

# Section 2: Install Novell Nterprise Linux Services

---

Course 3015 - Novell Nterprise Linux Services



Novell.

# Introduction

---

Course 3015 - Novell Nterprise Linux Services



Novell.



# Introduction

---

Novell's oneNet vision includes providing information without boundaries, where the right people are connected with the right information at the right time to make the right decisions.

Since it announced oneNet in 1999, Novell has been working to identify and develop the technologies, products, and solution suites that make the vision a reality for our customers.



# Introduction (continued)

---

## oneNet Solution Families





## Introduction (continued)

---

Novell® Nterprise™ Linux® Services (NNLS) is a suite of enterprise-ready software which allows organizations that are embracing Linux as an OS strategy to economically replace Windows servers and extend traditionally NetWare services to the Linux platform.



## Introduction (continued)

---

NNLS brings you closer to the Novell promise of oneNet, enabling you to extend the open platform with the comprehensive set of network services needed to enable and manage the constant interaction of people with your business systems.

# Objectives

---

Section 2: Install Novell Nterprise Linux Services





# Install Novell Nterprise Linux Services

---

## Objectives:

1. Describe Novell Nterprise Linux Services (NNLS)
2. Perform an NNLS Installation
3. Manage NNLS with Red Carpet



# Describe Novell Nterprise Linux Services (NNLS)

---

Objective 1



Novell.



# Describe Novell Nterprise Linux Services (NNLS)

---

Novell Nterprise Linux Services (NNLS) v1.0 provides Linux servers with a powerful set of enterprise services, including the following:

- Identity Services
- Personal File Management Services
- Print Services
- Messaging and Calendaring Services
- Web Experience
- Resource Management Services
- Web-based Administration



# Describe Novell Nterprise Linux Services (NNLS) (continued)

---

NNLS v1.0 is ideal for early adopters of Linux and runs on the following Linux enterprise versions:

- SuSE® Linux Enterprise Server 8 (SLES 8)
- Red Hat® Enterprise Linux AS 2.1
- Red Hat Enterprise Linux ES 2.1



# Identity Services

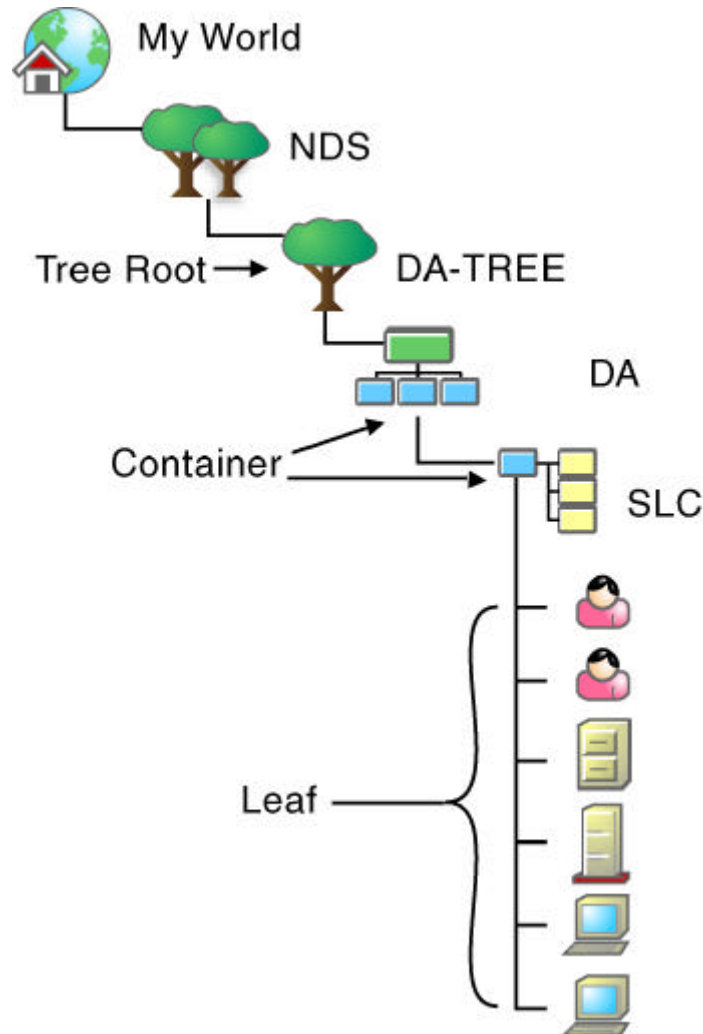
---

**NNLS offers the following identity service components:**

- eDirectory™ 8.7.3
- Novell eGuide 2.12
- DirXML® Starter Pack
- Linux User Management (LUM) 2.1



# Identity Services - eDirectory





# Identity Services - eGuide

eGuide™  
Directory Search

Home Logout Edit Information Help Administration Utility

Novell.

Welcome: Admin

Find People

Last Name

Starts with

Search

Information

Organizational Chart

First Name

Last Name

Department

	Admin	
Kate	Bailey	
Rajesh	Bhat	Flight Operati
	Chakravarthy	MKTG
Pradyumna	Chaudhuri	MKTG
Vinay	Dave	RESRV
Peter	Fernandez	Customer Ser
Jack	Goldman	
Chris	Grayson	
Bret	Grow	
Manoj	Jain	MKTG
Tanuj	Jain	RESRV
Ravikanth	Konduri	RESRV
Jyoti	Kurmi	Customer Ser
	Mukherjee	Flight Operati
Jane	Nelson	
Kurien	Phillip	Customer Ser
Suresh	Prabhu	Flight Operati
Nandu	Pradhan	Flight Operati
Goutham	Prageeth	Flight Operati

Admin

Edit Information

Print Format

Preferred Name:

Phone:

Other Phone:

Cell Phone:

Department:

Manager:

Assistant:

Mail Stop:

Address:

