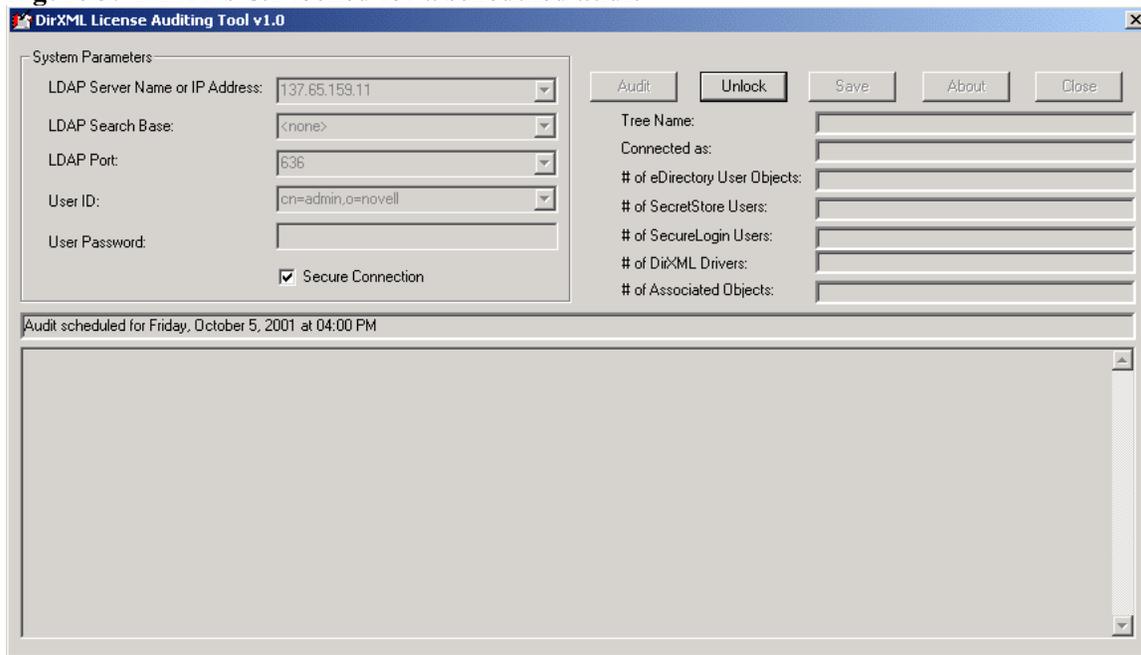
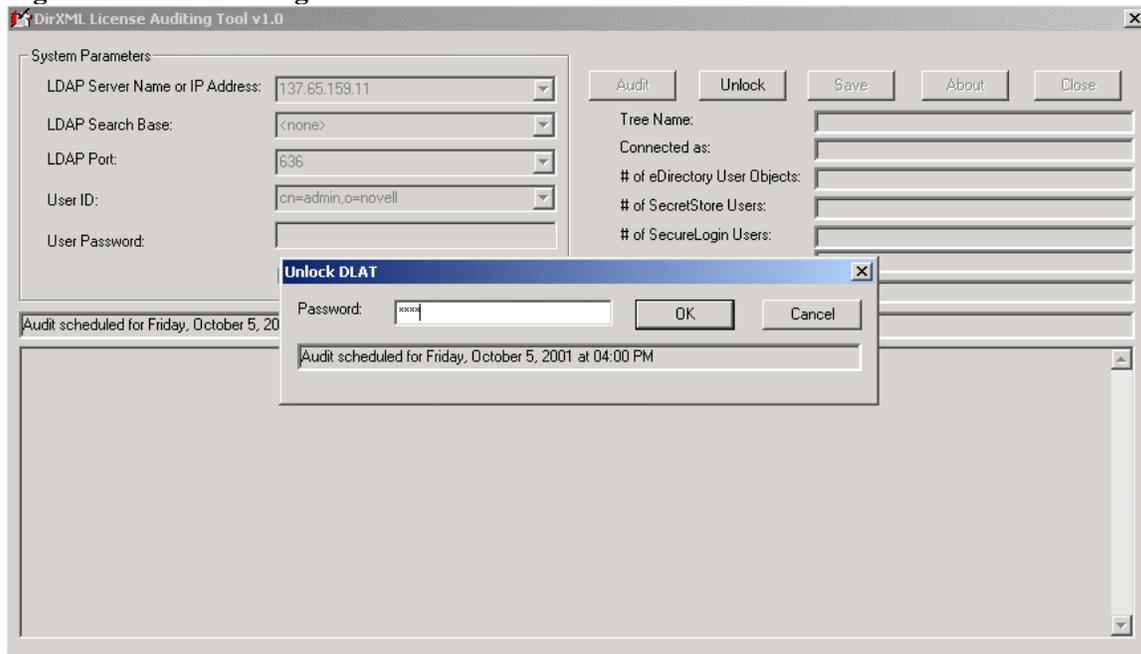


