

Installation and Administration Guide

**Novell Kanaka for Mac
Version 2.8.2**

November 3, 2015

Novell.



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About This Guide

This guide is written to provide network administrators the conceptual and procedural information for enabling Mac connectivity to Novell network storage resources through Novell Kanaka for Mac.

- ◆ Chapter 1, “What’s New,” on page 7
- ◆ Chapter 2, “Overview,” on page 9
- ◆ Chapter 3, “Prerequisites,” on page 17
- ◆ Chapter 4, “Upgrading from Version 2.7 to 2.8.2,” on page 25
- ◆ Chapter 5, “Installing and Configuring the Engine,” on page 27
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- ◆ Chapter 7, “Using the Kanaka Plug-In,” on page 43
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- ◆ Chapter 10, “Migrating from Kanaka for eDirectory to Novell Kanaka for Mac,” on page 57
- ◆ Chapter 11, “Parsing Novell Login Scripts,” on page 59
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- ◆ Appendix A, “Documentation Updates,” on page 77

Audience

This guide is intended for network administrators who manage network client access to Novell storage resources in Novell eDirectory.

Feedback

We want to hear your comments and suggestions about this guide. Please use the User Comment feature at the bottom of each page of the online documentation, or go to www.novell.com/documentation/feedback.html and enter your comments there.

Documentation Updates

For the most recent version of the *Novell Kanaka for Mac Installation and Administration Guide*, visit the [Novell Kanaka for Mac Documentation Web site \(http://www.novell.com/documentation/kanaka\)](http://www.novell.com/documentation/kanaka).

1 What's New

Version 2.8.2 of Novell Kanaka for Mac is the latest version of a product that was first introduced in 2005. There have been enhancements with each new version of the product. An overview of some of the more notable changes in architecture, performance, features, and distribution follows:

- ♦ [Section 1.1, “New in Version 2.8.2,” on page 7](#)
- ♦ [Section 1.2, “New in Version 2.8.1,” on page 7](#)
- ♦ [Section 1.3, “New in Version 2.8,” on page 7](#)
- ♦ [Section 1.4, “New in Version 2.7,” on page 7](#)
- ♦ [Section 1.5, “New in Version 2.6,” on page 8](#)

1.1 New in Version 2.8.2

Bug Fix: Client Connections Exhaust Engine Threads

During the TLS handshake, a timeout or error condition in the Kanaka Plug-in could cause the Kanaka Engine to exhaust its maximum number of incoming threads. This resulted in the Engine being unable to accept new connections and required a restart of the Engine service for clients to connect again.

1.2 New in Version 2.8.1

Support for OS X Yosemite

Yosemite, Mac OS X 10.10 is supported.

1.3 New in Version 2.8

Security Update During Installation

Novell Kanaka for Mac 2.8 was developed to address a very minor security vulnerability that takes place while the product is being installed. In comparison to Novell Kanaka for Mac 2.7, there are no new features in Version 2.8. If you are currently running Novell Kanaka for Mac 2.7, we recommend that you do not upgrade to Version 2.8.

1.4 New in Version 2.7

Updated Interface

The interfaces for the installation packages, Web browser-based management, Desktop Client login, and user self-management have all been updated.

Login Script Parsing

Novell Kanaka for Mac 2.7 offers the ability to parse login scripts. When you select an option in the Kanaka policy, the Kanaka Plug-in or Desktop Client mounts storage based on drive mappings in the eDirectory login scripts.

For more information, see [Chapter 11, “Parsing Novell Login Scripts,”](#) on page 59 and [Section 12.5.1, “User Management,”](#) on page 69.

Certificate Management

Enhanced SSL Certificate Management enables you to generate your own SSL certificates. The certificate is a 2048-bit RSA private key and is stored as a `.pem` file in the Engine config directory.

Novell Storage Manager Container Based Collaborative Storage Support

In addition to group based collaborative storage support in Novell Storage Manager, Novell Kanaka for Mac now supports container based storage.

For more information, see [Section 12.3, “Collaborative Storage,”](#) on page 65.

1.5 New in Version 2.6

Distribution through Novell

With the release of Novell Open Enterprise Server 11, Novell and Condrey Corporation have negotiated that the Condrey Corporation product formerly known as Kanaka for eDirectory be renamed Novell Kanaka for Mac and be distributed through Novell.

Removal of Product License

Previous versions of the product required a product license. Version 2.6 of Novell Kanaka for Mac does not require a product license.

Updated Interface

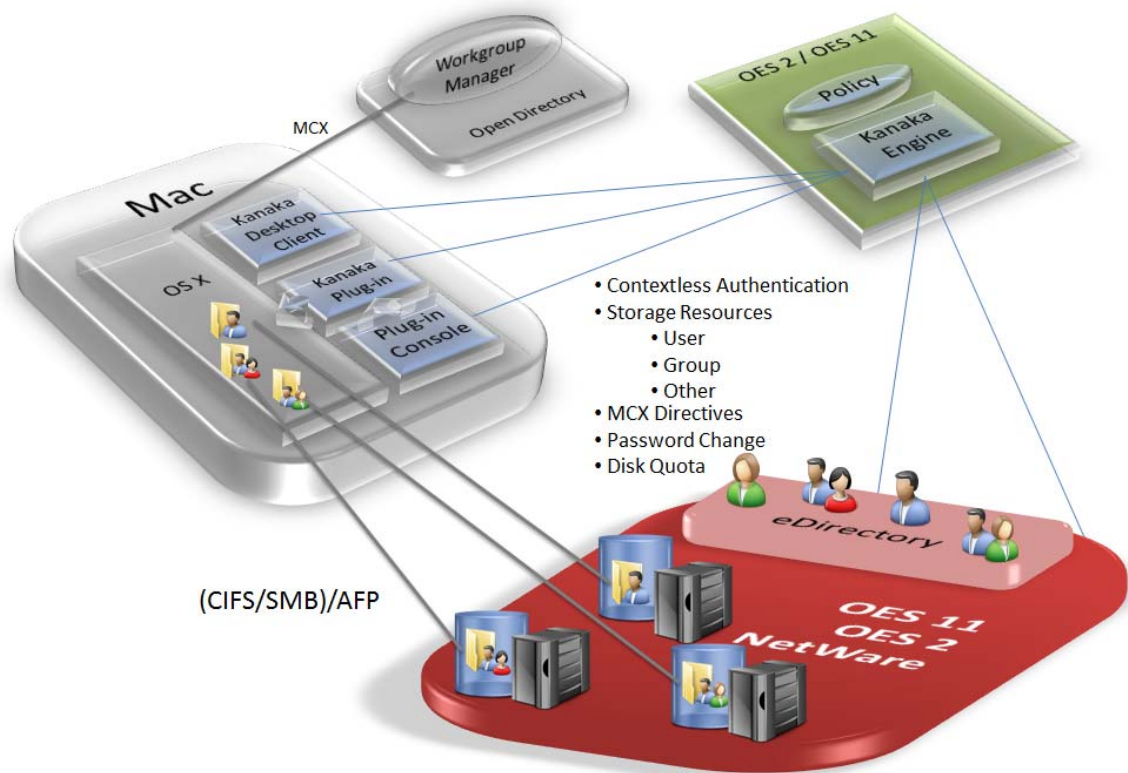
The interface for the installation packages, Web browser-based management, Desktop Client login, and user self-management have all been updated.

2 Overview

- ◆ Section 2.1, “Installers and Executables,” on page 10
- ◆ Section 2.2, “Engine,” on page 10
- ◆ Section 2.3, “Management Interface,” on page 10
- ◆ Section 2.4, “Kanaka Plug-In,” on page 10
- ◆ Section 2.5, “Kanaka Desktop Client,” on page 14
- ◆ Section 2.6, “Deciding Which Access Method to Use,” on page 15

Novell Kanaka for Mac provides Mac OS X users automated single login access to Novell eDirectory storage resources through flexible login options. The Kanaka Plug-in component allows users to simultaneously log in to Mac OS X and mount storage resources through a single username and password. The Kanaka Desktop Client allows users to access network storage resources after they have logged in as a local user to Mac OS X.

Figure 2-1 Novell Kanaka for Mac Architecture



The components of Novell Kanaka for Mac include the Engine, the management interface, and two methods of accessing Novell storage resources from a Mac: the Kanaka Plug-in and the Kanaka Desktop Client. An expanded discussion of each of these components follows:

2.1 Installers and Executables

Novell Kanaka for Mac is delivered via an ISO image. All components are in the ISO.

NOTE: Novell Open Enterprise customers with a current Maintenance contract can download Novell Kanaka for Mac for free through the [Novell Customer Care Center \(https://login.attachmategroup.com/nidp/idff/sso?id=5&sid=4&option=credential&sid=4\)](https://login.attachmategroup.com/nidp/idff/sso?id=5&sid=4&option=credential&sid=4).

2.2 Engine

The Engine performs actions that enable communication between Macs and Novell eDirectory. These actions include:

- ♦ Extending the eDirectory schema
- ♦ Creating a proxy user for performing certain tasks
- ♦ Storing volume client protocol information in eDirectory
- ♦ Assigning group home folders
- ♦ Authenticating users

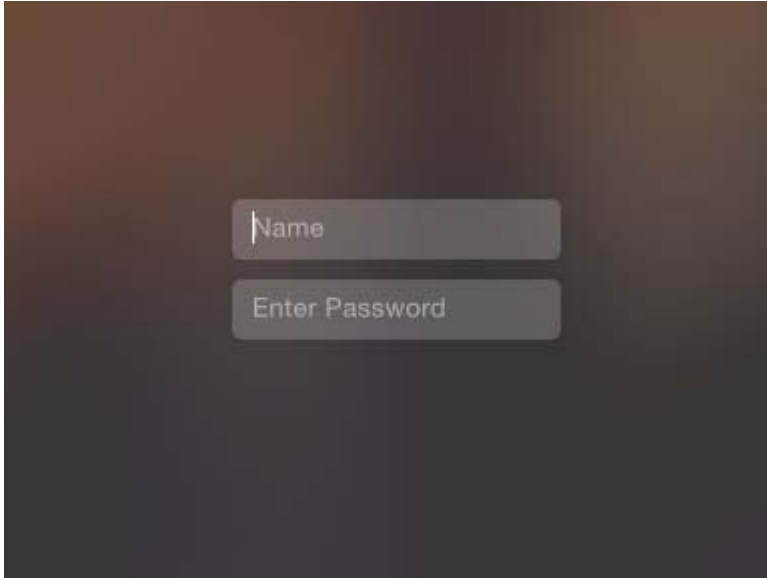
2.3 Management Interface

All Novell Kanaka for Mac management tasks are done through a browser-based management interface. The management interface is available after the Engine has been installed.

2.4 Kanaka Plug-In

Introduced in 2005, the Kanaka Plug-in simplifies authentication to eDirectory along with access to a user's network home directory and collaborative storage through a single password login process. The Kanaka Plug-in requires users to enter valid eDirectory credentials via the Mac OS X login window in order to log in and gain access to the desktop and any storage resources that are made available to them.

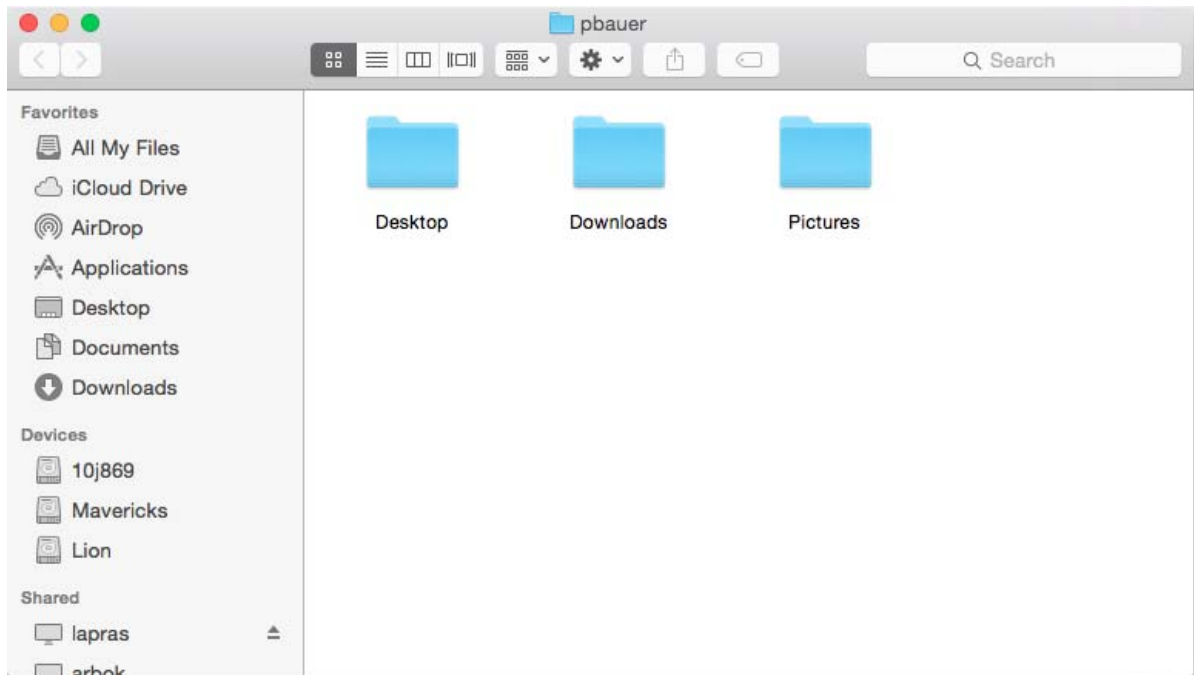
Figure 2-2 The Kanaka Plug-In Authenticates via the Mac OS X Login Window



NOTE: The technology in Novell Kanaka for Mac was developed with the encouragement and on-site engineering support from the Apple Directory Services Engineering group. Apple recommends the product as a preferred solution for Mac integration with Novell eDirectory.

As an identity-based product, Kanaka utilizes Novell eDirectory to view network user and collaborative storage attributes that pertain to a user and then mounts the storage resources accordingly.

Figure 2-3 Mac OS X Finder



The screen shot above shows the Mac OS X Finder displaying a user's network storage resources. Novell Kanaka for Mac can be configured so that these storage resources are mounted on the Mac OS X desktop or as shortcuts in the Dock.

Novell Kanaka for Mac brings together native Mac OS X technology, standard eDirectory authentication, and Novell's Native File Access connectivity. Kanaka communicates with Novell eDirectory to perform contextless user authentication and retrieve identity information in order to automatically mount both user home directories and collaborative storage resources located on Novell file servers via Novell's Native File Access protocols.

Native File Access allows OS X systems to connect to Novell servers through AFP or CIFS/SMB (Common Internet File System/Server Message Block) protocols. Novell Kanaka for Mac also leverages Novell NetStorage by providing the ability to automatically mount storage resources defined by Storage Location Objects.

2.4.1 Authentication and Mounting via the Kanaka Plug-In

While logging in to Mac OS X, the user is simultaneously authenticated to eDirectory through a Novell Simple or Universal password. From eDirectory, Novell Kanaka for Mac then retrieves identity information specific to the user including the home directory, Novell login script, and collaborative storage attributes.

Upon retrieving these attributes, the Kanaka Plug-in converts them from their native format into a URL format that is needed by Mac OS X to mount the storage resource. Depending on the configuration, the URL format can be AFP or CIFS/SMB.

The process for mounting collaborative storage resources, as well as eDirectory Storage Location Objects, is the same as the process for mounting user home directories.

IMPORTANT: When authenticating using the Kanaka Plug-In, the Mac workstation must not contain a local user account with the same name as the network account. If Mobility is enabled, a local "Mobile" account will be created.

2.4.2 Kanaka Plug-In, OS X, and Mobile Accounts

The Kanaka Plug-in leverages Apple's Mobile Account feature. Mobile accounts combine the ease of management in network accounts with the performance and portability of local home directories. The concept is that the user account information is stored in a network directory service. At login, it is cloned to the local directory on a client system. You have the option of cloning network home directory contents to the local system and the flexibility to configure the mirroring of your work so that your network home directory and your local home directory always contain the same data.

When a user logs into a Mac, based on its configuration, the Kanaka Engine indicates if the user is to be a network account or a mobile account. If mobile accounts are enabled, Mac OS X creates a mobile account for the user if one doesn't already exist. If a mobile account does exist, Mac OS X updates its locally cached information for the user and the login proceeds. In both cases the user's network home directory and collaborative storage resources are mounted.

Mobile Accounts provide several benefits:

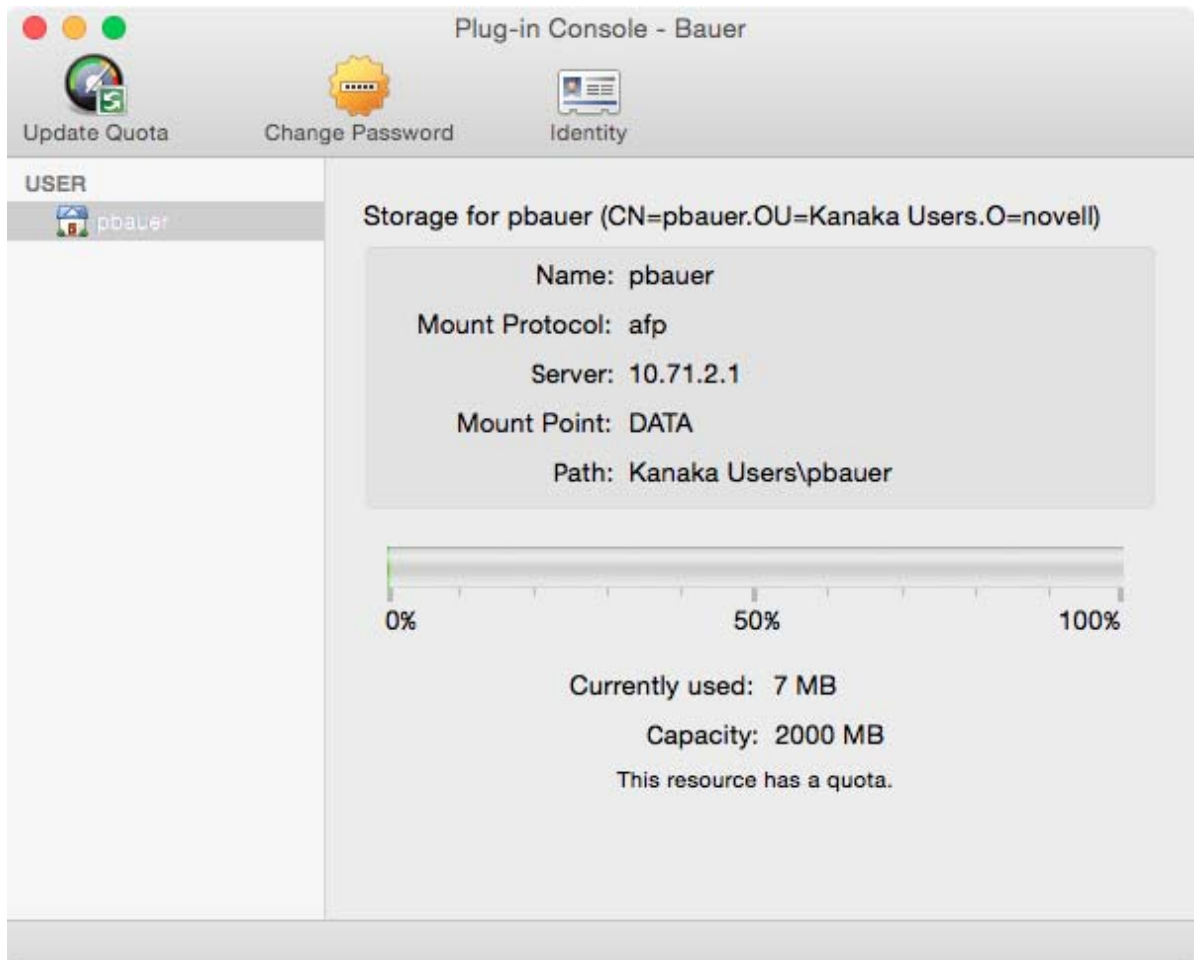
- ◆ Less network traffic than traditional network accounts. Reading and writing from the user's network home directory can be minimized.
- ◆ User's network home directory quotas can be smaller. ~/Library is not stored in the network home directory.

- ♦ If the network is down or the laptop is not on the corporate network, users can still log in to their local accounts with their eDirectory usernames and passwords.
- ♦ Apple provides a synchronization service for users to sync their local home directories with their network home directories and vice versa.

2.4.3 Kanaka Plug-In Console

Users who authenticate to eDirectory via the Kanaka Plug-in can use the Kanaka Plug-in Console to view and minimally manage their identity within eDirectory. Kanaka Plug-in Console options let users view select user account information, monitor the quota for their network user and collaborative storage space, and change their eDirectory passwords.