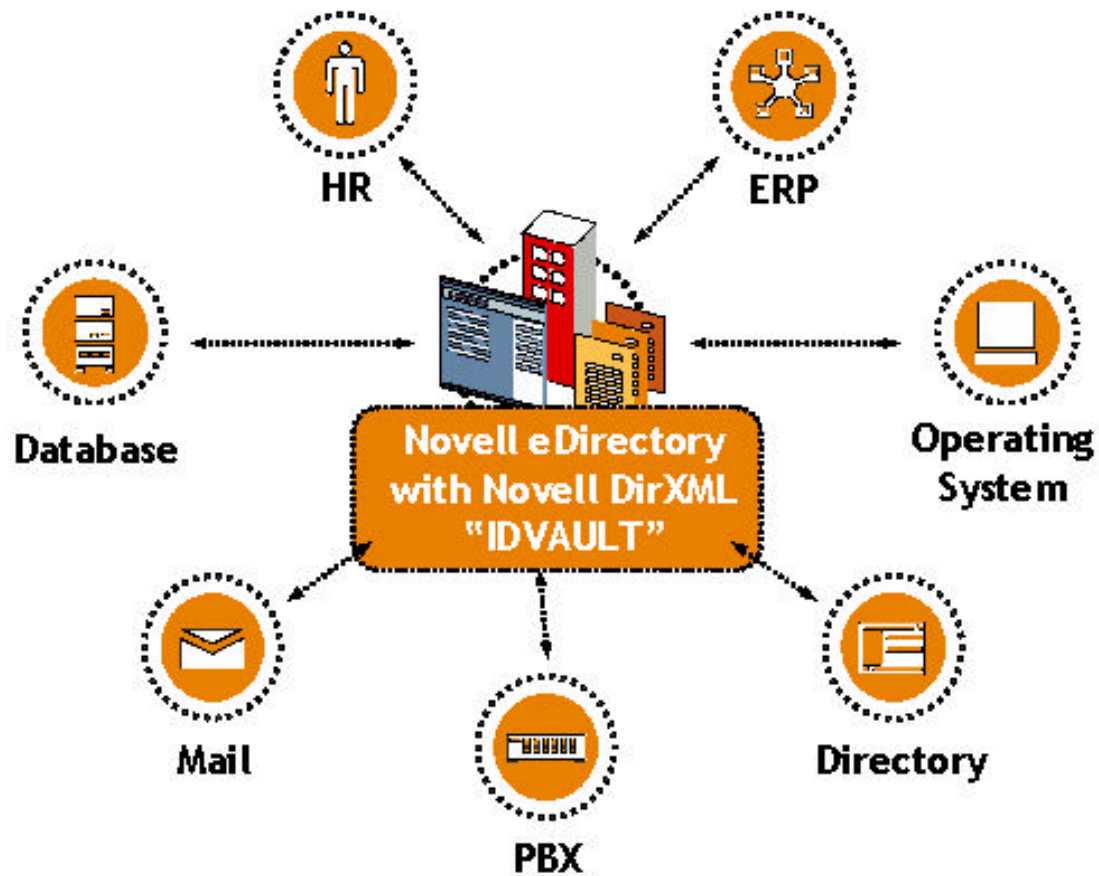
Email:

Project Links:

powered by Novell eG



# Identity Services - DirXML





## Identity Services – LUM

---

LUM is a Novell eDirectory-based service for Linux systems that allows Linux users to leverage eDirectory as a user account management solution.

LUM lets users authenticate against an eDirectory user object for access to Linux services without an entry in the password file.





# Personal File Management Services

---

**NNLS offers the following personal file management service components:**

- iFolder® 2.1.2
- NetStorage 3.0
- Samba 2.2.8a



# Personal File Management Services - iFolder

iFolder  
Home

Novell

iFolder Windows Client  
[Download](#)  
[Quick Start](#)  
[Help](#)  
Access your Files  
[Login](#)  
[Login IPDAI](#)

## iFolder 2.1

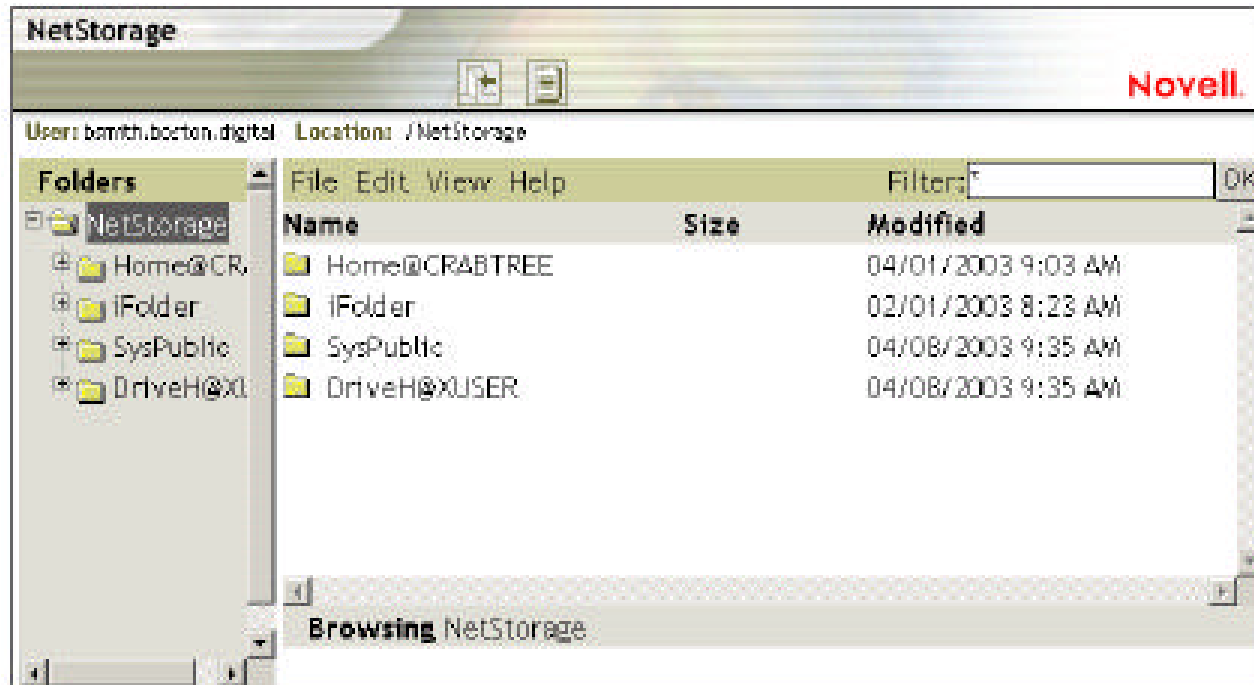
**What is Novell iFolder?** Novell iFolder is the new Net services software solution that allows your files to automatically follow you everywhere - online, offline, all the time - across multiple systems and the Net. Files saved in an iFolder are always available - on your hard drives or through a browser - since changes are automatically and intelligently updated across all your systems through any simple Internet connection, iFolder also provides worry-free security, ensuring that all your files are always safe, secure and up to date. Now your files can be as mobile as you are - at work, home or on the go.

**How to use iFolder:**

1. Download and install the iFolder client.
2. Login to the iFolder client and configure your preferences, such as the location of your local iFolder directory.
3. A shortcut to your iFolder directory is placed on the desktop. Use the shortcut to go to your iFolder directory.
4. Move your files into your iFolder directory. These files will then be updated to the iFolder server.
5. Install the iFolder client on any other machine(s) where you want your files updated.
6. Use the Web browser to access your files when you are on a machine that doesn't have the iFolder client installed on it.



