The Caledonia Upgrade Guide for GroupWise 2014

Upgrading/Migrating to New Server (Including from NetWare)

By Danita Zanrè and Paul Lamontagne

CALEDONIA

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Paul Lamontagne

No one truly works alone, there are always many people who help you along the way.

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About the Authors

Danita Zanrè (the "GroupWise Goddess") has been using "GroupWise" since 1989, when its precursor was known as WordPerfect Office 2.0. She has been involved closely with every version of the product since that time. Danita is widely regarded as one of the top experts in e-mail in general, and GroupWise specifically. She has written many books and articles, and has been a frequent speaker at BrainShare, GWAVACon, and other conferences throughout the world.

Paul Lamontagne @groupwiseguy has been using "GroupWise" since 1991, when it was still a WordPerfect product. Paul is regarded as one of the the leading subject matter experts and trainers for all things GroupWise. Paul was the lead developer on Novell Authorized Training for GroupWise versions 8, 2012 and 2014. Paul has been a frequent speaker at Brainshare, ATTLive, GWAVACon, and The Open Horizon Summit EMEA.

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Foreword

By Dean Lythgoe, Product Manager for Novell® GroupWise®

I have been connected with GroupWise in one way or another for almost 20 years. As an engineer, I have been involved in the design, coding, and feature development of areas like the Name Completion Control, Address Book, Proxy, Filters, and Disk Space Management.   I have met and listened to many users suggest new capabilities, complain about usability, and dream about possibilities. As a Product Manager, I have seen how companies utilize collaboration to run their businesses and how simplicity and access have driven usability.   I have seen GroupWise mature through those awkward teenage years to develop into this robust, modern collaboration set of functionalities that enable every organization to be agile, mobile, cost conscious, and responsible.   I guess you could say this tweenie is all grown up!

Novell is very excited about Novell® GroupWise® 2014 and all of the interoperability and new capability it will provide our customers and partners. Novell® GroupWise® has always been a secure, reliable "home base" for workforce productivity. Now, Novell GroupWise 2014 enhances the email you love with all-new features and a sleek, dynamic user interface. With enhancements in all the places users work — as well as behind the scenes, where administrators live — GroupWise 2014 will help you get more done at every level of your organization.

We recognize that in order for customers to benefit from all of this effort, we need to make the upgrade process as familiar, stream-lined, and robust as possible. We encourage all of our customers to upgrade to Novell GroupWise 2014 at their earliest convenience. The Caledonia Upgrade Guide for GroupWise 2014 is researched, written, and provided by some of the most recognized and trusted voices in the GroupWise community. Every GroupWise system demands a knowledgeable professional to configure, update, optimize, and customize their collaboration ecosystem to benefit their organization. Danita and Paul are simply the best! Deep consultant experience, with an abundance of real-world expertise, make this technical resource invaluable for every GroupWise organization.

Make sure you get the most from your GroupWise investment by running GroupWise 2014 Today!

- Dean

March, 2014

1   **Introduction**

Danita and Paul here! Are you ready for a change? We sure hope so, because GroupWise 2014 is full of change and new functionality. Some of it will be intuitive, and some not so much. Hopefully by purchasing this book you will get through the newness of GroupWise 2014 without too much trouble.

As long-time GroupWise administrators, users and consultants, GroupWise 2014 brings with it many changes for us. We've both used GroupWise since before it was GroupWise! Danita started with WordPerfect 2.0 in 1989, and Paul started with WordPerfect Office 3.0 in 1991 and we've used every version since. Here's a little history that can help you appreciate just what is going on with GroupWise 2014.

Firstly, we do not wish to offend any long-time WordPerfect Office/GroupWise lovers, but we are not going to dwell too much on WordPerfect Office 2.x and 3.x. We will say that WordPerfect Office 3.x had great functionality, and was truly "enterprise worthy" in many respects. However, the seeds of the GroupWise that we know and love really started with WordPerfect Office 4.0 in 1993. This is when the FLAIM database became the engine (and some speculate FLAIM was one of the driving forces for Novell wanting to acquire WordPerfect Corporation), and the directory structure that we know and love actually came into being. If you've ever wondered why many directories in "GroupWise" are prefixed with wpcs, that is because it stood for "WordPerfect Connection Server", the original name of the Message Transfer Agent.

The "migration" from GroupWise 4.1 to GroupWise 5.0 was a really big deal. The 4.x versions of our beloved collaboration system were still rather simple in administration. A stand-alone administration tool, ad.exe, and a few command line utilities that did all of the work. When GroupWise 5.x came along, you were going to need NetWare 4.x and "NDS" (now eDirectory). We installed GroupWise at MANY sites in the beginning where we put a lone NetWare 4.x server with NDS on a desktop somewhere, and it often got turned off when no one needed to administer GroupWise! GroupWise 5.0 killed DOS, OS/2 and Unix agents (and we thought having to give up NetWare and the Mac/Linux clients with GroupWise 2012 was painful)! It dumped all character based clients for DOS and Unix. It was a major undertaking for most of the sites that had really just gotten started with their WPO/GroupWise systems. It was definitely not for the faint of heart. In fact, in the very first GroupWise Administrator's Guide that Danita co-wrote with Richard Beels and Scott Kunau for Sybex Network Press, she penned this:

> "How many of us have received an upgrade to a software package in the mail and just "gone for it"? Most of us are tempted to install software without advanced planning. The likelihood of a successful GroupWise 4.1-to-5.x migration in such a scenario is slim. Although many of the basic concepts behind GroupWise 5.x are familiar to GroupWise 4.x administrators, some major changes have occurred that impact the decision of how and when to move from GroupWise 4.x."

Looking back at the level of difficulty in a GroupWise 4.1 to 5.x migration, we can only smile. In many ways that was child's play compared to some of the changes that are included with GroupWise 2014. This is especially valid when you take into consideration that by the time of the initial GroupWise 5.0 release (1996) the familiarity with the basic structure was only 4 years in the making. We've had a relatively "consistent" GroupWise now for 17 years, and

there is a certain comfort level among seasoned GroupWise administrators that could very well encourage folks to leap before they look.

Of course the biggest change that is introduced with GroupWise 2014 is the new web based Administration Console. Many folks will be inclined to compare it with the move from NWAdmin to ConsoleOne. Sorry! This is so much bigger than that. Think more in terms of how you felt when you originally moved from ConsoleOne to iManager for many Novell related tasks (albeit never for GroupWise, which managed to avoid iManager altogether - to mixed reviews). We'll warrant that no matter how much you thought you disliked ConsoleOne, you were lost and confused initially when you were faced with finding the new way to deal with once familiar tasks. However, for those of you who have fallen in love with iManager now, GroupWise 2014 has an iManager plugin, which we will discuss later in this guide.

We do want to assure you that the GroupWise team has done a really great job with the new Administrative Console. There was a great deal of thought and planning that went into designing this new administration tool, and it seems apparent that they also took into account some of the major complaints that revolved around the initial rollout of iManager and attempted to prevent the same frustration and confusion. That said, there is much that is simply "different" in the way the new administration model works, and you will really want to be prepared for real change when you make your move to GroupWise 2014.

We will discuss all of the changes that you need to know about GroupWise 2014 in the next chapter, *"Preparing Your GroupWise System"*. There are, however, two major changes that need to be addressed before you continue.

With GroupWise 2012, Novell discontinued NetWare as a server platform for GroupWise. This means that if you are still on NetWare, moving to GroupWise 2014 will not be a simple upgrade. Rather, we will need to do a migration/upgrade.

Novell does not support upgrading directly to GroupWise 2014 from any versions older than GroupWise 8. Thus if you have a GroupWise 7 or older system, you may need to do a two step upgrade for GroupWise 2014. That said, we have upgraded as far back as GroupWise 6.5 . We do not see any major problems upgrading from GroupWise 5.0 or later.

This guide has been written primarily for administrators currently running GroupWise on NetWare, who now need to both migrate the GroupWise system from NetWare to Linux or Windows, and subsequently upgrade to GroupWise 2014. However, this guide will also be useful if you are already running GroupWise on Windows or Linux, and need to migrate to a new server to account for new OS requirements and the like. If you have purchased this guide in error, and need the guide intended to upgrade your Linux or Windows GroupWise system in place, please contact info@caledonia.net and we will make sure you get the proper guide.

A Few Important Conventions

In writing this book, we've endeavored to be as consistent as possible with formatting and naming. Here are a few of the key things to keep in mind:

- URLs are shown in all lowercase.

- Filenames and locations are shown all in lowercase and in this format: **filename.ext**. Since this book must take into account Linux case sensitivity, we have opted to show all commands and file names in lowercase to help avoid confusion for administrators working with multiple OSs. If, however, a Linux process is in mixed case (like running **/usr/ConsoleOne/bin/ConsoleOne**), we will of course show the case requirements for the command.

- Information you must type, or commands you must execute will be formatted like this: **setup.exe**.

- We will refer to this version as GroupWise 2014 in this book, with the version number typically listed as merely 14.

- Since GroupWise Linux files always have the build number included in the file name (for example **novell-groupwise-server-14.0.0-115059.x86_64.rpm**), the names we show in this book might not have the same build number as your software. Substitute your build number in any commands we list in the guide.

- This guide is of course written for both Linux and Windows. We admittedly use Linux more for our own personal use. We will attempt to keep terminology straight. However, when we discuss the GroupWise "Server" directories on your server, these will be:

  - Linux: **/opt/novell/groupwise/**

  - Windows: **c:\Program Files\Novell\GroupWise Server**

  These GroupWise Server directories will be abbreviated throughout this guide as **<serverfiles>/** and as an example, **c:\Program Files\Novell\GroupWise Server\ agents\data** will be simply listed as **<serverfiles>\agents\data**

- The installation files that you extracted from your download will be referred to as **<installationfiles>/** and as an example we might refer to the **install.sh** file being at **<installationfiles>/install.sh**

  We ask Windows administrators' forgiveness in advance if we occasionally just give the Linux paths to locations! Just substitute the Windows paths above when in doubt! Linux and Windows administrators alike should remember that Linux uses forward-slashs and Windows users back-slashes!

How This Book is Organized

The new upgrade procedures for GroupWise 2014 have necessitated a bit of a rework of our former upgrade guide organization. Rather than having separate chapters for upgrading the Primary Domain and Secondary Domains, all domain upgrades will be covered in a single chapter. You must simply remember that the FIRST domain to upgrade must be the primary. We will discuss upgrading a Post Office alone on its own server, and we will also combine a Post Office upgrade with a Domain on the same server in the Domain chapter. The GWIA chapter will be more of an overview of strategies for upgrading the GWIA, as it will be upgraded automatically with its Domain, and that is covered in the Domain chapter.

We are upgrading from GroupWise 8 and GroupWise 2012, and while we have tested GroupWise 6.5, Novell is not testing (and thus not officially supporting) any version prior to GroupWise 8 for a direct upgrade. Any time there is a version specific process to be dealt with, the version will be noted. We will upgrade our primary domain CNC, our CNC2 secondary domain, and our Caledonia post office in this guide. Additionally, we will upgrade our GroupWise Internet Agent, WebAccess, GroupWise Monitor, Calendar Publishing Host, and a couple of clients to usher you on your way.

Our figures may show GroupWise 2012 objects, GroupWise 8 objects, and in some cases perhaps even GroupWise 6.5 objects. We have tested upgrades with systems as old as GroupWise 6.5.

2   Preparing Your GroupWise System

For a new GroupWise administrator, the prospect of upgrading the GroupWise system can be a bit daunting. Of course, even those of us who have done hundreds of upgrades run into issues occasionally. There is an entirely new "wizard" for upgrading to GroupWise 2014, and while most of you know that we're not generally fans of wizards (except at Hogwarts) we will use the wizard in this book. Undoubtedly, it is the planning that is of utmost importance. In this chapter we will deal with the planning. It's important to know that even those of us who have literally done hundreds of GroupWise upgrades make a point to plan out even the simplest of upgrades, making sure to check off all of the necessary steps as we go. (Danita has even been known to carry around a copy of this book to customer sites to make sure nothing is forgotten). So, do not feel like you need to keep a lot of information to perform an upgrade in your head. Keep a copy of the upgrade guide close at hand, and refer to it often during your upgrade, and you'll be less likely to run into trouble.

Be certain to check the Errata Page for this book (http://www.caledonia.net/wiki/public/) prior to your upgrade to see if there are any important updates to the process that might not have been available when you downloaded the guide.

Server Requirements

We'll start with the technicalities! What do you need to be able to perform this upgrade? For the most part, your GroupWise 8.0 or higher server is likely to be adequate for your upgrade, but let's look at what Novell says you need (and what our recommendations are).

All Servers	64-bit/x86 processor
Any of the following, updated to the latest Support Pack*	
Linux	SUSE Linux Enterprise Server (SLES) 11, Novell Open Enterprise Server (OES) 11
Windows	Windows Server 2008 R2, Windows Server 2012, or Windows Server 2012 R2, all with the latest Service Pack
NetIQ eDirectory™ (optional)	8.8.7 or later, plus the latest Support Pack, with LDAP enabled
Microsoft Active Directory (optional)	

Memory and disk space requirements are not substantially different than prior GroupWise server requirements. There are a few agent components and options that can either be installed by default (for example the document viewer agent at the POA) or additionally (such as the

Calendar Publishing Host). Generally speaking, however, you will not need to upgrade your current Linux or Windows servers in order to upgrade your GroupWise systems so long as they meet the above requirements (although many sites take the opportunity to do so during the GroupWise upgrade).

You might have noticed a few interesting items in the table above. Let's talk about a few things to do with the servers:

- 64 bit OS is now required. Thus, regardless of the other hardware specs of your servers, if you are still running a 32 bit OS you will need to "migrate" your data from your current server to a 64 bit OS.

- For Linux, GroupWise 2014 is supported on SLES 11, which also means OES 11.

- NetWare is no longer an available option for GroupWise 2014 server OS. (This was discontinued with GroupWise 2012.)

Administration Requirements

ConsoleOne is not supported for GroupWise 2014 administration. As long as you have a mixed environment, you will need to keep ConsoleOne around for some administration of domains that are older than GroupWise 2014. Novell cautions against using ConsoleOne against a GroupWise 2014 domain. That said, you will need to keep ConsoleOne with GroupWise snapins around for managing Document Management Properties. We will discuss this later in the section entitled *"What about Document Management?"*

While there are many supported browsers for the Administration Console, in our opinion you will be happier if you simply use Firefox and do not try to force the issue with any other browser. That said, we've tested with Chrome and IE11. Safari on the Mac is a problem, because it seems to want a client certificate, even though one is not required, and in our testing no amount of offering a client certificate seems to be accepted.

There are some command line utilities that must be run for administration. On Linux it is best if these are run as root.

WebAccess/Monitor Application/Calendar Publishing Host Requirements

While GroupWise specific agents require a 64 bit processor, the Web based services such as WebAccess, Calendar Publisher and Monitor Application can be run on a 32 bit server – that assumes you still have any of those around!

For the Web Server running the WebAccess Application, Monitor Application, or the Calendar Publishing Host you will need one of the following:

SLES 11/OES11

Apache 2.2 plus:

- Tomcat 6.0 or later (this will be added by the GroupWise installation routine if required.)

- IBM Java 6 Runtime Environment (JRE)

- ModProxy Module

Have your Linux repository available when you begin your installation of these products. If any required files are missing during the installation, they will be installed as needed. However, if you do not have the repository available when you begin the installation, you will need to cancel the installation and make the repositories available before restarting the installation.

Windows Server 2008 R2/2012/2012R2

Microsoft Internet Information Server (IIS) 7 or later plus:

- Tomcat 6 or later

- IBM Java 6 Runtime Environment (JRE)

- Jakarta Connector 1.2 or later

- ISAPI Support

You must manually install IIS with ISAPI support prior to the GroupWise 2014 WebAccess installation. All other items above will be installed by the GroupWise installation routine if necessary.

GroupWise Client Requirements

For the GroupWise client, a few things have changed that are important.

Windows

Here are the specifics for the 2014 client:

- Windows XP SP 3 or better, on a 300 MHz or higher workstation with at least 128 MB of RAM

- Windows 7 on a 1 GHz or higher workstation with at least 1 GB of RAM

- Windows 8 or Windows 8.1 on a 1 GHz or higher workstation with at least 1 GB of RAM

Note: Windows 8 or later on a Microsoft Surface Pro tablet is not supported for use with the GroupWise client. Use GroupWise WebAccess instead.

- 200 MB of free disk space on each user's workstation is recommended to install the Windows client.

Linux

Novell has not updated the Linux client for GroupWise. You can use the GroupWise 8.0.2 HP3 Linux client. The only supported platform is SUSE Linux Enterprise Desktop 10. We have tested the client on various OpenSUSE versions, and even SLES 11, and it seems to perform

properly. That said, however, remember that the only supported platform is SLED 10. The client will run with either KDE or GNOME.

Mac

Again, Novell has not updated the GroupWise Mac client with GroupWise 2014. You can continue to use the GroupWise 8 Mac client. Interestingly, the Mac client seems to run on the most diverse versions of the operating system when compared to either Windows or Linux! You can run the GroupWise 8 Mac client on:

- Mac OS 10.4 through OS 10.9 Mavericks

If you are using the GroupWise Mobility Service, your Mac users might be interested in trying out TouchDown for Mac by Nitrodesk. Find out more here - http://nitrodesk.com/macplatform.html

Software Distribution Directory

The Software Distribution Directory is no more! GroupWise 2014 totally does away with the Software Distribution Directory. This means that those of you who never use it will be able to delete it from your systems with impunity! For those of you who actually used the SDD, you will still be able to perform auto-update. The procedure has simply changed. Also, you can use SetupIP or a desktop management program such as Novell ZENworks Configuration Management to roll out your clients.

WebAccess Changes

If you are upgrading a system older than GroupWise 2012, before you begin your upgrade, you need to understand some very fundamental changes to WebAccess. Prior to GroupWise 2012, WebAccess always consisted of two components: The WebAccess Agent, and the WebAccess Application. The WebAccess Agent (GWINTER) was a WebAccess component that acted as a GroupWise client which gathered information from the POA and supplied the information to the WebAccess Application (the web server component). GroupWise 2012 eliminated the WebAccess Agent altogether. The GroupWise 2012 and newer WebAccess Application communicates directly to the POA via the SOAP protocol.

Because of these changes, a GroupWise 2014 WebAccess installation cannot talk directly to older GroupWise Post Office Agents. Only a GroupWise 2014 POA "speaks" the proper SOAP language that the WebAccess Application will understand. This poses some challenges to sites with many post offices that will be upgraded over an extended period of time. If you will not be upgrading all of your post offices within a short time frame (perhaps a long weekend when you can indicate that WebAccess will be largely unavailable to users), you will need to either leave your WebAccess installation at your current GroupWise version, or you will need to provide for two separate web servers to serve as WebAccess applications for your current GroupWise version and for GroupWise 2014. There are settings for the GroupWise 2014 WebAccess Application that will allow it to serve as the default WebAccess entry point into your system, and then redirect older users to the appropriate web server hosting the GroupWise WebAccess Application for your current GroupWise version.

Like GroupWise 2012, the GroupWise 2014 WebAccess does not include the WebPublisher functionality. If you need WebPublisher, you must retain an older WebAccess installation for your existing GroupWise version to continue to provide the services of WebPublisher.

Of special note, the GroupWise WebAccess Agent had a section for controlling user access to WebAccess. Now that there is no WebAccess Agent, these settings are controlled by settings in the webacc.cfg file and the **gwac.xml** file. It is very important if you have access control settings in your GroupWise 8 or earlier WebAccess Agent that you export these prior to beginning your upgrade.

We will go over the details in Upgrading Your GroupWise WebAccess later in this guide.

GWIA Considerations

Upgrading your GroupWise Internet Agent is a fairly simple process. However, there are some challenges that are presented if you intend to have a "mixed" system (i.e., GroupWise 2012 AND older post offices) for any length of time. Here are the issues at hand:

- Your GWIA cannot be upgraded to GroupWise 2014 until the domain that owns it is upgraded to GroupWise 2014.

- When using the GWIA as a POP3 or IMAP4 "client", it is actually a client. You cannot access a GroupWise 2012 or earlier post office with the GWIA via IMAP4 or POP3, If it is attempted, you will see a "login failed: D058" in your GWIA log.

- On the other hand, if the GWIA is being used only for SMTP services, there are no issues with a mixed system.

So, as you can see, it's a good idea to get your post offices upgraded to GroupWise 2014 on a scheduled roll-out so that you are not surprised by any of the possible issues with mixed post offices. That said, many sites operate in a "mixed" system quite nicely for an extended period of time. You must simply make sure that your plans take the above caveats into account. If you need to have POP3 services for all users in your system, you might consider having two GWIAs - one for the GroupWise 2014 users, and one for your older post office users. If you are using IMAP4, you might consider opening up IMAP4 directly from the post office agent, rather than using the GWIA if you have a mixed system (versions 6.0 and later of GroupWise allow for IMAP4 at the post office agent).

What about Document Management?

Prior to GroupWise 2014 we would get asked about this at almost every upgrade, and our answer was always "Novell has not made any enhancements to GroupWise Document Management, but the functionality is generally the same". We cannot say that for GroupWise 2014. It is true that Document Management still works in GroupWise 2014. It is true that you can create new Libraries in the GroupWise Administration Console. It is true that you can manage all of the Rights and run Library Maintenance through the GroupWise Administration Console.

There are some definite changes that you need to be aware of though!.

Document Properties Maintenance

There is no facility in the Administration Console to edit the Document Properties for GroupWise Libraries. There is also no facility for this in ConsoleOne on Linux. In order to edit the properties, you must run **gwdpmb32.exe** on Windows. This is found in the **c:\novell\consoleone\1.2\bin** directory on a server or workstation where ConsoleOne with the GroupWise snapins is installed.

There is no requirement that you be logged into eDirectory to run this application. It DOES have dll dependencies provided by the Novell Client installation. Thus, you will need a PC or Windows server with the Novell Client loaded, with access to the Post Office directory in order to run this application.

If you are attempting to run this application on a 64 bit Windows server (and we'll bet you are!), you must add the **gwdpmb32.exe** application to your list of excluded programs in the Data Execution Prevention list. To do this, follow these steps:

1. Go to Control Panel | System | Advanced System Settings

2. Click on the Performance button.

3. Click the Data Execution Prevention tab.

4. If DEP is enabled, you must change the setting to "Turn on DEP except...."

5. Add c:\novell\consoleone\1.2\bin\gwdpmb32.exe to the list of exceptions.

To launch the application, run

c:\novell\consoleone\1.2\bin\gwdpmb32.exe /po=<PathToPO>

so, for example,

c:\novell\consoleone\1.2\bin\gwdpmb32.exe /po=d:\grpwise\pos\calpo
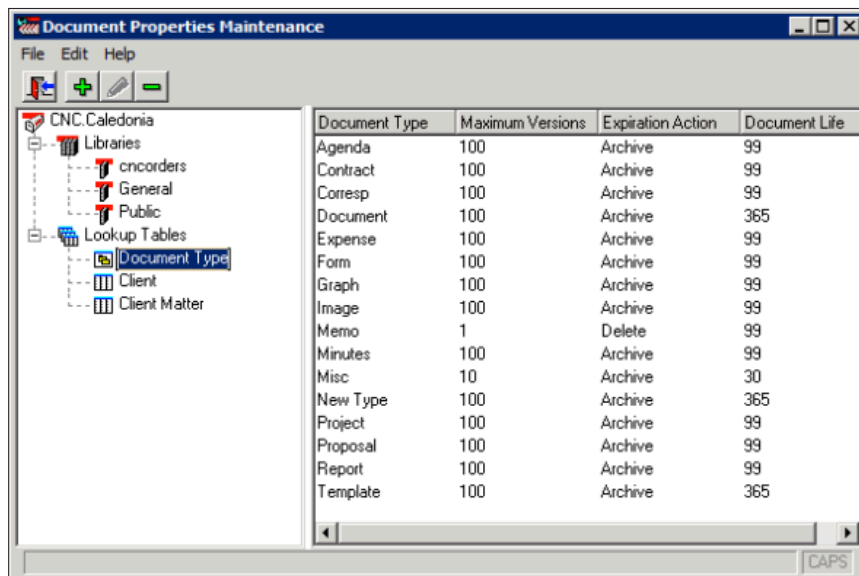
Figure 2-1: Running the Document Properties Maintenance Stand-Alone

No Application Integrations

The GroupWise 2014 client no longer provides any ODMA integrations for applications. Here are the ramifications of this:

- Users must create all new documents from the GroupWise client. There will no longer be the ability to save a document directly into the GroupWise client from once integrated applications like Word, WordPerfect, etc. (i.e., Save or Save As will no longer invoke a GroupWise save dialog).

- Documents must be opened from the GroupWise client. There will be no ability for a user to be in Word, for example, and choose File|Open and see a GroupWise dialog.

- Since ODMA integrations are no longer present, a user cannot rename a GroupWise document without breaking the link to the library. For example, if a user opens "Letter to Danita" into Word from GroupWise, makes changes and then saves the document as c:\temp\lettertopaul.docx, this document will no longer be in the GroupWise library. The GroupWise client monitors the document that was opened to the temp directory through the library, and when you close that file it is returned to the library. The file name is a very important part of this process.

If you rely heavily on GroupWise Document Management with Application Integrations, you may need to keep your current GroupWise client until users can be properly trained.

Enabling the HTTP Monitor for Your Agent

We have found that there are many GroupWise sites where the HTTP (Web) Monitor is not in use. Especially with GroupWise 8 and later, these HTTP Monitors have become more and more important. If you define a userid and password for the HTTP Monitors, you can perform all of the functions that you used to perform at the GUI Consoles for your agents, as well as new functions that were not available on the GUI Consoles. If you do not have your HTTP Monitor enabled, now is a good time to do so.

In ConsoleOne, click on the GroupWise System Globe, and perform the following steps:

1. In the dropdown list that typically shows "Users", change the setting to "Message Transfer Agents."

2. Find the MTA for your domain, right-click and choose Properties.

3. Now click on the triangle in the GroupWise tab and change to Network Address.

4. Make special note of the HTTP port that is defined for this agent. By default, the HTTP port for the MTA is 7180. For the POA, the default port is 7181. 9850 is the default for the GWIA.

5. If there is nothing in the HTTP port field, put 7180 (or another port of your choosing).

6. Now, on the GroupWise tab, change to the Agent Settings screen. Scroll down to the HTTP Monitor settings. If you have never enabled the HTTP monitors for your agents, you will need to decide on a good userid and password for the HTTP monitors. Please note that this is neither an eDirectory user nor a GroupWise user. This is an entirely made up user and password solely for the use of the HTTP monitors. If all administrators in your organization will have rights to use the HTTP monitors, then it is a good idea to have the same userid and password for all agents. If you need to limit rights to some agents to various groups, set up a userid and password for each group of agents that will be monitored. Enter the userid and password that you have decided on here in this screen.

7. Save your changes.

You should do this for all of your agents prior to beginning your upgrade so that you have access to them immediately after the upgrade if necessary. If you forget to do this, and they are needed during the upgrade, we will show you how to start the agents from the command line using the appropriate http monitor switches.

GroupWise High Availability Agent Considerations

If you are using the High Availability Agent, the settings will not come over after the upgrade. Thus, before you even install the GroupWise Administration Service, you must copy your High Availability settings so that you can re-enable the GWHA afterwards.

Edit the /etc/init.d/grpwise-ma script and find your MA_OPTIONS settings. For example, ours are:

> **MA_OPTIONS="--hauser gwha --hapassword gwhapassword --hapoll 120 --httpagentuser gwweb --httpagentpassword gwweb --httpmonuser gwmon --httpmonpassword gwmon"**

Save this information in a text file for use in *"Re-enabling the GroupWise High Availability Agent"* on page 214.

Verifying MTA Network Settings

When we install the Administration Service in the following chapter, the MTA network settings for your domains will be very important.

In ConsoleOne, click on the GroupWise System Globe, and perform the following steps:

1. In the dropdown list that typically shows "Users", change the setting to "Message Transfer Agents."

2. Find the MTA for your domain, right-click and choose Properties.

3. Now click on the triangle in the GroupWise tab and change to Network Address.

The Admin Service will use the network address as defined on this page. If the network address is using an IP Address, then any time you are required to access the admin service during a system modification, you will need to use the IP Address. If the Network address is defined using a DNS name, then anytime you will be required to access the admin service you will need to use the DNS name. This will pertain to tasks such as adding or upgrading secondary domains or post offices that are not on the same server as the Primary domain, and installing the plugins for MMC or iManager.

Modifying Linux Network Settings

When configuring the network adaptor on SLES/OES, there is a setting in the Network Settings that reads "Assign Hostname to Loopback IP".
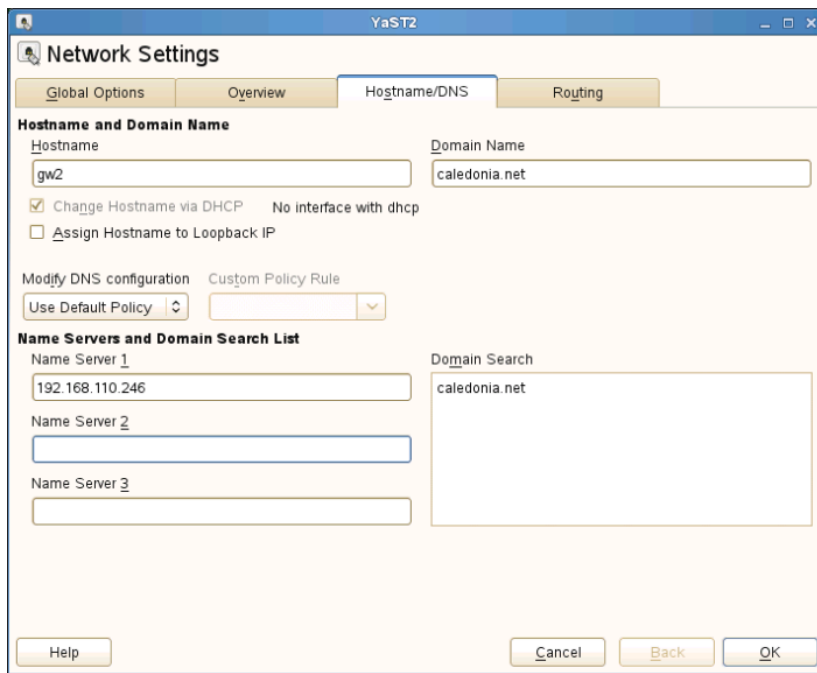
Figure 2-2: Linux Network Settings

On Linux (SLES and OES) do not configure the network Card with this setting enabled. If you do, the loopback address will become the IP Address that the Admin Service binds to *("Installing the GroupWise Administration Service"* on page 37), and this will prevent you from accessing the Admin Service from any process other than the Administration Console. This would affect iManager Plugin, MMC Plugin, the WebAccess Administration Console, etc.

A Quick Health Check

We hesitate to insist that major GroupWise maintenance be performed on your GroupWise system prior to the upgrade. You should ensure that your GroupWise system is in good working order, but because we feel that this should be done routinely anyway, and should not be left until the week of your upgrade! That said, there are a few things that you can do to make your GroupWise upgrade less stressful.

- Clean up your GroupWise system. Quite honestly, there is no real technical reason to get rid of old users, empty trash and implement cleanup options, but it's a perfect time to do so if you need to. Users are typically much more open to making cleanup changes when an upgrade is pending, simply because they accept that "changes" are coming and that might mean they need to help make the upgrade a smooth operation.

There are licensing changes that will affect some sites regarding inactive accounts. If you have inactive accounts and wish to avoid paying for "inactive" GroupWise licenses, you may wish to archive the inactive accounts and delete them. It is not our intention to fully discuss GroupWise licensing policies, as we do not sell GroupWise product, and are certainly not the experts. Contact your GroupWise sales representative if you have any questions on licensing.

- Additionally, if you intend to integrate your existing eDirectory or Active Directory (yes, you read that right - GroupWise 2014 can integrate directly with Active Directory) with GroupWise, having a lean and clean directory will simplify some of the integration steps later. See the section below entitled *"Preparing Your LDAP System"* if you do intend to integrate and maintain the synchronization connection between your current eDirectory tree and GroupWise 2014.

- Run some basic GWCheck procedures. We know that you are running routine structure and contents checks on your post offices, but it's a good time to make sure that your routines are running properly, that there are no oddities in the logs, and that you are ready to upgrade!

- Verify that all links between MTAs and POAs are open and communicating properly.

Preparing Your LDAP System

GroupWise 2014 has new "directory" options, which we will discuss in detail in the Chapter entitled *"Directory Integration and Synchronization"* If you intend to continue to synchronize eDirectory with your GroupWise system, long-term, or just short-term while you transition to Active Directory, it is recommended that you verify that your GroupWise system is configured properly for LDAP synchronization. This is not the same thing as LDAP authentication (although LDAP authentication to eDirectory provides some of the pieces we need). LDAP synchronization is the mechanism that keeps the GroupWise address book synchronized with changes made in eDirectory (for example, changing a user's phone number, department or address, etc.). LDAP sync also permits the publishing of users' e-mail addresses back to the directory.

By default, MTA Directory Sync is not enabled with GroupWise 2012 and prior systems. eDirectory Sync at the MTA was only needed in the case of modifying eDirectory address book attributes outside of the GroupWise enabled ConsoleOne. So long as every administrator used ConsoleOne with GroupWise snapins, eDirectory changes such as phone numbers, street address, department and other eDirectory fields were automatically written to the **wpdomain.db** file and then spawned out to the other domains and post offices in the system. If, however, someone were to modify these directory fields in iManager, or use a third-party help desk tool that was not GroupWise aware, the MTA could synchronize the system during a daily scheduled event. Because MTA synchronization was disabled by default, and because it was only needed in specified instances, many systems are not enabled for eDirectory Synchronization.

If you have no need for further eDirectory synchronization (for example, you are moving to Active Directory, or you wish to dissociate your users from the eDirectory and run GroupWise as an entirely stand-alone system), then the following steps are not necessary for your installation. You can skip this section and continue on with *"The Upgrade Overview"* on page 22.

If your current system meets the following criteria, you may want to complete this section to ensure your LDAP Synchronization is properly set up and operational.

Note: While you can integrate your upgraded GroupWise system with your eDirectory LDAP server after the upgrade, it will require a few extra steps. It's better to get it done in your existing system.

- Your system will remain on eDirectory.

- You are running GroupWise 6.5 or later on Linux

- You are running GroupWise 8 or later on Windows

If your system is on NetWare, or does not meet the Windows criteria above, you will need to perform the post upgrade integration of eDirectory. Your NetWare MTA may even be properly set up to do eDirectory synchronization, but it does not use LDAP as the mechanism. Thus, a perfectly configured NetWare system will still need some re-configuration once you have migrated and upgraded to GroupWise 2014. So, if your GroupWise system is on NetWare, or a Windows version prior to GroupWise 8, you should skip this section and jump on down further in this chapter to *"The Migration and Upgrade Overview"*. After your upgrade, you can go to *"Correcting a Failed Directory Integration"* on page 105 to deal with eDirectory Integration.

Testing Your Current System

Since there are many steps involved with setting up eDirectory synchronization, before you dive in it's probably a good idea to see if your current system is already properly configured. eDirectory Synchronization is a Scheduled Event that is created for an MTA object. However, having the MTA Scheduled Event enabled is only one small step in the configuration. In fact, this event is enabled by default, so many sites just assume that eDirectory synchronization is always working. A very simple check would be to use iManager or a version of ConsoleOne without GroupWise snapins to edit the phone number field for a user today. Tomorrow go into the GroupWise Address Book in your client and see if the phone number has changed for the GroupWise Address Book. If it has, then eDirectory synchronization is activated and working. If it has not, then you can follow the steps below to configure and test eDirectory Sync. Now remember, if you have **NetWare** MTAs in your system, the above test may very well work, but it would still not necessarily be configured properly, unless you also have Linux/MTAs also performing the sync. Also, if you are using other tools like the IDM driver for GroupWise, you could see your changes sync to GroupWise and assume that GroupWise's own eDirectory synchronization is making the changes. If you have any doubts about the configuration, then the next steps should be completed.

Check the MTA Platform Settings

1. In ConsoleOne, click on the Primary Domain in the GroupWise View. The reason we specify the Primary Domain is that since you must upgrade the Primary Domain first, it's just less confusing to configure this MTA prior to your initial domain upgrade.

2. Change the item dropdown to Message Transfer Agents.

3. Choose your MTA and edit the properties.

4. Verify that your Platform is correct. We find that many times systems have been moved from NetWare to Linux or Windows, but the Platform for the agents was not modified. Having the wrong platform designation here can cause the synchronization setup to fail.
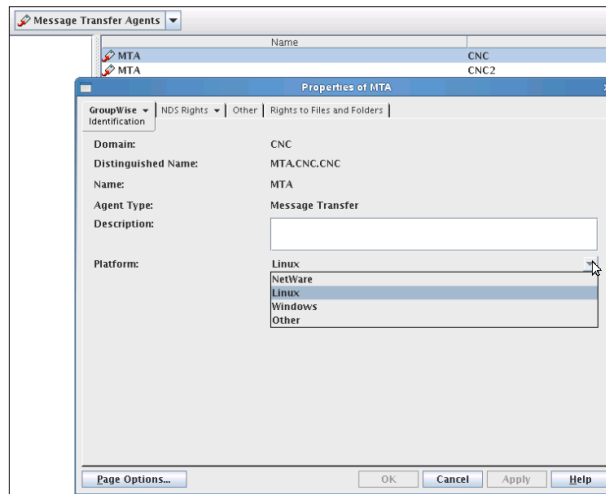
Figure 2-3: The MTA Properties

5. Save the change.

Check or Create your LDAP Server

Once your MTA platform has been verified, we can continue.

1. In ConsoleOne, go to **Tools|GroupWise System Operations|LDAP Servers**. If you have never used LDAP Authentication for your users, or if you have never set up eDirectory Synchronization for a Linux or Windows MTA, this window might be empty. If LDAP servers exist in this section, and you are using LDAP authentication for your users, then we can generally assume that the LDAP servers are properly configured, and you can move on. If not, perform the steps below to define your eDirectory LDAP servers.
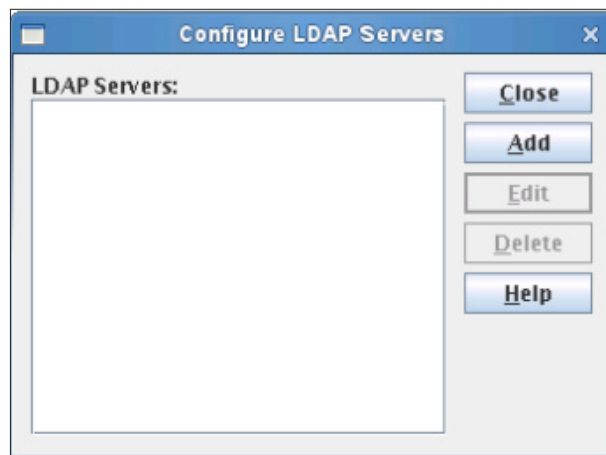
Figure 2-4: Empty LDAP Servers list

2. To add a new server, click Add.

3. Give your LDAP Server a name

4. If your server requires SSL for LDAP, check the SSL box and point to the server certificate key file for the LDAP server.

5. Enter the IP address for your LDAP server.

6. Most people will set their servers to Bind for the authentication method. This allows password restrictions to be honored for the logins.

7. Click OK

If you have a single tree for your GroupWise system, you will need only configure your primary domain MTA for eDirectory synchronization. If you have multiple trees represented in your GroupWise system, you will need to configure a separate MTA (and LDAP server) for each tree. Make sure you have LDAP servers for each eDirectory tree before you move on.

Check or Configure eDirectory User Synchronization

When you have finished the LDAP server configuration, go to **Tools|GroupWise System Operations|eDirectory User Synchronization**. You may see multiple MTAs listed here, but as mentioned, you only need to configure one MTA per LDAP tree in order to complete the tasks at hand. In our situation, our MTAs show disabled. Even if your MTAs show enabled, it is a good idea to check the settings.
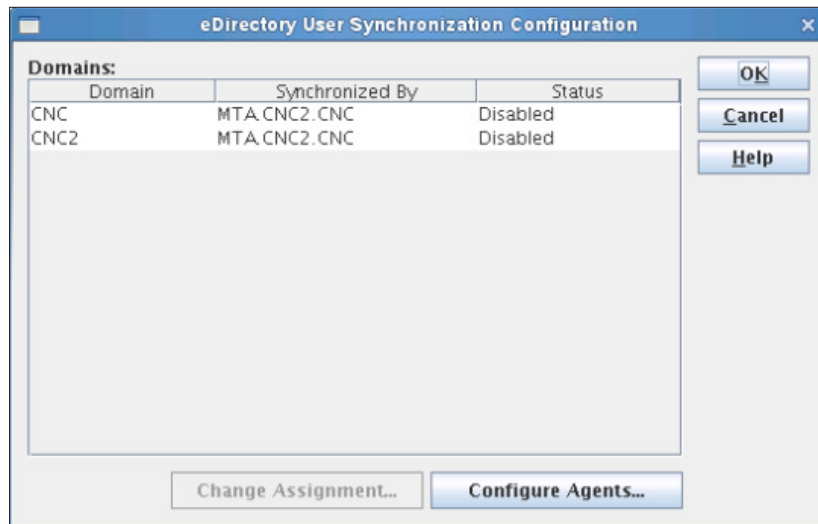
Figure 2-5: The eDirectory User Synchronization Configuration

1. Click on the MTA you wish to configure/verify and choose Configure Agents.

2. A list of your agents will appear. If you have never configured eDirectory synchronization it is likely that all of your agents will show "No" in the eDirectory Access. Regardless of the settings here (i.e., Enabled/Disabled or eDirectory access available/unavailable), choose your Primary Domain MTA and click Set Up eDirectory Access.
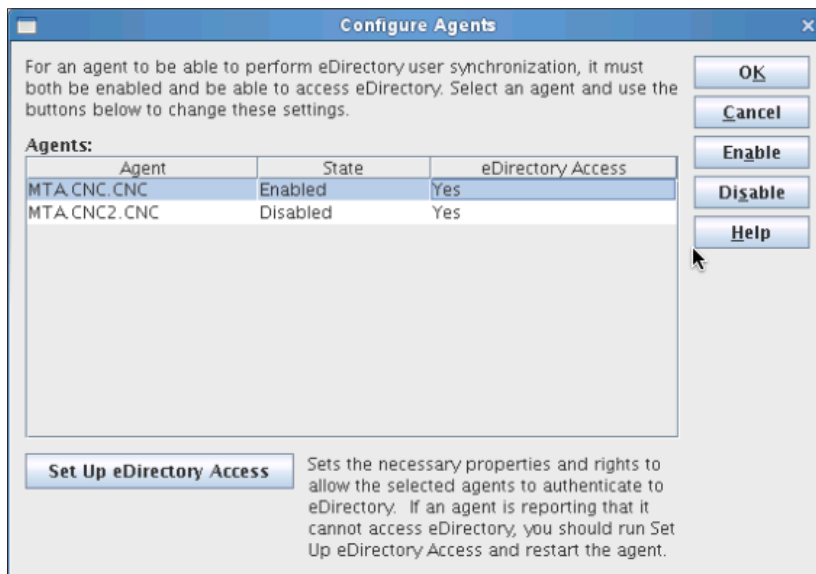
Figure 2-6: Configure Agents

3. You should see the figure in Figure 2-7 below. If you see the figure in Figure 2-8 below, your MTA is still identified as NetWare, and you will need to go back to the steps in *"Check the MTA Platform Settings"* above to modify the Platform and turn to this section. If your MTA really IS running on NetWare, then these steps are not useful to you. You should stop now and configure your eDirectory synchronization after the upgrade has been performed.
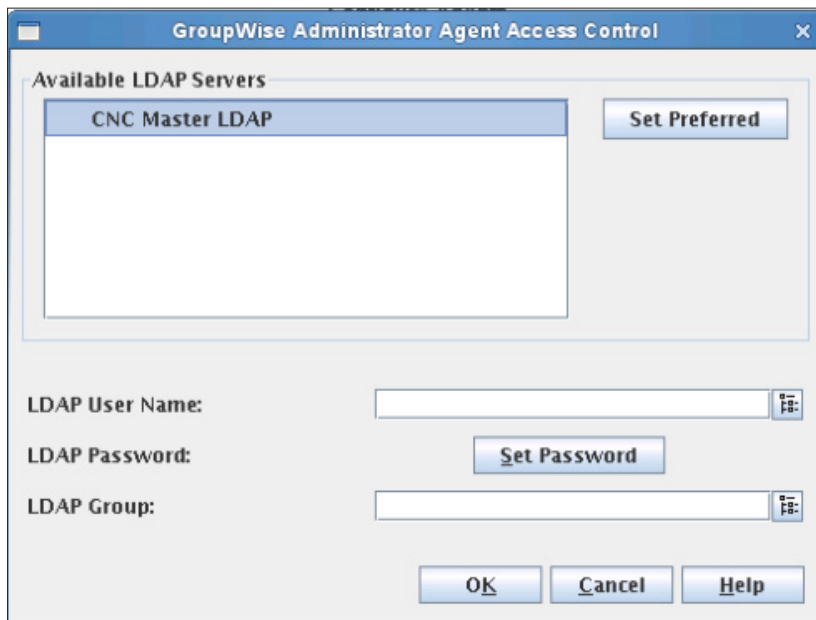
Figure 2-7: Agent Access Control
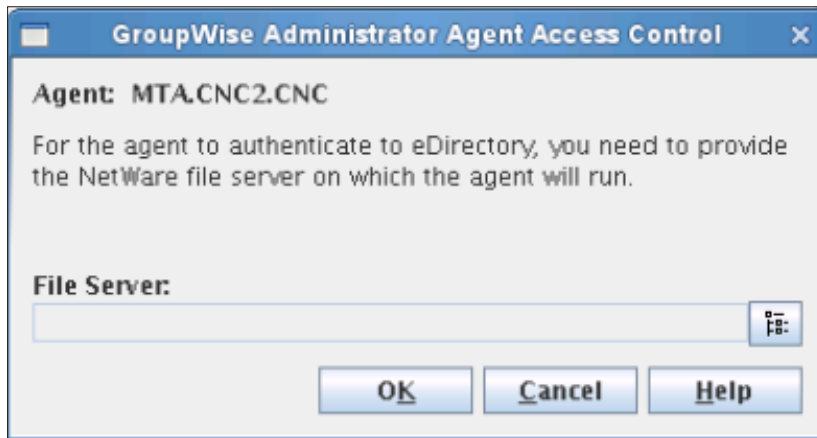
Figure 2-8: NetWare Agent Access Control

4. Choose the LDAP server you wish to use for Synchronization and click Set Preferred.

5. Browse for an LDAP user for a user who has browse rights to the user objects in your system, as well as create rights to user properties in order to publish email addresses back to the directory. We have listed the specific attributes affected in *"Directory Rights Requirements"* on page 87.

6. Browse to and select the LDAP Group for your eDirectory server.

7. Click "Set Password" and enter the password for the LDAP user you chose.
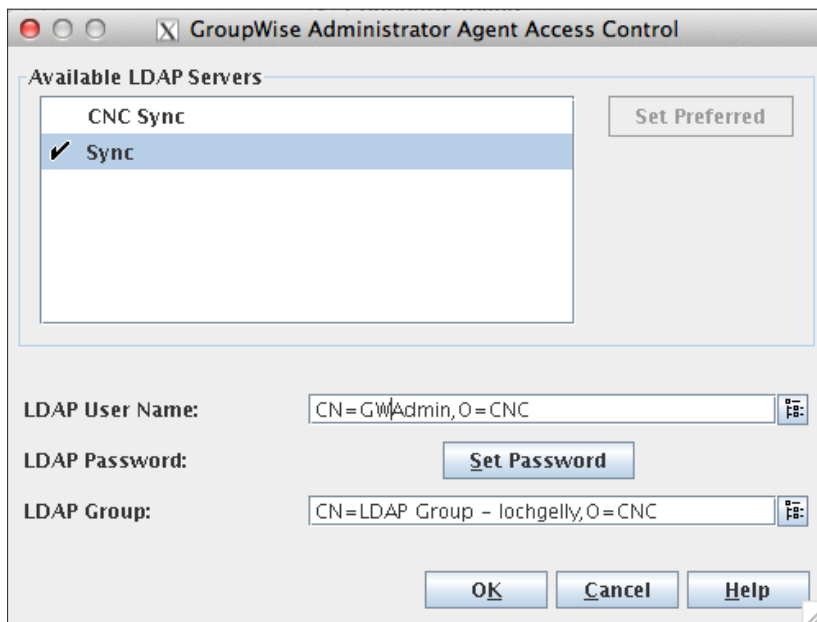
Figure 2-9: 9. LDAP Server Setup

8. Make certain that you click "Set Preferred" here. If there is not a check box next to your LDAP server, even if there is only one listed, your sync will fail.

9. Click Okay to return the MTA list. The eDirectory Access field for this agent should say Yes.

10. If the State is Disabled, click the Enable button.
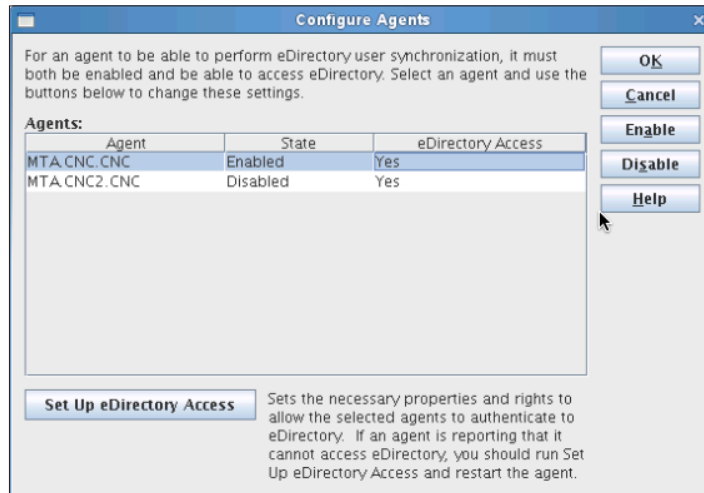
Figure 2-10: Enable your agent

11. You will be returned to the eDirectory User Synchronization Configuration screen. You may very well still see a status of Disabled.

12. Click Change Assignment

13. Click on your primary MTA that you have enabled above and click OK.

14. Now at your final screen your MTA should show enabled.
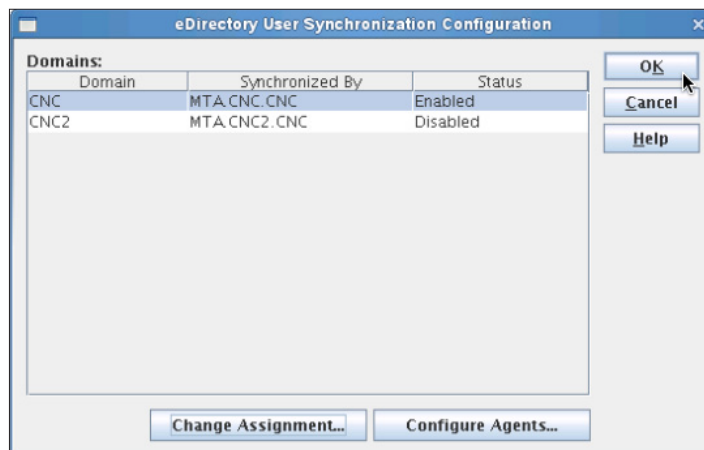
Figure 2-11: MTA is enabled

Check Or Configure Your MTA Scheduled Event

Finally we must check that a Scheduled Event is enabled for eDirectory Synchronization.

1. In ConsoleOne, click on the Primary Domain in the GroupWise View.

2. Change the item dropdown to Message Transfer Agents.

3. Choose your MTA and edit the properties.

4. On the GroupWise Tab, click on the triangle to the right, and select Scheduled Events. There will be an entry for Default eDirectory (or NDS) User Synchronization Event.

5. Click Edit to see the details.
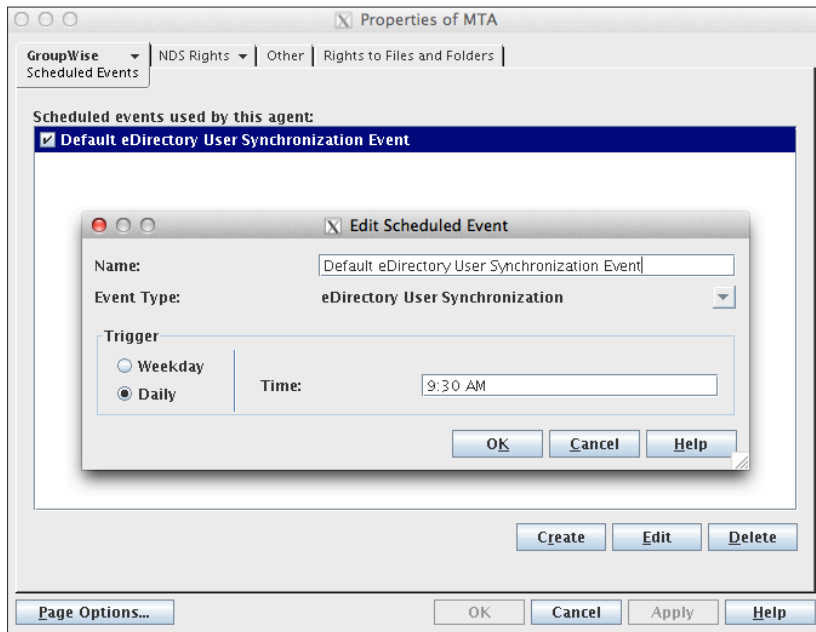
Figure 2-12: The Default eDirectory User Synchronization Event

The default for this event is 1:00 a.m. local time. In order to test this now, rather than waiting until tomorrow, you can change the time. We recommend that you make this at least 30 minutes in the future, to allow for other back-end synchronization processes to have occurred before you proceed. Ours has been changed to 9:30 a.m.

6. Click Okay, and make certain that the event is enabled (checked).

7. If you look at your MTA log, you will see a restart command, and then you should see an entry like this:

09:19:04 F4C5 Scheduled Event Settings:

09:19:04 F4C5   Today's eDirectory User Sync Event Times:

09:19:04 F4C5   09:30:21

If you do not see the restart command, it is helpful to manually restart the MTA.

8. Use iManager or ConsoleOne without any GroupWise snapins to change something that needs to synchronize to GroupWise. For example, a phone number.

At the appointed time (9:30 a.m. in our case), your MTA verbose log should show something similar to the following:

09:30:21 F3C7 Start eDirectory user synchronization.

09:30:21 F3C7 Connecting to LDAP server Sync at address 192.168.110.210

09:30:21 F3C7 Checking Beta

09:30:22 F3C7 Checking Caledonia

09:30:22 F3C7 Sync Users for Domain: Caledonia

09:30:22 F3C7 Checking post office: Highlands.GW-Cal.CNC.CNC

09:30:22 F3C7 Checking Caledonia.Highlands.Nessie

09:30:22 F3C7   Update NGW: GroupWise ID:Diane.CNC

.

.

09:30:23 F3C7 Checking Caledonia.Highlands.Dominique

09:30:23 F3D7   Update Telephone Number:555-555-7368

09:30:23 F3D7 Checking Caledonia.Highlands.Joe

.

.

09:30:24 F3C7 eDirectory user synchronization finished.

Now, when we later perform our upgrade, your eDirectory synchronization should be properly configured automatically.

The Migration and Upgrade Overview

In this guide, we will essentially be moving your GroupWise system from one server to another, and then installing and configuring GroupWise 2014, which will allow us to upgrade the system on the new server without first installing your older version of GroupWise. Most of you have probably purchased this "Migration" version of the guide because you are moving your system from NetWare. These steps also are relevant for simply moving your system from an existing Windows or Linux server to another Windows or Linux server. For the most part, you can replace "NetWare" with any server OS for the instructions in this guide. If something is specific to any OS, we will point that out.

While we often caution customers about doing a migration and upgrade at the same time, the retiring of NetWare as a GroupWise server OS forces us to just move forward! This also holds true with versions of Linux and Windows servers no longer being supported, so we anticipate a lot of "migrating/moving" of systems with this upgrade.

Occasionally we are asked about the idea of creating a new domain on Linux or Windows and moving users from the existing GroupWise server. Depending on the size of your system, this may be a reasonable method of moving to a new server, especially if you are wanting to reorganize your system at the same time. While moving individual users has some hazards of its own, it is possible.

In the past, we have discussed another possible strategy in moving from NetWare to Linux or Windows by moving some of the "system components" like WebAccess and the GWIA to start with. This was especially useful for sites moving to Linux, if the IT staff was not as familiar with Linux might be desired. However, this is not as easy in our current situation. As we discussed earlier, the GWIA and WebAccess can only be upgraded early if you will be providing an older POP3/IMAP4 GWIA and WebAccess for GroupWise users not yet upgraded to GroupWise 2014. Moving only these components during a migration is not as appealing as it once was.

Let's look at a few scenarios for our migration and upgrade.

Small, Single Server System

First of all, we always recommend that you have at least two GroupWise domains for redundancy. So, if your single server system only has one domain, during your migration and upgrade you might consider creating a new domain for your GWIA on a separate server to satisfy this recommendation. If you truly can only dedicate one server to your GroupWise system, you can run two MTAs on the same server to allow for a second domain. This, of course, does not give you the same type of redundancy, but can provide a backup of your domain in case of database corruption that cannot be otherwise restored.

In any event, if your GroupWise system is contained all on a single server, you will need to plan to perform your entire upgrade (except for the clients) in a single sitting. It is vital that all components of the GroupWise system that reside on the same server be upgraded at the same time. Thus, if you have a small system, you would go through the steps of:

"Installing the GroupWise Administration Service"

"Moving a GroupWise Domain" for the Primary Domain along with the GWIA.

"Upgrading GroupWise Domains" for the Primary Domain along with the GWIA.

"Directory Integration and Synchronization" to verify that your Directory Integration has succeeded and correct any errors.

"The GroupWise Administration Console" to familiarize yourself with the Administration Console

"Moving GroupWise Post Offices" to relocate your post office(s) to the new server

"Upgrading GroupWise Post Offices"

"Upgrading GroupWise WebAccess"

"Upgrading GroupWise Monitor"

"Upgrading the GroupWise Calendar Publishing Host"

"Upgrading GroupWise Clients"

Of course, you may not have all of those components in your system, but this is the order of installation that we recommend.

Small, Multiple Server System

If your GroupWise system is fairly small (perhaps even a single post office with primary domain and gateways on another server), you have some options.   Your first step of course will be to deal with upgrading your primary domain.

However, once you upgrade your GWIA and/or WebAccess, you will need to proceed quickly to your post office, so we recommend that you upgrade the post office(s) before you go to the GWIA and WebAccess if at all possible. Again, if you only have one domain, it would be a perfect time to create a second domain on one of your servers to provide redundancy, and perhaps allow you to upgrade your primary domain and post office well in advance of having to upgrade your GWIA.

Complex GroupWise System on Multiple Servers

If you have a very complex GroupWise system, you need to consider a few things that will crop up with the inevitability of not being able to upgrade all of your post offices at the same time. Here are the most important "gotchas" of a gradual upgrade:

- GroupWise 2014 clients cannot access older post offices. Thus, you cannot begin your client rollout before you actually perform the post office upgrade. This also means that GroupWise 2014 clients cannot proxy to an older GroupWise post office. If you have users on your GroupWise 2014 post offices that need to proxy to an older GroupWise post office, that particular GroupWise 2014 user will need to continue to use the older GroupWise client.

- If you use your GWIA for POP3/IMAP4 access, you will not be able to upgrade your GWIA to GroupWise 2014 until all of your post offices that service such users have been upgraded. In other words, a GroupWise 2014 GWIA running as a POP3 or IMAP4 server is a GroupWise "client" and cannot access older GroupWise post offices. We will discuss this in more detail in Upgrading Your GroupWise Internet Agent. You may need to provide for an older GroupWise GWIA for your users on older post offices if you wish to upgrade your GWIA before you upgrade all of your post offices. If you are accessing through IMAP4, you might consider allowing your GroupWise Post Office Agents to serve as IMAP4 servers for your GroupWise 6 and newer users, thus allowing you to upgrade the GWIA to GroupWise 2014 right away. There are actually very few good reasons to keep POP3 around (one of them being external processes that cannot use IMAP4). If you can convert all of your external access to IMAP4, moving the IMAP access to your POAs would definitely solve your migration issues.

- Web Access is also a "client", and as such a GroupWise 2014 WebAccess Agent cannot access an older GroupWise post office. If you can provide for only one WebAccess Application server, you will need to wait until all post offices are upgraded to GroupWise 2014 before you upgrade your WebAccess. If you can provide two WebAccess Application servers, you can create a new WebAccess for GroupWise 2014, and even use it as your "default" WebAccess location. If a user for an older GroupWise version connects to the GroupWise 2014 WebAccess, the user is redirected to the older WebAccess version. We will discuss this in more detail when we get to Upgrading Your GroupWise WebAccess later in the book.

So, it's time to get started. We would recommend that you read this entire book before you begin your upgrade. We will discuss issues throughout the book that can influence your upgrade plan, and it's best to look at all of the options before beginning.

Before we actually get down to the business of upgrading we need to discuss the new GroupWise Administration Service. The next chapter will be dedicated to that!

3 Preparing the New GroupWise Server

In this book we assume that you have already installed and prepared your new Linux or Windows server for the move of your GroupWise system.

While we do not intend to go through all of the steps of installing and configuring your new server, we will point out a few requirements and recommendations. The bulk of this chapter will focus on moving a GroupWise system to Linux, simply because for most non-Linux administrators this is more of a challenge. If you are a NetWare or Windows administrator, you already know how to map drives and access Windows. While we feel that the section below dedicated to understanding the benefits of Linux is useful for everyone to read, if you are set on moving your system to Windows (even just from one Windows server to another), you can skip to the section on *"Reusing an Existing Data Volume"* on page 35.

Why Move to Linux?

The following section is dedicated to primarily helping sites on NetWare make a decision between Linux and Windows for their new GroupWise servers. That said, there will also be sites currently running GroupWise on Windows servers that might choose to move to Linux. If so, this next section will be useful for them as well. In any event, we think this is an important section to ponder as you make your decision to more your GroupWise system.