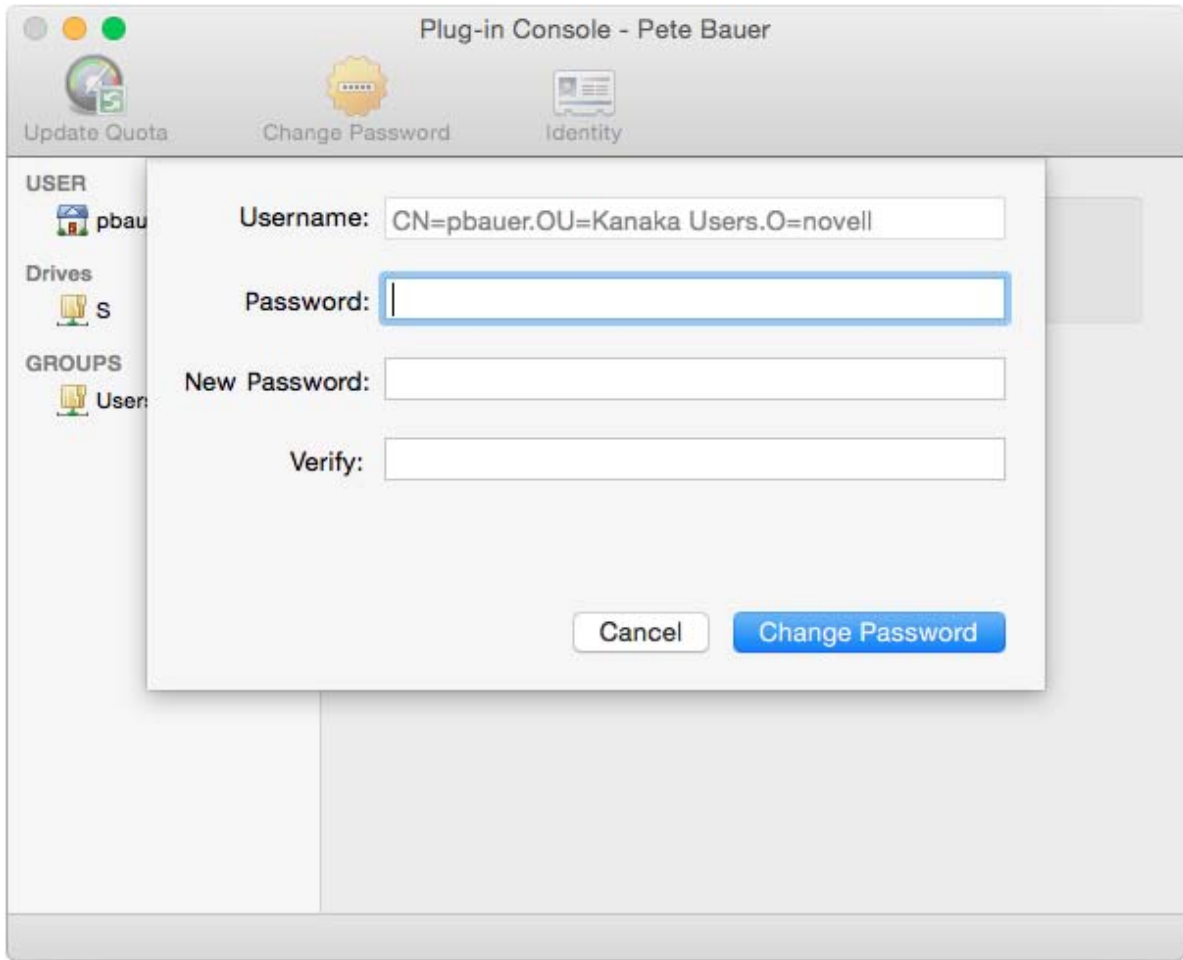
Figure 2-4 Identity Information Displayed in the Kanaka Plug-In Console



Clicking *Identity* displays eDirectory identity information, including the user's FDN (fully distinguished name).

The Kanaka Plug-in Console lists all mounted network storage resources for the user along with storage quota data.

Figure 2-5 eDirectory Password Management through the Kanaka Plug-in Console



The Kanaka Plug-in Console also lets users change their eDirectory passwords natively through the OS X platform.

2.5 Kanaka Desktop Client

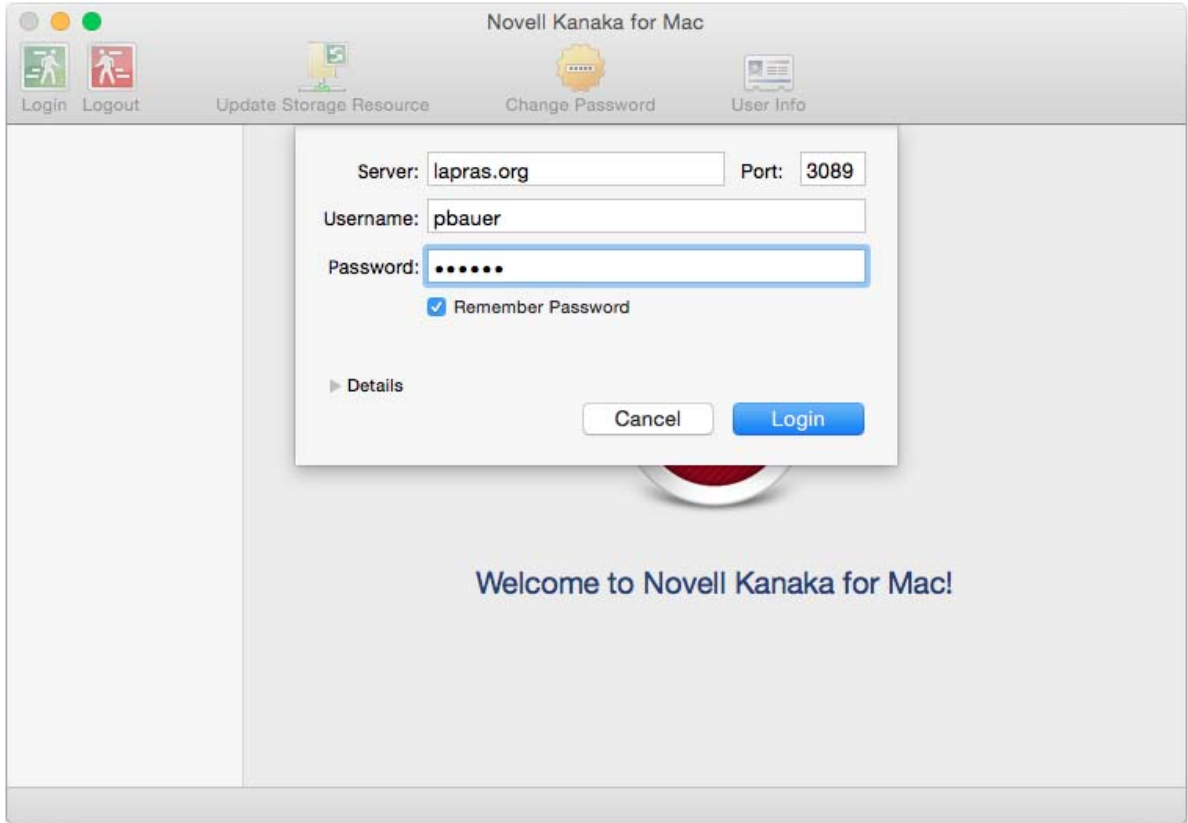
The Kanaka Desktop Client is the sensible connectivity option for users who require access to network storage resources, but are not required to authenticate to eDirectory each time they log in to a Mac. Users who already have local accounts, for example, might prefer this option because it does not require a process to convert their local account to a network account, which is required with the Kanaka Plug-in.

Additionally, the Kanaka Desktop Client is ideal for Mac users who are on the go and often connect to the organization's network via VPN. Novell Kanaka for Mac allows you to first log in to your organization's VPN and then use the Kanaka Desktop Client to access your network storage.

2.5.1 Authentication and Storage Mounting via the Kanaka Desktop Client

The process for authenticating to eDirectory begins with entering your eDirectory username and password in the Kanaka Desktop Client login window:

Figure 2-6 The Kanaka Desktop Client



From there, the process of mounting your network home directory and collaborative storage follows the same process as the Kanaka Plug-in.

2.6 Deciding Which Access Method to Use

Depending on your environment, there might be scenarios where the Kanaka Plug-in is the preferred method of access over the Kanaka Desktop Client, and vice-versa. The table below provides some scenarios where one access method might be preferred over another.

Table 2-1 Decision Matrix for Which Method of Access to Use

Scenario	Suggested Access Method
Mac OS X users in a computer lab setting	Kanaka Plug-in
Mac OS X users with assigned workstations and local accounts	Kanaka Desktop Client

Scenario	Suggested Access Method
Mac OS X users who do not want to go through the login window to access network storage resources	Kanaka Desktop Client
Mac OS X users who do not want to lose their workstation settings when accessing network storage resources	Kanaka Desktop Client
Mac OS X mobile users who frequently work at home and connect to the organization's network via VPN	Kanaka Desktop Client
Mac OS X 10.4 users	Kanaka Plug-in (The Kanaka Desktop Client works only with Mac OS X 10.5 and above)

3 Prerequisites

This section provides the procedures for completing necessary prerequisite tasks before you can install and configure Novell Kanaka for Mac.

- ♦ [Section 3.1, “Enabling Native File Access and Protocols,” on page 17](#)
- ♦ [Section 3.2, “Determining Which Protocols to Enable,” on page 17](#)
- ♦ [Section 3.3, “Password Management,” on page 18](#)
- ♦ [Section 3.4, “Testing AFP or CIFS,” on page 19](#)
- ♦ [Section 3.5, “Generating Certificates,” on page 20](#)

3.1 Enabling Native File Access and Protocols

Novell Kanaka for Mac enables communication between Macs and Novell eDirectory through either AFP (Apple File Protocol) or CIFS/SMB (Common Internet File System/Server Message Block).

When you enable either of these protocols, you subsequently enable Novell Native File Access, allowing Mac users to do several things:

- ♦ Access files on the network
- ♦ Map network drives
- ♦ Create shortcuts to the servers

IMPORTANT: Novell Kanaka for Mac adds considerable functionality to Mac OS X connected systems through Novell Native File Access. Native File Access must be configured on each server that a Mac with either the Kanaka Plug-in or the Kanaka Desktop Client might want to connect to. This includes servers with user home directories as well as servers with collaborative storage folders.

The native protocols allow Mac users to perform the following tasks on the network as if they were working locally:

- ♦ Create files
- ♦ Open files
- ♦ Move files
- ♦ Save files
- ♦ Copy files
- ♦ Delete files

3.2 Determining Which Protocols to Enable

Novell Open Enterprise Server supports both the AFP and CIFS/SMB (listed simply as CIFS in the YaST Control Center interface) protocols.

NOTE: If you prefer, you can enable both AFP and CIFS on the same server.

3.2.1 AFP

AFP is Apple's network protocol solution to provide network file services for Mac OS X and classic Mac OS. Large numbers of Mac clients can mount a remotely located volume (file system) through AFP and use the files simultaneously.

For more information, including procedures for enabling AFP, see the *Novell AFP for Linux Administration Guide* (http://www.novell.com/documentation/oes11/file_afp_lx/data/h9izvdye.html).

3.2.2 CIFS

CIFS is a network file system plus a set of auxiliary services supported by underlying protocols. CIFS allows the sharing of directories, files, printers, and advertisement across a network. CIFS includes protocols for service announcement, naming, authentication, and authorization.

For more information, including procedures for enabling CIFS, see the *Novell CIFS for Linux Administration Guide* (http://www.novell.com/documentation/oes11/file_cifs_lx/data/front.html).

3.3 Password Management

Password management is generally outside the scope of this guide and is covered appropriately in documentation such as the *Novell Modular Authentication Services (NMAS) Administration Guide* (<http://www.novell.com/documentation/nmas33/admin/?page=/documentation/nmas33/admin/data/allq21t.html>) and the *Novell Password Management Administration Guide* (http://www.novell.com/documentation/password_management33/pwm_administration/?page=/documentation/password_management33/pwm_administration/data/bwx6mik.html).

Novell password technologies are in a state of transition, moving slowly from Simple Password authentication to Universal Password authentication. Both password authentication methods are supported in Novell Open Enterprise Server 11 and Novell Kanaka for Mac.

When authenticating to a Mac OS X system, Novell Kanaka for Mac determines the fully distinguished name of the user and then makes the appropriate API calls to verify the password with Novell eDirectory. These APIs are currently limited to only the eDirectory password.

After authentication, user information and storage information are retrieved and returned to the Kanaka Plug-in and Desktop Client. The storage connection information is passed through to the Mac OS X operating system so that it automatically connects to the appropriate network storage through Native File Access. As these connections occur, Native File Access attempts to connect with the same password.

The eDirectory password you use for authentication must match the password you use for Native File Access, whether it's Simple Password or Universal Password.

If you are using the Simple Password authentication method, you can use either ConsoleOne or iManager to set the Simple Password.

If you are using the Universal Password authentication method, you can use iManager to set up Universal Password policies and apply them to users or containers. After the password policies are put into place, the Universal Password must be populated for each user. In most cases, this means that the user must go through a password change process.

Consult the *Novell Password Administration Guide* (http://www.novell.com/documentation/password_management33/).

Universal Password is easier than Simple Password to maintain throughout the lifecycle of a user. Beginning with eDirectory 8.8, Novell APIs have been updated and Novell Kanaka for Mac has been engineered to automatically use the Universal Password for all aspects of authentication and password change, so no synchronization is required.

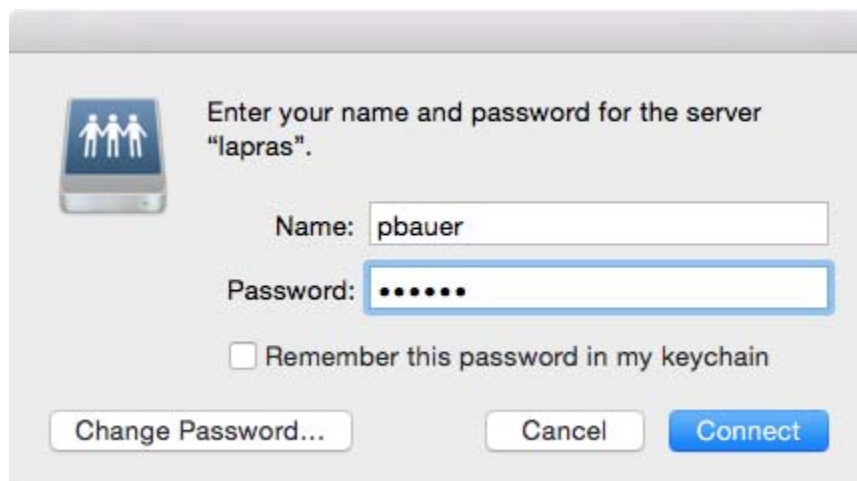
3.4 Testing AFP or CIFS

Before you install Novell Kanaka for Mac, you should test your Mac connectivity to your Novell Open Enterprise Server machine.

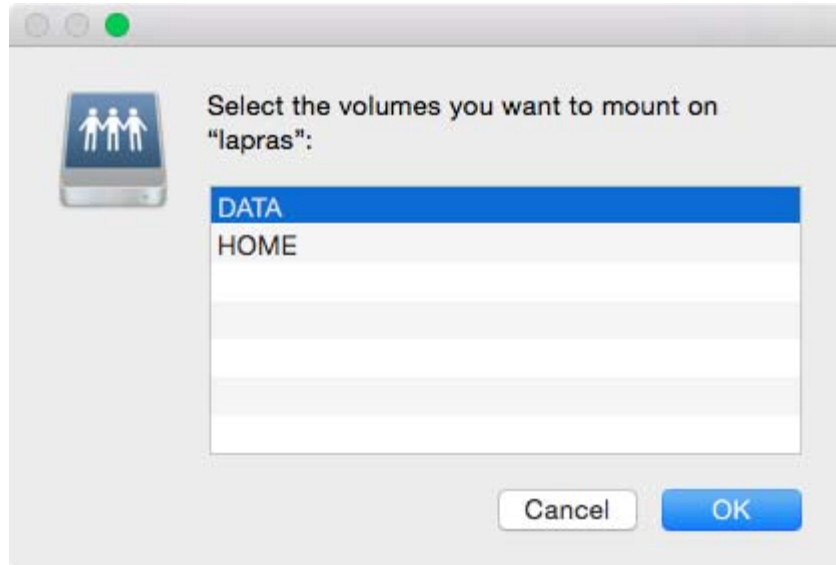
- 1 From a Mac, log in with a local account.
- 2 Press Command+K.
- 3 Do one of the following:
 - ♦ For Macs connected via AFP, type `afp://IP_ADDRESS`, press Return, then click *Connect*.
 - ♦ For Macs connected via CIFS, type `cifs://IP_ADDRESS`, press Return, then click *Connect*.



- 4 Log in as a user that has storage on the server.
This should be a user that you intend to be a Kanaka for Mac user.



After authentication, you should see volumes that are accessible via AFP or CIFS.



3.5 Generating Certificates

Novell Kanaka for Mac 2.8.2 now requires you to provide an x.509 certificate signed by a well-known certificate authority. The certificate must be in Privacy Enhanced Mail (PEM) format and must be installed in the appropriate secured location where the Kanaka Engine is running.

- ◆ [Section 3.5.1, "Certificate Types," on page 20](#)
- ◆ [Section 3.5.2, "Creating a PEM File," on page 21](#)

3.5.1 Certificate Types

There are two ways of obtaining a trusted certificate. Each method has its pros and cons.

- ◆ Create a certificate signing request, and have your internal eDirectory certificate authority (CA) sign the certificate. This is referred to as an internal CA.
- ◆ Create a certificate signing request, and have a trusted third-party certificate authority (CA) sign the certificate. This is referred to as an external CA.

Table 3-1 Internal and External Certificate Authority Considerations

Certificate Authority	Pros	Cons
Internal	<ul style="list-style-type: none">◆ Free◆ The expiration date can be extended much further than one issued by an external CA.	<ul style="list-style-type: none">◆ You need to install the certificate on each Mac workstation running Novell Kanaka for Mac 2.8.2.

Certificate Authority Pros

External

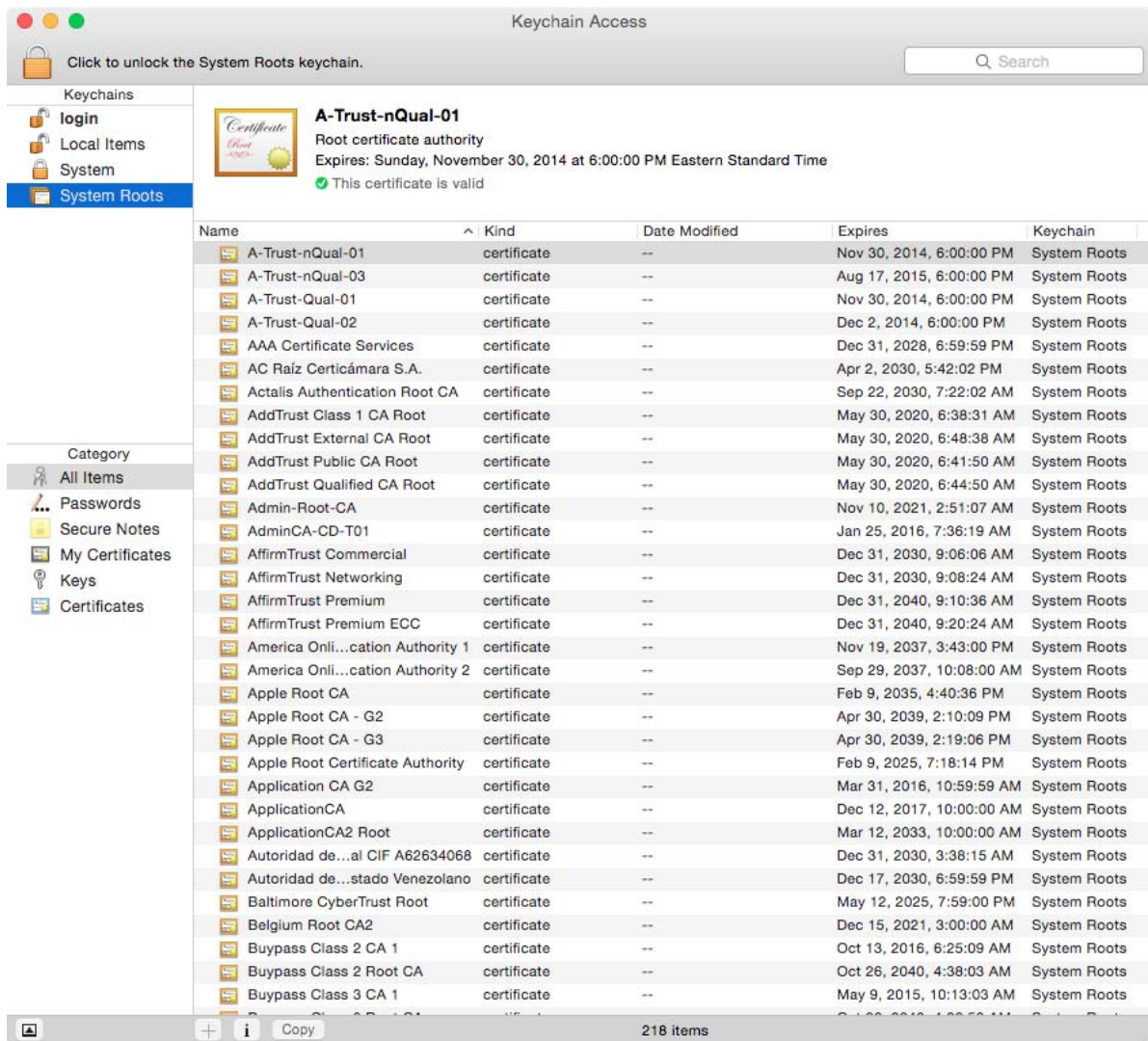
- ◆ The trusted root is already trusted by the Mac OS X workstation.