# Personal File Management Services - NetStorage



# N Personal File Management Services - Samba

---

Samba is a software package that implements Microsoft's SMB/CIFS networking protocols on Linux.

It allows a Linux machine to function as a Windows-compatible file server and to act as a client to other Windows servers.



## Print Services

---

**NNLS offers the following print service component:**

- iPrint 5.0

iPrint provides support for IPP standard-based printing for Windows, Mac, and Linux clients, allowing mobile employees, business partners, and customers access printers from a variety of remote locations using existing Internet connections.



# Messaging and Calendaring Services

---

**NNLS offers the following messaging service components:**

- NetMail™ 3.5

NetMail connects users to a scalable, secure e-mail and calendaring system for standards-based messaging and calendaring (supports up to 30,000 users per NNLS server).

- GroupWise Client 6.5.1

The Novell GroupWise client for Windows is provided in your NNLS package as an alternative interface for users to access their email.



## Web Experience

---

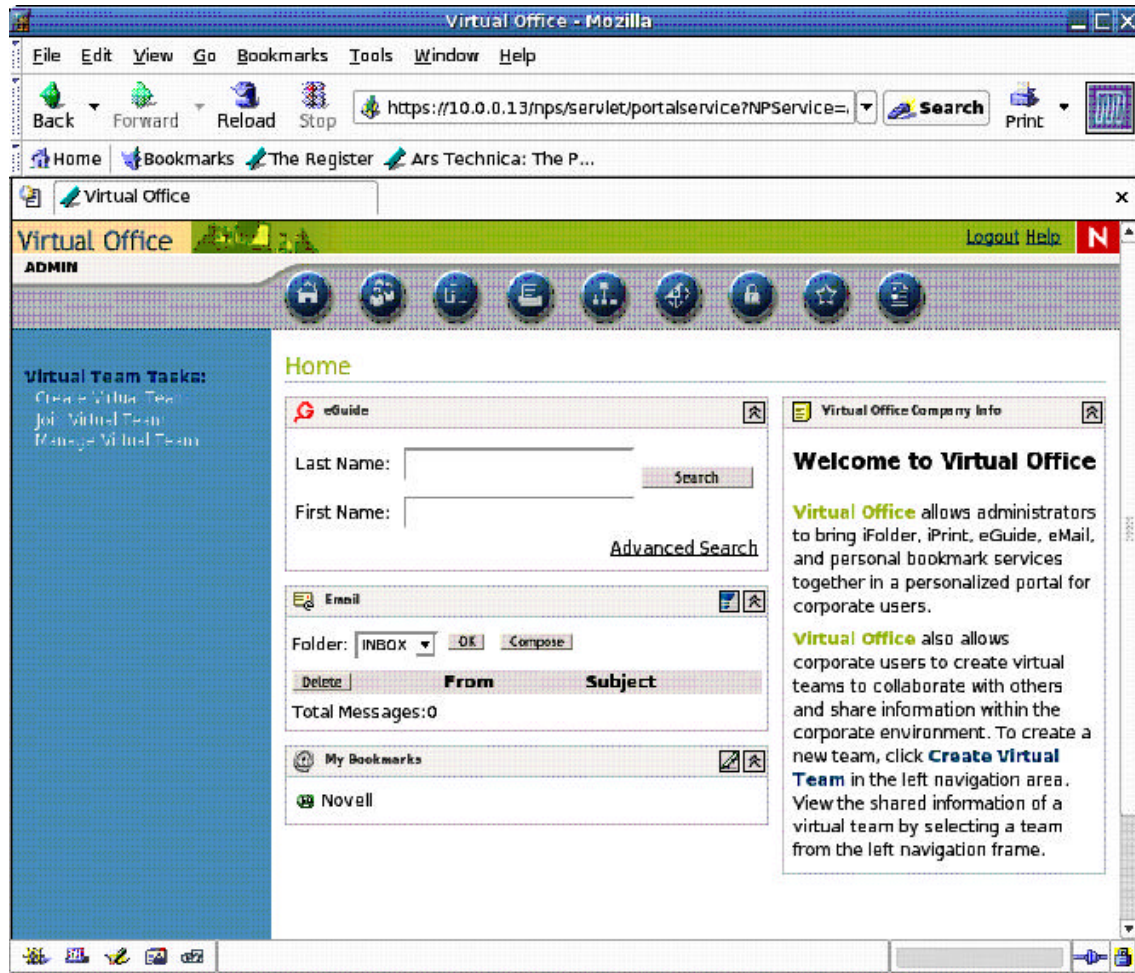
**NNLS offers the following web experience component:**

- Virtual Office 1.0.1

Virtual Office is a web access interface (a web portal) that addresses the need for users to be self-sufficient in filling their workstation and team collaboration needs.



# Web Experience - Virtual Office







# Resource Management Services

---

**NNLS offers the following resource management component:**

- Red Carpet (1.4) Daemon

The Red Carpet Daemon (RCD) is designed to help you manage the software you have on your server. It can help you install, update, and remove programs, without making you keep track of the dependencies and conflicts yourself.