There are really two components to the "why" of running GroupWise on Linux. One is the technical (i.e., how does running GroupWise on Linux benefit us from an IT perspective), and the other is more political or even emotional.

The Case for Linux

There are many reasons why Linux enthusiasts, consultants, Novell, and even IT departments tout Linux over Windows. Here are a few that are most often cited:

- Improved stability: Linux typically has fewer operating system faults of its own, and individual applications generally do not bring an entire Linux server down. Whereas on NetWare, an administrator could choose to run a particular application in its own address space to minimize the overall impact that an errant application might have on the server, Linux applications run this way by default. So if a particular application on Linux crashes, it is unlikely to bring the entire system down with it.

- GroupWise High Availability Agent: GroupWise on Linux has access to the GroupWise High Availability Agent, which allows GroupWise Monitor to work with the GWHA to ensure that agents are always running, and restart them if necessary.

- Better application fault handling and recovery: GroupWise agents restart in seconds on Linux. So, if you do have a post office agent or such crash, the high availability agent (or other script) can bring it back up quickly.

- Core files are generated very quickly as well. Each application on a Linux server can be set to generate a core file if you are having problems, and you can be back up and running within minutes (Novell says seconds, but we all know that humans also only work so fast!), and deal with getting the core file to Novell after everyone is back working in GroupWise.

- Database stability: According to Novell IS&T, they see far fewer database corruption issues in GroupWise databases due to hardware crashes or power problems. For whatever reason, Linux seems to manage "closing" GroupWise files more effectively during routine operation, and thus fewer files are left open to cause issues.

- Automation: While certainly some scripting can be used on Windows to provide ease of administration, this cannot come close to the flexibility of Linux to design management scripts, health check scripts, code deployment scripts, coredump management scripts, backup scripts and the like.

So, as you can see, there are many good reasons to move to Linux from a purely technical standpoint. However, the political and organizational reasons why a company moves to Linux are often more intangible.

The question of "why" an organization moves to Linux is very important, but often not given nearly enough thought in our experience. It's a given that if GroupWise currently resides on NetWare have to move somewhere. NetWare is no longer a supported platform for GroupWise agent components.

GroupWise is and has always been a somewhat rare exception to the Novell application offerings. GroupWise has always been available as a multi-platform product, and has been less tied to NetWare than any other Novell product (there are some other exceptions as well, but we aren't going to get into those!!). eDirectory is also available on multiple platforms, but it seems to always be less for its own sake than to allow things like GroupWise and other Novell applications to exist on other platforms. For example, while eDirectory runs on Windows, we know of very few sites that use eDirectory as the primary directory for their Windows only networks. When eDirectory appears on a Windows server, it's almost always to support a product like GroupWise without needing a NetWare or OES server in the mix.

There is no doubt that Linux is the true present and future of Novell products. That said, small companies where there is little or no Linux administrative experience should think good and hard about making this move before they are really ready. When customers ask us if they should move GroupWise to Linux, we have two important questions:

- Who in your organization knows Linux well enough to administer GroupWise on that platform?

- Why do you see moving to Linux as an important business decision?

Here are some of the most common scenarios:

1. We can't run GroupWise 2012 on Netware, so we must move. It doesn't matter that we have no Linux experience at all, our salesperson says it just needs to be done, and we'll be able to deal with it. Our secretary who knows how to reboot the NetWare server when we're having trouble will be able to do the same with the Linux server, won't she?

2. With the changes in GroupWise 2014, it's time to move on, and Linux seems the obvious choice. We're looking at moving things over slowly, perhaps promoting our GWIA domain to primary and upgrading it first, and getting our feet wet before we move our post offices to Linux. Our administrators are working with Linux in a testing environment, and we should be in a good position with our Linux knowledge by the time we complete our migration.

3. We have a comprehensive plan to move all of our mission critical operations to Linux. We have a lot of experience in the area. We have other applications and processes running on Linux now, so adding GroupWise to Linux will be easy for the Linux administrators.

Hopefully the GroupWise administrators will not have too many problems, but we have a good set of people to support them if there are issues.

4. We have our current GroupWise system on Windows, and wish to dismiss eDirectory altogether. However, we feel we could see some real performance gains with Linux, and wish to move our GroupWise system from Windows to Linux. We have administrators who understand Linux, and believe this could be a good move!

5. We have to do something. We don't want to move to Windows, we have to move GroupWise to something. We don't have much choice here, and I think we'll send the GroupWise administrators to a couple of Linux classes and then plan to get everything moved over during the upcoming long weekend about two months from now.

While you might think that the first scenario above is the most scary for us, it's really not as frightening a situation as you might think. Certainly, we have small GroupWise customers who have no network administrators or GroupWise administrators on site, and rely on consultants to handle all of their networking needs just like the customer in the first scenario. For those, generally NetWare is just as foreign a concept as Linux. They don't know Fat32 from NSS from NTFS; eDirectory from Active Directory. In many ways, for those customers, moving to Linux is all about the expertise of their consultants. If the consultant understands Linux, and can get to the office quickly when there is a problem, then the situation is not much different than with the current NetWare servers.

The second scenario is one that we like to see. For sites that currently have no Linux, bringing up a Linux server and installing a GWIA is very good practice, and gives the administrator something to cut his/her teeth on without having to worry about that all important post office with those databases full of information that we all need! Since GWIA SMTP is essentially a "pass through" process, there is very little catastrophic that can happen by moving a GWIA to a Linux server. Certainly, a site could experience some downtime of Internet e-mail if that new Linux server isn't well understood, but actual data loss is unlikely. Of course, if you wish to put WebAccess or a POP3/IMAP4 GWIA on Linux before you upgrade all of your post offices, you will need to leave your current POP3/IMAP4 GWIA and WebAccess in place to service those older GroupWise post offices until after the upgrade is complete.

Perhaps the most appealing and frustrating things about a move to Linux for folks in the second scenario is that like NetWare, once you get the Linux server installed and working to your satisfaction, it just seems to run. This is very appealing, because you don't worry that much about whether or not the system is working. It's also very frustrating though, because this also means that there is very little opportunity to learn by doing a process over and over again! Years ago, when we first began our work with GroupWise on Linux, it took us months to remember things as simple as how to install an RPM! Danita had to write everything down, and look at her notes constantly in the beginning, because it was often weeks, if not months between times that she needed to truly "fix" something on the Linux servers. She ended up formatting her laptop hard drive and installing Linux on it, with VMWare for Windows, so that she would have to be confronted with Linux every day in order to learn it. Not everyone will be as ambitious as that in order to learn Linux, but we have to say, it really worked! As a side note, while a Mac isn't Linux, you can learn a lot about Linux commands in the Mac terminal!

The third scenario is more common for large networks. We occasionally find a small to mid-sized company that has a good deal of Linux experience, but the typical organization that will have a lot of Linux experience on-site is a bit larger. The general downside with these installations is that the Linux administrator has a lot of Linux experience, but does not understand GroupWise, and the GroupWise administrator has a lot of GroupWise experience, but does not understand Linux. This can result in a lot of confusion in and of itself. So while this is generally a "happier" situation than some, it does not ensure clear sailing for the GroupWise migration. It will be necessary for the GroupWise administrator to learn some Linux in order to deal with management of the server, but it's a nice warm feeling to know that someone in the organization will be able to help with critical issues (and maybe even just some hand holding).

The last scenario seems to be the most disconcerting though. There are many sites that are feeling a "push" to do something. They have enough Novell enthusiasts on the team to avoid a move to Exchange, and feel like moving GroupWise to Windows would be a "step down" or maybe even opening a door to a future move to Exchange. They are accustomed to the ease of managing GroupWise, and somehow feel like it should just be a "breeze" to get to Linux. It's likely that no one in their office has ever touched Linux. While the perfect solution would be to hire a Linux administrator and bring him/her up to speed on GroupWise, that is threatening to the current administrators, and they are often willing to just say "I know I can do that" and then try to cram in as much Linux experience as they can in the next two months in order to avoid risking their authority in the department, or even their very jobs, by bringing in a new "Linux expert".

In these scenarios, we always recommend a step back, and an assessment of just what can be done in order to bring the situation under control. If there is truly good management support to bring in Linux, then we try to slow down the push for the ultimate move and recommend a graduated solution such as the second scenario above. In some cases, we will flat out recommend that the customer move GroupWise to Windows if the Linux skills of the organization seem minimal, with little likelihood of changing in the near future.

Now, let's be clear: We at Caledonia think that Linux is really the way to go for GroupWise. That said, however, there are some situations where a move to Linux just does not seem to make sense or even be prudent. In those cases, we caution customers against making rash decisions for the "big move" based on what "everyone else is doing". After all, we didn't all move to Exchange just because "everyone else is doing it". Thus, if moving GroupWise to Windows seems more reasonable for a customer, we have a section in this book for that as well!

Developing Linux Skills

The primary purpose of this Section of our book is to assist you in moving your GroupWise system to Linux. It is beyond the scope of this book to teach you everything there is to know about Linux! That said, there were be times when we give you hints about how to facilitate Linux commands, expound upon the differences between Linux mount points and mapped drives and drive letters, case sensitivity and other sundries. We will try our best to cover all of the "gotchas" of moving to Linux. You will need to bring a certain level of Linux expertise to this party though.

In our discussion above of the move to Linux, one of the major considerations was the Linux expertise of those in your organization who will be managing the GroupWise system. Unless you fall into scenario #1 above, having someone on your staff who really understands Linux is crucial. If you fall into either scenario #2 or #4 above, it's important to find ways to improve the Linux skills in your office. There are various ways to do this.

Using Linux to Learn It

As mentioned before, hands on use of Linux is by far the best way to learn Linux. Here are a few ideas about how to learn Linux better:

- **Put Linux on your workstation**: We know this seems to be the most drastic of any of the possibilities, but it certainly gets the job done. We have found that with Linux in a virtual machine on an administrator's Windows workstation, the administrator is rarely forced to use Linux. On the other hand, with Linux as the primary desktop OS, there isn't much choice but to learn to install RPMs frequently, learn Linux command line utilities, etc. Linux at the desktop is really the "fast track" to learning about Linux on a daily basis.

- **Put Linux in a virtual machine on your workstation**: You can either put a desktop version of Linux in a VM and try out things like the GroupWise client for Linux,

OpenOffice for writing reports, etc, or you could install a Linux server product into the VM and learn to install web server components, play with user permissions and the like.

- **Set up a full blown Linux test lab**: Some mid-sized to larger companies will not even consider their move to Linux for GroupWise without a full test lab. This is a very good way to get to know GroupWise on Linux before you actually make the move. If you have External Document Storage Locations for GroupWise Document Management, we highly recommend that you build a test lab and model your current system to ensure a smooth migration.

Studying Linux

There are many excellent resources for Linux available. We can't even begin to list them all. Novell has some wonderful self-study kits; there are many good Internet resources; books galore. Find something that makes sense to you and have good reference materials at hand so that you can look up issues when they pop up. Don't forget the folks at http://forums.novell.com to help with both GroupWise and Linux issues.

Special Considerations for Linux

Before we start, we will outline some of the special concerns about moving to Linux, and then we will start moving.

Here are a few things to consider before and during your move to Linux:

- You have two general options for GroupWise on Linux. You can choose SUSE Linux Enterprise Server (SLES) or Open Enterprise Server (OES). There are benefits to each, which will be discussed below.

- Linux has many more options for file systems, and depending on the version of Linux you use (SUSE Linux Enterprise Server or Open Enterprise Server) you will have different possibilities for file systems. We will discuss file systems in detail below.

- Linux is case-sensitive. GroupWise on Linux will expect all file names and directories to be all lower case. We will discuss options for getting there later in this chapter. Even if you choose to use NSS with Long Namespace, we still recommend that you follow the instructions to ensure your GroupWise databases are all lowercase.

- Linux isn't always easily accessible, at least not in the way you've become accustomed to with NetWare or Windows. Since GroupWise 2014 uses a web based Administration Console, this is not as important as in the past. However, as you will see in *"The GroupWise Administration Console"* on page 139, there will be times when command line utilities are needed, so at a minimum GroupWise Administrators will need terminal access to the GroupWise servers.

- Post Offices with DMS have three important issues to deal with:

  - Document Storage Locations need to be redefined when you move them. You must make sure to indicate not only the UNC value for the document storage location, but also the "Linux" location for the documents. (Some sites prefer to move their documents under the post office before making a move to Linux, and quite honestly, if this is at all possible, it is our preference at this time. We will discuss the pros and cons of this as well when we discuss moving GW DMS to Linux).

  - There is no Document Properties Maintenance applet available with GroupWise 2014. Thus, if you run GroupWise on SLES, you will need to enable Samba and access the post office via the Document Properties Maintenance application on

Windows to make changes to your document properties. If you are on OES, you can use NCP for access to the GroupWise databases.

- There is no GroupWise "Import/Export" applet for ConsoleOne on Linux. Many DMS sites use this tool for importing documents, fixing document number issues and the like. You would need to run ConsoleOne on Windows in order to use this applet. This, of course, would require that eDirectory remain in your system.

Once you have chosen your Linux distribution, you will need to make sure that a few items are installed when you install the server. While we do not intend to go through all of the steps of installing and configuring your Linux server, we will point out a few requirements and recommendations for the Linux server.

For OES, make sure that the following options are installed:

- NCP™ server
- eDirectory™
- Linux user management (if you wish to LUM enable your adminstrators for easy access to the GroupWise directories)
- ncpfs to move your GroupWise domain from NetWare (while there are other ways of accessing NetWare servers from Linux, this is still our preference, especially with administrators who might not be familiar with CIFS and the like on NetWare).

For SLES, make sure the following options are installed:

- ncpfs to move your GroupWise domain from NetWare (see above).

The Great Linux File System Debate

When moving to Linux from NetWare or Windows, perhaps the most confusing issue is which file system to use. While both Windows and NetWare have multiple file systems (NSS vs. Traditional, NTFS vs. FAT), it has become fairly common for sites to simply use NSS on NetWare and NTFS on Windows without much thought about it. Linux has many file systems. Here are some of the file systems you will hear about:

- EXT2
- EXT3
- XFS
- NSS
- BTRFS

Let's talk about each of these in more detail.

- **EXT2**: This is essentially the second generation of the "Extended File System" for Linux, and was the default file system for many distributions until EXT3 came along. It is still often used for boot partitions and places where journalling isn't terribly important.

- **EXT3**: This is the third generation of the "Extended File System" and includes journalling (i.e., changes are logged to a journal so that they can be replayed in case of a power outage or other failure, thus helping to prevent corruption in such cases). EXT3 is very popular and stable. It is, however, somewhat slow, especially when dealing with

a lot of very small files (which is a common situation for GroupWise). That said, EXT3 is Novell's stated recommendation for GroupWise 2012 systems.

- **EXT3 with HTree**: EXT3 has an optional function that creates additional indexes for the system, which can speed up the access of files tremendously. This would seem to be a very useful function for GroupWise. However, the nature of how these indexes are written worries the GroupWise developers. While some smaller sites have enabled HTree without incident, there continues to be some question as to whether data truncation is possible when HTree is used on EXT3. For this reason, Novell obviously discourages the use of HTree on GroupWise systems. We defer to the engineers on this one. Caledonia does not wish to be the "source of authority" that promotes HTree only to later find out that it causes even one customer to lose vital GroupWise data! Use something else. It is important to note that SLES 11/OES11 with EXT3 has HTree turned on by default.

- **XFS**: XFS is a robust file system that provides for very fast access for large file systems and large files. Many GroupWise sites use XFS and are happy with it. Novell supports it, but has not done extensive testing.

- **NSS**: Technically, NSS is only available on OES Linux (we say technically, because there are of course possible ways of compiling SLES to allow for NSS, but when we speak of NSS we typically expect that you are running OES). While NSS on OES1 posed some problems, not only for GroupWise, OES2 NSS seems quite stable for GroupWise systems. Some sites will be very tempted to use NSS if for no other reason than their current NSS partitions can easily be converted over to their new Linux system without having to actually "move" the data (i.e., the Linux server will simply read the NSS drive that was on NetWare before). That said, "converted" NSS volumes will suffer many performance problems that a new NSS volume, configured with GroupWise in mind would not have.

- BTRFS: Known colloquially as Butter FS, this system is also seen as an up-and-coming contender for GroupWise systems. Novell also has stated they will "support" BTRFS, but do not test it.

  Technically, while Novell Clustering Services is available for all supported file systems on OES 2, NSS will be the fastest for GroupWise in a cluster.

  Perhaps the one reason why we would love NSS is the option of salvage. However, Novell recommends that if you use NSS for GroupWise, you turn off salvage!

Our recommendation for the file system depends in good part on where the GroupWise data will reside, and which Linux OS you choose. Here are, then, our recommendation:

- NSS for OES
- EXT3 (no HTree) on SLES

NSS for OES

Our testing has shown that the following NSS setup is the best configuration for GroupWise:

- create a new NSS volume
- disable salvage at create time so no salvageable files will ever have existed on the volume
- change the default name space (again so none ever existed any other way) to UNIX
- enable the noatime option for your volume in /etc/fstab

> **volname vol_mountpoint nssvol noauto,rw,name=volname,noatime 0 0**

Our friends at NDS8 (http://www.nds8.co.uk) have seen as much as a 50% performance increase with this configuration over a "reused" NetWare NSS volume. So, while it is very convenient for sites moving from NetWare to Linux to not "move" the data, the very rich NSS features are largely unneeded for GroupWise, and there will be tradeoffs that might outweigh the initial time savings on the migration of data.

If you do choose to keep your current NSS volume, make sure that you do the following:

- Files and directories should be converted to all lowercase
- Turn off salvage completely
- enable the /noatime command in NSSCON

The conversion to lowercase can be done fairly quickly with free or shareware Windows utilities, or Linux scripts that change the case. We prefer a simple Windows utility called Change Case. It can be found at many download sites with a quick "google".

Even knowing that we recommend against it, some sites will choose to "reuse" their current GroupWise NSS volume to avoid the downtime of a copy of the data. It is beyond the scope of this book to cover all aspects of moving an NSS pool/volume from a NetWare server to a Linux server. There is ample documentation for this process found on the Novell documentation site at http://www.novell.com/documentation/oes2/stor_nss_lx_nw/data/bt8gbxo.html.

There is of course one other reason to put GroupWise on NSS on your Linux server, and that is simply "comfort level". Most NetWare administrators who are unfamiliar with Linux have a certain sense of security leaving their GroupWise systems on NSS. We are not going to argue with that!

All in all, NSS seems to be the best choice for GroupWise if you have it available, especially for clustering. It will be fast and stable. It will not, however, behave exactly as you are accustomed to on NetWare, especially if you take the recommendations to heart to pare down the NSS options for your GroupWise volume.

EXT3 for SLES

EXT3 is becoming the preferred file system for GroupWise on Linux when NSS is not available. It certainly has some speed issues, but we are not convinced that the benchmarks comparing EXT3 and other file systems are that noticeable in daily usage on GroupWise. Additionally, EXT3 is the default file system on OES 11/SLES 11 for native Linux partitions, and it is likely that this will remain the case for some time. There is one huge caveat that you must remember though: as tempting as the idea of HTree on EXT3 might seem, do not risk your GroupWise system to this indexing method. In the future, this could change, but as of the time of this writing, we cannot stress enough that this is a dangerous combination.

NOTE: Remember that HTree is now enabled by default, so you should consider this when creating your new volumes.

Understanding Linux Mount Points

As we discussed above, we are not going to "teach you Linux" in this book. There are, however, various Linux concepts and ideas that we will expound upon and Linux Mount Points is one of those concepts.

If you wish to copy data directly from a NetWare or Windows server to the Linux server, you need to be able to see the data on the NetWare or Windows server from the Linux server.

In the NetWare world, for a NetWare or Windows server to access a volume on another server, everything is done via UNC paths (**\\server\volume\path**), or NetWare pathing (such as **SERVER/VOLUME:\Path**). Windows can also use UNC paths for the connection, or map a drive letter to the remote location.

Linux doesn't really use UNC paths for anything. In order for Linux to access a file system on another server, Linux simply "mounts" that file system into its own file system hierarchy. In some ways, this is similar to how a Windows server (or workstation) might assign a drive letter to a volume on another server. If you mount **\\gwserver\gwvol\gwdata** to **g:** you now know that you can bypass entering all of the path to the server, and simply go to "**g:**" to access the GroupWise data volume.

Likewise, in Linux, a "mount point" is created for the **\\gwserver\gwvol\gwdata** location, and then you simply navigate to that directory on your Linux server and you see all of the files on the NetWare volume that you have mounted.

Traditionally, Linux puts all of the "external mount points" into the directory structure under **/mnt**. There is no technical requirement for putting your mount points in **/mnt**, but it is a nice, standardized location for them, so we will use that for our examples.

So, let's say that we wanted to be able to see all volumes on our NetWare server where the current GroupWise system resides. We could create a **/mnt/netware** directory for the structure, or we might prefer to create directories by server name. If we were to choose the latter, we might create a directory called **/mnt/gw1** for a NetWare server called "gw1". The following are instructions on how to mount volumes from a NetWare server into the Linux file system.

To mount the NetWare volumes into our Linux file system, we would perform the following steps:

- On the Linux server, open up a terminal window.

- "**su root**" to become root for this session.

- Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our NetWare server.

- We have chosen to connect to our NetWare server via ncpfs. To mount the NetWare server via ncpfs, issue the following command (remember, we instructed you to install ncfps earlier in this section)

  ncpmount -S server -A 123.123.123.123 -U userid -P password /mnt/gw1

  replacing your server name for "server" and your server's IP address for 123.123.123.123. For example

  ncpmount -S gw1 -A 192.168.100.200 -U danita.cnc -P password /mnt/gw1

NOTE: You might wonder about the "user.context" vs. ".user.context" in this example. While ".user.context" works on some versions of Linux, it fails on others. In our testing, "user.context" has always worked on all versions. You might keep this in mind if you experience any problems authenticating with ncpmount.

This will actually mount all volumes from the NetWare server to this location. So, if we **cd** to **/mnt/gw1** we will see a directory called **SYS**, one called **GWDATA**, and any other volumes that are on that server.

Dealing with Linux Case Sensitivity

If you look at your current GroupWise domain and post office directories, you will notice that many files and directories are in all uppercase, and many are all lowercase. It is important to know that while both NetWare and Windows "respect case" during the "save" process, neither of them "discriminate case" upon reading. Now, this might be a long way around saying they are not "case-sensitive," but it's an important concept to understand. Let's take an example. If a user is creating a WordPerfect document and chooses "File|Save As," typing in MyLetter.WPD will show the "case" distinctions in this document name when viewed in Windows Explorer or from a command prompt. However, another document named myletter.wpd cannot be saved in the same folder without overwriting the existing document.

Linux, however, is absolutely case-sensitive. MyLetter.WPD, myletter.WPD, MYLETTER.WPD and myletter.wpd are four distinct file names. All four documents can legally exist in the same Linux directory as separate and distinct files. This is not a huge problem when moving domains and post offices to Linux, except that you must be aware of the issue and deal with it. All files and directories for the Linux domain and post office must be all lowercase, otherwise the agents will simply not see the "proper" file and will fail to load. Prior to loading the POA on Linux, we will need to change the case of all files and directories for the post office. During the migration of the data using Novell's DBCopy utility, we can use the "migrate" switch to force all file names to lowercase. Thus, any migration that we do, other than the possibility of reusing an existing NSS volume that we discussed above, will automatically change the case for us. If you wish to reuse your existing NSS volume on your Linux server, you can use a Windows utility called "Change Case" or you can use a Linux script to do the change for you.

NOTE: If you are using NSS volumes for your GroupWise data on Linux, you can enable the "Long Namespace" option. This essentially removes the case sensitivity from the volume. If you do that, you might think that you would not need to change the case of the GroupWise files. However, we have found multiple instances where things fail because of case in this situation. You must ensure that the case be changed for all GroupWise data on Linux. Also, if all of your data on Linux is lowercase, moving the system to a new, non-NSS volume during a disastery recovery situation would give you more options.

The easiest thing to do is simply download a free Windows utility called "Change Case". There are Linux scripts that can do this as well, but we recognize that most people reading this book are new to Linux, and we want to make this as painless as possible. There are many locations for this Change Case utility, and we do not wish to favor one download site over another. So just google for "change case utility". The download file generally is chgcse31.zip. If you have difficulty finding this utility, e-mail us at info@caledonia.net and we will point you in the right direction. The important thing is that no matter what you use to change the case of GroupWise directories, all files and subdirectory names must be all lowercase. Additionally, make sure that you unload your MTA and any associated gateways and kick everyone out of ConsoleOne before you attempt to change the case so that there will be no access conflicts.

Reusing an Existing Data Volume

Depending on your server configuration, you may choose to reuse your existing GroupWise Data Volume and avoid copying data altogether. This is especially true if you are using attached storage such as a SAN. If you are moving Linux to Linux or Windows to Windows, this is very practical. It is even possible to reattach your existing NetWare NSS volume to OES if you decide that is in your best interest. We specifically discussed the issues with reusing an NSS volume above in *"NSS for OES"* on page 31.

In any event, depending on the age and suitability of your current storage systems, your existing GroupWise Data Volume may be perfectly suitable for use on your new server. In *"Moving a GroupWise Domain"* on page 53 and "*Moving GroupWise Post Offices"* on page 159 we assume that you are in fact copying the data from one server to another. If this is not the case, you can treat the new server as an in-place upgrade, with the exception of needing to change the IP addresses of your agents, and changing the file locations of the databases if required.

It is outside the scope of this Guide to cover the specifics of attaching storage to your servers. We will assist you with upgrading GroupWise once your data is in place though!

Making GroupWise Servers Accessible for File Copy and Administration

GroupWise is one of those applications where we rarely worry about giving users access to the actual file structure. Administrators, however, occasionally need physical access to the domain database and often to the post office databases and files themselves.

Linux: There are three ways to manage this:

- Use ssh utilities to access the GroupWise server.
- Use Samba on SLES to access the GroupWise directories from Windows.
- Use NCP on OES2 to access the GroupWise directories from Windows.

We particularly recommend that SSH be available for various purposes.

Windows: For Windows you generally simply need to create a Windows share that can be accessed from other Windows workstations and/or servers.

eDirectory

eDirectory is no longer a required component of GroupWise. If you are moving your GroupWise system to OES, you will still have eDirectory available, and can continue to Integrate your GroupWise system with eDirectory as you see fit. For more information on the Directory, see *"Directory Integration and Synchronization"* on page 85.

One of the big questions when installing a new SLES or Windows server is whether to integrate with eDirectory or Active Directory, or have no Directory integration at all and use the native GroupWise Directory. If you will be retiring all NetWare and/or OES servers with this migration, you should decide whether you wish to keep eDirectory in your network. Here are few reasons why you would no longer need eDirectory in your network:

- You are essentially a Windows shop and will be integrating with Active Directory only.

- You are a small business, and really have no external directory needs at all.

- For whatever reason, you choose to use the GroupWise Directory, an no longer have a need or desire for eDirectory in your network.

Running your GroupWise Agents as Linux Daemons/Windows Services

Perhaps one of the most difficult transitions for GroupWise Administrators (especially those running GroupWise on NetWare), is getting used to the idea that you will no longer have a GUI console for your agents. While many Windows administrators are accustomed to running their agents as services with no console screens, this is a very foreign concept to GroupWise Administrators who run GroupWise on NetWare. This is something that you simply must accept. No amount of arguing or begging will change the fact that while there are GUI Consoles on Linux and Windows that can be used for testing, you should rarely (we'd rather say never) use the GUI Console for the agents in production on a Linux or Windows server. In order to use the GUI Consoles, the user running the GroupWise agents must always be logged into the Linux or Windows server. This is not something that is recommended by Novell or Caledonia, and it is definitely seen as a taboo by both Windows and Linux administrators. You will need to learn to love the HTTP Monitors for the GroupWise agents. If you have never used the HTTP monitors before, we'll walk through enabling them, and looking at their features.

The GroupWise Server Migration Utility

Novell has a utility called the GroupWise Server Migration Utility. The purpose of the utility is to facilitate the move of GroupWise systems from NetWare or Windows to Linux. In this guide, partly because we wish to avoid installing an "older" version of GroupWise on your new GroupWise server, and partly because we think understanding the move is important, we will teach you how to move your GroupWise system to your new server entirely by hand. We think this is the best way to approach the move. That said, however, there are people who just like to have a GUI and a Utility to assist them through such moves. While we will not use the GroupWise Server Migration Utility in this guide, we will not be hurt if you decide to use the utility for your move. The knowledge about what happens "behind the scenes" in a move to a new server that you will gain from this book will help you should anything go wrong during the use of the migration utility. So, if when the time comes to do the move you decide to use the migration utility, hopefully you will be able to approach the migration tasks with increased confidence in your abilities and better understanding of the processes behind the migration. Understand though, that the Migration Utility will not perform a move and an upgrade simultaneously. The only way to use the Migration Utility is to migrate at your current version of GroupWise to Linux, and then after the system is running on Linux, perform an upgrade. Thus, realistically the migration utility is only useful for sites upgrading from GroupWise 8 or GroupWise 8. That said, we can do this migration and subsequent upgrade quite seamlessly without needing an additional upgrade step in the middle, and that is what we propose to do in this guide!

With the initial server preparation done, we can now start our GroupWise components move. We will begin with a domain move in the next chapter.

4 Installing the GroupWise Administration Service

The GroupWise Administration Service (sometimes referred to during installation as the GroupWise Server) is a new process that runs on each GroupWise server that houses agents. Installing the Administration Server is the first thing you will do on any server as you work through your upgrade. This cannot be done in advance for an in-place upgrade as it replaces the agent binaries. You should install the Administration Server to your new GroupWise server prior to beginning the migration. This will allow you to have dbcopy installed, as there is no longer a separate dbcopy installation, and dbcopy is instead included as part of the Administration Server installation.

As we move through this upgrade guide, you will learn more about the functionality and purpose of the GroupWise Administrative Service.

The Administrative Service is installed at the same time as the GroupWise agents, and must exist on any server where GroupWise 2014 agents are running. You should start to think of the Administrative Service as a core component of your system.

The initial step in upgrading your GroupWise system is to install the GroupWise Administrative Service, so that it can be prepared to manage the newly upgraded GroupWise system.

In the following section we will show how to install the Administration Server on both Linux and Windows. We highly recommend that your server OS is fully patched before you install the GroupWise Administration Service.

Installing the GroupWise Administration Service on Linux

Download the Installation Media

The first thing you need to do is access the GroupWise 2014 installation media. This will typically be a downloaded compressed file from either http://download.novell.com, or from your Novell Customer Center portal.

Copy this compressed file to a location on your GroupWise server and extract it. To extract the GroupWise tar file, you would use the following command:

tar xfvz nameofgwfile.tar.gz

then cd into the name of the resultant directory. The directory is generally named **gw14.0.0-build_full_linux_multi.tar.gz**

This is the perfect time to point out that even though the files are typically named "multi", there is no longer an English-only version. Let's look at the directory structure as it now exists.
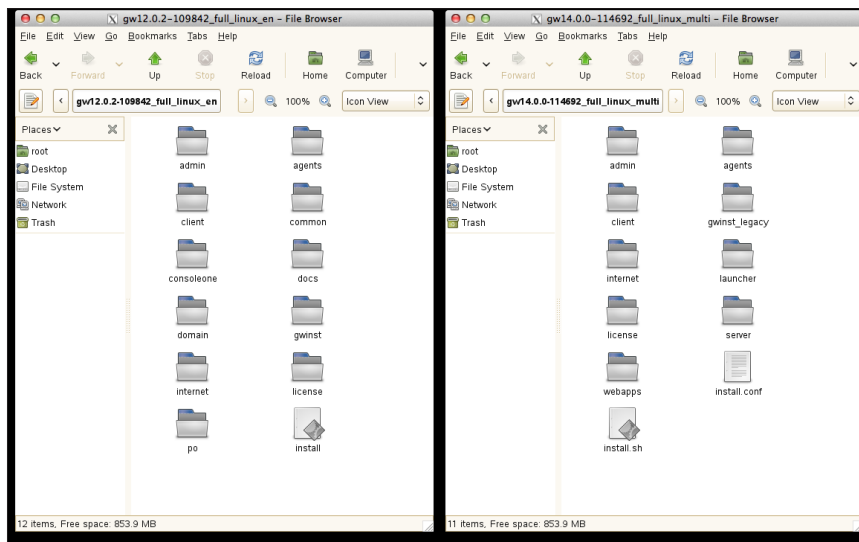
Figure 4-1: Old and new directory structures

As you can see here, there are a few directories missing from what you are accustomed to seeing. Indeed the directory layout is quite different. Gone are the **domain** and **po** directories that held the .dc files. WebAccess has been moved under **Webapps**. Monitor has been relegated to the "**gwinst_legacy**" directory! Now, in theory, it doesn't really matter that the entire folder structure has changed, because you will just be installing everything with the script (renamed from just "**install**" to "**install.sh**"). In practice, we wish sometimes that we could just go grab the dbcopy rpm and install it manually, rather than having to go through some other hoops.

If you have been a "do it manually" type in the past, Novell has made it much more difficult for you. There is no gwcheck rpm to install manually. There is no dbcopy rpm to install manually. Everything is included in the "server" installation. For all but the most hands-on types (and the rare instances where something just "goes wrong"), using the wizards and installation scripts will work out just fine! That said, if you just really want to see what is "there" without performing an installation, you could do the following by changing to the server installation directory):

> **cd <installationfiles>/server/linux/x86_64**

then run

> **rpm2cpio novell-groupwise-server.64bit.rpm | cpio -idmv ./pathtodir/***

Note the **.** before **/pathtodir/** is important.

You can even do the following to extract all files matching a pattern

> **rpm2cpio novell-groupwise-server.64bit.rpm | cpio -idmv .*pattern***

so you could use

> **rpm2cpio novell-groupwise-server.64bit.rpm | cpio -idmv .*dc**

This would allow you to extract the **.dc** files to your current directory, should they somehow become corrupted or lost from your installation.

During the installation, all agents controlled through the gwha.conf file will be shut down.

Also, the installation procedure will attempt to refresh all software repositories and perform a check for certain required dependencies and updated files. We have found that if your server has no Internet connection, the installation can fail. While we do not run into this issue often, if for some reason you have no access to nu.novell.com from your server during the installation, you can turn off the repositories.

1. Load YaST

2. Choose **Software|Software Repositories**

3. Click on each of the Repositories that show "enabled" and disable them.

Install the Administration Service

So, let's install the Administration Service. Before we do, please note that if this is on a production GroupWise server, the installation will actually shut down all of your agents! So, if you're not actually ready to upgrade your agent files, do not run this routine. After the installation, the new GroupWise 2014 agents will be loaded, but your databases will not have yet be upgraded. Thus you will be running GroupWise 2014 agents against your GroupWise 2012 databases.

In reality, even though all of this happens, the only thing that could break would be GWIA access as a POP3/IMAP4 server to your users. The 2014 GWIA is a "client", and cannot access older Post Offices to fulfill POP3/IMAP4 requests. All other functionality would continue, even if your older domain and post office were using GroupWise 2014 agents. That said, you should not install the new GroupWise 2014 server until you are ready to upgrade.

1. If you are in a GUI file browser like Nautilus or Konqueror, just click on **install.sh** and choose Run in Terminal (this is a text based installation, and will only run from the terminal). If you are at a terminal window, type **./install.sh** in the directory where the script resides. Here's the installation screen!
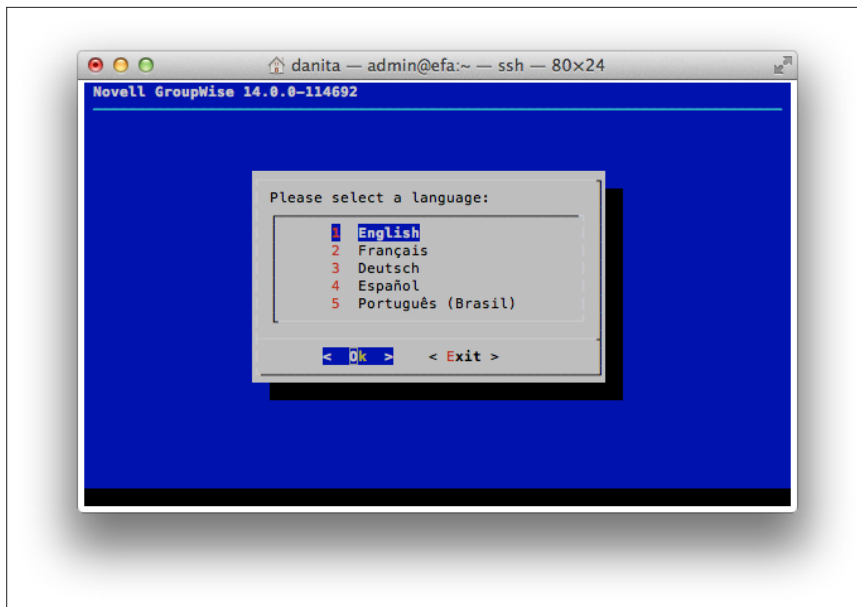

Figure 4-2: The Installation Window

Notice that this is no longer a GUI installation. Everything is text based. In many builds of this installation routine, we have noticed that the arrow keys do not work, and you must use the tab key. If you have issues with arrowing around, use the tab and shift-tab.

2. You have 5 languages to choose from here. Choose your language, and we'll move on.

3. At the next screen you will have two choices: Documentation and Installation. Documentation will attempt to open a web browser and take you to the Novell docs. Remember that the installation can be done in a totally text based environment, thus if you have no GUI/browser available to you, only the Readme be able to view if you choose to look at the documentation.

4. The next screen will present you with the EULA. When you agree to the EULA you are moved to the following screen:
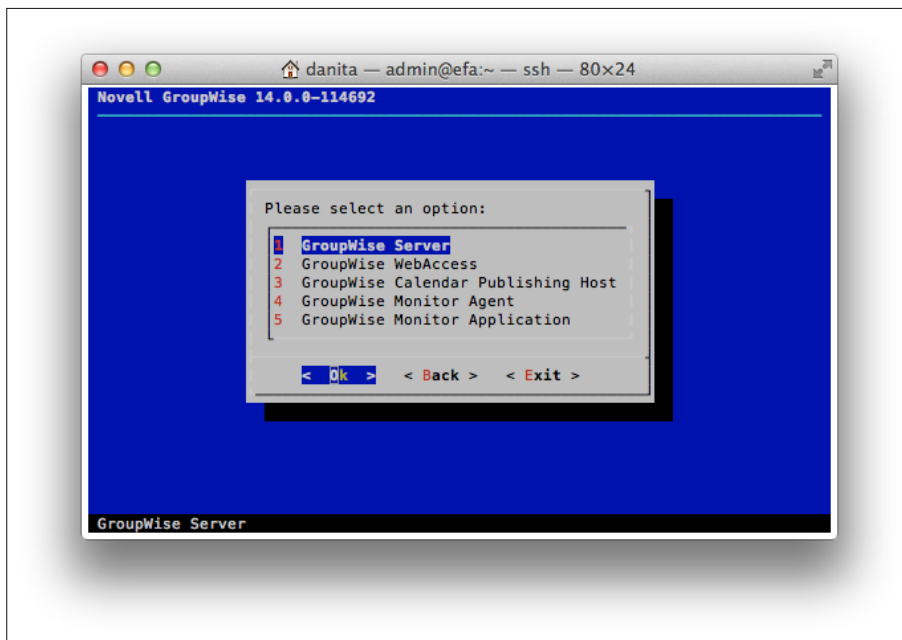

Figure 4-3: The Main Installation Screen

5. Here we can choose to install the GroupWise Server (i.e., all of the components necessary to run a GroupWise system), GroupWise WebAccess, GroupWise Calendar Publishing Host, GroupWise Monitor Agent or GroupWise Monitor Application. We'll choose GroupWise Server.

The GroupWise server is responsible for installing the GroupWise Administration Service, as well as installing the software for the Domains (MTA), Post Offices (POA), GroupWise Document Viewer Agent (GWDVA) and Internet Agent (GWIA). Additionally, the Server installation installs dbcopy and gwcheck on the server as well.

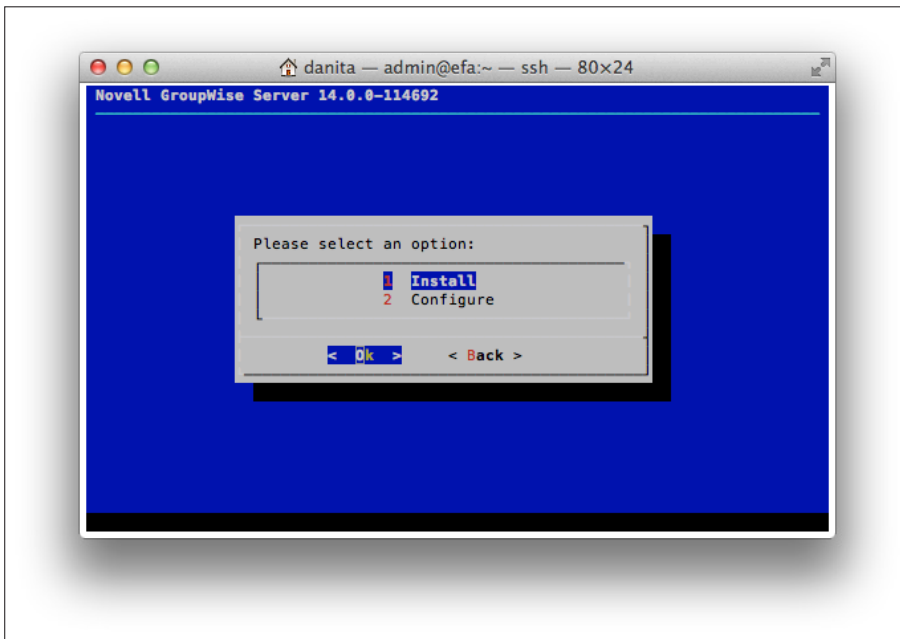**6.** Next you have the option of Install or Configure

Figure 4-4: Installation Screen

We'll of course choose Install. This will install the actual files. We will later go to configure.

The installation routine will immediately shut down all of the agents that are configured on this server, as listed in the **gwha.conf** file. It will then remove any unsupported files on this server. This includes the GroupWise 8 client for Linux (if it is installed on this server), as well as the ConsoleOne Snapins for GroupWise. While it is Novell's contention that you will never need the ConsoleOne Snapins again on this server, we will show you in *"Reinstalling ConsoleOne Snapins on Linux"* on page 157 how to bring them back if you find yourself in a situation where you absolutely need them!

7. After the agents are shut down, the installation will attempt to refresh nu.novell.com to look for any new versions of OpenMotif.

8. GroupWise will then start installing OpenMotif and all of the required GroupWise files. During this process, the installation also creates a GroupWise Certificate Authority, and creates a certificate for the GroupWise Administration Service.

9. Once the installation has completed, you will be prompted with "press any key to return . . .". This will take you back to the Install/Configure menu.

After installing the Administrative Service, if you were to run an **rcgrpwise status**, you would see something like this:

windermere:~ # rcgrpwise status

Checking status [gwadminservice]   **running**

Back at Figure 4-4 we can now choose Configure.

In prior versions of GroupWise, selecting "Configure" would launch a routine to configure your GroupWise agent startup files, and create the **gwha.conf** for your system. With this new installation process, the "Configure" option in the menu will launch the admin service, and present you with URLs to access for administration.
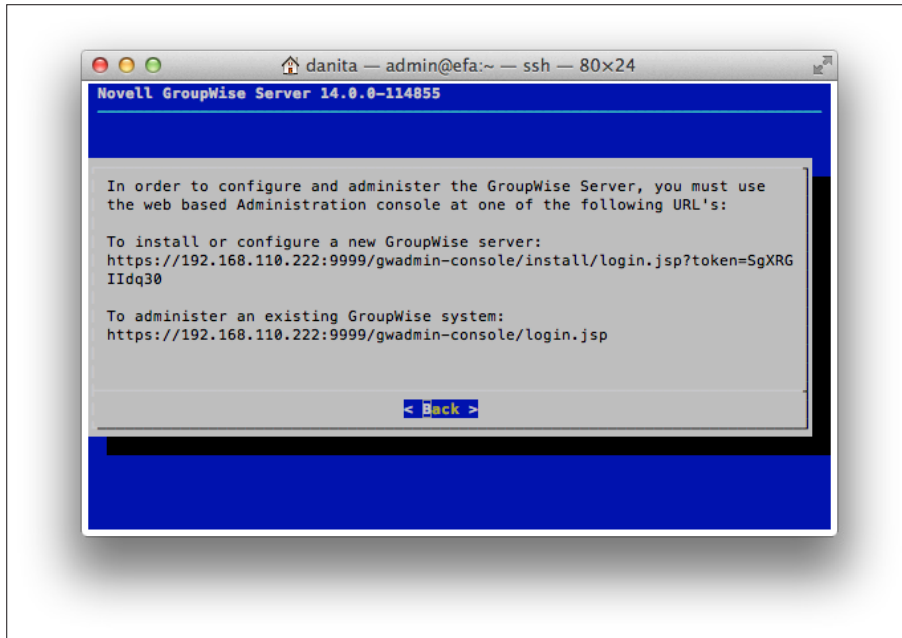

Figure 4-5: The Configuration screen

You can copy the text on this screen for the URL in order to paste it into your browser. If you are installing in X, and have a browser available to you on the server, these URLs are actually clickable. It's absolutely possible though, that you have simply ssh'd into the server to run the installation (since it needs no GUI), and will need to copy the URLs to your browser.

To access the Installation Console on Linux, continue with the section entitled *"Accessing the GroupWise Installation Console"*

Installing the GroupWise Administration Service on Windows

Download the Installation Media

The first thing you need to do is access the GroupWise 2014 installation media. This will typically be a downloaded compressed file from either http://download.novell.com, or from your Novell Customer Center portal.

Extract this file to a location on your GroupWise server. This is a zip file, and you can simply right-click on the file and choose "Extract All" to unzip the entire package to a directory of your

choice. The files will then all be extracted into a folder named "groupwise". Thus, if you were to choose c:\installs as the destination folder for the extraction, you would then have c:\installs\ groupwise for your files.

This is the perfect time to point out that even though the files are typically named "multi", there is no longer an English-only version. Let's look at the directory structure as it now exists.
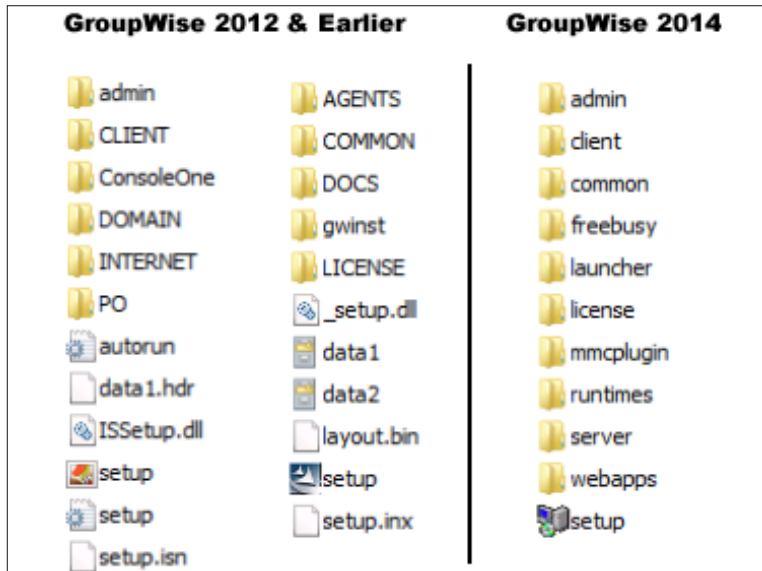

Figure 4-6: Old and new directory structures

As you can see here, there are a few directories missing from what you are accustomed to seeing. Indeed the directory layout is quite different. Gone are the domain and po directories that held the .dc files. WebAccess has been moved under "**Webapps**". Monitor has been relegated to the "**gwinst_legacy**" directory! Now, in theory, it doesn't really matter that the entire folder structure has changed, because you will just be installing everything with **setup.exe**. In practice, we wish sometimes that we could just go grab the dbcopy rpm and install it manually, rather than having to go through some other hoops.

If you need access to the files prior to installation, you can extract all of the files to a temporary location to do so run:

> **setup.exe /extract path**

so you could use

> **setup.exe /extract c:\gwtemp**

During the installation, the GroupWise agents remain running, but a reboot is required to complete the installation.

Install the Administration Service

So, let's install the Administration Service. Before we do, please note that if this is on a production GroupWise server, the installation will install the new agent software, RENAME your GroupWise services, and on reboot load everything back up! This will load GroupWise 2014

agents, but your databases will not have yet be upgraded. Thus you will be running GroupWise 2014 agents against your GroupWise 2012 databases.

In reality, even though all of this happens, the only thing that could break would be GWIA access as a POP3/IMAP4 server to your users. The 2014 GWIA is a "client", and cannot access older Post Offices to fulfill POP3/IMAP4 requests. All other functionality would continue, even if your older domain and post office were using GroupWise 2014 agents. That said, you should not install the new GroupWise 2014 server until you are ready to upgrade.

Our Windows server is running a GroupWise domain, post office and GWIA. Notice the services that are running:
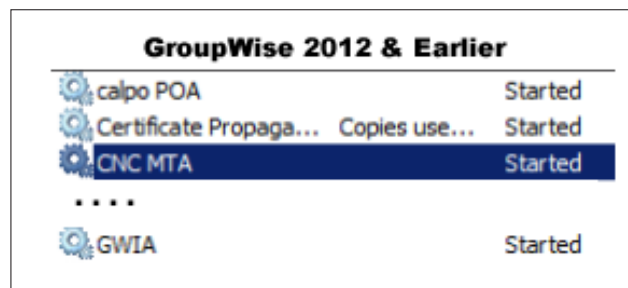

Figure 4-7: GroupWise Agents

Prior to GroupWise 2014, when you installed agents on a Windows server, the services would be named after the startup files. So the services can be spread out all through the list. In the case above, we have a calpo POA, CNC MTA and a GWIA - without any easy way to find them in the list if you are not sure of the startup files names. This will change during this installation, and we will revisit this later in this setup.

Note: Since the GroupWise Agent Services have no description defined, one way to find them in the list is to sort the services by description. This makes them at least float to the top!

1. From Windows Explorer, double-click on **setup.exe** in your installation directory. Here's the installation screen!

Figure 4-8: The Installation Window

2.   Here we can choose to install the GroupWise Server (i.e., all of the components necessary to run a GroupWise system), the GroupWise Client, GroupWise WebAccess, GroupWise Calendar Publishing Host, GroupWise Monitor, the GroupWise Free/Busy Service or the GroupWise MMC Plugins. We'll choose GroupWise Server. Other components will be discussed in future chapters.

The GroupWise server is responsible for installing the GroupWise Administration Service, as well as installing the software for the Domains (MTA), Post Offices (POA), GroupWise Document Viewer Agent (GWDVA) and Internet Agent (GWIA). Additionally, the Server installation installs dbcopy and gwcheck on the server as well.

During this time you will see a few popups for the installation of some required redistributables such as vcruntime and c++ . It can take several minutes before the GroupWise installation continues.

3.   You have 5 languages to choose from here. Choose your language, and we'll move on.

4.   At the "Welcome" window, click next,

5.   The next screen will present you with the EULA. When you agree to the EULA you are moved to the following screen:
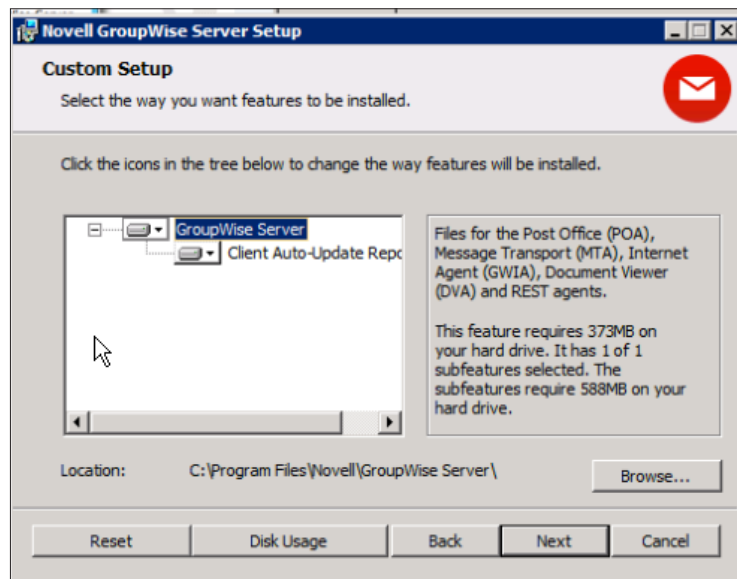
Figure 4-9: The Custom Setup Screen

6. Our only real option here is to decide whether to install the Client Auto-Update Repository, and to choose the location for our executable files. Space is cheap. We generally recommend that you keep the default and install all files.

You will be brought to a confirmation window, allowing you to cancel or go back before you begin the installation. Click Install to proceed.

Files will be copied, and you will be at the completion window.
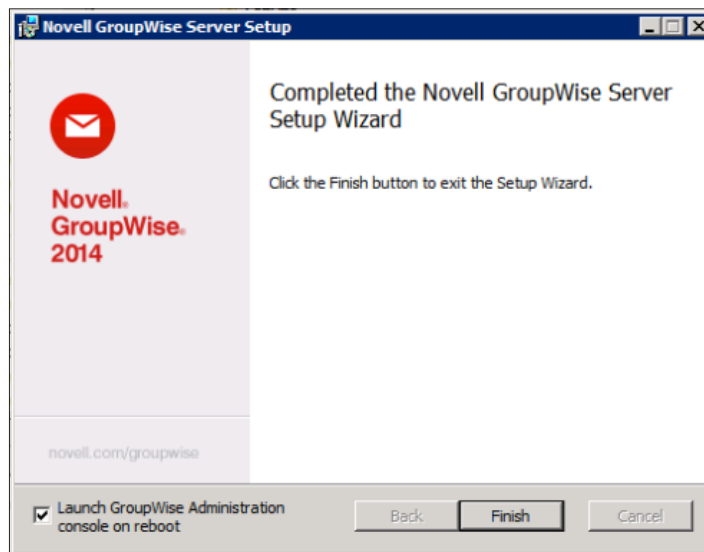

Figure 4-10: Completion Screen

7. You will be prompted to restart your server when the installation is completed. If you keep the box checked for Launching the Administration service after the reboot, you will be brought directly to the Installation Console. The particular "token" that allows you to access the Installation Console (which we'll discuss later in this chapter) will expire after 5 minutes. So you might as well uncheck the box and load up the Installation Console manually when you are ready.

By the way, it can take a good while for the Administration Service to load after the reboot. You'll see a command window with "Waiting for the Administration Service to start . . . ." and then eventually your browser will load.

After installing the Administration Service and rebooting your server, go and take a look at your services again (click the **Start button|Administration Tools|Services**. You will notice that all of your GroupWise services have been renamed, and are now sorted together under "GroupWise".

We also have a new service called "GroupWise Administration. This new service, as well as the GroupWise 2014 agents are now running.

Now WHAT, you say? I've updated my agents, and my GroupWise 2012 (or earlier!) domain and post office are being accessed by 2014 agents? Won't that hurt my system? For the short-term, the answer is no. If you DO have a GWIA on this server, and if users are utilizing IMAP4 or POP3, they will be unable to access their mailboxes (you've essentially installed a GroupWise 2014 client with the GWIA, and the newer client cannot access older POs). The SMTP service for the GWIA, and the MTA and POA will work just fine. In the figure below, notice that in our case we have a GroupWise 2014 agent running, but our domain database is still version 8.

Figure 4-11: GroupWise 2014 MTA with a Domain database that has not yet been upgraded.

Re-enabling the GroupWise High Availability Agent on Linux

If you are moving your system from Linux to Linux, and you had the GroupWise High Availability Agent installed on your original GroupWise server, you will want to re-enable it after you install GroupWise Monitor on your new server. Please see the chapter on *"Upgrading GroupWise Monitor"* later in this guide for more information.

Accessing the GroupWise Installation Console

The installation routine will also create two icons on your server desktop – one for GroupWise Installation and one for the GroupWise Admin Console.
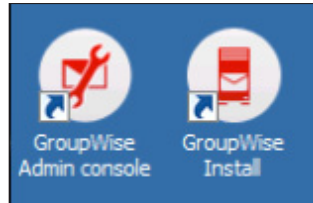

Figure 4-12: GroupWise Administration Icons

These shortcut icons work the same on both Windows and Linux.

Let's take a moment to look at these URLs.

When the Administration Service is first installed, it is configured to run on port 9710. While you can change this later if you like, it is not our recommendation that you do. Some sites change the default ports as a type of security. Firstly, there are almost NO instances of a GroupWise agent being compromised. Secondly, if you change these ports around, it causes a great deal of confusion when GroupWise consultants try to help you (yes, we are thinking of ourselves here). Now, if you absolutely must change these, then we'll show you how later, but consider why you might want to do this, and only change the defaults if absolutely necessary. The two URLs that are called by these icons are:

https://yourserver:9710/gwadmin-console/login.jsp

and

https://yourserver:9710/gwadmin-console/install/login.jsp

These two URLs show that the Administration Service is running on port 9710, and that you need to go to either **/gwadmin-console/install** or **/gwadmin-console** to login. We'll have plenty of time to look at the Administration Console. Let's talk about the installation option in some detail.

Our image in Figure 4-5 on page 42 above shows a token at the end of the installation URL, after the "login.jsp" portion of the URL. This is visible on the Linux installation. On the Windows installation, a command is passed on reboot that runs **gwadmin-ipc** to request a token and pass the token to the web browser to launch the Installation Console.

So just what is this token? The token is a way for the installation procedure in the Administration Console to authenticate you so that not just anyone can hit the installation URL and start to make system changes. This token is only good for about 5 minutes. Thus, if you walk away from this screen and then attempt to access the Installation Console, you will be given a new token to use for verification. We'll show you how this works when we get to *"Accessing the Installation Console for the First Time"* below.

When you click on the URL to launch it in Firefox on your Linux server, or copy the URL to your own workstation browser, you will first be notified that the SSL certificate is untrusted. This, of course, is because the installation created a self-signed certificate in the steps above for your GroupWise system to use for the Administration Console and any agent that does not already have a certificate installed. So you will be warned that you are accessing an "untrusted" site, but can happily accept the certificate. If for some reason you get a time-out trying to access

the Administrative Console right after installing the system, try again in a few seconds. You might simply be too fast for the Administration Service to have loaded in the background.

Accessing the Installation Console for the First Time

If for some reason you wait longer than 5 minutes to use this token, it will be invalid, and if you access the Installation Console, you will see the screen shown in the figure below:
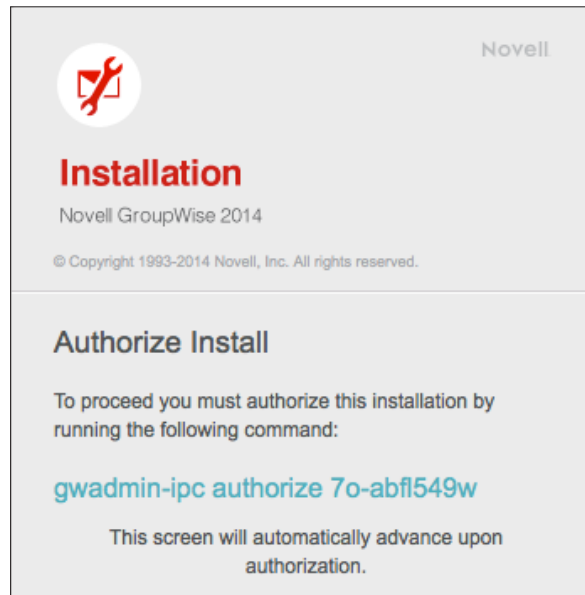

Figure 4-13: Authorize Installation

Notice that the command we're told to run above is "**gwadmin-ipc authorize 7o-abfl549w"** - this shows a program "**gwadmin-ipc**" a switch "authorize" and the token. You can copy this string and execute it on your Linux or Windows server.

In Windows, Novell has added the **<serverfiles>\admin** to the Path in System Variables. On Linux, Novell has included an **/etc/profiles.d/gwadmin.sh** file to add the Path on Linux as well.

We will discuss the programs in the **/opt/novell/groupwise/admin** (**c:\Program Files\ Novell\GroupWise Server\admin** on Windows) directory in more detail later.

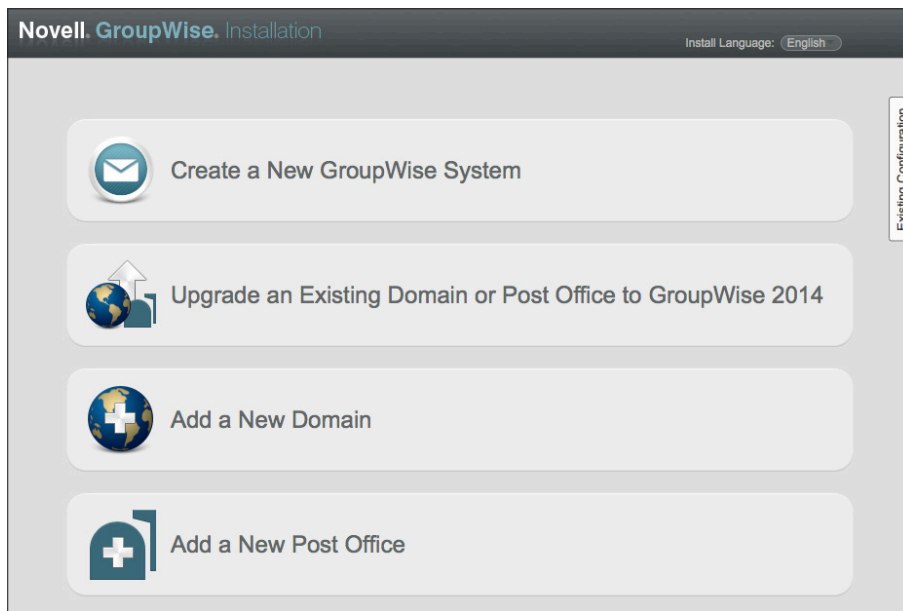Let's look at the Installation Console now.

Figure 4-14: The Installation Console

Here you can Install a new system, Upgrade an existing system, or add some components.

Changing the Installation Console Access Method

If you have a simple system, dealing with the token to install or upgrade your system doesn't seem like a big deal. If you have a large system, it can become a bit annoying. So, let's look at how you can bypass the token.