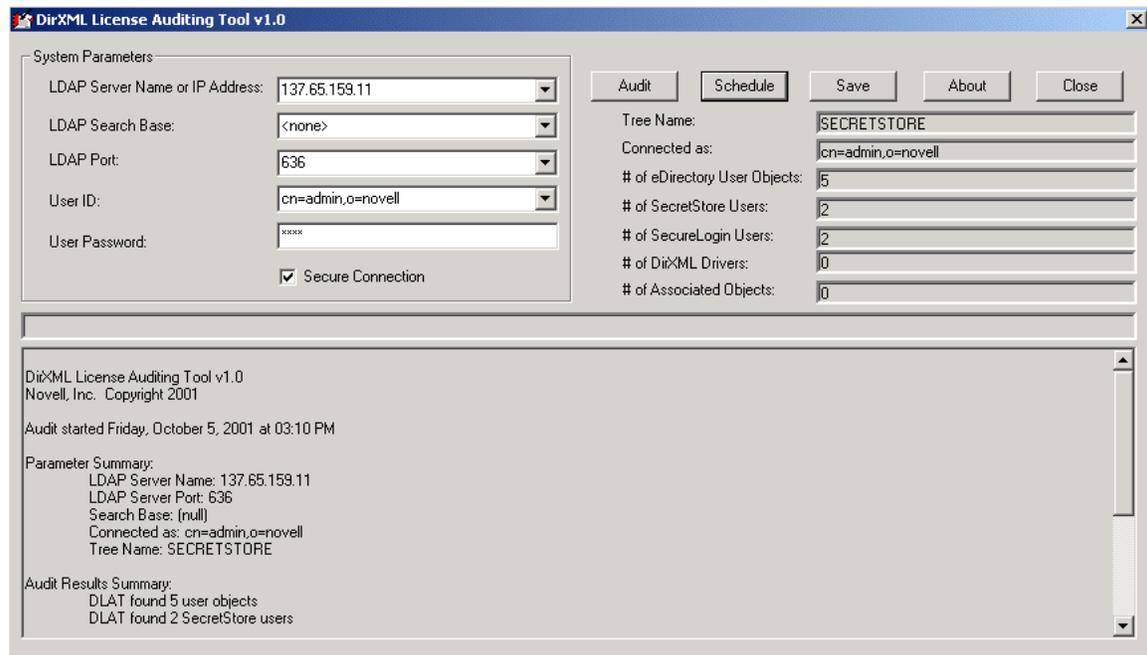
Figure 4: Unlock dialog box



Saving the Results of an Audit

When an audit completes, the full audit report displays in the text window at the bottom of the DLAT dialog box (see Figure 5). If you want to save this report to disk, click Save. This will open a file save dialog box. Specify a location and filename to save, and the DLAT will create a text file with the report contents in the filename specified.

Figure 5: DLAT displays the results of an Audit



DLAT Output

The report file output from the DLAT is identical to the report displayed in the DLAT dialog box. It has the following structure:

- Identification header indicating the file is from DLAT
- Time stamp indicating when the audit started
- Summary of the audit parameters used
- Audit results summary
- Object class summary
- Driver associations summary
- Driver report
- Time stamp indicating when the audit completed.

The key results of the audit appear in the Audit Results Summary and the Driver Associations Summary. The Audit Results Summary includes a field indicating the number of objects with valid DirXML associations. This number indicates the number of DirXML base licenses being used in that tree.

The Driver Associations Summary lists each driver type found in the tree, and indicates the number of objects associated to each type. In this case driver type indicates the product name for the driver. This release of DLAT recognizes the following drivers from Novell:

- Active Directory
- Delimited Text Driver
- eDirectory eDirectory
- Exchange 5.5
- JDBC
- LDAP/Netscape
- Notes
- NT 4 Domains
- PeopleSoft
- Remote Driver
- SAP

Any driver not found on that list will be represented as a <Custom> driver. The JDBC, PeopleSoft, and SAP drivers are additional-charge drivers. Therefore, the counts listed for each of these driver types in the Driver Associations Summary require special action because they need to be considered as additional driver licenses considered in assessing compliance.

As Novell releases additional drivers, the DLAT will be updated to recognize and audit them accordingly.