# Web-based Administration

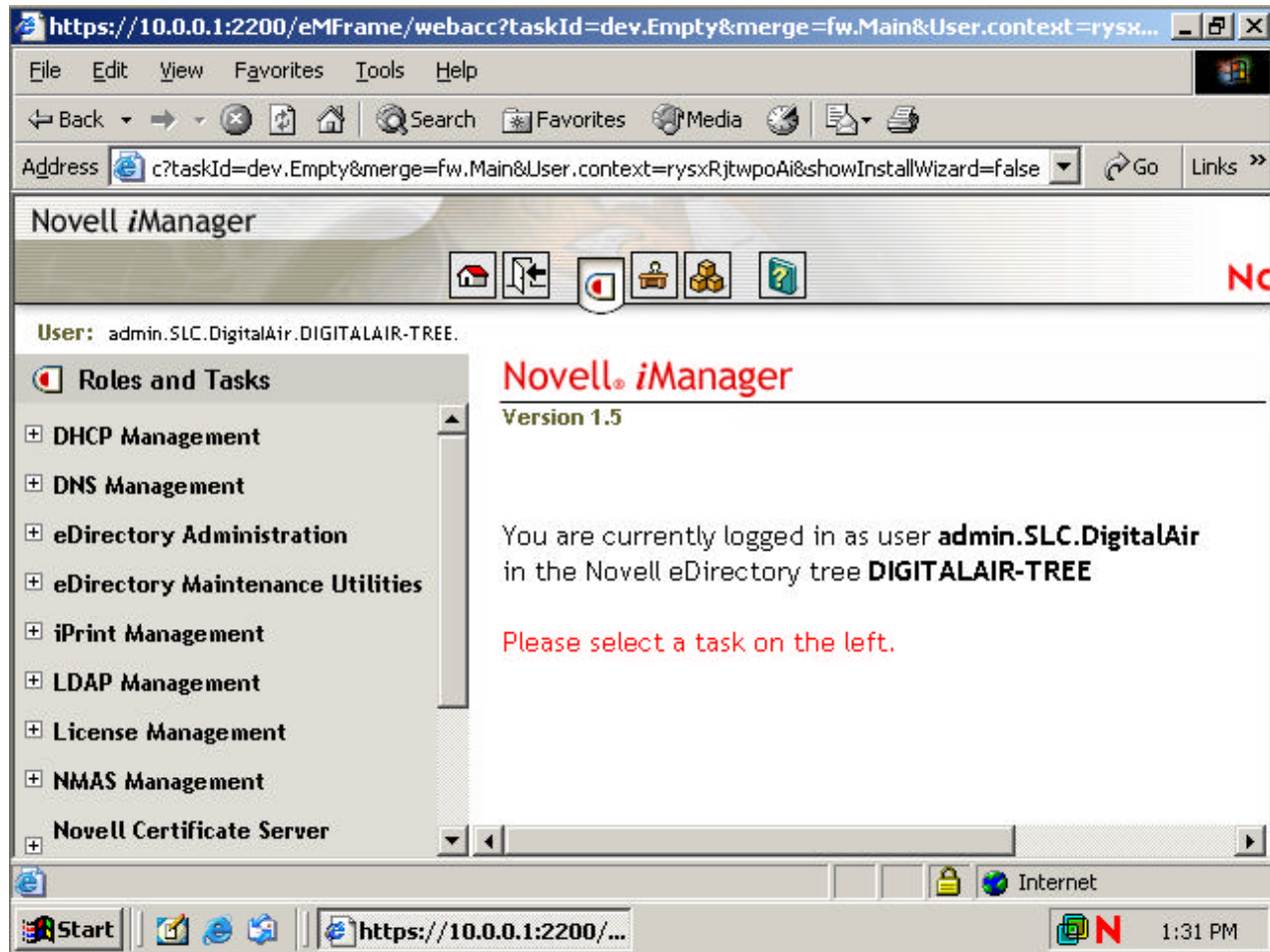
---

**NNLS offers the following administration and management components:**

- iManager 2.0.2
- iMonitor
- NetMail WebAdmin 4.0



# Web-based Administration - iManager



# N Web-based Administration - iMonitor

Novell iMonitor provides cross-platform monitoring and diagnostic capability to all servers in your eDirectory tree.

**NDS™ iMonitor** November 29, 2003 4:47:01 am

**Agent Summary**  **Novell.**

 [.CN=DA1. OU=SLC. O=DigitalAir. T=DIGITALAIR-TREE.](#)

**Identity:** [.CN=admin. OU=SLC. O=DigitalAir. DIGITALAIR-TREE.](#)

**Links:**

- [Agent Synchronization](#)
- [Known Servers](#)
- [Schema](#)
- [Agent Configuration](#)
- [Trace Configuration](#)
- [Agent Health](#)
- [Agent Process Status](#)
- [Agent Activity](#)
- [Connections](#)
- [Error Index](#)

**Partition Synchronization Status**

Partition	Errors	Last Successful Sync.	Maximum Ring Delta	Replica's Perishable Data Delta	
 <a href="#">.DIGITALAIR-TREE.</a>	2	9614:32:42	9614:32:23	9614:32:24	<a href="#">Replica Synchronization,</a> <a href="#">Agent Health,</a> <a href="#">Change Cache,</a> <a href="#">Continuity</a>

**Servers Known to Database Totals**

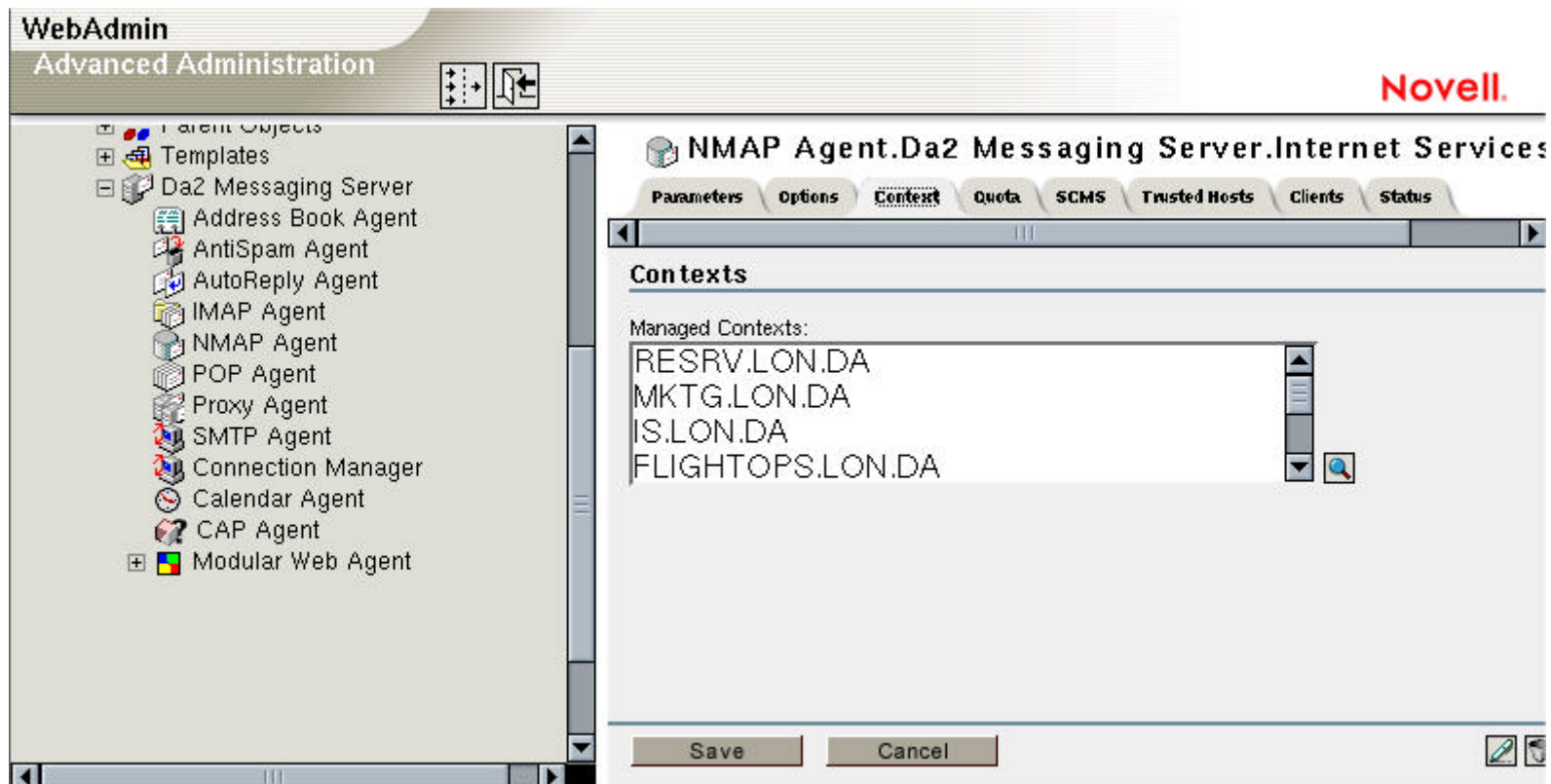
Type	Count	Up	Down	Unknown
<a href="#">Known Servers</a>	4	1	3	0
<a href="#">In Replica Ring</a>	3	1	2	0