First, let's look in the

/opt/novell/groupwise/admin

or

c:\Program Files\Novell\GroupWise Server\admin

directory on your server. Here you will find a file called **install.cfg**. By default, the contents of the file will look something like this:

#Tue Feb 04 21:12:28 MST 2014

   mode=token

We can change this with the **gwadminutil.sh** script or the **gwadminutil.cmd** file. There are three modes you can use for the Installation configuration:

- token
- user
- disabled.

Token is the default, and you have seen how it works. Now let's look at the other two modes.

Change to **/opt/novell/groupwise/admin** or **c:\Program Files\Novell\GroupWise Server\admin.** You can look to see all of the functions of **gwadminutil.sh** by running it with no switches (on Windows, just type **gwadminutil.cmd** instead). For example:

windermere:/opt/novell/groupwise/admin # ./gwadminutil.sh

GroupWise Admin Command Line Utility (14.0.0.114855)

Usage: gwadminutil <command>

Commands:

validate	**setadmin**
recover	**upgrade**
reclaim	**ca**
reindex	**certinst**
rebuild	**dbinfo**
sync	**installcfg**
convert	**services**
release	**config**
merge	

We will look at all of these switches later in this guide. For now, we are interested in **installcfg**. So let's run **gwadminutil.sh** (or **gwadminutil.cmd**) again with the **installcfg** switch to see the help screen for it.

windermere:/opt/novell/groupwise/admin # ./gwadminutil.sh installcfg

usage: gwadminutil installcfg [-u <username>] [-p [<password>]] -m <mode>

example: gwadminutil installcfg

Configure the admin service installation authentication

-m,--mode <mode>   Installation mode (token|user|disabled)

-p,--password <password>   Install password (if mode is 'user')

-u,--username <username>   Install username (if mode is 'user')

If we run

./gwadminutil installcfg -m disabled

this would prevent any access to the Installation Console. Of course someone with proper access to this directory can change the mode, but this prevents someone from accidentally stumbling upon the URL and trying to muck around.

Let's set the configuration to user:

./gwadminutil installcfg -m user -user gwinstall -p mypass

The resultant config file would look like this:

```
windermere:/opt/novell/groupwise/admin # cat install.cfg
#Tue Feb 04 21:25:29 MST 2014
user=gwinstall
hash=6b2e94d8c3c0f6c055eaa40daf8d0bb23f57305a
mode=user
```

You cannot simply edit this file and modify the parameters for user mode, since the **gwadminutil** performs a password hash and writes the hash value to the file rather than a password in clear text. You CAN however, copy this file to other servers. So if you will have many servers to upgrade over the course of your project, copying the file to each server will avoid having to deal with tokens as you move through your upgrade process. The user that you designate here is very much like the http monitor users – it is neither a GroupWise nor an LDAP user, and should be unique for the situation, and the password known to only those who need access.

The ability to copy a file with the hash means that your first level of security is to limit the people who have access to the **/opt/novell/groupwise/admin** or **c:\Program Files\Novell\ GroupWise Server\admin** folder on any particular server. What could someone do with this information? Create a new GroupWise system, upgrade components before you are ready, and install new domains or post offices. However, protecting file level access to your server is your best defense here.

Now that we've installed the Administration Service, you can upgrade the objects on this server.

5   Moving a GroupWise Domain

This chapter will help you move any domain from your existing GroupWise server to a new server. As a practical note, we are not actually moving files, we are copyng them. When we refer to "move" in this chapter, we are really addressing the ultimate relocation of services from one server to another. The actual files will remain on your current GroupWise server, and can be deleted after the relocation has occurred and you are happy with the results.

Remember that since we are also upgrading at the same time, you must move/upgrade your primary domain before you move any secondary domains. Before you proceed with the steps in this chapter, please read *"Upgrading GroupWise Domains"* on page 65. After you have read the section on *"The Domain Upgrade Overview"* on page 67, return to this chapter to complete the move of your data.

This chapter assumes in great part that you are moving data from one server to another. We briefly discussed the idea of *"Reusing an Existing Data Volume"* on page 35, and have no doubt that many sites moving from like OSs will choose to do this. If so, your "migration" will more closely resemble an in-place upgrade than a migration. You will merely need to pay attention to changed file locations, and IP address changes. Skip the portions of this chapter that relate specifically to copying data, and concentrate on the other migration details. If you are moving from NetWare or Windows to SLES, or even Windows to OES, you will of course need to move data, as your existing volumes are not compatible with your new OS. You can technically reuse a NetWare NSS volume on OES, but please take the possible issues we raise in *"NSS for OES"* on page 31 before you decide to do this.

If the post office is on the same server as the domain, you could choose to move it at the same time, or complete the domain move/upgrade first and then return to the post office. We prefer to this one step at a time in a simultaneous move/upgrade, so we will move our domain first, and post offices after the domain upgrade has been completed.

If you have post offices that reside on your existing domain server, those post offices can continue to be accessible after you move the domain. We just need to do some preparation for communications between the post office and the domain prior to the move.

The domain directory is typically so small that we can unload the MTA, copy the data and upgrade quickly enough to see no great benefit in doing a "pre-copy" prior to migration day. Thus, this chapter will concentrate on a single step copy of the domain directory with the agents unloaded to perform our upgrade.

In the previous chapter, we installed the GroupWise Administration Service, that also installed the DBCopy utility. DBCopy is used to migrate the data from the source server to the new Linux or Windows server. If you are moving to Linux from NetWare or Windows, we recommend that you use DBCopy. If you are moving from Linux to Linux, Windows to Windows, or even Linux to Windows, you can use other copy methods if you desire.

If you are migrating from NetWare, during the setup of your Linux server, we requested that you install ncpfs, which allows us to attach to a NetWare server via NCP copy the data. If you are migrating from Windows to Linux, you will use CIFS for attaching the volumes.

The steps we will take are as follows:

- Attach your new GroupWise Server to your existing GroupWise server.

- Unload the existing Message Transfer Agent (MTA) for the domain you are moving. We will need exclusive access to the domain database, so no gateways should be loaded.

- Unload any gateways associated with this domain.

- Rename the domain directory to avoid any accidental access while we are relocating the domain.

- Ensure that all file and directory names for the domain are lowercase if you are moving to Linux.

- Copy the domain directory structure from it's current location to the new Linux or Windows server using DBCopy.

After these steps, we will proceed to the chapter on *"Upgrading GroupWise Domains" on page 65*.

The following sections will be broken out according to the "target" server. If you are moving to Windows, whether that be from NetWare, Linux, or even an existing Windows server, follow the instructions for "Moving to Windows. Likewise, if you are moving your system to Linux, whether from NetWare, Windows or an existing Linux server, following the instructions for "Moving to Windows".

Change the IP Address of the MTA

Immediately prior to moving your domain, if possible it is a good idea to change the IP address of the MTA to the new location. This will allow the change to propagate to other domains and post offices in your system, and avoid the necessity of repairing post office connectivity after the fact. This is not easily done if your MTA is set to bind exclusively to a specific IP address. You can turn that setting off in most situations to effectuate this change. However, if you run multiple MTAs on the same server, this is not as practical, and you may need to fix the issues after the move. Here are the steps to change for the MTA to ensure a smooth move.

Edit the properties of the MTA object, and change the following:

- On the Identification screen, change the Platform to the new server OS if necessary.

- On the Agent Settings screen (click the triangle on the GroupWise tab to change to this screen), notice the HTTP Monitor settings. If you have never enabled the HTTP monitors for your agents, you will need to decide on a good userid and password for the HTTP monitors. Please note that this is neither an eDirectory user nor a GroupWise user. This is an entirely made up user and password solely for the use of the HTTP monitors. If all administrators in your organization will have rights to use the HTTP monitors, then it is a good idea to have the same userid and password for all agents. If you need to limit rights to some agents to various groups, set up a userid and password for each group of agents that will be monitored. Enter the userid and password that you have decided on here in this screen.

- On the Network Address screen, change the IP address of your MTA to reflect the IP address of the new server. Make sure that a valid port number is listed in the HTTP Monitor field, and note what that port is. Uncheck the box that says "Bind Exclusively to this address". You can always reenable this later.
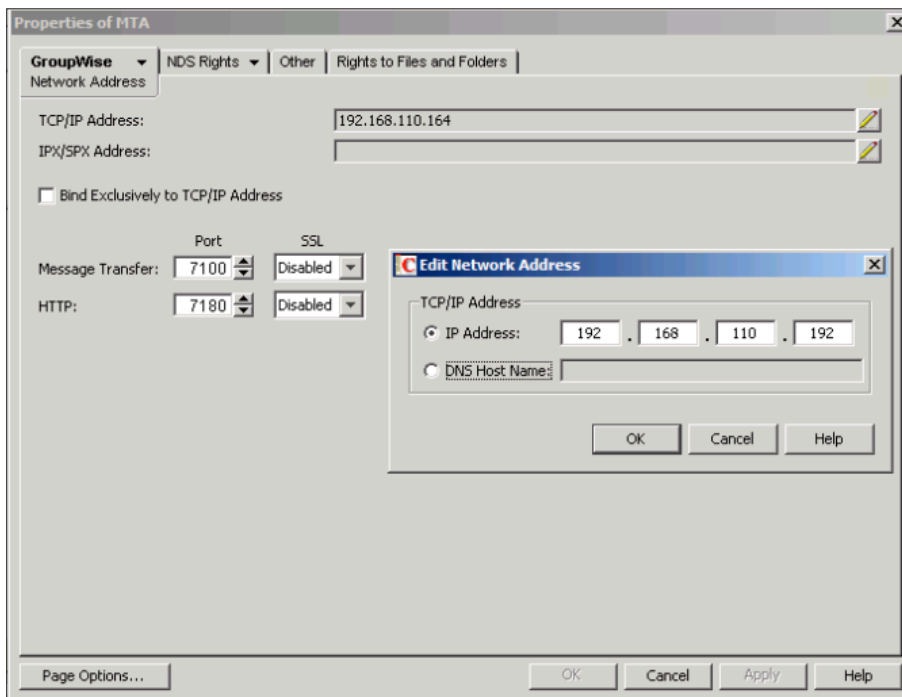
Figure 5-1: Change the MTA IP address and verify settings

- On the Log Settings tab, remove any custom log locations and leave the logging to the default location (which is blank). Best to make sure the log is also set to verbose!

- Click OK to save all of the changes.

These changes will be saved for the MTA, and the MTAs will begin to replicate the changes throughout the system. Unless you had the MTA set to "bind exclusive" and there are conflicts by removing that setting, the POAs should receive the changes before communication ceases. Since you have changed the MTA IP address, but the MTA is not actually running at that new location, and thus the POAs and other MTAs will eventually show this MTA as closed once the changes have properly propagated through the system. That is okay. Once moved, that means the other agents will be able to find the MTA at its new home.

Change the Path of the Domain Object

Prior to your copy, you can also change the path of the Domain in ConsoleOne. Edit the properties of the Domain object and change the path there to the path from the perspective of the new server.
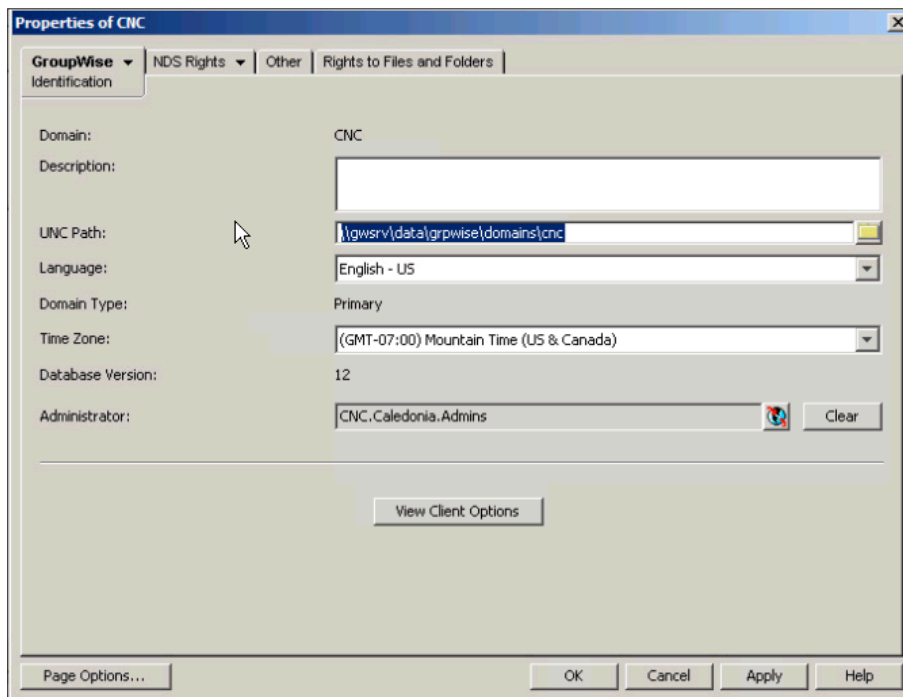
Figure 5-2: Changing the domain path

Cleaning Up Extraneous Files

Check the log directories and the problem directories to see if there are files that do not need to be moved to the new server. Look to see if there are any non-GroupWise folders under the domain directory that are not required.

If this domain hosts a GWIA, you should check to see that the gwprob directory is not overflowing! Also, check log location for the GWIA to remove any custom log file location defined.

Moving to Linux

Linux - Create a Mount Point for the NetWare Server

If you are moving from NetWare, you need to attach to the NetWare server from your new Linux server. To mount the NetWare volumes into your Linux file system, perform the following steps:

1. On the new Linux server, open up a terminal window.

2. "**su root**" to become root for this session.

3. Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our NetWare server that is named **gw1**. It is suggested that you replace **gw1** with the actual name of your NetWare server for ease of recognition later.

4. We have chosen to connect to our NetWare server via **ncpfs**. To mount the NetWare server via **ncpfs**, issue the following command

> **ncpmount -S server -A 123.123.123.123 -U userid -P password /mnt/gw1**

replacing your server name for "server" and your server's IP address for 123.123.123.123. For example

> **ncpmount -S gw1 -A 192.168.100.200 -U danita.cnc -P password /mnt/gw1**

///

NOTE: You might wonder about the "user.context" vs. ".user.context" in this example. While ".user.context" works on some versions of Linux, it fails on others. In my testing, "user.context" has always worked on all versions. You might keep this in mind if you experience any problems authenticating with ncpmount.

\\

This will actually mount all volumes from the NetWare server to this location. So, if we cd to **/mnt/gw1** will will see a directory called **SYS**, one called **GWDATA**, and any other volumes that are on that server.

Create a Mount Point for the Windows Server

If you are moving your domain from Windows, you need to attach to the Windows server from your new Linux server. To mount the Windows drives into your Linux file system, perform the following steps:

1. On the new Linux server, open up a terminal window.

2. "su root" to become root for this session.

3. Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our Windows server that is named **gw1**. It is suggested that you replace **gw1** with the actual name of your Windows server for ease of recognition later.

4. We have chosen to connect to our Windows server via cifs. To mount the Windows server via cifs, issue the following command:

> **mount -t cifs //server/d$ /mnt/name -o username=user,password=password,domain=domain or workgroup**

This command is all one line, and there is no space between the comma following password and the word domain. You can use the entire drive (d$) or a specific share name. We like to use the drive (d$) when possible, but the share works as well. If for some reason you have difficulty mounting by by server name, you can substitute the IP address of the Windows server in the **//server/d$** portion (i.e. **//192.168.100.201/d$**).

So, for example, our command would be

> **mount -t cifs //192.168.100.228/d$ /mnt/gw1 -o username=danita,password=pass,domain=caledonia**

Copying from Linux to Linux

When moving from one Linux server to another, there is no real requirement or even advantage to using dbcopy. In fact, we generally recommend rsync over ssh to do the job. This requires no special mount points, or even any specialized setup to accomplish. It does require that the target server has ssh enabled.

Unload the MTA

First of all, go to the server where your MTA is loaded for the domain that you are moving:

- **NetWare:** press F7 at the agent console to unload the agent

- **Windows:** if the agent is running as an Application, you can also press F7, or use the File Menu and Exit. If the agent is running as a Service, you must stop the agent from the services applet.

- **Linux:** use rcgrpwise command. For example:

   rcgrpwise stop DomainName

   If you are not certain of the name that is defined for your domain in the rcgrpwise script, first run:

   rcgrpwise status

   This will show you all agents that the rcgrpwise script controls. Find the name for your MTA and then issue the stop command for your MTA.

Also make sure that no administrators are accessing the domain database through ConsoleOne.

Unload Gateways

If this domain also owns a GWIA and/or WebAccess Agent (GroupWise 8 or earlier), these must be loaded prior to moving the domain. The instructions are the same as for the MTA. Press F7 where appropriate to unload the gateways, shut down the services on Windows, or stop the daemons on Linux. Make sure all gateways have been shut down before you proceed.
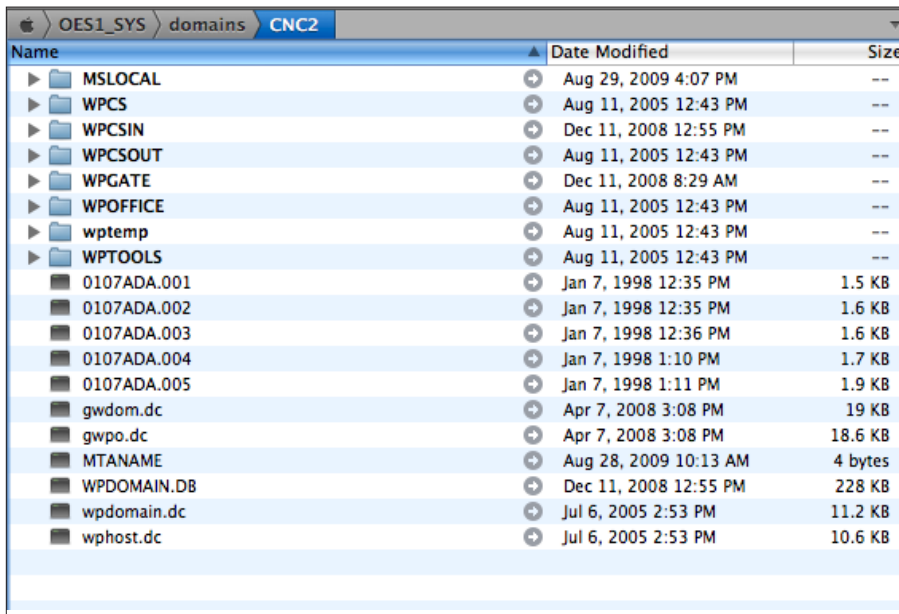
Rename Your Domain Directory

To avoid any accidental access to the domain during the copy, we recommend you rename your domain directory to something like domain.old. If you are unable to rename the directory, it is likely that something still has the wpdomain.db file open. Double check that all administrators have shut down ConsoleOne, and that the MTA and all gateways have been unloaded.

Copy the Domain Files to New Server

DBcopy

If you will be using DBcopy, after the MTA is unloaded, we will prepare to copy the domain structure to the new server. Let's look at the current directory structure of our domain. Figure 5-3 shows the domain directory for our domain. On NetWare and Windows most files and directories are in all uppercase (this is also dependent on your GroupWise version and more recent versions create everything lowercase to avoid problems down the road).

⌘ OES1_SYS domains CNC2		
Name	**Date Modified**	**Size**
▶ 📁 MSLOCAL	➡ Aug 29, 2009 4:07 PM	--
▶ 📁 WPCS	➡ Aug 11, 2005 12:43 PM	--
▶ 📁 WPCSIN	➡ Dec 11, 2008 12:55 PM	--
▶ 📁 WPCSOUT	➡ Aug 11, 2005 12:43 PM	--
▶ 📁 WPGATE	➡ Dec 11, 2008 8:29 AM	--
▶ 📁 WPOFFICE	➡ Aug 11, 2005 12:43 PM	--
▶ 📁 wptemp	➡ Aug 11, 2005 12:43 PM	--
▶ 📁 WPTOOLS	➡ Aug 11, 2005 12:43 PM	--
▪ 0107ADA.001	➡ Jan 7, 1998 12:35 PM	1.5 KB
▪ 0107ADA.002	➡ Jan 7, 1998 12:35 PM	1.6 KB
▪ 0107ADA.003	➡ Jan 7, 1998 12:36 PM	1.6 KB
▪ 0107ADA.004	➡ Jan 7, 1998 1:10 PM	1.7 KB
▪ 0107ADA.005	➡ Jan 7, 1998 1:11 PM	1.9 KB
▪ gwdom.dc	➡ Apr 7, 2008 3:08 PM	19 KB
▪ gwpo.dc	➡ Apr 7, 2008 3:08 PM	18.6 KB
▪ MTANAME	➡ Aug 28, 2009 10:13 AM	4 bytes
▪ WPDOMAIN.DB	➡ Dec 11, 2008 12:55 PM	228 KB
▪ wpdomain.dc	➡ Jul 6, 2005 2:53 PM	11.2 KB
▪ wphost.dc	➡ Jul 6, 2005 2:53 PM	10.6 KB

Figure 5-3: Domain Directory Structure

All files and directories for the domain and post office on Linux must be lowercase, otherwise the agents will simply not see the "proper" file and will fail to load, or give errors trying to access specific files. Prior to loading the MTA on our new Linux server, we will need to change the case of all files and directories for the domain. We will use DBCopy for this purpose.

DBCopy makes no changes to the original files in the domain directory. If needed, you could simply rename your domain directory back to its original name and load your MTA back up on the source server.

When running dbcopy, you will find that DBCopy on the Linux server does not run well from any directory other than **/opt/novell/groupwise/agents/bin** so we will cd to that location to run the utility. After ensuring that you have mounted your NetWare or Linux server properly as outlined in the sections above, run DBCopy to copy your files from the source server to the Linux location like this:

./dbcopy -m -d <source> <destination>

so for our situation it might be

./dbcopy -m -d /mnt/gw1/GWDATA/domains/cnc.old /grpwise/domains/cnc

This will copy all needed data from the old domain directory into the directory structure that we've indicated for the destination. In our case, we have chosen to locate our domain in **/grpwise/domains/cnc.**

The **-m** switch copies the files over in all lower case. The **-d** switch tells DBCopy that it is migrating a domain. Generally this will not take long at all to perform the copy. Unless you have many files in your existing MTA queues (or old errant folders like long forgotten gwava directories), there is not really much to copy!

NOTE: It's a good idea to look through your domain directory structure for old log files, files in the problem directories, etc. to clean up prior to copying the directory structure. This will ensure that you don't needlessly copy unnecessary information to the new server.

Rsync

While you could mount your existing Linux volume into your new Linux server's file system and also use dbopy for the job, it really is faster and easier to use rsync. Since you are copying from Linux to Linux, we assume that you have no file case issues to contend with! Rsync is very simple to use, and for a domain copy, which only needs one pass, it should be very quick. In our dbcopy examples above, we started from the target server, and mounted the source servers into our file system. Using rsync, you could actually go either way, but we prefer to start at the source (existing) server. The following command is an example:

- At the existing GroupWise server, change to the directory above your domain. For example

  cd /grpwise/domains

- run an rsync command to copy the domain folder (in our case **cnc**) to the new server

  rsync -avz -e ssh cnc gwadmin@192.168.110.222:/grpwise/domains

  this command accomplishes a couple of things. The -a switch is for "archive" which would actually compare the file dates and sizes were you to run this multiple times. The -v switch is for "verbose" so you can see what is happening. The -z switch is for "compress", which will speed up the process.

  We are also using the "-e ssh" switch, which instructs rsync to use ssh as the remote shell for connection.

  Notice that both the folder "**cnc**" and the target folder "**/grpwise/domains**" have no final slash. This is important to ensure that the folders end up where you desire.

Now that your files have been copied to your new server, you can continue with "Upgrading GroupWise Domains" on page 65.

Moving to Windows

Moving your Domain to Windows is not as complicated as moving to Linux, as there are really no issues with case sensitivity. Since we are doing a single pass copy of our domain (i.e., we are taking the MTA down, copying the files and immediately upgrading), there is also no reason to worry about changed files or any other complications. Because of this, there is no

particular reason why you need to use dbcopy as the copy mechanism. You can use any copy program you choose. From NetWare to Windows or Windows to Windows you might prefer something like RoboCopy. From Linux to Windows, once your mount point has been created, you could simply use cp -r to copy all files recursively.

The first step in moving your data to your new Windows server is deciding your copy direction. When moving from NetWare, we typically suggest that you map a drive directly from your Windows server to the NetWare server, rather than using a workstation "in the middle". This does, however, require that your Windows server have the Novell Client for Windows installed. If you choose to use a "middle-man" workstation, the copy times will be greatly increased.

If you are moving from Linux to Windows, we suggest that you start from the Linux server, and create a mount point using CIFS to access the Windows server.

From Windows to Windows, you will of course simply map a drive from one server to another, and it is really your preferences as to whether you begin the copy from the target or the source server. Following are instructions for each of these scenarios.

Map a Drive to Your NetWare Server

If you are moving from NetWare to Windows, it is faster and more efficient to copy the files directly from NetWare to the Windows Server. It may be that your login script will automatically map a drive for you from your new Windows server to your NetWare server. Otherwise, map a drive by finding the volume in Windows Explorer, right-clicking the volume, and choosing Map Network Drive. If you choose to use a workstation in the middle, map drives to both the NetWare volume and the Windows Server share.

Map a Drive to Your Windows Server

If you are copying your existing data from one Windows server to another, simply map a drive from one server to another. We suggest mapping from the source server to the target, but you can go either way.

Create a Mount Point for the Windows Server

If you are moving your domain from Linux to Windows, you need to attach to the new Windows server from your existing Linux server. To mount the Windows drives into your Linux file system, perform the following steps:

1. On the new Linux server, open up a terminal window.

2. "su root" to become root for this session.

3. Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our Windows server that is named **gw1**. It is suggested that you replace **gw1** with the actual name of your Windows server for ease of recognition later.

4. We have chosen to connect to our Windows server via cifs. To mount the Windows server via cifs, issue the following command:

   mount -t cifs //server/d$ /mnt/name -o username=user,password=password,domain=domain or workgroup

This command is all one line, and there is no space between the comma following password and the word domain. You can use the entire drive (d$) or a specific share name. We like to use the drive (d$) when possible, but the share works as well. If for some reason you have difficulty

mounting by by server name, you can substitute the IP address of the Windows server in the **//server/d$** portion (i.e. **//192.168.100.201/d$**).

So, for example, our command would be

mount -t cifs //192.168.100.228/d$ /mnt/gw1 -o username=danita,password=pass,domain =caledonia

We discussed the idea of using rsync between two Linux servers. There are indeed some rsync equivalents for Windows. We will not get into the details of those here, but if you are familiar with applications such as cwRsync, you could copy your data from your Linux server to Windows by that method.

Unload the MTA

First of all, go to the server where your MTA is loaded for the domain that you are moving:

- **NetWare:** press F7 at the agent console to unload the agent

- **Windows:** if the agent is running as an Application, you can also press F7, or use the File Menu and Exit. If the agent is running as a Service, you must stop the agent from the services applet.

- **Linux:** use rcgrpwise command. For example:

  rcgrpwise stop DomainName

  If you are not certain of the name that is defined for your domain in the rcgrpwise script, first run:

  rcgrpwise status

  This will show you all agents that the rcgrpwise script controls. Find the name for your MTA and then issue the stop command for your MTA.

Also make sure that no administrators are accessing the domain database through ConsoleOne.

Unload Gateways

If this domain also owns a GWIA and/or WebAccess Agent, these must be loaded prior to moving the domain. The instructions are the same as for the MTA. Press F7 where appropriate to unload the gateways, shut down the services on Windows, or stop the daemons on Linux. Make sure all gateways have been shut down before you proceed.

Rename Your Domain Directory

To avoid any accidental access to the domain during the copy, we recommend you rename your domain directory to something like domain.old. If you are unable to rename the directory, it is likely that something still has the wpdomain.db file open. Double check that all administrators have shut down ConsoleOne, and that the MTA and all gateways have been unloaded.

Copy the Domain Files to New Server

As mentioned, since this is a domain, and really does not benefit in our situation from using dbcopy, simply copy the files with your preferred copy method. This could be as basic as copying the files from one location to another in Windows Explorer, or executing "cp -r" on the Linux server, copying from the current GroupWise datastore to the new Windows server mount point.

NOTE: It's a good idea to look through your domain directory structure for old log files, files in the problem directories, etc. to clean up prior to copying the directory structure. This will ensure that you don't needlessly copy unnecessary information to the new server.

When your copy has finished and your domain files are located on the new server, continue on with the instructions in

6 Upgrading GroupWise Domains

This chapter will cover upgrading GroupWise Domains of all kinds. Primary Domains, Secondary Domains, Domains with GWIAs, Domains with Post Offices. If there is a domain involved, this chapter will address it.

If you have multiple servers to upgrade, after this domain chapter, we will deal with issues regarding Directory Services, and then give you an overview of the new Administration Console before we jump into upgrading the rest of your system.

Most of the images in this chapter will be for the Linux installation. If there are notable differences for Windows, we will point those out.

Now that we've looked at the overview of the upgrade process, the first step of the actual work is to upgrade your primary domain to GroupWise 2014. If your GroupWise system is a simple one server system, or even a multi-server system managed by a single administrator, this is a pretty easy task. Your primary domain gets upgraded, and you are on your way! However, if you happen to be in a larger system where the administration is distributed across multiple departments, locations, or even continents, this becomes more complicated. The primary domain MUST upgrade first. In most larger organizations, the primary domain will be a domain that is created solely for the purpose of administration and routing. It will not own any post offices or gateways, and will reside on a separate server. This is done often in larger organizations, and if this is the case, hopefully the owner of that domain will be willing to upgrade it quickly. However, if the administrator owning the primary is not as eager as you to upgrade, then you have a few choices.

- Wait for your primary domain to upgrade

- Request that a domain in your control be promoted to primary temporarily until the location that owns the current primary domain decides to upgrade.

While in some organizations this is often seen as a political matter, the primary domain's main purpose is to provide uniqueness of names throughout the system and replicate all changes in the system to other domains. It is generally not a problem to promote another secondary domain to primary if required in order to begin your upgrade.

How Does the Upgrade Work?

At the domain level, a GroupWise upgrade is really just a database conversion from one version to another. The former GroupWise domain database (version 5.0 through 2014 works the same), is RECOVERED by the administrative thread and CONVERTED to the new version. For a primary domain, this requires a few simple components and prerequisites:

- The Message Transfer Agent software must be at GroupWise version 2014

- The dc (dictionary files) in the domain directory must be at version 2014

- The Primary Domain must be upgraded before any Secondary Domain can upgrade.

- Secondary Domains must have received the notification from the Primary Domain (through administrative messages passed by the MTAs) that the Primary is at version 2014, and they Secondaries are permitted to upgrade.

The actual process is as follows: The Admin Service first makes a full copy of the **wpdomain.db** file in the same directory as the domain, and names it **recover.ddb**. Then the Admin Service also creates a file called **creating.ddb** in the domain directory. At the point that the **creating.ddb** file is fully created, the Admin Service puts an internal record lock on the primary domain's **wpdomain.db** file, carves the file out from the header down, and places the information from the **creating.ddb** file into the **wpdomain.db** file.

Prior to GroupWise 2014, this really was all there was to it. There are a few new twists with GroupWise 2014, involving creating an Administration Console user and assigning Administration Server ports.

This update then triggers a message to be sent to any post offices that might be owned by the domain. If you are upgrading the Primary Domain, the message is also sent to any Secondary Domains that are in the system. This message updates the post offices and secondary domain databases with the information that the primary domain is now a GroupWise 2014 domain. Unless this message is properly delivered (MTAs are down, POAs are down, etc.), the other domains and post offices will not upgrade, even though they may be running the GroupWise 2014 software for their agents. We'll discuss this more as we walk through this upgrade.

What About ConsoleOne?

As we've discussed previously, GroupWise 2014 does not use ConsoleOne for administration, and it is not recommended that you use ConsoleOne with your 2014 domains. Until your upgrade is complete, you will need to keep ConsoleOne around to do some administration of your older version domains and post offices. Since most administrative tasks in a GroupWise system are "store and forward" processes, the 2014 Administration Console can deal with tasks such as creating users, changing passwords, kicking off a GWCheck, etc. for all of the domains and post offices in the system, regardless of version. There will be times when you need access to ConsoleOne for older domains and post offices (rebuilding databases, and the like), so you will need to keep ConsoleOne with GroupWise snapins around on a workstation or two until the upgrade is complete. If you utilize GroupWise Document Management, you will want to revisit the discussion in *"What about Document Management?"* on page 9.

Prepare The Domain Database

We cannot overstate the importance of validating your databases prior to an upgrade. The only times we've seen GroupWise upgrades go very badly were when there was corruption in the domain or post office databases prior to upgrading. Due to the complications introduced with the new administration model, and the requirement that databases with versions prior to 2014 be rebuilt at the command line, some administrators will want to skip this step. Do so at your own peril.

From here on out, we will assume that you understand that the Primary Domain must be upgraded first, and references to domains in this chapter will generally be relevant for Primary or Secondary Domains. If there is something specific to a Primary Domain, we'll let you know! In fact, in the case of preparing the Primary Domain for upgrade, you will use ConsoleOne. Once the Primary Domain has been upgraded, you will need to use new GroupWise 2014 Command Line Utilities to do any database rebuilds that may be required. Thus, if you are upgrading a domain and post office on the same server, we recommend you do the validate on both the domain and post office at the same time from ConsoleOne for simplicity's sake.

When you are ready to continue your upgrade, we will first check the domain to make sure that it is ready to upgrade. In ConsoleOne, select the domain object and choose **Tools|GroupWise Utilities|System Maintenance|Validate Database**. If your database shows as valid, you can proceed. If for some reason the database does NOT validate, you should rebuild it. In order to rebuild the database you must first shut down the MTA and any gateways that attach to the domain database. Just be to safe, make a copy of the **wpdomain.db** file in case something unexpected were to happen during the rebuild (power outage, server room flood, etc.). If this is the Primary Domain, once the agents are shut down, return to ConsoleOne and choose **Tools|GroupWise Utilities|System Maintenance**, and this time choose **Rebuild Database.**

If you are checking a Secondary Domain, you can use ConsoleOne to check the validity of the Secondary Domain. If for some reason however, the domain database fails validation, you will need to rebuild the domain database from the new GroupWise 2014 Primary Domain server! Please see the section entitled *"Command Line Utilities"* on page 152 in the Chapter on *"The GroupWise Administration Console"* if a rebuild of a Secondary Domain is warranted.

The Domain Upgrade Overview

From this point forward, everything you've ever known about upgrading GroupWise has changed!!! The installation routine is different. The upgrade wizard is different. The administration is different. Onward and Upward!

Depending on your setup, you may be simply upgrading your domain during this sitting, or you may be doing more than that. If any other GroupWise components exist on the same server as your domain, you need to upgrade them now too. Let's look at the possible scenarios.

- Simple single server – you need to do everything. You will upgrade the Domain (which upgrades the GWIA) and Post Office, and then move to upgrading your WebAccess, etc.

- MTA & POA on same server – the procedure will upgrade both the domain and the post office, and you're done with this server.

- MTA on its own server – perform the steps to upgrade the domain and verify.

- MTA & GWIA. By default, upgrading the Domain upgrades the GWIA.

Before we go to the administration console, we'll go over a few structural changes here:

DC Files

In the past, the dictionary (.dc) files were found in the **/domain** and **/po** directories of your installation file location. We often had to copy those files directly to the domain directory in order for an upgrade to commence. In theory this should never be required again. These files are now installed along with the GroupWise Server files, and reside in **/opt/novell/groupwise/admin/data** directory (**c:\Program Files\Novell\GroupWise Server\admin\data** on Windows). Since the GroupWise Administration Service knows where these files are now (before they literally could have been anywhere), the upgrade procedure copies the files to the domain directory automatically, and avoids the problem of having the incorrect .dc files in the directory during the upgrade attempt.

Startup Files

Also, in the past, startup files for all agents on Linux were maintained by default in the **/opt/novell/groupwise/agents/share** directory. On Windows they were maintained in the agent executable directories. If GroupWise was in a cluster, these were typically maintained in the domain or post office directory. When you install a new domain or post office with GroupWise 2014, the startup file will be saved in the domain or post office directory. If you are upgrading on Linux and the startup file is in **/opt/novell/groupwise/agents/share**, it will remain in that directory after the upgrade. On Windows the startup files will all be located in the domain or post office or gwia directories. That said, we have seen instances on Linux where the file was recreated in the domain or post office directory, and you would see two of them on the server. This can happen if the installation routine gets confused and believes there is no file in the share directory, or the paths in the original startup file are believed to be incorrect.

The downside to this is that on Linux starting agents by hand can be a bit more cumbersome. Since it was assumed that startup files were in the share directory, you could start the agents from the **/opt/novell/groupwise/agents/bin** directory with a simple command like:

./gwmta @domain.mta

If the startup file is not in the share directory, you will need to specify the location thusly:

./gwmta @/grpwise/domains/cnc/cnc.mta

You can move these files back to the **/opt/novell/groupwise/agents/share** directory if that is your preference, but you will also need to edit the paths in the **gwha.conf** file if you choose to do this.

Alternatively, you could also create a symlink for the file. For example, if our file was **/grpwise/domains/cnc/cnc.mta**, we could change to **/opt/novell/groupwise/agents/bin** and create a symlink as follows:

ln -s /grpwise/domains/cnc/cnc.mta cnc.mta

Then we would no longer need to type the full path to the startup file.

So, let's get down to it.

In our last chapter, we installed the GroupWise Administration Server. This installed all agent software required for the GroupWise Agents (MTA, POA, GWIA).

Now that your agent software has been updated, we need to move on to the actual process of upgrading the domain to GroupWise 2014.

Performing the Domain Upgrade

At this point, you have installed the software required to take your domain to GroupWise 2014, but your domain has not actually upgraded. This will not happen until you access the Installation Console and choose to upgrade your system. Let's discuss how this has changed from the methods we used in GroupWise 2012 and earlier.

For prior versions of GroupWise, the key to an upgrade was providing the primary domain with new dictionary (.dc) files, and loading the new agents up to perform the upgrade. It really was as simple as that. Barring any complications, those two steps performed a successful

upgrade every time.   While these two steps are also necessary with GroupWise 2014, there are some additional steps required, and the locations of files have moved around a bit.

Back in the *"Installing the GroupWise Administration Service"* section, we loaded up the Installation Console after installing the Administration Service. Now we need to look at the upgrade steps for our system.

Hopefully you set your Installation configuration to use "user" mode as we described in *"Changing the Installation Console Access Method"*. Otherwise you will need to follow the "token" instructions above in that section to access the Installation Console (assuming it's been more than 5 minutes since you completed the installation of the files and received your first token).

1. Go to **https://yourserver:9710/gwadmin-console/install**

    We have set our installation mode to "user", so we can login with our "gwinstall" user we defined above.

Figure 6-1: The Installation Login Screen

2. We now see the Installation options screen
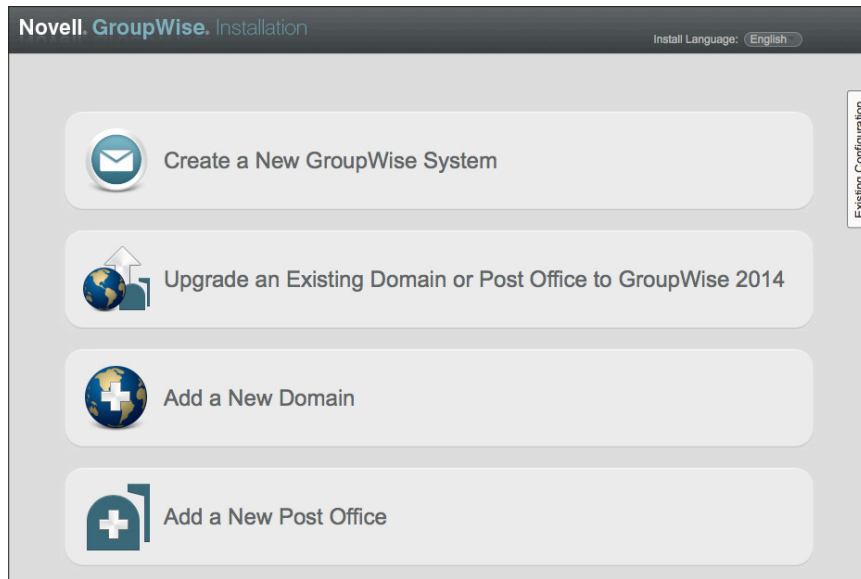
Figure 6-2: Installation Options

3. Click on "Upgrade an Existing Domain or Post Office to GroupWise 2014". We will show two examples in this chapter as follows:

- Domain (Primary or Secondary) with or without a GWIA but no Post Office
- Domain (Primary or Secondary) with GWIA and/or Post Office

Domain With or Without a GWIA (No Post Office)

In this section, we have a Domain, but no Post Office. Since all agents on the same server must be upgraded together, a domain that owns a GWIA will have the GWIA upgraded transparently during the upgrade procedure. There are some considerations for upgrading GWIAs. You will not be prompted for anything regarding the GWIA during the upgrade. If changes need to be made (for example, changing the IP address if this is a move/migration), you can make those after the upgrade. Please remember that the GWIA acts as a client. Thus, if you are using IMAP4 or POP3 to access your Post Offices, you cannot upgrade the GWIA until after all of the affected Post Offices have also been upgraded.

1. Since we have moved our domain to this server, and have not installed a former version of GroupWise on the server, there is no gwha.conf configured. When we open the Installation Console and click on "Upgrade" we see the figure listed below.
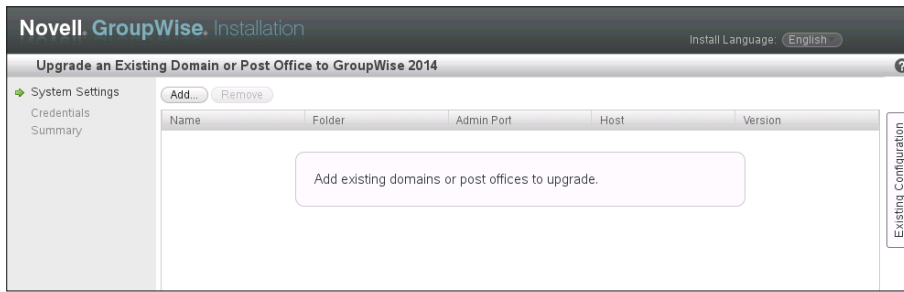
Figure 6-3: No Objects found in gwha.conf for upgrade.

2. In order to add our Domain to the list of objects to be upgraded, we click on the add button. We then are shown a file browser which we can use to browse to the domain directory. Click okay, and you will see the next figure that shows our domain, IP address, and the suggested admin port for this MTA.
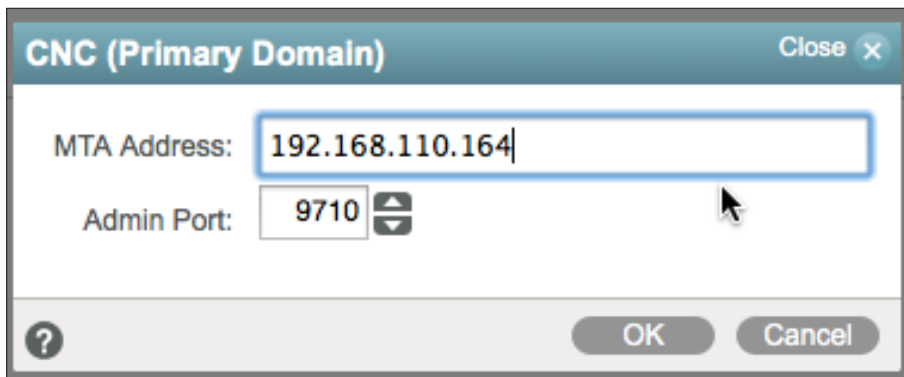
Figure 6-4: Domain Address and Port

3. We have moved our domain, and this IP address is probably no longer valid. We will change the IP address to that of our new server, and click OK

Now that our domain is in the list to upgrade, we can continue.

4. With your domain properly listed in the upgrade section, click Next.

5. If this is the Primary Domain, you will be required to set an administrator and password for your GroupWise system.   This is a very important user and password, and should not be forgotten. This is neither a GroupWise nor an eDirectory/AD user. This userid is written to the domain database and is used when you launch The Administration Console.

It's our recommendation that you use a user specific to this task here. Just as we used gwinstall for our installation user in our **install.cfg**, we'd use something like gwadmin here to differentiate it from other administrative accounts you might have.

If you choose a "weak" password, Novell will alert you, but you can continue to use the password even if you are told it is weak.

Figure 6-5: Defining the Super Admin userid and password

Set your administration user name and password and click Next.

If this is a secondary domain, you will not see the above figure that prompts you to create a new admin user and password. Rather, you will be prompted for location and credentials of your Primary Domain admin service.

Figure 6-6: Connecting to the Primary Domain to complete an upgrade

6. You will now see a summary screen. In our case, our GroupWise system is called "Beta", so you see the name of the system, the domain to upgrade, and the settings for the domain.
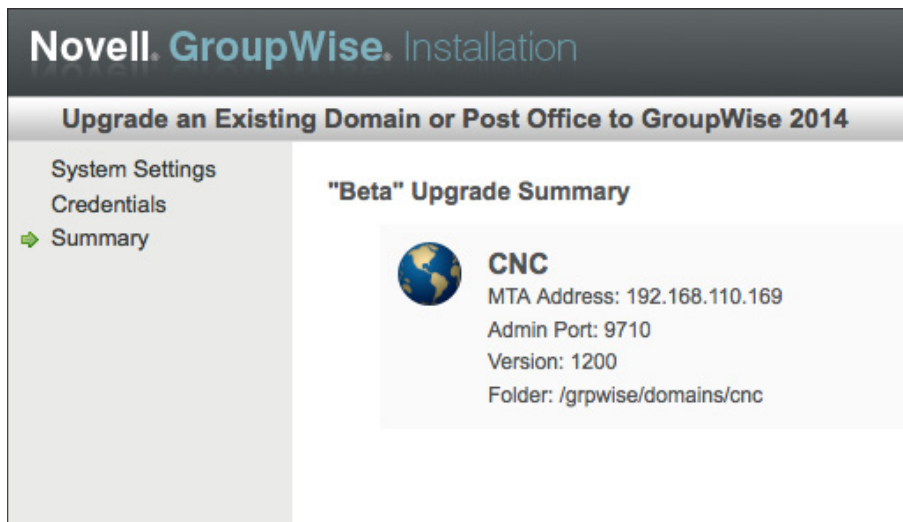
Figure 6-7: Upgrade Summary

7.   Click Finish to complete the upgrade. In the background, the Administrative Service will
prepare the domain for upgrading and launch the MTA to complete the process.

The Admin Service, MTA and POA all have the ability to upgrade the pertinent databases.
The process for upgrading is thus: in the Installation Console, you choose the databases to be
upgraded. The installation process then copies the 2014 dictionary (dc) files to the pertinent
directories, and instructs the Admin Server to proceed to upgrade. The dc file is essentially
a text file that contains the database schema for creating a GroupWise 2014 database. The
gwdom.dc shows the version number at the very top line as #VERSION=1400. This version
number at the top of the file verifies that you have the GroupWise 2014 dc file in your domain
directory. The Admin Service looks at the databases and sees if they are eligible to upgrade (i.e.,
it's either a Primary Domain which can upgrade simply by being told "upgrade", or a Secondary
Domain or Post Office that has been granted the right to upgrade). If the domain is eligible to
upgrade, the Admin Service will launch a recovery of the database, effectively converting the
domain to GroupWise 2014. You will see a notice to restart your MTAs and POAs, and a link to
access your Administration Console. In our experience, a restart is not required.

Geek note: the MTA and POA still have the ability to upgrade the databases as well, but it's a job that's been
officially delegated to the Admin Service.

You will see a notice to restart your MTAs and POAs, and a link to access your
Administration Console. In our experience, it's not actually necessary to restart anything at this
point.
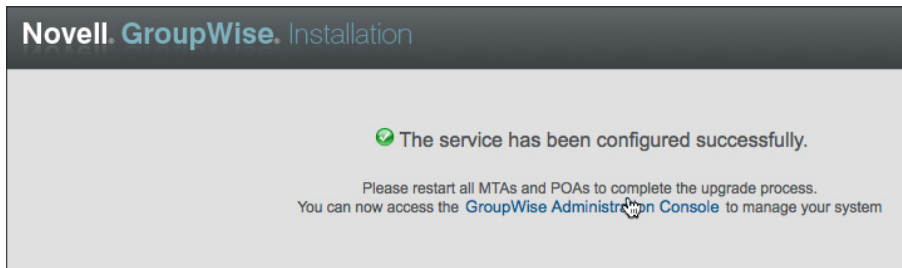
Figure 6-8: Upgrade Complete

If you are watching during the upgrade procedure, you will see the **creating.dbb** and **recover.dbb** files described above temporarily in the domain directory.

```
-rw-r--r--  1 root root  39983 Jan 27 14:15 0127gwbk.001
-rw-r--r--  1 root root 301056 Feb  5 15:37 creating.ddb
-rw-r--r--  1 root root    877 Feb  5 15:37 dzrec.log
-rw-r--r--  1 root root  21737 Jan 23 09:37 gwdom.dc
-rw-r--r--  1 root root  21284 Jan 23 09:37 gwpo.dc
.
.
-rw-r--r--  1 root root 784384 Feb  5 15:37 recover.ddb
-rw-r--r--  1 root root      4 Sep 27 14:11 uid.run
drwxr-xr-x 10 root root   4096 Feb  5 15:37 wpcsin
drwxr-xr-x  5 root root   4096 Sep 27 14:23 wpcsout
-rw-r--r--  1 root root 301056 Feb  5 15:38 wpdomain.db
-rw-r--r--  1 root root  11561 Jul  6  2005 wpdomain.dc
drwxr-xr-x  7 root root   4096 Sep 27 14:30 wpgate
-rw-r--r--  1 root root  10942 Jul  6  2005 wphost.dc
drwxr-xr-x  2 root root   4096 Feb  5 15:37 wpoffice
drwxr-xr-x  2 root root   4096 Sep 27 14:39 wptemp
```

To verify that the domain is in fact version 14, you will launch the Administration Console and check the version in the properties of the domain. We'll do this below in the ***"Verifying the Upgrade"*** section below.

Domain With Post Office (GWIA optional)

As we saw above, any time you upgrade a domain that owns a GWIA, the GWIA is automatically upgraded for you. Thus in this section, if a GWIA is on the server you are upgrading, the only real difference from the prior section will be will be upgrading the post office simultaneously with the domain. Earlier, we recommended that you move and upgrade your domain separately from the post office, but if you have moved them both, that is really not a problem. You can perform the upgrade for both at the same time. You may need to consult the

"Checking the MTP Link" on page 189 if you are experiencing communications problems with your MTA and POA.

Before we begin, you should read the chapter on *"Upgrading GroupWise Post Offices"* on page 179, through the section on *"Preparing the Post Office Database"* on page 181. Once you have performed all of the tasks delineated prior to the section entitled *"Preparing the Post Office Database"*, return here.

Since all agents on the same server must be upgraded together, a domain that owns a GWIA will have the GWIA upgraded transparently during the upgrade procedure. You will not be prompted for anything regarding the GWIA during the upgrade. If changes need to be made (for example, changing the IP address if this is a move/migration), you can make those after the upgrade.

1. Since we have moved our domain and post office to this server, and have not installed a former version of GroupWise on the server, there is no gwha.conf configured. When we open the Installation Console and click on "Upgrade" we see the figure listed below.
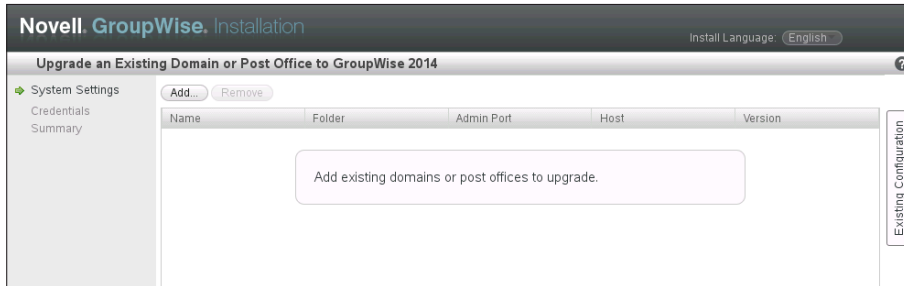
Figure 6-9: No Objects found in gwha.conf for upgrade.

2. To add our Domain and Post Office to the list of objects to be upgraded, we click on the add button. We then are shown a file browser which we can use to browse to the domain directory. Click okay, and you will see the next figure that shows our domain, IP address, and the suggested admin port for this MTA
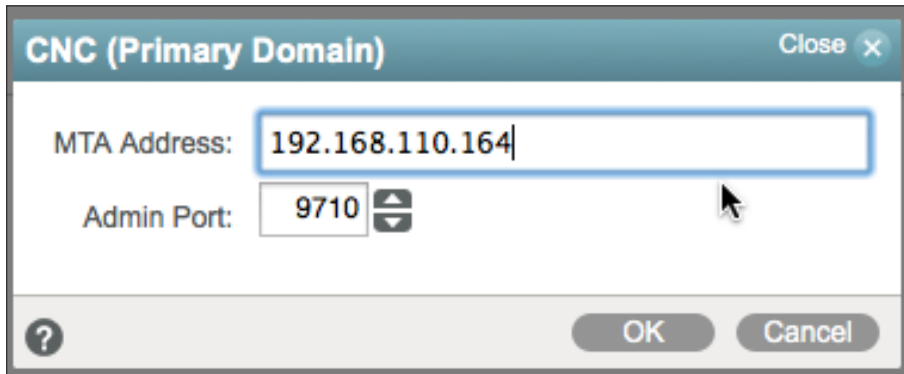
Figure 6-10: Domain Address and Port

3. We have moved our domain, and this IP address is probably no longer valid. We will change the IP address to that of our new server, and click OK

4. Repeat this process for the post office. Click on the add button. Browse for the Post Office location and click okay. Change the IP address to that of the new server if, and click OK.

Now that our domain and post office are in the list to upgrade, we can continue.

1. With your domain and post office properly listed in the upgrade section, click Next.

2. If this is the Primary Domain, you will be required to set an administrator and password for your GroupWise system. This is a very important user and password, and should not be forgotten. This is neither a GroupWise nor an eDirectory/AD user. This userid is written to the domain database and is used when you launch The Administration Console.

   It's our recommendation that you use a user specific to this task here. Just as we used gwinstall for our installation user in our **install.cfg**, we'd use something like gwadmin here to differentiate it from other administrative accounts you might have.

   If you choose a "weak" password, Novell will alert you, but you can continue to use the password even if you are told it is weak.

Figure 6-11: Defining the Super Admin userid and password

Set your administration user name and password and click Next.

If this is a secondary domain, you will not see the above figure that prompts you to create a new admin user and password. Rather, you will be prompted for location and credentials of your Primary Domain admin service.

Figure 6-12: Connecting to the Primary Domain to complete an upgrade

3. You will now see a summary screen. In our case, our GroupWise system is called "Beta", so you see the name of the system, the domain and post office to upgrade, and the settings for the domain and post office.

Figure 6-13: The Upgrade Summary Screen

   Click Finish to complete the upgrade. In the background, the Administrative Service will prepare begin the upgrade process of the domain and post office and launch the MTA and POA.

   The Admin Service, MTA and POA all have the ability to upgrade the pertinent databases. The process for upgrading is thus: in the Installation Console, you choose the databases to be upgraded. The installation process then copies the 2014 dictionary (dc) files to the pertinent directories, and instructs the Admin Server to proceed to upgrade. The dc file is essentially a text

file that contains the database schema for creating a GroupWise 2014 database. The **gwdom.dc** shows the version number at the very top line as #VERSION=1400. This version number at the top of the file verifies that you have the GroupWise 2014 dc file in your domain directory. The Admin Service looks at the databases and sees if they are eligible to upgrade (i.e., it's either a Primary Domain which needs no further permission, or a Secondary Domain or Post Office that has been granted the right to upgrade). If the domain database is eligible to upgrade, the Admin Service will launch a recovery of the database, effectively converting the domain to GroupWise 2014. Then the process will happen for the Post Office. You will see a notice to restart your MTAs and POAs, and a link to access your Administration Console. In our experience, a restart is not required.

Geek note: the MTA and POA still have the ability to upgrade the databases as well, but it's a job that's been officially delegated to the Admin Service.

If you are watching during the upgrade procedure, you will see the **creating.dbb** and **recover.dbb** files described above temporarily in the domain and post office directories. Here's an example

```
-rw-r--r--  1 root root  39983 Jan 27 14:15 0127gwbk.001
-rw-r--r--  1 root root 301056 Feb  5 15:37 creating.ddb
-rw-r--r--  1 root root    877 Feb  5 15:37 dzrec.log
    .
    .
-rw-r--r--  1 root root 784384 Feb  5 15:37 recover.ddb
-rw-r--r--  1 root root      4 Sep 27 14:11 uid.run
```

To verify that the domain is in fact version 14, you will launch the Administration Console and check the version in the properties of the domain. We'll do this below in the *"Verifying the Upgrade"* section below.

Verifying the Upgrade

When you completed your upgrades in the sections above, there was a link to the Administration Console in the "upgrade completed". There is also an icon on your server desktop. To go there manually, type this URL in your browser:

https://yourserver:9710/gwadmin-console

Since the installation created a self-signed certificate, you will be prompted to accept the untrusted certificate. Once you have done that, you will be at the Administration Console login screen.

Figure 6-14: Login Screen for the Administration Console

Log in with the username and password you created above.

You will now see the Administration Console Dashboard. We will not go into great detail about this screen here, but will make a few comments.
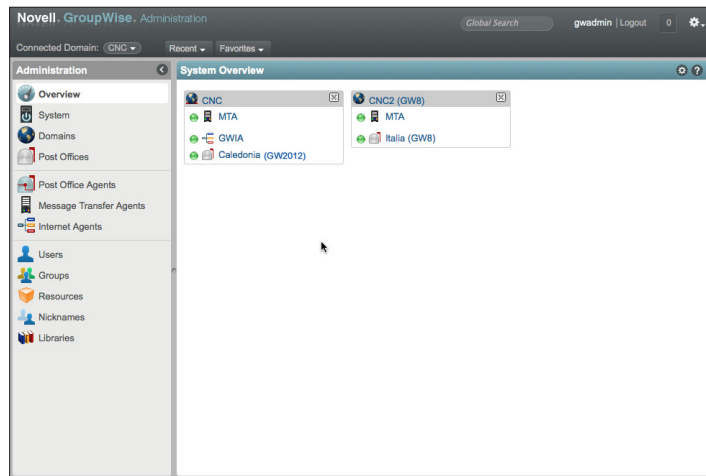

Figure 6-15: Administration Console

Here we see that our system has two domains, two post offices and a GWIA. Any domain or post office that is NOT GroupWise 2014 will show the version number next to its object. For example, in our figure, the Caledonia PO is still at 2012, and the CNC2 Domain and Italia PO are GroupWise 8.

To verify that our CNC domain is indeed version 2014, we can click on the name CNC, which is a link to the domain properties.
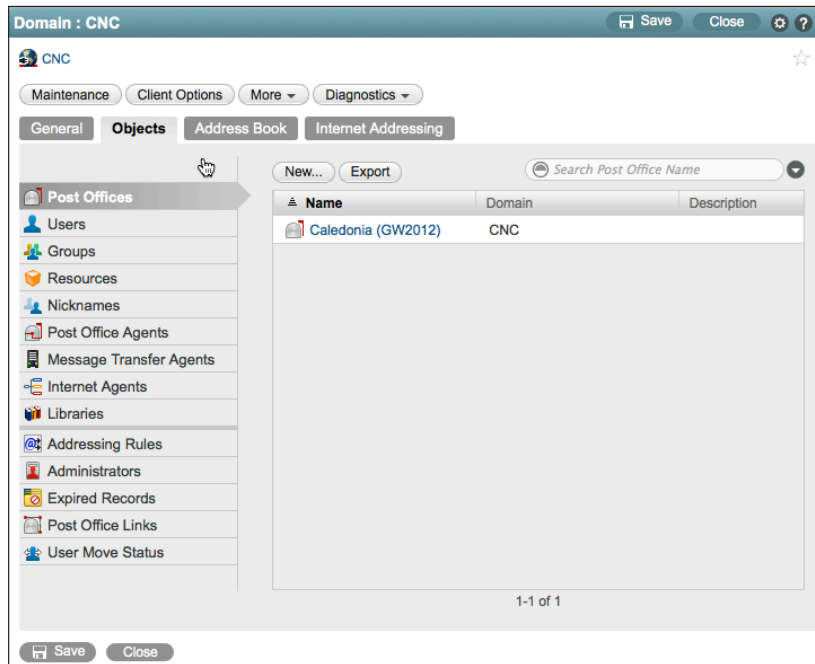
Figure 6-16: Domain Objects Properties

You will first see the "Object" screen shown above. Just click on the General Tab to see the details for the domain.
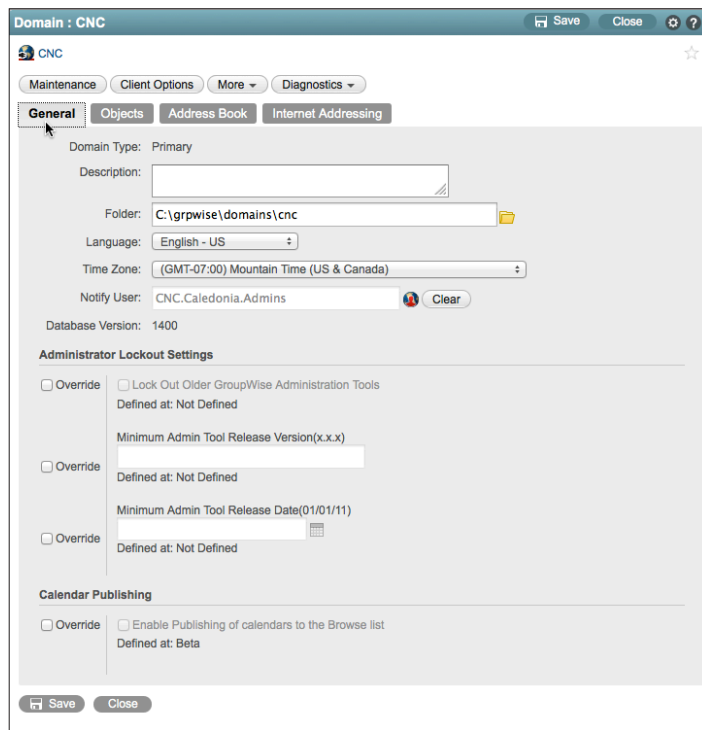
Figure 6-17: Domain General Properties

Notice that our domain shows version 1400 on the General Tab, so we have in fact upgraded our primary domain.