Cons

- ◆ You must depend on a third-party certificate provider.
- ◆ The certificate can be expensive.
- ◆ The certificate normally expires in one or two years.

If you decide to use an external CA, you can obtain a list of CAs that are already trusted from your workstation by going to the Keychain Access and viewing the System Roots.

Figure 3-1 List of Trusted Certificate Authorities



3.5.2 Creating a PEM File

A PEM file is a Base64 ASCII file containing both the certificate and the private key. It is used by the Kanaka Engine for encryption.

IMPORTANT: Be sure to store all your certificates in a secure location.

- 1 At the server that will host the Kanaka Engine, launch a terminal session.
- 2 Create a private key and certificate signing request via OpenSSL.

The following command uses OpenSSL to create your private key and certificate signing request (CSR) with a single command.

```
openssl req -newkey rsa:2048 -keyout private.key -out server.csr
```

- 3 When prompted, answer each of the questions pertaining to the certificate.

Question	Explanation
Country Name (two-letter code)	The ISO 3166 two-letter country code pertaining to the country where Kanaka Engine is located.
State or Province (full name)	The complete name of your state or province.
Locality Name (such as the city)	The complete name of your city.
Organization Name	The name of your company or organization.
Organizational Unit	The name of your department (optional).
Common Name	The name of your server.
Email Address	The email address of the certificate administrator.
Challenge Password	Generally optional, but required by some third-party certificate providers.

- 4 Submit the `server.csr` contents to the certificate authority of your choosing.

The certificate authority creates a certificate based the contents of the CSR file you created in [Step 2](#). The certificate authority creates the certificate in one of many formats, such as DER, CER, CRT, or PEM. You can use any of these formats to produce the final PEM format that Novell Kanaka for Mac will use.

- 5 Convert the certificate to PEM format:

```
openssl x509 -inform DER -outform PEM -in certificate.crt -out certificate.pem
```

- 6 Remove the passphrase or password from the certificate:

```
openssl x509 -in certificate.pem -out insecure.certificate.pem
```

- 7 Decrypt the private key:

```
openssl rsa -in private.key -out decrypted.private.key
```

The private key is encrypted by default and needs to be decrypted for the Kanaka Engine to use.

- 8 Remove the passphrase or password from the certificate:

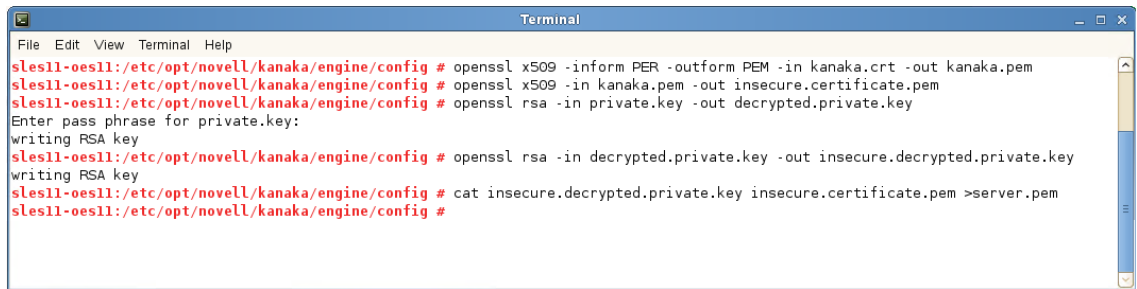
```
openssl rsa -in decrypted.private.key -out insecure.decrypted.private.key
```

- 9 Create the `server.pem` file with both the private key and certificate files:

```
cat insecure.decrypted.private.key insecure.certificate.pem > server.pem
```

The output file must be named `server.pem`.

For example:



```
Terminal
File Edit View Terminal Help
sles11-oes11:/etc/opt/novell/kanaka/engine/config # openssl x509 -inform PER -outform PEM -in kanaka.crt -out kanaka.pem
sles11-oes11:/etc/opt/novell/kanaka/engine/config # openssl x509 -in kanaka.pem -out insecure.certificate.pem
sles11-oes11:/etc/opt/novell/kanaka/engine/config # openssl rsa -in private.key -out decrypted.private.key
Enter pass phrase for private.key:
writing RSA key
sles11-oes11:/etc/opt/novell/kanaka/engine/config # openssl rsa -in decrypted.private.key -out insecure.decrypted.private.key
writing RSA key
sles11-oes11:/etc/opt/novell/kanaka/engine/config # cat insecure.decrypted.private.key insecure.certificate.pem >server.pem
sles11-oes11:/etc/opt/novell/kanaka/engine/config #
```

10 Proceed with [Chapter 5, “Installing and Configuring the Engine,”](#) on page 27.

4 Upgrading from Version 2.7 to 2.8.2

IMPORTANT: Novell Kanaka for Mac 2.8 was developed to address a very minor security vulnerability that takes place while the product is being installed. In comparison to Novell Kanaka for Mac 2.7, there are no new features in Version 2.8. or 2.8.2. If you are currently running Novell Kanaka for Mac 2.7, we recommend that you do not upgrade to Version 2.8 or 2.8.2.

However, if you choose to upgrade from Version 2.7 to 2.8, please refer to the considerations in this section.

4.1 Upgrade Considerations

With Novell Kanaka for Mac 2.8.2, the Kanaka Engine and clients validate the certificate being used. This certificate must be trusted by the Mac OS X operating system, and must verify that each of the Mac workstations can communicate with the server specified in the certificate.

This change requires that the Kanaka Engine and all clients be upgraded at the same time. Neither component is backward compatible with a previous version; this compatibility was not possible under the time constraints provided.

Use the ISO HTML installer or copy the appropriate RPM to the server and issue the following command:

```
rpm -Uvh novell-kanaka-engine-2.8.x-x.x~
```

5 Installing and Configuring the Engine

The Kanaka Plug-in and Kanaka Desktop Client have four basic needs for interacting with the Novell network infrastructure:

- ♦ Authenticating the user to eDirectory
- ♦ Retrieving information and interacting with eDirectory
- ♦ Retrieving information from the Novell File System
- ♦ Providing access to the Novell File System

All of these are accomplished via the Kanaka Engine, which you install and set up by following the procedures in this section.

- ♦ [Section 5.1, “System Requirements,” on page 27](#)
- ♦ [Section 5.2, “Installing the Kanaka Engine,” on page 28](#)
- ♦ [Section 5.3, “Configuring the Engine,” on page 29](#)
- ♦ [Section 5.4, “Replacing the PEM File,” on page 36](#)

IMPORTANT: You can have multiple Kanaka Engines in the same eDirectory tree. To do so, you must select or create a separate Kanaka proxy object for each server instance in Step 2 of the Setup Wizard.

This is important because each instance of a Kanaka Engine sets a different password for its Kanaka proxy object. If you use the same Kanaka proxy object for each Kanaka Engine, upon completion of the Setup Wizard, the new instance of the Kanaka Engine overwrites the current password for the object in eDirectory. This results in failures to perform operations for the Kanaka Engine instance that was initially configured for the proxy object.

NOTE: Novell Kanaka for Mac does not support clusters, but you can install two engines with identical configurations and then add both servers to the Mac’s Directory Utility when you configure the Kanaka Plug-in (see [Step 4 on page 39](#)).

5.1 System Requirements

The Kanaka Engine can be hosted on any of the following machines:

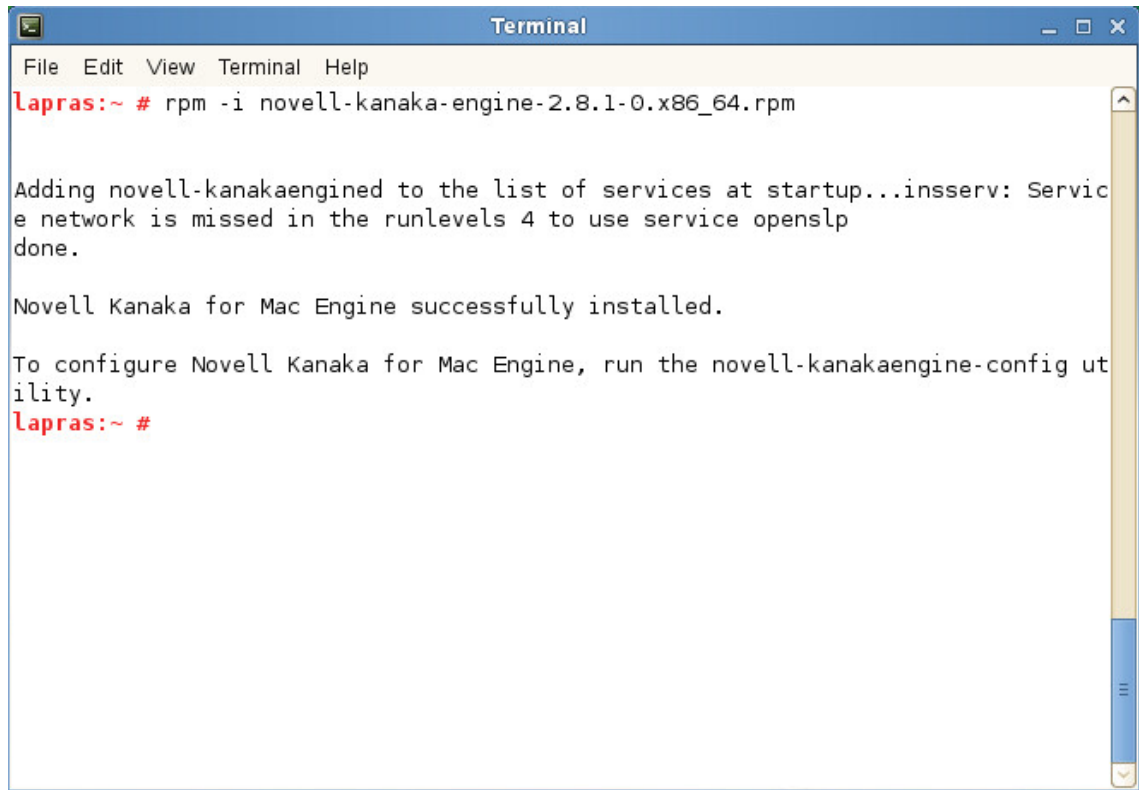
- ♦ Novell Open Enterprise Server 11 or later

5.2 Installing the Kanaka Engine

IMPORTANT: These procedures do not work unless you have first generated a certificate and created a PEM file. If you have not done so already, do so now by following the procedures in [Section 3.5, “Generating Certificates,”](#) on page 20.

- 1 From the ISO image, copy the RPM file that is applicable to the operating system and architecture of the server that will host the Kanaka Engine.
- 2 From the server that will host the Kanaka Engine, open a terminal session.
- 3 Navigate to the RPM file you copied in [Step 1](#).
- 4 At the terminal console, run the following command:

```
rpm -i novell-kanaka-engine-2.8.x.x.x~.rpm
```



```
Terminal
File Edit View Terminal Help
Lapras:~ # rpm -i novell-kanaka-engine-2.8.1-0.x86_64.rpm

Adding novell-kanakaengine to the list of services at startup...insserv: Service
network is missed in the runlevels 4 to use service openslp
done.

Novell Kanaka for Mac Engine successfully installed.

To configure Novell Kanaka for Mac Engine, run the novell-kanakaengine-config ut
ility.
Lapras:~ #
```

- 5 At the terminal console, run the following command:
`novell-kanakaengine-config`
This launches the Novell Kanaka for Mac Engine Configuration utility.
- 6 Press Enter to select the default data path.
or
Specify a new data path.
- 7 Press 0 to select the displayed IP address.
or
Specify a new IP address.
- 8 When the HTTP Port [0] option appears, type 0.

- 9 Unless there is a conflict, accept the default HTTP port number of 3089.
If you need to use another port number, provide the new port number.
- 10 Press Enter to continue.

```

Terminal
File Edit View Terminal Help
-----
Novell Kanaka for Mac Engine Service Config
-----
Data Path:                /var/opt/novell/kanaka/engine/data
Engine Address:          10.71.2.1
  HTTP Port:              0
  HTTPS Port:             3089
Default NCP Server Address: lapras
Debug Level:             5
-----
[D] Data Path                [E] Engine Service
[N] Default NCP Server Address [O] Debug Options
[S] Service Management       [Q] Quit

Selection->

```

- 11 Select `q` to quit and save the configuration.
- 12 When are asked if you want to restart the service, do not do so until completing [Step 13](#).
- 13 Copy the PEM file that you created in [Step 9 on page 22](#) to the following location:
`/etc/opt/novell/kanaka/engine/config`
- 14 Restart the service by selecting `y`.

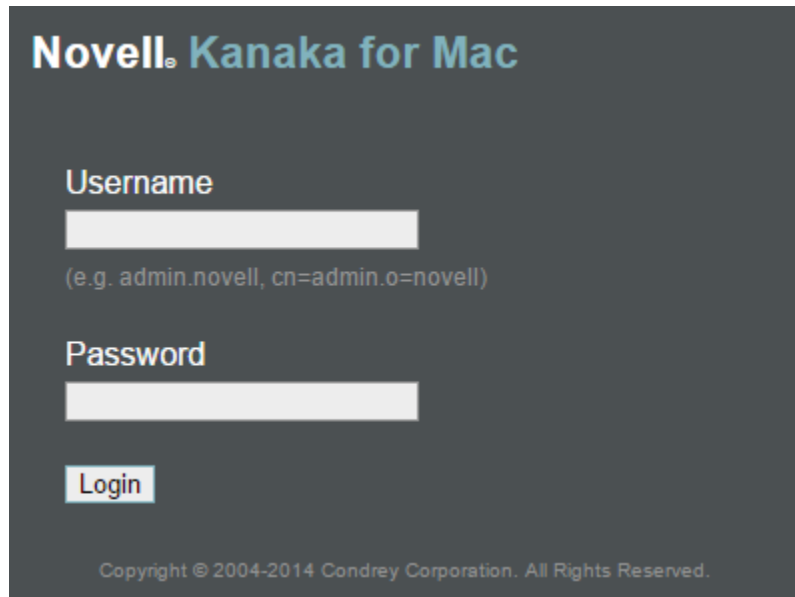
5.3 Configuring the Engine

The Kanaka Engine services all requests made by the Kanaka Plug-in or the Kanaka Desktop Client. Besides performing the initial authentication, the Kanaka Engine allows the Kanaka Plug-in or the Kanaka Desktop Client to operate in a contextless manner to pull relevant individual user and storage access information from eDirectory and the file system and return the information in a format relative to the native Mac OS X operating system.

The Engine also services password change requests, specifies client storage information through the Kanaka Plug-in Console, and informs Novell Kanaka for Mac users of password expirations that will occur in the near future.

- 1 From a Web browser, launch the management interface by entering `https://server_ip_or_dns_name:3089`.
- 2 Enter eDirectory credentials capable of modifying directory services and schema, such as an Admin or Admin equivalent.

Because you are performing administrative work, you must log in using a fully distinguished name in the *Username* field. You can use a format such as *cn=user.o=org* or *user.org*.



The image shows the login screen for Novell Kanaka for Mac. It features a dark grey background with the title "Novell Kanaka for Mac" at the top. Below the title, there are two input fields: "Username" and "Password". The "Username" field has a placeholder text "(e.g. admin.novell, cn=admin.o=novell)". Below the "Password" field is a "Login" button. At the bottom of the screen, there is a copyright notice: "Copyright © 2004-2014 Condrey Corporation. All Rights Reserved."

The management interface launches the Setup Wizard.



The image shows the Setup Wizard interface for Novell Kanaka for Mac. The title bar reads "Novell Kanaka for Mac" and "Logged in as: CN=admin.O=novell" with a "Logout" link. The main content area is titled "Setup Wizard Step 1 of 4 - Schema Extensions". On the left, there is a "Configure" sidebar with links for "Restart Wizard", "Version", and "Server Status". The "Server Status" section shows "Version: 2.8.1.0 Oct 22 2014 13:16:00". The main content area contains the text "The Kanaka schema extensions for eDirectory are already installed. Click Next to continue." and a "Next" button. At the bottom, there is a copyright notice: "Copyright © 2004-2014 Condrey Corporation. All Rights Reserved."

3 Click *Next* to extend the eDirectory schema.

As with all schema extensions, be aware that it might take some time for the schema extensions to be synchronized in a large tree.

The following page appears for you to create a proxy user and administration group:

Novell Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure **Setup Wizard Step 2 of 4 - System Rights**

[Restart Wizard](#)

Version

[Server Status](#)
Version:
2.8.1.0 Oct 22 2014 13:16:00

Kanaka requires appropriate rights in order to obtain information from eDirectory and perform operations. This action is performed under the authority of a Kanaka Proxy user object. A proxy user must be defined before Kanaka can continue.

Select a context in which the Kanaka Proxy will be created. If there is an existing object by the specified name it will be reprovisioned.

Kanaka Proxy Object:

Kanaka also requires an administrators group to be defined. Only members of the Kanaka administrators group will be allowed to log in and perform administrative tasks in the Kanaka web interface.

Either select an existing group to be defined as the administrators group or select a context in which a group will be created.

Kanaka Administrators Group:

Make CN=admin.O=novell a member of the Kanaka administrators group

You can choose to have the wizard give the Kanaka Proxy the rights to perform all necessary tasks or you can manually configure them yourself. Manual configuration requires that you give the Kanaka Proxy rights to eDirectory and the appropriate file system rights to all volumes or paths that might be accessed by a user via Kanaka. See the documentation for more details.

Manually provision rights for Kanaka Proxy

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A proxy user is needed because Novell Kanaka for Mac authenticates and operates under the rights of a proxy user.

- 4 Use the *Browse* button that corresponds to the *Kanaka Proxy Object* field to browse to the container where you want the Novell Kanaka for Mac proxy user to reside, then click *Save*.

Ensure that this user has rights to retrieve user and group information from eDirectory as well as view quota information in the file system of all volumes holding user and collaborative storage.

The name `KanakaProxy` is appended to the path you specify.

The proxy user object is created in eDirectory after you have completed all tasks in the Setup Wizard.

- 5 Use the *Browse* button that corresponds to the *Kanaka Administrators Group* field to do one of the following:

- ◆ Locate and select a group whose members you want to be Novell Kanaka for Mac administrators.
- ◆ Browse to the location where you want the new `KanakaAdmins` group to reside in eDirectory.

The name `KanakaAdmins` is appended to the path you specify.

The proxy user account and password are self-managed by the Kanaka Engine. The password is never stored in any location, so there is no concern for security of the password. No two Kanaka Proxy users ever have the same password.

- 6 Leave the check box selected so the user you are logged in as can be a member of the administrators group.

- 7 Click *Next*.

The Kanaka Administrators Group object is created and the logged-in user is added to the group.

The Kanaka Proxy Object is also created. By default, this user object is automatically assigned Supervisor rights at the root of the eDirectory tree. You can remove this rights assignment and assign rights more granularly to the tree and the associated file systems. The object needs the following minimum rights:

- ◆ Browse Entry rights to the eDirectory tree
- ◆ Read and Compare Attribute rights to any of the following objects that might be used or accessed through Novell Kanaka for Mac:
 - ◆ Users
 - ◆ Groups
 - ◆ Containers, including Os, OUs, Domains, Countries, and Locales
 - ◆ Login scripts
 - ◆ Profiles
 - ◆ Servers
 - ◆ Volumes
- ◆ Read and FileScan rights to any file system directories that might be used or accessed by a Novell Kanaka for Mac user, including user home directories, group home directories, or any file system that might be mapped and later accessed through a login script.

The following page appears for you to create a user index:

Novell Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure **Setup Wizard Step 3 of 4 - User Index**

[Restart Wizard](#)

Version


[Server Status](#)
Version:
2.8.1.0 Oct 22 2014 13:16:00

Kanaka maintains an index of user objects for the purpose of supporting contextless logins from Kanaka clients. The index is comprised of user objects in the following search object containers in eDirectory. The index is updated at the following times:

- Automatically based on the **Rebuild Times** schedule set below.
- On demand using the **Rebuild Now** button below.

Configure Kanaka by adding search object containers below as appropriate based on the location of user objects that will be using Kanaka clients.

Search Objects

 novell

Object:

(Add and Delete changes are saved immediately.)

Search Depth

Search all subcontainers of the above objects.
 Do not search subcontainers of the above objects.

Rebuild Times

Select the hours in which you want the user index to be rebuilt.