**Agent Process Status Totals**



# Web-based Administration - NetMail WebAdmin

You use this utility for administration of NetMail.



# Perform an NNLS Installation

---

Objective 2





# Perform an NNLS Installation

---

**To install the components of NNLS, you need to know the following:**

- How to Obtain NNLS Software and Licenses
- How to Prepare for an NNLS Installation
- How to Install NNLS
- How to Recover From a Failed Apache Process Start
- Understand NNLS File and Data Locations



# Perform an NNLS Installation (continued)

---

- How to Uninstall NNLS Components
- Install NNLS Components After Initial Installation
- How to Configure SLP on Your Linux Server





# How to Obtain NNLS Software and Licenses

---

NNLS is only available via Internet download (ISO image) and must be purchased through an Authorized Novell Reseller or [www.novell.com/products/linux](http://www.novell.com/products/linux) on Novell's Web site.



# How to Obtain NNLS Software and Licenses (continued)

---

You will receive an email with a URL for downloading the following files:

- **An eDirectory NCI Foundation Key (\*.nfk)** that is required during the installation.
- **Novell\_Nterprise\_Linux\_Services\_1.0.iso** which contains a CD image with files to install NNLS on your Linux server.
- **Novell\_Nterprise\_Linux\_Services\_1.0\_Companion\_CD.iso** which contains a CD image with files to install Novell GroupWise Collaboration Client for Windows, Novell DirXML drivers for Windows and NetWare, and the Novell NetDrive client.



# How to Prepare for an NNLS Installation

---

To prepare for installing NNLS products (such as eDirectory) you need to check the following:

- Linux Server Configuration Requirements
- Server Time Synchronization
- System Software Requirements
- Disk Space Requirements
- Hardware Requirements
- Information Required to Install NNLS
- The HOSTS File
- Multicast Routing



# Linux Server Configuration Requirements

---

The Linux server must meet the following specific requirements before beginning the NNLS install:

- **Use Only the Hostname** (do not include the DNS domain name during Linux installation)
- **Assign Static IP Address** (the Linux server must have a static IP address)
- **Stop RPM Management Programs** (those that lock the database)



## Server Time Synchronization

---

If you are installing NNLS into an existing eDirectory tree, or if you plan to install NNLS on multiple servers using the same eDirectory tree, you must ensure that the system time on each server is synchronized prior to installing NNLS.

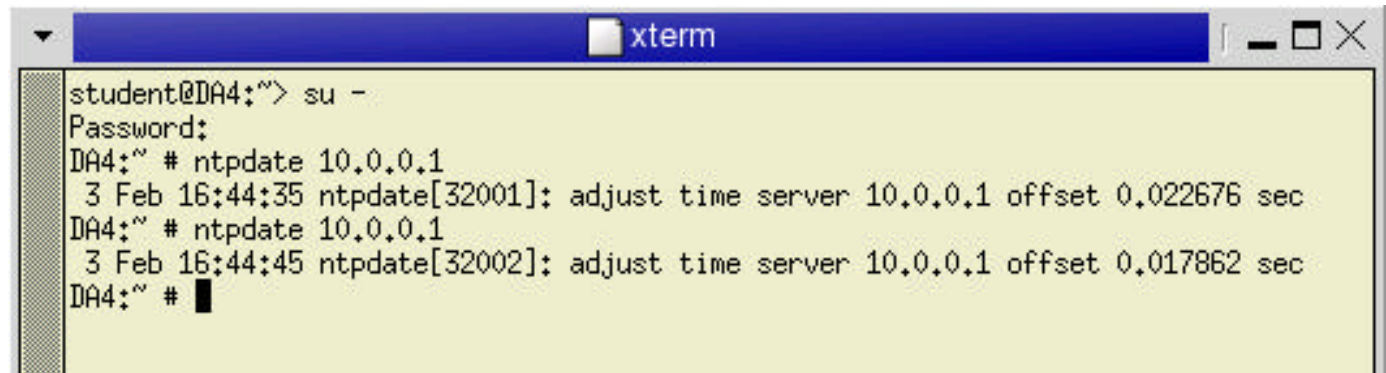
You can synchronize time between NetWare, Linux, and Windows servers by using ***Network Time Protocol*** (NTP).

## N

# Server Time Synchronization (continued)

To perform a quick, one-time update with the rest of the network, enter the following command at the shell prompt:

***ntpdate ip\_address\_of\_time\_provider***

A screenshot of an xterm window titled "xterm". The terminal shows a user named "student" at a host named "DA4" using "su" to become root. The root prompt is "#". The user enters "ntpdate 10.0.0.1". The output shows the time being adjusted from server 10.0.0.1 by an offset of 0.022676 seconds. The user enters the command again, and the output shows an adjustment by an offset of 0.017862 seconds. The prompt is then "#".

```
student@DA4:~> su -  
Password:  
DA4:~ # ntpdate 10.0.0.1  
3 Feb 16:44:35 ntpdate[32001]: adjust time server 10.0.0.1 offset 0.022676 sec  
DA4:~ # ntpdate 10.0.0.1  
3 Feb 16:44:45 ntpdate[32002]: adjust time server 10.0.0.1 offset 0.017862 sec  
DA4:~ #
```



# System Software Requirements

---

NNLS is supported on the following Linux distributions:

- Red Hat Enterprise Linux AS 2.1
- Red Hat Enterprise Linux ES 2.1
- SUSE Linux Enterprise Server 8.0

(Update all distributions to the latest supported patch level.)