Follow the same instructions for the Post Office to check the version.

To verify that all of your agents are loaded, the simplest way is to access the HTTP monitors for each agent upgraded. You should have verified back in *"Enabling the HTTP Monitor for Your Agent"* on page 11 that your HTTP monitors were operational. The default paths for these monitors are:

- MTA: http://yourserver:7180

- POA: http://yourserver:7181

- GWIA: http://yourserver:9850

If you cannot connect to your monitors, verify on the server that the agents are actually running

.
- On Linux, go to a terminal prompt and type **rcgrpwise status**

- On Windows, go to the Services monitor (Start|Administrative Toosl|Services) and look for "GroupWise" services to see if they are running.

Additional Post Office Steps

If you have upgraded a Post Office in tandem with its Domain, you should check the steps in *"Upgrading GroupWise Post Offices"* beginning with *"Configuring and Verifying a DVA for your Post Office"* on page 186.

Where to from here?

Depending on the size and complexity of your system, and your overall upgrade plan, there are a number of "next steps" that you can take. The main rule of thumb is that you must upgrade ALL components of GroupWise that reside on the same server. Let's look at a couple of very common configurations that you might be looking at.

Single Server

Sites with a single GroupWise server have everything in one place. This is acceptable for very small sites, although we always DO recommend that a site have a second domain as a fail safe measure. That said though, today we're upgrading, not redesigning your system, so we'll work with what we have. Single servers in very small organizations often house the following components:

MTA for the Primary Domain

POA for a single Post Office

GroupWise Internet Agent

GroupWise WebAccess Agent (GroupWise 8 and older)

GroupWise WebAccess Application

GroupWise Monitor

GroupWise Calendar Publishing Host

If this scenario fits your situation, then your Domain, GWIA and possibly Post Office are already upgraded, and all you need to do is upgrade the WebAccess Application (the GroupWise 8 and earlier WebAccess Agent is no longer used). So just jump over to the chapters on moving and upgrading your GroupWise Post Office, GroupWise WebAccess, GroupWise Monitor and GroupWise Calendar Publishing Host and Upgrading your GroupWise Clients. You'll be finished in no time!

Multiple Servers

There are as many configurations of multiple server GroupWise systems as there are GroupWise customers it seems!

If your primary domain resides on a server all by itself, you are finished with this server. You can stop here, or move on to upgrading any post offices that belong to this primary domain, upgrading a secondary domain server, etc. It's possible you might wish to go ahead and upgrade your GWIA at this point, but remember that you won't want to do this if you have users in older GroupWise post offices accessing via IMAP4 or POP3 through your GWIA. See the chapter on Upgrading Your GroupWise Internet Agent.

If your system is small, and you will be upgrading all of your post offices over a weekend (for example), and you can afford to have WebAccess down for some users while you upgrade, you might choose to upgrade your WebAccess now. If you can provide for two separate WebAccess Application servers, you can upgrade your WebAccess and make it the default web server for WebAccess while you continue to upgrade your post offices. See the chapter on Upgrading Your GroupWise WebAccess.

Primary Domain and Post Office on the Same Server

It might be that you have a small system with your primary domain and post office on one server, and another server with a secondary domain for your GWIA and web server for WebAccess. In this situation, you will move the second server and perform the domain/gwia upgrade as noted above. Finally, you can proceed to upgrade WebAccess.

Troubleshooting Domain Upgrade Problems

There are very few things that can go wrong during a domain upgrade. If you find that your domain refuses to show as a GroupWise 2014 domain in ConsoleOne, do a couple of things:

- Double-check that the installation actually copied the dc files into the domain directory. Open the gwdom.dc file with a text editor to verify that it is in fact the GroupWise 2014 file.

- If this is a secondary domain, verify that the secondary domain KNOWS that the primary domain is a GroupWise 2014 domain. You can do this by connecting to the secondary domain in ConsoleOne and looking at the properties of the primary domain. It should show as version 1400 (or just 14 since ConsoleOne does not know about GroupWise 2014). If the primary does NOT show as a GroupWise 2014 domain when viewed from the perspective of the secondary domain, you will need to launch the Administration Console in your browser to verify (as described above) that it shows as a GroupWise 2014 domain (look in the properties of the primary). Once you have confirmed that the primary is GroupWise 2014, rebuild the secondary domain. You will need to use the command line utilities for GroupWise 2014 to rebuild the secondary domain database. See the section on *"Command Line Utilities"* on page 152 in the chapter on *"The GroupWise Administration Console"* to see how to accomplish this.

Troubleshooting Post Office Upgrade Problems

There are very few things that can go wrong during a post office upgrade. If you find that your post office refuses to show as a GroupWise 2014 post office in the Administration Console do a couple of things:

- Double-check that the upgrade procedure copied the new dc files into the post office directory. Open the **gwpo.dc** and **ngwguard.dc** files with a text editor to verify that they are in fact the GroupWise 2014 files.

- Double-check that the domain owning this post office is actually a GroupWise 2014 domain (i.e., it shows as version 1400 in the Administration Console).

- Unload and reload the POA to see if this solves the problem.

- It is possible that communications issues have prevented the post office database from receiving the news that its parent domain is a GroupWise 2014 domain and thus is allowed to upgrade. Remember that just loading the GroupWise 2014 agent software is not enough. If all else fails, rebuild the post office database. See *"Validating or Rebuilding a Post Office Database"* in *"The GroupWise Administration Console"* on page 139.

Once you are ready to continue, just turn to the next chapter in your upgrade plan.

7 Directory Integration and Synchronization

In 1996 Novell shipped GroupWise 5.0. It was the first release that had totally been developed under the Novell umbrella (what we know as GroupWise 4.1 had been in beta as WordPerfect Office 4.0b when Novell purchased WordPerfect Corporation). The changes were not terribly huge from a user or basic structure standpoint. However, suddenly you needed to have NDS (Novell Directory Services, now just known as NetIQ eDirectory) to manage GroupWise.

GroupWise was only "loosely" integrated with eDirectory, and this caused no small amount of confusion for the next 18 years. Until Novell added LDAP authentication with GroupWise 6.5, there were truly no operational dependencies on eDirectory at all. In other words, you could set up a GroupWise system on Windows, for example, disconnect the NetWare servers, and so long as you never needed to add a user to your system, GroupWise would hum along just fine. It seemed like a lot of "overhead" to have GroupWise connected to eDirectory in a very loose way, and yet depend so entirely on eDirectory for configuration and maintenance.

GroupWise 2014 will be a welcome change for some administrators, and a vexing step back for others. At it's very core, GroupWise 2014 has the right idea: Remove the dependency of a Directory from the GroupWise system, and yet allow for synchronization of data back and forth between GroupWise and a directory service if desired. So let's look at the benefits and the disadvantages of this new way of GroupWise life. These pros and cons are based on the shipping version of GroupWise, and we expect to see many of the disadvantages addressed in future service packs and releases. As of today, here's where we stand:

Pros:

- GroupWise is no longer tied to eDirectory, so sites that have moved or are moving to an Active Directory environment can use AD for the authentication and integration if they choose.

- GroupWise can be used as a totally standalone system for very small companies that use NO directory service for their access (and before you say they don't exist, let us assure you they do!).

- GroupWise management is no longer tied to management tools not under the control of the GroupWise engineers. Both nwadmin and ConsoleOne were developed by other teams at Novell, and GroupWise had to somehow "fit in". Edicts such as "all Novell products will be managed by iManager" were unrealistic for a product like GroupWise, which being only "loosely" tied to eDirectory could not be properly administered with web based tools that could not effect direct access to the GroupWise databases.

- GroupWise 2014 has a separate Management Console that is uniquely and purposefully designed to be the best "GroupWise" Administration tool without dependencies and limitations of being a snapin or part of a larger administration tool.

Cons:

- At the time GroupWise 2014 ships, there will be no IDM driver available. Sites reliant on IDM for their GroupWise/Directory integration will be required to manage their systems with two sets of tools.

- The iManager and MMC plugins for GroupWise are in their infancy, and provide only limited functionality (adding users to post offices, for example), and sites will be required to have two separate management tools for their networks.

- GroupWise 2014 has a separate Management Console that is uniquely and purposefully designed to be the best "GroupWise" Administration tool without dependencies and limitations of being a snapin or part of a larger administration tool. Hey - wasn't this listed as an advantage above? It's one of those double-edged swords. This also means that sites who were accustomed to one tool being able to handle everything will suddenly be faced with the need for multiple administrative tools pertaining to GroupWise.

The good news though is that GroupWise administration will be totally controlled by the GroupWise development team, and ultimately limited only by their choice of REST as the engine for their management, and their own imaginations. The buck stops there.

When we talk about LDAP and GroupWise, there are really two issues at hand:

- Directory Integration & Synchronization
- Directory Authentication

These topics are not necessarily as straight-forward as you might think, so let's discuss.

What is Directory Integration and Synchronization?

Generally when we think of GroupWise and Directory Integration, we think of eDirectory, because frankly that is the only directory that GroupWise versions 5.0 through 2012 are capable of integrating with. In order to explain Directory Integration in a wider sense, we will use eDirectory as our model.

In GroupWise 2012 and earlier, GroupWise users were by their very nature associated directly with an eDirectory object, either an eDirectory user, or a special GroupWise object called an External Entity. Most administrators never actually knew that it was even possible for a GroupWise user to NOT have an eDirectory association, unless something odd happened in the system, and one day a perfectly normal GroupWise user suddenly appeared in the GroupWise view with a "white shirt".

Our figure below shows two eDirectory users who have GroupWise accounts (Red Shirts), one External Entity (Green Shirt - a GroupWise user who has a special eDirectory object that allows for no access to network resources other than GroupWise access), and one totally unassociated GroupWise user who has no ties to eDirectory at all (White Shirt). Prior to GroupWise 2014, having unassociated users was typically a "mistake", but it did happen occasionally. Interestingly enough, the GroupWise user still functioned okay, so one wonders in retrospect why the External Entity was so important!

Figure 7-1: A variety of GroupWise User Objects

If a disturbance in the Force were to happen, and the eDirectory connection with the GroupWise object was damaged (but not entirely deleted - i.e., the icon did not turn white), the object would become unmanageable - literally! You would receive an error like "replication may be in progress" or other strange error messages, and you would be unable to deal with things like changing user passwords, moving users to new POs, etc. You would first need to fix the "association" before you could continue.

In prior releases of GroupWise, there were eDirectory Schema Extensions available that allowed GroupWise specific objects to be referenced in the tree (Domains, Post Offices, Resources, Distribution Lists, etc.). Without these extensions, many GroupWise functions could not be properly managed in ConsoleOne. GroupWise 2014 no longer needs any Directory extensions to function. In fact, the only information that GroupWise "writes" to the Directory is the email address for users, via LDAP.

GroupWise 2014 takes away the "direct" eDirectory link, and relies instead on LDAP for all Directory integration functions. In this first iteration of GroupWise 2014, the directory types are limited to eDirectory and Active Directory. One can envision a day when OpenLDAP would also be supported, allowing GroupWise to be integrated into just about any networking system available.

During a GroupWise upgrade, assuming certain criteria have been met, your system will be automatically integrated with eDirectory (see*"Preparing Your LDAP System"* on page 14*).*

So, in a nutshell, when we speak of Directory Integration (at least in this guide) we are referring to the association between a GroupWise user and a user in eDirectory or AD.

If a user is properly integrated with a Directory (in GroupWise terminology we say the user is "associated" with a Directory), then the changes made in the Directory can synchronize to GroupWise through an LDAP connection.

Directory Rights Requirements

As you configure directory objects in this chapter, you will be asked for an LDAP user to use as the synchronization agent user. It is best practice to create a user specifically for this task.

eDirectory

In order to be able to Synchronize information from eDirectory to GroupWise, the account that you specify for the LDAP Sync must have Browse objects rights to users in the eDirectory Tree. There are also specific Attribute Rights that are required in order to Publish users' e-mail addresses back to the directory. The LDAP account specified for syncing requires Read and Write to the *eMailAddress* and *mail* attributes.

Additionally if the System is upgraded from GroupWise 8 or 2012 the user will need read and write to these additional attributes.

- nGWFileID
- nGWGroupWiseID
- nGWObjectID
- nGWPostOffice
- nGWVisibility
- nGWAccountIDn
- GWMailboxExpirationTime

Active Directory

In order to synchronize information to Active Directory, the LDAP account must have write rights to the *mail* and *proxyAddress* attributes in AD.

What Is Directory Authentication?

When Novell introduced LDAP authentication with GroupWise 6.5, it was seen as primarily a way to accomplish a couple of things:

- Extend the functionality of GroupWise passwords to enforce password restrictions such as length and expiration policies.
- Provide a single-signon solution for GroupWise users at all points of entry.

Administrators had long lamented that GroupWise passwords were too simple, and there was no way to force a user to change a password on a schedule. Additionally, while it was possible to allow users to avoid having to put in their password from their Windows workstation if the user was already logged into eDirectory, the GroupWise specific password was needed for WebAccess, IMAP and the like. Only the Windows client could benefit from a "single login" to authenticate to GroupWise. Additionally, because GroupWise passwords were separate from the eDirectory password, users frequently didn't even know the GroupWise password if they were relying on the eDirectory authentication at the desktop.

Utilizing LDAP passwords for authentication solved both of these problems. Users only needed one password, the password length and duration could be defined by the administrator, and the GroupWise password itself became unimportant.

GroupWise 2014 still allows for either LDAP authentication or native GroupWise passwords for authentication.

You should not confuse the idea of LDAP authentication with Directory Integration and Synchronization. You can turn on LDAP authentication at the Post Office and not have any Directory Integration for the system. We've had many AD shops do just this in older versions of GroupWise. These sites used their AD LDAP server as their "Authentication" servers. It was not necessarily a simple setup. It required entering the LDAP login information in the LDAP Authentication field for each user. That said, it was possible even with older versions of GroupWise to use Active Directory as the authentication source, even though the users were actually "associated" with users in the eDirectory tree.

Launching the New Administration Console

First you must log into your Administration Console from your Web Browser. There was a link to the Administration Console at the end of your Primary Domain upgrade. You can also launch the Administration Console either by using the Icon on your Server Desktop (which is actually just a shortcut for your browser), or navigate directly to your Console by navigating to:

https://yourserver.com:9710

Figure 7-2: The Administration Console Login Windows

Figure 7-3 shows the main GroupWise Administration Console screen. This is the default "Overview" or "Dashboard" view when you open the Administration Console.
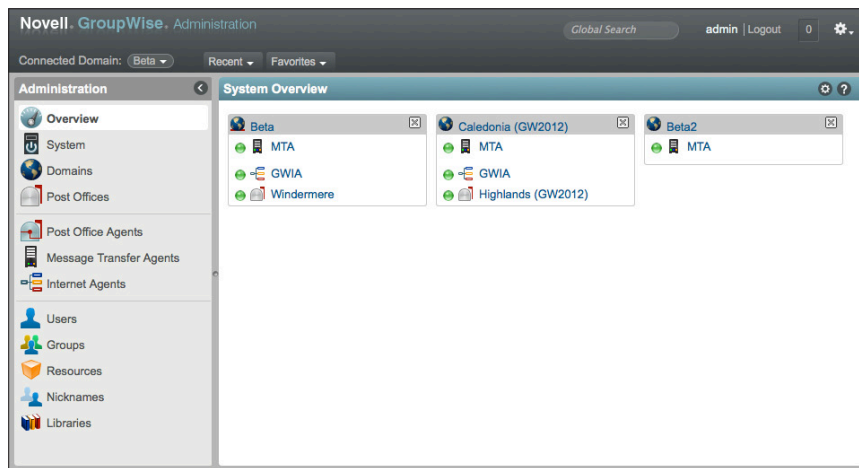
Figure 7-3: The GroupWise Administration Console Dashboard

We will discuss the Administration Console in more detail in the next chapter. For now we have some business to attend to with Directory Services.

The Initial Directory Integration

In *"Preparing Your LDAP System"* on page 14, we showed you how to configure your GroupWise system prior to upgrading to GroupWise 2014. During the upgrade of your Primary Domain, if your LDAP system is setup properly as described in the aforementioned sections, your new GroupWise 2014 system should be automatically integrated with eDirectory.

If after your upgrade you see a red box in the top right corner of the Administration Console, the likelihood is that your Directory Integration failed.
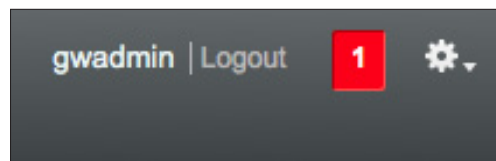
Figure 7-4: Error notification in Administration Console

When you click on the red box, you will see any errors that are being reported by the Administration Console.

Figure 7-5: Initial Directory Configuration Error

We will look at how to correct this in *"Correcting a Failed Directory Integration"* below. First, let's see how this looks if the initial Directory Integration is successful.

Let's start by looking at our test system.
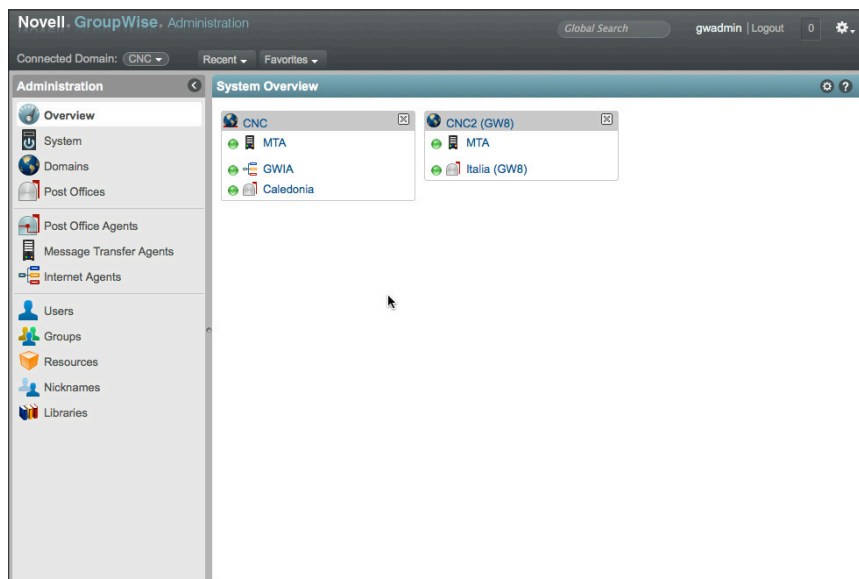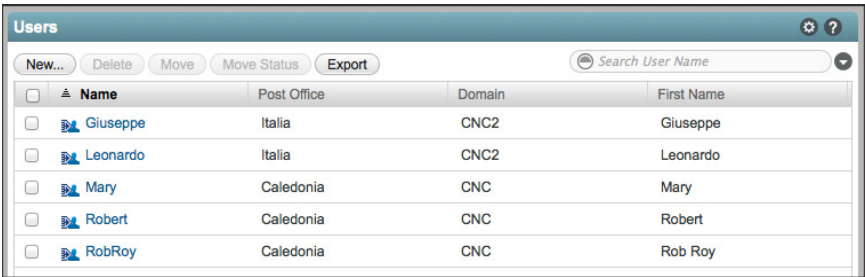
Figure 7-6: GroupWise Test System

In this system, we have upgraded our GroupWise Primary domain to GroupWise 2014. This domain also has a GWIA and Post Office. We have a Secondary Domain that is still at GroupWise 8 version.

Click on Users, so that we can see what our users look like in our upgraded system.

Figure 7-7: Users in our upgraded system

Compare this to another system below.

Figure 7-8: Unassociated Users

If you look closely, you will see that there are two separate icons for GroupWise users. One indicates that a user is associated with a directory, and one indicates that the user is a "stand-alone" groupwise user.

Figure 7-9: Unassociated vs. Associated Users

Since our system came from a prior version of GroupWise, which required eDirectory, you should only see the Unassociated icon if you had users in eDirectory that had lost their eDirectory Association (see the "White Shirt" in Figure 7-1 above).

NOTE: Even if your LDAP servers and eDirectory Synchronization was not properly configured before the upgrade, your GroupWise users will show an "Associated" icon. This can be misleading, and we will discuss that later in this chapter.

Associated Users

When we look at the General Details for an Associated User, we see the following:
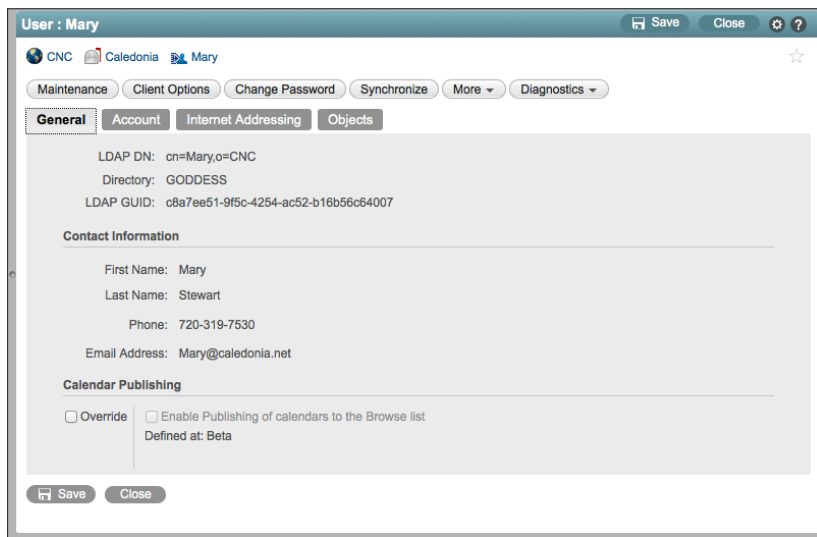
Figure 7-10: A user associated with eDirectory

Notice the LDAP information for the user

LDAP DN:	**cn=Mary,o=CNC**
Directory:	**GODDESS**
LDAP GUID:	**c8a7ee51-9f5c-4254-ac52-b16b56c64007**

This information is read-only. The only information on this window that can be changed is the calendar publishing information. All other information, including phone numbers, physical address, department and the like are defined in the LDAP directory.

By contrast if we were to look at an Unassociated User, all information can be manipulated within the GroupWise Administration Console directly. Unassociated Users receive no information from any directory source. Thus, if you were to choose to dissociate your users from eDirectory and make them all Unassociated users, changes made in eDirectory (or Active Directory, if that is your Directory of choice) would not filter down to the GroupWise system. Very small systems with no need for either eDirectory or Active Directory would probably choose this method.

Unassociated Users

Below we see an Unassociated User.

Figure 7-11: An Unassociated User has all information stored in the GroupWise System

Unassociated Users are managed entirely within the GroupWise Administration Console. All updates to user name, address, phone number, department and the like are entered directly into the GroupWise database through the Administration Console.

Non-Associated Users

In our chapter on *"Preparing Your GroupWise System",* it was mentioned that if LDAP and eDirectory Synchronization are not properly configured in your pre-upgraded GroupWise system, the automatic Integration with eDirectory will not occur. This results in a special situation where the users are not Associated with eDirectory, and yet they also are not considered Unassociated Users. For our purposes in describing these users, let's call them "Non-Associated". Notice in our figure below, Giuseppe has the "Associated User" icon, and the information for Giuseppe is read-only in the General tab. Yet there is no LDAP DN and GUID information present. In this state, Giuseppe is somewhat in limbo. Changes in the Directory will not propagate to Giuseppe's object in GroupWise, but the Administrator is also unable to edit the information directly. Giuseppe is stuck in a state between Associated and Unassociated. This is very similar to situations in ConsoleOne where you might attempt to edit a user object only to be warned that "replication" was in progress, and the user was not accessible. Certainly you can still do some routine maintenance tasks on this Non-Associated user. You can change the password, run GWCheck, create Nicknames, etc. You simply cannot change the "address information" typically found in the General tab.
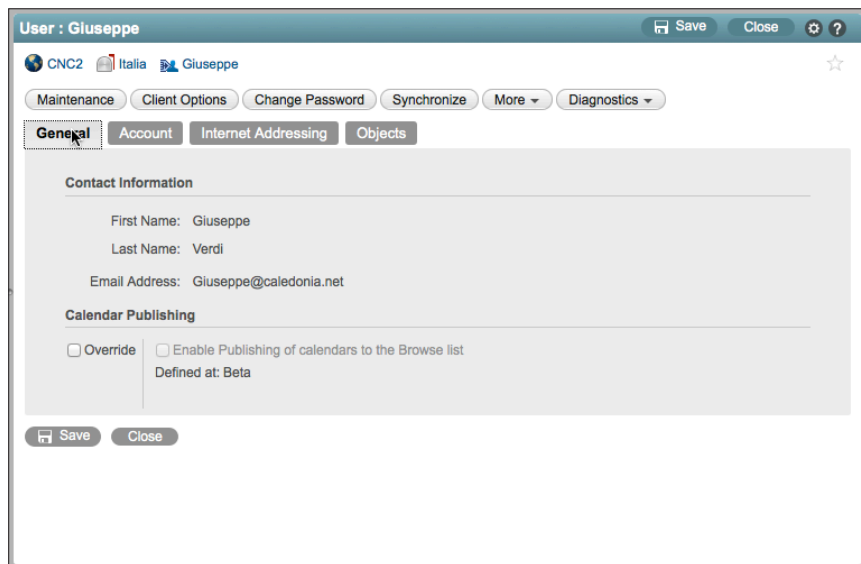
Figure 7-12: A Non-Associated User

We'll show you how to fix synchronization issues such as this below.

The Directory Object

When we look more closely at our LDAP Servers in the sections below, you will note that there are two types of objects: The Directory and the LDAP Server. We'll discuss those now.

The Directory Object (in our case in   named Goddess) will represent either eDirectory or Active Directory, and is what we will call a "Master LDAP Server". Many of the settings in the Directory Object will flow down to any additional LDAP Servers that are subordinate to the Directory.

The Directory is used for two purposes:

- The Directory provides the facility to synchronize LDAP users to their GroupWise counterparts.
- The Directory serves as an LDAP Authentication source for users logging into GroupWise using LDAP credentials.

When you verify or create the Directory objects below, you will be providing both of these functions to your system.

The LDAP Server Object

Subordinate to the Directory Object can be one or more LDAP Server objects. In our upgraded system, our LDAP Server, defined as CNC and listed in *"Preparing Your LDAP System"* on page 14, provides only Authentication Services. It is not in charge of any synchronization.

Multiple LDAP servers can be defined if you have multiple eDirectory or AD Domain Controller servers. This can provide redundancy for your users to ensure that if one LDAP server is down, users can continue to log into GroupWise. However, since the Directory object itself is also an Authentication source, you really only need to define LDAP servers if you have more than one LDAP server that can server as an authentication source.
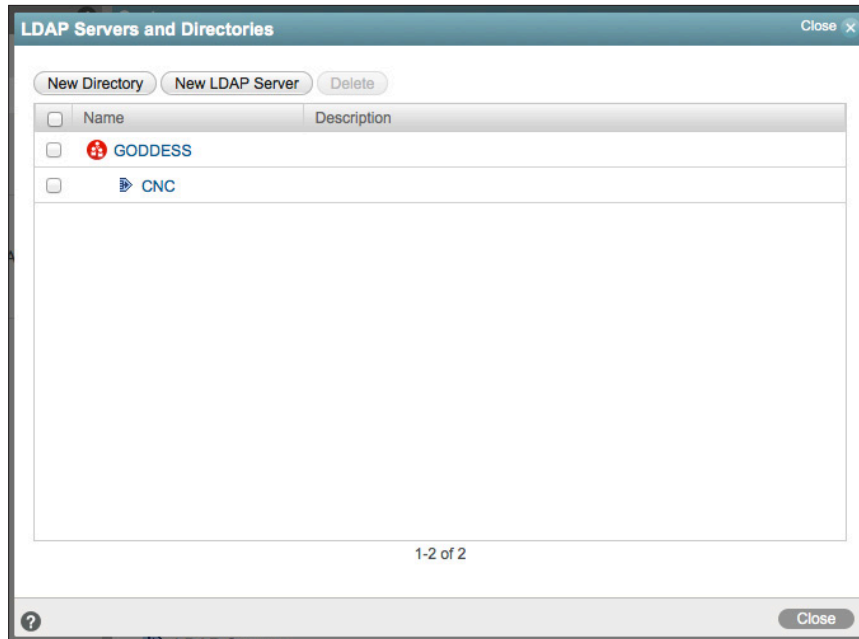
Figure 7-13: Our LDAP System

For the rest of this chapter, we will be focusing on the following scenarios:

- *"Verifying a Successful Directory Integration"*

- *"Correcting a Failed Directory Integration"*

- *"Integrating Active Directory into Your GroupWise System"*

- *"Removing eDirectory Associations to become Stand-Alone"*

The likelihood is that you only need deal with one of these scenarios. We have duplicated a lot of the content so that you can read the section that pertains to you, and avoid a lot of jumping around.

If you goal is to remove eDirectory altogether and immediately either integrate your entire system with Active Directory, or remove all Directory Associations, there is little need for you to go through the steps of verifying or correcting your current configuration. You can skip down to the section that pertains to your situation.

Verifying a Successful Directory Integration

If you received no Directory Integration errors (shown in Figure 7-4 and Figure 7-5 above), we can assume that your Directory integrated properly. That said, we will want to verify the installation, and generally just show you how it should look. Also, we have seen instances where systems were set up for eDirectory synchronization properly, but had one or more domains not actually synchronizing. We'll want to look at the system to make sure it is in order.

Verifying the Directory

First, click on System in the Administration Console. This choose LDAP Servers.
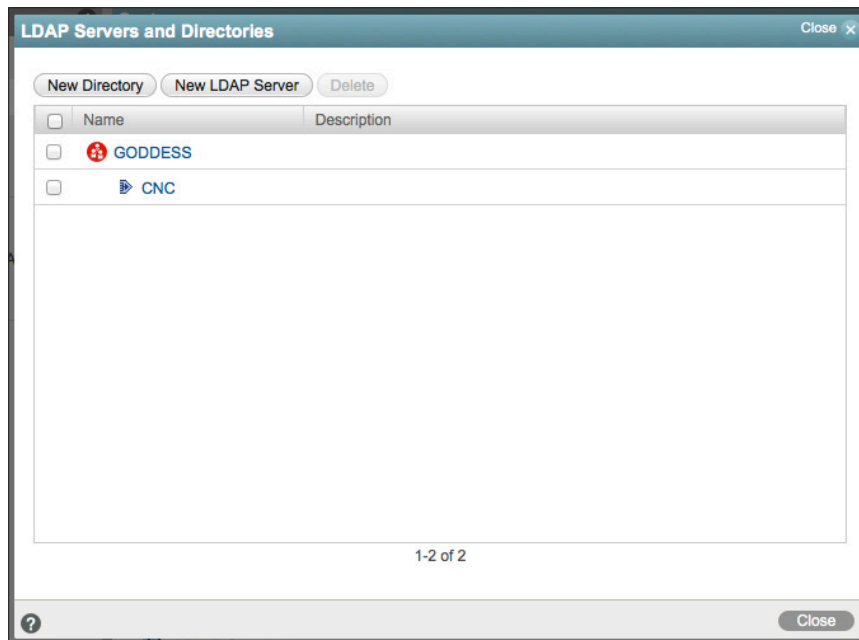
Figure 7-14: Our LDAP System

Here our imported LDAP Directory and Server is from eDirectory. The name of the Tree is Goddess. We had defined an LDAP server in ConsoleOne and named it CNC. This information came over during the upgrade with no prompt for intervention. In other words, if the system was correct before the upgrade, it should be correct here. If you had issues with the eDirectory Synchronization prior to the upgrade, you will continue to have those problems after the upgrade!

Let's look at our Directory named Goddess. Simply click on the name of the Directory to open the details page.

Figure 7-15: Our migrated eDirectory "Directory"

The General tab of the Directory shows the tree name, Directory type (in an upgrade this will always be eDirectory) and the location of the Directory. Verify all settings here, enter the LDAP user password, and click Test Connection to ensure that the Directory is properly configured.

NOTE: If you come back to this screen at a later time to test, and the LDAP password is greyed out as in the figure, you will be required to put the password in again in order to complete a successful test.

The Base DN is the "starting point" for your LDAP search. A migrated Directory will not have any value listed in the Base DN. For synchronization purposes, this is not an issue, as the Synchronization queries a specific LDAP GUID to compare property values. However, if you will be authenticating via LDAP you will want to set a Base DN. In our example above, we have a very small tree, and users are in the "O" container. Larger organizations generally have OUs based on type of object, or company organization, etc. You do not want your Base DN too high in your tree, as that would require the LDAP search to look through too many records. By the same token though, you want to make sure that all user objects you wish to manage in this directory are found below this Base DN designation.

Note the Sync Domain. As with prior versions of GroupWise, it is really only required that one MTA be configured to do synchronization for the entire system. Choose the Domain whose MTA should perform the sync for this Directory. The MTA must have a Scheduled Event for Directory Synchronization enabled for Directory Synchronization to actually occur automatically. We will go through the steps to verify the synchronization in *"Testing Directory Synchronization"* at the end of this chapter.

The Directory is also serves as the default LDAP authentication source. Here you define the LDAP settings for your LDAP authentication. Click on the LDAP Authentication tab to see the current, migrated settings.
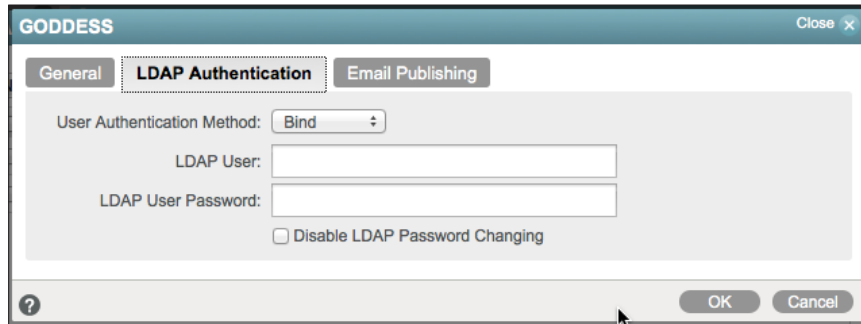
Figure 7-16: LDAP Authentication Settings

We can also look at the Email Publishing settings here. Now that GroupWise has been decoupled from eDirectory, the only changes GroupWise ever makes to the directory (whether eDirectory or Active Directory) are related to the email addresses of your users.
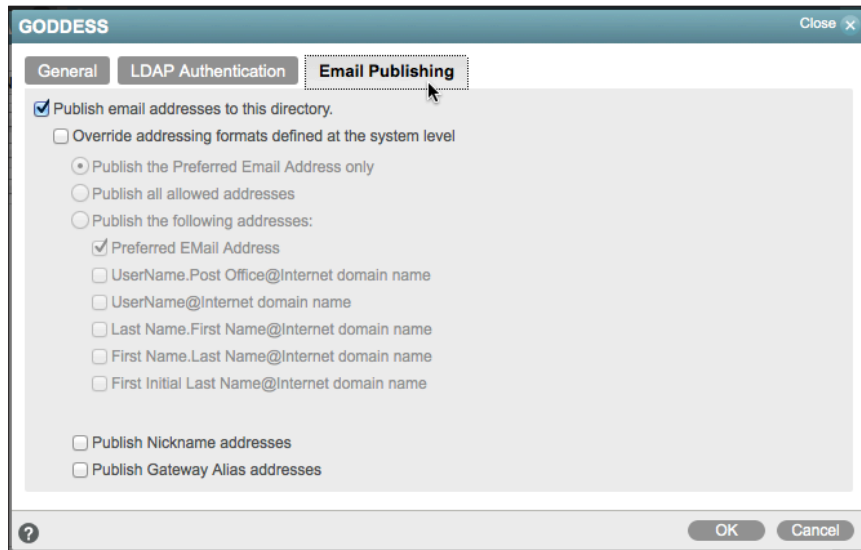
Figure 7-17: The Email Publishing Settings

You can change these settings to meet the needs of your organization. These settings are defined in System|Internet Addressing. You can modify them there for the entire system, or you can changed them here by clicking on the "Override" box and choosing the options you desire.
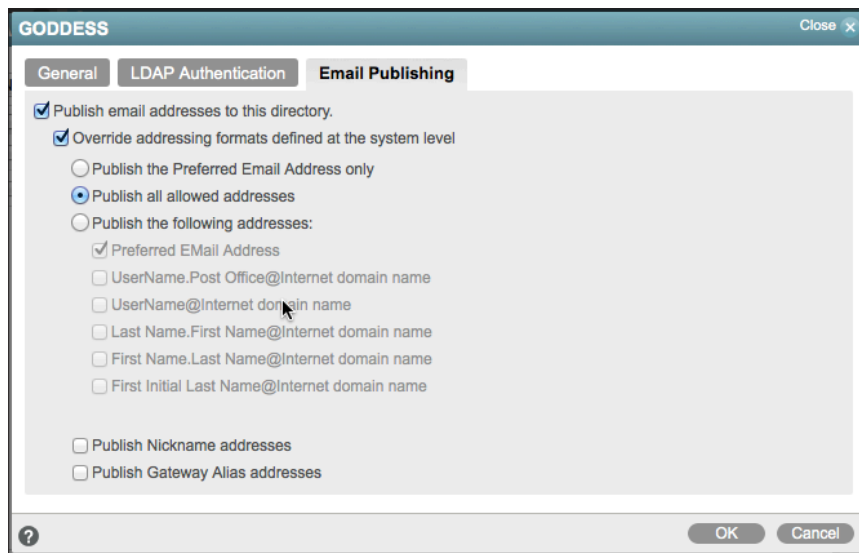
Figure 7-18: Modified email publishing settings

You can choose to publish all allowed addresses, only certain types of addresses, even nicknames. The eDirectory email field is multi-valued and can accept more than one email address. If you are using the LDAP server to provide address lookup for a smart host (perhaps an anti-spam appliance in front of your GroupWise system), you would need to decide which addresses are allowed. In some cases, this is necessary in order to keep costs down. For example, if your anti-spam provider treats each email address as a "user", danitaz, danita, danita. zanre, and zanre.danita could start to get expensive.

Verifying the LDAP Server

In Figure 7-14 under the Directory you also see our LDAP server (named CNC). When we click on the link for the LDAP server, we see the following window.
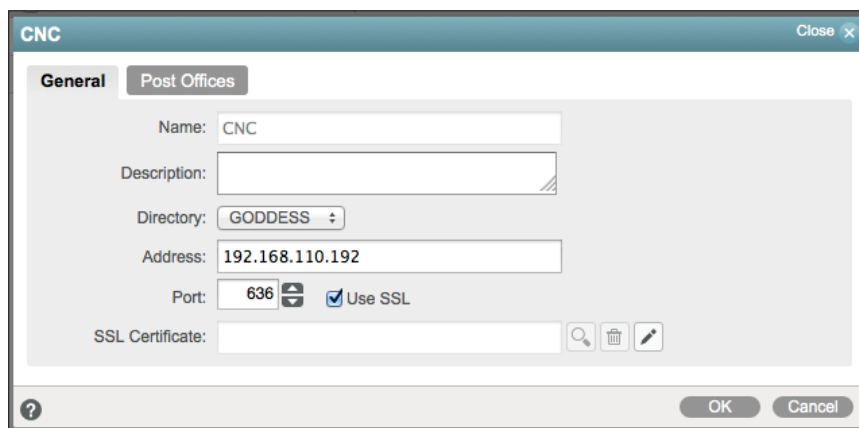
Figure 7-19: LDAP Server Configuration

This is pretty straightforward. The contains the information for the LDAP server to which users will authenticate for access to GroupWise (if you have LDAP authentication enabled). You can create multiple LDAP servers here for failover and redundancy in case one server is down when a user attempts to log into GroupWise.

The Post Offices tabs lists each GroupWise Post Offices that will use this LDAP server as its primary authentication source. If this LDAP server is down, and other LDAP servers have been configured, the POA will step through the listed servers to find an available authentication source.
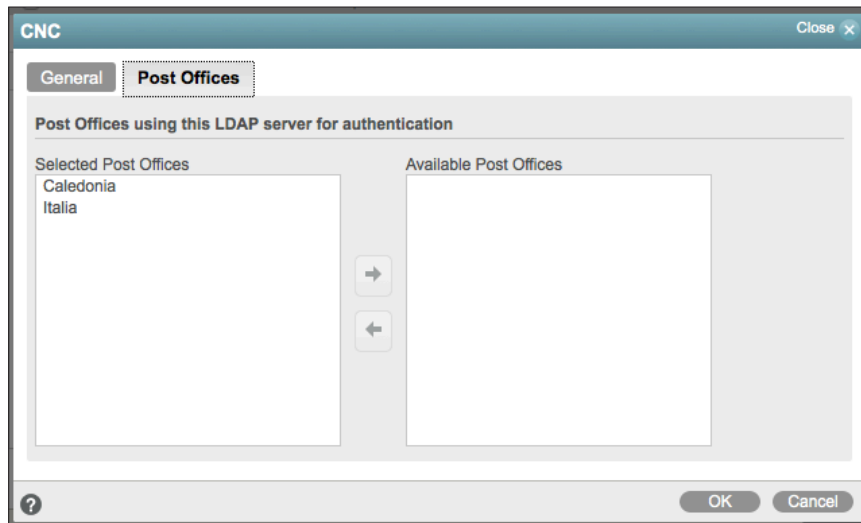
Figure 7-20: Assigning Post Offices to LDAP servers for authentication.

These settings enable your LDAP server to be used as authentication for your users. However, to actually be in effect, you must activate it in the Post Office Security settings.

It is beyond the scope of this upgrade guide to discuss LDAP server layout and system design. Make certain that the servers you had defined in your former GroupWise system are correct and operational here.

Verifying User Associations
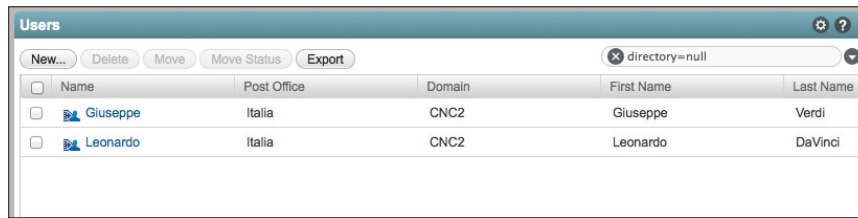
As we saw in Figure 7-10 above, when users are properly associated with the Directory, you will be able to tell readily by looking at the General tab for the user in question. It would, however, be tedious to look through every user in your system! We can do a quick check to see which users are integrated, and which (if any) are not.

First, click on Users in the list to the left. Now click into the search field (not Global Search) in the upper right.

Type in

directory=null

You will see a list of all unassociated users in your system.

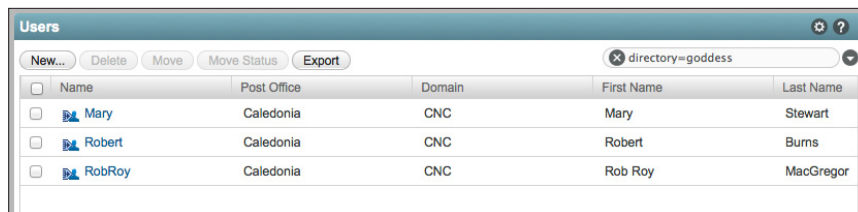*Figure 7-21: A listing of unassociated users*

By the way, if you are curious, you can also type

directory=directoryname

Our Directory was named Goddess (imported from our eDirectory tree), so we could type

directory=goddess

and see the resultant user list.

Figure 7-22: Listing of all users in our directory

In our case, upon further inspection, we found that in our eDirectory Synchronization in ConsoleOne, the CNC2 domain had not been configured for synchronization. Thus, those users have been brought into the upgrade GroupWise system in what we have termed "Non-Associated" states (this is not a Novell term, but we felt we needed a designation for these types of objects). It could be that you will have no users in this state. It could be that you will have many!

Depending on how many users you have who are unassociated, and where they reside in your system, you may choose to associate them en masse at the post office, domain or system level.

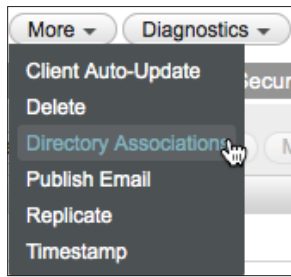At the Domain or Post Office level, click on More and choose Directory Associations.

Figure 7-23: Choosing Directory Associations

If you wish to do all of the users at once, go to System|Directory Associations.

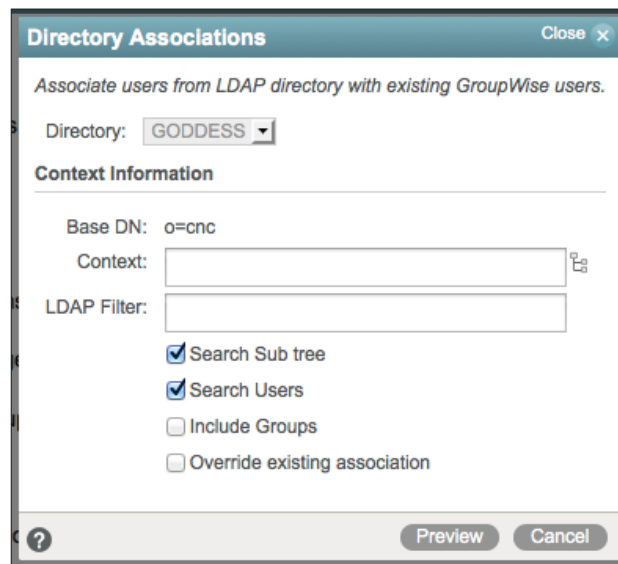Regardless of the method, you will next see the following screen.

Figure 7-24: Accessing the Directory Associations

You may be asked for the LDAP password here.

Once you click Preview you will see the list of users that have been matched in eDirectory.
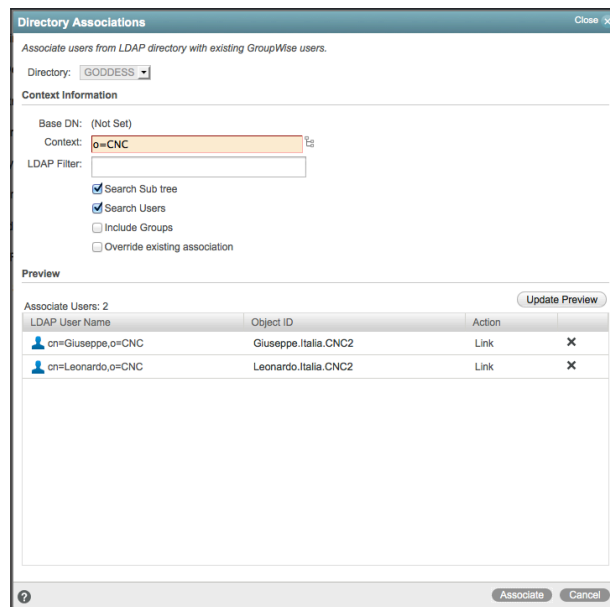
Figure 7-25: Matched Users

If for some reason you did not want to associate a particular user, you could click on the "X' to the far right of the name.

If you know or suspect that you have duplicate userids throughout your tree, double check that the proper GroupWise user is matched with the appropriate eDirectory user. If you see an incorrect association, click the X and make note of the user. You can associate this user manually after you finish the mass association.

Once you have verified all of the associations, click Associate.

At the Success window, click Close.

Earlier in Figure 7-12 we showed you our user Giuseppe Verde who was in what we've termed a Non-Associated state. If we look at Giuseppe's details now, we see that he has an LDAP GUID and has been associated with our Goddess Directory.

Figure 7-26: Our newly associated user.

Correcting a Failed Directory Integration

The very first time you logged into the Administration Console after upgrading your Primary Domain, you may have seen an error notification in the top right corner of the Administration Console. While this does not always mean that Directory Integration failed, that is the most likely scenario.
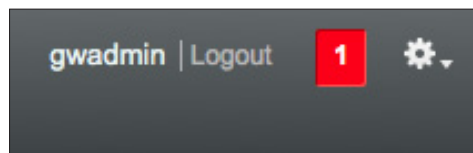

Figure 7-27: Error notification in Administration Console

When you click on the red box, you will see any errors that are being reported by the Administration Console.
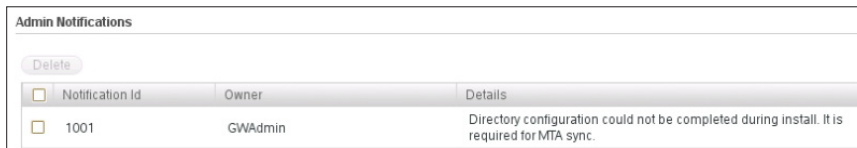
Figure 7-28: Initial Directory Configuration Error

This means that either you were unable to configure your eDirectory Sync on your prior system (for example, you are migrating from NetWare, or your Windows server is GroupWise 7 or earlier, or even your entire system is GroupWise 6 or earlier!). We will now go through the steps required to integrate your directory.

Verifying the Directory

In the Administration Console, go to **System|LDAP Servers**. Here our imported LDAP Directory and Server is from eDirectory. The name of the Tree is Goddess. We had defined an LDAP server in ConsoleOne and named it CNC. This information came over during the upgrade with no prompt for intervention. You will at a minimum see the eDirectory object after the upgrade, and if you had defined LDAP servers, they will be here as well.
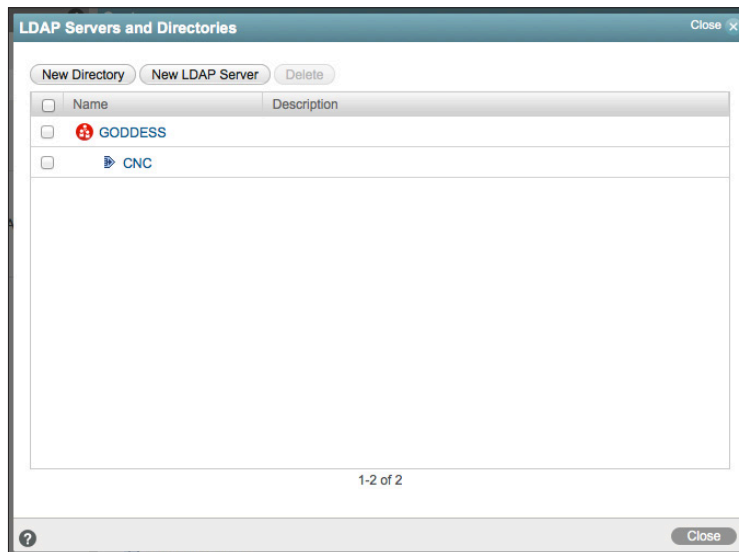

Figure 7-29: Our LDAP System

It's possible that you will only see a Directory listed, as in the following figure.
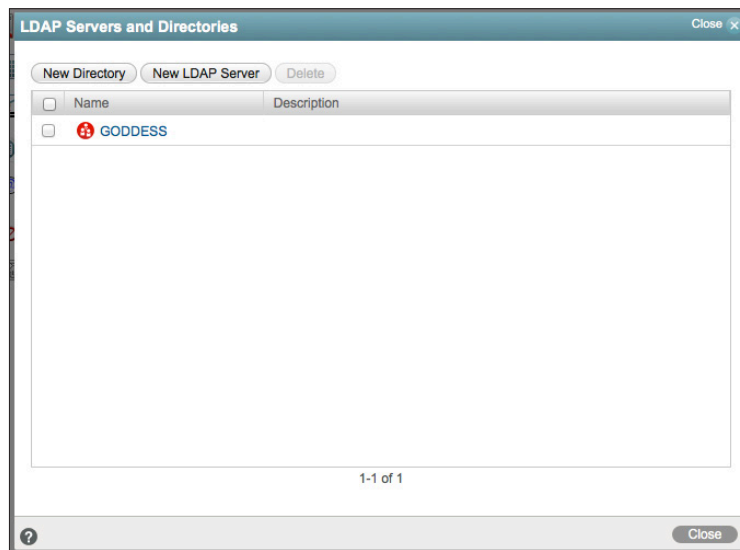
Figure 7-30: A Directory with no LDAP Servers

GroupWise systems that do not use LDAP Authentication, and were not set up properly for eDirectory Synchronization as per our instructions in ***"Preparing Your LDAP System"*** on page 14, will only have a Directory listed, representing the eDirectory tree where the GroupWise system resides. This of course includes all systems migrated from NetWare, as well as older systems that did not meet our minimum requirements in that section.

Let's look at our Directory named Goddess. Simply click on the name of the Directory to open the details page.
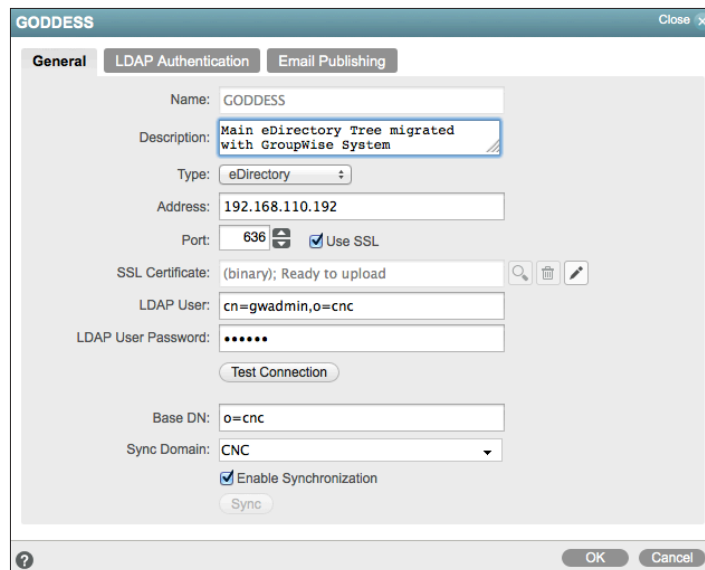

Figure 7-31: Our migrated eDirectory "Directory"

The General tab of the Directory shows the tree name, Directory type (in an upgrade this will always be eDirectory) and the location of the Directory. If your integration failed you may find that you need to fill out these details. Enter the IP address of your Directory, LDAP port and whether it is SSL. If SSL you will need to upload the SSL certificate for the LDAP server. See *"Exporting Trusted Root Certificates"* later in this chapter for information on exporting the trusted root certificate for this purpose.

The Base DN is the "starting point" for your LDAP search. A migrated Directory will not have any value listed in the Base DN. For synchronization purposes, this is not an issue, as the Synchronization queries a specific LDAP GUID to compare property values. However, if you will be authenticating via LDAP you will want to set a Base DN. In our example above, we have a very small tree, and users are in the "O" container. Larger organizations generally have OUs based on type of object, or company organization, etc. You do not want your Base DN too high in your tree, as that would require the LDAP search to look through too many records. By the same token though, you want to make sure that all user objects you wish to manage in this directory are found below this Base DN designation.

Note the Sync Domain. As with prior versions of GroupWise, it is really only required that one MTA be configured to do synchronization for the entire system. Choose the Domain whose MTA should perform the sync for this Directory. The MTA must have a Scheduled Event for Directory Synchronization enabled for Directory Synchronization to actually occur automatically. We will go through the steps to verify the synchronization in *"Testing Directory Synchronization"* at the end of this chapter.

Once you have all settings entered, click Test Connection. If all is well, you will receive a green banner at the top of the screen indicating success!

NOTE: If you come back to this screen at a later time to test, and the LDAP password is greyed out as in the figure, you will be required to put the password in again in order to complete a successful test.

The Directory is also where you define the settings for LDAP authentication for this directory. Click on the LDAP Authentication tab to see the current, migrated settings. While an LDAP server configuration in GroupWise 2014 is only required if you wish to use LDAP Authentication, the pertinent settings for how LDAP Authentication will be configured are in the Directory Object.
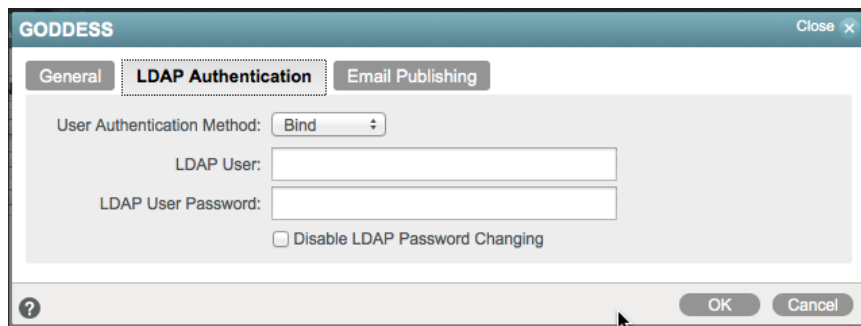

Figure 7-32: LDAP Authentication Settings

We can also look at the Email Publishing settings here. Now that GroupWise has been decoupled from eDirectory, the only changes GroupWise ever makes to the directory (whether eDirectory or Active Directory) are related to the email addresses of your users.
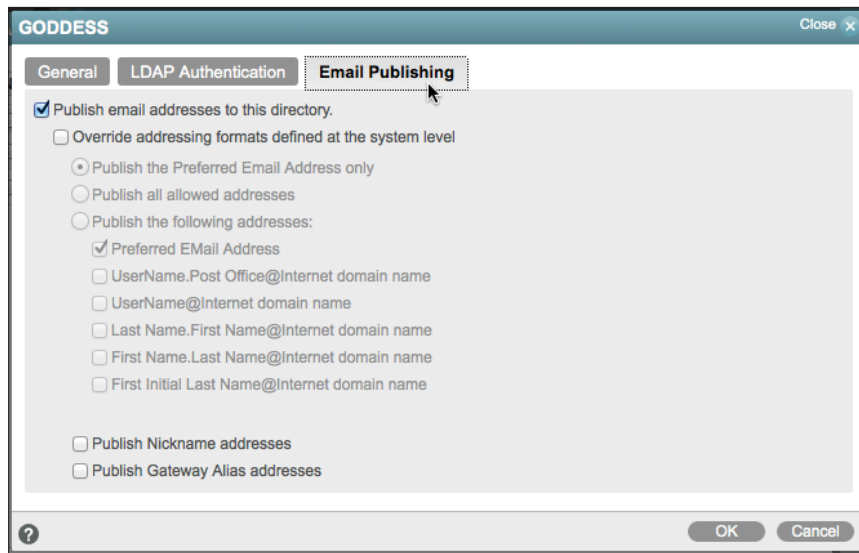

Figure 7-33: The Email Publishing Settings

You can change these settings to meet the needs of your organization. These settings are defined in **System|Internet Addressing**. You can modify them there for the entire system, or you can changed them here by clicking on the "Override" box and choosing the options you desire.
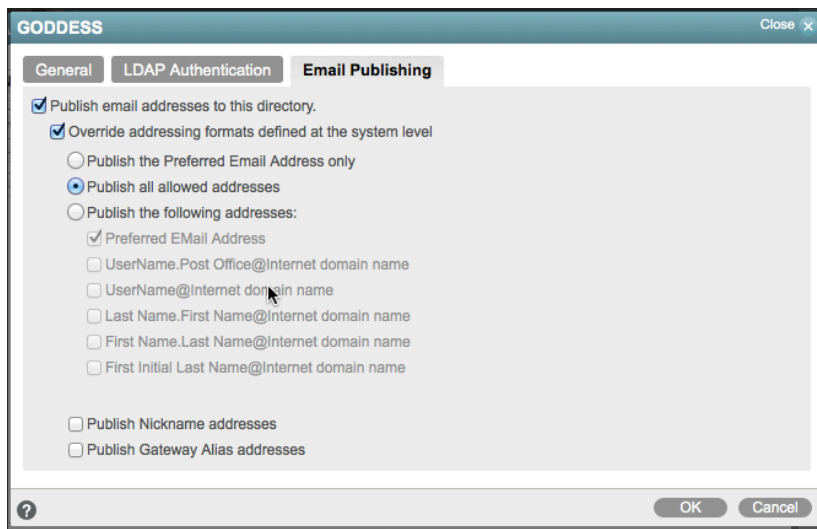
Figure 7-34: Modified email publishing settings

You can choose to publish all allowed addresses, only certain types of addresses, even nicknames. The eDirectory email field is multi-valued and can accept more than one email address. If you are using the LDAP server to provide address lookup for a smart host (perhaps an anti-spam appliance in front of your GroupWise system), you would need to decide which addresses are allowed. In some cases, this is necessary in order to keep costs down. For example, if your anti-spam provider treats each email address as a "user", danitaz, danita, danita. zanre, and zanre.danita could start to get expensive.
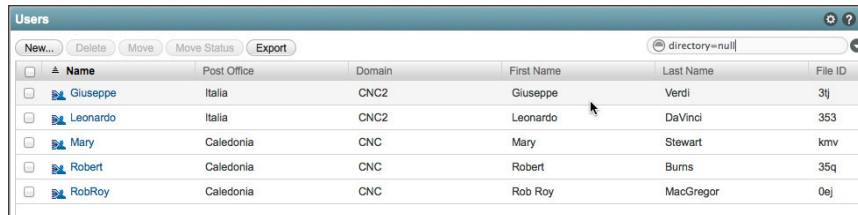
Verifying User Associations

As we pointed out in Figure 7-10 above, when users are properly associated with the Directory, you will be able to tell readily by looking at the General tab for the user in question. It would, however, be tedious to look through every user in your system! While it may be that none of your users are Associated, we've seen some instances where merely fixing the Directory server causes an Integration to complete when you save the Directory settings (you may receive a popup question asking if you wish to update the information for all users in the system). If you would like to check the state of your user integrations before attempting the Directory Associations, follow the steps below.

1. First, click on Users in the list to the left.

2. Notice the search field in the upper-right of the user list. Click into that field.

   Type in

   directory=null

You will see a list of all unassociated users in your system.

Figure 7-35: A listing of unassociated users

Depending on how many users you have who are unassociated, and where they reside in your system, you may choose to associate them en masse at the post office, domain or system level.

At the Domain or Post Office level, click on More and choose Directory Associations.