<input checked="" type="checkbox"/> 00:00	<input type="checkbox"/> 06:00	<input type="checkbox"/> 12:00	<input type="checkbox"/> 18:00
<input type="checkbox"/> 01:00	<input type="checkbox"/> 07:00	<input type="checkbox"/> 13:00	<input type="checkbox"/> 19:00
<input type="checkbox"/> 02:00	<input type="checkbox"/> 08:00	<input type="checkbox"/> 14:00	<input type="checkbox"/> 20:00
<input type="checkbox"/> 03:00	<input type="checkbox"/> 09:00	<input type="checkbox"/> 15:00	<input type="checkbox"/> 21:00
<input type="checkbox"/> 04:00	<input type="checkbox"/> 10:00	<input type="checkbox"/> 16:00	<input type="checkbox"/> 22:00
<input type="checkbox"/> 05:00	<input type="checkbox"/> 11:00	<input type="checkbox"/> 17:00	<input type="checkbox"/> 23:00

In order to continue, at least one search object should be added above.

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Novell Kanaka for Mac maintains an index of user objects for the purpose of supporting contextless logins from the Kanaka Plug-in and Kanaka Desktop Client. The index is made up of user objects in a set of search object containers in eDirectory.

- 8 Use the *Browse* button to locate a context where your Novell Kanaka for Mac users reside in eDirectory.

Novell Kanaka for Mac

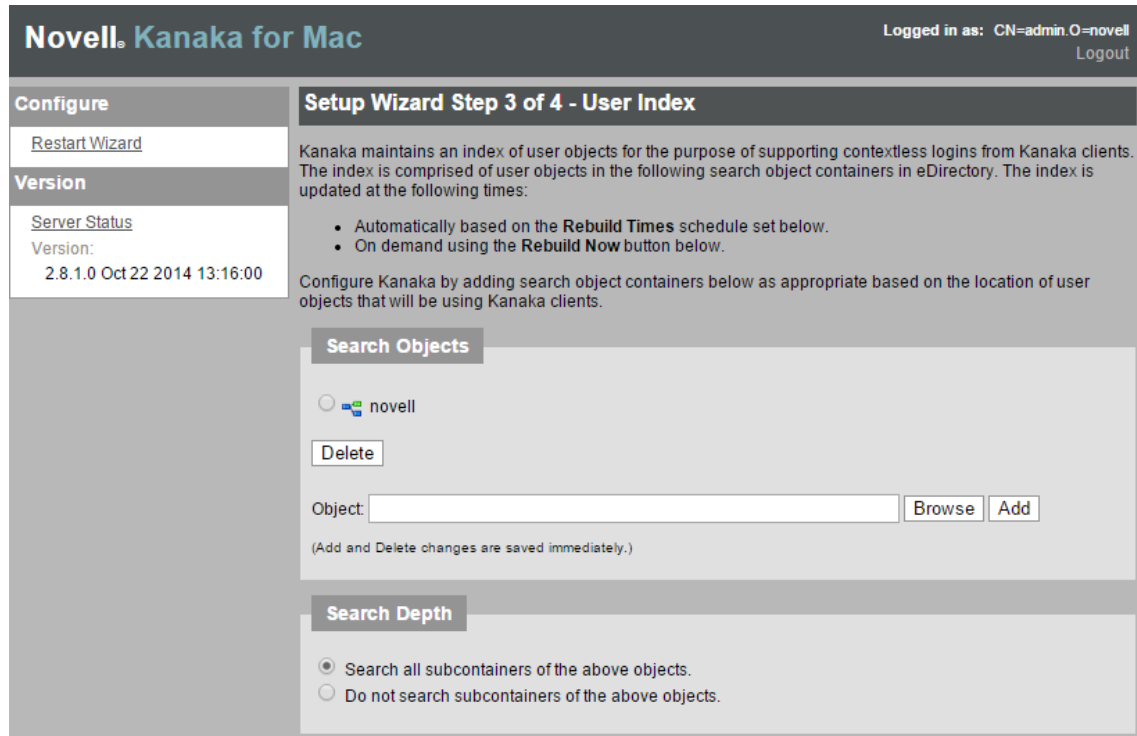
Click on the name of an object below to select it. Display the contents of a subcontainer by clicking on the down arrow.

[Root]

  novell

- 9 Click *Add*, then repeat [Step 8](#) to add another container.

Repeat this step until you have added all the contexts you want to the list.



Novell Kanaka for Mac does not have the ability to differentiate users with the same name in different contexts. If you index containers with users having identical names, those users cannot log in.

- 10 In the *Search Depth* region, specify whether you want Novell Kanaka for Mac to search for users only at the top layer of the container, or within subcontainers as well.
- 11 In the *Rebuild Times* region, specify the hours when you want Novell Kanaka for Mac to rebuild the index.

You should choose an hour when there is minimal network activity.

- 12 Click *Next*.

This begins the build process for the initial index of users.

The index is updated under different circumstances:

- ◆ Automatically based on individual users logging in.
If a given user is not found in the index, the user is automatically located in the given search containers and dynamically added to the index.
- ◆ Automatically based on the hourly rebuild times schedule set in the configuration.
- ◆ Automatically 90 seconds after the engine loads.
- ◆ On demand using the Novell Kanaka for Mac management interface.

The following page appears:

Novell Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure

[Restart Wizard](#)

Version

[Server Status](#)
Version:
2.8.1.0 Oct 22 2014 13:16:00

Setup Wizard Step 4 of 4 - Storage Resources

Kanaka maintains a list of storage resources for the purpose of providing appropriate mount points to the Kanaka clients. The list is comprised of all volumes found according to the discovery options specified below.

Discovery Options

Search eDirectory for Storage Resources.
 Search specific servers for Storage Resources.

[Save](#) [Reset](#)

Volume List

The following list of volumes is provided to easily view the Kanaka server and volume name for each volume. The list is built from a scan according to the options specified above at initial Engine setup and at midnight every day thereafter. If volumes have been renamed, moved, or added, you may wish to use the Rebuild volume List button below to perform an immediate scan.

Volume	SMB/CIFS Server and Share	AFP Volume Name	Client Access Protocol
<input type="checkbox"/> \\ENTE\BIGTFS	[Assign]	[Assign]	
<input type="checkbox"/> \\ENTE\DATA	[Assign]	[Assign]	
<input type="checkbox"/> \\ENTE\NW65OS	[Assign]	[Assign]	
<input type="checkbox"/> \\ENTE\SMALLDATA	[Assign]	[Assign]	
<input type="checkbox"/> \\ENTE\ISYS	[Assign]	[Assign]	
<input type="checkbox"/> \\ENTE\ITFSVOL1	[Assign]	[Assign]	
<input type="checkbox"/> \\GARBADOR\CDATA1	[Assign]	[Assign]	
<input type="checkbox"/> \\HERACROSS\DATA	[Assign]	[Assign]	
<input type="checkbox"/> \\HERACROSS\SMALLDATA	[Assign]	[Assign]	
<input type="checkbox"/> \\LAPRAS\BIGDATA	[Assign]	[Assign]	
<input type="checkbox"/> \\LAPRAS\DATA	10.71.2.1/DATA	10.71.2.1/lapras_DATA	AFP Change to SMB
<input type="checkbox"/> \\LAPRAS\NSMPROXYHOME	[Assign]	[Assign]	
<input type="checkbox"/> \\LAPRAS\PRIMARY	[Assign]	[Assign]	

[Rebuild Storage Resources](#)

[Finish Wizard](#)

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Novell Kanaka for Mac must be configured for each AFP or CIFS volume name for each volume on the network containing home directories or collaborative storage.

For a description of the process that Novell Kanaka for Mac uses to retrieve mount points for Mac OS X machines, see [Section 12.1, "Storage Resources," on page 63](#).

If the volume list is empty, this indicates that the initial volume index has not yet completed.

- 13 Wait until the server has completed the process of creating the volume index.
- 14 Reload in the browser to refresh the page.
- 15 After each volume is listed and assigned, click *Finish Wizard* to conclude the Setup Wizard.

At this point the Kanaka Engine is configured and operational.

When you assign a volume name in the *Volume Info* section, you must use correct case. AFP mounts in Mac OS X Tiger and later are case-sensitive. You can remove this requirement if you force AFP to be case-insensitive. To do this, go to the server console where you have AFP installed, open a terminal session, and issue the following command: `afpnames case-insensitive vol.`

The Server Status page appears, indicating that the Kanaka Engine is now configured.

Novell. Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure

- [User Index](#)
- [Storage Resources](#)
- [Policy](#)
- [Collaborative Storage](#)
- [Proxy Home](#)
- [Log Management](#)
- [View Runtime Configuration](#)
- [Stop Accepting Logins](#)

Clients

- [Retrieve Kanaka Client](#)
- [Access Requests](#)
- [Client Registration](#)

Version

[Server Status](#)

Version:
2.8.1.0 Oct 22 2014 13:16:00

[Preview Login Script](#)

Server Status

Login Status

Accepting Logins: ●

General

Server Name: lapras
Kanaka Version: 2.8.1.0 Oct 22 2014 13:16:00
Server Start Time: Oct 22 2014 17:20:38
Current Time: Oct 22 2014 17:27:21
Kanaka Proxy Object: CN=KanakaProxy.O=novell
Kanaka Admins Group: CN=KanakaAdmins.O=novell
Active Clients: 2

Client Request Counters

Successful Logins: 0	0 %
Unsuccessful Logins: 0	0 %
Successful Password Changes: 0	0 %
Unsuccessful Password Changes: 0	0 %
User Not Found: 0	

User Index

Entries: 69
Most Recent Rebuild: Oct 22 2014 17:25:57
Most Recent Rebuild Duration: 1 second
Next Scheduled Rebuild: Oct 23 2014 00:00:00

Storage Resources

Most Recent Rebuild: Oct 22 2014 17:27:21
Most Recent Rebuild Duration: Rebuild is in progress
Next Scheduled Rebuild: Oct 23 2014 00:00:00
Rebuild is in progress

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5.4 Replacing the PEM File

Follow the procedures below to replace the default PEM file with the new PEM file that you created in [Section 3.5, “Generating Certificates,”](#) on page 20.

- 1 From the server hosting the Kanaka Engine, launch a terminal session.
- 2 Copy the PEM file that you created in [Step 9 on page 22](#) to the following path:

```
/etc/opt/novell/kanaka/engine/config
```

- 3 Stop the Kanaka Engine:

```
rcnovell-kanakaengine stop
```

- 4 Restart the Kanaka Engine:

```
rcnovell-kanakaengine start
```

6 Installing the Plug-In and the Desktop Client

This section includes the procedures for installing the two client options for Novell Kanaka for Mac, which are the Kanaka Plug-in and the Kanaka Desktop Client. For a discussion of each of these components, see [Section 2.4, “Kanaka Plug-In,”](#) on page 10 and [Section 2.5, “Kanaka Desktop Client,”](#) on page 14.

- ♦ [Section 6.1, “Retrieving the Installation File,”](#) on page 37
- ♦ [Section 6.2, “Installing the Kanaka Plug-In,”](#) on page 37
- ♦ [Section 6.3, “Configuring the Kanaka Plug-In,”](#) on page 38
- ♦ [Section 6.4, “Installing the Kanaka Desktop Client,”](#) on page 40

6.1 Retrieving the Installation File

The Kanaka Plug-in and Desktop client are installed through a single DMG file.

NOTE: In the previously-published version of this guide, procedures for retrieving the installation file from the ISO and a web browser were included. This update does not include those procedures because a new DMG file has been released to support Mac OS X El Capitan (10.11) and the DMG file is available only through the Novell Patch Channel.

- 1 From the Mac where you want to copy the installation file, open a browser and go to:
<https://download.novell.com/patch/finder/> (<https://download.novell.com/patch/finder/>)
- 2 From the *Select a Product* drop-down menu, select *Open Enterprise Server*.
- 3 From the *All Versions* drop-down menu, select *Novell Kanaka for Mac 2.8.2*.
- 4 From the new download page, click *proceed to download*.
- 5 When requested, enter your Novell name and password.
- 6 Accept the download terms.
- 7 Download the `Kanaka-2.8.2.1.dmg` file.

6.2 Installing the Kanaka Plug-In

- 1 Double-click the `Novell_Kanaka_for_Mac-2.8.2.1.dmg` file.



2 Double-click *Install Kanaka Plug-in*.

3 Click *Continue*.

4 Accept the license agreement.

The Kanaka Plug-in is installed on the root volume that contains the System, Library and Applications folders.

6.3 Configuring the Kanaka Plug-In

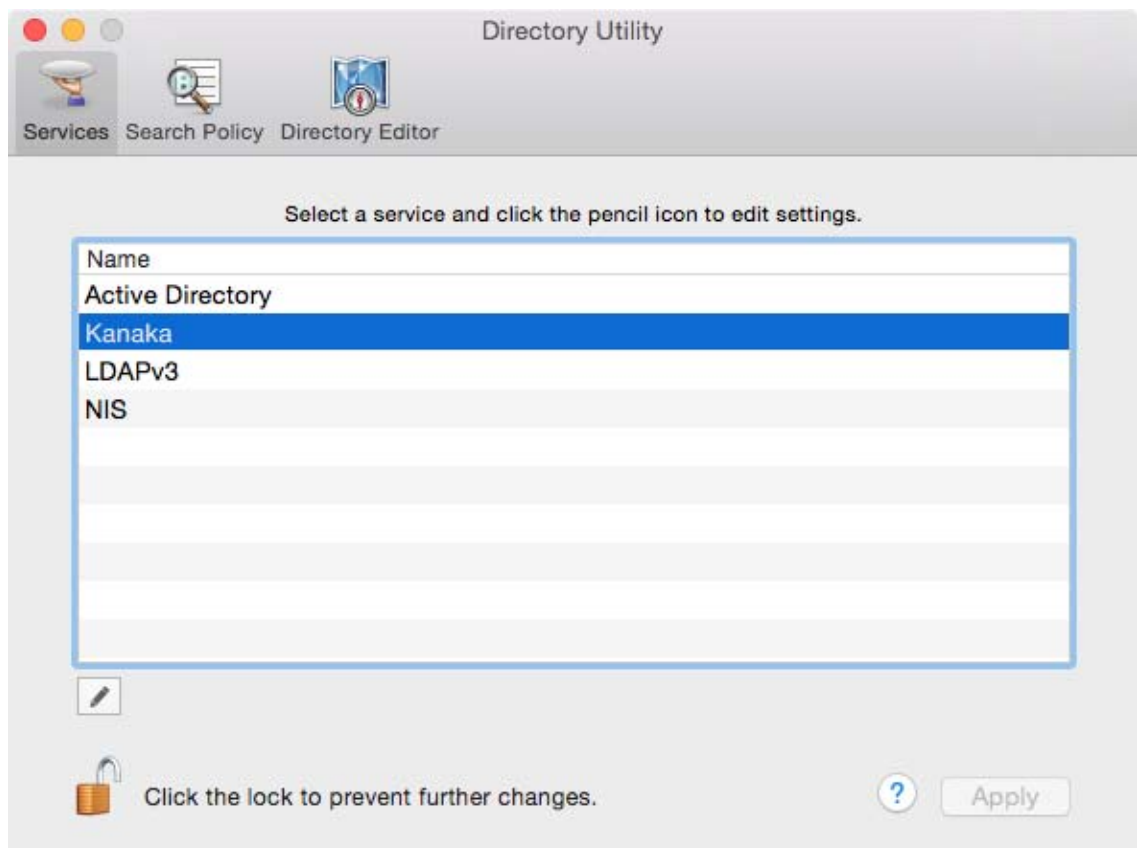
Depending on which version of OS X you are running on your Mac, you configure the Kanaka Plug-in with either the Directory Access or the Directory Utility application. The application name and location is different in Tiger, Leopard, Snow Leopard, Lion, and Yosemite. The following table shows the location and name:

Table 6-1 Kanaka Plug-In Configuration

Mac OS X Version	Utility Name	Location
Tiger	Directory Access	/Applications/Utilities
Leopard	Directory Utility	/Applications/Utilities
Snow Leopard	Directory Utility	System Preferences>Accounts>Login Options>Network Account Server>Open Directory Utility
Lion (10.7) Mountain Lion - 10.8 Mavericks - 10.9 Yosemite - 10.10 El Capitan - 10.11	Directory Utility	System Preferences>Users & Groups>Login Options>Network Account Server>Open Directory Utility

6.3.1 Configuring the Kanaka Plug-In

- 1 Launch the Directory Utility.
- 2 Click *Enable*.

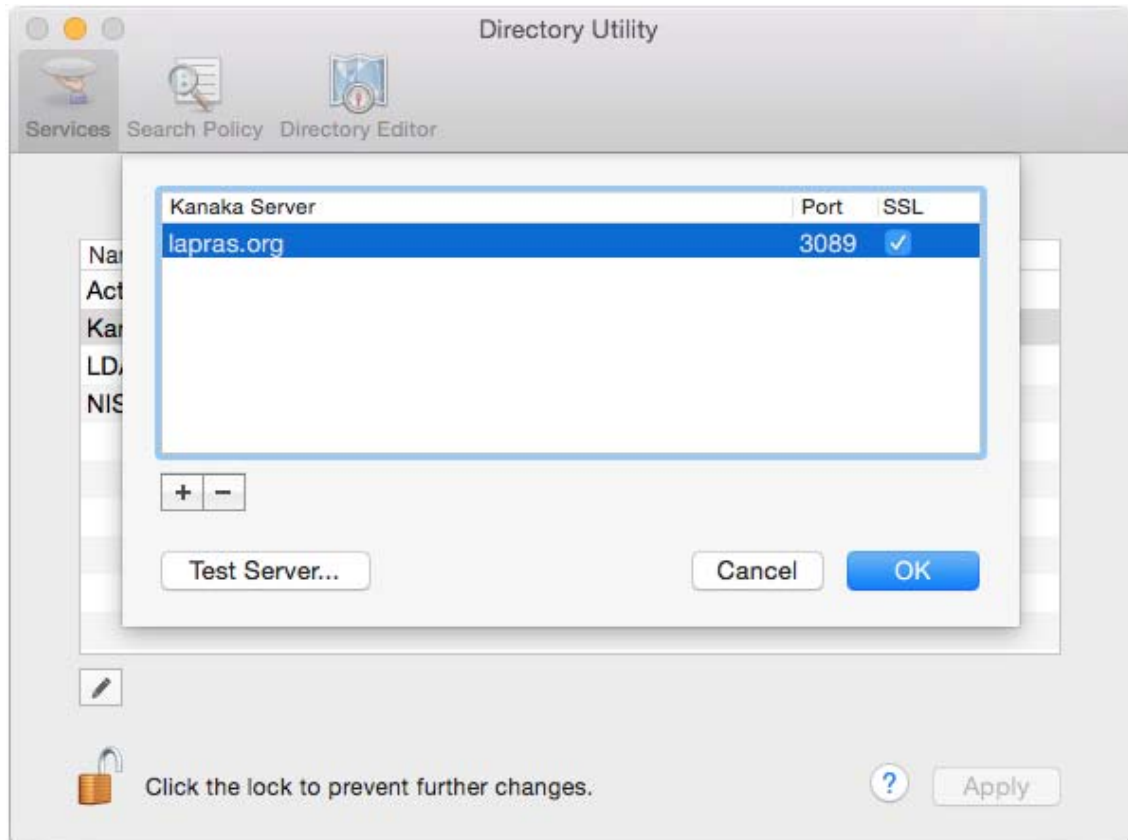


- 3 Double-click the Kanaka row.
- 4 Specify the IP addresses of the Kanaka Engine servers.

Novell Kanaka for Mac does not support clusters, but you can install two engines with identical configurations and then add both servers to the Mac's Directory Utility. The Mac tries to connect to the servers in order. If the first one is down, it connects to the next one.

5 Select *SSL Port 3089*.

You can enter as many servers running Novell Kanaka for Mac as you want.



6 Click *OK*.

7 Click *Apply*.

The Kanaka Plug-in is now configured and ready for use.

6.4 Installing the Kanaka Desktop Client

The Kanaka Desktop Client is designed to be a post-login window authentication client. Typical use is for users at home who log in to a local machine, use a VPN to their place of work, then use the client to authenticate to their eDirectory tree and access their home directories and group directories.

1 Double-click the `Novell_Kanaka_for_Mac-2.8.2.1.dmg` file.



- 2 Drag the *Kanaka Client* icon over to the *Applications* icon.
No configuration is needed for the Kanaka Desktop Client.

7 Using the Kanaka Plug-In

To use the Kanaka Plug-in, simply log in as an eDirectory user. Kanaka provides contextless login, so just the common name of the user is needed. After login, the user's home directory is mounted and a link is placed in the Dock or the mount point is displayed on the desktop. Kanaka also discovers and mounts group shared storage and places it in the Dock or on the desktop.

Figure 7-1 Mac OS X Dock with the Kanaka Plug-In and Mounted Home Directories Displayed



In the graphic above, the home directory is mounted and is displayed as the home icon. All of the shared directories to which the user has access are placed on the Dock next to the home folder icon. The contents of the home directory and one of the shared directories are displayed. The Kanaka Plug-in Console provides users identity information, current quota details, and the ability to change the eDirectory password.