The **gettext** RPM must be installed for the installation script (install.sh) to run properly.



## Disk Space Requirements

---

Ensure that your Linux server's hard drives are partitioned to allow for the following directory space requirements:

- **/var** - 350 MB
- **/opt** - 100 MB
- **/usr** - 310 MB

The Red Hat and the SLES 8 default partitioning mechanisms do not match these requirements.





# Hardware Requirements

---

To install NNLS, your hardware must meet the following requirements:

- **Server:** Server-class hardware
- **Processor:** Pentium II (minimum) Pentium 4 with 1.5 GHz (recommended)
- **RAM:** 512 MB (minimum) 1 GB (recommended)

# N Information Required to Install NNLS

---

Before installing NNLS components, you need to know the following:

- NNLS Component Dependencies (refer to Table 2-4 in your manual)
- NNLS Component Required Information (refer to Table 2-5 in your manual)



## The HOSTS File

---

Before you install NNLS, you must do the following to ensure proper resolution of the server's IP address by NNLS products:

- Make sure the following line exists in the /etc/hosts file:

***127.0.0.1 localhost.localdomain localhost***

- Below the localhost line, add the following:

***serverip serverdns servername***



## Multicast Routing

---

If you are installing NNLS into an existing eDirectory tree, the Linux host must be configured to support multicast routing.

This is necessary so that the installation utility will be able to find the tree you are installing the Linux server into.

You also need to enable multicast routing if there are other trees that you need your server to be able to obtain services from.



## Multicast Routing (continued)

---

To determine if the host is already enabled for multicast routing, enter the following command at the shell prompt:

**netstat -nr**

If multicasting has already been enabled, you should see a **224.0.0.0 0.0.0.0** entry in the routing table.



# Multicast Routing (continued)

## Routing Table

```

xterm
student@DA4:~> su -
Password:
DA4:~ # netstat -nr
Kernel IP routing table
Destination      Gateway          Genmask         Flags   MSS Window  irtt Iface
10.0.0.0          0.0.0.0          255.0.0.0       U        40  0        0 eth0
224.0.0.0          0.0.0.0          240.0.0.0       U        40  0        0 eth0
0.0.0.0           10.0.0.1         0.0.0.0         UG       40  0        0 eth0
DA4:~ #
DA4:~ # █
  
```



# How to Install NNLS

---

The following describes how to install NNLS:

- Options for Installing NNLS
- How to Perform an Express or Custom Installation
- How to Perform an Unattended Installation
- How to Update the \$MANPATH Variable
- How to Check the Installation Log
- How to Recover From an Interrupted or Failed NNLS Installation



# Options for Installing NNLS

---

The following are options for installing NNLS:

- Express
- Custom
- Unattended Express
- Unattended





# How to Perform an Express or Custom Installation

---

To perform an express or custom installation, do the following:

1. Make sure you have superuser privileges (**su -**).
2. Mount the NNLS CD and **cd /mnt/cdrom** (Red Hat) or **cd /media/cdrom** (SuSE).
3. Start the installation by entering the command **./install.sh**.
4. If you want to do an Express installation, enter **y**; otherwise, press **Enter**.
5. Follow the prompts to complete the installation.



# How to Perform an Unattended Installation

---

You can perform an unattended installation using either an express or custom installation template:

- **Express**

<http://www.novell.com/documentation/lg/nnls/answers/express.txt>

- **Custom**

<http://www.novell.com/documentation/lg/nnls/answers/custom.txt>



# How to Update the \$MANPATH Variable

---

NNLS places some of its component-specific man pages (such as smbpasswd) in **/opt/novell/man** that is not part of the default MANPATH.

To update the \$MANPATH variable to include this location, enter the following command:

```
export MANPATH=$MANPATH:/opt/novell/man
```



## How to Check the Installation Log

---

The NNLS installation logs all the events that occur during installation in the following location:

**`/var/log/nterprise_linux_services_install.log`**

You can view the contents of the log in a text editor (such as **KWrite** or **gettext**) or from a shell prompt using commands such as **vim** or **more**.

# N How to Recover From an Interrupted or Failed NNLS Installation

---

During the information-gathering phase of the NNLS install, you can quit at any time by pressing **Ctrl-C**.

However, once the installation has begun processing, configuring services, and copying files, an interruption or failure does have some repercussions.



# How to Recover From an Interrupted or Failed NNLS Installation (continued)

---

To recover from a failed or interrupted installation, do the following:

1. (Conditional) If you were installing into an existing tree, use iManager to remove all eDirectory objects that were added to the tree before the install failed.
2. Whether installing into a new tree or an existing tree, run the NNLS uninstall option to remove the products that you tried to install.
3. Begin the NNLS install process again.



# How to Recover From a Failed Apache Process Start

---

In rare cases, the Apache web service (novell-httpd) might not shut down properly when the NNLS server is shut down or rebooted.

When this happens, Apache creates a PID file that is used to track processes that are still running; this PID file might contain an already running value.

## N

## How to Recover From a Failed Apache Process Start (continued)

---

If you suspect that Apache is not started, you can verify the problem by viewing the `/var/log/boot.log` file and searching for text strings similar to the following:

- **`/etc/init.d/novell-httpd: Starting Apache:`**
- **`/etc/init.d/novell-httpd: httpd (pid 1121) already running`**





# How to Recover From a Failed Apache Process Start (continued)

---

To resolve this issue, do the following:

1. Delete the **`/var/opt/novell/httpd/run/httpd.pid`** file.
2. Start Apache by entering **`/etc/init.d/novell-httpd start`**.



## Exercise 2-1: Install NNLS on Linux

---

A few points before you begin:

- Use the Novell Nterprise Linux Services (NNLS) 1.0 CD
- Follow the lab instructions exactly to make sure that the rest of the labs in the course work as written
- Commands are case-sensitive, including paths and filenames
- Linux uses forward-slashes (/) in pathnames
- The dot slash (./) convention is necessary where indicated



## Exercise 2-1: Install NNLS on Linux

---

In this exercise you prepare your Linux server for an NNLS installation, and then install eDirectory 8.7.3 and all other NNLS services, adding your Linux server to DAx-TREE:

- **Part I:** Configure Your Linux Server to Receive Time From DA1
- **Part II:** Verify the Hosts File Configuration
- **Part III:** Install NNLS Services on Your Linux Server
- **Part IV:** Test Your Installation



# Understand NNLS File and Data Locations

---

Where possible, the placement of NNLS files and data comply with the following rules:

- **/opt/novell.** This folder contains all static data, which is placed in the following standard subdirectories:
  - /opt/novell/bin
  - /opt/novell/product/bin
  - /opt/novell/lib
  - /opt/novell/include

## N

# Understand NNLS File and Data Locations (continued)

---

- **/etc/opt/novell**. This folder contains host-specific configuration data.