Figure 7-36: Choosing Directory Associations
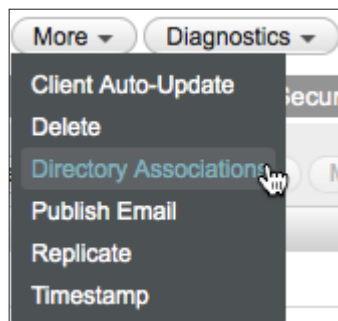
If you wish to do all of the users at once, go to **System|Directory Associations**.

Regardless of the method, you will next see the following screen.

Figure 7-37: Accessing the Directory Associations

You may be asked for the LDAP password here.

Once you click Preview you will see the list of users that have been matched in eDirectory.

Figure 7-38: Matched Users

If for some reason you did not want to associate a particular user, you could click on the "X' to the far right of the name.

If you know or suspect that you have duplicate userids throughout your tree, double check that the proper GroupWise user is matched with the appropriate eDirectory user. If you see an incorrect association, click the X and make note of the user. You can associate this user manually after you finish the mass association.

Once you have verified all of the associations, click Associate.

Figure 7-39: Successful Association

At the Success window, click Close.

Earlier in Figure 7-12 we showed you our user Giuseppe Verde who was in what we've termed a Non-Associated state. If we look at Giuseppe's details now, we see that he has an LDAP GUID and has been associated with our Goddess Directory.

Figure 7-40: Our newly associated user.

Verifying the LDAP Server

While the Directory object is required to synchronize your Directory to GroupWise, and acts as an authentication source, the purpose of the LDAP Server is to provide redundancy as an additional authentication source for the GroupWise Client. It is technically not required if you are not using LDAP Authentication. That said, even if you have never used LDAP Authentication before, it is not a wasted exercise to verify and/or create an LDAP server for your system. If you have more than one LDAP server available in your network, you may wish to configure additional LDAP servers here.

1. To create an LDAP Server for authentication, first click on **System|LDAP Servers**.

2. If you have an LDAP server listed under your Directory, click on it to open the properties. If you do not have an LDAP server for authentication, click New LDAP Server.

3. Fill in the information for your LDAP server. You may wonder why there is no authentication information here, but remember that was defined for the entire Directory in the Directory object.
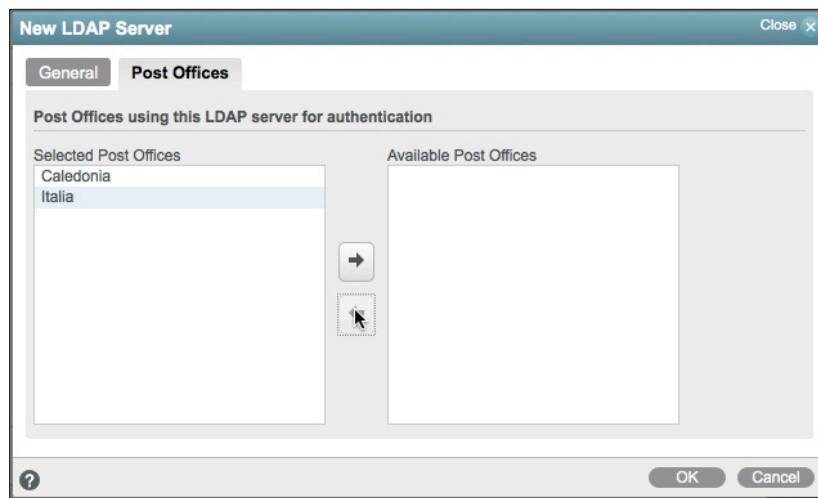
Figure 7-41: Creating the LDAP Server

4. Click on the Post Offices tab and move all post offices that should use this LDAP server as their primary authentication source from the right to the left.   If this LDAP server is down, and other LDAP servers have been configured, the POA will step through the listed servers to find an available authentication source.

Figure 7-42: Post Office associations for LDAP Server

5. These steps enable your LDAP server to be used as authentication for your users. However, to actually be in effect, you must activate it in the Post Office Security settings.

Once you have successfully associated your users, you can jump to *"Testing Directory Synchronization"* below.

Integrating Active Directory into Your GroupWise System

One of the new features of GroupWise 2014 is the ability to Integrate directly with Active Directory in lieu of, or in conjunction with, eDirectory. Some of the reasons for this might be your organization has moved to an AD environment and currently only uses eDirectory for GroupWise. Or you might have some users in an AD environment, and others in eDirectory, all sharing a GroupWise system. Thus, you may have a need or desire to associate some or all of your users to AD.

If you are moving immediately to Active Directory, and will not need eDirectory at all after your upgrade to GroupWise 2014, there is really little reason to follow the steps above to check and verify your integrations with eDirectory. If you will be moving users slowly to AD, then you should first ensure that your current eDirectory system is also functional by following the steps in the sections above pertaining to verifying your Integrations.

The first thing that must be done when planning an integration with Active Directory is of course to create the Directory Object in the GroupWise Administration Console. Follow these steps:

1. In the Administration Console, click on System and then on LDAP Servers.

2. You should see your current eDirectory tree listed as in the figure below.
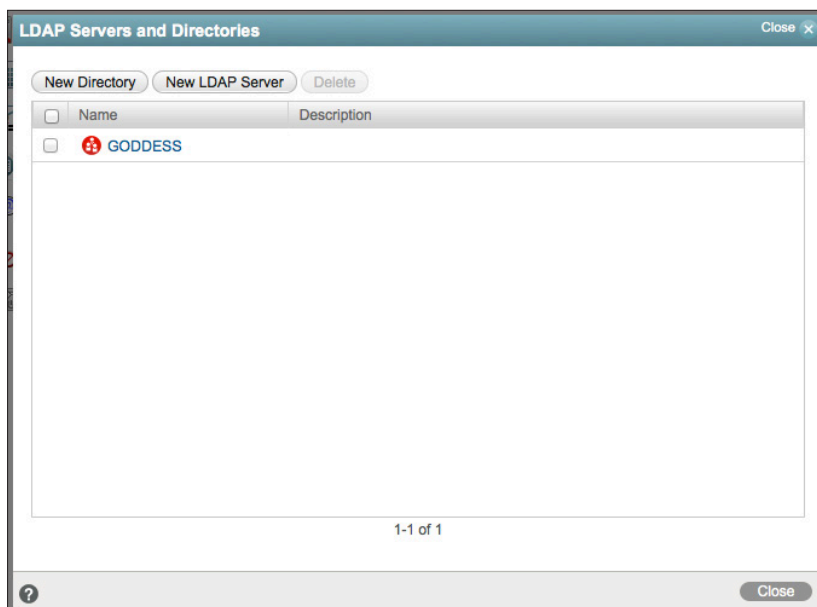
Figure 7-43: The eDirectory listing

3. Click New Directory

4. Fill in the Directory creation window with information about your Active Directory LDAP server.

5. If your Domain Controller LDAP server is enabled for SSL, you will need to export the certificate for importing into this Directory setup. See *"Exporting Trusted Root Certificates"* later in this chapter for details on how to accomplish this.

6. Click Test to ensure that you have everything entered correctly

NOTE: If you come back to this screen at a later time to test, and the LDAP password is greyed out as in the figure, you will be required to put the password in again in order to complete a successful test.

7. The Base DN is the "starting point" for your LDAP search. All users who should be managed by this directory must reside under this Base DN. You do not want your Base DN too high in your tree, as that would require the LDAP search to look through too many records. By the same token though, you want to make sure that all user objects you wish to manage in this directory are found below this Base DN designation. In our testing, the Base DN for Active Directory must be above the OU for your users. The query does not appear to look directly in the level of the Base DN.

8. Choose your Sync Domain. This is the Domain whose MTA will perform Directory Synchronization for this Directory. The MTA must have a Scheduled Event for Directory Synchronization enabled for Directory Synchronization to actually occur automatically. You will test this Synchronization in *"Testing Directory Synchronization"* below.

    We can also look at the Email Publishing settings here. Now that GroupWise has been decoupled from eDirectory, the only changes GroupWise ever makes to the directory (whether eDirectory or Active Directory) are related to the email addresses of your users.
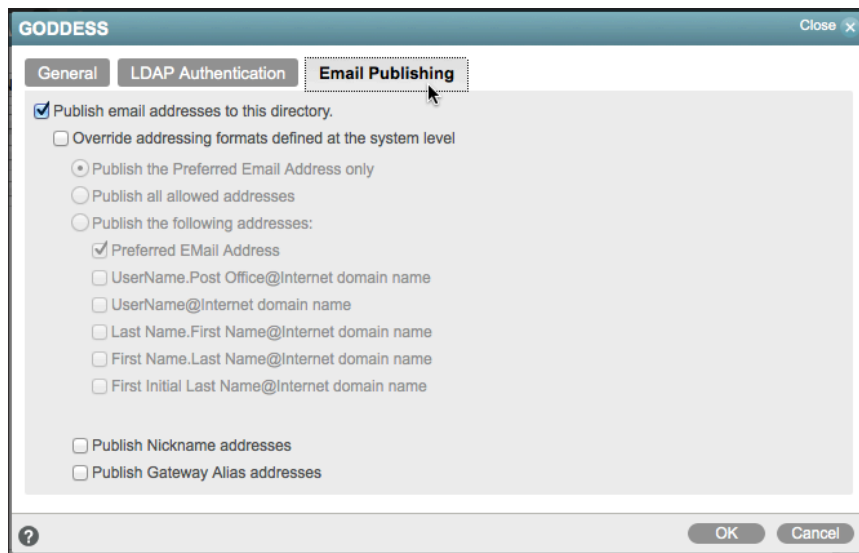
Figure 7-44: The Email Publishing Settings

You can change these settings to meet the needs of your organization. These settings are defined in **System|Internet Addressing**. You can modify them there for the entire system, or you can changed them here by clicking on the "Override" box and choosing the options you desire.
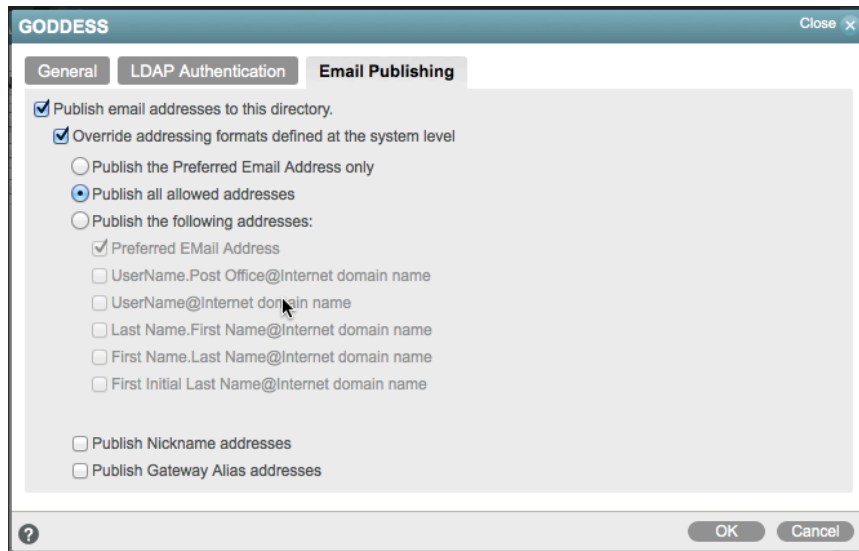
Figure 7-45: Modified email publishing settings

You can choose to publish all allowed addresses, only certain types of addresses, even nicknames. With AD, the preferred ID is written to the mail attribute and the others are written to the proxyAddresses attribute as follows:

- primary email address is written to the mail attribute, and also to the proxyAddresses as SMTP:user@domain (SMTP uppercase)

- other email addrs are written as smtp:user@domain (smtp lowercase)

This can be viewed by going into the AD Users and Computers, go to View and select Advanced Features. Then in the user properties there is an Attribute Editor tab that will show all the LDAP attributes/values. Look for the proxyAddress line to view all Email addresses

If you are using the LDAP server to provide address lookup for a smart host (perhaps an anti-spam appliance in front of your GroupWise system), you would need to decide which addresses are allowed. In some cases, this is necessary in order to keep costs down. For example, if your anti-spam provider treats each email address as a "user", danitaz, danita, danita.zanre, and zanre.danita could start to get expensive.

Associating GroupWise Users with Active Directory

You can Associate your GroupWise users with Active Directory users individually, by Post Office, by Domain or entire system. If you plan on associating a large number of users at once, it's best practice to do the association procedure during a slow time on the network, perhaps evening or weekend.

Depending on whether your users were properly associated with eDirectory or not, you may have some or all of your users as Associate Users, Unassociated Users, or even our "Non-Associated" designation.

Associating Individual Users

If you choose to associate individual users to Active Directory, you must actually dissociate the user first, and then associate to the new directory (of course, if the user is not associated to eDirectory at this point, you only need associate the user to the new Directory).

1. In the Administration Console, find the user. You can click into the Global Search field and type the user's name to quickly access the user.

2. Open the user properties and under More, click Dissociate.

3. If the More button says Associate, then the user is not associated with any Directory. After the user is Dissociated, click More again. This time choose Associate.

4. You will see the below figure. Make sure your AD Directory is listed, and browse the tree for the user.

Figure 7-46: Associating Individual Users

5. Click OK to Associate.

6. Now if we look at the General Tab for Mary, we will see that she is associated with the Cattivo (Active Directory) Domain.
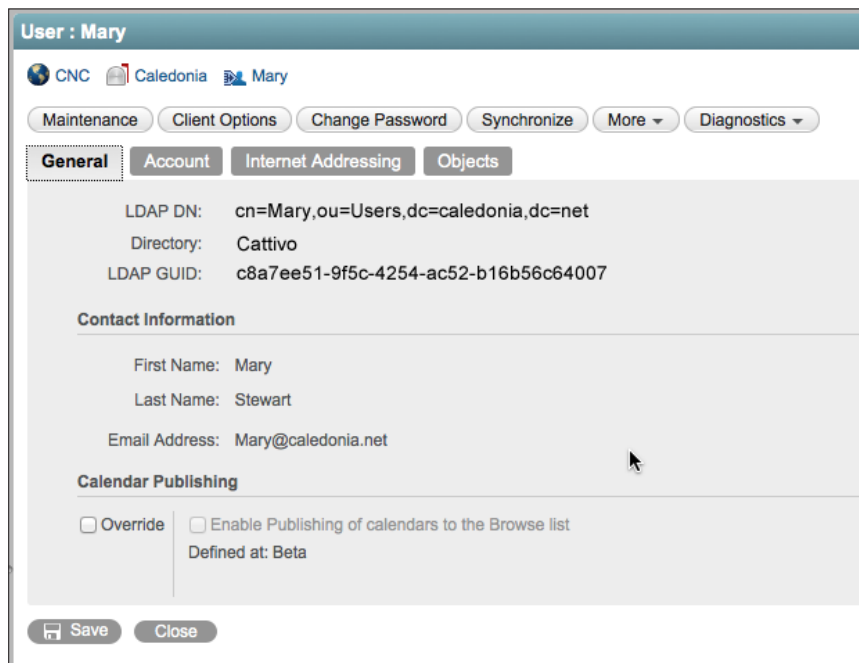
Figure 7-47: User Associated with Active Directory

Associating Users En Masse

You can also associate users to Active Directory en masse. In order to do so, your GroupWise object id must match the AD samAccountName. Otherwise, the matching cannot occur.. If you wish to associate your users to Active Directory by post office or by domain, open the object in question, and under More choose Associate.
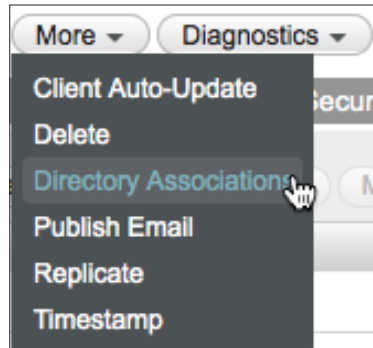
Figure 7-48: Choosing Directory Associations

If you wish to make the change for the entire system, click on System and then Directory Associations.

You can make the switch in one step, rather than having to attempt to dissociate users and then associate them with AD.
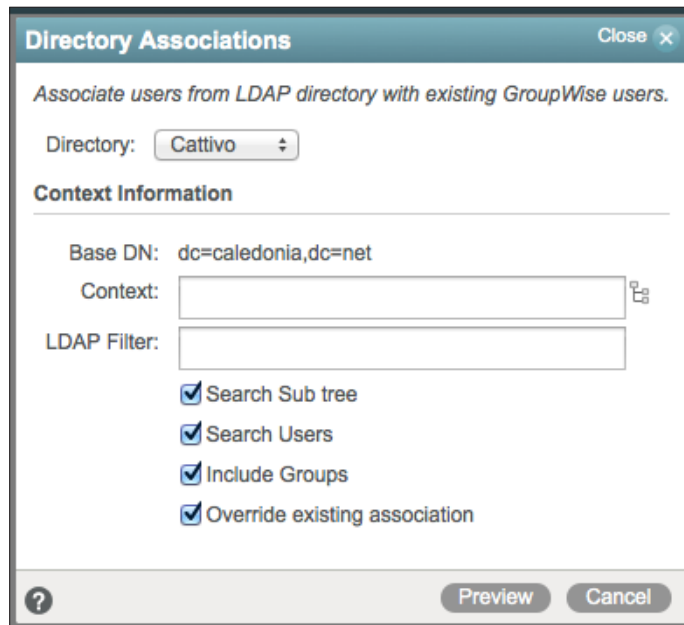
Figure 7-49: Associate users to Active Directory en masse

The important setting for associating your users without first needing to dissociate them is to check the box that says "Override existing association". This will allow users in any state (associated, unassociated, or even our special "non-associated") to change to the new Active Directory association in one step.

After you click Preview, review the users and when you are ready, click Associate.

If you know or suspect that you have duplicate userids in your Active Directory Domain, double check that the proper GroupWise user is matched with the appropriate AD user. If you see an incorrect association, click the X and make note of the user. You can associate this user manually after you finish the mass association.

Creating the LDAP Server

While the Directory object is required to synchronize your Directory to GroupWise and act as the default authentication source for LDAP authentication, the purpose of the LDAP Server is to provide additional authentication sources for the GroupWise Client. It is technically not required if you are not using LDAP Authentication. That said, even if you have never used LDAP Authentication before, it is not a wasted exercise to verify and/or create an LDAP server for your system. If you have more than one LDAP server available in your network, you may wish to create additional LDAP servers.

1. To create an LDAP Server for authentication, first click on System|LDAP Servers

2. If you have an LDAP server listed under your Directory, click on it to open the properties. If you do not have an LDAP server for authentication, click New LDAP Server.

3. Fill in the information for your LDAP server. You may wonder why there is no authentication information here, but remember that was defined for the entire Directory in the Directory object.

Figure 7-50: Creating the LDAP Server

4. Click on the Post Offices tab and move all post offices that should use this LDAP server as the primary authentication source from the right to the left. If this LDAP server is down, and other LDAP servers have been configured, the POA will step through the listed servers to find an available authentication source.
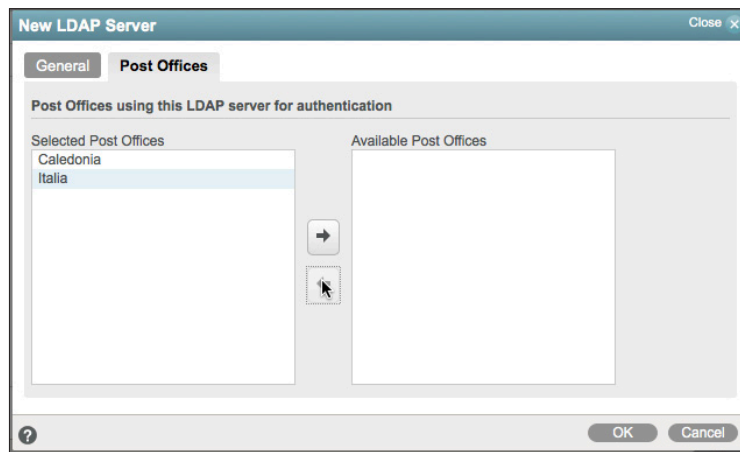
Figure 7-51: Post Office associations for LDAP Server

5.   These steps enable your LDAP server to be used as authentication for your users. However, to actually be in effect, you must activate it in the Post Office Security settings.

Removing eDirectory Associations to become Stand-Alone

If you are planning on removing integrations from your existing eDirectory tree and turning GroupWise into a "stand-alone" system, the steps are fairly simple.

1.   In the GroupWise Administration Console, click on System, and then LDAP Servers.

2.   Check the box next to your eDirectory tree.
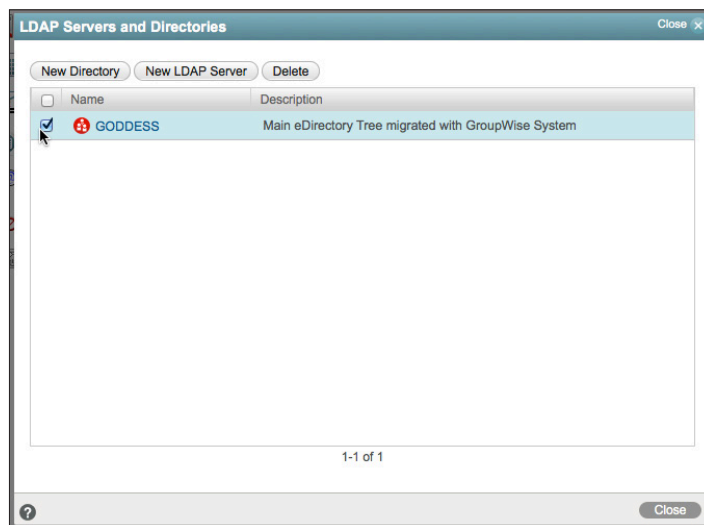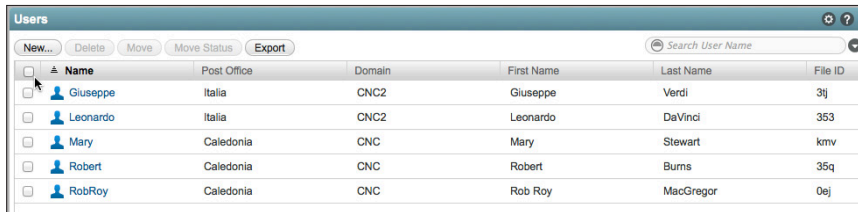
Figure 7-52: Preparing to delete your Directory

3. Click on Delete at the top of the window.

4. You will receive a warning that this action cannot be undone (although it would not be a huge undertaking in the relative scheme of the Universe to recreate the Directory!).

5. Click Okay.

6. Click Users in the left pane of the Administration Console

7. Voila! All of your users are now Unassociated.

☐	≜ Name	Post Office	Domain	First Name	Last Name	File ID
☐	👤 Giuseppe	Italia	CNC2	Giuseppe	Verdi	3tj
☐	👤 Leonardo	Italia	CNC2	Leonardo	DaVinci	353
☐	👤 Mary	Caledonia	CNC	Mary	Stewart	kmv
☐	👤 Robert	Caledonia	CNC	Robert	Burns	35q
☐	👤 RobRoy	Caledonia	CNC	Rob Roy	MacGregor	0ej

Testing Directory Synchronization

Once you have confirmed your Directory settings (whether eDirectory, AD or both), you can test to ensure updates are happening.

1. Use iManager or ConsoleOne without any GroupWise snapins, or MMC if this is AD to change something that needs to synchronize to GroupWise. For example, a phone number.

2. Go back to System and click on LDAP Servers.

3. Click on the name of your Directory to open the details

4. At the bottom of the window, click Sync.

5. Go look at your MTA log (in verbose mode) and you should see a synchronization event.

17:51:03 18B8 Synchronizing Directory Goddess

17:51:03 18B8 Connecting to LDAP server at 192.168.110.192 for Directory Goddess

17:51:03 18B8 Checking CNC.Caledonia.Mary

17:51:03 18B8 Checking CNC.Caledonia.Robert

17:51:03 18B8 Checking CNC.Caledonia.RobRoy

17:51:03 18B8 Checking CNC2.Italia.Giuseppe

17:51:03 18B8 Checking CNC2.Italia.Leonardo

17:51:04 18B8   Update Telephone Number:720-319-7530

17:51:04 18B8 Disconnecting from LDAP server for Directory Goddess

17:51:04 18B8 Synchronization complete for Directory Goddess

Once you have verified that Synchronization is occurring, check your Scheduled Event to ensure that synchronization occurs regularly.

1. In the Administration Console, click on Message Transfer Agents in the left column, and then click on the MTA for the domain you defined in your Sync Domain in the Directory configuration.

2. Click on Scheduled Events.

3. Regardless of whether you had eDirectory Synchronization configured before, you will no doubt have one or more NDS and/or eDirectory Synchronization events. Various version of GroupWise changed the events, even creating a new "eDirectory" event when the name changed, but leaving the NDS event behind. You can have multiple events configured here if you desire to have an update more than once a day. Or you can choose to delete any extraneous events you find here, and have only one scheduled event for synchronization.

4. Click on the Event you wish to edit. The default for this event is 1:00 a.m. local time. Set it to any time you choose.

5. If you wish to have synchronization occur more than once a day, you will need to create multiple events and set them for different times.

6. Click Okay, and make certain that the event is enabled (checked).

External Entities

External Entities are interesting objects going forward. They cannot be modified in ConsoleOne without GroupWise Snapins. External Entities may be edited in iManager, and thus are "associated users". However, there is no way to create new External Entities in iManager. Going forward, eDirectory synchronized users must be full eDirectory users, or be managed as unassociated users in the GroupWise Administration Console.

If you want to dissociate your External Entities and treat them as unassociated users, you will need to manage the dissociations one at a time. There is no method to mass dissociate at this time. In order to dissociate an External Entity, do the following:

1. In the Administration Console, click on Users.

2. Find the user in your list. External Entities are not listed separately. They will look like any other user.

3. Click on the External Entities to view the properties.

4. Under More, click Dissociate.
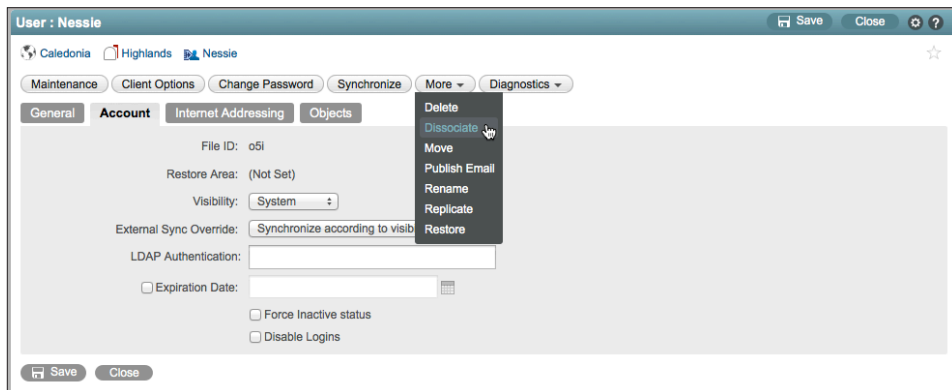
Figure 7-53: Dissociating External Entities

Exporting Trusted Root Certificates

iManager

To export your Trusted Root Certificate for a Linux server with iManager, see

https://www.novell.com/support/kb/doc.php?id=7013142

Instructions for ConsoleOne can be found at

http://www.novell.com/coolsolutions/tip/19360.html

Windows

SSL is not enabled automatically for LDAP on Windows. It is beyond the scope of this guide to design and configure SSL for your LDAP environment. We point you to this Microsoft TechNet document for guidance.

http://social.technet.microsoft.com/wiki/contents/articles/2980.ldap-over-ssl-ldaps-certificate.aspx

Directory Plugins

There are Directory plugins for eDirectory via iManager and Active Directory through Microsoft Management Console (MMC). The first iterations of these plugins have some basic functionality for adding users to GroupWise as they are added to the Directory itself. We expect there will be additional functionality as GroupWise 2014 and this new Administration Model progress. For now, here is how to install and utilize these plugins.

Installing the iManager Plugin

iManager Plugins are npm files. The GroupWise Plugin will typically be named **GroupWisePlugins-<build>.npm.**

Download the npm file from download.novell.com or your Novell Customer Care Portal. Then follow these instructions.

1. Log into iManager (for example https://192.168.110.210/nps/servlet/webacc).

2. Click Configure at the top of the window

Figure 7-54: Accessing Role Configuration

3. Click on Plugin Installation

4. Click Available Plugin Modules

5. Click Add
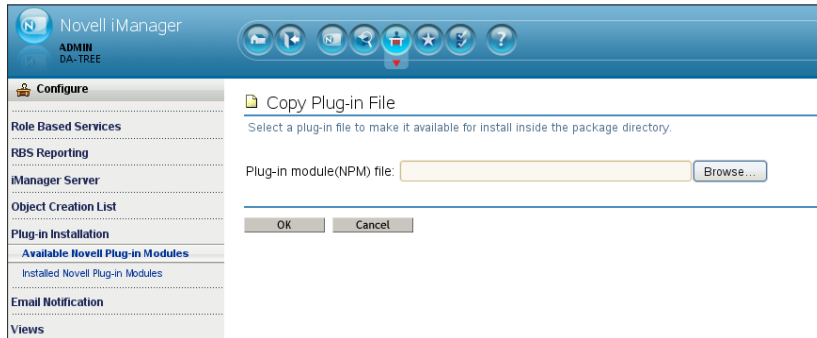
Figure 7-55: Adding a new plugin

6. Browse for the npm file you downloaded

7. Click OK

8. You will be returned to the plugin list. Find the GroupWisePlugins listing, check it and click Install at the top.
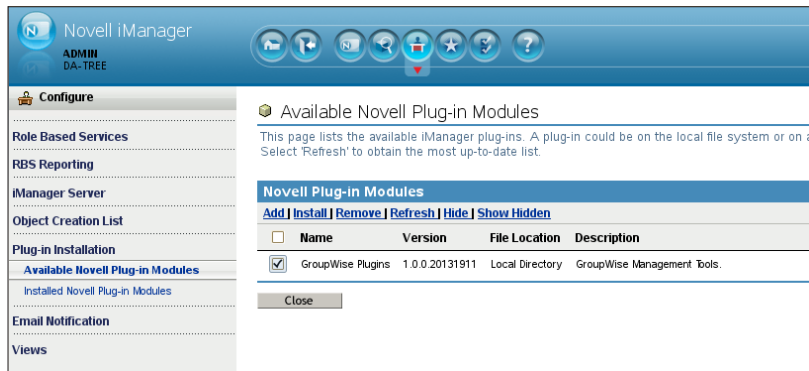
Figure 7-56: Installing the new Plugin

9. After the installation is completed, click Close.

10. You are instructed to restart Tomcat on your eDirectory server running iManager

For Linux, run

/etc/init.d/novell-tomcat6 start (OES)

or

/etc/init.d/tomcat6 start (SLES)

On Windows, click Start > Administrative Tools > Services. Then right-click Tomcat 6, and click Restart.

The plugin has been installed.

11. Log back into iManager, then click the Configure button again (Figure 7-54).

12. Select Role-Based Services > RBS Configuration.

13. Notice that we have uninstalled modules

Figure 7-57:

14. Click on the number under uninstalled

15. Click on GroupWise and choose Install
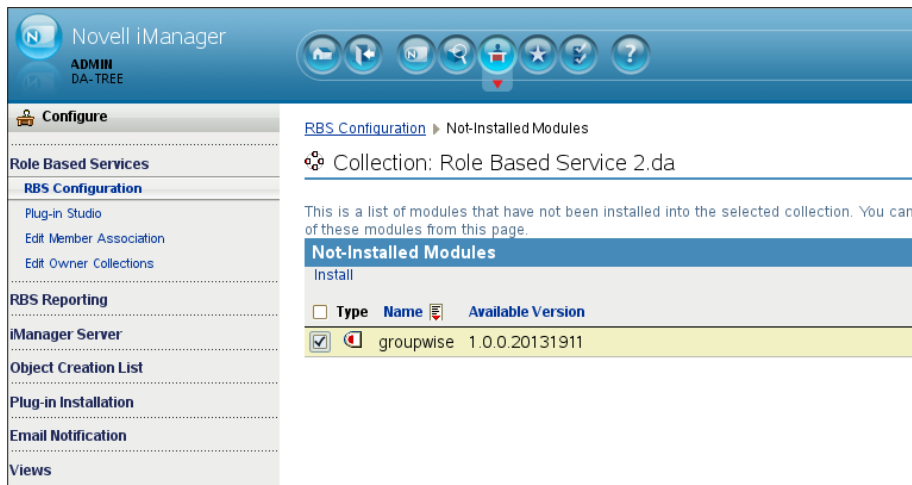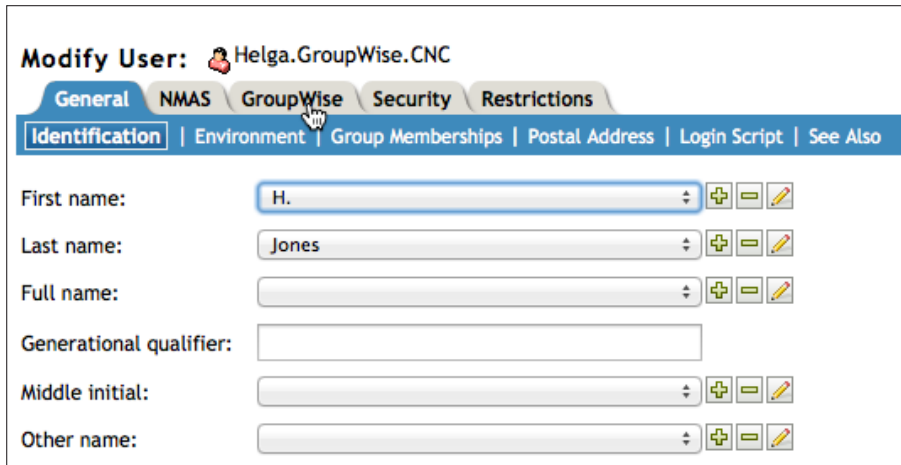
Figure 7-58: Add GroupWise Module

After the module is installed, return to Roles & Tasks.

After the module has been installed, it must first be configured before it can be used. To do so, do the following in iManager.

1. Click Users and then Modify User

2. Browse to any user (Admin, your own - we're not making changes, just activating the plugin).

Figure 7-59: The new GroupWise Tab

3. When you click on the GroupWise tab for the first time you will see the following:
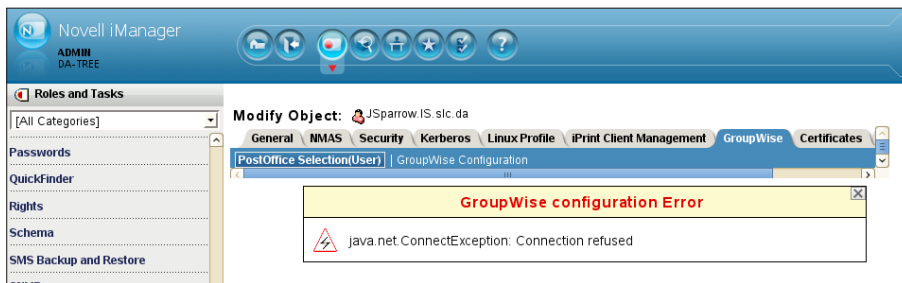
Figure 7-60: Notice that the GroupWise Plugin is not configured

4. Click on GroupWise Configuration above the error notice.

5. Next you must fill out your LDAP server information for your tree.

Figure 7-61: LDAP Server Configuration

- Enter GroupWise Admin Service URL: IP address or Host name of service
- Enter GroupWise Admin Service Port: 9710 by default
- Enter LDAP server ID: Directory Name
- Enter GroupWise Admin Username: gwadmin (per our installation)
- Enter GroupWise Admin Password: admin service password

Using the iManager Plugin

Now that your plugin has been successfully configured, let's see how it works. We will create a new user, add the user to GroupWise, and then modify an existing user.

1. In iManager Roles, click on Users and then Create User

2. Create the User in the same way you create all of your users, including using any user templates, setting home directories, etc.

Figure 7-62: Creating a new User

3. You will be at the following screen. Click Modify (not OK).
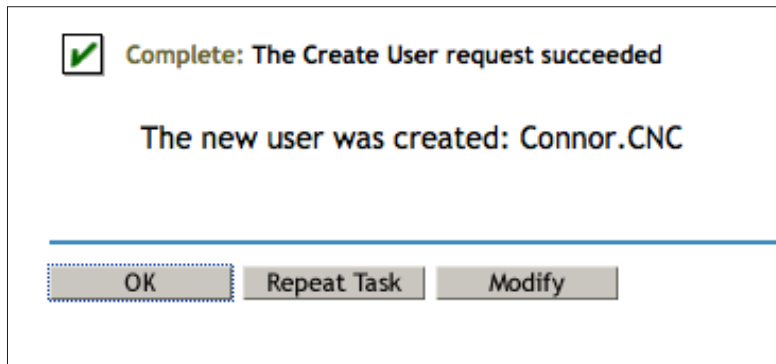
Figure 7-63: Click Modify at the Successful User Creation

4. Click on the GroupWise Tab. Since this is a new User who does not belong to a GroupWise Post Office, you will see the following informational notice, and a dropdown for choosing the Post Office for the user.
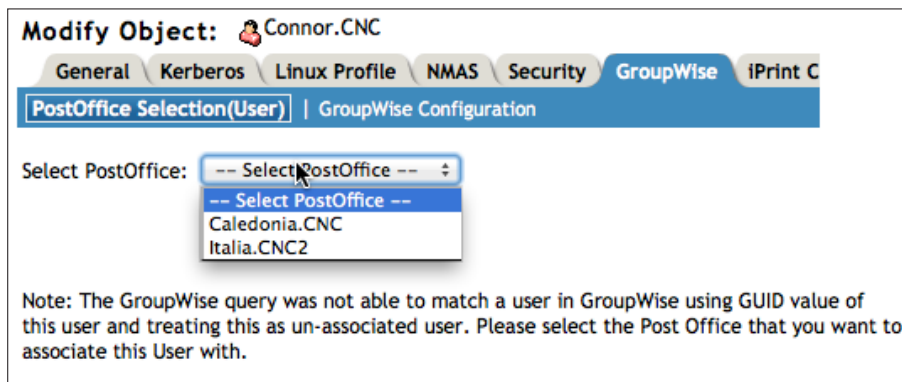
Figure 7-64: New User who does not belong to a post office

5. Choose the post office for this user. We'll put Connor MacLeod in the Caledonia Post Office.

6. You will receive a success notification, and the user is now in the Caledonia Post Office.

We can check this status by going to the GroupWise Administration Console. Follow the instructions in *"Launching the New Administration Console"* earlier in this chapter.

1. Click on Users

2. Find your user, in our case Connor.

3. On the General Tab for Connor, you will see that he has an LDAP GUID and has been added properly to the Post Office.

Figure 7-65: Our user, added from iManager

In addition to modifying a new user in order to add to a post office directly after creation, the only other functionality of the iManager plugin is to modify existing users who do not already have a GroupWise account. Simply follow the instructions above, but rather than clicking Create User choose Modify User. Find the User to Modify, and click on the GroupWise tab.

You will either see the window in Figure 7-13 above, and you can proceed to adding the user to a post office, or you will see the following, indicating that the user is already a member of a GroupWise Post Office.

Figure 7-66: User already belongs to a post office.

There is currently no other functionality of the GroupWise iManager Plugin. For example, deleting a user in iManager will not delete the associated GroupWise User.

MMC Plugin

The GroupWise MMC Plugin installation is launched from **<installationfiles>\setup. exe**.

Follow the instructions below to install the plugin.

1. After launching **setup.exe**, choose GroupWise MMC Plugin,

Figure 7-67: Launching the MMC Plugin Setup

2. Some redistributable runtimes will install. This can take a few minutes.

3. When prompted, select your language for installation.

4. Click next at the welcome screen.

5. Accept the license agreement

6. At the next screen you will see the installation options for the MMC plugin, which really are only whether you will actually install it, and the directory location for the installation. Click Next.
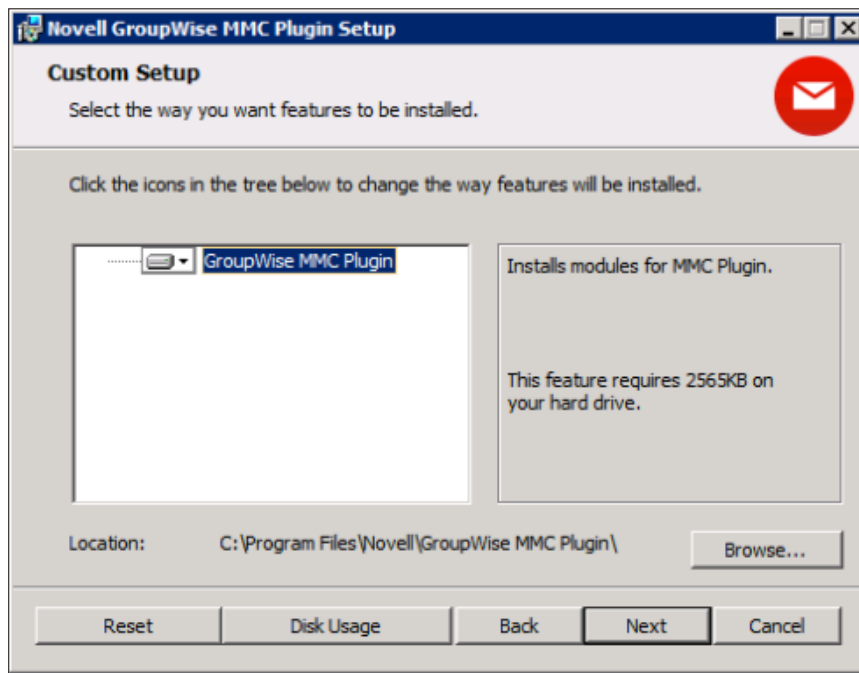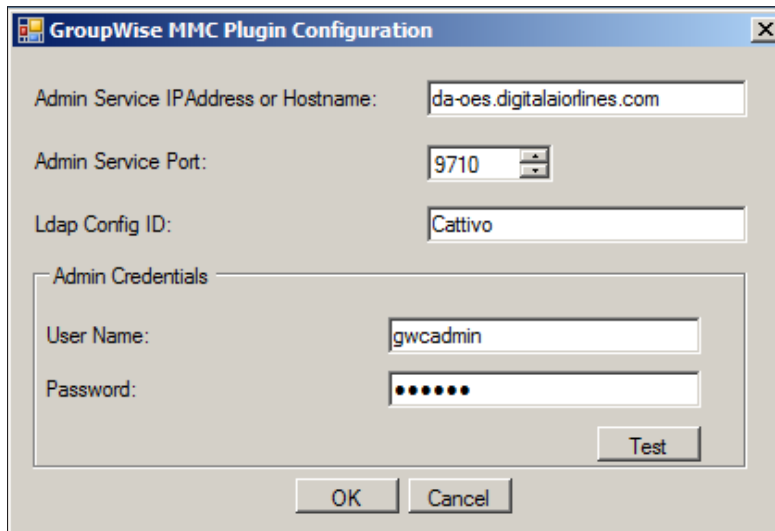
Figure 7-68: Custom Setup Screen

7. At the next screen click Install.

8. You will be at the completion screen. Keep the "Configure" box checked in the lower left, and click Finish.

9. At the next screen (you will configure your LDAP connection from MMC to the GroupWise Administration Service.

Figure 7-69:

- Enter GroupWise Admin Service URL: IP address or Host name of service
- Enter GroupWise Admin Service Port: 9710 by default
- Enter LDAP server ID: Directory Name
- Enter GroupWise Admin Username: gwadmin (per our installation)
- Enter GroupWise Admin Password: admin service password
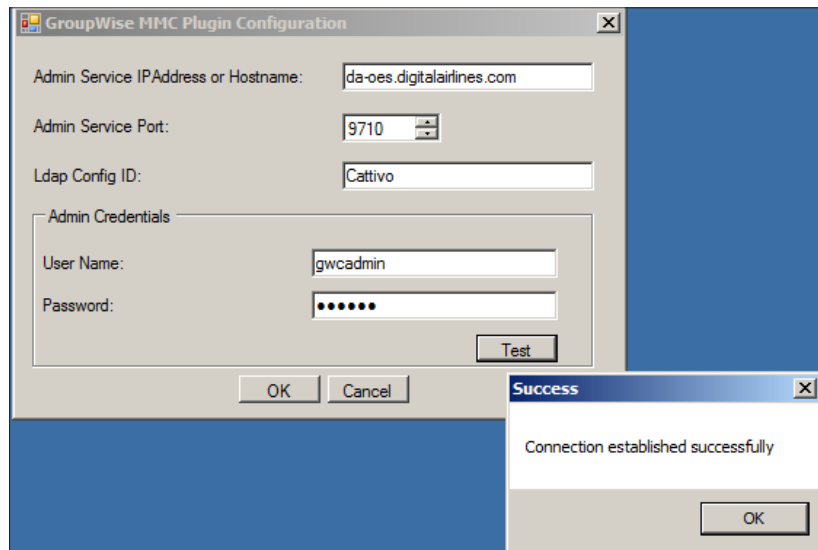
Figure 7-70: Successful Configuration

Using the MMC Plugin

In MMC, create your user as usual. Once you have passed the Password page you will be presented with the Select GroupWise Post Office Dialog below.
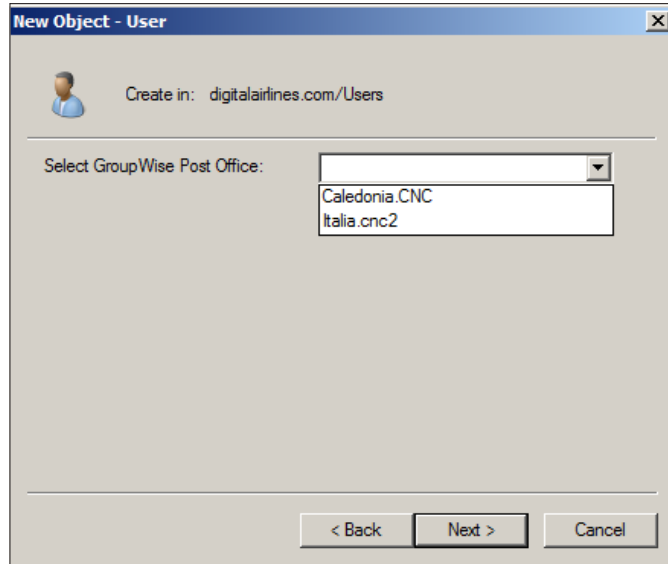
Figure 7-71: Adding User to Post Office

Once the user is added, you will receive a confirmation window telling you that the addition was successful.
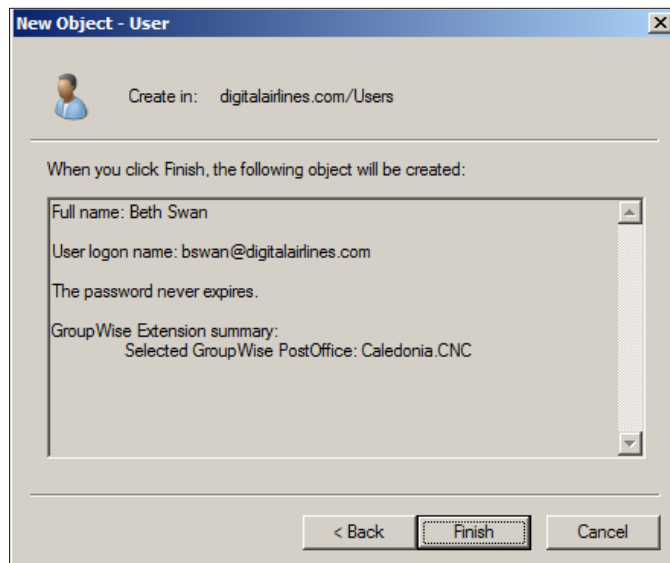
Figure 7-72: New Object Added

We can check this status by going to the GroupWise Administration Console. Follow the instructions in *"Launching the New Administration Console"* earlier in this chapter.

1. Click on Users

2. Find your user, in our case bswan.

3.   On the General Tab for bswan, you will see that she has an LDAP GUID and has been added properly to the Post Office.
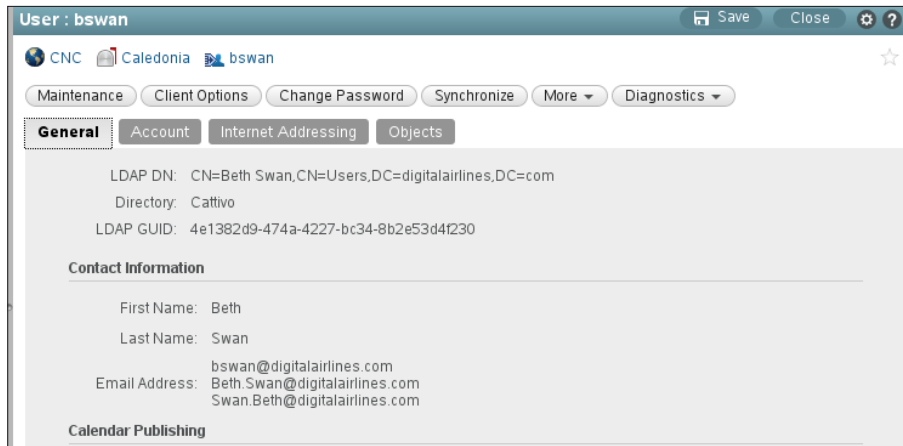
Figure 7-73: User Successfully Added to GroupWise Post Office

Cleaning up eDirectory

At some point in the future, far enough ahead that you know that you will no longer need ConsoleOne for anything GroupWise, you can do some cleanup. **PLEASE do these steps in iManager or a copy of ConsoleOne with no snapins.** (If we could make a PDF flash a warning, we would now). If you are attached to a GroupWise domain in ConsoleOne when deleting these objects, ConsoleOne will attempt to delete the object in the GroupWise system itself, and not merely from the eDirectory tree.

There are many GroupWise Only objects that can be removed from your eDirectory tree when you are confident that you will no longer need them. A few months from now, when you are in a tidying mood, you can delete any of the following:

- GroupWise Domains
- GroupWise Post Offices
- GroupWise MTAs
- GroupWise POAs
- GroupWise WebAccess Objects (more detail is given in the WebAccess chapter)
- GroupWise Distribution Lists
- GroupWise Resources
- GroupWise Libraries
- GroupWise External Entities

8 The GroupWise Administration Console

If you are familiar with the GroupWise Upgrade Guides that have been produced by Caledonia in the past, you will know that we generally only cover "upgrade" items. However, the new administration model for GroupWise 2014 is such a departure from what we as administrators have been accustomed to, that it really is important to discuss the administrative changes in much more detail than we ever have in the past. This is not an Administration Guide though, so we will not get into a lot of detail on routine GroupWise Administration. We simply wish to familiarize you with the look and feel of the new administration model, and point out some interesting new options.

First let's look at the components that are involved in the new GroupWise 2014 Administrative Model. They are:

- GroupWise Admin Service
- GroupWise Administration Console
- GroupWise Command Line Utilities
    - gwadmin-ipc
    - gwadminutil
    - gwcheck
- Redesign of some GroupWise related directory structures

Now we will look at these components in more detail

The GroupWise Admin Service

In prior versions of GroupWise, administration was accomplished through ConsoleOne (or even NWAdmin or ad.exe if we go back far enough). The administrator needed direct file access to a domain database in order to do domain level administration (configure system, create objects, perform directory maintenance), and also required direct file access to a post office database in order to perform post office or user level maintenance (run stand-alone GWChecks, document properties maintenance, etc.).

As ConsoleOne became deprecated in all other Novell products, largely being replaced by iManager, the need for direct file access kept GroupWise tied tightly to ConsoleOne. The need to access databases directly made the idea of a web based tool very difficult to accomplish.

Enter HTTP REST (Representational State Transfer). Now, the inner workings of REST go far beyond the scope of this guide. However, in a nutshell, Novell's implementation of REST for GroupWise 2014 allows instructions to be transmitted from the administrator's web browser to the admin service of a GroupWise agent. The REST service has a direct file connection to

the database, similarly to how ConsoleOne accessed the database. The Administration Console sends information through REST to be written to the database.

For writing instructions such as creating users, configuring links, defining Internet Addressing and the like, the connection by the Admin Console is to the "Admin Service Port" of the MTA. For functions such as restarting an agent, the connection by the Admin Console is to the Admin Service Port for the POA or GWIA in question. Thus, as you configure your GroupWise 2014 system, each agent that you configure will receive a unique "admin port". The default ports for a given agent are:

- MTA: 9710

- POA: 9711

Thus, in addition to needing to configure things such as the MTP and HTTP ports for an MTA, you will also need an Admin port. The same goes for POAs. Like all other ports on a server, you can opt to not use the default ports, but really only should change them if you have a conflict.

The GroupWise Admin Service gathers the configured Admin ports for the agents on a given server, and feeds this information into the Admin Console to effect a connection between the administrator's web browser and the agents on the servers where the databases actually reside. In this way, GroupWise administration can be accomplished from any web browser that has access to the admin ports in question. Direct file access and mapped drives is, for the most part, no longer necessary.

Take for example, the act of rebuilding a secondary domain database. In ConsoleOne, the Administrator needed a mapped drive to both the location of the primary domain database and that of the secondary domain database. If this was impractical, the administrator could rebuild the secondary's domain database to a local drive and then somehow copy or transport it to the remote location. In GroupWise 2014, the Admin Service for the primary domain knows the IP addresses and port (location) of the Secondary Domain's Admin Service. The Primary Domain Admin Servers communicates the necessity to rebuild the Secondary Domain, and Admin Service at the remote location completes the task. In this example, the administrator may or may not be aware of the exact physical location of the post office. That really is of little concern in this situation, as the process is being completed by the Admin Services, and not a utility connected via mapped drives to both locations.

While it would be possible to nat through to these admin ports even from the Internet at large, it is recommended that sites use a VPN and LAN access for accessing GroupWise administration.
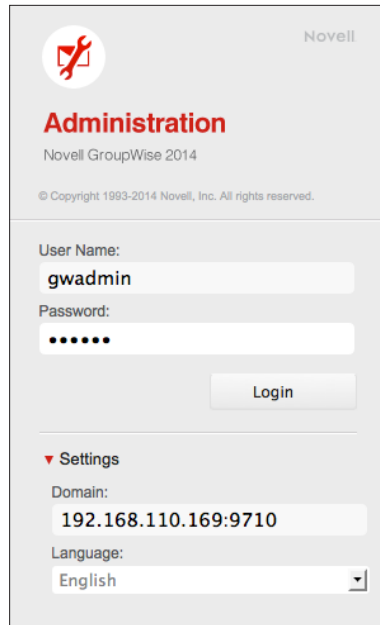
The GroupWise Administration Console

Be gone ConsoleOne! Music to some administrators' ears no doubt! Certainly, while Danita has played around a bit using ConsoleOne against a GroupWise 2014 domain, it is neither recommended nor supported by Novell. Once your GroupWise domain is upgraded to GroupWise 2014, you should no longer use ConsoleOne to manage those domain's objects. In fact when you install the GroupWise 2014 "server" on a Linux server, the GroupWise administration snapins are removed from ConsoleOne on that server. The Windows snapins stay, not because it's okay to use them on Windows, but because GroupWise snapins are not registered as an "installed" program in Windows and cannot be removed automatically during the installation.

Logging Into the Administration Console

First you must log into your Administration Console from your Web Browser. You can do that either by using the Icon on your Server Desktop (which is actually just a shortcut for your browser), or navigate directly to your Console by navigating to:

https://yourserver.com:9710

Figure 8-1: The Administration Console Login Windows

Figure 8-2 shows the main GroupWise Administrative Console screen.
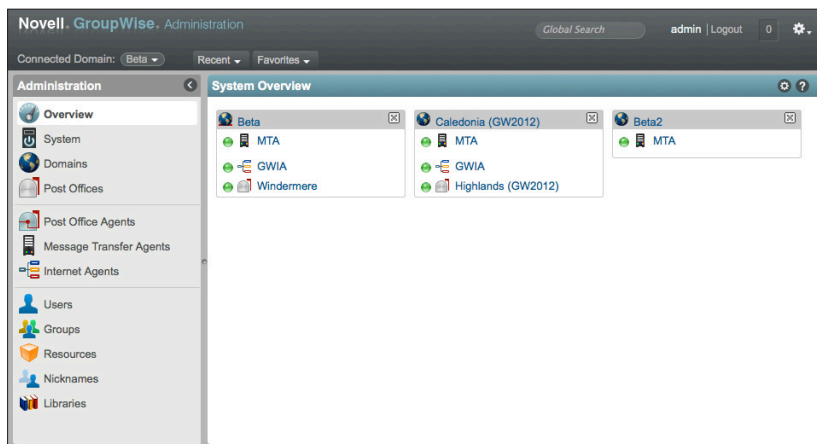
Figure 8-2: The GroupWise Administration Console Dashboard

This guide is not a full GroupWise administration manual. That said, we want to make sure you can find your way around, and so we will point out instances where something has moved that might not be obvious.

Much of the Administration Console is hyperlinked so that you can move around from one location to a logical "next step" without having to "back out" to a new window. So, for example, if you are looking at a User (RobRoy in the image), there will be "breadcrumbs" at the top of the window that allow you to jump to the user's Post Office (in our case Caledonia) or the Domain (here CNC).
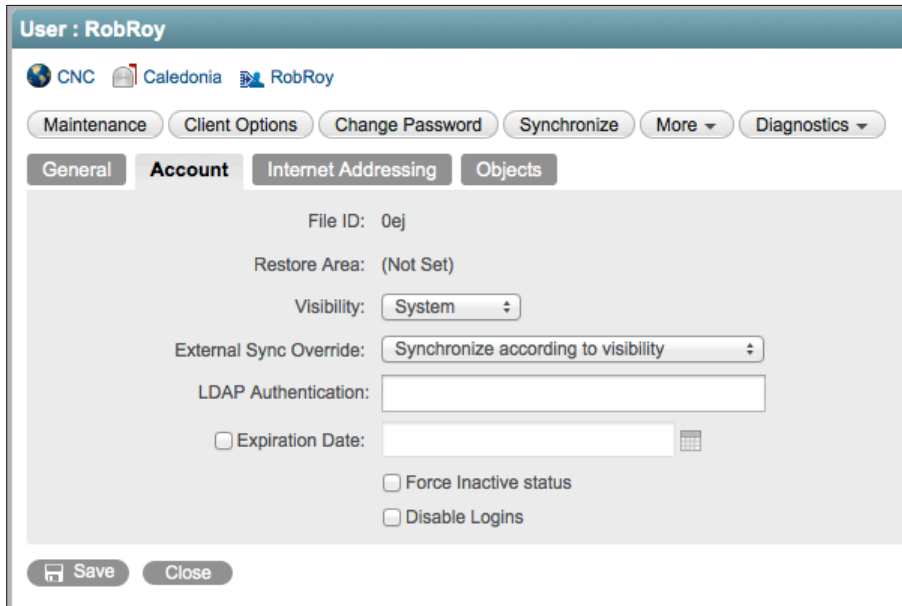
Figure 8-3: Navigating through the Administration Console

Check every opportunity you get to see if the name of an object is a link to assist in navigation.

For the rest of this chapter, we'll show you how to access items that might not seem so obvious.

Accessing Objects from the Dashboard

From the main Console Dashboard, you can click on any of the objects you see (domains, post offices, GWIAs) to be taken directly to that object. In the case of a Post Office, clicking on the Post Office name will take you to the Post Office settings, whereas clicking on the "status light" and then clicking the word POA will take you to the POA settings. Also, clicking on the indicator circle next to the object will link you directly to the http monitor for the agent.
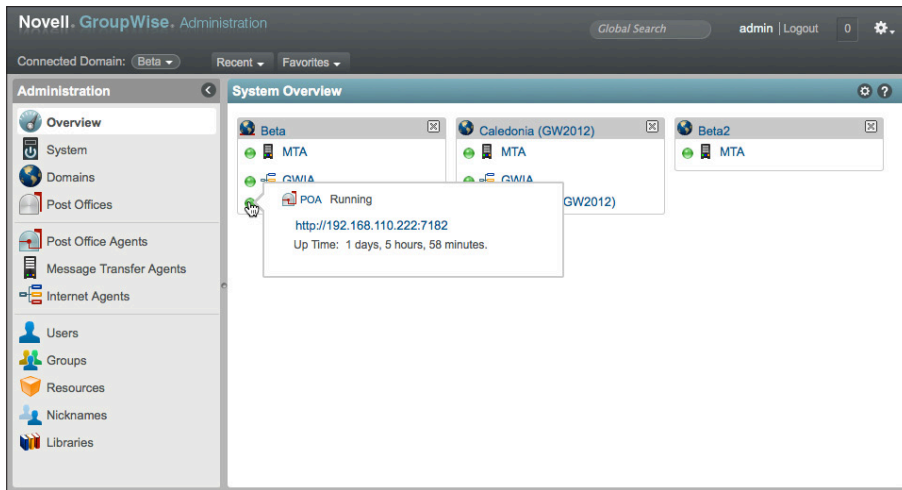
Figure 8-4: Access the HTTP Monitors directly from the Dashboard Overview

In a large GroupWise System, you may have more domains on this dashboard than you are interested in seeing. You can remove them by clicking the X in the grey bar associated with each domain. To restore a domain that you have removed, you can click the cog icon in the System Overview line.
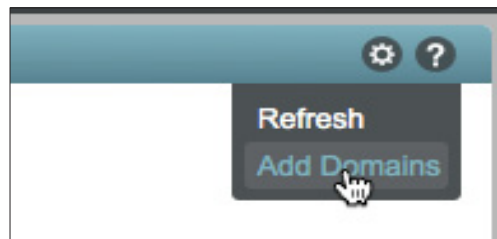
Figure 8-5: Adding Domains to the Dashboard

You can also get to the Post Office or Post Office Agent settings, for example, by clicking on the desired object type in the left column, and then choosing the object in the resultant list. There are many, many ways to move about the Administration Console. No longer do you need to exit out of a range of windows only to need to open another set of windows to reach your destination. Of course, if you attempt to leave a window before saving a change, you will be reminded first!

Global Search

The Global Search field allows you to search for objects by name without the need to click through the menus. Search for a user, a post office, a group.