Figure 7-2 The Kanaka Plug-in Console Displays Identity Information

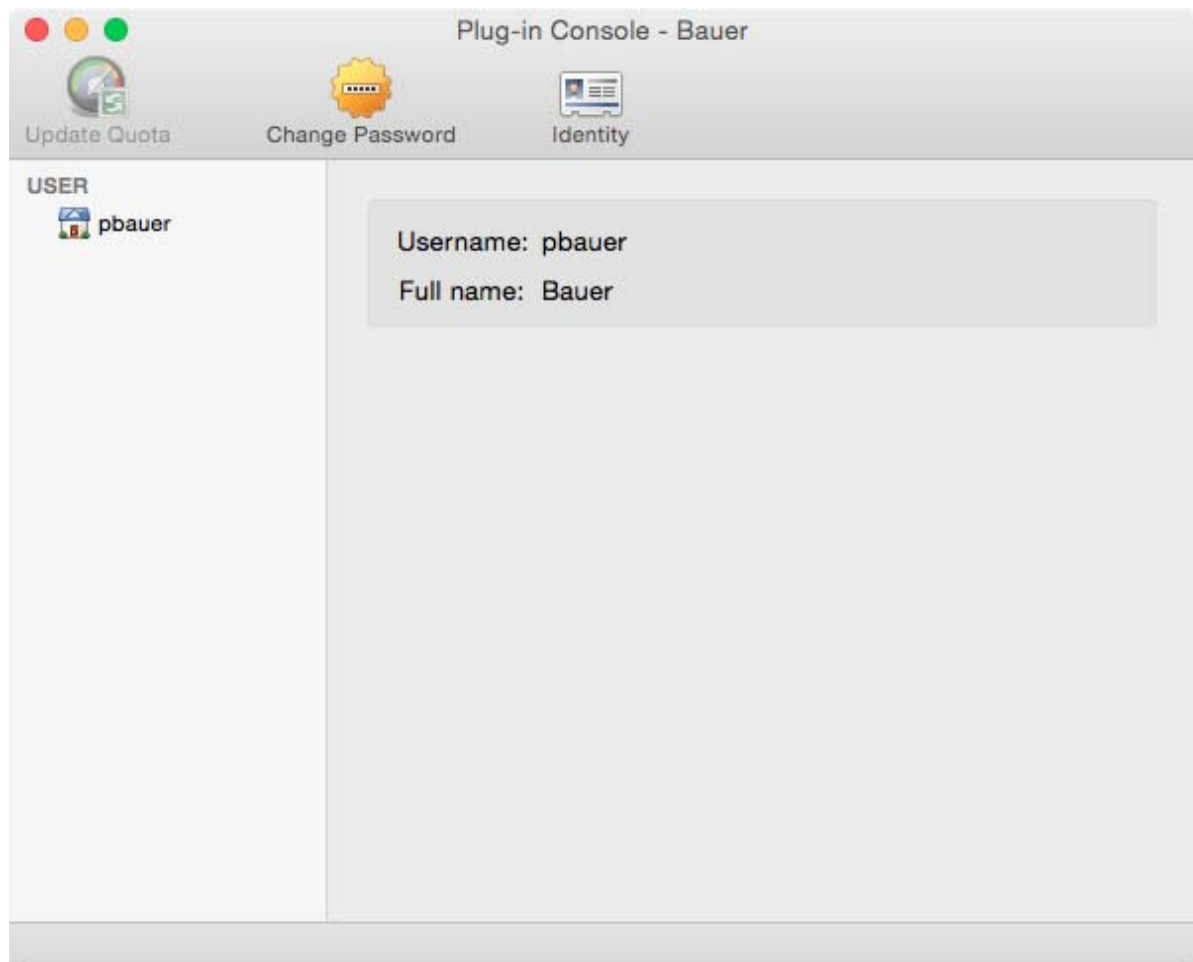


Figure 7-3 The Kanaka Plug-in Console Allows Password Management

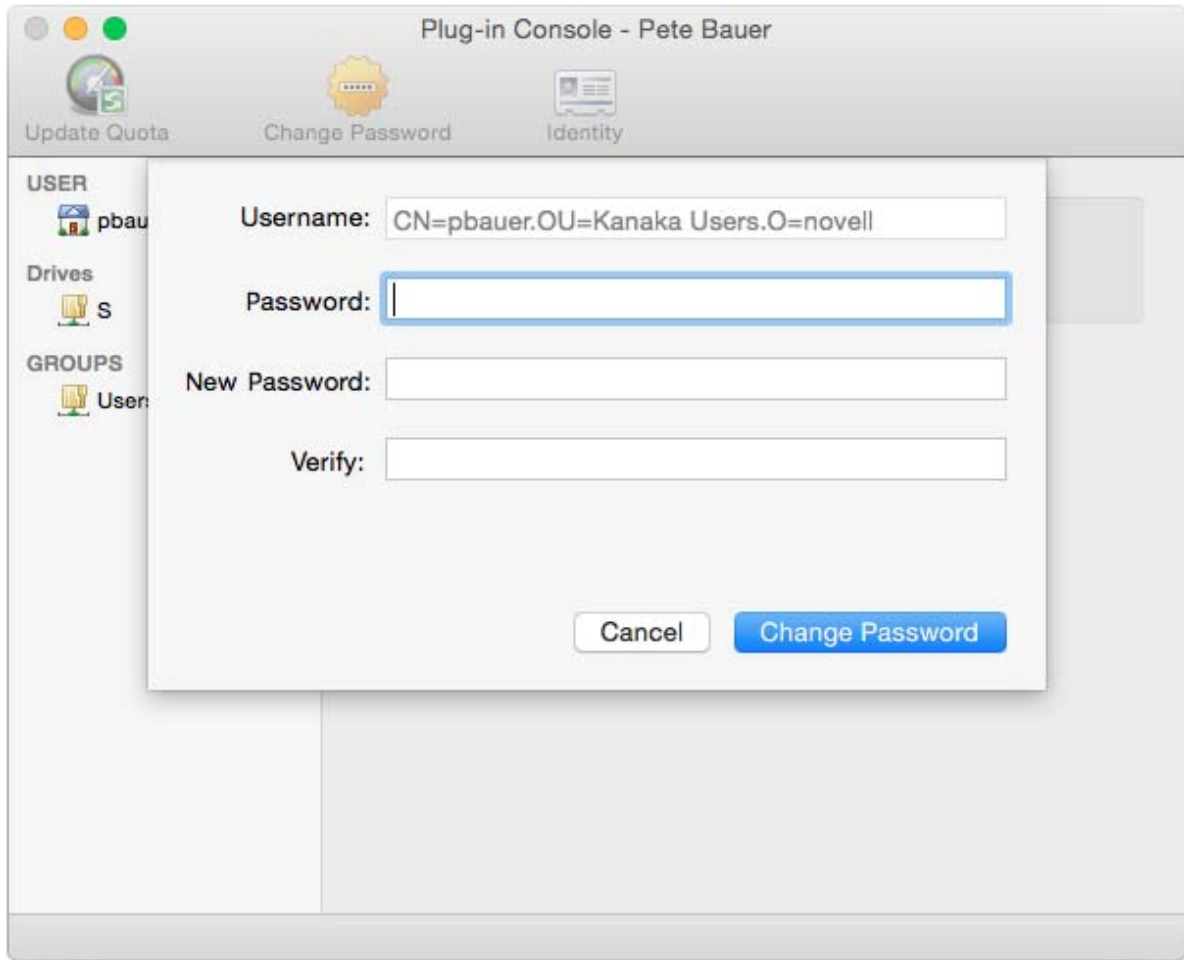
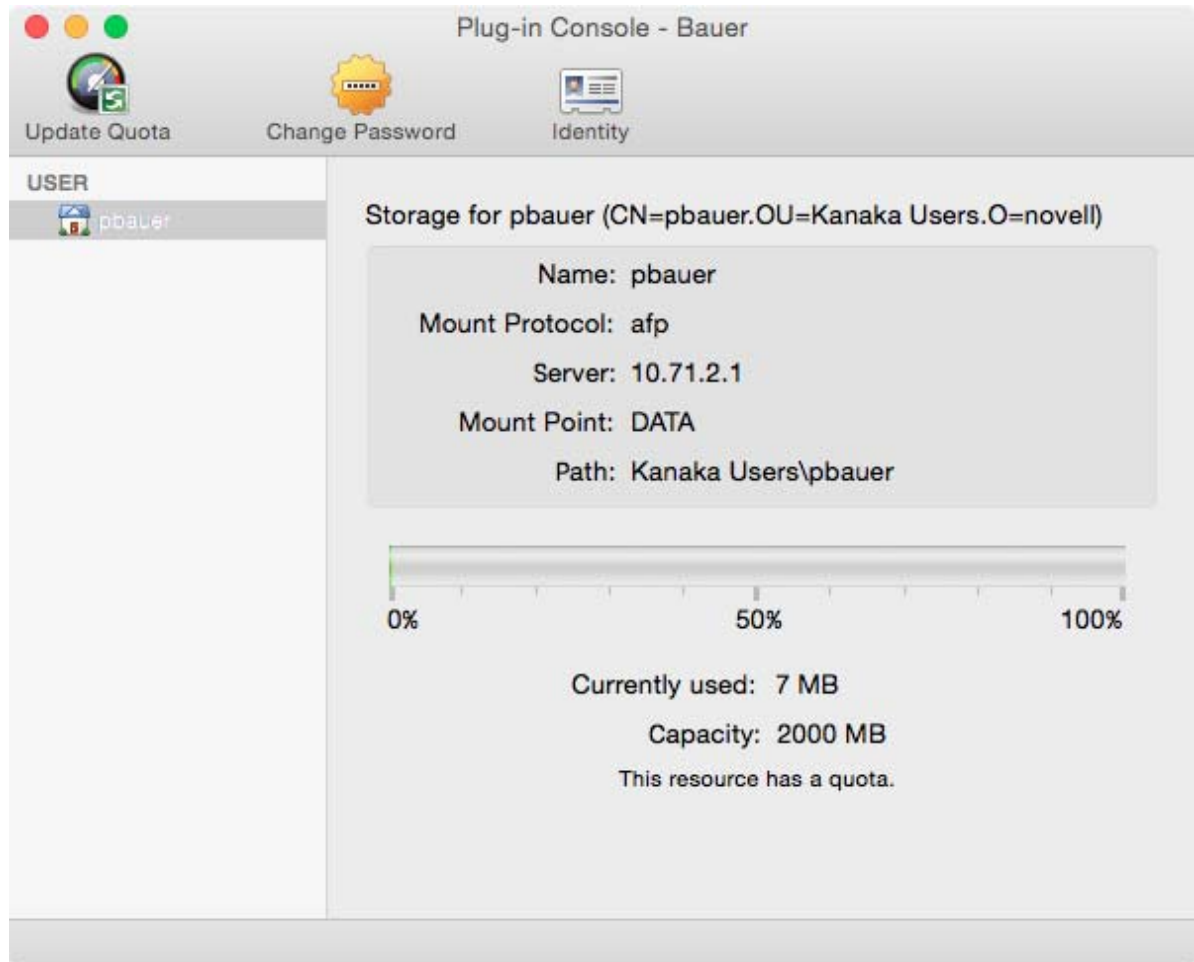


Figure 7-4 The Kanaka Plug-in Console Displays Storage Capacity Information



8 Using the Kanaka Desktop Client

- ◆ [Section 8.1, “Authentication,” on page 47](#)
- ◆ [Section 8.2, “Storage Properties,” on page 48](#)
- ◆ [Section 8.3, “Home Directory,” on page 49](#)

8.1 Authentication

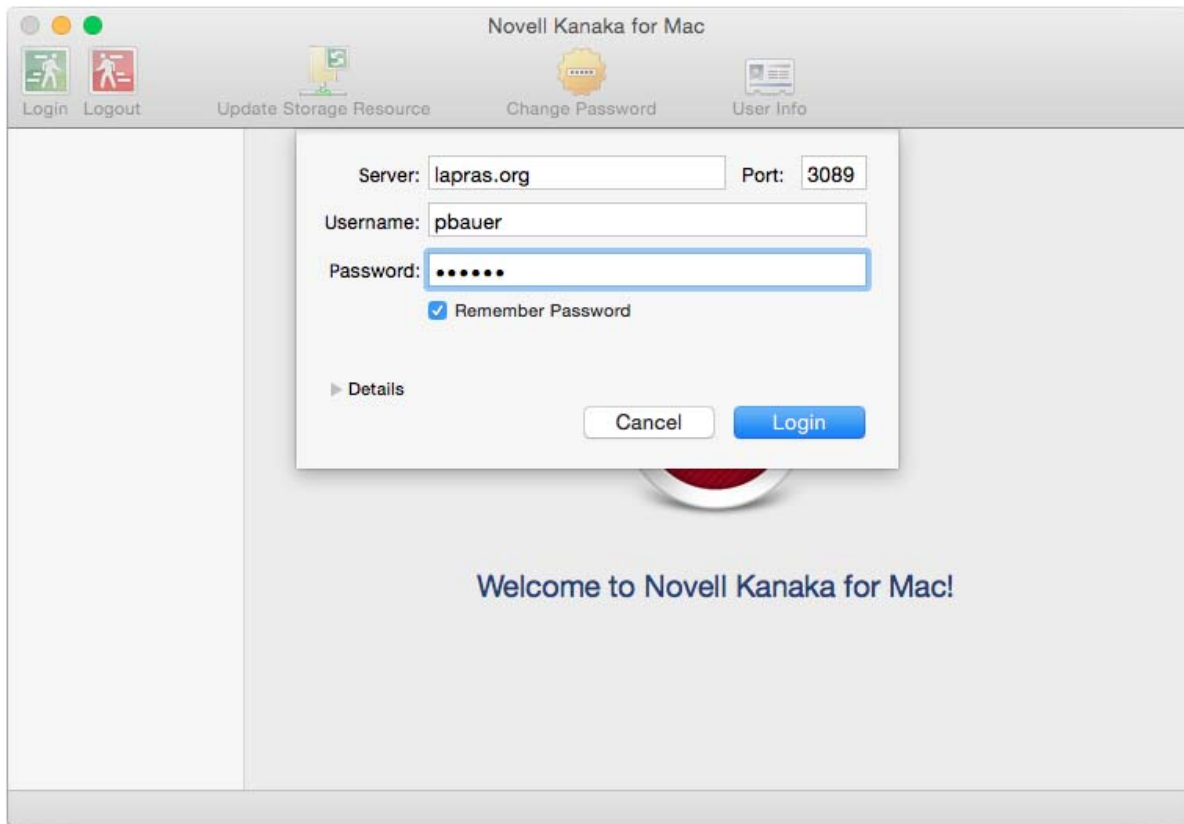
To use the Kanaka Desktop Client, simply open the Applications folder and double-click the Kanaka Desktop Client icon.

Figure 8-1 The Kanaka Desktop Client Icon



You are prompted to authenticate.

Figure 8-2 Desktop Client Login

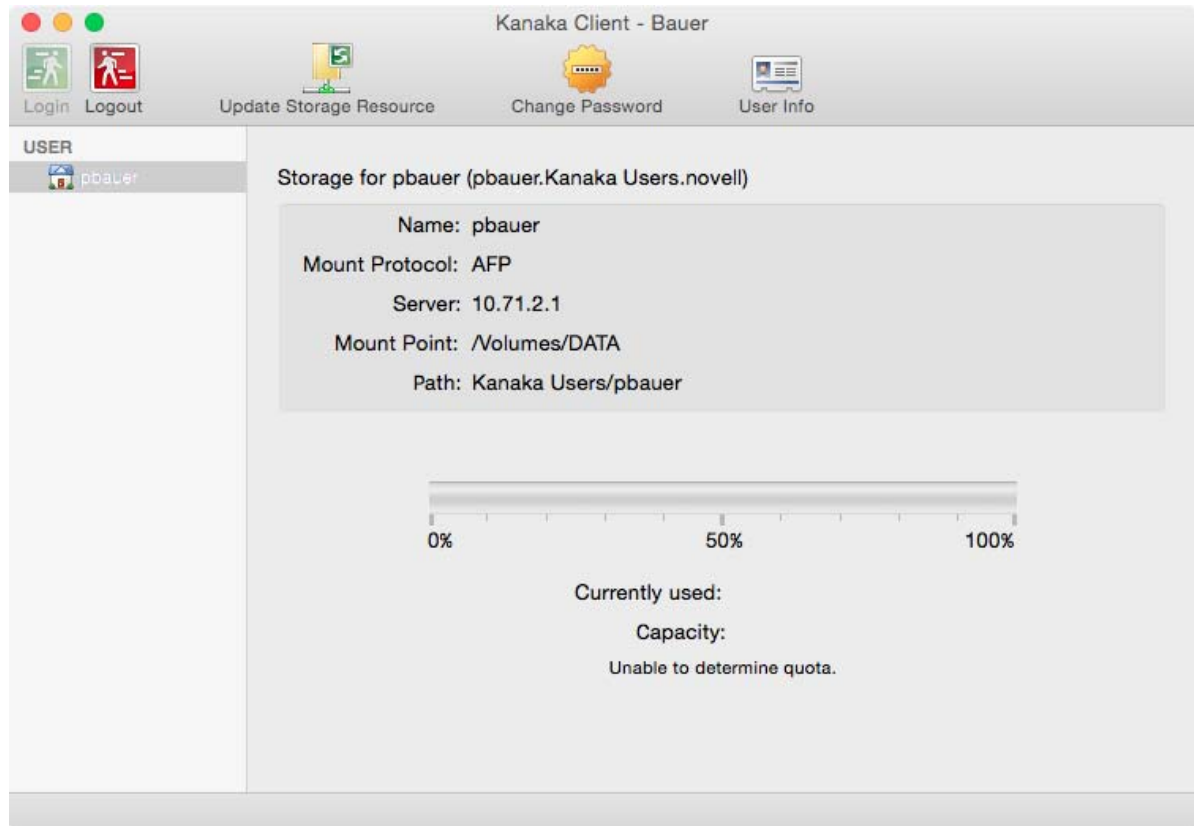


Use your contextless eDirectory credentials.

8.2 Storage Properties

Click the home folder to change to the Storage Properties page.

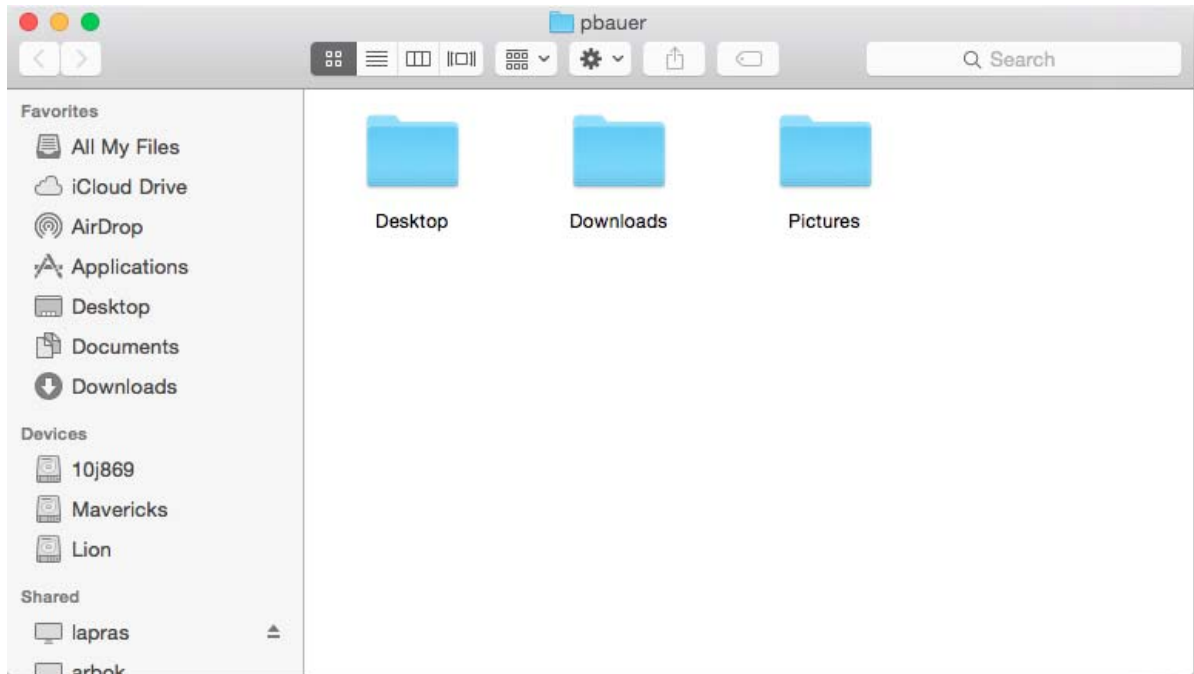
Figure 8-3 Kanaka Desktop Client Property Page



8.3 Home Directory

Double-click the home directory icon to view, browse, and access the contents of the directory.