Remote Driver

Starting with DirXML 1.1, Novell released a Remote Driver shim. The Remote Driver provides the ability to deploy a DirXML driver on a system other than one running eDirectory. Prior to this, all drivers ran on the servers running the DirXML engine. With the Remote Driver, a DirXML driver can run on a separate server, lightening the CPU load for the eDirectory server.

DLAT does not have a way of discovering what DirXML driver an instance of the Remote Driver is bound to. To determine which driver an instance of the Remote Driver is talking to, do the following:

1. Using ConsoleOne, locate the driver object referenced by the DN listed in the DLAT's output.
2. Right-click the object and select Properties.
3. Select the Authentication tab.
4. In the Remote Loader Connection parameters field, note the IP address following the hostname= tag.
5. Locate the physical machine using this IP address.
6. Find the configuration file for the Remote Driver instance you are interested in and check the class or module parameter.

It is also possible, although unlikely, that the module or class path is specified on the command line for the driver. In this case, look in the registry for the service entry. The key is HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services, and the name will be DirXMLRemote *n* where *n* is the command port number. Look at the command line value.

The following table displays the driver names and their class or module names:

Driver Name	Module or class name
DirXML Driver for Active Directory	Addriver.dll
DirXML Driver for Delimited Text	com.novell.nds.dirxml.driver.delimitedtext.delimitedtextdriver
DirXML Driver for Exchange	Exdriver.dll
DirXML Driver for Exchange	Exchange55shim.dll
DirXML Driver for eDirectory	com.novell.nds.dirxml.driver.nds.drivershimimpl
DirXML Driver for JDBC	com.novell.nds.dirxml.driver.jdbc.jdbcdrivershim
DirXML Driver for LDAP	com.novell.nds.dirxml.driver.ldap.ldapdrivershim
DirXML Driver for Netscape	com.novell.nds.dirxml.driver.netscape.netscapedrivershim
DirXML Driver for Notes R5 Driver	com.novell.nds.dirxml.driver.notes.notesdrivershim
DirXML Driver for NT 4 Domain	Ntdrivr.dll
NT 4 Domain Driver	ntdomainshim.dll
DirXML Driver for PeopleSoft Driver	Npsshim.dll
DirXML Driver for PeopleSoft Driver v4	Nps8shim.dll
Remote Driver	com.novell.nds.dirxml.remote.driver.drivershimimpl

Sample Output

DirXML License Auditing Tool v1.0
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Audit started Thursday, August 16, 2001 at 01:40 PM

Parameter Summary:

LDAP Server Name: 137.65.1.222
LDAP Server Port: 636
Search Base: (null)
Connected as: cn=rmatheson,o=novell
Tree Name: WORKFORCE1

Audit Results Summary:

DLAT found 8706 user objects
DLAT found 1 SecretStore objects
DLAT found 2 SecureLogin objects
DLAT found 24 DirXML Drivers
DLAT found 11824 associated objects

Object Class Summary

8703 associations to Object Class inetOrgPerson
3121 associations to Object Class costCenter

Driver Association Summary

8699 associations to eDirectory Driver drivers
8919 associations to Peoplesoft Driver drivers
11080 associations to <Custom> drivers
10858 associations to JDBC Driver drivers

Driver: CN=NDSTONDS - SERVICES1,CN=NDS DRIVERS,O=SERVICES

Driver Name: eDirectory Driver

Driver Module:

com.novell.nds.dirxml.driver.nds.drivershimimpl

Processed Associations: 5799

Disabled Associations: 4

Driver: CN=TELECOM DRIVER,CN=TELECOM DRIVER SET,O=SERVICES

Driver Name: <Custom>

Driver Module:

com.novell.nds.dirxml.driver.telecom.telecomdrivershim

Processed Associations: 2455

Disabled Associations: 1

Driver: CN=NPSDRIVER,CN=PEOPLESOFT DRIVER,O=SERVICES

Driver Name: Peoplesoft Driver

Driver Module: psoftdrv.dll

Processed Associations: 5798

Disabled Associations: 2

Driver: CN=NDSTONDS - SE-TREE,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 5766
Disabled Associations: 3

Driver: CN=NDSTONDS - PRV-NDS1,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 1091
Disabled Associations: 10

Driver: CN=NDSTONDS - SJF-NDS1,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 255
Disabled Associations: 13

Driver: CN=NDSTONDS - ORM-NDS1,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 1021
Disabled Associations: 4

Driver: CN=NDSTONDS - CPL-DSMASTER,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 1058
Disabled Associations: 3

Driver: CN=NDSTONDS - SYD-DSMASTER,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 279
Disabled Associations: 0