Product configuration files are generally named **product.conf**. They are placed in a subdirectory named for the product.

For example, **/etc/opt/novell/netstorage** contains the `netstorage.conf` file.

## N

# Understand NNLS File and Data Locations (continued)

---

- **/var/opt/novell.** This folder contains all variable data.

For example, iFolder user data, including account information and synchronized files, is stored in **/var/opt/novell/ifolderdata.**

- **/var/opt/novell/log.** This folder generally contains product log files.

## N

# Understand NNLS File and Data Locations (continued)

---

Most files and directories that do not follow the first 4 rules have the prefix **novell-** so they can be more easily identified.

For example, init scripts must reside in /etc/init.d and cron scripts in /etc/cron.d.

To find NNLS files stored in /etc/init.d, enter the following command:

```
ls /etc/init.d/novell*
```



# How to Uninstall NNLS Components

---

To uninstall NNLS components, do the following:

1. Mount your *Novell Nterprise Linux Services (NNLS) 1.0* CD in the CDROM drive.
2. Make sure you have root privileges in a terminal session (**su -**)
3. Change to the **/media/cdrom** directory for SLES 8 (or the **/mnt/cdrom** directory for Red Hat).
4. Start the installation by entering **./install.sh**.
5. To uninstall NNLS components, enter **u**.
6. Before removing any component, check for dependencies.



# N

## How to Uninstall NNLS Components (continued)

---

7. For each component you want to uninstall, toggle the selection status to **yes** by entering the number corresponding to the component.
8. Enter **f** when you are finished making selections.
9. Wait while the NNLS install script stops the service and removes it from the server.
10. Restart Apache and Tomcat by entering the following commands at the shell prompt:

```
/etc/init.d/novell-httpd restart
```

```
/etc/init.d/novell-tomcat4 restart
```

# N

## Install NNLS Components After Initial Installation

---

You can run **install.sh** to install NNLS components that you did not install at initial installation.

Components already installed have an already installed flag on the menu of NNLS components.

After the additional components are installed, you must restart Apache and Tomcat by entering the following commands:

```
/etc/init.d/novell-httpd restart
```

```
/etc/init.d/novell-tomcat4 restart
```



# How to Configure SLP on Your Linux Server

---

Novell provides a basic level of SLP v1 support with eDirectory for Linux.

To configure SLP on Linux, you need to know the following:

- User Agents and Service Agents
- How to Stop and Start the SLP Daemon Process
- eDirectory Interoperability with OpenSLP on Linux



## User Agents and Service Agents

---

By default, the NNLS installation configures the Novell **slpuasa** daemon to provide the functionality for both the User Agent and the Service Agent.

If you need to configure the SLP configuration, edit the **slpuasa.conf** file to specify new parameters and values, and then restart the slpuasa daemon.

Each parameter in the slpuasa.conf file is in a single line in the form, as follows:

***parameter=value***



# How to Stop and Start the SLP Daemon Process

---

The `slpuasa` can be started and stopped with the `slpuasa` script. The format is as follows:

- **SuSE**

**`/etc/init.d/slpuasa {start/stop}`**

- **Red Hat**

**`/etc/rc.d/init.d/slpuasa {start/stop}`**



# eDirectory Interoperability with OpenSLP on Linux

---

Novell SLP v1 is now an optional package. In fact, Novell recommends using a third-party SLP solution, such as OpenSLP, if a more robust SLP solution is needed.

If OpenSLP RPMs are already installed on Linux, the eDirectory installation will skip the Novell SLP installation. eDirectory uses the platform-specific SLP APIs by default.

# Manage NNLS with Red Carpet

---

Objective 3



Novell.



# Manage NNLS with Red Carpet

---

Red Carpet is a program designed to help you manage the software you have on your Linux servers by installing, updating, and removing programs.

Red Carpet uses packages and channels to organize software, the Red Carpet Daemon (RCD) to perform updates, installations, and removals of software, and the rug command line interface and iManager to control the RCDs.





# Manage NNLS with Red Carpet (continued)

---

**To manage your NNLS products with Red Carpet, you need to know the following:**

- Red Carpet NNLS Components
- How to Manage RCD Groups with iManager
- How to Manage NNLS Products with iManager
- How Red Carpet Is Implemented in NNLS



# Red Carpet NNLS Components

---

The following components enable NNLS product updating with Red Carpet:

- **Packages**

Software for most versions of Linux is shipped as a package file, most commonly the Red Hat Package Manager (rpm) or Debian (deb) format.

- **Channels**

Red Carpet groups software packages into channels. For example, "NNLS," "Red Hat Linux 9," and "Ximian Desktop" are all channels.



# Red Carpet NNLS Components (continued)

---

- **RCD**

The Red Carpet Daemon is the workhorse of Red Carpet. It is used to perform the installations, updates, and removals of software on your Linux servers.

The RCD is automatically installed on every Linux server that receives an NNLS installation.

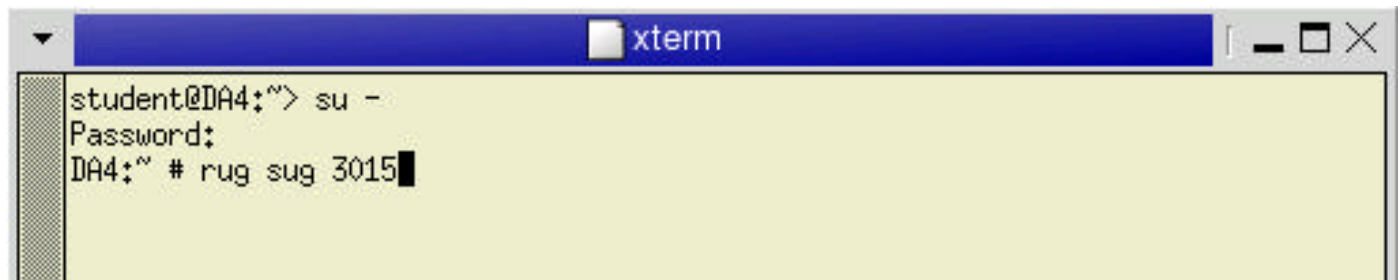


# Red Carpet NNLS Components (continued)

- **rug Command Line Interface**

The rug command line interface can be used to manage the RCD on 1 Linux server at a time. To use rug to manage a Linux server, you must be physically at that server.

The following is an example rug command:



```
student@DA4:~> su -  
Password:  
DA4:~ # rug sug 3015
```



# Red Carpet NNLS Components (continued)

---

- **iManager Plugins**

The RCD plugins for iManager let you perform tasks such as creating RCD groups and configuring NNLS products for updating from Novell's one-stop web-enabled management tool.