Context Specific Search

When accessing lists, such as Users or Post Offices or Groups, there is a context specific search box to the right above the list.
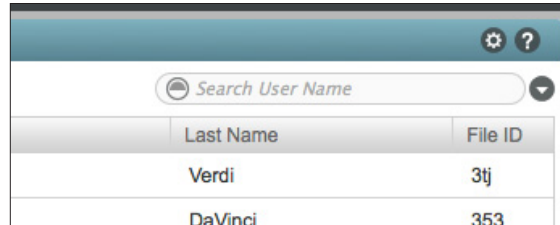
Figure 8-6: A Context Search Field.

Here you can type a single letter, part of a name, etc. to narrow down the list. There are, however, many more things you can do from this field.

Type Control-Space while in this field, and a popup appears to show you variables that can be searched.
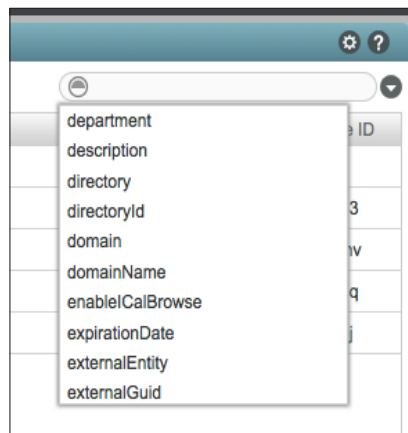
Figure 8-7: Context search popup

Thus you could search for the user with a specific FID, or find all Post Offices with client lock-out dates.

Export

Any list type of view can be exported to csv. You can add columns to the list by clicking on the cog icon above the search field (See Figure 8-6 above). Thus, you could export a list of users, including last login date, or mailbox size. Or a list of post offices, with time zone listings. No

longer must you use complicated log parsing to let a list of valuable information.

Quick Lists

At the top of the Administration Console, you will find a list of recent used items, as well as a favorites list you can build to get to your most needed items quickly.
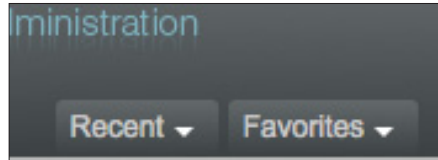
Figure 8-8: Accessing Useful Lists

System Settings

In ConsoleOne, the System Settings were found under Tools|GroupWise System Operations. In the Administration Console, they are simply under System. Additionally, many entries that were under Tools|GroupWise Utilities have also been relocated the System Settings.
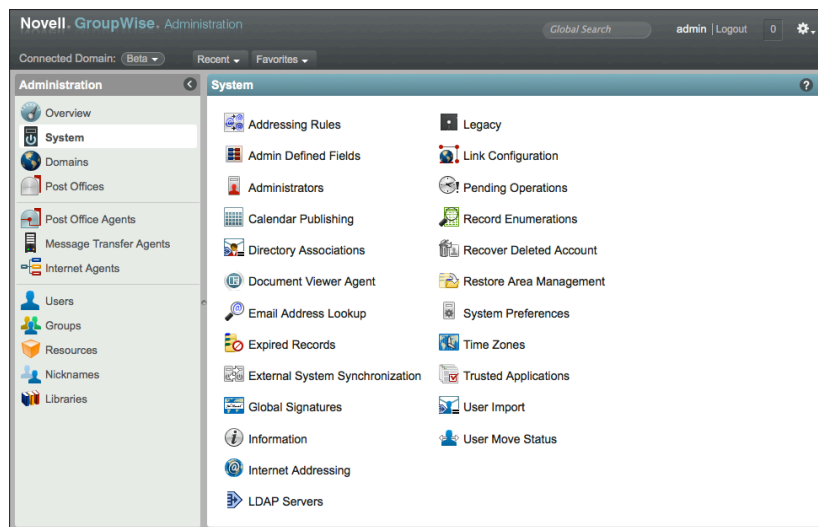
Figure 8-9: GroupWise System Settings

Most of the items you found under GroupWise System Operations in ConsoleOne can be found here, as well as some new items. We will not go over each of these items. Most of them will be obvious if you compare them with ConsoleOne. Let's look at a few of the newer and/or relocated items.

Administrators

When you upgraded your Primary Domain, you were prompted to create a GroupWise Administrator for your system. We suggested that you name this user something like gwadmin.

Here you can assign any GroupWise user to be a System level administrator. This is the similar in eDirectory to giving a user "Admin" equivalence. The System level administrator has all rights to the system as the original administrator your created during your upgrade.

Any administrator you assign uses his or her GroupWise credentials to authenticate.

Directory Associations

This is a new entry for facilitating mass association of Directory users (eDirectory or Active Directory) and GroupWise users. This is discussed in detail in *"Directory Integration and Synchronization"* on page 85.

Document Viewer Agents

In GroupWise 2014, Document Viewer agents become system objects that can then be assigned to Post Offices. When you upgraded your GroupWise Post Offices, if Document Viewer Agents were found on the Post Office servers, they continue to be utilized. If, however, you upgraded a Post Office that did not have a GWDVA installed, no GWDVA was configured, and you must manually create the object and attach it to your POA. We discuss this in *"Configuring and Verifying a DVA for your Post Office"* on page 186.

Email Address Lookup

This option allows you to enter an email address in the search field, and quickly find out which user this belongs to. At present, however, if the result is a nickname, you cannot quickly see here who the nickname belongs to

Legacy

This location contains Gateway objects (such as WebAccess Agents) and Software Distribution Directories. Once you no longer have any need for these objects, you can delete them here.

Link Configuration

In ConsoleOne, Link Configuration included Post Office Links. Post Office Links have been moved to the Domain settings, and will not be found here.

User Import

This setting allows you to import GroupWise users from an LDAP directory. Choose the users from the Directory for whom you wish to create accounts, and voila!

Domain Settings

When you click on Domains, you can see all of the Domains in your system. There are a couple of items under Domains that will seem new to you.
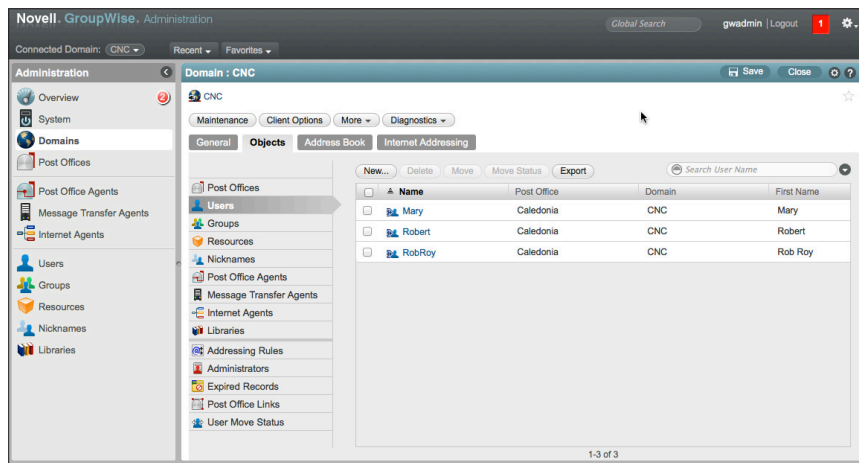
Figure 8-10: Domain Items

Administrators

You can assign any GroupWise user to be a domain administrator. This allows the user to manage all aspects of the Domain.

Post Office Links

In ConsoleOne, Post Office Links were found under "Link Configuration". These links are defined now under the Domain object.

Maintenance

In ConsoleOne, you accessed Maintenance in a separate Window. All Domain maintenance is now available right from the Domain object.

Client Options

In addition to the Client Options that you are familiar with, the new settings for Client Auto-Update are also accessed here. We discuss Client Auto-Update settings in *"Upgrading GroupWise Clients"*.

Message Transfer Agents

You should be able to find your way around the MTA settings without too much difficulty. There are some new options here.

General

In the General Tab, you have the ability to control the agent (Start/Stop) and also launch directly into the HTTP Monitor from this screen.

Figure 8-11: The MTA General Tab

Figure 8-12: MTA Log Settings

Post Office Settings

Items are laid out a bit differently in the Post Office settings, but should not be difficult to navigate.
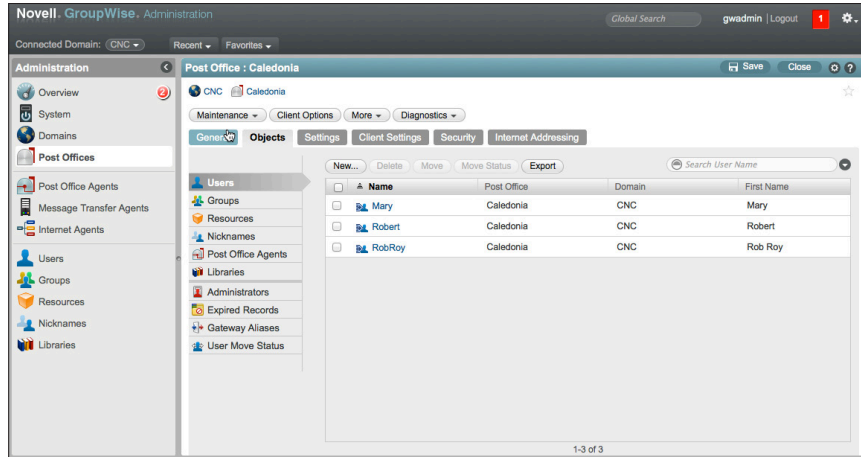
Figure 8-13: Post Office Settings

Administrators

You can assign any GroupWise user to be a post office administrator. This allows the user to manage all aspects of the Post Office.

Maintenance

In ConsoleOne, you accessed Maintenance in a separate Window. All Post Office maintenance is now available right from the Post Office object. This includes both Post Office database maintenance, and Mailbox/Library Maintenance for the entire Post Office.

Client Options

In addition to the Client Options that you are familiar with, the new settings for Client Auto-Update are also accessed here. We discuss Client Auto-Update settings in *"Upgrading GroupWise Clients"*.

Replicate (Formerly Synchronize)

As you move through the objects of your GroupWise system, one of the options you will see under **More** is **Replicate**.
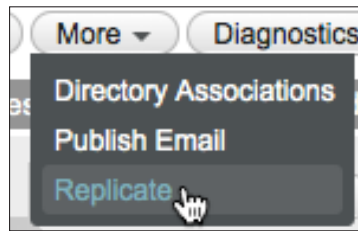
Figure 8-14: The Replicate function

This is not a new function. It's simply the former "Synchronize" renamed. This will take the information for the object and replicate it through the GroupWise system, just as the former Synchronize command did. This function name was changed to avoid confusion with the new "Directory Synchronization" for integration with eDirectory and Active Directory.

Post Office Agents
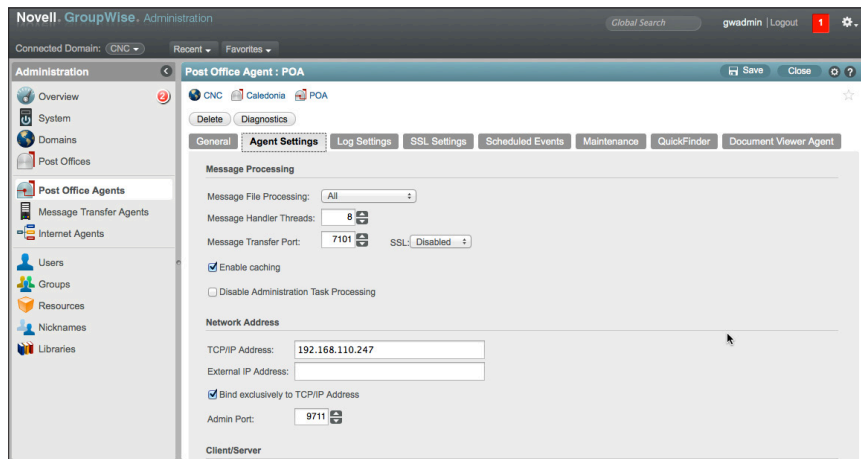
Figure 8-15: Post Office Agent Settings

General

From the General Tab of the Post Office Agent, you can start and stop the agent (just click on the Stop/Start Agent button). From here you can also launch directly into the POA HTTP Monitor.
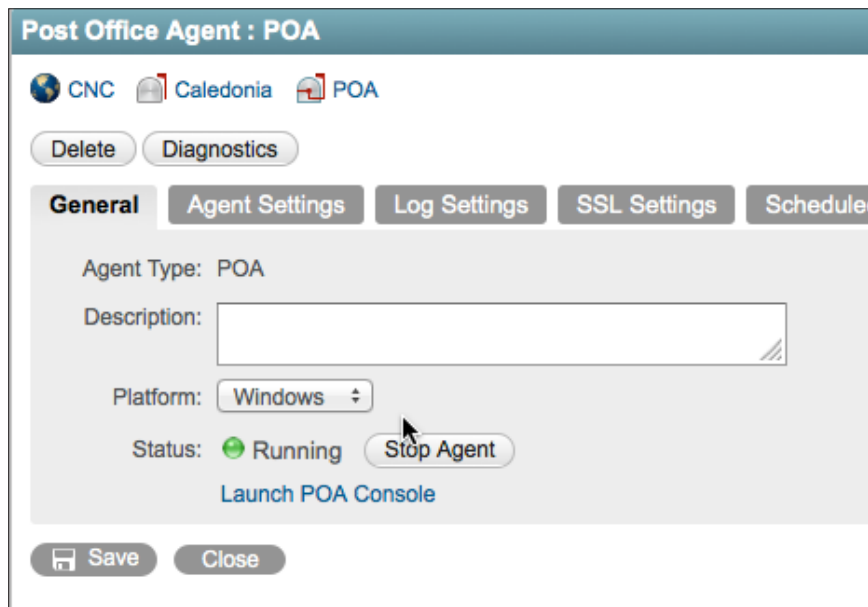
Figure 8-16: The POA General Tab

Agent Settings

While the Post Office Agent settings are easy to maneuver, you will notice that the Network Address for the agents has moved to the Agent Settings tab.

Document Viewer Agents

The Document Viewer Agent tab allows you to assign DVAs to your Post Office, and better load balance the indexing and rendering of agents. We discuss the Document Viewer Agent settings in more detail in *"Configuring and Verifying a DVA for your Post Office"* on page 186.

Groups
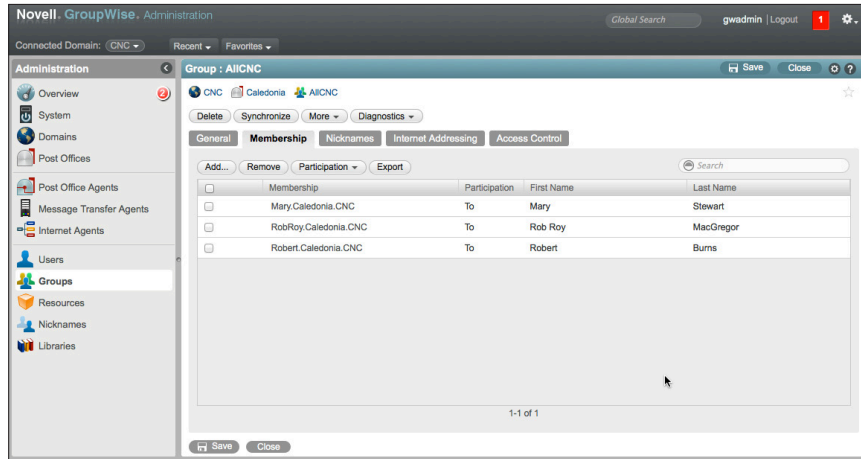
Figure 8-17: Group Settings

GroupWise Distribution Lists have been changed back to simply "Groups", which they were before the merging with eDirectory with GroupWise 5.0.

Clicking the Access Control Tab of Groups allows to you limit who can send to a particular Group, and also assign users to administer the Group.

Command Line Utilities

Of all of the changes for GroupWise 2014, the command line utilities are the most unexpected for some. Since the beginning of GroupWise (really all the way back to the beginnings of WordPerfect Office), we've had direct database access in one form or another. From GENOFF to AD.EXE to NWADMIN to ConsoleOne, there was a direct link from the administration tool to the database in question. Granted GENOFF was a command line tool itself, so one could say we've come full circle with GroupWise 2014!

The web based Administration Console has been long awaited and much clamored for. Not that it is here, it poses some particular problems when dealing with many of the database functions for GroupWise 2014. The Administration Console connects to the domain database through a REST connection, which allows it to generate commands directly to the database it is controlling. This does allow for database maintenance for objects that are controlled by a REST process. For example, a GroupWise 2014 Post Office database can be rebuilt from the Administration Console, but a GroupWise 2012 or older Post Office database owned by a 2014 domain requires rebuilding from the command line. During your upgrade especially, but also in some special administrative situations, you will be required to perform actions at the command line using one of various command line utilities available. We'll go over these now. Please note: This is not an Administration Guide. We're not attempting to cover every single aspect of GroupWise Administration here. We simply wish to show you the new functionality of the command line and point out where things are different than you might expect. If you need further information there are great resources such as:

• Novell GroupWise Documentation (http://novell.com/documentation/groupwise2014)

- The Caledonia GroupWise Power Administrator Resource (http://caledonia.net/register)

So, on to the command line utilities. If you navigate to your **<serverfiles>/admin** directory you will see the following objects:
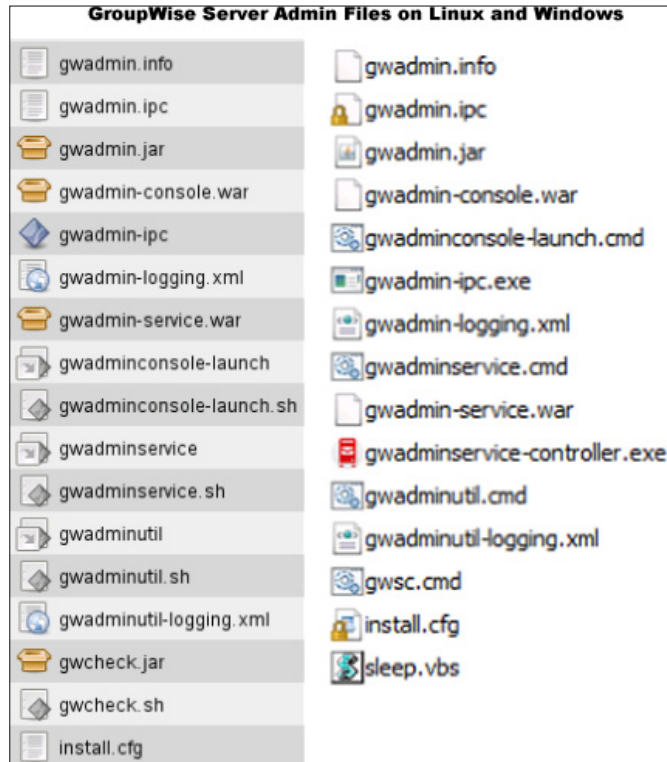
Figure 8-18: The Server Admin Directory

We will explain the important utilities here, as they relate to your Upgrade and how they might differ from prior administration. Remember also that some of these functions are also available within the Administration Console (i.e., validating databases and the like). We will go over them here from the command line as well, for thoroughness.

gwadminutil

gwadmintuil is used for all of the functions that were in Tools|GroupWise Utilities|System Maintenance in Console One. This includes rebuilding databases, merging systems, releasing domains, etc. In order to see all of the functions available with **gwadminutil**, simply type **gwadminutil** at the command line:

windermere:/opt/novell/groupwise/admin # ./gwadminutil.sh

GroupWise Admin Command Line Utility (14.0.0.114855)

Usage: gwadminutil <command>

Commands:

validate	**setadmin**
recover	**upgrade**
reclaim	**ca**
reindex	**certinst**
rebuild	**dbinfo**
sync	**installcfg**
convert	**services**
release	**config**
merge	

All of the command line utilities have a modicum of instructions built in by simply invoking the command. For example, to find out usage for a rebuild, simply type **gwadminutil rebuild** will explain that the usage is:

example: **gwadminutil rebuild -d /gw/dom1 -n Dom1.Po1 -o /tmp/po1 -cd**

This will rebuild Po1, belonging to Dom1 (which is located at **/gw/dom1**). It will rebuild the post office to **/tmp/po1** and create the necessary directory structure for the PO, including the dc files. The path **/tmp/po1** must exist. In other words, this would essentially create a new post office directory for a severely damaged PO.

Rebuilding a Secondary Domain Database

During your upgrade we instruct you to validate your Secondary Domain database. The can be done in ConsoleOne, connected to the Secondary Domain. If the validation fails, you must rebuild the Secondary Domain from the Primary. You cannot run the rebuild from ConsoleOne, and you cannot rebuild a database lower than version 2014 from the Administration Console. Thus you must run the rebuild from the **gwadminutil** utility on the Primary Domain server. If you have the ability to connect to both servers at the same time (map a drive from the Primary Domain server to the Secondary Domain server in Windows, or mount the volume containing the Secondary Domain from the Primary Domain Linux server), you can rebuilt "in place". Otherwise you can rebuild the Secondary Domain database to a temporary location on the local drive of the Primary Domain server, and copy the resultant **wpdomain.db** file to the Secondary Domain location. The command to rebuild the Secondary Domain is, for example:

gwadminutil rebuild -d /grpwise/domains/cnc -n cnc2 -o /tmp/cnc22

Once you have the new **wpdomain.db** file in **/tmp/cnc2**, you can copy that file to the actual directory for the domain CNC. The **/tmp/cnc2** folder must exist.

Validating or Rebuilding a Post Office Database

Similarly to rebuilding a domain database above, you may be called upon during your upgrade to rebuild a post office database.

During your upgrade we instruct you to validate your post office database. If the domain and post office are on the same server, we suggest that you check them both at the same time from ConsoleOne. Even if the domain and post office are on different servers, this can often be done

prior to upgrading the domain, provided that you do not intend to wait very long between the upgrades.

If you must validate and possibly rebuild the post office database after the owning domain is already at version 2014, it becomes more complicated. You either need to have access to both the domain and post office directories at the same time, or you can copy the **wphost.db** file to a temporary directory on the domain server. To validate a post office, run the following command:

gwadminutil validate /path

This will of course be either the actual path, if you have access to it from the domain server, or a temporary path where you have copied the **wphost.db** file.

If the validation fails, you will need to rebuild the database. If you have the ability to connect to both servers at the same time (map a drive from the Domain server to the Post Office Domain server in Windows, or mount the volume containing the Post Office from the Domain Linux server), you can rebuilt "in place". Otherwise you can rebuild the Post Office database to a temporary location on the local drive of the Domain server, and copy the resultant **wphost.db** file to the Post Office location. The command to rebuild the Post Office is, for example:

gwadminutil rebuild -d /grpwise/domains/cnc2 -n cnc2.italia -o /tmp/italia

Once you have the new **wphost.db** file in **/tmp/italia**, you can copy that file to the actual directory for the post office Italia. The **/tmp/italia** folder must exist.

Checking Your Database Version

During the upgrade we generally tell administrators to look at the database version of their domains and post offices in the Administration Console. You can also do this with **gwadmintul**.

gwadminutil dbinfo /grpwise/domains/beta

returns

System Name: CNCMAIL

System GUID: EC08E830-FE29-0097-B7C3-02608CA65E03

Name: Beta

Database Version: 1400

Admin Service: 192.168.110.222:9999

gwadmin-ipc

In the chapter on *"Installing the GroupWise Administration Service"*, we used **gwadmin-ipc** a number of times to authenticate the installation token. Should this file be missing or damaged, you would not be able to access the Installation Console. Some other functions of the **gwadmin-ipc** include:

a. gwadmin-ipc query to give you status of gwadmin services;

gwlinux:/opt/novell/groupwise/admin # ./gwadmin-ipc query

151.155.136.215:9713=>Italia.CNC2(/grpwise/pos/italia)

151.155.136.215:9710=>CNC(/grpwise/domains/cnc)

151.155.136.215:9712=>CNC2(/grpwise/domains/cnc2)

151.155.136.215:9711=>Caledonia.CNC(/grpwise/pos/calpo)

b. can use it to manually add/remove an adminservice listener. This is mostly for clustering.

/opt/novell/groupwise/admin/gwadmin-ipc start utah cluster

gwcheck.sh

The **gwcheck.sh** has not changed from prior versions. You can still launch mailbox/library maintenance from the Administration Console on individual users or entire post offices. You can also use **gwcheck.sh** as a command line tool. We like using the command line version for specific tasks:

- watching for a specific expected error to occur, rather than waiting for a log file to be emailed.
- checking a specific database (for example, msg201.db
- scripting gwcheck

The remaining utilities in the **<serverfiles>/admin** folder are used the by the admin service itself and are rarely accessed by mere mortals.

Connecting to other Domain Administration Consoles

In ConsoleOne, we frequently would need to "Connect" to a different Domain database. You would simply right-click on a Domain and choose "Connect". You might do this to compare settings to make sure that address book listings were the same from all domains.

The "domain database" connection in GroupWise 2014 is not through direct access to a database as it was in ConsoleOne. Rather it is through the Admin Service running on the Domain server.

If you wish to connect to a different domain's Admin Service, you simply follow these steps:

Click on the dropdown list at the top of your Administration Console, and choose the Domain's Admin Service. You will only see GroupWise 2014 domains in the list. If you need connect to a database prior to GroupWise 2014 (perhaps to check directory synchronization or other listings), you must use ConsoleOne for your connection.
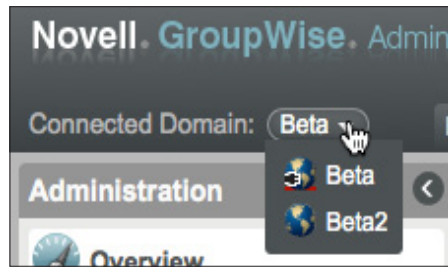
Figure 8-19: Changing the Domain

Reinstalling ConsoleOne Snapins on Linux

While we've cautioned against using ConsoleOne for day-to-day administration, you may find yourself in a situation where you really need to access the GroupWise system via ConsoleOne. The Administration Service installation does not remove the snapins on Windows, but it does on Linux. Should you find yourself in a bind, and you really need them, you must install them manually with the rpm. This is very simple!

This assumes you have kept ConsoleOne on your server. If not, you will need to first go to your /consoleone directory of your older GroupWise software and install ConsoleOne.

With ConsoleOne installed on the server, change to the /admin folder of your older GroupWise media. you will see a novell-groupwise-admin-<version>.rpm file. To install type this:

rpm -Uvh novell-groupwise-admin-<version>.rpm

When you get to "admin" you can just press tab and then entire file name should be completed for you. That's it. GroupWise snapins should be active again. Remember, this is only a "last resort" solution for when there simply isn't a way to complete a task or fix a problem with the Administration Console!

9 Moving GroupWise Post Offices

This chapter assumes in great part that you are moving data from one server to another. We briefly discussed the idea of *"Reusing an Existing Data Volume"* on page 35, and have no doubt that many sites moving from like OSs will choose to do this. If so, your "migration" will more closely resemble an in-place upgrade than a migration. You will merely need to pay attention to changed file locations, and IP address changes. Skip the portions of this chapter that relate specifically to copying data, and concentrate on the other migration details. If you are moving from NetWare or Windows to SLES, or even Windows to OES, you will of course need to move data, as your existing volumes are not compatible with your new OS. You can technically reuse a NetWare NSS volume on OES, but please take the possible issues we raise in *"NSS for OES"* on page 31 before you decide to do this.

All GroupWise Post Office servers must have the GroupWise Administration Service loaded. Thus, if this server has not yet been prepared with the Administration Service, go to *"Installing the GroupWise Administration Service"* on page 37, and return here once that has been accomplished.

For most administrators, moving the post office to a new server is the most unsettling part of a move to a new server. While certainly having an MTA or GWIA or WebAccess down can be frustrating, the thought that something might "go wrong" during a post office move causes some sleepless nights.

We won't say that there are no dangers in the move to a new server. Frankly, any time you do something as major as changing network operating systems there are difficulties. Learning the new operating system is generally the most work for a Linux move. Most NetWare administrators have at least a general knowledge of Windows networking. Getting everything "just right" is what we're here to help you do!

 Before you proceed with the steps in this chapter, please read *"Upgrading GroupWise Post Offices"* on page 179. After you have read the section on *"Preparing the Post Office Database"* on page 181, return to this chapter to complete the move of your data.

You should always look at moving all but the very smallest of post offices as a two stage process. The first stage involves preparing the server and making a first pass copy of the post office data. We are often asked why we do a first pass and second pass of the copy of data from the source server to the new server. It's simple: time. Unless you can afford to have your post office down for the entire time it takes to copy every file in your post office to the new server, you need to do two passes.

To explain this better, we'll look at how DBCopy works. DBCopy is optimized to only copy files that are new or have changed since the last run of the utility. When you run DBCopy with only the parameters required to do the job, and no additional switches, DBCopy looks at each file that it is asked to copy and checks to see if there is already a file by that name in the target directory. If the file does not exist in the target directory, DBCopy copies the file. If the filename already exists in the target directory, DBCopy checks the timestamp and only copies the file if the source file is newer. More importantly, DBCopy can successfully copy open GroupWise database files, and ensure a complete backup.

To understand this even better, we will briefly go over how GroupWise stores data. As you know, there are three data directories for a basic GroupWise post office (we aren't counting

document management directories here just yet). There is the **ofuser** directory, the **ofmsg** directory, and the **offiles** directory structure. When GroupWise delivers a piece of mail, a pointer is put into the **ofuser** directory that contains the header information for the message (sender, recipient, subject, message size, etc.). In theory then, the actual message is placed in the **ofmsg** database. This is true, of all messages 2KB and smaller. In practice of course, with the increased use of HTML messages, these small messages are becoming fewer and fewer. Any message or attachment that is larger than 2KB is packaged up in a BLOB file (binary large object) and placed in the **offiles** directory structure. There it sits, totally unchanged, until it is finally deleted and purged by the sender and all recipients and it can finally be removed from the system.

Thus, if you were to look at your GroupWise post office data, you would find that the vast majority (oftentimes over 90%) of the data in your post office is static information in the **offiles** directories. That information only needs to be copied once to your new server. If that takes 10 hours, 20 hours, even 40 hours, you can sit back and let it happen a few days or weeks before your final move. Then on the actual "migration day" only files that have been created or modified since the first pass will need to be copied. Novell has actually also added an "incremental" switch that allows you to enter a specific date for the copy, or even a relative date (for example, today minus three days) thus avoiding much of the checking against timestamps and file size. So, for example, if you were to make your first copy on March 31, 2014, and on April 7, 2014 you are performing the actual migration, you could put the "-i 03-31-2014" switch to prevent DBCopy from trying to copy files older than your last copy. Notice that we say "older than your last copy" here. You could technically run DBCopy multiple times prior to your final migration. For example, run DBCopy on March 31, 2014, April 4, 2014, then again on April 6, 2014, and on the 7th when it is time for the actual migration, only one day's worth of data would need to be copied again.

- Stage One – even though this is called "Stage One", this stage can be done as many times prior to your actual migration day as you choose.

  - Create a mount point on Linux, or map a drive from Windows to the source server.

  - Perform our first pass DBCopy of our post office.

- Stage Two – Migration Day

  - Change settings for the POA, Post Office location and External Storage locations if applicable.

  - Unload the POA for the post office

  - Rename the post office directory to avoid any accidental access while we are relocating the post office.

  - Perform our final DBCopy pass.

  - Launch the Administration Console to verify the post office location, agent address and link information if necessary.

  - Perform the upgrade steps.

  - Load the POA for the relocated post office.

  - Verify that the POA is communicating with its domain's MTA and force the new MTP settings through the HTTP Monitor if necessary.

  - Log into the post office and verify that all prior data is present.

  - Send a message to a user on the same post office, and verify that it is received.

  - Send a message to a user on another post office if applicable and verify that it was received

- Send a message to an external recipient through your GWIA and verify that it was received.

- Send a message from an external sender to your user through the GWIA and verify that it was received.

If you have External Storage Locations for GroupWise Document Management, you should also see the section on *"Moving External Document Storage Locations"* on page 176 for additional tasks that must be done during your migration.

The following sections will be broken out according to the "target" server. If you are moving to Windows, whether that be from NetWare, Linux, or even an existing Windows server, follow the instructions for "Moving to Windows. Likewise, if you are moving your system to Linux, whether from NetWare, Windows or an existing Linux server, following the instructions for "Moving to Windows".

Moving to Linux

Create a Mount Point for the NetWare Server

If you are moving from NetWare, you need to attach to the NetWare server from your new Linux server. To mount the NetWare volumes into your Linux file system, perform the following steps:

1. On the new Linux server, open up a terminal window.

2. "**su root**" to become root for this session.

3. Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our NetWare server that is named **gw1**. It is suggested that you replace **gw1** with the actual name of your NetWare server for ease of recognition later.

4. We have chosen to connect to our NetWare server via **ncpfs**. To mount the NetWare server via **ncpfs**, issue the following command

    ncpmount -S server -A 123.123.123.123 -U userid -P password /mnt/gw1

    replacing your server name for "server" and your server's IP address for 123.123.123.123. For example

    ncpmount -S gw1 -A 192.168.100.200 -U danita.cnc -P password /mnt/gw1

NOTE: You might wonder about the "user.context" vs. ".user.context" in this example. While ".user. context" works on some versions of Linux, it fails on others. In my testing, "user.context" has always worked on all versions. You might keep this in mind if you experience any problems authenticating with ncpmount.

This will actually mount all volumes from the NetWare server to this location. So, if we cd to **/mnt/gw1** will will see a directory called **SYS**, one called **GWDATA**, and any other volumes that are on that server.

Create a Mount Point for the Windows Server

If you are moving your domain from Windows, you need to attach to the Windows server from your new Linux server. To mount the Windows drives into your Linux file system, perform the following steps:

1. On the new Linux server, open up a terminal window.

2. "su root" to become root for this session.

3. Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our Windows server that is named **gw1**. It is suggested that you replace **gw1** with the actual name of your Windows server for ease of recognition later.

4. We have chosen to connect to our Windows server via cifs. To mount the Windows server via cifs, issue the following command:

mount -t cifs //server/d$ /mnt/name -o username=user,password=password,domain=domain or workgroup

This command is all one line, and there is no space between the comma following password and the word domain. You can use the entire drive (d$) or a specific share name. We like to use the drive (d$) when possible, but the share works as well. If for some reason you have difficulty mounting by by server name, you can substitute the IP address of the Windows server in the **//server/d$** portion (i.e. **//192.168.100.201/d$**).

So, for example, our command would be

mount -t cifs //192.168.100.228/d$ /mnt/gw1 -o username=danita,password=pass,domain=caledonia

Copying from Linux to Linux

When moving from one Linux server to another, there is no real requirement or even advantage to using dbcopy. In fact, we generally recommend rsync over ssh to do the job. This requires no special mount points, or even any specialized setup to accomplish. It does require that the target server has ssh enabled.

Migrating our Post Office - Stage One

Because our post office data store is large, and because we cannot afford to have our e-mail system down for two or three days while we migrate the data, we will make an initial copy of the data while the post office is up and running. Other than some disk I/O increase, our users will not even know we are there!

Stage One can be started quite a long time before the actual migration, but there are a couple of things to keep in mind. The longer in advance you do your first DBCopy, the more "junk" you will have in your offiles directories to try to clean up later. As we noted above when we discussed how DBCopy works, the utility only copies new or newer files to the target location. However, DBCopy does no "reconciliation" of files on the servers. In other words, if you do a first pass copy of your post office on March 31, 2014, and then don't do your actual migration until April 30, 2014, anything in the offiles structure that has been deleted from the live post office in the meantime will still exist on the Linux server. It would be unwise, therefore, to do a first pass copy before instructing users to clean our their mailboxes and purge their trash! In that case, you would have cleaner databases, but you would still have old files in the offiles directories. There are GWCheck routines that will delete the orphaned offiles, but we prefer to try to avoid weeks worth of deleted files in the offiles directory during a migration.

Once you have your server prepared and ready for your migration, and you are within your reasonable "migration window" for starting your first pass DBCopy run, it's time to get down to business.

DBCopy First Pass

Decide where you wish to have your post office located on your server (local partition, SAN, etc.) and make sure that your location is ready to receive your data. It is not necessary to have actually created the post office directory on this partition, as the DBCopy utility will create it for you.

In our example, our NetWare volume is mounted at **/mnt/gw1/GWDATA/pos/caledoni**. Our new location for our data will be in **/grpwise/pos/caledoni**.

The absolutely most important thing to remember when performing your DBCopy from NetWare or Windows to Linux is the -m switch. This is the "migrate" switch, and it changes the case for all of the data to lowercase. We can't stress enough how critical this is. We have been involved in migrations where this switch was forgotten. Especially if you plan on doing more than one "first pass" you must be extremely careful. There is nothing more frustrating than having a DBCopy run for 20 hours the first time, all files dutifully converted to lowercase, and then come back for another pass, forgetting the -m switch, and having duplicates of all file names in two different cases! In fact, some of our customers have been so wary of this, that they simply run the Change Case utility that we discussed back in our preparation chapter prior to beginning their migration first pass just to lessen the damage that would be incurred by forgetting the -m switch!

If you have an older version of GroupWise, and your **ngwguard.db** file on the NetWare or Windows server is not all lowercase, it is advisable to change that prior to starting the DBCopy. You must take down your POA in order to change the case for this file of course. While newer versions of DBCopy should do okay with an uppercase **ngwguard.db** file, we have seen issues with the -m switch failing, and it's just better to be safe than sorry!

So, getting down to business, here's how we will copy our data.

You will find that DBCopy on the Linux server does not run well from any directory other than **/opt/novell/groupwise/agents/bin** so we will cd to that location to run the utility. Run DBCopy to copy your files from the source server to the Linux location like this:

./dbcopy -m -p -f <source> <destination>

so for our situation it would be

./dbcopy -m -p -f /mnt/gw1/GWDATA/pos/caledoni /grpwise/pos/caledoni

This will copy all needed data from the current post office directory into the directory structure that we have indicated for the destination. In our case, we have chosen to location our post office in **/grpwise/pos/caledoni**. Our post office is named "Caledonia". While in theory we should be able to have a post office directory of more than 8 characters on Linux, we do not do this for compatibility and consistency sake.

The -m switch copies the files over in all lower case. The -p switch tells DBCopy that it is migrating a post office. The -f switch indicates that this is a "first pass" and omits certain queue directories to prevent coping files waiting to be delivered to the post office. If you are extremely curious and just love watching screens fly by to prove that something is happening (don't be shy – Danita is just like that herself!), you can also include the -w switch. This writes all of the data to the "window" so that you can see each file as it is copied. If you DO enable this switch though, do not expect to be able to really tell where you are in the copy. DBCopy launches

multiple threads (by default 5) to do the copying, and does not seem to always follow any particular order in the directory structure.

Rsync First Pass

When moving from Linux to Linux, you could mount your existing Linux volume into your new Linux server's file system and also use dbopy for the job. It is actually much faster to use rsync. Since you are copying from Linux to Linux, we assume that you have no file case issues to contend with! In our dbcopy examples above, we started from the target server, and mounted the source servers into our file system. Using rsync, you could actually go either way, but we prefer to start at the source (existing) server. The following command is an example:

- At the existing GroupWise server, change to the directory above your post office. For example

  cd /grpwise/pos

- run an rsync command to copy the post office folder (in our case **caledoni**) to the new server

  rsync -avz -e ssh caledoni gwadmin@192.168.110.222:/grpwise/pos

  this command accomplishes a couple of things. The -a switch is for "archive" which would actually compare the file dates and sizes were you to run this multiple times. The -v switch is for "verbose" so you can see what is happening. The -z switch is for "compress", which will speed up the process.

  We are also using the "-e ssh" switch, which instructs rsync to use ssh as the remote shell for connection.

  Notice that both the folder "**caledoni**" and the target folder "**/grpwise/pos**" have no final slash. This is important to ensure that the folders end up where you desire.

Go get a cup of coffee. Or dinner. Or watch a movie. Or just go home for the weekend! This can take a long time, and there is almost no way to calculate it for you. The time it takes you to do current backups of your full post office is a start at an estimation. The faster the connection between your new Linux server and the source server the better. Of course, if you are migrating from an ncp server, ncp isn't necessarily the fastest of protocols out there, but it requires no special configuration on your NetWare server, and is Novell's recommended way to copy the data from NetWare to Linux. While on some versions of NetWare you could serve up the post office via CIFS, it probably isn't worth the effort to try to configure this solely for the purpose of this migration. Under no circumstances should you attempt to do any type of NFS mount to your source server. For the vast majority of sites, you will find it easier and safer to just follow the instructions outlined here for using ncpfs for NetWare or cifs for Windows and having the data copy over via DBCopy that way.

Remember that as long as you remember the -m switch for dbcopy, you can run your first pass copies (even with rsync) as many times as you choose between the first pass and migration day.

Linux Migration Day

Today's the day, and we will complete our migration of the post office to our new server. Users have been alerted that the e-mail system will be unavailable for the duration, and we are ready to proceed. Here are the tasks that we will complete in order to accomplish our migration:

- In the Administration Console, edit the details of the Post Office Agent and change the IP address to the new GroupWise server.

- Check additional POA settings prior to migration, including External Storage Locations if appicable.

- Unload the source server POA for the post office

- Rename the post office directory to avoid any accidental access while we are relocating the post office.

- Perform our final DBCopy or rsync pass.

- Change the ngwnameserver entries in our local DNS if applicable

- Complete the Upgrade procedures in *"Upgrading GroupWise Post Offices"* on page 179

- Verify that the POA is communicating with its domain's MTA and force the new MTP settings through the HTTP Monitor if necessary.

- Log into the post office and verify that all prior data is present.

- Send a message to a user on the same post office, and verify that it is received.

- Send a message to a user on another post office if applicable and verify that it was received

- Send a message to an external recipient through your GWIA and verify that it was received.

- Send a message from an external sender to your user through the GWIA and verify that it was received.

Change the POA IP Address and Other POA Settings

Changing the POA IP Address prior to unloading your POA will allow the MTA to know immediately that the POA has moved when the upgrade procedure begins.

1. Load the Administration Console as shown in *"Accessing the GroupWise Installation Console"* on page 48.

2. Click on Post Office Agents in the Left Column

3. Find the POA in question and click on the object to open it.

4. Click on Agent Settings. Here you can change the IP address and IP Ports if necessary.

5. Check the HTTP settings to verify that the user and password settings were properly changed as discussed in *"Enabling the HTTP Monitor for Your Agent"* on page 11.

6. Verify that SOAP is enabled for this Post Office.

7. Click on the Log Settings tab and remove any custom path that might exist in the Log File Path field.

8. Turn your log file settings to verbose, if that is not already the setting.

Change the Path of the Post Office Object

Prior to your final copy, you can also change the path of the Post Office in the Administration Console. Edit the Post Office object and change the path there to the path from the perspective of the new server.

Unload the POA

Next, go to the server where your POA is loaded for the post office that you are moving:

- **NetWare:** press F7 at the agent console to unload the agent

- **Windows:** if the agent is running as an Application, you can also press F7, or use the File Menu and Exit. If the agent is running as a Service, you must stop the agent from the services applet.

- **Linux:** use rcgrpwise command. For example:

  rcgrpwise stop domain.po

  If you are not certain of the name that is defined for your post office in the rcgrpwise script, first run:

  rcgrpwise status

  This will show you all agents that the rcgrpwise script controls. Find the name for your post office and then issue the stop command for your POA.

Rename the post office directory

Just to be safe, we always rename the post office directory on the source server to ensure that no one (or no utility) can access the post office while we are making our final copy.

Perform our final DBCopy pass.

Our final DBCopy pass will be very similar to the first. The big differences here are that we will use the "interval" switch to limit what work DBCopy must do, and we will alter the source directory to reflect that we have renamed our post office directory.

You will find that DBCopy does not run well on the Linux server from any directory other than **/opt/novell/groupwise/agents/bin** so we will cd to that location on the destination server to run the utility. Run DBCopy to copy your files from the source server to the destination Linux server location like this:

  ./dbcopy -m -p -i mm-dd-yyyy <source> <destination>

so let's assume that we did our last DBCopy to the Linux server on April 6, 2014. Our command would be

  ./dbcopy -m -p -i 04-05-201r /mnt/gw1/GWDATA/pos/caledoni.old /grpwise/pos/caledoni

We always make the -i switch the day before our last copy just to be safe!

If you have ever looked at the help screen for dbcopy, you will know that -f is listed as first pass for the migration, and -s is for the second pass. We are indeed doing a "second" pass here, but we are not using this switch. The -s was originally created for the migration utility. We have found that the final dbcopy is more reliable when we omit this switch, and let dbcopy do a "standard" final copy.

StoreLowerCase on Linux

If all goes well with your DBCopy, a gwcheck with a "**storelowercase**" option will be issued by the utility at the very end. This tells the **ngwguard.db** that all files in the GroupWise system are now lowercase. The only time you should ever have to run a gwcheck with a "storelowercase" option yourself if if you do not use DBCopy with an -m and -p switch. We

bring this up, because there are still some TIDs floating about that recommend that you DO run a "**storelowercase**". While there are instances where you indeed might need to do this manually, it CANNOT BE STRESSED ENOUGH that you should NEVER run a gwcheck with a "**storelowercase**" while the POA is loaded. Please do not do this.

Rsync Final Pass

If you used rsync to copy your data from your existing Linux server to your new Linux server, you will do a final rsync now to finalize the copy.

Since we have renamed our post office directory the command will need to reflect this change.

- At the existing GroupWise server, change to the directory above your post office. For example

  cd /grpwise/pos

- run an rsync command to copy the post office folder (in our case **caledoni.old**) to the new server

  rsync -avz -e ssh caledoni.old/ gwadmin@192.168.110.222:/grpwise/pos

  this command accomplishes a couple of things. The -a switch is for "archive" which would actually compare the file dates and sizes were you to run this multiple times. The -v switch is for "verbose" so you can see what is happening. The -z switch is for "compress", which will speed up the process.

  We are also using the "-e ssh" switch, which instructs rsync to use ssh as the remote shell for connection.

  Notice that unlike our original command, the folder "**caledoni.old**" now has a final slash, but the /grpwise/pos folder does not. This is important to ensure that the folders end up where you desire.

Moving to Windows

Map a Drive to Your NetWare Server

If you are moving from NetWare to Windows, it is faster and more efficient to copy the files directly from NetWare to the Windows Server. It may be that your login script will automatically map a drive for you from your new Windows server to your NetWare server. Otherwise, map a drive by finding the volume in Windows Explorer, right-clicking the volume, and choosing Map Network Drive. If you choose to use a workstation in the middle, map drives to both the NetWare volume and the Windows Server share.

Map a Drive to Your Windows Server

If you are copying your existing data from one Windows server to another, simply map a drive from one server to another. We suggest mapping from the source server to the target, but you can go either way.

Create a Mount Point for the Windows Server

If you are moving your domain from Linux to Windows, you need to attach to the new Windows server from your existing Linux server. To mount the Windows drives into your Linux file system, perform the following steps:

1. On the new Linux server, open up a terminal window.

2. "su root" to become root for this session.

3. Create a directory structure for your mount point. For our purposes, we have created **/mnt/gw1** as the mount point for our Windows server that is named **gw1**. It is suggested that you replace **gw1** with the actual name of your Windows server for ease of recognition later.

4. We have chosen to connect to our Windows server via cifs. To mount the Windows server via cifs, issue the following command:

mount -t cifs //server/d$ /mnt/name -o username=user,password=password,d omain=domain or workgroup

This command is all one line, and there is no space between the comma following password and the word domain. You can use the entire drive (d$) or a specific share name. We like to use the drive (d$) when possible, but the share works as well. If for some reason you have difficulty mounting by by server name, you can substitute the IP address of the Windows server in the **//server/d$** portion (i.e. **//192.168.100.201/d$**).

So, for example, our command would be

mount -t cifs //192.168.100.228/d$ /mnt/gw1 -o username=danita,password=pass,domain =caledonia

Migrating our Post Office - Stage One

Moving GroupWise files to Windows is not as complex as moving to Linux, simply because there are no case issues to contend with. Thus, while dbcopy is a tried and true method, it is not entirely necessary. We will show the steps below to explain how to use dbcopy for the migraiton. That said, if you have other copy methods that can skip existing, unchanged files in the final copy, you can feel free to use that method for your post office copy.

Because our post office data store is large, and because we cannot afford to have our e-mail system down for two or three days while we migrate the data, we will make an initial copy of the data while the post office is up and running. Other than some disk I/O increase, our users will not even know we are there!

Stage One can be started quite a long time before the actual migration, but there are a couple of things to keep in mind. The longer in advance you do your first DBCopy, the more "junk" you will have in your offiles directories to try to clean up later. As we noted above when we discussed how DBCopy works, the utility only copies new or newer files to the target location. However, DBCopy does no "reconciliation" of files on the servers. In other words, if you do a first pass copy of your post office on March 31, 2014, and then don't do your actual migration until April 30, 2014, anything in the offiles structure that has been deleted from the live post office in the meantime will still exist on the new Windows server. It would be unwise, therefore, to do a first pass copy before instructing users to clean our their mailboxes and purge their trash! In that case, you would have cleaner databases, but you would still have old files in the offiles directories. There are GWCheck routines that will delete the orphaned offiles, but we prefer to try to avoid weeks worth of deleted files in the offiles directory during a migration.

Once you have your server prepared and ready for your migration, and you are within your reasonable "migration window" for starting your first pass DBCopy run, it's time to get down to business.

DBCopy First Pass - Windows Mapped Drive

Decide where you wish to have your post office located on your Windows server (local partition, SAN, etc.) and make sure that your location is ready to receive your data. It is not necessary to have actually created the post office directory on this partition, as the DBCopy utility will create it for you.

In our example, our NetWare volume is mapped as **g:/pos/caledoni**. Our new location for our data will be in **h:/pos/caledoni**.

Change to **<serverfles>\agents** and run the following command:

dbcopy.exe /p /f <source> <destination>

so for our situation it would be

dbcopy.exe /p /f g:\pos\caledonia h:\pos\caledoni

This will copy all needed data from the current post office directory into the directory structure that we have indicated for the destination. In our case, we have chosen to location our post office in **g:\pos\caledoni**. Our post office is named "Caledonia". While in theory we should be able to have a post office directory of more than 8 characters on Windows, we do not do this for compatibility and consistency sake.

The /p switch tells DBCopy that it is copying a post office. The /f switch indicates that this is a "first pass" and omits certain queue directories to prevent coping files waiting to be delivered to the post office. If you are extremely curious and just love watching screens fly by to prove that something is happening (don't be shy – Danita is just like that herself!), you can also include the /w switch. This writes all of the data to the "window" so that you can see each file as it is copied. If you DO enable this switch though, do not expect to be able to really tell where you are in the copy. DBCopy launches multiple threads (by default 5) to do the copying, and does not seem to always follow any particular order in the directory structure.

DBCopy First Pass - from Linux to Windows

If you are moving from Linux to Windows, you could have enabled SAMBA and copied from the Windows server with the Mapped Drive option above. If you have decided instead to mount the Windows server into your Linux file system and run dbcopy from Linux, you will follow these instructions.

Decide where you wish to have your post office located on your server (local partition, SAN, etc.) and make sure that your location is ready to receive your data. It is not necessary to have actually created the post office directory on this partition, as the DBCopy utility will create it for you.

In our example, our Windows volume is mounted at **/mnt/gw1/pos/caledoni**. Our existing GroupWise data is at **/grpwise/pos/caledoni**.

So, getting down to business, here's how we will copy our data.

You will find that DBCopy on the Linux server does not run well from any directory other than **/opt/novell/groupwise/agents/bin** so we will cd to that location to run the utility. Run DBCopy to copy your files from the source server to the Linux location like this:

./dbcopy -p -f <source> <destination>

so for our situation it would be

./dbcopy -p -f /grpwise/pos/caledoni /mnt/gw1/pos/caledoni

This will copy all needed data from the current post office directory into the directory structure that we have indicated for the destination.

The -p switch tells DBCopy that it is migrating a post office. The -f switch indicates that this is a "first pass" and omits certain queue directories to prevent coping files waiting to be delivered to the post office. If you are extremely curious and just love watching screens fly by to prove that something is happening (don't be shy – Danita is just like that herself!), you can also include the -w switch. This writes all of the data to the "window" so that you can see each file as it is copied. If you DO enable this switch though, do not expect to be able to really tell where you are in the copy. DBCopy launches multiple threads (by default 5) to do the copying, and does not seem to always follow any particular order in the directory structure.

Using Other Copy Methods

Since there is no need to worry about case with a GroupWise Windows server, you are free to copy your data by any means you desire. There is just one thing to remember. As we discussed, items in OFFILES that are deleted between the first copies until the final copy remain in the target offiles directories. If you are using copying methods that can compare file structures, you can have this utility delete files in the target that no longer remain in the source. This will also prevent having extraneous files in the queues that might be delivered twice if you are using these methods, unless you explicitly skip copying the queue directories on your initial copies.

Go get a cup of coffee. Or dinner. Or watch a movie. Or just go home for the weekend! This can take a long time, and there is almost no way to calculate it for you. The time it takes you to do current backups of your full post office is a start at an estimation. The faster the connection between your new Linux server and the source server the better. Of course, if you are migrating from an ncp server, ncp isn't necessarily the fastest of protocols out there, but it requires no special configuration on your NetWare server, and is Novell's recommended way to copy the data from NetWare to Linux. While on some versions of NetWare you could serve up the post office via CIFS, it probably isn't worth the effort to try to configure this solely for the purpose of this migration. Under no circumstances should you attempt to do any type of NFS mount to your source server. For the vast majority of sites, you will find it easier and safer to just follow the instructions outlined here for using ncpfs for NetWare or cifs for Windows and having the data copy over via DBCopy that way.

Remember, you can run your first pass copies as many times as you choose between the first pass and migration day.

Windows Migration Day

Today's the day, and we will complete our migration of the post office to our new server. Users have been alerted that the e-mail system will be unavailable for the duration, and we are ready to proceed. Here are the tasks that we will complete in order to accomplish our migration:

- In the Administration Console, edit the details of the Post Office Agent and change the IP address to the new GroupWise server.

- Check additional POA settings prior to migration, including External Storage Locations if applicable.

- Unload the source server POA for the post office

- Rename the post office directory to avoid any accidental access while we are relocating the post office.

- Perform our final DBCopy or rsync pass.

- Change the ngwnameserver entries in our local DNS if applicable

- Complete the Upgrade procedures in *"Upgrading GroupWise Post Offices"* on page 179

- Verify that the POA is communicating with its domain's MTA and force the new MTP settings through the HTTP Monitor if necessary.

- Log into the post office and verify that all prior data is present.

- Send a message to a user on the same post office, and verify that it is received.

- Send a message to a user on another post office if applicable and verify that it was received

- Send a message to an external recipient through your GWIA and verify that it was received.

- Send a message from an external sender to your user through the GWIA and verify that it was received.

Change the POA IP Address and Other POA Settings

Changing the POA IP Address prior to unloading your POA will allow the MTA to know immediately that the POA has moved when the upgrade procedure begins.

1. Load the Administration Console as shown in *"Accessing the GroupWise Installation Console"* on page 48.

2. Click on Post Office Agents in the Left Column

3. Find the POA in question and click on the object to open it.

4. Click on Agent Settings. Here you can change the IP address and IP Ports if necessary.

5. Check the HTTP settings to verify that the user and password settings were properly changed as discussed in *"Enabling the HTTP Monitor for Your Agent"* on page 11.

6. Scroll down this screen to verify that SOAP is enabled for this Post Office.

7. Click on the Log Settings tab and remove any custom path that might exist in the Log File Path field.

8. Turn your log file settings to verbose, if that is not already the setting.

Change the Path of the Post Office Object

Prior to your final copy, you can also change the path of the Post Office in the Administration Console. Edit the Post Office object and change the path there to the path from the perspective of the new server.

Figure 9-1: Change the Post Office Path

Unload the POA

Next, go to the server where your POA is loaded for the post office that you are moving:

- **NetWare:** press F7 at the agent console to unload the agent

- **Windows:** if the agent is running as an Application, you can also press F7, or use the File Menu and Exit. If the agent is running as a Service, you must stop the agent from the services applet.

- **Linux:** use rcgrpwise command. For example:

  rcgrpwise stop domain.po

  If you are not certain of the name that is defined for your post office in the rcgrpwise script, first run:

  rcgrpwise status

  This will show you all agents that the rcgrpwise script controls. Find the name for your post office and then issue the stop command for your POA.

Rename the post office directory

Just to be safe, we always rename the post office directory on the source server to ensure that no one (or no utility) can access the post office while we are making our final copy.

Perform our final DBCopy pass.

Our final DBCopy pass will be very similar to the first. The big differences here are that we will use the "interval" switch to limit what work DBCopy must do, and we will alter the source directory to reflect that we have renamed our post office directory.

If you have ever looked at the help screen for dbcopy, you will know that -f is listed as first pass for the migration, and -s is for the second pass. We are indeed doing a "second" pass here, but we are not using this switch. The -s was originally created for the migration utility. We have found that the final dbcopy is more reliable when we omit this switch, and let dbcopy do a "standard" final copy.

From Linux

You will find that DBCopy does not run well on the Linux server from any directory other than **/opt/novell/groupwise/agents/bin** so we will cd to that location on the destination server to run the utility. Run DBCopy to copy your files from the source server to the destination Linux server location like this:

./dbcopy -p -i mm-dd-yyyy <source> <destination>

so let's assume that we did our last DBCopy to the Linux server on April 6, 2014. Our command would be

./dbcopy -p -i 04-05-2014 /grpwise/pos/caledoni /mnt/gw1/pos/caledoni.old /grpwise/pos/caledoni

We always make the -i switch the day before our last copy just to be safe!

Windows

dbcopy.exe /p /i mm-dd-yyyy <source> <destination>

so let's assume that we did our last DBCopy to the new Windows server on January 6, 2012. Our command would be

dbcopy.exe /p /i 01-05-2012 f:\pos\caledoni.old g:\pos\caledoni

We always make the /i switch the day before our last copy just to be safe!

Again, this will take some time.   It's difficult to say how long exactly. However, in a recent migration we did, the initial DBCopy of all of the post office files took about 20 hours, and the final DBCopy took two hours.

While this is processing we can continue to do a bit of work that needs completing.

 Unless of course you need to move an External Storage Area. In that case, continue on with the next section.

Moving External Document Storage Locations

First Pass

If you use GroupWise Document Management and have external Document Storage Locations defined, these must be moved separately from the main post office move.

The procedure is simple, but it is indeed extra, and must be done individually for each Document Storage Location that you have defined.

First, decide where on your new Windows or Linux server you wish to have the Document Storage Location. Once you have decided on your location, we will do a new DBCopy. This time we will use the -/b (BLOB) switch, which essentially tells the DBCopy utility to not check the ngwguard.db file while it is running and simply copies everything it finds in the source directories.

First we will unload our new Windows POA just to avoid issues. In our situation, the documents are on h:\docs\caledoni. Our documents will reside on the new server on a new volume that has been mapped from our workstation as i:\docs\caledoni. Thus, our DBCopy command would look like this:

> dbcopy.exe /b h:\docs\caledoni i:\docs\caledoni.

On Linux, this might be

> ./dbcopy -b -m /grpwise/docs/caledoni /mnt/gw1/docs/caledoni

Technically, it is not required that we use DBCopy for this process unless we are moving TO Linux, necessitating the -m for migrating to lowercase. You could really use any copy mechanism you like but DBCopy works well for this.

Final Pass

Before you take down the POA for the final copy of both the Post Office files and the External Storage locations, you should edit the Library Storage Locations information and change the path to the new server. This can be done after the upgrade, but it is best to have this change propogate to the Post Office while the Post Office is still on the existing server.

1. In ConsoleOne, select the Library involved in the storage move.

2. Click on the drop-down triangle and choose the Storage Area tab of the Library.

3. Select the Storage Area that you have moved.

4. Click the Edit button.

5. Change the path on the Edit the Document Storage Area page to be correct from the perspective of the Post Office Agent. If you are moving to Linux, also include the Linux Path. This is extremely important, as the new Storage Location will not be recognized on Linux if the Linux Path is empty or incorrect.

6. Select OK. You will probably be prompted to create the directory. Choose "no" since the directories are likely not accessible from this workstation, and have been created during the copy of the Storage Locations to the new server.

7. Verify the change took effect by clicking on a different item in ConsoleOone and returning to the Library to view the storage area and confirm it has changed.

Additional Migration Tasks to Do While the Final Copy Continues

There are a few steps that need to be accomplished before we are finished with our migration.

Double-Check the Post Office Details in the Admin Console

Although we changed these settings during the procedures above, it's a good idea to give them one last look:

1. Load the Administration Console as shown in *"Accessing the GroupWise Installation Console"* on page 48.

2. Click on Post Offices in the Left Column

- Edit the properties of the post office and change the UNC path of the post office to point to the new location.

- Edit the properties of the POA object, and change the following:

  - On the Identification screen, change the Platform to Linux or Windows

  - Click OK to save all of the changes.

NGWNameserver

If your site is using an ngwnameserver value in DNS to direct users to the POA, you should change this now to point to the new IP address for your POA. This will ensure that users have no disruption of service after the POA comes back up. The DNS server will simply redirect the users to the proper IP address after the migration.

Now we wait. There really isn't much left to do until the copy is complete!

Once the copy is complete, you can continue on with the next chapter to upgrade your post office.

10 Upgrading GroupWise Post Offices

Upgrading your post offices is very similar to upgrading domains. There are just a few things to keep in mind about your upgrade:

- Your post office cannot be upgraded until the domain that owns the post office is at GroupWise 2014.

- You should use the version of GWCheck that is designed for your version of GroupWise. Thus, if you have multiple post offices and will not upgrade them all at the same time, make sure you have not only your GroupWise 2014 GWCheck available, but also that you keep the older standalone versions of GWCheck on hand until you have upgraded those older post offices.

- The GWIA, while an SMTP server, also serves as a client when it is used for IMAP4 and POP3. Once you upgrade your GWIA to GroupWise 2014, you will only be able to use POP3 and IMAP4 to GroupWise 2014 post offices.

- If you upgrade a post office to GroupWise 2014 and that post office owns users who typically proxy to other users on older GroupWise post offices, you will not be able to upgrade those users' clients until all post offices are upgraded.

- If you have multiple post offices, you will need to wait on upgrading WebAccess until all of the post offices have been upgraded, or use two separate WebAccess servers to handle both versions of GroupWise.