Driver: CN=NDSTONDS - TOK-DSMASTER,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 108
Disabled Associations: 0

Driver: CN=NDSTONDS - AFO-NDS1,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 712
Disabled Associations: 1

Driver: CN=NDSTONDS - PRV-NDS6,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 47
Disabled Associations: 0

Driver: CN=VANTIVE DRIVER,CN=TELECOM DRIVER SET,O=SERVICES
Driver Name: <Custom>
Driver Module:
com.novell.nds.dirxml.driver.jdbc2.jdbcdrivershim
Processed Associations: 11007
Disabled Associations: 0

Driver: CN=NPSCOSTCENTERDRIVER,CN=BIG EWORKS
PSCOSTCENTER,O=SERVICES
Driver Name: Peoplesoft Driver
Driver Module: psoftdrv.dll
Processed Associations: 3121
Disabled Associations: 0

Driver: CN=EPISUITE DRIVER,CN=TELECOM DRIVER SET,O=SERVICES
Driver Name: <Custom>
Driver Module:
com.novell.nds.dirxml.driver.jdbc2.jdbcdrivershim
Processed Associations: 7261
Disabled Associations: 0

Driver: CN=EWORK COSTCENTER DRIVER,CN=BIG EWORKS
PSCOSTCENTER,O=SERVICES
Driver Name: JDBC Driver
Driver Module:
com.novell.nds.dirxml.driver.jdbc.jdbcdrivershim
Processed Associations: 3121
Disabled Associations: 0

Driver: CN=NDSTONDS - PRV-NDS2,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 389
Disabled Associations: 1

Driver: CN=EWORK USER DRIVER,CN=BIG EWORKS
PSCOSTCENTER,O=SERVICES
Driver Name: JDBC Driver
Driver Module:
com.novell.nds.dirxml.driver.jdbc.jdbcdrivershim
Processed Associations: 7687
Disabled Associations: 0

Driver: CN=BIG USERS DRIVER,CN=BIG EWORKS PSCOSTCENTER,O=SERVICES
Driver Name: JDBC Driver
Driver Module:
com.novell.nds.dirxml.driver.jdbc.jdbcdrivershim
Processed Associations: 5784
Disabled Associations: 0

Driver: CN=GENDRIVER,CN=NDS DRIVERS,O=SERVICES
Driver Name: <Custom>
Driver Module:
com.novell.nds.dirxml.driver.zds.genericdrivershim
Processed Associations: 4116
Disabled Associations: 0

Driver: CN=NDSTONDS - SERVICES2,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 8689
Disabled Associations: 3

Driver: CN=NDSTONDS - BLR-DSMASTER,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 316
Disabled Associations: 0

Driver: CN=WSE - SECURITY,CN=TELECOM DRIVER SET,O=SERVICES
Driver Name: <Custom>
Driver Module:
com.novell.nds.dirxml.driver.wsejdbc.wseddrivershim
Processed Associations: 5793
Disabled Associations: 0

Driver: CN=NDSTONDS - PRV-NDS4,CN=NDS DRIVERS,O=SERVICES
Driver Name: eDirectory Driver
Driver Module:
com.novell.nds.dirxml.driver.nds.drivershimimpl
Processed Associations: 2882
Disabled Associations: 0

Audit completed Thursday, August 16, 2001 at 01:41 PM

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Audit started Friday, August 17, 2001 at 02:16 PM

Parameter Summary:

LDAP Server Name: 137.65.132.13
LDAP Server Port: 636
Search Base: o=wazzup_labs
Connected as: cn=admin,o=wazzup_labs
Tree Name: DIRXML-DS

Audit Results Summary:

DLAT found 22 user objects
DLAT found 1 SecretStore objects
DLAT found 2 SecureLogin objects
DLAT found 2 DirXML Drivers
DLAT found 19 associated objects

Object Class Summary

19 associations to Object Class inetOrgPerson

Driver Association Summary

7 associations to Remote Driver drivers
12 associations to Notes R5 Driver drivers

Driver: CN=NOTES,CN=DRIVERSET,O=WAZZUP_LABS

Driver Name: Notes R5 Driver

Driver Module:

com.novell.nds.dirxml.driver.notes.notesdrivershim

Processed Associations: 12

Disabled Associations: 1

Driver: CN=NOTESREMOTE,CN=DRIVERSET,O=WAZZUP_LABS

Driver Name: Remote Driver

Driver Module:

com.novell.nds.dirxml.remote.driver.drivershimimpl

Processed Associations: 7

Disabled Associations: 1

Audit completed Friday, August 17, 2001 at 02:16 PM