Figure 8-4 Kanaka Desktop Client Displaying Home Directory Contents



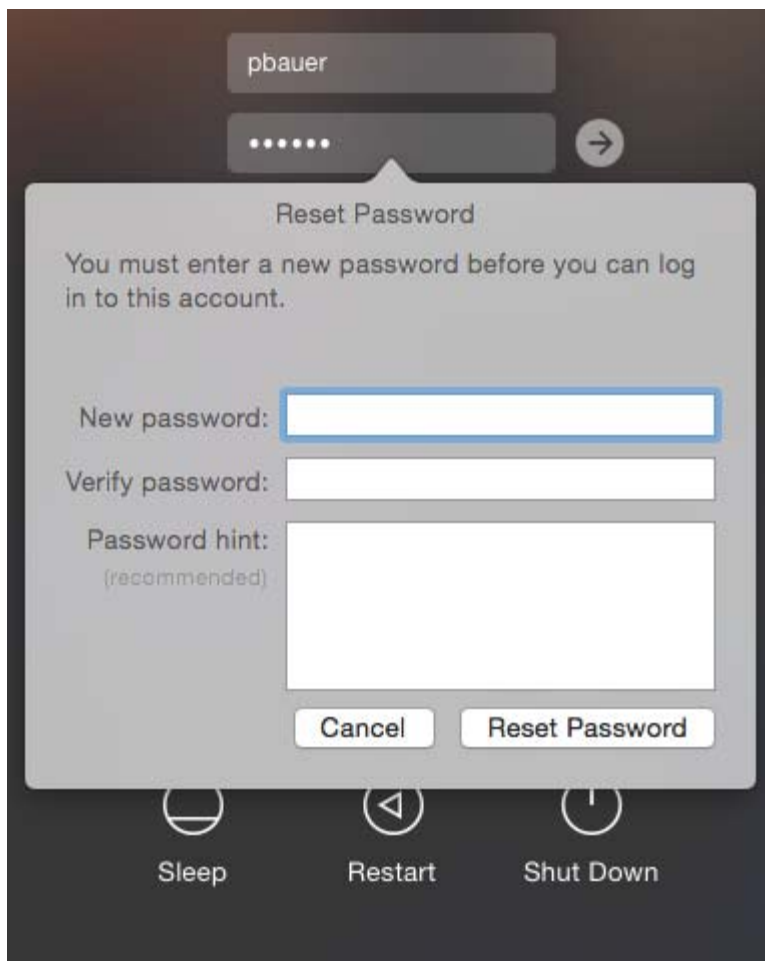
9 eDirectory Password Expiration

- [Section 9.1, “Kanaka Plug-In,” on page 51](#)
- [Section 9.2, “Kanaka Desktop Client,” on page 53](#)

9.1 Kanaka Plug-In

When your eDirectory password expires and you have the Kanaka Plug-in installed on your Mac, you are prompted at login time to change your password. The Kanaka Plug-in does not honor grace logins set by ConsoleOne or Universal Password policies, and requires you to enter a new password immediately.

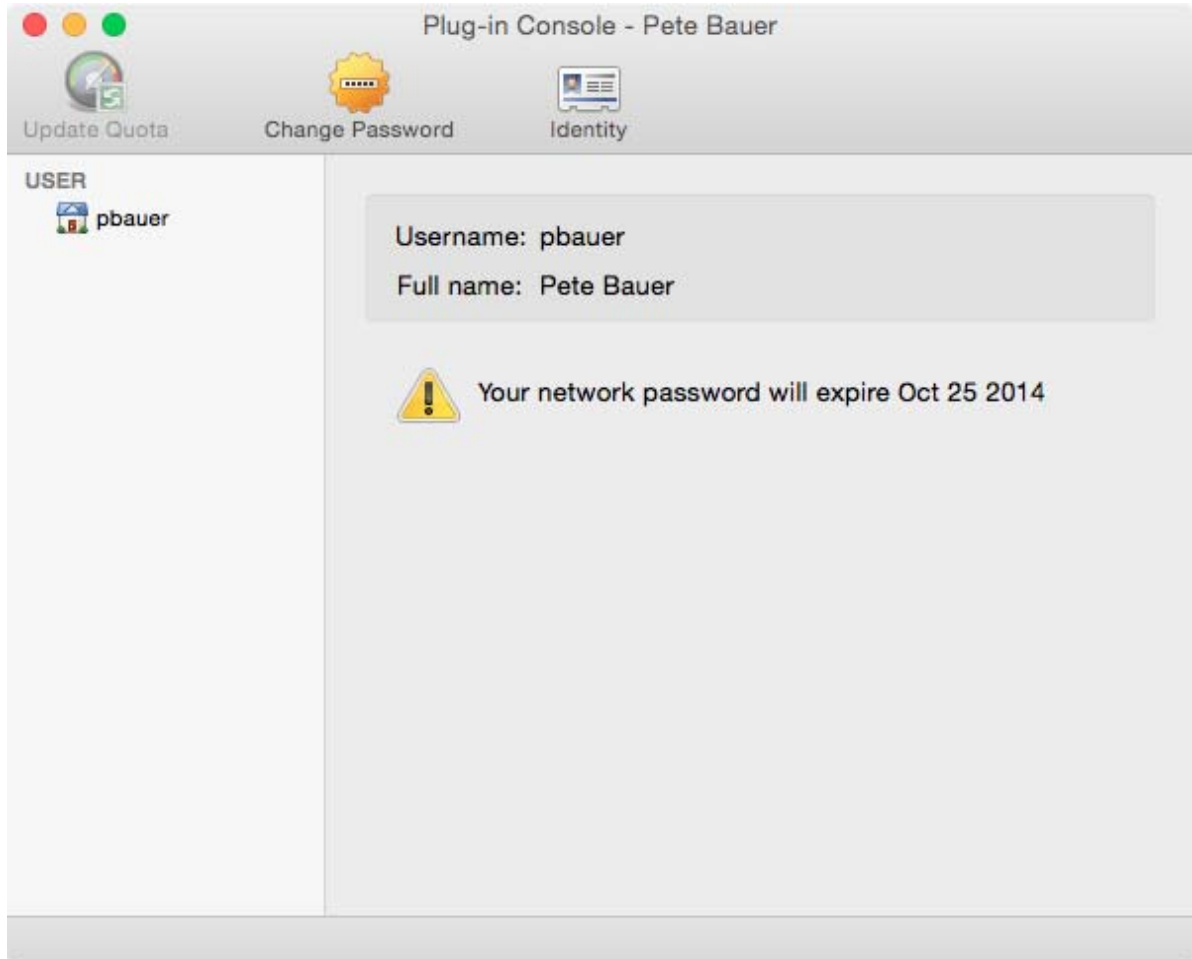
Figure 9-1 Kanaka Plug-In Password Change Dialog Box



9.1.1 Kanaka Plug-In Console

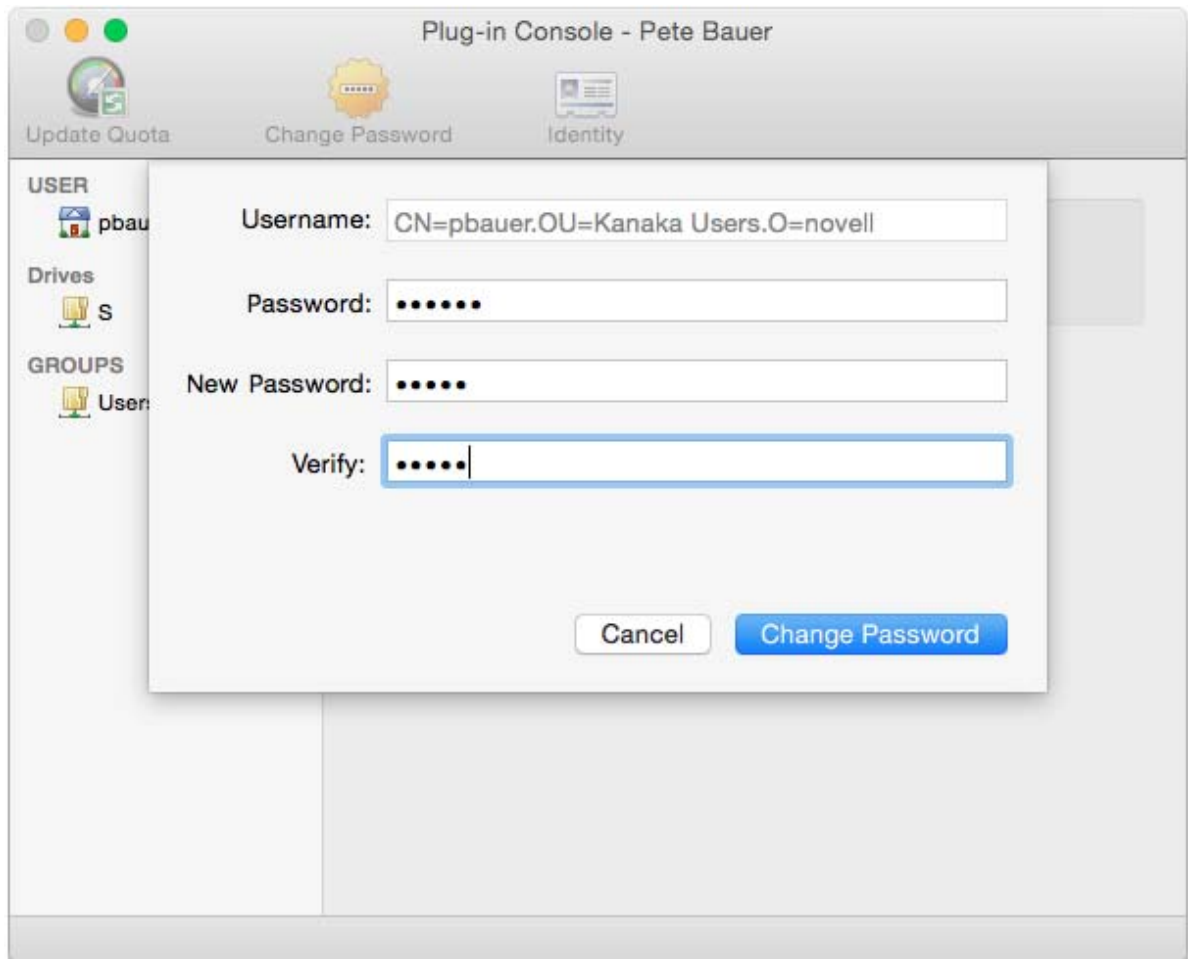
While you are logged into the network, the Kanaka Plug-in Console periodically checks for your password to expire and notifies you exactly five days before it expires.

Figure 9-2 Kanaka Plug-In Console with Password Expiration Information



To change your password, click *Change Password* in the toolbar.

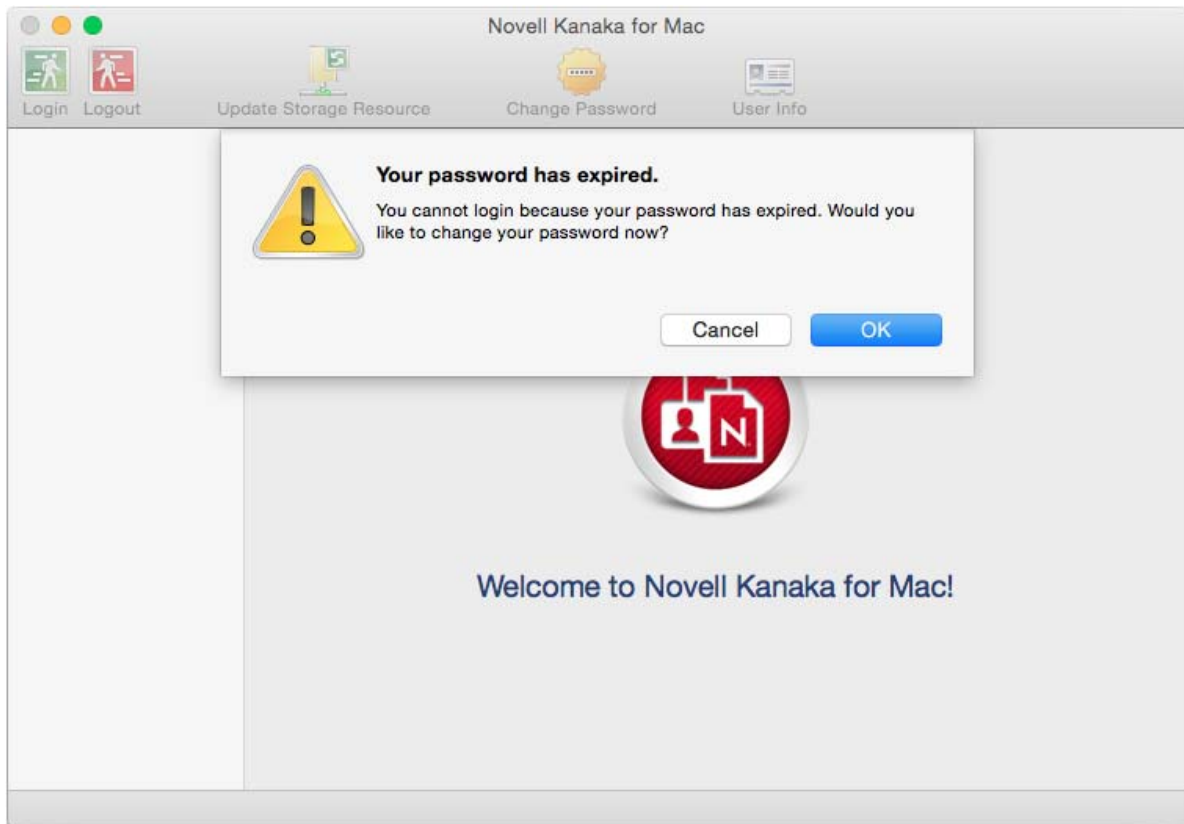
Figure 9-3



9.2 Kanaka Desktop Client

The Kanaka Desktop Client prompts you to change your password if it has expired. The Desktop Client does not recognize grace logins.

Figure 9-4 Password Error



After you change your password, use the new password to log in.

IMPORTANT: If you are using Universal Passwords and do not have Advanced Password Rules that are identical to settings in ConsoleOne, the Universal Password policy overwrites your ConsoleOne settings. It can remove password expiration altogether if you have nothing set in the Universal Password policy.

Figure 9-5 iManager Password Policy Page

The screenshot shows a web browser window titled "Novell iManager - Windows Internet Explorer". The address bar shows "Kanaka - Universal.Password Policies.Security". The page has several tabs: "Policy Summary", "Universal Password", "Forgotten Password", and "Policy Assignment". The "Advanced Password Rules" tab is selected, and the "Configuration Options" sub-tab is active.

Advanced Password Rules

Change Password

- Allow user to initiate password change
- Do not expire the user's password when the administrator sets the password
- Require unique passwords
 - Remove password from history list after: Days (0-365)
History list size: Passwords (1-255)
 - Remove password from history list when the list is full.
History list size: Passwords (1-255)

Password Lifetime

- Number of days before password can be changed (0-365) Days
- Number of days before password expires (0-365) Days
- Limit the number of grace logins allowed (0-254) Attempt(s)

Password Exclusions

- Exclude the following passwords
Enter excluded password:
- Exclude passwords that match attribute values.

At the bottom of the page are buttons for "OK", "Cancel", "Apply", and "Refresh".

10 Migrating from Kanaka for eDirectory to Novell Kanaka for Mac

Use the following procedures to migrate Condrey Corporation's Kanaka for eDirectory 2.5 or 2.6 to Novell Kanaka for Mac 2.8.2.

- 1 Follow the procedures in [Chapter 5, "Installing and Configuring the Engine,"](#) on page 27 in the *Novell Kanaka for Mac Installation and Administration Guide*.
- 2 When you are prompted to start the service do not do so until directed in [Step 8 on page 58](#).
- 3 On the server running the Condrey Corporation Kanaka for eDirectory Engine, locate and copy the following files from the `/var/opt/condreycorporation/kanaka/engine/data` directory to the `/var/opt/novell/kanaka/engine/data` directory on the Novell Kanaka for Mac Engine:

- ◆ `clients.dat`
- ◆ `policy.dat`
- ◆ `storage-resources.dat`
- ◆ `userindex.dat`

```
cp /var/opt/condreycorporation/kanaka/engine/data/*.dat \ /var/opt/novell/kanaka/engine/data
```

- 4 On the server running the Condrey Corporation Kanaka for eDirectory Engine, locate and copy the `kanaka.conf` file from the `/etc/opt/condreycorporation/kanaka/engine/config/` directory to the `/etc/opt/novell/kanaka/engine/config/` directory on the Novell Kanaka for Mac Engine:

```
cp /etc/opt/condreycorporation/kanaka/engine/config/kanaka.conf \ /etc/opt/novell/kanaka/engine/config/kanaka.conf
```

- 5 Edit the `/etc/opt/novell/kanaka/engine/config/kanaka.conf` file so that no data paths point to the old location.

For example:

```
<DataPath>/var/opt/novell/kanaka/engine/data</DataPath>
<WebRoot>/var/opt/novell/kanaka/engine/data/www</WebRoot>
<Path>/var/opt/novell/kanaka/engine/log</Path>
```

- 6 Shut down the Condrey Corporation Kanaka for eDirectory Engine by entering `rckanakaengine stop`.

WARNING: You must shut down the previous instance of the Kanaka Engine because once the new Kanaka Engine starts, it resets the proxy object's password, and thus causes any new connections to the previous instance of the Kanaka Engine to fail.

- 7 On the server running the Condrey Corporation Kanaka for eDirectory Engine, locate and copy the following file from the `/var/opt/condreycorporation/kanaka/engine/data/state/salt.dat` directory to the `/var/opt/novell/kanaka/engine/data/state/salt.dat` directory on the Novell Kanaka for Mac Engine:

```
cp /var/opt/condreycorporation/kanaka/engine/data/state/salt.dat \ /var/opt/novell/kanaka/engine/data/state/salt.dat
```

- 8** On the server running the Novell Kanaka for Mac Engine, start the service by entering
`rcnovell-kanakaengine start.`
- 9** Check your log file for any errors by viewing the file at `/var/opt/novell/kanaka/engine/log/novell-kanakaengine.log.`
- 10** Uninstall the Condrey Corporation Kanaka for eDirectory Engine RPM by entering:
`rpm -q -a | grep kanaka`
and then:
`rpm -e kanaka-engine-2.x.x-xx`

11 Parsing Novell Login Scripts

Since the release of Version 2.7, Novell Kanaka for Mac can parse eDirectory login scripts and mount the storage for access from the Kanaka clients.

For information on Novell login scripts, refer to the *Novell Login Scripts Guide* (http://www.novell.com/documentation/linux_client/login/?page=/documentation/linux_client/login/data/ak11vlq.html). Additional documentation is available from (<http://www.novell.com/support/kb/doc.php?id=10068983>).

- ♦ [Section 11.1, “Login Script Overview,” on page 59](#)
- ♦ [Section 11.2, “Login Script Sample,” on page 60](#)

11.1 Login Script Overview

A login script is a set of instructions that is executed when a user logs in using the Novell Client for Windows, the Novell Client for Linux, or some other method of login that accesses Novell eDirectory object properties. A login script is simply a text file that the login executable interprets and runs line by line.

When a user successfully logs in to the network, one or more login scripts can be executed that automatically set up the workstation environment.

Login scripts are similar to batch files and are executed by the Novell LOGIN utility.

You can use login scripts to map drives and search drives to directories, display messages, set environment variables, and execute programs or menus.

Login scripts are properties of specific eDirectory objects.

There are four types of login scripts:

- ♦ **Container:** Sets the general environments for all users in that container. Container login scripts are executed first and can be associated with Organization or Organizational Unit objects. A user can use only one container login script.
- ♦ **Profile:** Sets environments for several users at the same time. Profile login scripts are executed after the container login script and are associated with Profile objects. A user can be assigned only one profile login script that is then associated with the User object in eDirectory. However, other profile login scripts can be assigned by using the PROFILE command in the login script or by selecting a different Profile login script from the Novell Login window.
- ♦ **User:** Sets environments (such as printing options or an e-mail username) specific to a single user. User login scripts are executed after any container and profile login scripts and are associated with User objects. A user can have only one user login script. However, the User login script can be overwritten by selecting a different login script from the Novell Login window.
- ♦ **Default:** Contains only essential commands, such as drive mappings to certain utilities, and cannot be edited. The default login script runs if a user (including user Admin) doesn't have a user login script, even if a container or profile login script exists.

NOTE: If you don't want to create any user login scripts and you don't want the default login script to execute for any users, you can disable the default login script by including the NO_DEFAULT command in the container or profile login script.

Maintaining many user login scripts can be time consuming. Therefore, you should try to include as much customization information as possible in the container and profile login scripts, which are fewer in number and easier to maintain.

For example, if all users need access to particular utilities in the same volume, put the search drive mapping to that volume in a single container login script rather than in every user login script.

Create profile login scripts if several users have identical login script needs. Profile login scripts are sometimes thought of as group login scripts.

Finally, in user login scripts, include only those individual items that can't be included in profile or container login scripts. For example, personal drive mappings could be included in the user login script.

IMPORTANT: Because three or more login scripts can execute whenever a user logs in, conflicts can occur and drive mappings can be overwritten by consecutive login scripts. The last login script to execute (usually the user login script) overrides any conflicting commands in a previous login script.

11.2 Login Script Sample

The login script consists of any statements available to NetStorage. In addition, you can use the following statement:

```
IF <KANAKA> = "1" THEN
MAP *
MAP *
END
```

This section of the login script is always processed by Novell Kanaka for Mac.