# How to Manage RCD Groups with iManager

---

iManager can be used to manage the RCD on a single Linux server, but it can also be used to create RCD groups and to manage those groups from a single location simultaneously.

Before you can manage RCD groups with iManager, you must do the following:

- Create an RCD Group Object
- Modify the RCD Group Object



# Create an RCD Group Object

The screenshot shows the Novell iManager web interface. At the top, the title bar says 'Novell iManager' and 'Unrestricted Access'. Below this is a toolbar with icons for home, back, forward, search, and other functions. The user is identified as 'admin.DEL.DA2-TREE.'. On the left, a navigation pane shows 'Resource Management' with links for 'Create RCD Group', 'Delete RCD Group', 'Manage RCD Group', 'Manage Standalone RCDs', and 'Modify RCD Group'. Below this is a 'Rights' section with links for 'Modify Inherited Rights Filter', 'Modify Trustees', 'Rights To Other Objects', and 'View Effective Rights'. The main content area displays the 'Create RCD Group Object' dialog box. This dialog has two text input fields: 'RCD Group Name:' with the value 'NNLS Servers' and 'Context:' with the value 'DEL'. There are 'OK' and 'Cancel' buttons at the bottom of the dialog. A red 'N' logo is visible in the top right corner of the interface.

Novell iManager

Unrestricted Access

User: admin.DEL.DA2-TREE.

**Resource Management**

- [Create RCD Group](#)
- [Delete RCD Group](#)
- [Manage RCD Group](#)
- [Manage Standalone RCDs](#)
- [Modify RCD Group](#)

**Rights**

- [Modify Inherited Rights Filter](#)
- [Modify Trustees](#)
- [Rights To Other Objects](#)
- [View Effective Rights](#)

**Create RCD Group Object**

RCD Group Name:  
NNLS Servers

Context:  
DEL

OK Cancel



# Modify the RCD Group Object

Novell iManager

Unrestricted Access

User: admin.DEL.DA2-TREE.

**Resource Management**

- [Create RCD Group](#)
- [Delete RCD Group](#)
- [Manage RCD Group](#)
- [Manage Standalone RCDs](#)
- [Modify RCD Group](#)

**Rights**

- [Modify Inherited Rights Filter](#)
- [Modify Trustees](#)
- [Rights To Other Objects](#)
- [View Effective Rights](#)

**Schema**

- [Add Attribute](#)
- [Attribute Information](#)
- [Class Information](#)
- [Create Attribute](#)
- [Create Class](#)
- [Delete Attribute](#)

**Modify NNLS Server.DEL**

**Device List**

[New](#) | [Edit](#) | [Delete](#)

<input type="checkbox"/> Name	Type
<input checked="" type="checkbox"/> DA2.DEL	NCP

**User List**

[New](#) | [Edit](#) | [Delete](#)

<input type="checkbox"/> User Name	Rights
<input type="checkbox"/> admin.DEL	Full

Done Cancel





# How to Manage NNLS Products with iManager

The screenshot displays the Novell iManager web interface. At the top is a browser window with the address bar showing `https://da2.da.com/nps/servlet/port`. Below the browser is the iManager header with the text "Novell iManager" and "Unrestricted Access". A navigation bar contains links for Home, Bookmarks, Red Hat Network, Support, Shop, Products, and Training. The main content area is divided into two panels. The left panel, titled "Resource Management", contains links for "Create RCD Group", "Delete RCD Group", "Manage RCD Group", "Manage Standalone RCDs", "Modify RCD Group", "Rights" (with sub-links "Modify Inherited Rights Filter", "Modify Trustees", "Rights To Other Objects", "View Effective Rights"), and "Schema" (with sub-links "Add Attribute", "Attribute Information", "Class Information", "Create Attribute", "Create Class"). The right panel, titled "Packages", has tabs for "Software", "Channels", and "Preferences". Under the "Software" tab, there are sub-tabs for "Updates", "Installed", "Available", "Search", and "History". Below these is a table with columns: "Importance", "Packages", "Channel", "New Version", and "Current Version". At the bottom of the right panel are buttons for "Update", "Remove", and "Cancel". A red "N" logo is visible in the top right corner of the interface.



# How to Manage NNLS Products with iManager

---

The following tabs are found in the Packages frame:

- **Software-Updates**

The Software-Updates tab displays available updates to software packages you have installed.

Updates are displayed if a package is installed on 1 or more of the servers you have selected to manage, and if the update is in a channel to which you are subscribed.



# How to Manage NNLS Products with iManager (continued)

---

- **Software-Installed**

The Software-Installed tab displays packages installed on 1 or more of the servers you have selected to manage.

- **Software-Available**

The Software-Available tab displays packages available for installation on each of the servers you have selected to manage.

- **Software-Search**

The Software-Search tab enables you to find a broad range of available packages in any channel.



# How to Manage NNLS Products with iManager (continued)

---

- **Software-History**

The Software-History tab displays a list of your past transactions. Each time you install, remove, or upgrade a piece of software, it is recorded here.

- **Channels-View Channels**

The Channels-View Channels tab displays all available channels. You can use this tab to select the channels you want to check for updates or new packages.



# How to Manage NNLS Products with iManager (continued)

---

- **Preferences-General**

The Server URL is the location of the Red Carpet server you are using. If you know the exact URL of a server, you can enter it here and subscribe to channels from another server.

The following are available options:

- Enable Premium Services
- Maximum Number of Packages to Download at Once
- Use a proxy



# How to Manage NNLS Products with iManager (continued)

---

- **Preferences-Cache**

Red Carpet stores downloaded files in a cache. If you quit or cancel an operation, you can resume it quickly without re-downloading. If you don't want to cache anything, deselect this option. It is enabled by default.

- **Preferences-Advanced**

This tab allows you to make advanced configurations such as the interval at which the server data is refreshed, and the level at which log files are written (a value of 1 sends the most important, 6 sends every message, and 0 sends no messages).



# How to Manage NNLS Products with iManager (continued)

---

- **Preferences-Activate**

If you purchase a subscription to the Red Carpet Express premium service, you will use this tab to activate your subscription.



# How Red Carpet Is Implemented in NNLS

---

The NNLS installation includes the required RCD component.

The RCD is preconfigured to connect to the Red Carpet Enterprise server and channel that are hosted by Novell.

All updates to NNLS components can be obtained through RCD.





## Exercise 2-2: Use Red Carpet to Update Your NNLS Installation

---

The Red Carpet Daemon that is installed with NNLS is preconfigured to get updates from the RCE server at Novell.

In this exercise, you get an update from the RCE server in the classroom.

Novell®