So, as you can see, it's a good idea to get your post offices upgraded to GroupWise 2014 on a scheduled roll-out so that you are not surprised by any of the possible issues with mixed post offices. That said, may sites operate in a "mixed" system quite nicely for an extended period of time. You must simply make sure that your plans take the above caveats into account.

How Does the Upgrade Work?

At the post office level, a GroupWise upgrade is really just a database conversion from one version to another. The former GroupWise post office database, is RECOVERED by the Admin Service's administrative thread and CONVERTED to the new version. This requires three simple components:

- The domain that owns the post office in question must already be upgraded to GroupWise 2014.

- The Post Office Agent software must be at GroupWise version 14

- The dc (dictionary files) in the post office directory must be at version 14

We realize that this sounds simplistic, but it really is quite simple. When you upgrade your post office, you are simply recreating your post office database to be a GroupWise 2014 database.

If you are moving from GroupWise 7 or later to GroupWise 2014, there are no structural changes outside of the post office database to be concerned with. However, if you are upgrading from GroupWise 6.5 or earlier, you will notice an interesting new feature. Prior to GroupWise 7, GroupWise had 25 message databases in the ofmsg directory structure. These are shared databases that are randomly divided amongst your users, no matter how many users are on a post office. Upon creation, a user is assigned to a message database, and all mail "sent" from that user goes into this database number. In GroupWise 6.5 and earlier, a post office with 50 users ends up with the same number of message databases as a post office with 5000 users!

This was not a huge issue for many years. However, as the usage of e-mail increased over time, these databases grew larger and larger. While GroupWise seemed to handle the bloat of the databases just fine itself, it started to cause issues for backup software, the time it took to perform a GWCheck, etc., etc. Additionally, FLAIM databases (which all GroupWise user and message databases are) have a limit of 4 GB per database. Thus, it has become more important over time to distribute the data over a larger number of databases to prevent database files from reaching the FLAIM limit.

With GroupWise 7, Novell increased the number of message databases to 255. This allows for better load balancing of the message store. There are some interesting side effects of this change though that are important to know about. If you are upgrading to GroupWise 2014 from GroupWise 6.5 or earlier, users will be reassigned to these new database numbers immediately. For example, Danita's database went from being number 21 under GroupWise 6.5 to number 91 under GroupWise 7. As mentioned, this is an immediate change. As soon as a user logs into the GroupWise 2014 post office (regardless of the client version) and sends a message, that message will be saved into the new database. All previous messages will remain in the former message database. So, in the case of Danita, she now has messages linked in her sent items to both **msg21.db** and **msg91.db**.

While this is mostly a technical discussion, and doesn't really impact your users in any noticeable way, you should know what happens if you have post offices at a version older than GroupWise 7 that you do not upgrade right away. You will start to see these newer, higher numbered databases appearing even in GroupWise 6.5 or earlier post offices. This is due to how the GroupWise system works. If Danita sends a message to a user on a different post office, the message is placed in **msg91.db** on Danita's post office. That message is then sent through the MTAs to the second post office, and when it is saved, it is placed in **msg91.db** on THAT post office. This poses no problems. The older post office agents will look into any database that is referenced in a message header. The important thing to remember is that this is normal and you should not be concerned when you see these "oddly" numbered databases in the older post office directories. Be careful not to assume that these files are not needed and get too tidy and delete them!

Enabling SOAP

Prior to GroupWise 2012, SOAP only needed to be enabled if you were running the GroupWise Mobile Server, the DataSynchronizer Mobility Server, or another third party product that requires SOAP access. With GroupWise 2014, it will be a very rare occurrence to not need SOAP enabled for your post offices. Not only do the aforementioned processes require SOAP access, but WebAccess requires SOAP to be enabled at the POA in order for WebAccess to function. Thus, it will be important for almost all Post Office Agents to support SOAP. Follow these steps to enable SOAP for all post offices that will have users who access GroupWise via WebAccess:

In ConsoleOne, click on the GroupWise System Globe, and perform the following steps:

1. In the dropdown list that shows "Users", change the setting to "Post Office Agents."

2. Find the POA for your post office, right-click and choose Properties.

3. Now click on the triangle in the GroupWise tab and change to Network Address.

4. Make sure that there is a port listed for SOAP for your Post Office Agent. The default SOAP port is 7191.

5. Now, on the GroupWise tab, change to the Agent Settings screen. Verify that SOAP is enabled for the POA.

6. Save your changes.

Preparing the Post Office Database

When you are ready to continue your upgrade, we will first check the post office database to make sure that it is ready to upgrade. If you will be upgrading a Domain at the same time as your Post Office, you can do the verification in ConsoleOne. In ConsoleOne, select the post office object and choose **Tools|GroupWise Utilities|System Maintenance|Validate Database**. If your database shows as valid, you can proceed. If for some reason the database does NOT validate, you should rebuild it. In order to rebuild the database you must first shut down the POA and make sure that no users can attach to the post office directly. At this point, we are going to shut down the post office agent for the upgrade anyway, so if you need to rebuild your database, first follow the instructions immediately below on shutting down your post office agent. Once the post office agent is shut down, return to ConsoleOne and choose **Tools|GroupWise Utilities|System Maintenance**, and this time choose Rebuild Database.

If the domain that owns this post office has already been upgraded on a different server, you must do the validation from the owning domain's GroupWise 2014 server at the command line. Please see the section entitled *"Validating or Rebuilding a Post Office Database"* on page 154 to prepare your post office database.

Upgrading Your Post Office

In the *"Installing the GroupWise Administration Service"* chapter, you installed the software required to take your post office to GroupWise 2014, but your post office has not actually upgraded. This will not happen until you run the Upgrade wizard from the Installation Console. If you are upgrading a Domain and Post Office at the same time, please go to *"Domain With Post Office (GWIA optional)"* on page 74 section to complete your upgrade.

If your Post Office is on a server without a domain, continue with these instructions.

Back in the *"Installing the GroupWise Administration Service"* on page 37, we loaded up the Installation Console after installing the Administration Service. Now we need to look at the upgrade steps for our system.

Hopefully you set your Installation configuration to use "user" mode as we described in"Changing the Installation Console Access Method". Otherwise you will need to follow the "token" instructions above in that section to access the Installation Console (assuming it's been more than 5 minutes since you completed the installation of the files and received your first token).

1. Go to **https://yourserver:9710/gwadmin-console/install**

We have set our installation mode to "user", so we can login with our "gwinstall" user we defined above.

Figure 10-1: The Installation Login Screen

2. We now see the Installation options screen
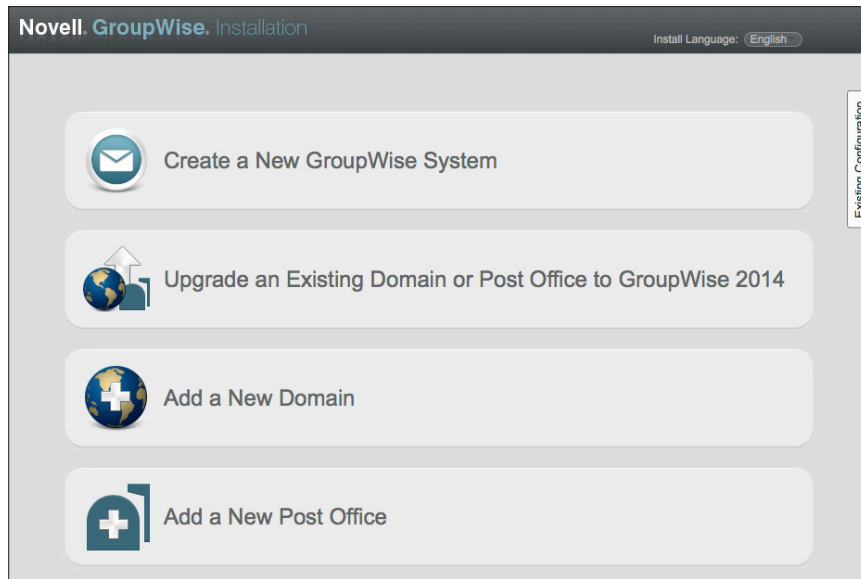
Figure 10-2: Installation Options

3. Click on "Upgrade an Existing Domain or Post Office to GroupWise 2014".

4. Since we have moved our post office to this server, unless a domain was moved here prior, there is no gwha.conf configured and thus no objects will show available to upgrade. However, if you moved a domain to this server earlier, you will see the domain listed here as an available item to upgrade, but it has already been upgraded. You can leave it in the list. It will not hurt the domain to go through the "process" again. When we open the Installation Console and click on "Upgrade" we see the figure listed below.
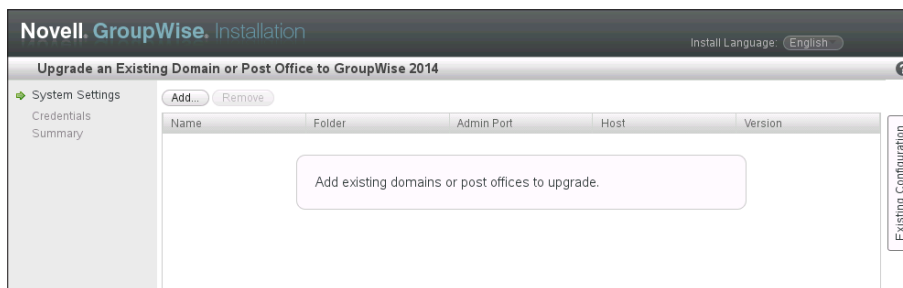
Figure 10-3: No Objects found in gwha.conf for upgrade.

5. To add our Post Office to the list of objects to be upgraded, we click on the add button. We then are shown a file browser which we can use to browse to the post office directory. Click okay, and you will see the next figure that shows our post office server IP address, and the suggested admin port for this POA
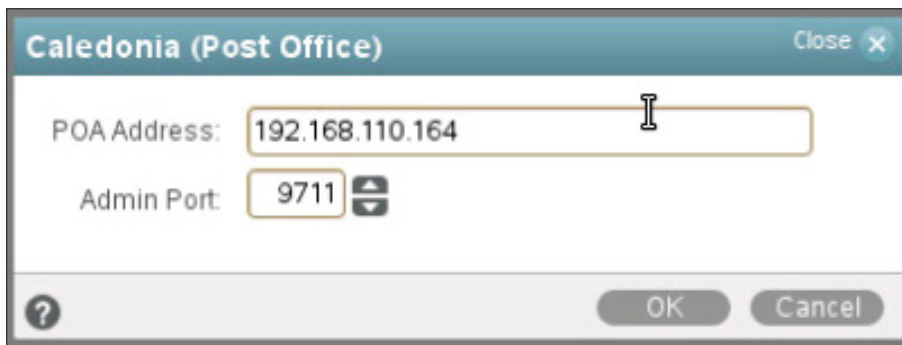
Figure 10-4: Post Office Address and Port

6. We have moved our post office, and this IP address is possibly no longer valid. We will change the IP address to that of our new server, and click OK

Figure 10-5: Post Office Added to Upgrade

Now that our post office is in the list to upgrade, we can continue.

1. With your post office properly listed in the upgrade section, click Next.

    You will be prompted for location and credentials of your Primary Domain admin service (unless for some reason it is also in the upgrade list).
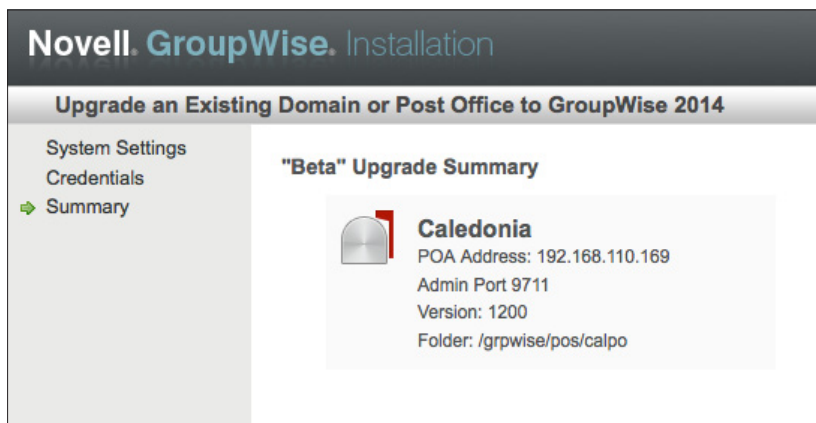
Figure 10-6: Connecting to the Primary Domain to complete an upgrade

2. You will now see a summary screen. In the figure below, our GroupWise system is called "Beta", so you see the name of the system, the post office to upgrade, and the settings for the post office.

Figure 10-7: The Upgrade Summary Screen

Click Finish to complete the upgrade. In the background, the Administrative Service will prepare the post office for upgrading and launch the POA to complete the process.

The Admin Service, MTA and POA all have the ability to upgrade the pertinent databases. The process for upgrading is thus: in the Installation Console, you choose the databases to be upgraded. The installation process then copies the 2014 dictionary (dc) files to the pertinent directories, and instructs the Admin Server to proceed to upgrade. The dc file is essentially a text file that contains the database schema for creating a GroupWise 2014 database. The **gwpo.dc** shows the version number at the very top line as #VERSION=1400. This version number at the top of the file verifies that you have the GroupWise 2014 dc file in your post office directory. The Admin Service looks at the database to see if it is eligible to upgrade (i.e., the owning domain has already been upgraded). The Admin Service will launch a recovery of the database, effectively converting the post office to GroupWise 2014. You will see a notice to restart your MTAs and POAs, and a link to access your Administration Console. However, the URL in the link presented to you is for the local server. Since we are upgrading a Post Office on a server that

is remote from its domain, there is no access to the Administration Console on the URL you are given. You will need to access the URL for your domain server instead.

In our experience, a restart is not required.

//

Geek note: the MTA and POA still have the ability to upgrade the databases as well, but it's a job that's been officially delegated to the Admin Service.

\\

If you are watching during the upgrade procedure, you will see the **creating.dbb** and **recover.dbb** files described above temporarily in the post office directory. Here's an example

```
-rw-r--r--  1 root root  39983 Jan 27 14:15 0127gwbk.001

-rw-r--r--  1 root root 301056 Feb  5 15:37 creating.dbb

-rw-r--r--  1 root root    877 Feb  5 15:37 dzrec.log

.

.

.

.

-rw-r--r--  1 root root 784384 Feb  5 15:37 recover.dbb

-rw-r--r--  1 root root      4 Sep 27 14:11 uid.run
```

To verify that the post office is version 14, you will launch the Administration Console and check the version in the properties of the domain. We'll do this below in the *"Verifying the Upgrade"* section below.

Verifying the Upgrade

When you completed your upgrades in the sections above, go to the section on *"Verifying the Upgrade"* on page 78 in the *"Upgrading GroupWise Domains"* chapter to check on your upgrade.

Configuring and Verifying a DVA for your Post Office

If you are upgrading from GroupWise 2012, it is likely that you have a GroupWise Document Viewer Agent installed on your server, and the upgrade would have simply upgraded the GWDVA executables, and the GWDVA will continue to work as always. If, however, you upgraded from GroupWise 8, you may or may not have a GroupWise Document Viewer Agent configured. You can check this on your upgraded server.

- On Linux, run **rcgrpwise status.** If a DVA is installed and configured, it will be clearly visible in the list of running agents.

- On Windows, go to the Administration Tools|Services. If a DVA is installed and configured, it will be listed in services as GroupWise DVA.

If there is no DVA running, we will install one.

1. From a Terminal Window/Command Prompt, change to the **<serverfiles>\admin**
    directory

2. run the following command (if on Linux you may need to proceed the command with **./**)

    gwadminutil services -i -dva

3. Check that the service was installed

    •   On Linux, run **rcgrpwise status**. You should see a gwdva listed, but "unused". Run
        rcgrpwise start gwdva to start the DVA.

    •   On Windows, click **Start|Administrative Tools|Services** (or choose
        Action|Refresh if Services is still loaded). Look for the GroupWise DVA. Right-click
        the service and choose Start.

Now that the DVA is installed and running, we can create a GroupWise object for the DVA so
that it can be assigned to your post office. To do this, we go to the Administration Console in our
web browser.

1. Log into the Administration Console (see *"Logging Into the Administration Console"* on
    page 141.

2. Click on System.

3. Choose Document Viewer Agents

4. In some cases during the upgrade your DVA will have been properly created. However, it is
    our experience that generally there will be no DVA for your current Post Office listed here.
    Click New.

5. In the creation window, enter a name for your DVA (Perhaps in our case Caledonia DVA),
    enter the IP address and port for the DVA you just created. The default port is 8301.

Figure 10-8: Configuring the DVA

6. When you Click OK, the object will be created, and it should appear in the DVA list. Close
    the DVA list,

7. Now, click on Post Offices in the list on the left hand side of the Administration Console.

8. Choose your Post Office and click on its name to open the link.

9. Scroll to the right and click on the Document Viewer Agent tab,

10. As we mentioned above, there are times when this is properly populated, but the likelihood is that no DVA is listed here. Click on Add Document Viewer Agent.
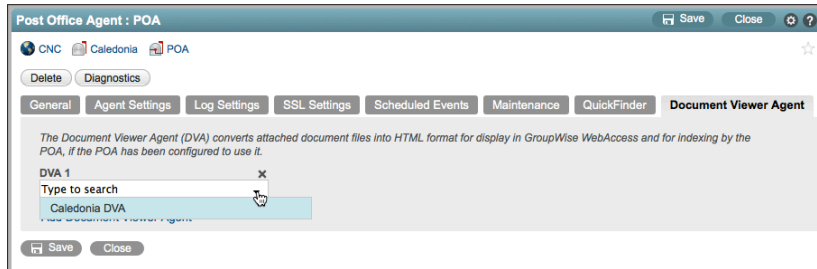
Figure 10-9: Adding the DVA to the Post Office Agent

11. Click the dropdown (or start typing the name you gave the DVA agent earlier) and choose your DVA.

12. Click Save. It may seem that nothing has happened. If you were watching, you would see the Save icon on the top toolbar flicker. If you are unsure, close this window and click on the POA and Document Viewer Agent tab again just to verify.

Log into the Upgraded Post Office

It's now time to log into your new POA and verify that everything is working as desired. You can do this with your current GroupWise client, or upgrade to the GroupWise 2014 client. If you use the **ngwnameserver** listing as described above, your GroupWise client will initially try to go to the old server, timeout and then ask for the new entry in DNS. If you do not use **ngwnameserver**, you will likely need to enter the new IP address manually when the login times out.

Once you have logged into your mailbox, there are a few tasks that you should perform to ensure that everything is working properly

- Send a message to yourself. This should pop into your mailbox almost immediately.

- Send a message to a user on the same post office, and verify that it is received.

- Send a message to a user on another post office if applicable and verify that it was received

- Send a message to an external recipient through your GWIA and verify that it was received.

- Send a message from an external sender to your user through the GWIA and verify that it was received.

- If you use GroupWise Document Management aopen an existing document and verify that you are able to access it properly. If there are problems, check Troubleshooting below.

- Create a new document in GroupWise DMS and verify that it creates and saves properly.

Troubleshooting

There are very few things that can go wrong during a post office upgrade. If you find that your post office refuses to show as a GroupWise 2014 post office in the Administration Console do a couple of things:

- Double-check that the upgrade procedure copied the new dc files into the post office directory. Open the **gwpo.dc** and **ngwguard.dc** files with a text editor to verify that they are in fact the GroupWise 2014 files.

- Double-check that the domain owning this post office is actually a GroupWise 2014 domain (i.e., it shows as version 1400 in the Administration Console).

- Unload and reload the POA to see if this solves the problem.

- It is possible that communications issues have prevented the post office database from receiving the news that its parent domain is a GroupWise 2014 domain and thus is allowed to upgrade. Remember that just loading the GroupWise 2014 agent software is not enough. If all else fails, rebuild the post office database. See *"Validating or Rebuilding a Post Office Database"* on page 154*.*

-

If you are using External Storage Locations for Document Management and experience issues with your POA loading, you may need to load the POA manually with the following switches:

- --ll verbose - logging switch which sets the log level to verbose to enable you to better track the configuration changes (if your POA is already set to verbose logging, you can skip this switch)

- --noconfig - this switch will prevent the POA from reading its own configuration file. Instead it will load with "defaults" and simply receive information from the MTA about the change.

1. Let the POA run like this for a few minutes until you see that the configuration settings have propagated.

2. Unload the POA and reload it with its regular startup file.

3. Test the new storage area by opening a document in the library. Close the document, and look at the activity log for the document. To view the activity log go the Properties of the document, select the Activity Log tab. From here you can see the Filename column which will display the exact path to where the document is stored in your GroupWise library. If you do not see the Filename column, simply right click on the column heading and click the word Filename when it appears. This will add this column to the view. You should now see that the document is showing located in the new volume.

Finally, create a new document in the library, then view its activity log to verify it was saved into the new storage area.

Checking the MTP Link

Frequently when moving a post office, the message transfer link between the MTA and the POA is broken. We attempted to avoid this earlier by changing the IP address of the MTA before we moved the domain, but occasionally that does not do the trick. For those of you who have never used the HTTP monitors for the agents before, this will be a really good example of "learning to love the HTTP monitor". We are not loading the GUI Consoles for our agents on Windows or Linux (except in testing situations). The solution that we will show now is not available in any of the GUI Consoles! So the HTTP monitor wins our love and devotion in one simple command.

The first thing we are going to do is log into our POA's HTTP monitor. Using your favorite browser (we prefer Firefox, but Internet Explorer works as well), go to the IP address and port of your POA's HTTP monitor. Our location is http://192.168.100.169:7181 – and unless you changed the default port for your POA, you will also go to 7181. When we enter this address, we are first asked for a userid and password. This is the userid and password we assigned to the HTTP monitor in *"Enabling the HTTP Monitor for Your Agent"* on page 11.

After authenticating, we are presented with the following screen:

GroupWise 2014 POA · Caledonia.CNC

Status | Configuration | Environment | Log Files | Scheduled Events | MTP Status | Help
Up Time: 0 Days 0 Hours 20 Minutes

	Total	Peak
C/S Users	0	0
Application Connections	0	0
Physical Connections	0	0
SOAP Sessions	0	0
Priority Queues	0	0
Normal Queues	0	0
GWCheck Auto Queues	0	0
GWCheck Scheduled Queues	0	0

Thread Status

	Total	Busy	Peak
C/S Handler Threads	6	0	0
Message Worker Threads	8	0	0
GWCheck Worker Threads	4	0	0
SOAP Threads	4	0	0
Message Transfer Status	Open		

Statistics

	Total
C/S Requests	0
C/S Requests Pending	0
Users Timed Out	0

Figure 10-10: The POA HTTP Monitor

At this point we want to click on the link for MTP Status, and we will see this screen:

Figure 10-11: The POA MTP Status Screen

You will notice that the Receive Status shows as Closed, and that the Inbound TCP/IP address shows our old IP address or is blank. This is due to the simple fact that our POA doesn't know that it has moved! This is easily rectified. Simply click on the Closed link under the word Received, change the IP address to the current IP address of the POA on Linux, click the Start MTP Receive radio button, and click Submit.

Figure 10-12: Editing the MTP setup for the POA.

Now click the MTP Status link again and you will see that the Receive thread shows Open. Your MTA and POA are talking to each other again, and mail can begin flowing.

Once all of these tasks are performed successfully, you are DONE with the Post Office upgrade.

When you are ready to continue, just turn to the next chapter in your upgrade plan.

11 Upgrading GroupWise WebAccess

With GroupWise 2012, Novell made some major changes to WebAccess, which continue with GroupWise 2014. There is no longer a GWINTER (WebAccess Agent) for GroupWise WebAccess. Rather than having the WebAccess Application (web server) speak to the WebAccess Agent to gather information for the user, the WebAccess Application speaks directly to the POA via SOAP.

Also, the directory objects for the WebAccess Application are no longer used. If you have read our books on manually configuring GroupWise WebAccess on Apache, you will know that these agents were always "optional" and were essentially just a GUI interface for editing the web server and WebAccess configuration files. From here on out, you will need to make configuration changes directly to the **webacc.cfg** file if you wish to modify your WebAccess Application settings. We will go over some of those settings later in this chapter.

Finally, the GroupWise 2014 WebAccess cannot service users on post offices that have not been upgraded to GroupWise 2014. In other words, if you will not upgrade all of your post offices rapidly (perhaps over a weekend or other "off" time such as a long holiday), you will either need to leave your WebAccess at your current GroupWise version, or have two separate WebAccess installations to provide for both your older post offices and your new GroupWise 2014 post offices.

GroupWise 7 and later WebAccess installations can access a GroupWise 2014 post office with no major downsides (we have not checked. Of course, your users will not be able to utilize any of the new features of the GroupWise 2014 WebAccess, but the users will be able to log into the upgraded PO through a GroupWise 7 or later WebAccess installation.

Since you are moving your server, you will simply install GroupWise WebAccess on your target server.

Preparing For The Upgrade To GroupWise 2014 WebAccess

For the Web Server running the WebAccess Application you will need one of the following:

SLES 11/OES 11

Apache 2.2 plus:

- Tomcat 6.0 or later (installed via YaST for SLES, or during GroupWise installation for OES11)

- JRE 5 or later

- ModProxy Module

Windows Server 2008/2008 R2/2010

Microsoft Internet Information Server (IIS) 7 or later plus:

- Tomcat 6 or later

- JRE 5 or later

- Jakarta Connector 1.2 or later

- ISAPI Support

Firewall Considerations

The GroupWise 2014 WebAccess Application requires access to the SOAP port on each Post Office Agent in the system. This is typically port 7191. The GroupWise 2014 WebAccess Application also requires access to at least one GroupWise Document Viewer Agent (GWDVA) in the system. This is generally port 8301. Ensure that your firewall does not block this access by the WebAccess Application.

While we do not wish to get into a huge server placement discussion here, web server placement IS important, especially if you are upgrading from a system prior to GroupWise 2012. With GroupWise 8 and earlier, the web server only needed to talk to one WebAccess Agent on port 7205 (although it was possible to configure fault-tolerance and have multiple WebAccess Agents accessible by the Web Server). With GroupWise 2012 and later, ALL post office agents need to be accessible on the SOAP port, and at least one GWDVA needs to be accessible. Thus, if you place your web server in the DMZ, you potentially need to open many more "holes" into the inside. If you place the web server inside of your network, you only need to open port 433 (and 80 if you insist, but you should use SSL, so in reality you could get by with only port 443 being open to the internal web server).

To make your WebAccess installation fault tolerant, you could use an L4 switch and round-robin between multiple WebAccess server installations.

Installing WebAccess

Linux WebAccess Installation

1. If you are in a GUI file browser like Nautilus or Konqueror, just click on **install.sh** in your extracted software directory, and choose Run in Terminal (this is a text based installation, and will only run from the terminal). If you are at a terminal window, type **./install.sh** in the directory where the script resides. Here's the installation screen!
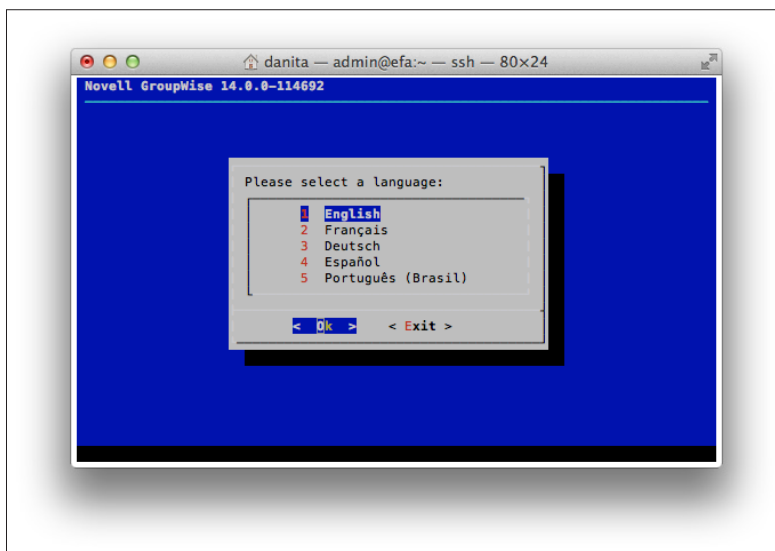
Figure 11-1: The Installation Window

Notice that this is no longer a GUI installation. Everything is text based. In many builds of this installation routine, we have noticed that the arrow keys do not work, and you must use the tab key. If you have issues with arrowing around, use the tab and shift-tab.

2. You have 5 languages to choose from here. Choose your language, and we'll move on.

3. At the next screen you will have two choices: Documentation and Installation. Documentation will attempt to open a web browser and take you to the Novell docs. Remember that the installation can be done in a totally text based environment, thus if you have no GUI/browser available to you, you will only be able to view the **Readme** if you choose to look at the documentation.

4. The next screen will present you with the EULA. When you agree to the EULA you are moved to the following screen:
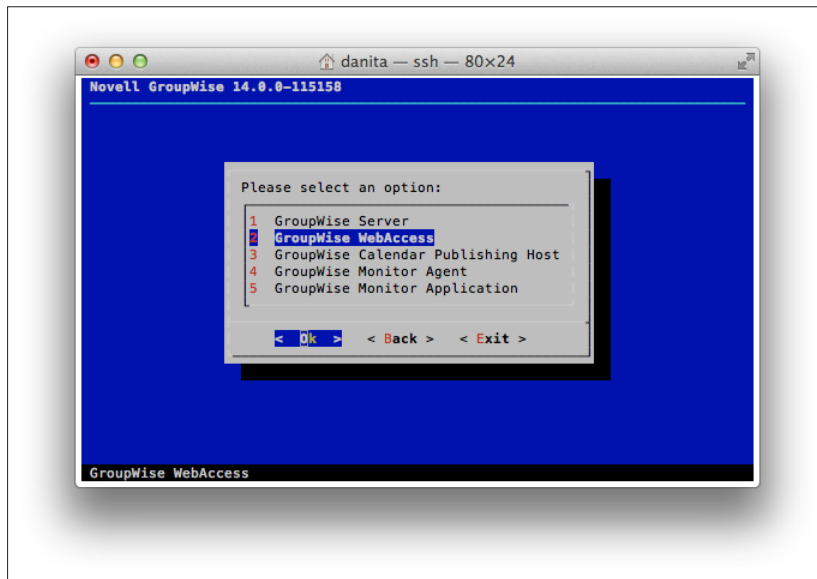
Figure 11-2: The Main Installation Screen

5.   Here we will choose to install GroupWise Webaccess. Choose OK.

6.   Next you have the option of Install or Configure
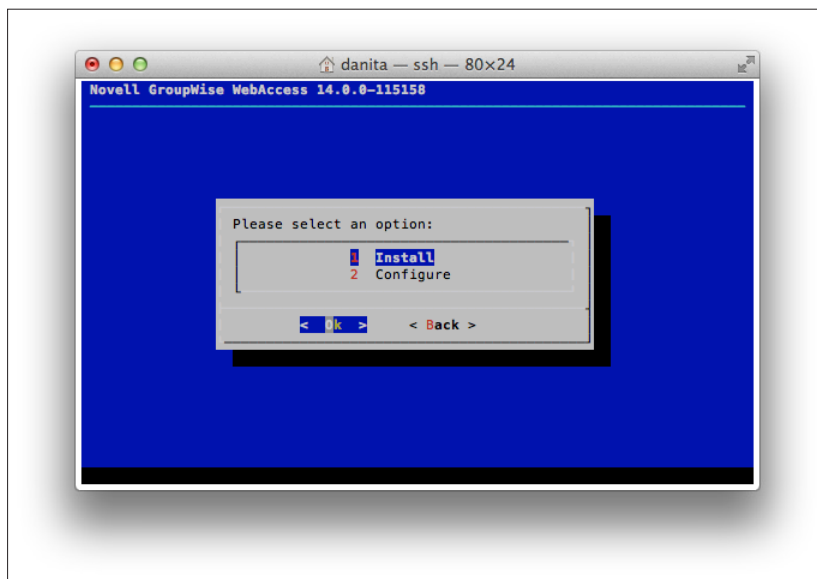
Figure 11-3: Installation Screen

We'll of course choose Install. This will install the actual files. We will later go to configure.

7. The installation routine will copy the necessary files to the server (and check the server repositories for needed updates to server software. Apache and Tomcat will also be restarted.

Once the files are installed, you will receive a prompt to "press any key to return . . .". This will take you back to the Install/Configure menu.

8. Next we will choose Configure. At the next screen choose 1 to Continue.

9. In the following figure you see the text that says "Specify the network address and port of the Post Office Agent. Please note that this is two different fields, but you will not see the "port" field until after you enter the network address. Do not get confused and think you need to put the port on the same line as the network address. You need only enter one POA location for WebAccess to work. WebAccess will connect to that POA and if the user requesting access belongs to a different post office, standard post office redirection will send the user to the proper POA.

Figure 11-4: Post Office Agent SOAP setup

10. The next screen will be the same, except it is for the GWDVA information. We will discuss more about the DVA below. The DVA port is 8301 by default.

Figure 11-5: DVA Port Setup

11. The next screen indicates the location of Apache and Tomcat. Unless you have manually configured a different instance of Apache, these paths should be correct.
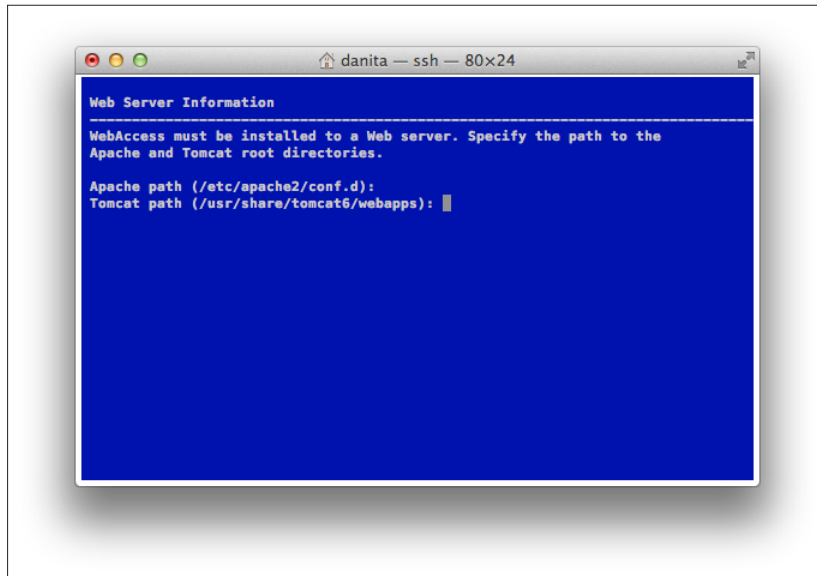
12. The configuration will finish, and you will be returned to the Install/Configure screen. Choose Back and then Exit.

13. While the installation should restart Apache and Tomcat, to be thorough, you should do the following steps:

/etc/init.d/apache2 restart

and

/etc/init.d/tomcat6 restart (SLES 11)

or

/etc/init.d/novell-tomcat6 restart (OES)

//

Even though deep down we know that OES uses novell-tomcat6, sometimes we also restart tomcat6 for good measure.

\\\

Windows WebAccess Installation

1. From Windows Explorer, double-click on **setup.exe** in your installation directory. Here's the installation screen!

Figure 11-6: The Installation Window

2. Here we will choose to install WebAccess.

3. Choose your language.

4. The WebAccess installation routine will be launched. When you see the Installation Welcome screen, press Next.

5. Here you will choose the Web Server Information. Unless you have more than one web server location running on this server, the default location is where you should place GroupWise WebAccess. Click on Default Web Site and click next.

6. In the following figure you will enter the information for the network address and port of the Post Office Agent. You need only enter one POA location for WebAccess to work. WebAccess will connect to that POA and if the user requesting access belongs to a different post office, standard post office redirection will send the user to the proper POA.
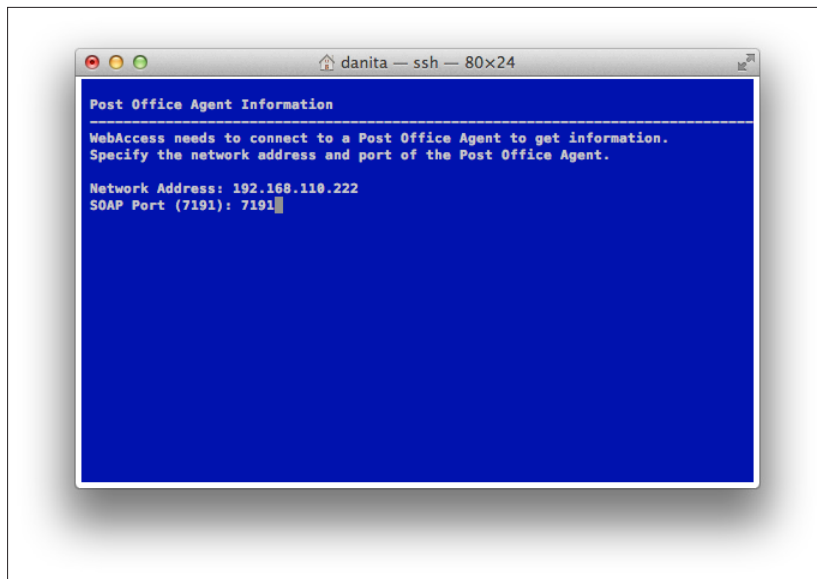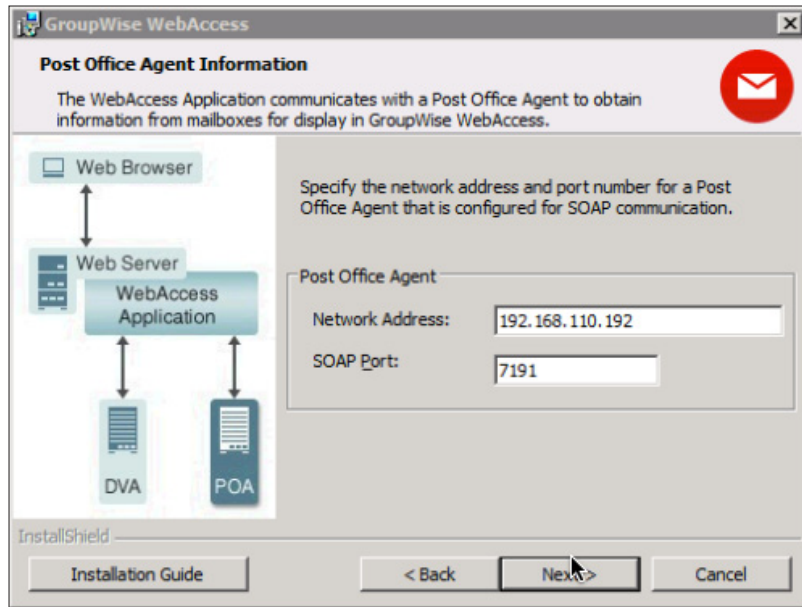

Figure 11-7: Post Office Agent SOAP setup

7. The next screen will be the same, except it is for the GWDVA information. We will discuss more about the DVA below. The DVA port is 8301 by default.
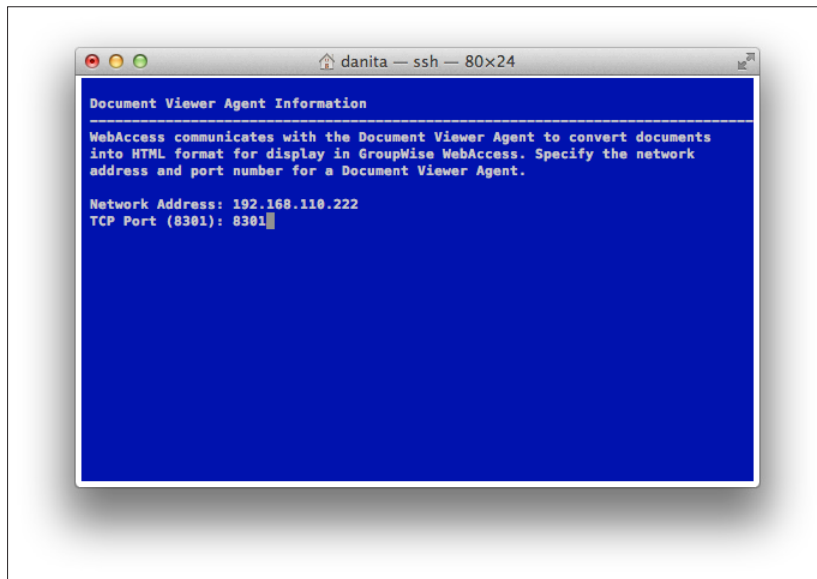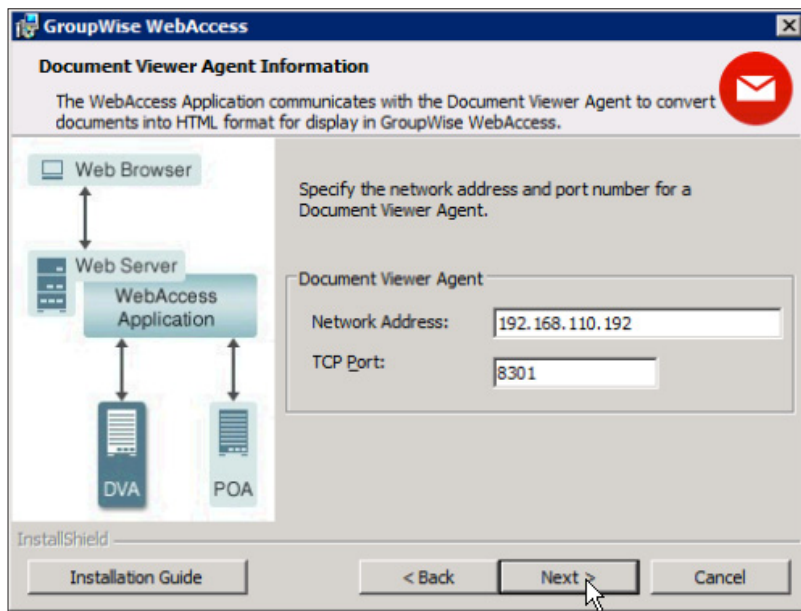
Figure 11-8: DVA Port Seetup

8. At the summary screen, check your settings, and click Install.

9. You will be prompted to either shut down IIS manually, or allow the installation to shut it down for you. Click Yes when you are ready.

10. The installation will proceed, and you will see the final screen, and your WebAccess installation is complete.
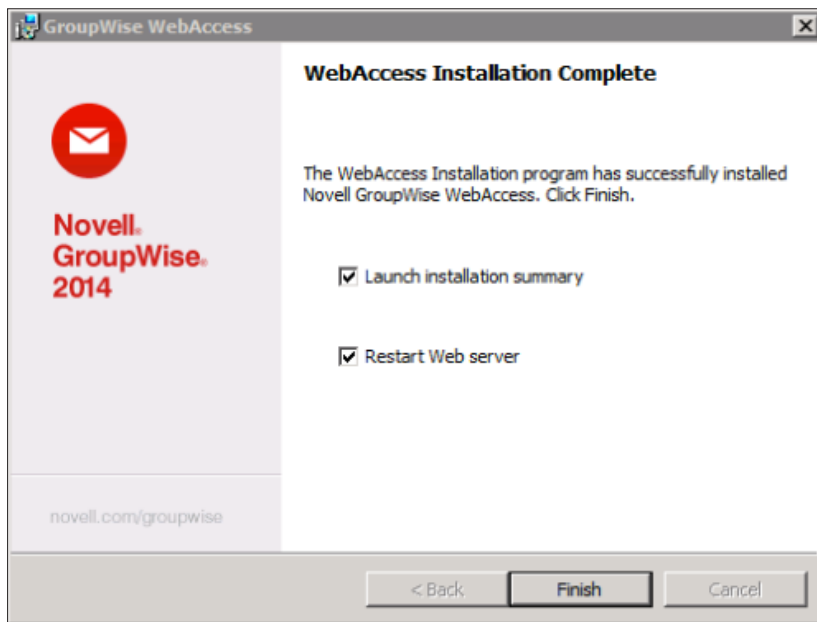
Figure 11-9: The Completed WebAccess launch

11. Click Finish to return to the Main GroupWise Installation screen.

Loading the GroupWise WebAccess Application

Linux

The commands for loading the Apache web server and Tomcat on Linux are as follows:

/etc/init.d/apache2 start

and

/etc/init.d/novell-tomcat6 start (OES)

or

/etc/init.d/tomcat6 start (SLES)

You can also check status, stop and restart using these scripts. For example:

/etc/init.d/apache2 restart

Most SLES/OES commands are also available from any location through a search path by appending "rc" to the command. For example,

rcapache2 restart

OES will auto-start both Apache and Tomcat on a reboot. To ensure that your WebAccess is functional after a reboot of SLES, do the following:

chkconfig apache2 on

chkconfig tomcat6 on

Microsoft Windows Server

The GroupWise WebAccess Application is designed to start when the Microsoft IIS Service and Web Server is started. The Microsoft IIS Web server is designed to start with the Microsoft Internet Information Server service is started. To restart the service, open the Internet Information Services (IIS) Manager from the Administrative Tools menu. Click on your Web Server (top left). On the right side you will see options to Restart, Start and Stop the server.

Configuration Options

The majority of WebAccess optimizations are done through the **webacc.cfg** file. This file is found in the following locations:

Linux:	**/var/opt/novell/groupwise/webaccess**
Windows:	**c:\Novell\GroupWise\WebAccess on the Web server**

The original webacc.cfg file on a particular server will be very orderly, and broken into distinct sections. As you patch and update your server over time, new settings will be saved to the bottom of the file in a section called "Values added by install to update config file". If you change information in the file, make sure to look at the end to ensure that you do not have conflicting values, as the final value will win!

There are many interesting options in the webacc.cfg. We encourage you to look through the file to see what might interest you.

Following are some important configurations options pertaining to the upgrade that you should know more about. After any changes, restart Apache and Tomcat (see the section above for *"Loading the GroupWise WebAccess Application"* for instructions on restarting these processes.

Configuring Additional Post Office Agents

The GroupWise WebAccess Application talks directly to post office agents in your GroupWise system to gather the information necessary to show in WebAccess. During installation, you can only supply one post office agent address. However, you can supply as many POA designations as you like, and the WebAccess Application will attempt them in order until it finds a POA that responds. This is only for initial connection to the GroupWise system. Adding additional post offices here adds fault tolerance. For example, if POA1 is down, and it is the only Post Office Agent defined in webacc.cfg, then all users in your system are locked out of WebAccess. Adding additional "entry points" for the WebAccess Application allows you to continue to provide WebAccess services to users of those Post Offices that are active.

If the user logging in does not belong to the POA that is contacted by the WebAccess Application, the redirection table will send the WebAccess Application to the proper location.

In the webacc.cfg, search for Provider.SOAP.1.ip - for example:

> **Provider.SOAP.1.ip=192.168.110.237**
>
> **Provider.SOAP.1.port=7191**

Copy these two lines and change the "1" to a "2" in each line, and modify the IP address and port.

> **Provider.SOAP.2.ip=192.168.110.238**
>
> **Provider.SOAP.2.port=7191**

Do this as many times as necessary, making sure to have two lines for each SOAP provider number you add.

Configuring Additional Document Viewer Agents

As with the Post Office Agent, you can only configure one instance during installation. Modify the following information to add additional DVAs to your webacc.cfg:

In the webacc.cfg, search for Provider.DVA.1.ip - for example:

> **Provider.DVA.1.ip=192.168.110.237**
>
> **Provider.DVA.1.port=8301**

Copy these two lines and change the "1" to a "2" in each line, and modify the IP address and port.

> **Provider.DVA.2.ip=192.168.110.238**
>
> **Provider.DVA.2.port=8301**

Do this as many times as necessary, making sure to have two lines for each SOAP provider number you add.

Configuring HTTP Monitor for WebAccess

Like the other GroupWise Agents, you can configure a web based monitor for WebAccess administration activity. The **webacc.cfg** file contains the following lines:

> **##**
>
> **# Application Administration Tool**
>
> **# Invoked on the URL**
>
> **# (e.g. http://<server>/gw/webacc?action=Admin.Open)**
>
> **##**
>
> **Admin.WebConsole.enable=true**
>
> **Admin.RestService.host=127.0.0.1**
>
> **Admin.RestService.port=9710**

You can turn this on or off. By going to your server at the URL specified, you can log in and view logged in users, configuration and log files.

Figure 11-10: The WebAccess Administration Console

Setting the GroupWise 2012 WebAccess as Your Default

If your system will have more than one version of WebAccess in order to accommodate older GroupWise post offices, you can choose to have a single entry point for all of your users. For example, you may already have **https://mail.yourdomain.com/gw/webacc** pointing to your GroupWise 2012 or older WebAccess. Rather than having to direct users to multiple locations, you can continue to have **https://mail.yourdomain.com/gw/webacc** as the entry point for all users, and redirect users on older post offices to **https://gw12.yourdomain.com/ gw/webacc**. In order to do this, you must make a change in the **webacc.cfg file**, and of course create an A Record in DNS for your secondary WebAccess server (in our example, **gw12. yourdomain.com**).

This setting is found in the **webacc.cfg** file as:

#Redirect.url=http://gw8.novell.com/gw/webacc

simply remove the pound sign and change the URL to match your desired URL. Once the system is restarted, if a user logs into your http://mail.yourdomain.com/gw/webacc location, their POA will indicate it is not a GroupWise 2013 post office and the WebAccess Application will redirect the user to the older GroupWise WebAccess Application. The user will be required to enter their WebAccess credentials again. These credentials are not passed through to the redirected server.

Figure 11-11: Redirecting to an older WebAccess server

Security Timeouts

GroupWise 2012 brought a new set of security timeouts to WebAccess, and they are still effective for GroupWise 2014. When a user logs into WebAccess, the user has the option on the main login screen to choose whether the computer is public or private. This allows for users who access GroupWise solely via WebAccess, from a private computer at home or at the office to have a longer timeout value set. These values are listed in the **webacc.cfg** as:

Security.timeout=20

Security.Private.timeout=480

Setting the "Private" timeout to a higher value "in minutes" prevents users in a more secure setting from timing out multiple times a day, no doubt reducing their frustration!

Deleting Unneeded eDirectory Objects

In prior versions of GroupWise, when you installed WebAccess, an object representing the WebAccess Agent (Gateway) was created in eDirectory and the GroupWise view. Also, objects for the WebAccess Application were created (most commonly under the GroupWise domain object itself, but realistically they could be anywhere!). These objects are no longer used, and can be removed from eDirectory to avoid confusion. We recommend that you give your system a

few days to settle down before you delete them, but once everything is working as you expect you can delete the following items:

- GroupWise WebAccess Agents no longer in use. Make certain you export any access control settings you might need as outlined above before you delete the objects!

- GroupWiseProvider Objects

- LDAPProvider Objects

- GroupWiseWebAccess Object

- NovellSpeller Objects

Troubleshooting

There are settings in the webacc.cfg that pertain to how the new admin console connects to the GroupWise Administration Service.

```
###########################################################################
# Application Administration Tool
###########################################################################
Admin.WebConsole.enable=true
Admin.RestService.host=127.0.0.1
Admin.RestService.port=9710
```

There are a couple of reasons why these default settings might not work for you:

- If you are running WebAccess on a server that does not have a GroupWise Administration Service running, the setting of 127.0.0.1 will be invalid. You will need to change it to the proper ID address.

- If you have an MTA running on this server, but it is set to bind to a specific IP address, the Admin Service will also not be listening on localhost (127.0.0.1) and you should change this to the specific location. Surprisingly, if your MTA is set to a host name rather than an IP address, the Admin Service could complain if you enter an IP address here. Test to see which works properly for you.

- If you have modified the default port for your Admin Service, you will also need to change the information here.

Once you are ready to continue, just turn to the next chapter in your upgrade plan.

12 Upgrading GroupWise Monitor

Upgrading the GroupWise Monitor is essentially installing the new GroupWise software for the monitor agent and optionally the Monitor application. If you have a GroupWise 5.5EP Monitor (where have you been???), you will need to totally reinstall your Monitor from scratch. As you know, GroupWise Monitor is similar to the GroupWise WebAccess as it existed prior to GroupWise 2012, in that it has two components, the GroupWise Monitor "Agent" and a web application that can be installed on your web server. (Of course, as we discussed earlier, beginning with GroupWise 2012, GroupWise WebAccess no longer has an "Agent" and is driven entirely by the WebAccess Application and SOAP at the POA.)

While the Monitor setup seems similar to our prior versions of WebAccess, it is quite a bit different. The Monitor Web Application is dependent upon a Monitor Agent being installed somewhere in your system. However, the Monitor Agent is not at all dependent on the Monitor Web Application, and can be used entirely "stand-alone" without the Monitor Web Application being installed at all. It is very rare that the Monitor Agent is run on a server that does not contain a domain (although it is possible by attaching to an MTA via the MTP port). We provide these steps only for reference. If your Monitor Agent is on the same server as a domain, it has already been upgraded during the GroupWise Server installation!

If you are running GroupWise Monitor Application along with GroupWise WebAccess and/or the GroupWise Calendar Publishing Host on the same server, all of these must be upgraded in the same upgrade cycle or the other applications will not work until they are upgraded.

Preparing for the Upgrade

There is very little preparation that must be made for the GroupWise Monitor upgrade. It can reside anywhere, and no database adjustments are made when it is installed. You must shut down the existing Monitor agent, or course (on Linux or Windows), and it's best to also shut down Apache and Tomcat if you are installing the Monitor Web Application. In fact, if your Monitor Agent was on the same server as any of the domains you have previously upgraded, the new Monitor Agent Software has already been installed, and you can continue on with *"Installing your Agent Software" on page 210*.

GroupWise High Availability Agent Considerations

As we mentioned in *"GroupWise High Availability Agent Considerations"* on page 12, *i*f you are using the High Availability Agent, the settings will not come over after the upgrade. Thus, before you install the Monitor Agent you must copy your High Availability settings so that you can re enable the GWHA afterwards.

Edit the **/etc/init.d/grpwise-ma** script and find your MA_OPTIONS settings. For example, ours are:

> **MA_OPTIONS="--hauser gwha --hapassword gwhapassword --hapoll 120 --httpagentuser gwweb --httpagentpassword gwweb --httpmonuser gwmon --httpmonpassword gwmon"**

Save this information in a text file for use in *"Re-enabling the GroupWise High Availability Agent"* below in this chapter.

Installing your Agent Software

This section will talk about installing just the Monitor Agent on Windows and Linux. The monitor agent is required to monitor your GroupWise system. The Monitor Application is not required, but does add some nice enhancements and functionality.

The installation for the GroupWise Monitor is pretty much the same whether you are upgrading or if you are installing from scratch. The important thing to remember is that you should make a copy of your **monitor.xml** file before you begin. The upgrade procedure should use the current **monitor.xml** file that it finds in the directory you specify in the installation (providing it is the same directory where your existing GroupWise monitor resides). However, having a backup is always nice, particularly if you have made customizations on your GroupWise Monitor.

Windows

1. Make a copy of your **monitor.xml** file. This will typically be c:\gwmon.

2. From the Windows machine where Monitor will run, go to your **<installationfiles>** and run **setup.exe**.

Figure 12-1: Installing GroupWise Monitor

3. Proceed to the GroupWise Monitor: Components Screen. Uncheck "GroupWise Monitor Application", click Next. Note however: If you do intend to have both the Monitor Agent and the Monitor Application on this same server, you must do them at the same time. Otherwise the installation attempts to uninstall the option you deselect. If you are installing both, refer to the steps in *"Installing the Monitor Application Software"* if you need assistance with the installation prompts.

4. Select the local path where you wish to install the GroupWise Agent. Note that the default has changed from **c:\gwmon** to **C:\Program Files\Novell\GroupWise Server\ Monitor**. This is one time when you can easily change this location without having trouble with the setup. If you choose to move your Monitor to this new location, just copy the **monitor.xml** from your former installation into the new directory if necessary.
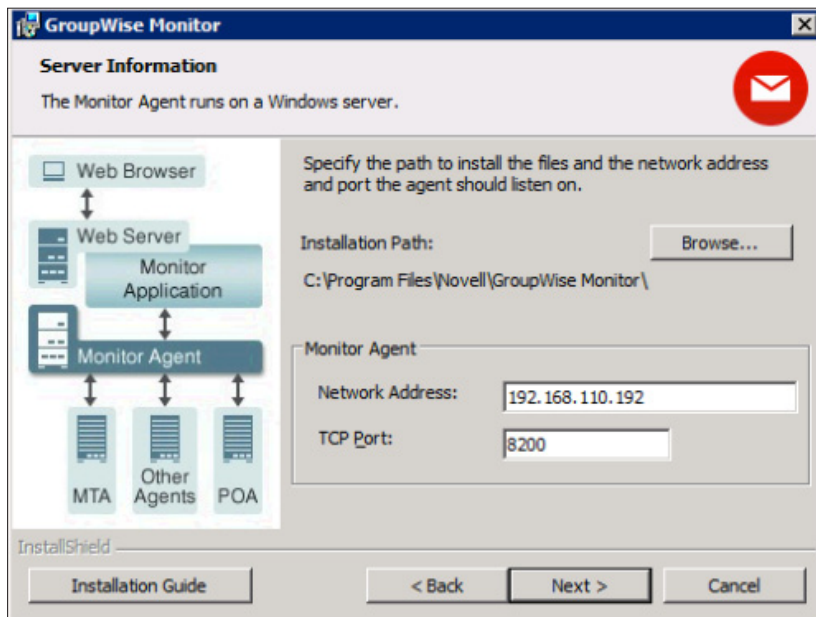
Figure 12-2: Monitor Server Information

5. Also verify that the IP address and Port are correct. Click Next

6. Define the path to any of your GroupWise domain databases. You can use any domain you wish. Choose the domain that the Monitor Agent machine has the easiest access to. Since all of your domains have access to information about all agents in your system, any domain can be used for the Monitor connection. The Monitor Agent will simply query the domain to find IP address, Port and HTTP user and password information for all agents in the system. Click Next.

Figure 12-3: Choose Your Domain Directory

7. You will then be given a summary of the Agent install. Verify that this information is correct and Click Next.

8. When the installation is complete, you may launch the GroupWise Monitor Agent.

9. A shortcut was created for you under the GroupWise Monitor menu. Monitor will run as a service on port 8200. This shortcut is provide a GUI access to the Monitor screen. You can also access it at http://yourserver.com:8200.

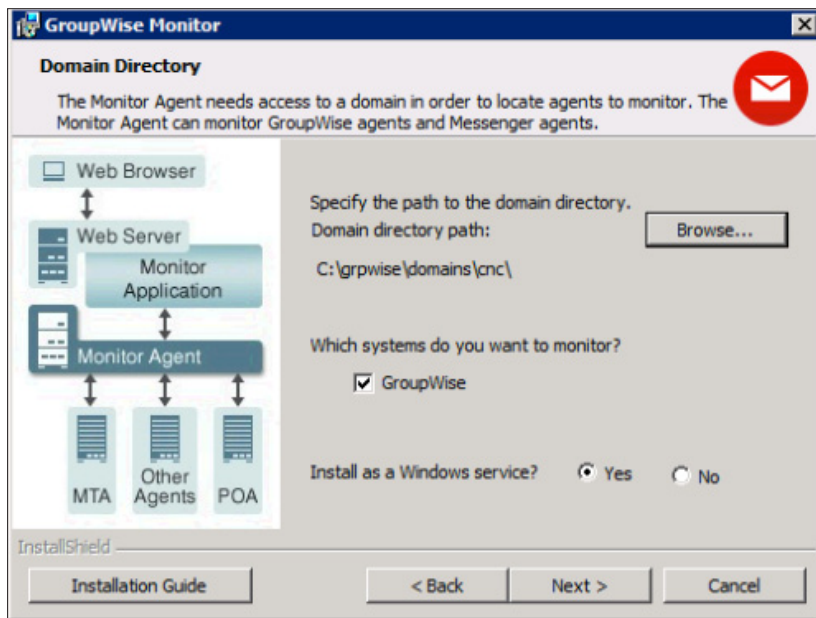After the installation, if you changed the location of your GroupWise Monitor Agent files, you must copy your **monitor.xm**l from the old location into this new location in order to preserve your settings. Restart the GroupWise Monitor service and load your Monitor agent with the GroupWise Monitor shortcut to verify that your Monitor Agent loads properly, and that your previous settings are being honored.

Linux

If your GroupWise Monitor Agent was installed on the same Linux server as any other GroupWise Agent, the Monitor Agent software will already have been upgraded by the time you read this chapter. As a matter of fact, if your Monitor Agent was already on this Linux box, you do not even need to do any configuration. However, if you are installing to a new server, here are the quick steps needed to install the Monitor.

1. As root, run the **install.sh** script in your **<installationfile>** folder.

2. Choose your Language.

3. Choose Installation.

4. Accept the License Agreement.

5. Choose GroupWise Monitor Agent
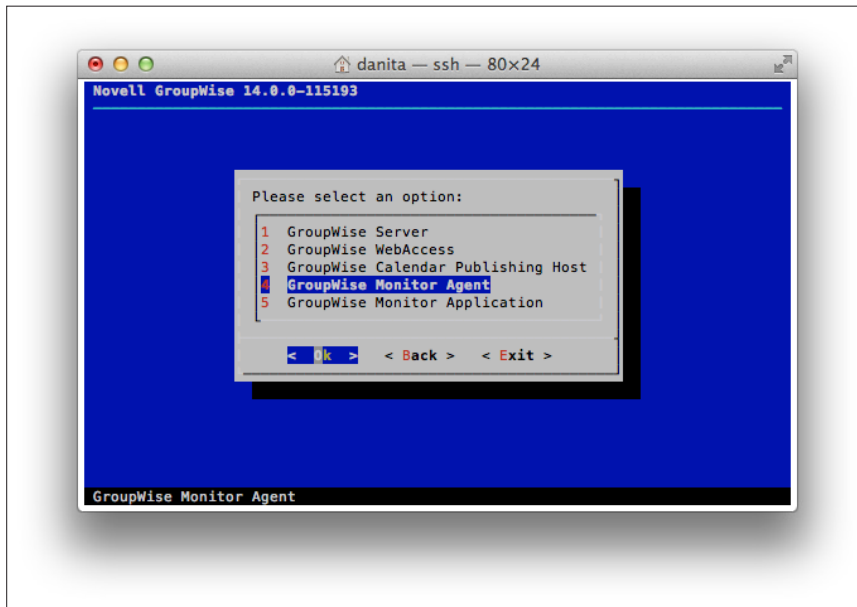
Figure 12-4: Installing the GroupWise Monitor Agent

6. Choose Install. The installation will launch and shut down any agents running if necessary. Press any key to continue after the installation completes.