Figure 11-1 Sample Login Script with Mount Instructions for Kanaka for Mac

Modify Object: sles11.sawgrass

General Restrictions Security iPrint Client Management NMAS

Identification Environment Login Script Intruder Detection See Also Postal Address Other

Login script:

```

MAP DISPLAY OFF
MAP ERRORS OFF

IF <KANAKA> = "1" THEN
MAP S:=\\SLES11-20-3\HOME\Green Grassy Area
END

IF MEMBER OF "Kanaka-Group" THEN
MAP *1:=\\SLES11-OES11\DATA\Kanaka-Group-Dir
END

IF MEMBER OF "APPLECORE" THEN
MAP *2:=\\C1_SERVER\C1_VOLUME\Apple-CORE-Group
END

```

When you preview the login script parsing from the Kanaka User Interface, you see all the drive mappings that will occur for any particular user.

Figure 11-2 Preview Login Script

Novell. Kanaka for Mac Logged in as: CN=admin.O-novell
Logout

Configure

- User Index
- Storage Resources
- Policy
- Collaborative Storage
- Proxy Home
- Log Management
- View Runtime Configuration
- Stop Accepting Logins

Clients

- Retrieve Kanaka Client
- Access Requests
- Client Registration

Version

- Server Status
- Version: 2.8.1.0 Oct 22 2014 13:16:00
- Preview Login Script

Preview Login Script

Preview Login Script

In order to determine what storage will be mounted for a given user when login script processing is enabled, please select the user below, then click Preview.

Specify a User:

Drive Mapping	Display Name
\\LAPRAS\DATA\User Groups	DriveS@LAPRAS

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12 Reference

- [Section 12.1, “Storage Resources,” on page 63](#)
- [Section 12.2, “Cluster Volumes,” on page 64](#)
- [Section 12.3, “Collaborative Storage,” on page 65](#)
- [Section 12.4, “Proxy Home,” on page 67](#)
- [Section 12.5, “Policy,” on page 68](#)
- [Section 12.6, “NetStorage Integration and Storage Location Objects,” on page 75](#)

12.1 Storage Resources

Before the Kanaka Plug-in or Kanaka Desktop Client can attach to a volume, the AFP/CIFS volume name must be stored in eDirectory for each volume on each server that a Kanaka-based client might want to connect to. This includes servers holding user home directories as well as servers holding collaborative storage. By default the volume name is `SERVER.VOLNAME`. You can rename how the AFP volume is displayed with the appropriate AFP volume configuration file (for example, `/etc/opt/novell/afptcpd/afpvols.conf`).

In setting up the Storage Resource list, access can be provided through either AFP or CIFS/SMB. If both are configured, either one can be selected as the access method for a given volume.

As part of the configuration of Native File Access protocols, Apple Filing Protocol (AFP) must be configured for each server and volume. AFP requires that each volume be given a specific name. By default, this name follows the convention `SERVER_NAME.VOLUME_NAME`. However, these are simply default names and you can name the volumes anything you want. Also, the AFP volume information is not stored in eDirectory, but in AFP-related files.

IMPORTANT: AFP mounts on Mac OS X Tiger and later are case-sensitive.

CIFS requires that each volume be given a specific CIFS virtual server name. By default, this name follows the convention `SERVERNAME-W`. In addition, the volume must be shared with a particular name. By default, all volumes are shared as their volume name (such as `SYS` or `VOL1`). However, these are simply default names and you can name the volumes anything you want. Also, CIFS share and volume information is not stored in eDirectory, but in CIFS-related files.

If only one protocol is configured, it is listed as the access method in the *Client Access Protocol* column of the Storage Resources list. If both protocols are configured, one access protocol is indicated as the selected protocol, and the option to change to the other is indicated in the same field.

Kanaka clients connect to the Kanaka Engine to retrieve volume and path information that can then be used to auto-mount both user home directories and collaborative (group) storage located on file servers.

In order for Novell Kanaka for Mac to convert a standard path into its AFP equivalent path, it must know the AFP volume name. Therefore, eDirectory must hold a copy of the AFP volume name. One of the Novell Kanaka for Mac schema extensions is an attribute added to the `VOLUME` object class that allows you to store the AFP volume name along with the volume itself. The Kanaka eDirectory configuration interface adds the schema extensions and provides the Web-based user interface that allows you to set the attribute accordingly.

In order for Novell Kanaka for Mac to convert a standard Novell path into its CIFS equivalent path, it must know the CIFS virtual server name and shared volume names. Therefore, eDirectory must hold a copy of the CIFS virtual server name and shared volume names. One of the Novell Kanaka for Mac schema extensions is an attribute added to the VOLUME object class that allows you to store the CIFS virtual server name along with the shared volume name itself. The Kanaka eDirectory Configuration Interface adds the schema extensions and provides the Web-based user interface that allows you to set the attribute accordingly.

12.2 Cluster Volumes

To attach to a cluster volume, you need to set an alias in the `afpvols.conf` file in the `/etc/opt/novell/afptcpd` directory. The contents of the file follow.

This file describes information required to rename and export NSS volumes through the AFP server. If the `EXPORT ALL VOLUMES` configuration option is set to Yes, the information provided in this file is not used to export volumes through AFP server. The information provided is used only to rename AFP volumes.

Syntax:

```
CURRENT_NAME [new_vol]
```

where

`CURRENT_NAME` is the volume name as seen on the Finder in Mac. `new_vol` is the new volume name.

Use a new line for each volume to be renamed.

Example 1: export data volume on server

```
serverA.data
```

Example 2: rename img volume on serverA to Graphics

```
serverA.img Graphics
```

Renaming volumes for clusters:

All shared volumes in a cluster needs to be renamed to the same volume name in order for a cluster to be transparent to the user. For example, if your cluster has 2 servers `serverA` and `serverB` and they share 2 volumes, `vol1` and `vol2`, then each server needs to have an `afpvols.conf` file that renames the volumes to a common volume name that the user will see in the Finder. Then the AFP user will use the same volume name to mount the shared volume and will not know or care whether it's using `serverA` or `serverB`.

Example 3: Renaming cluster volumes

`afpvols.conf` for `serverA`:

```
serverA.vol1 sharedVol1
```

```
serverA.vol2 sharedVol2
```

`afpvols.conf` for `serverB`

```
serverB.vol1 sharedVol1
```

```
serverB.vol2 sharedVol2
```


12.3 Collaborative Storage

Novell Kanaka for Mac has the capability to automatically mount collaborative (group) storage on Mac OS X. It does this based solely on the identity of the user. Novell Kanaka for Mac uses the Home_Directory attribute, and now the login script attribute, to locate and mount the storage.

The concept of using the Home_Directory attribute to manage group storage originated with Novell Storage Manager, which is a policy-based storage-management solution that revolutionizes use of the Novell file system. Novell Storage Manager unites the user-provisioning functionality of Novell eDirectory solutions with the storage-provisioning capabilities of the Novell file system. As a result, Novell Storage Manager completely automates the creation, management, and deletion of personal and collaborative storage, delivering the industry's only identity-based storage management solution.

Novell Storage Manager extends the Home_Directory concept to the group by adding a Home_Directory attribute to the Group object. Therefore, much like a single user's home directory, it is easy to locate the storage for the group simply by looking at the Home_Directory attribute of the group.

Novell Kanaka for Mac leverages the Home_Directory attribute of the user object to locate and mount the home directory for the given user. Novell Kanaka for Mac also leverages the group home directory concept invented by Novell Storage Manager by running the group membership list for the user and pulling the Home_Directory attribute for each group the user is a member of and mounting each group directory on the user's Mac OS X system.

However, Novell Storage Manager is not required for Novell Kanaka for Mac to deal with collaborative (group) storage. When the Novell Kanaka for Mac schema extensions are applied to the tree, the Novell Storage Manager group home directory is also added, if it is not already present. This Web interface provides a methodology for assigning the group Home_Directory attribute for each group in the tree, analogous to setting the home directory attribute on a user.

If all group storage is already managed with Novell Storage Manager, there is nothing that you need to do for Novell Kanaka for Mac to auto-mount group storage for all users. Otherwise, you should use Novell Kanaka for Mac to assign the Home_Directory attribute for each group that is not managed by Novell Storage Manager. Simply click *Browse the Tree* in the menu to the left, locate the group, and click *Assign*. This allows the administrator to browse to a destination path and set the home directory for the given group.

IMPORTANT: The Engine does not assign the chosen object as a trustee of the directory. You should perform this step via traditional methods.

Figure 12-1 Assigning the Home Directory Attribute to a Group

Novell. Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure

- [User Index](#)
- [Storage Resources](#)
- [Policy](#)
- [Collaborative Storage](#)
- [Proxy Home](#)
- [Log Management](#)
- [View Runtime Configuration](#)
- [Stop Accepting Logins](#)

Clients

- [Retrieve Kanaka Client](#)
- [Access Requests](#)
- [Client Registration](#)

Version

- [Server Status](#)
- Version:
2.8.1.0 Oct 22 2014 13:16:00
- [Preview Login Script](#)

Collaborative Storage

Using this interface, you may assign home directory paths to groups and containers. Display the contents of a subcontainer by clicking on the down arrow.

CONTEXT = Groups.novell.[Root]

Group	Home Directory
Users Group	[Assign]

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Figure 12-2 Specifying a Group Directory Path

Novell. Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure

- [User Index](#)
- [Storage Resources](#)
- [Policy](#)
- [Collaborative Storage](#)
- [Proxy Home](#)
- [Log Management](#)
- [View Runtime Configuration](#)
- [Stop Accepting Logins](#)

Clients

- [Retrieve Kanaka Client](#)
- [Access Requests](#)
- [Client Registration](#)

Version

- [Server Status](#)
- Version:
2.8.1.0 Oct 22 2014 13:16:00
- [Preview Login Script](#)

Assign Home Directory

Users Group.Groups.novell

Specify a Path:

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Figure 12-3 Assigned Group Directories

The screenshot shows the Novell Kanaka for Mac interface. The top header displays "Novell. Kanaka for Mac" on the left and "Logged in as: CN=admin.O=novell" with a "Logout" link on the right. The main content area is divided into two sections: "Configure" on the left and "Collaborative Storage" on the right. The "Collaborative Storage" section contains the following text: "Using this interface, you may assign home directory paths to groups and containers. Display the contents of a subcontainer by clicking on the down arrow." Below this, it shows "CONTEXT = Groups.novell.[Root]". A table lists the assigned directories:

Group	Home Directory
Users Group	\\LAPRAS\DATA\Groups\Users Group [Reassign]

The "Configure" section includes links for "User Index", "Storage Resources", "Policy", "Collaborative Storage", "Proxy Home", "Log Management", "View Runtime Configuration", and "Stop Accepting Logins". The "Clients" section includes "Retrieve Kanaka Client", "Access Requests", and "Client Registration". The "Version" section shows "Server Status" and "Version: 2.8.1.0 Oct 22 2014 13:16:00". A copyright notice at the bottom reads "Copyright © 2004-2014 Condrey Corporation. All Rights Reserved."

Figure 12-4 Assigned Container Based Directory

The screenshot shows the Novell Kanaka for Mac interface. The top header displays "Novell. Kanaka for Mac" on the left and "Logged in as: CN=admin.O=novell" with a "Logout" link on the right. The main content area is divided into two sections: "Configure" on the left and "Collaborative Storage" on the right. The "Collaborative Storage" section contains the following text: "Using this interface, you may assign home directory paths to groups and containers. Display the contents of a subcontainer by clicking on the down arrow." Below this, it shows "CONTEXT = Kanaka Users.novell.[Root]". A table lists the assigned directories:

Container	Home Directory
All Access	\\LAPRAS\DATA\Kanaka Users [Reassign]

The "Configure" section includes links for "User Index", "Storage Resources", "Policy", "Collaborative Storage", "Proxy Home", "Log Management", "View Runtime Configuration", and "Stop Accepting Logins". The "Clients" section includes "Retrieve Kanaka Client", "Access Requests", and "Client Registration". The "Version" section shows "Server Status" and "Version: 2.8.1.0 Oct 22 2014 13:16:00". A copyright notice at the bottom reads "Copyright © 2004-2014 Condrey Corporation. All Rights Reserved."

12.4 Proxy Home

Proxy home directories are useful in helping to avoid user problems logging in because of incorrectly assigned home directories and incorrectly managed volumes.

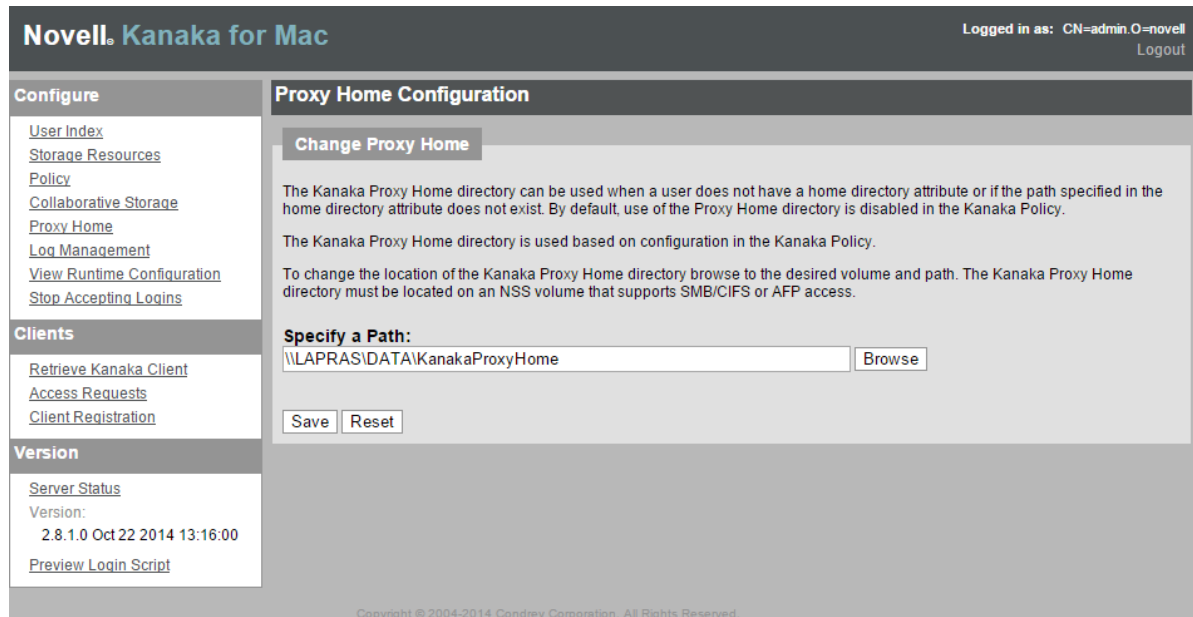
Mac OS X fails the login if a home directory is not provided as a part of the login process.

However, Novell Kanaka for Mac can communicate to the user (and the administrator) and indicate the reason why the login is failing. A proxy home directory is passed back to the client for mounting when mounting the “real” home directory is not possible for some reason.

The proxy directories are managed in the Web management interface for Novell Kanaka for Mac at https://server_ip_or_DNS_name:3089

IMPORTANT: It is very important for the volume of the server where the Kanaka Engine is running to have the Novell Kanaka for Mac AFP/CIFS volume name configured and have AFP/CIFS configured so that all users can reference it.

Figure 12-5 Change Proxy Home Page



12.5 Policy

There are several options available in Novell Kanaka for Mac to direct the behavior of the client. These options offer some flexibility in the setup to allow a more customized fit for individual installations. There are options for User Management, and for Managed Client Settings. The Mobility managed client option requires Mac OS X v10.4 and above, and Mobility Synchronization requires Mac OS X v10.4 and above.

- ◆ [Section 12.5.1, “User Management,” on page 69](#)
- ◆ [Section 12.5.2, “Managed Client Settings,” on page 73](#)

12.5.1 User Management

Figure 12-6 User Management Page

Novell Kanaka for Mac Logged in as: CN=admin.O=novell
Logout

Configure

- [User Index](#)
- [Storage Resources](#)
- [Policy](#)
- [Collaborative Storage](#)
- [Proxy Home](#)
- [Log Management](#)
- [View Runtime Configuration](#)
- [Stop Accepting Logins](#)

Clients

- [Retrieve Kanaka Client](#)
- [Access Requests](#)
- [Client Registration](#)

Version

[Server Status](#)
Version:
2.8.1.0 Oct 22 2014 13:16:00
[Preview Login Script](#)

Kanaka Policy

User Management

Kanaka clients request various pieces of user-related information from eDirectory. The following options allow you to configure how these items are obtained as well as the operation of the clients themselves.

Password Management

- Allow users to change their password via Plug-in, Plug-in Console and Desktop Client.
- Notify users that their password will change in Plug-in Console.

UID Management

- Use the UID set on the user object, if any. If none, use the Kanaka-managed UID.
- Always use the Kanaka-managed UID.

GID Management

Default Group ID (GID):

- Use the GID set on the user object, if any. If none, use the default specified above.
- Always use the default specified above.
- Use Kanaka alternate GID attribute. See documentation for intended usage.

Full Name Management

- Use the full name. If missing, combine first name and last name.
- Combine first name and last name.

Home Directory Management

If the home directory is not populated for a user logging in:

- Use a proxy directory.
- Deny login.

If the path specified in the home directory does not exist:

- Do not test for existence. (best performance)
- Use a proxy directory.
- Deny login.

Shell Management

Default Shell:

Kanaka Identity Driven Access

- Enable Kanaka Identity Driven Access.
 - Enable Group storage lookup.
 - Enable Container Collaborative storage lookup.
 - Enable Auxiliary storage lookup.
 - Enable Storage Location Object lookup.

Login Script Drive Mappings

- Enable Login Script Parser.

Sidebar Display Name:

Novell Kanaka for Mac clients request various items of user-related information from eDirectory. The following options allow you to configure how these items are obtained as well as the operation of the clients themselves.

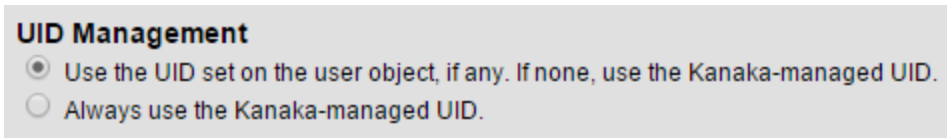
Figure 12-7 Password Management Settings

Password Management

- Allow users to change their password via Plug-in, Plug-in Console and Desktop Client.
- Notify users that their password will change in Plug-in Console.

These two self-explanatory settings are selected by default.

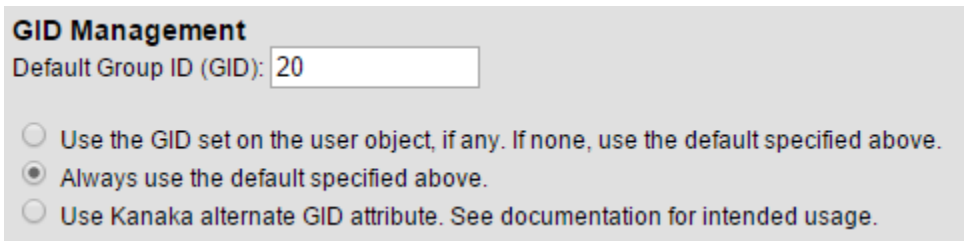
Figure 12-8 UID Management Settings



The UID is a User ID that is unique for each user logging in to the Mac. This option allows you to use an existing number or use a randomly generated number from a range of numbers defined by Novell Kanaka for Mac.

The auxiliary attribute class is posixAccount. The attribute is uidNumber.

Figure 12-9 GID Management Settings

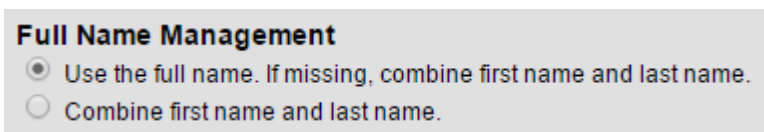


The GID is a primary Group ID for a user. It defines security levels on the Mac. By default, the GID is set to 20 (equivalent to “staff” on OS X) in Novell Kanaka for Mac. If you want your users to have admin privileges on the Mac, you can set the GID to 80 (equivalent to “admin” on OS X), but this is not recommended for lab environments. The auxiliary attribute class is posixAccount. The attribute is gidNumber.

The third option is based on an extended attribute that is added during the Kanaka installation. The class in eDirectory is named cccKanakaGidNumberClass and the attribute name is cccKanakaGidNumber. You can use this attribute to define the GID for users individually.

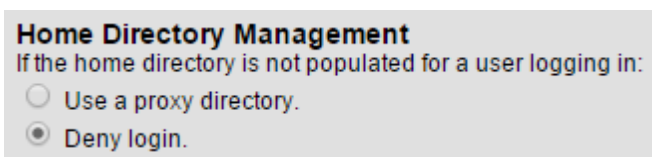
For example, if you want students to have a GID of 20 (staff) and teachers or administrators to have a GID of 80 (admin), you can set the cccKanakaGidNumber attribute for the teachers or administrators to a value of 80 and choose the *Use Kanaka alternate GID attribute* option.

Figure 12-10 Full Name Management Options



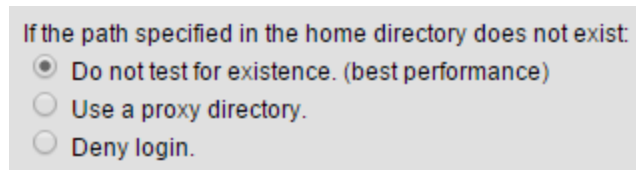
This region lets you specify how the name is displayed in the Kanaka Plug-in Console, Desktop Client, and the logout option.

Figure 12-11 Home Directory Management Settings



This setting gives you the option to allow the user to log in or not if the Home Directory attribute is not populated. If you choose the proxy directory option, you need to add and configure a proxy home directory for your environment. This is a directory with limited rights, and you can display a message to explain (such as a document or HTML page) that the user does not have a home directory defined, and perhaps direct them to a contact at the Help Desk.

Figure 12-12 Settings for Invalid Home Directory Path



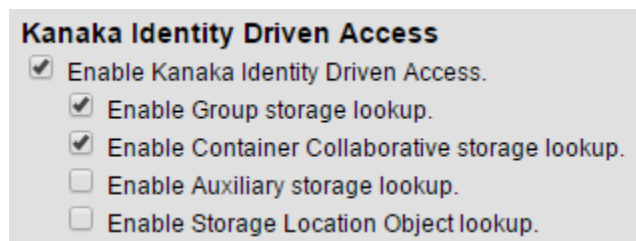
This setting indicates whether Novell Kanaka for Mac should actually test for the existence of the path specified in the home directory attribute. This can take a lot of time. By default, this option should be turned off. If you do test for existence and the path doesn't exist, you have the option to use the proxy directory or deny login.

Figure 12-13 Shell Management Setting



This is the default shell for running a terminal session on the Mac.

Figure 12-14 Identity Driven Access Settings



These settings enable the mounting of additional storage other than the user's home directory.

Enable Kanaka Identity Driven Access: Selecting this option enables you to select the options below.

Enable Group storage lookup: During the installation of Novell Kanaka for Mac, Group objects are extended with an attribute called ccx-FSFManagedPath. In its simplest explanation, it is analogous to having a home directory attribute on a Group object.

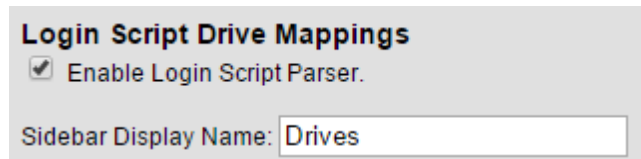
NOTE: The base class is not extended until the first collaborative storage is defined in Novell Kanaka for Mac.

Enable Container Collaborative storage lookup: With the release of Novell Kanaka for Mac 2.8.2, container objects can also be extended with an attribute named ccx-FSFManagedPath. In its simplest explanation, it is analogous to having a home directory attribute on a Container object. It treats users in a container as if they were members of a group, without having to manage a group object for those users.

Enable Auxiliary storage lookup: This option works only when you have Novell Storage Manager implemented with Auxiliary storage defined and enabled. Auxiliary Storage is like having multiple home directory attributes.

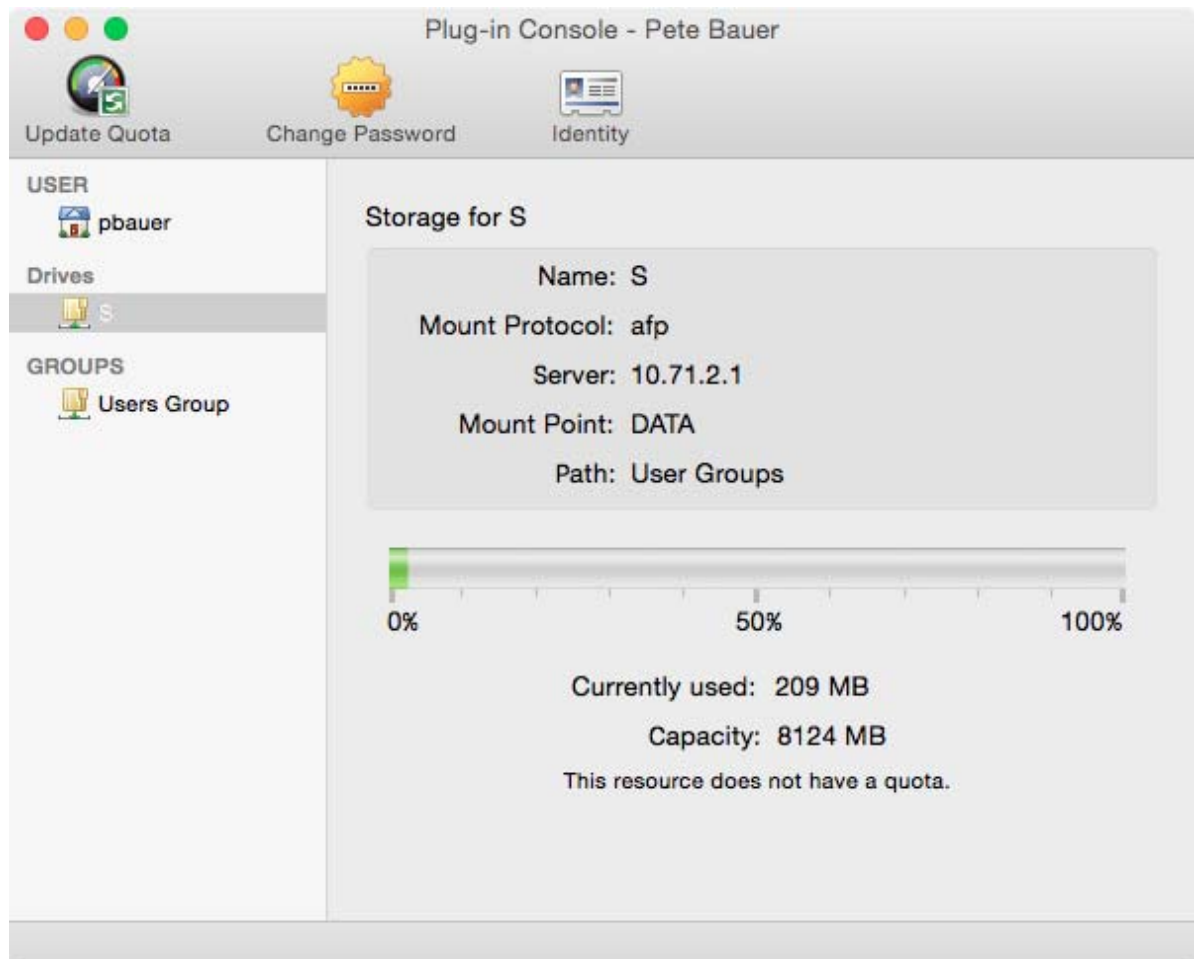
Enable Storage Location Object lookup: These are traditional Storage Location Objects in eDirectory. Novell Kanaka for Mac supports only NCP Storage Location Objects.

Figure 12-15 Login Script Settings



By enabling the Login Script Parser, the Kanaka Plug-In and the Kanaka Desktop Client parse any login scripts associated with the user. Login scripts are parsed with the same criteria as NetStorage logins.

Figure 12-16 Mounted Storage



12.5.2 Managed Client Settings

For several years, Apple has had a technology for managing workstations and the user experience, often referred to as MCX, or Managed Client for OS X via a Workgroup Manager server. Novell Kanaka for Mac gives the administrator the ability to choose between Novell Kanaka for Mac or a Workgroup Manager server to deliver these settings to the workstation.

Figure 12-17 Managed Client Settings Page

Managed Client Settings

Kanaka clients can receive Managed Client Settings (MCX) configured in the Kanaka Policy or from a properly configured OS X server. The following options instruct the client to use Kanaka generated MCX settings or to use those obtained from an OS X server.

- Get all MCX Settings from Kanaka.
- Get all MCX Settings from Workgroup Manager. Depending on the settings provided by Workgroup Manager, Kanaka may or may not mount the user's home directory. With this option, Kanaka will not mount group storage.

The following options will only be applied when Kanaka is used to generate MCX Settings.

Dock

- Display an icon for the user's network home directory in the Dock.
- Display an icon for additional mounted storage in the Dock.

Desktop

- Display an icon for the home directory mount point on the desktop.
- Display an icon for additional mount points on the desktop.

Kanaka Plug-in Console

- Start the Kanaka Plug-in Console as a login item. This option will only be used when Kanaka is configured to generate MCX Settings.

Mobility Settings

These options will only be used when Kanaka is configured to generate MCX Settings. Settings for Mobility are only applicable to Mac OS X 10.3.4 clients and later.

- Create mobile account when user logs in to network account.
- Create home using network home with default sync settings.
- Require confirmation before creating mobile account.

Mobility Synchronization Settings

These options will only be used when Kanaka is configured to generate MCX Settings and Mobility is enabled. These synchronization settings for Mobility are only applicable to Mac OS X 10.4.x clients. Synchronization is not supported on Mac OS X 10.3.x and earlier.

- Synchronize at login.
- Synchronize at logout.

Synchronization interval in seconds.

Save Reset

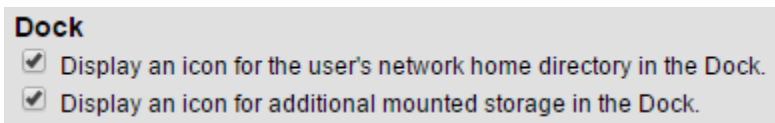
Novell Kanaka for Mac clients can receive Managed Client Settings (MCX) configured in the Kanaka policy or from a properly configured OS X server. The following options instruct the client to use MCX settings generated by Novell Kanaka for Mac or to use settings obtained from an OS X server.

Figure 12-18 MCX Settings

- Get all MCX Settings from Kanaka.
- Get all MCX Settings from Workgroup Manager. Depending on the settings provided by Workgroup Manager, Kanaka may or may not mount the user's home directory. With this option, Kanaka will not mount group storage.

If you choose the setting for Workgroup Manager, you will need to verify that your LDAP v3 settings in the Mac Directory Utility point to that server.

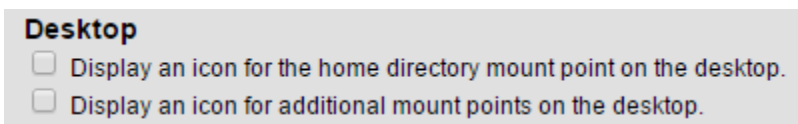
Figure 12-19 Dock Settings



This option displays an icon on the Dock for the user's home directory and for any group storage that is configured.

NOTE: You see a house icon if Mobility is not enabled and a folder icon if Mobility is enabled.

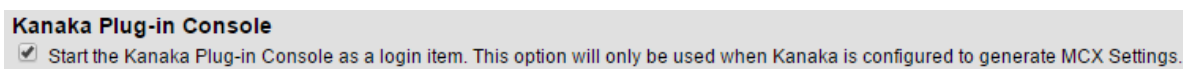
Figure 12-20 Desktop Settings



These options place a mount point on the user's desktop. This mount point is at the root of the volume, so users will need to drill down to get to the folders and files they have rights to.

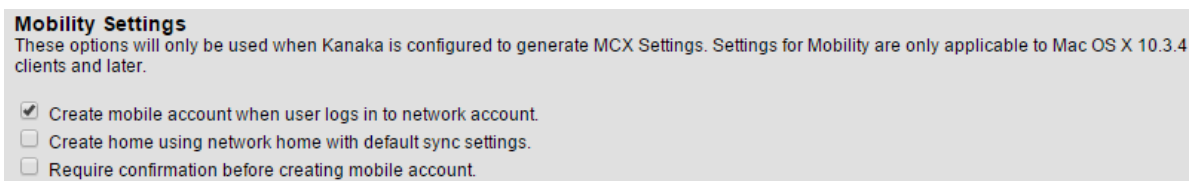
NOTE: Users can only see files they have rights to.

Figure 12-21 Kanaka Plug-in Console Setting



This setting enables the Kanaka Plug-in Console to automatically start after a login.

Figure 12-22 Mobility Settings

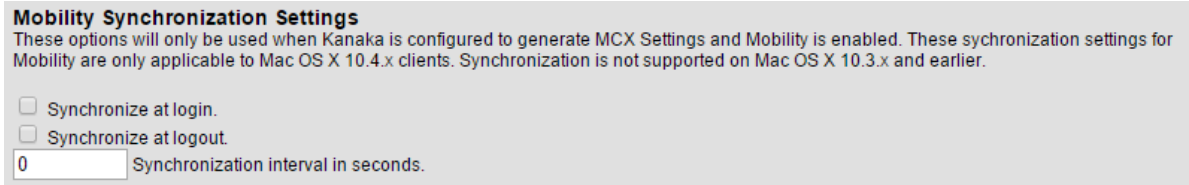


Create mobile account when user logs in to network account: This setting allows Novell Kanaka for Mac to create a local “mobile” account on the workstation and keep the user's profile and other information local. This option has the most performance benefits, because it can read the profile locally much more quickly than from the network. If you do not create a mobile account, the user profile information is created in the user's home directory on the network.

Create home using network home with default sync settings: Novell Kanaka for Mac creates a local home directory with login/logoff sync enabled. This could potentially slow down Novell Kanaka for Mac.

Require confirmation before creating mobile account: Warns the user of a mobile account that is created during login.

Figure 12-23 Mobility Synchronization Settings



These options synchronize the contents of the user's network and local home directory at login or logout. The options are very network intensive and will cause delays in the login and logout process.

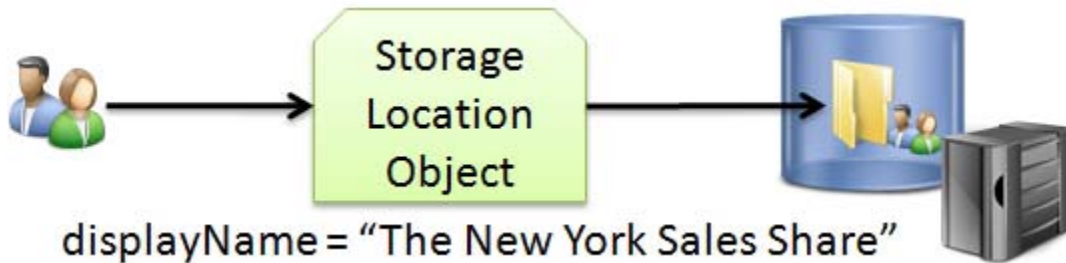
These settings are active only when the first option is selected.

The *Synchronization interval in seconds* option allows you to schedule syncing while you are logged in.

12.6 NetStorage Integration and Storage Location Objects

Novell NetStorage introduces the concept of a Storage Location Object in eDirectory for assigning one or more storage locations to one or more objects in the tree and defining, among other things, a display name to use in referencing the storage.

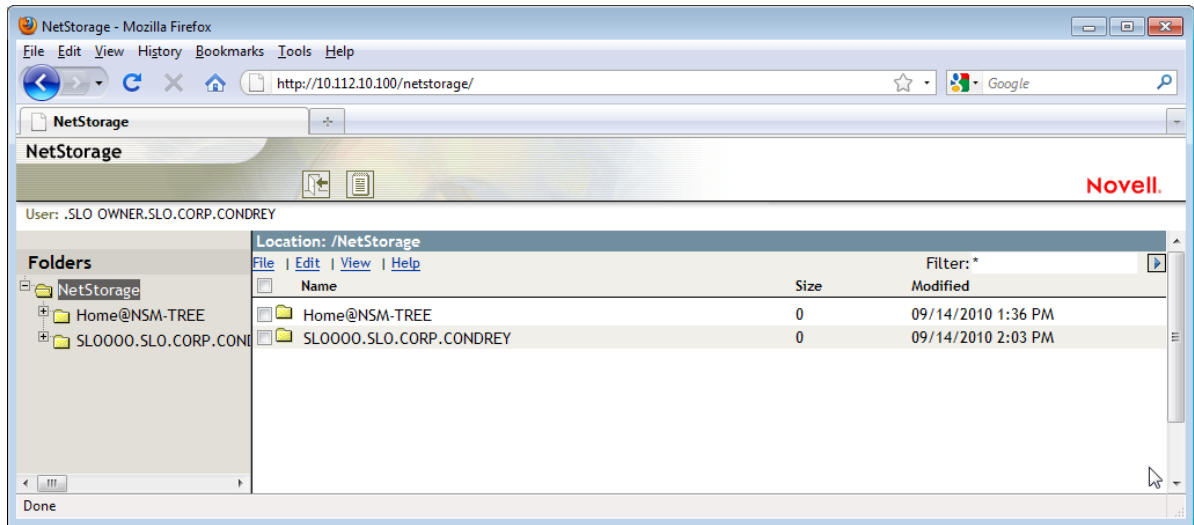
Figure 12-24 Storage Location Object



In the figure above, a Storage Location Object has been created in eDirectory. The Storage Location Object is pointing to the Sales subdirectory of the New York directory on a server. The Storage Location Object has been assigned to the Sales group.

When users who are members of the Sales group logs in to NetStorage, they are automatically shown a link to this storage. The display name is defined in the Storage Location Object. The figure below is an example:

Figure 12-25 Linked Storage in NetStorage



A Storage Location Object can be assigned to users, groups, containers, or profile objects in eDirectory. Multiple Storage Location Objects can be assigned to the same object simultaneously.

Storage Location Objects can be used with or without NetStorage. However, NetStorage must be installed on at least one server in the tree in order for the Storage Location Object schema extensions to be added to the tree.

The Kanaka Engine automatically locates any Storage Location Objects that are either directly or indirectly assigned to the user during login. Indirect assignments include any groups that the user is a member of or any parent containers above the user in the tree hierarchy.

The Storage Location Object storage is returned to the client as collaborative storage in exactly the same way that group home directories are returned.

A Documentation Updates

This section contains information about documentation content changes that were made in this *Novell Kanaka for Mac Installation and Administration Guide* after the initial release of Novell Kanaka for Mac 2.6. The changes are listed according to the date they were published.

The documentation for this product is provided on the Web in two formats: HTML and PDF. The HTML and PDF documentation are both kept up-to-date with the changes listed in this section.

If you need to know whether a copy of the PDF documentation that you are using is the most recent, the PDF document includes a publication date on the title page.

The documentation was updated on the following dates:

A.1 November 3, 2015

Updates were made to the following sections:

Location	Update
Section 6.1, "Retrieving the Installation File," on page 37.	Updated the procedures for downloading the DMG file from the Novell Patch Channel.
Table 6-1 on page 39.	Updated to include information on Mac OS X El Capitan.

A.2 March 30, 2015

Updates were made to the following sections:

Location	Update
Section 5.1, "System Requirements," on page 27.	Removed reference of support for Novell Open Enterprise Server 2.

A.3 October 29, 2014

Updates were made to the following sections:

Location	Update
Various locations.	Updated interface graphics.

A.4 August 14, 2013

Updates were made to the following sections:

Location	Update
Section 3.5.2, "Creating a PEM File," on page 21.	Corrected the syntax in the command line in Step 5 .
Section 4.1, "Upgrade Considerations," on page 25.	Corrected the syntax in the command line.
Section 5.2, "Installing the Kanaka Engine," on page 28.	Corrected the syntax in the command line in Step 4 .
Section 5.2, "Installing the Kanaka Engine," on page 28.	Inserted a new paragraph with the heading IMPORTANT. Removed a screen shot that was no longer applicable. Inserted a new step (Step 13).

A.5 August 6, 2013

Updates were made to the following sections:

Location	Update
Chapter 5, "Installing and Configuring the Engine," on page 27.	Inserted a new paragraph with the heading IMPORTANT.
Step 6 on page 57.	Inserted a new paragraph with the heading WARNING.

A.6 March 15, 2013

Updates were made to the following sections:

Location	Update
Section 2.4.1, "Authentication and Mounting via the Kanaka Plug-In," on page 12.	Inserted a new paragraph with the heading IMPORTANT.
Section 3.5, "Generating Certificates," on page 20.	New section.
Chapter 4, "Upgrading from Version 2.7 to 2.8.2," on page 25.	New chapter.
Section 5.2, "Installing the Kanaka Engine," on page 28.	New procedures.
Section 5.4, "Replacing the PEM File," on page 36.	New section.

A.7 June 8, 2012

Updates were made to the following sections:

Location	Update
Chapter 5, "Installing and Configuring the Engine," on page 27.	Updated procedures.
Section 9.2, "Kanaka Desktop Client," on page 53.	Updated information on how to change passwords.

Location	Update
Chapter 11, "Parsing Novell Login Scripts," on page 59.	New chapter.
Chapter 12, "Reference," on page 63.	Descriptions of new fields in the product interface.

A.8 March 13, 2012

Updates were made to the following sections:

Location	Update Description
Chapter 5, "Installing and Configuring the Engine," on page 27.	Inserted a Note on installing multiple Engines and having two Engines with identical configurations to serve as a cluster substitute.
Step 4 on page 39.	Expanded the explanation below the step.
Chapter 10, "Migrating from Kanaka for eDirectory to Novell Kanaka for Mac," on page 57.	Added this new chapter.

A.9 January 31, 2012

Updates were made to the following sections:

Location	Update Description
Chapter 2, "Overview," on page 9	Updated interface graphics.
Chapter 4, "Upgrading from Version 2.7 to 2.8.2," on page 25	Updated interface graphics.

A.10 January 26, 2012

Updates were made to the following sections:

Location	Update Description
Step 7 on page 31	New information added on rights assignments.

A.11 January 20, 2012

Updates were made to the following section:

Location	Update Description
Step 2 on page 29	Inserted a new paragraph on requirements for logging in.
Step 12 on page 34	The cross reference pertaining to information on mount points has been corrected.