At this point, the new monitor software has been installed, and you can reload the Monitor Agent. However, if for some reason you need to reconfigure the Monitor agent, follow these steps.

1. Choose Configure.

2. Type 1 to Continue.

3. Type 1 to choose GroupWise (this is a left-over screen from when you could also monitor Messenger).

4. Enter the location of a GroupWise Domain that is easily accessible from the Monitor machine. This can be any GroupWise Domain (primary or secondary) in your system.

Figure 12-5: Domain Directory for Monitor Agent Installation

5. You will be notified that the Monitor Agent has been configured, and you can choose to start the Monitor Agent on startup. Press any key when prompted and exit setup.

To start the Monitor Agent now, run **/etc/init.d/grpwise-ma start** or simply **rcgrpwise-ma start**

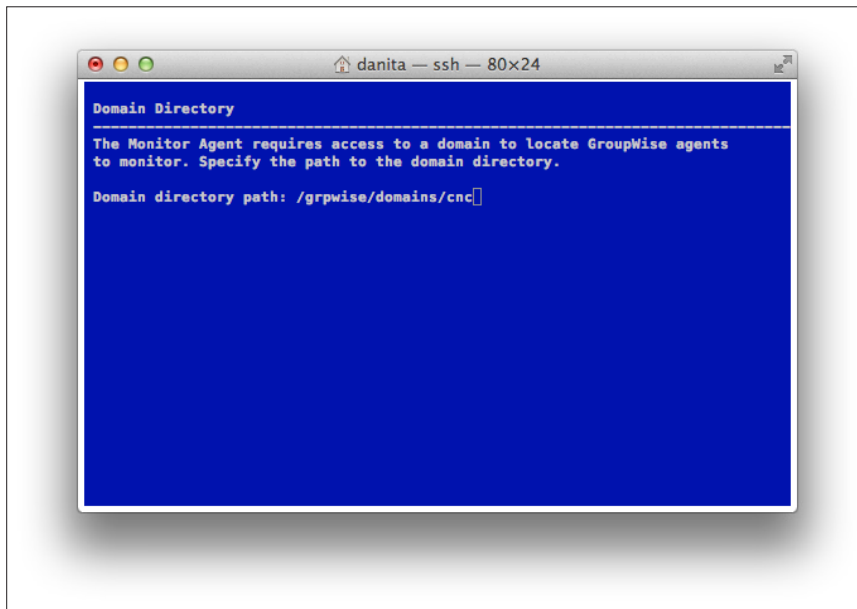Once the Monitor Agent is loaded, you can check the upgrade by going to the IP address and port where the Monitor Agent is running. For example http://192.168.100.237:8200.

Verify that your settings are correct.

Re-enabling the GroupWise High Availability Agent

If you are using the GroupWise High Availability Agent, the original GWHA settings are not preserved during your upgrade of GroupWise Monitor. Thus you will be required to do a bit of reconfiguring. During our preparations in *"GroupWise High Availability Agent Considerations"* above, we had you copy your MA_OPTIONS line and place it in a text file for user in our reconfiguration.

After the Monitor Agent has been installed, check your GroupWise Monitor agent to verify it loaded (i.e. go to http://yourserver:8200). If the agent is loaded, and operational, go back to your Linux server and type:

rcgrpwise-ma stop

Now, go edit **/etc/sysconfig/grpwise-ma.** Look for the line that starts GROUPWISE_ MA_OPTIONS. Replace the switches there with those that were in your MA_OPTIONS you saved earlier. Our line would look like this:

> **GROUPWISE_MA_OPTIONS="--hauser gwha --hapassword gwhapassword --hapoll 120 --httpagentuser gwweb --httpagentpassword gwweb --httpmonuser gwmon --httpmonpassword gwmon"**

Note that the option has changed from **MA_OPTIONS** to **GROUPWISE_MA_OPTIONS**.

Now start the Monitor Agent again:

> **rcgrpwise-ma stop**

Test the High Availability Agent by shutting down one of your agents. For example, we might shut down the MTA on our system:

> **rcgrpwise stop CNC**

What the status of the agent (either through the monitor or by running **rcgrpwise status**) to verify that the agent restarts.

Troubleshooting GWHA

The gwha service should still be configured. You can verify this by going to /etc/sysconfig and looking at the gwha file. Unless this file has a line that reads

> **disabled = yes**

then the service is still enabled. If the above line has appeared, remove it.

If the Monitor Agent will not load, double check the hauser and hapassword switches. If you type them by hand, remember that it is hapassword, not hapass and Danita tends to type (over and over!).

Troubleshooting the GroupWise Monitor Agent

There are very few things that can go wrong during a Monitor upgrade. The only problems we typically see have to do with the following:

- You neglect to keep a copy of your **monitor.xml** in case of difficulties.

- You change the location of the Monitor installation files on Windows during the installation (either accidentally, or on purpose) and then do not reconfigure the agent to update the startup files for the server.

Installing the Monitor Application Software

Windows Monitor Application Installation

To install the Monitor Application perform the following:

1. From the Windows server where IIS is installed, go to your **<installationfiles>** and run **setup.exe**.

2. Proceed to the GroupWise Monitor: Components Screen. Uncheck "GroupWise Monitor Agent", click Next. Please note: If you do in fact plan on having both the Monitor Agent and the Monitor Application on the same server, you must check both here. If you uncheck the Monitor Agent, and it is already installed on your server, the installation will attempt to remove it! Thus, if you need to install both, keep both checked here. Refer back to the section above on *"Installing your Agent Software"* if you need assistance with the prompts in this installation

3. Indicate the IP address or DNS Name of the server where the Monitor Agent is running (i.e., the server where you installed the Monitor Agent above). Also define the HTTP Port that the Monitor Agent is listening on (the default for the HTTP Port for the Monitor Agent is 8200.) Click Next

NOTE: If you are not sure what HTTP Port the GroupWise Monitor Agent is listening on, do the following. For the Windows agent, go to the GroupWise Monitor Agent screen and select Configuration|HTTP. For the Linux agent, check the monitor.xml file in /opt/novell/groupwise/agents/bin.

4. Choose the web server instance you wish to use on this web server (typically the default)

5. At the Summary screen, confirm that everything is configured as you would like it to be. Then click Finish to start the installation.

6. During the installation, you may be prompted about shutting down the web server and Java and overwriting newer files. You should choose the affirmative answer for all of these questions.

7. When the installation is complete you will be prompted to launch the Installation Summary and restart the web server.

Linux Monitor Application Installation

Here are the quick steps needed to install the Monitor Application on Linux.

1. As root, run the **install.sh** script in your **<installationfile>** folder.
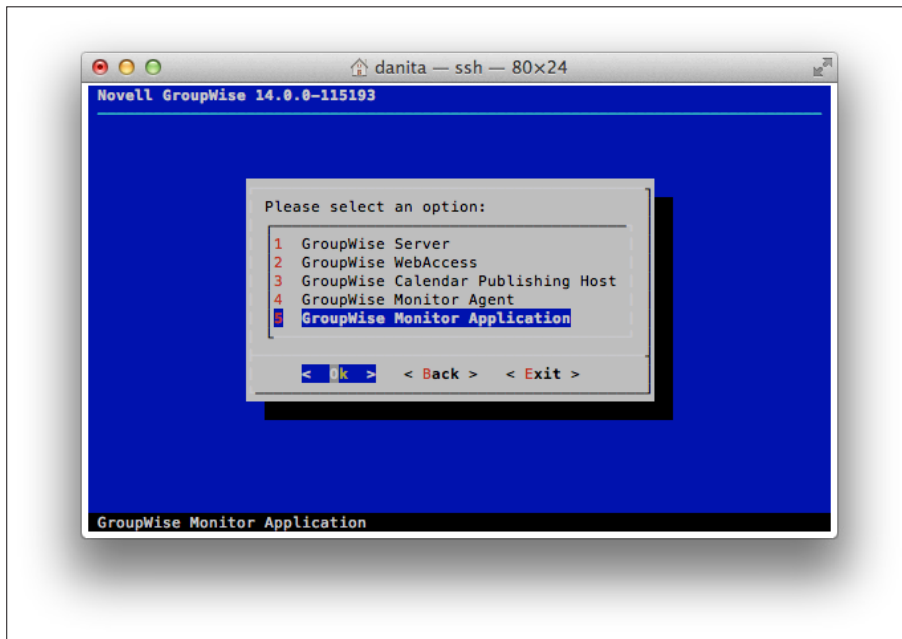
Figure 12-6: GroupWise Monitor Application Installation

2. Choose your Language.

3. Choose Installation.

4. Accept the License Agreement.

5. Choose GroupWise Monitor Application

6. Choose Install

7. The installation will begin.

8. After the files are installed, choose Configure

9. Press 1 to continue

10. Enter the IP address of the Monitor Agent.

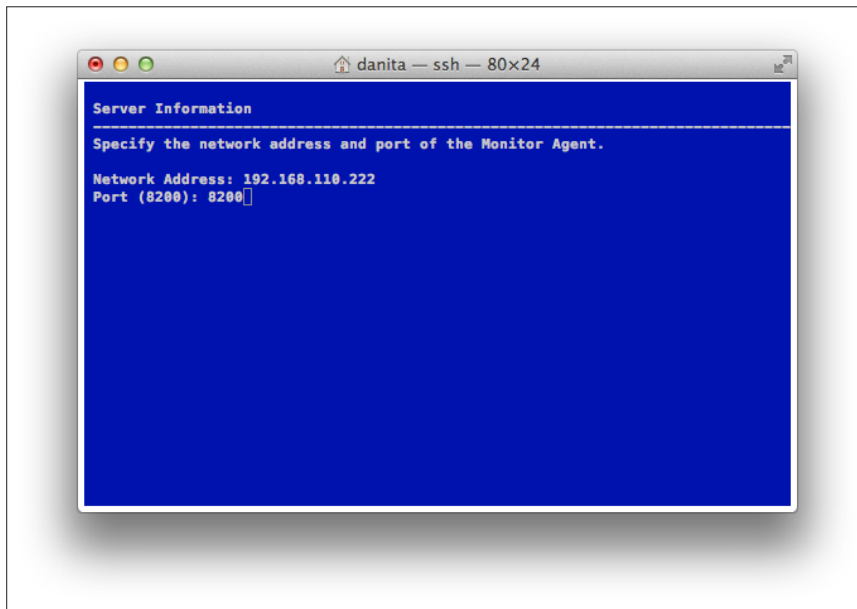**11.** Enter the Port. The default is 8200

Figure 12-7: Monitor Application Server Settings

12. At the next screen, unless you have configured custom locations for Apache and/or Tomcat, the defaults should be correct.

13. After the installation, you will be instructed to restart Apache2 and Tomcat6

Loading The GroupWise Monitor Application

Now we will load the web server and the Tomcat. The instructions for loading the web server or Tomcat are different based upon the platform you are using.

Linux

Assuming you are using the default Apache2 and Tomcat6 installations on your Linux server, load the components thusly:

/etc/init.d/apache2 start

and

/etc/init.d/novell-tomcat6 start (OES)

or

/etc/init.d/tomcat6 start (SLES)

You can also check status, stop and restart using these scripts.

Microsoft IIS – Web Server

The GroupWise Monitor Application is designed to start when the Microsoft IIS Service and Web Server is started. The Microsoft IIS Web Server is designed to start with the Microsoft Internet Information Server Service is started under Control Panel|Administrative Tools|Services.

Logging Into GroupWise Monitor Application

Just point your browser to

https://yourserver.com/gwmon/gwmonitor.

For example:

https://groupwise.caledonia.net/gwmon/gwmonitor.

Once you are ready to continue, just turn to the next chapter in your upgrade plan.

13 Upgrading the GroupWise Calendar Publishing Host

Upgrading the GroupWise Calendar Publish Host is relatively painless, and can be done as soon as the Post Offices it services are upgraded.

There are new administration options for the Calendar Publishing Host though, and you will need to read the section below on

Preparing for the Upgrade

There is very little preparation that must be made for the GroupWise Calendar Publishing Host upgrade. It can reside anywhere, and no database adjustments are made when it is installed. You must know the name of your Calendar Publishing Host. To find this information do the following:

1. In the Administration Console, click on System|Calendar Publishing.

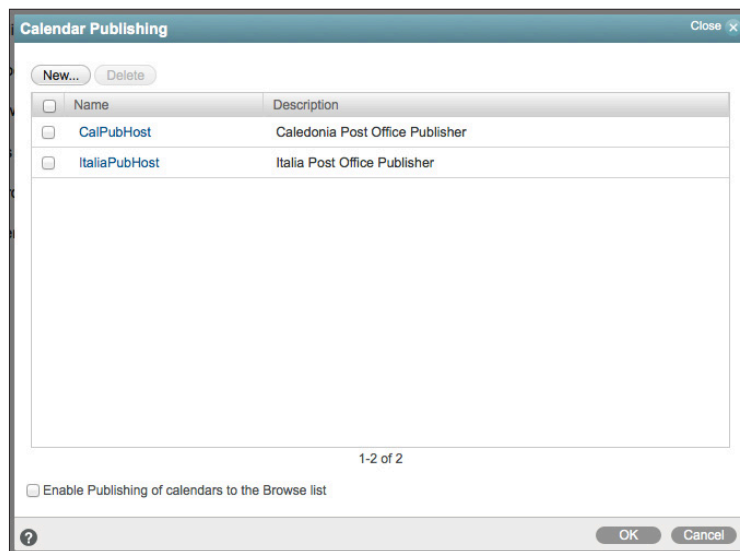2. You will see a list of your Calendar Publishing Hosts.

Figure 13-1: List of Calendar Publishing Hosts

3. Note the name of the Calendar Publishing Host that you are upgrading. In our case it is CalPubHost.

4.   Now click on Post Office Agents, and choose the Post Office Agent in question. Ours is for our Caledonia Post Office.

5.   Click on the Agent Settings Tab.

6.   Scroll to the bottom of the page to view the Calendar Publishing Host settings. Note the Port Number. The default is 7171

Figure 13-2: The Calendar Publishing settings

Close this Window if you choose.

Installing the Calendar Publishing Host Software

Windows

To install the Calendar Publishing Host software perform the following:

1.   From the Windows server where IIS is installed, go to your **\<installationfiles\>** and run **setup.exe**.

2.   Choose GroupWise Calendar Publishing Host.

Figure 13-3: Installing the Calendar Publishing Host

3. Choose your language.

4. At the prompt, click next

5. Accept the license agreement.

6. Enter the Calendar Publishing Host Name. In our case this is CalPubHost

7. Choose the IIS web server instances for your Calendar Publishing Host

8. Enter the IP address of the POA for your Calendar Publishing Host. Ours is 192.168.110.192

9. Enter the Calendar Publishing Port Number that we looked up above. The default is 7171.

10. At the Summary screen, confirm that everything is configured as you would like it to be. Then click Install.

11. During the installation, you may be prompted about shutting down the web server and Java and overwriting newer files. You should choose the affirmative answer for all of these questions.

12. When the installation is complete you will be presented with steps to configure your Calendar Publishing Host. Since this is an upgrade, that should already be completed. Click Next.

13. You will be prompted to launch the Installation Summary and restart the web server.

Linux

Here are the quick steps needed to install the Calendar Publishing Host on Linux.

1. As root, run the **install.sh** script in your **<installationfile>** folder.

2. Choose your Language.

3. Choose Installation.

4. Accept the License Agreement.

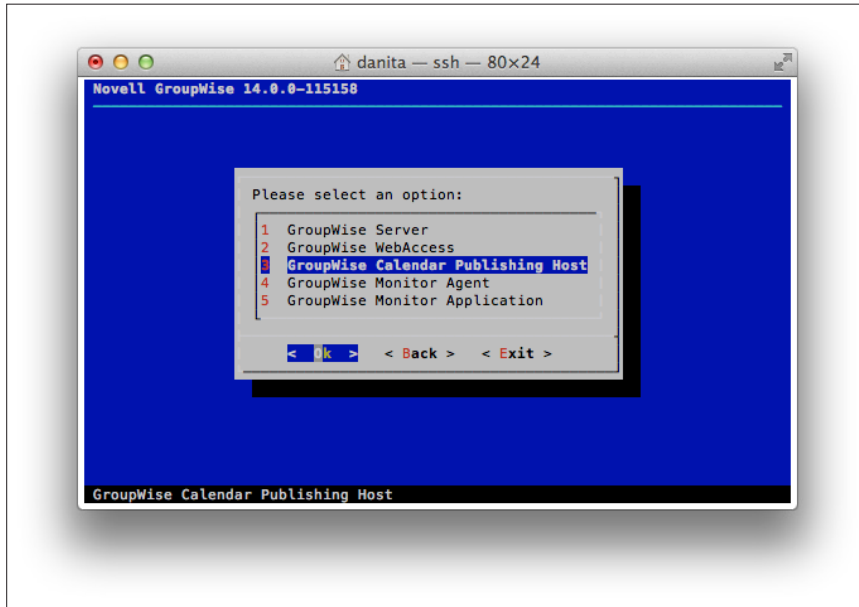5. Choose GroupWise Calendar Publishing Host.

Figure 13-4: The Calendar Publishing Host Installation

6. Choose Install

7. The installation will begin. Tomcat and Apache will be unloaded during the installation. Press Any Key to Continue.

8. After the files are installed, choose Configure

9. Press 1 to continue

10. Enter the Calendar Publishing Host Name. In our case this is CalPubHost

11. Enter the IP address of the POA for your Calendar Publishing Host. Ours is 192.168.110.192

12. Enter the Calendar Publishing Port Number that we looked up above. The default is 7171.

13. At the next screen, unless you have configured custom locations for Apache and/or Tomcat, the defaults should be correct.

14. After the installation, you will be instructed to restart Apache2 and Tomcat6

Loading The GroupWise Calendar Publishing Host

Now we will load the web server and the Tomcat. The instructions for loading the web server or Tomcat are different based upon the platform you are using.

Linux

Assuming you are using the default Apache2 and Tomcat6 installations on your Linux server, load the components thusly:

/etc/init.d/apache2 start

and

/etc/init.d/novell-tomcat6 start (OES)

or

/etc/init.d/tomcat6 start (SLES)

You can also check status, stop and restart using these scripts.

Microsoft IIS – Web Server

The GroupWise Calendar Publishing Host is designed to start when the Microsoft IIS Service and Web Server is started. The Microsoft IIS Web Server is designed to start with the Microsoft Internet Information Server Service is started under Control Panel|Administrative Tools|Services.

Checking the GroupWise Calendar Publishing Host

Just point your browser to

http://yourserver.com/gwcal

For example:

http://groupwise.caledonia.net/gwcal

You will see any published calendars that are available for the System.

Figure 13-5: Published Calendars

Configuring Calendar Publishing Host Administration

After you have upgraded your Calendar Publishing Host and have verified that it is working, it's time to look at the new administration options. Similarly to WebAccess, Calendar Publishing Host now has its own configuration file on the web server.

Let's go to look at this file.

Linux: /var/opt/novell/groupwise/calhost/calhost.cfg

Windows: c:\novell\groupwise\calhost\calhost.cfg

This file will look very similar to the webacc.cfg that you are probably familiar with.

Enable the CalHost Administration Console

1. In your favorite text editor, search for the line that reads

   Admin.WebConsole.enable=false

2. If this is preceded by a # sign, remove the # to activate this line

3. change false to true.

Now you must restart Tomcat on your server

For Linux, run

/etc/init.d/novell-tomcat6 start (OES)

or

/etc/init.d/tomcat6 start (SLES)

On Windows, click Start > Administrative Tools > Services. Then right-click Tomcat 6, and click Restart.

Load the CalHost Administration Console

To load the CalHost Administration Console, navigate to your server in a web browser like this:

http://yourserver.com/gwcal/admin

You will be prompted to login. Use your gwadmin user credentials you created when we set up the system. Any user who has rights as a Post Office Administrator or higher can log into this console with their own GroupWise credentials.

Figure 13-6: Logging into the Calendar Publishing Host Administration Console

Post Office Settings

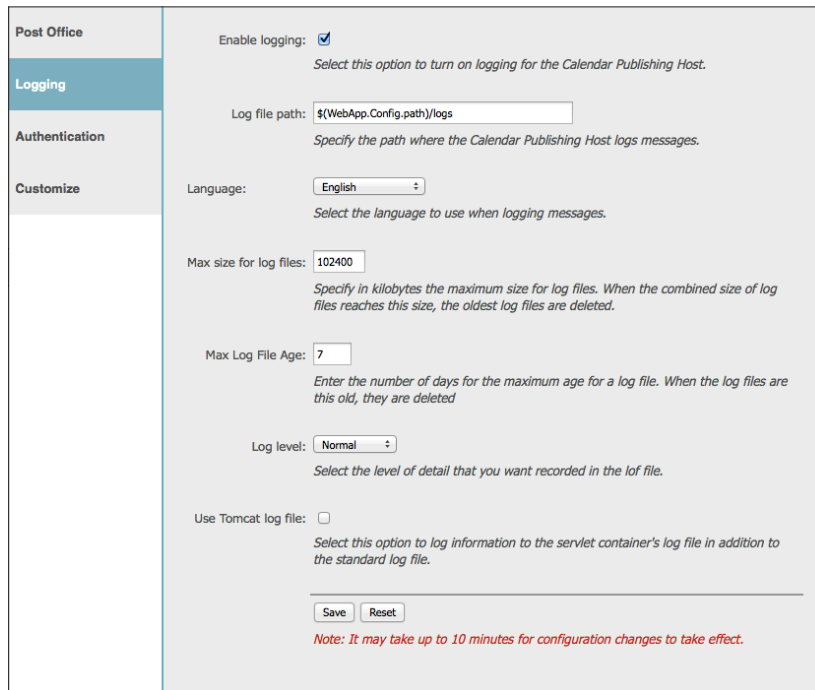You will be presented with the following screen:

Figure 13-7: The Calendar Publishing Host Administration Console

This screen will show you the settings that were migrated to the new Calendar Publishing Host configuration during upgrade. If the IP address of your POA were to change, you would edit that here.

We'll quickly run through the other screens of this administration console.

Logging Settings

On the Logging Screen you can set your logging settings.

Figure 13-8: The CalHost Log Settings

These settings are very similar to the logging settings for all of your GroupWise agents. The one addition here is that you can choose to log both to the GroupWise agent logs and the Tomcat logs if you desire.

Authentication Settings

If you need to change which Administration Service the Calendar Publishing Host Admin authenticates to, you can do so here.

Figure 13-9: Calendar Publishing Host Admin Authentication Settings

Please be aware that this can be affected by the settings we described in *"Verifying MTA Network Settings"* on page 12.

Customize

If you click on the Customize tab, you can change the way the published calendars page looks. For example, we've added a Caledonia logo, changed the text and placed the changed text at the bottom edge of the logo.

Figure 13-10: Client Customization Settings

Figure 13-11: CalPub Customizations

Updating your Changes

You will notice that on all of the setup screens above there is a notice that you may need to wait up to 10 minutes for changes to occur.

There is a setting in the **calhost.cfg** that defines this time

Config.Update.check=10

While it would be possible to set this for a shorter timeframe, you can also simply restart Tomcat to effect a change immediately.

For Linux, run

/etc/init.d/novell-tomcat6 start (OES)

or

/etc/init.d/tomcat6 start (SLES)

On Windows, click Start > Administrative Tools > Services. Then right-click Tomcat 6, and click Restart.

Troubleshooting

There is little that might go wrong with the actual Calendar Publishing Host upgrade. That said, the addition of the Calendar Publishing Host Administration Console can have its moments!

There are settings in the **calhost.cfg** that pertain to how the new admin console connects to the GroupWise Administration Service.

```
###################################################################
# Application Administration Tool
###################################################################
Admin.WebConsole.enable=true
Admin.RestService.host=127.0.0.1
Admin.RestService.port=9710
```

There are a couple of reasons why these default settings might not work for you:

- If you are running the Calendar Publishing Host on a server that does not have a GroupWise Administration Service running, the setting of 127.0.0.1 will be invalid. You will need to change it to the proper ID address.

- If you have an MTA running on this server, but it is set to bind to a specific IP address, the Admin Service will also not be listening on localhost (127.0.0.1) and you should change this to the specific location. Indeed, if your MTA is set to a host name rather than an IP address, the Admin Service could complain if you enter an IP address here. Test to see which works properly for you.

- If you have modified the default port for your Admin Service, you will also need to change the information here.

Once you are ready to continue, just turn to the next chapter in your upgrade plan.

14 **Upgrading GroupWise Clients**

Most sites find that upgrading the GroupWise client is the last thing they do, simply because it seems to be time consuming and requires a lot of pre-planning. There are many ways to upgrade the GroupWise client, depending on the size and needs of your organization. Smaller sites will have desktop administrators move from desktop to desktop, installing the new GroupWise client (and many sites use this as an opportunity to do other desktop cleanup that has been pending for awhile). Other sites will want more automated solutions. We will look at a number of ways to get your GroupWise system upgraded quickly and smoothly.

Choosing Your Windows Client Installation Method

There are several methods that can be used to upgrade your users to the new GroupWise 2014 Windows client. We'll look at the various methods that Novell provides with GroupWise to upgrade your clients.

- **Manual installation**: Download the combined client executable, and launch it manually at the desktop. You would then walk through the dialogs for the installation.

- **Auto-Update Direct POA Access**: This method relies on the client being notified through the Bump/Build number combination that there is new GroupWise software, and launches the installation when the client logs into the post office.

- **Auto-Update with POA Access Through a Web Server**: Rather than having the POA deliver the files, the auto-update redirects the user to a web server for download.

- **Update through SETUPIP**: This method allow you to distribute the client to remote (or local) users without going through the auto-update process. It is also very handy for rolling out a client upgrade to groups of users, rather than one at a time or at the post office level.

- **Pushing the Client Upgrade through ZCM:** If you use ZCM to manage applications for your users, you can push down the client through ZCM with no intervention by the user.

We'll see how each of these can work for your environment.

The Auto-Update Algorithm

Before we actually get to configuring the post office for the upgrade, we will discuss how the Auto-Update Algorithm affects the upgrade process. GroupWise has a built-in mechanism for notifying the clients that it is time to upgrade. It is called the Auto-Update Algorithm, and it is an integral part of the functionality of the upgrade. While the Auto-Update is very similar to prior

versions, there are some differences to take into account, primarily due to the removal of the Software Distribution Directory for GroupWise 2014.

The Auto-Update Algorithm is used in conjunction with the client options, and can be controlled at the Domain, Post Office or even User level for distributing your clients.

In simple terms, here's how the Auto-Update Algorithm works.

- When you install the GroupWise server, the GroupWise Client installation files are copied to the server directories. This is automatic on Linux, and you are given the option to disable this on Windows (but it is the default to include the Client Auto-Update Repository. On Linux this is in **/opt/novell/groupwise/agents/data/** and on Windows at **c:\Program Files\Novell\GroupWise Server\data**.

- When a post office is created, it gets a "bump" or software version number associated with it (0 at creation). The Bump Number is controlled by the Administration Console, and written to the **wpdomain.db** and **wphost.db** for the post office in question. This number is also written to the workstation's registry. This has come to be known as the "Bump" number because it is called that in the Windows Registry. Internally to the GroupWise databases though, this is known as the "Software Version" number.

- GroupWise 2014 has a **version.ini** file that has a "Build" Number in the file. This was formerly the **software.inf** file.

   sample version.ini

   [General]

   BuildNumber=4863

- The Client Options settings in the Administration Console define which users/posts offices/domains should be auto-updated.

All of these components work together to ensure that clients are notified of the update. We will use auto-update in some of our methods below, and show you other ways to deliver your software without using the auto-update mechanism.

Auto-Update through Direct POA Access

Follow these steps to set up your post office for Auto-Update through the direct POA access method:

1. The installation routine (see *"Installing the GroupWise Administration Service"* on page 37) copies the client files into the server directories.

2. The client software is copied to **/opt/novell/groupwise/agents/data/client/setup/ win32/** directory.

3. In order to better control the client software installation, we need a new directory under here, also called **win32**. So you will need to create a directory so that you have **/opt/novell/ groupwise/agents/data/client/setup/win32/win32**, and yes that is **/client/setup/ win32/win32**. You are not seeing double.

4. There are a couple of files in the installation directory that do not get copied to the GroupWise server directories, and we will need them in this **win32** directory.

   - **<installationfiles>/client/setup.cfg**

   - **<installationfiles>/client/win32/setup.ini**

   Copy both of these files into **<documentroot>/gwclient/win32/win32**.

You should then change them to reflect your wishes upon installation. We have samples of these files later in this chapter.

In prior versions of GroupWise, the **setup.cfg** file contained settings for enabling auto-update and controlling its use. This has been removed from the **setup.cfg**, and is now control in the Client Options in the GroupWise Administrative Console. Like all client options, these can be set by user, post office or domain. Let's do an example of this for a specific post office.

1. Log into the GroupWise Administration Console.

2. Click on Post Offices.

3. Choose your Post Office from the list of available Post Offices.

4. Click on the Client Options tab.

5. At the bottom left of the Client Options is Client Auto-Update. Click on that setting.

6. In the Client Auto-Update settings you have some options here, which we will discuss:

Figure 14-1: Auto-Update Options

- Enable: check this box to enable the auto-update.

- Auto-Update URL: We will discuss this in the next section. For this particular purpose, we will leave this blank.

- Force Update: This setting was formerly in the **setup.cfg** file. If you wish to require your users to update check this. This works in conjunction with:

  - Grace Logins: How many times should a user be able to cancel out of the update before being forced to allow the auto-update to occur.

- Prompt Until Updated: If the user chooses to cancel the update, will s/he be nagged about it until the update is completed.

Finally, before anything will really happen, the administrator must increment Bump Number. The administrator cannot choose the Bump Number, only increment it. To better understand this, let's look at the Bump Number (also known as the "Software Number").

1. In the GroupWise Administration Console, click on Post Offices, and then select the Post Office you wish to modify.

2. In the Post Office settings, click on the "Diagnostics" dropdown along the top of the settings and select Display Object.

3. Scroll through the listing until you find "Software Version" In our figure, this is version "1"

Display Object Information - WindermerePO		Close ✕
Attribute ID	Description	Value
50082	Database Rebuild Count	11
50088	Time Zone	MST
50126	Unused	0
50151	Delivery Mode	0 (Use App Thresholds)
50152	Platform	5 (Linux)
50153	Security Level	1 (High)
50166	Language	0
50168	Name Type	1 (Post Office)
50170	Name Level	2
58014	Last Modified At	Beta
58020	MTP App Name	POA
59003	UNC Path	\\windermere\grpwise\pos\windpo
59019	Last Modified By	admin.CNCMAIL
61064	Software Version	1
61109	Creation Time	Jun 27, 2013 01:50:03 PM
61145	Incorrect Logins Allowed	5
61146	Incorrect Login Reset Time	Dec 31, 1969 05:00:30 PM
61147	Lockout Reset Time	Dec 31, 1969 05:00:30 PM
61156	Total Mailbox Count	1
61157	Inactive Mailbox Count	1
61158	Full License Mailbox Count	0
61159	Limited License Mailbox Count	0

Figure 14-2: The Internal Software Version Number

To increment the bump number for a post office, follow these instructions:

1. In the GroupWise Administration Console, click on Post Offices, and then select the Post Office you wish to modify.

2. In the Post Office settings, click on the "More" dropdown along the top of the settings.
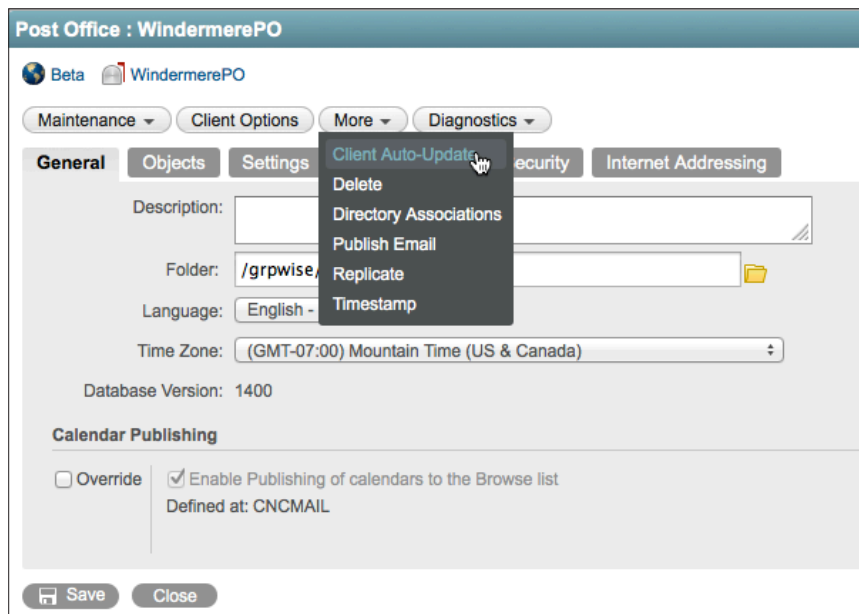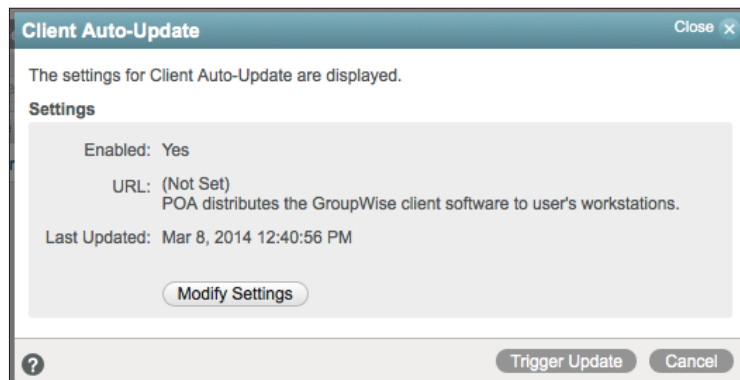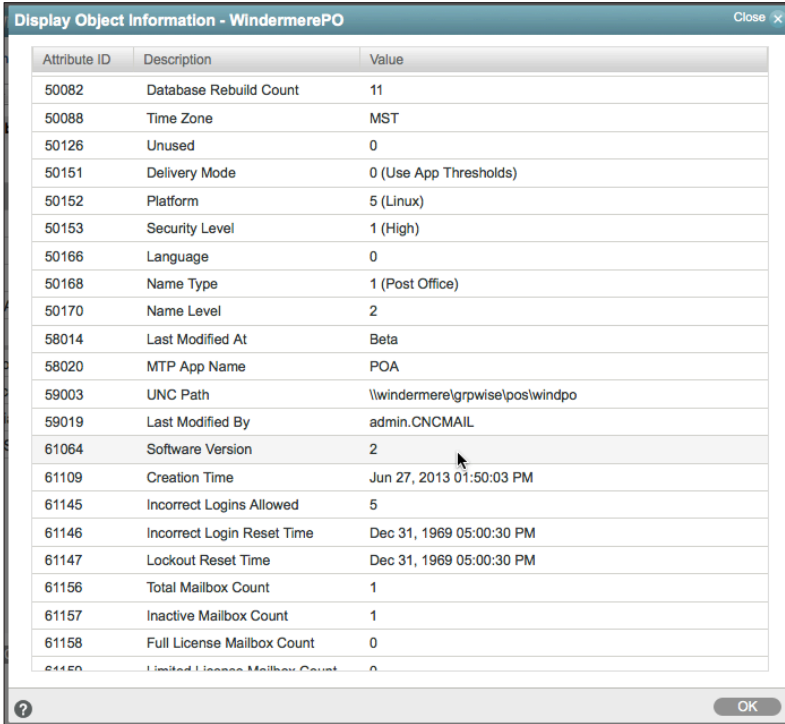
3. Choose Client Auto-Update

Figure 14-3: Choosing Client Auto-Update

4. When you click the Trigger Update, the Bump Number will change.

5. This increments the Bump Number for the post office by one. If you follow the above instructions again for Display Object, you will see that the Software Version is one higher than before,

Figure 14-4: Incremented Software Version

6. As we will explain in a few minutes, if you want your users to upgrade, clicking this button multiple times will not cause problems. However, clicking it just once when you do NOT want to upgrade will cause you some headaches!

The stage is now set to initiate your auto-update. The next time a user logs into the post office, the following exchange will occur.

1. The client on the user's PC will query the POA and ask what the Bump Number is.

2. The client on the user's PC then compares this Bump Number to the registry value in **HKEY_LOCAL_MACHINE\SOFTWARE\Novell\GroupWise\Client\5.0\ NewSoftwareBump**. For 64 bit machines, this is now in **HKLM\software\ Wow6432node\novell\groupwise\client\5.0\NewSoftwareBump**. If this number is different (higher or lower), then the client continues on to ask for the Build Number.

3. The Build Number is found in both the **version.ini** file in the Client Software Update Repository, and in the workstation registry. **HKEY_LOCAL_MACHINE\ SOFTWARE\Novell\GroupWise\BuildNumber** or **HKEY_LOCAL_MACHINE\ SOFTWAREWow6432Node\Novell\GroupWise\BuildNumber.** The client looks at this value, and if the new value in the **version.ini** file is higher, the client then continues the update query process.

4. The client then compares the settings in Client Options that affect this user (so user/post office/domain), and if Update has been enabled, the upgrade begins.

It is important to note that the workstation must have access to write to the registry in order for the auto-update process to work. If the workstation cannot write the new Bump and Build

numbers to the registry, it will not upgrade, and it will not give the user any indication that there is new software.

Once you know these key steps, it's easy to see where odd messages users receive about software updates come from. Here are a couple that we see frequently:

- "There is new GroupWise software available; however you can not access it at this time": This error can occur if the bump number on the post office in question is different than the one in the workstation's registry, and the Build Number is higher, but the user cannot receive the files. For a standard auto-upgrade through the POA, this should not happen, but if you are using a web server for the auto-update, and the web server is unavailable, you might see this message.

- "There may be new GroupWise software available. However, the auto-update process was unable to access the GroupWise Software directory. Please contact your administrator": This one is interesting, because it means that the bump number is different on the post office than on the workstation, but the **version.ini** cannot be accessed to verify that the software is actually newer.

If you have an easy method to change the registry at your workstations, you can also simply change the value in the **HKEY_LOCAL_MACHINE\SOFTWARE\Novell\GroupWise\ Client\5.0\NewSoftwareBump** or **HKLM\Software\Wow6432Node\Novell\ GroupWise\Client\5.0** to "0". This will ensure that the Bump Number in the registry is different than what is in the **wphost.db** file, and will restart the upgrade query for all (or a subset if you choose to only change the registry for a group of users) of your workstations.

Auto-Update with POA Access Through a Web Server
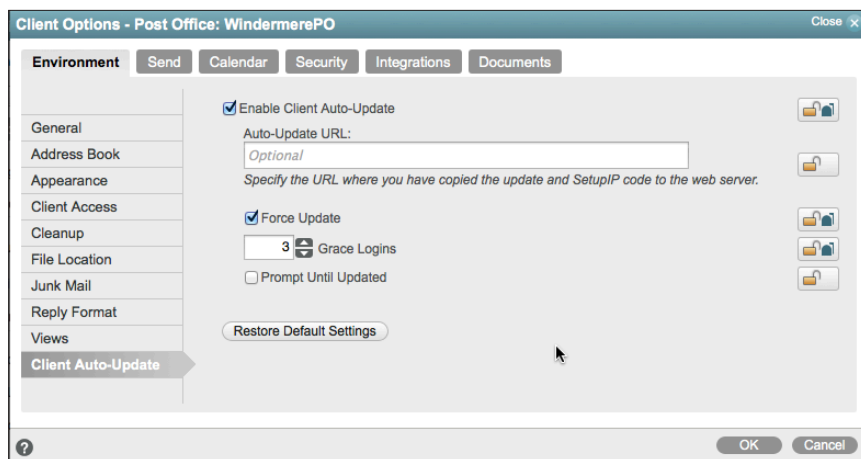
In the prior section, we saw the following figure:

Figure 14-5: Auto-Update Options

We promised to explain the Auto-Login URL, and so here we are! In prior versions of GroupWise, the Software Distribution Directory (SDD) was used to distribute software for Auto-Update. While the POA was responsible to "hand off" the update of the software to the client, it was required that the user logged into the Windows workstations have read rights to the Software Distribution Directory in order to run the installation routine.

GroupWise 2014 has abandoned the SDD, and has instead compressed the installation files at the Post Office server. In order to continue to provide auto-update for even the smallest of sites with very limited server resources and administrative staff, auto-update at the POA was developed, so that out-of-the-box, without too much additional configuration, auto-update could be delivered to users. Thus, if you use the direct access as described above, the POA will actually deliver the installation files to the users for decompressing and installation.

On an already very busy post office, this can cause some slowdowns first thing Monday morning when all of your users arrive and are presented the auto-update option! To alleviate this, Novell has added a new "web server delivery" method for auto-update. This is very similar to SETUPIP, but requires less configuration, and is still reliant on the auto-update algorithm we described above.

Preparing the Web Server

The steps will be very similar to the above. The first thing you must do is configure your web server. We will not go through installing and setting up a web server for you. Refer to the documentation of the server on which you wish to install web services. There is no reason why you cannot use your GroupWise WebAccess server for this purpose if you choose, or you could fire up a small server for the dedicated purpose of providing GroupWise client installation functionality.

The steps are the same for Apache2 on Linux or IIS on Windows. You must simply start at your document root. On SLES/OES, this is **/srv/www/htdocs**. On IIS this would be **c:\inetpub\wwwroot**. We will refer to this from here on out as simply **<documentroot>** for both Windows and Linux.

1. Create a new folder under the document root. You can name it anything you like, but **gwclient** seems reasonable!

2. The installation routine (see *"Installing the GroupWise Administration Service"* on page 37) copies the client files into the server directories.

3. The client software is copied to **<serverfiles>/agents/data/client/setup/win32/** directory. Copy the entire **<serverfiles>\agents\data\client\setup\win32** into your web server **<documentroot>\gwclient** folder that you created above so that you have **<documentroot>/gwclient/win32** on the server.

4. In order to better control the client software installation, we need a new directory under here, also called **win32**. So you will need to create a directory so that you have **<documentroot>/gwclient/win32/win32** (yes, that's two **win32** folders).

5. There are a couple of files in the installation directory that do not get copied to the GroupWise server directories, and we will need them in this **win32** directory.

    • **<installationfiles>/client/setup.cfg**

    • **<installationfiles>/client/win32/setup.ini**

    Copy both of these files into **<documentroot>/gwclient/win32/win32**.

    You should then change them to reflect your wishes upon installation. We have samples of these files later in this chapter.

Apache Specific Settings

On Apache on Linux, depending on the settings of your server, you may need to give specific access rights to this folder structure before the web server will actually deliver files for you. So perform the following steps for this.

1. Go to the **/etc/apache2/conf.d** folder on your Linux server.

2. Create a new text file here and call it something like **gwclient.conf**. The name is not really important as long as it has a **.conf** extension. Just name it something that will make sense to you later.

3. Place the following contents in this file:

    <Directory /srv/www/htdocs/gwclient>

    Options Indexes

    AllowOverrides None

    Order allow,deny

    Allow from all

    </Directory>

4. Restart Apache2. i.e., type **rcapache2 restart**

IIS Specific Settings

On Windows Server, you will need to give specific access rights to your GroupWise client files before the web server will actually deliver the files to your users. Here are the steps required to accomplish this:

1. Click Start > Administrative Tools > Internet Information Services (IIS) Manager.

2. Expand the Local Computer object, expand the Sites folder, expand your website, then select the client software directory that you created above under *"Preparing the Web Server"*. Here we will enable directory browsing so that the **gwclient** directory can be accessed:

    • In the Features View, double-click Directory Browsing.

    • In the Actions pane, click Enable.

    • Click the client software directory to return to the Features View.

3. Next, to configure IIS to allow the download of the client software files:

    • In the Features View, double-click MIME Types.

    • In the Actions pane, click Add.

    • In the File name extension field, type .* (a period followed by an asterisk).

    • In the MIME type field, type application/octet-stream.

    • Click OK.

4. Click the client software directory to return to the Features View.

Is is possible that you have configured file filtering at a higher level in this website. Is so, you must also configure IIS to not filter out files in the client software directory:

1. In the Features View, double-click Request Filtering.

2. Click Allow File Name Extension.

3. In the File name extension field, type .* (a period followed by an asterisk).

4. Click OK.

Finally, we will restart IIS. You can do this one of two ways:

1. In IIS Manager, click on the IIS Server Name

2. In the left-hand column choose "Restart Server"

Alternately, you can restart the IIS service as follows:

1. Click Start > Administrative Tools > Services.

2. Right-click World Wide Web Publishing Service, and click Restart.

Web Server Cleanup

Both Linux and Windows leave some files around that will cause trouble with the download of the GroupWise files.

On Windows, specifically, there is a file called **web.config** in your document root (typically **c:\inetpub\wwwroot**). This file, while important, will trip up the download of your GroupWise files. To avoid issues, right-click on the file, go to Properties and change the file to "hidden".

For both servers, look in the **win32\win32** directory for any temporary files that might have been created when you were editing the **setup.cfg** and **setup.ini** files. On Linux, these typically end with a **~** - for example, **setup.cfg~**. These extraneous files can also cause download issues. Delete them.

Test the Software Availability

Regardless of your web server platform, you should test to verify that the client software is available from a browser. Follow these instructions to do so:

1. From your browser, navigate to http://web_server_address/gwclient (assuming this is the directory you chose for your installation).

2. Verify that you can see files and or directories related to your installation.

Enabling Auto-Update in GroupWise

In prior versions of GroupWise, the **setup.cfg** file contained settings for enabling auto-update and controlling its use. This has been removed from the **setup.cfg**, and is now control in the Client Options in the GroupWise Administrative Console. Like all client options, these can be set by user, post office or domain. Let's do an example of this for a specific post office.

1. Log into the GroupWise Administration Console.

2. Click on Post Offices.

3. Choose your Post Office from the list of available Post Offices.

4. Click on the Client Options tab.

5. At the bottom left of the Client Options is Client Auto-Update. Click on that setting.

6. In the Client Auto-Update settings you have some options here, which we will discuss:

Figure 14-6: Auto-Update Options

• Enable: check this box to enable the auto-update.

• Auto-Update URL: Put in the path to your web server, including the **gwclient** directory we created.

• Force Update: This setting was formerly in the **setup.cfg** file. If you wish to require your users to update check this. This works in conjunction with:

  • Grace Logins: How many times should a user be able to cancel out of the update before being forced to allow the auto-update to occur.

• Prompt Until Updated: If the user chooses to cancel the update, will s/he be nagged about it until the update is completed.

Finally, before anything will really happen, the administrator must increment Bump Number. The administrator cannot choose the Bump Number, only increment it. To better understand this, let's look at the Bump Number (also known as the "Software Number").

1. In the GroupWise Administration Console, click on Post Offices, and then select the Post Office you wish to modify.

2. In the Post Office settings, click on the "Diagnostics" dropdown along the top of the settings and select Display Object.

3. Scroll through the listing until you find "Software Version" In our figure, this is version "1"

Attribute ID	Description	Value
50082	Database Rebuild Count	11
50088	Time Zone	MST
50126	Unused	0
50151	Delivery Mode	0 (Use App Thresholds)
50152	Platform	5 (Linux)
50153	Security Level	1 (High)
50166	Language	0
50168	Name Type	1 (Post Office)
50170	Name Level	2
58014	Last Modified At	Beta
58020	MTP App Name	POA
59003	UNC Path	\\windermere\grpwise\pos\windpo
59019	Last Modified By	admin.CNCMAIL
61064	Software Version	1
61109	Creation Time	Jun 27, 2013 01:50:03 PM
61145	Incorrect Logins Allowed	5
61146	Incorrect Login Reset Time	Dec 31, 1969 05:00:30 PM
61147	Lockout Reset Time	Dec 31, 1969 05:00:30 PM
61156	Total Mailbox Count	1
61157	Inactive Mailbox Count	1
61158	Full License Mailbox Count	0
61159	Limited License Mailbox Count	0

Display Object Information - WindermerePO — Close ✕ — OK

Figure 14-7: The Internal Software Version Number

To increment the bump number for a post office, follow these instructions:

1. In the GroupWise Administration Console, click on Post Offices, and then select the Post Office you wish to modify.

2. In the Post Office settings, click on the "More" dropdown along the top of the settings.
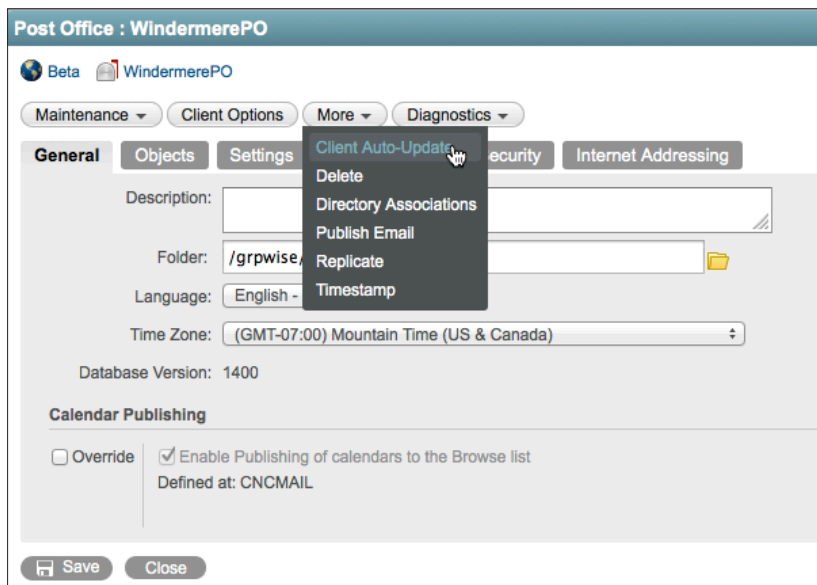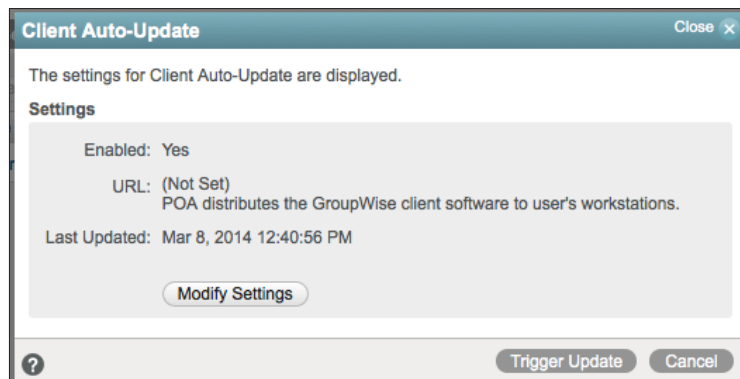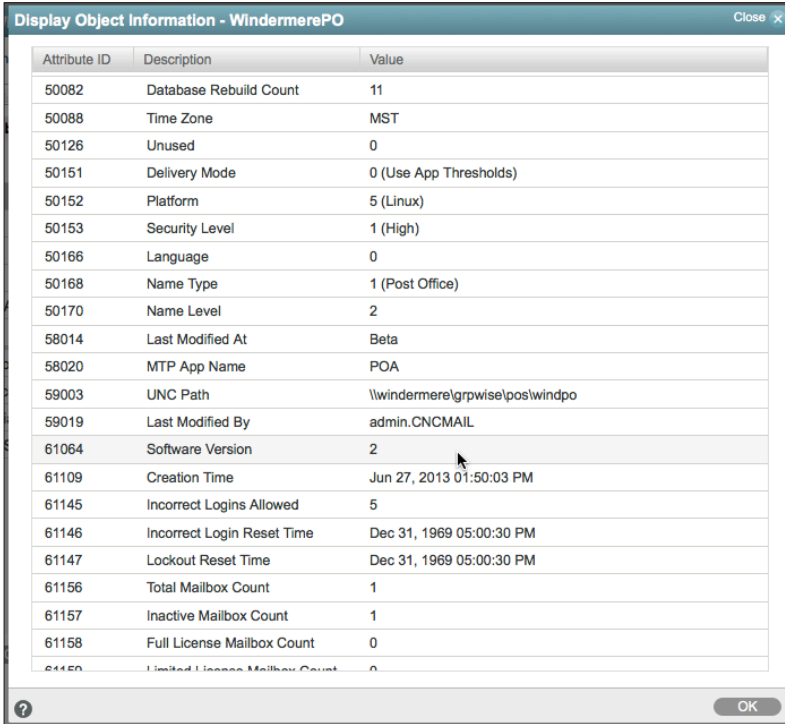
3. Choose Client Auto-Update

Figure 14-8: Choosing Client Auto-Update

4.   When you click the Trigger Update, the Bump Number will change.

5.   This increments the Bump Number for the post office by one.   If you follow the above instructions again for Display Object, you will see that the Software Version is one higher than before,

Figure 14-9: Incremented Software Version

6. As we will explain in a few minutes, if you want your users to upgrade, clicking this button multiple times will not cause problems. However, clicking it just once when you do NOT want to upgrade will cause you some headaches!

The stage is now set to initiate your auto-update. The next time a user logs into the post office, the following exchange will occur.

1. The client on the user's PC will query the POA and ask what the Bump Number is.

2. The client on the user's PC then compares this Bump Number to the registry value in **HKEY_LOCAL_MACHINE\SOFTWARE\Novell\GroupWise\Client\5.0\ NewSoftwareBump**. On 64 bit OS this is **HKLM\software\Wow6432node\novell\ groupwise\client\5.0\NewSoftwareBump** If this number is different (higher or lower), then the client continues on to ask for the Build Number.

3. The Build Number is found in both the **version.ini** file in the Client Software Update Repository, and in the workstation registry. The client looks at this value, and if the new value in the **version.ini** file is higher, the client then continues the update query process.

4. The client then compares the settings in Client Options that affect this user (so user/post office/domain), and if Update has been enabled, the upgrade begins.

It is important to note that the workstation must have access to write to the registry in order for the auto-update process to work. If the workstation cannot write the new Bump and Build numbers to the registry, it will not upgrade, and it will not give the user any indication that there is new software.

Once you know these key steps, it's easy to see where odd messages users receive about software updates come from. Here are a couple that we see frequently:

- "There is new GroupWise software available; however you can not access it at this time": This error can occur if the bump number on the post office in question is different than the one in the workstation's registry, and the Build Number is higher, but the user cannot receive the files. For a standard auto-upgrade through the POA, this should not happen, but if you are using a web server for the auto-update, and the web server is unavailable, you might see this message.

- "There may be new GroupWise software available. However, the auto-update process was unable to access the GroupWise Software directory. Please contact your administrator": This one is interesting, because it means that the bump number is different on the post office than on the workstation, but the **version.ini** cannot be accessed to verify that the software is actually newer.

If you have an easy method to change the registry at your workstations, you can also simply change the value in the **HKEY_LOCAL_MACHINE\SOFTWARE\Novell\GroupWise\ Client\5.0\NewSoftwareBump** or **HKLM\software\Wow6432node\novell\ groupwise\client\5.0\NewSoftwareBump** to "0". This will ensure that the Bump Number in the registry is different than what is in the **wphost.db** file, and will restart the upgrade query for all (or a subset if you choose to only change the registry for a group of users) of your workstations.

Upgrading the GroupWise Client with SETUPIP

Earlier in this chapter we discussed how you can now trigger auto-update by domain, post office or even user. However, there is no way to multi-select subsets of users and edit their client options, or change the client options of a group.

This is where SETUPIP really shines, because you can configure a distribution of the GroupWise client, and then you can simply distribute a small executable to multiple users (via email, or placing it on a web server for download) and manage a more controlled rollout of the client.

SETUPIP requires a web server to serve up the client files. When you deliver the GroupWise client using SETUPIP, it downloads a compressed version of the GroupWise client from a file called **setupip.fil**. Any additional languages you wish to include will only add 3-5 MB per language to the download. After everything is downloaded, SETUPIP launches the GroupWise client **setup.exe** installation program from the users local hard drive and the installation begins.

Additionally, SETUPIP can be used to install GroupWise fresh on a PC that has never had GroupWise before. This allows you to get the client to remote workers who have never had their laptops in the office!

Configuring Your Web Server

You can use any web server available that allows connections on port 80. Here are the steps to configure your web server. The procedure is almost identical to our previous settings under *"Auto-Update with POA Access Through a Web Server"*.

The steps are the same for Apache2 on Linux or IIS on Windows. You must simply start at your document root. On SLES/OES, this is **/srv/www/htdocs**. On IIS this would be **c:\ inetpub\wwwroot**. We will refer to this from here on out as simply **<documentroot>** for both Windows and Linux.

1. Create a new folder under the document root. You can name it anything you like, but **gwclient** seems reasonable!

2. The installation routine (see *"Installing the GroupWise Administration Service"* on page 37) copies the client files into the server directories.

3. The client software is copied to **<serverfiles>/agents/data/client/setup/win32/** directory. Copy the entire contents of **<serverfiles>\agents\data\client\setup\win32** into your web server **<documentroot>\gwclient** folder that you created above.

4. In order to better control the client software installation, we need a new directory under here, also called **win32**. So you will need to create a directory so that you have **<documentroot>/gwclient/win32/win32**.

5. There are a couple of files in the installation directory that do not get copied to the GroupWise server directories, and we will need them in this **win32** directory.

   • **<installationfiles>/client/setup.cfg**

   • **<installationfiles>/client/win32/setup.ini**

   Copy both of these files into **<documentroot>/gwclient/win32/win32**.

   You should then change them to reflect your wishes upon installation. We have samples of these files later in this chapter.

6. In the **win32** folder you will have all of the available language files (e.g. **setupip.xx**, where **xx** is an appropriate language designation such as en for English or **fr** for French-France. If you have more than one language file the client will be presented with a list of languages that can be downloaded and extracted. If the user selects more than one language, the GroupWise Client will be installed in all of the selected languages. You should remove all language files from this folder for languages that are not needed for your organization. If only one language file exists, users will not be prompted to select languages for the installation. If you require more than one language file for your system, configuring your **setup.cfg** file will allow you to set the default language. Also, you must indicate "Yes" for any languages you wish to have installed. Otherwise only the default language will be installed.

Apache Specific Settings

On Apache on Linux, depending on the settings of your server, you may need to give specific access rights to this folder structure before the web server will actually deliver files for you. So perform the following steps for this.

1. Go to the **/etc/apache2/conf.d** folder on your Linux server.

2. Create a new text file here and call it something like **gwclient.conf**. The name is not really important as long as it has a **.conf** extension. . Just name it something that will make sense to you later.

3. Place the following contents in this file:

<Directory /srv/www/htdocs/gwclient>

   Options Indexes

   AllowOverrides None

   Order allow,deny

   Allow from all

</Directory>

4.   Restart Apache2. i.e., type **rcapache2 restart**

IIS Specific Settings

On Windows Server, you will need to give specific access rights to your GroupWise client files before the web server will actually deliver the files to your users. Here are the steps required to accomplish this:

1.   Click Start > Administrative Tools > Internet Information Services (IIS) Manager.

2.   Expand the Local Computer object, expand the Sites folder, expand your website, then select the client software directory that you created above under *"Preparing the Web Server"*. Here we will enable directory browsing so that the **gwclient** directory can be accessed:

  •   In the Features View, double-click Directory Browsing.

  •   In the Actions pane, click Enable.

  •   Click the client software directory to return to the Features View.

3.   Next, to configure IIS to allow the download of the client software files:

  •   In the Features View, double-click MIME Types.

  •   In the Actions pane, click Add.

  •   In the File name extension field, type .* (a period followed by an asterisk).

  •   In the MIME type field, type application/octet-stream.

  •   Click OK.

4.   Click the client software directory to return to the Features View.

Is is possible that you have configured file filtering at a higher level in this website. Is so, you must also configure IIS to not filter out files in the client software directory:

1.   In the Features View, double-click Request Filtering.

2.   Click Allow File Name Extension.

3.   In the File name extension field, type .* (a period followed by an asterisk).

4.   Click OK.

Finally, we will restart IIS. You can do this one of two ways:

1.   In IIS Manager, click on the IIS Server Name

2.   In the left-hand column choose "Restart Server"

Alternately, you can restart the IIS service as follows:

1.   Click Start > Administrative Tools > Services.

2.   Right-click World Wide Web Publishing Service, and click Restart.

Web Server Cleanup

Both Linux and Windows leave some files around that will cause trouble with the download of the GroupWise files.

On Windows, specifically, there is a file called **web.config** in your document root (typically **c:\inetpub\wwwroot**). This file, while important, will trip up the download of your GroupWise files. To avoid issues, right-click on the file, go to Properties and change the file to "hidden".

For both servers, look in the **win32\win32** directory for any temporary files that might have been created when you were editing the **setup.cfg** and **setup.ini** files. On Linux, these typically end with a **~** - for example, **setup.cfg~**. These extraneous files can also cause download issues. Delete them.

Test the Software Availability

Regardless of your web server platform, you should test to verify that the client software is available from a browser. Follow these instructions to do so:

1. From your browser, navigate to http://web_server_address/gwclient (assuming this is the directory you chose for your installation).

2. Verify that you can see files and or directories related to your installation.

Now that you've configured your web server, we can create the **setupip.exe** that will control the installation of the GroupWise client through the web server. The next section entitled *"Configure and Generate the setupip.exe Executable"* will explain this process.

Configure and Generate the setupip.exe Executable

The **setupip.exe** file is used to download and launch the GroupWise client installation over an IP connection to a web server. When executed, the **setupip.exe** file downloads the compressed GroupWise client and then launches the **setup.exe** file. The **setupip.exe** file contains the location (URL) to your web server(s) where you have hosted the GroupWise client as explained previously. The procedure to create the **setupip.exe** file is a Windows application (**writeip.exe**). If your GroupWise server is on Linux, this presents a bit of a complication, because you have not "installed" server files on Windows in order to extract these files. There are a couple of ways to get access to these files for our purposes. A few ideas are:

- If this is an OES server, place the **<serverfiles>/agents/client** directory and your **<installationfiles>** on a NCP accessible drive.

- Configure SAMBA for shares to the **<serverfiles>** and **<installationfiles>** and map drives from Windows to these SAMBA shares.

- Download the Windows GroupWise full distribution and extract the files by doing the following:

  - After downloading the full Windows distribution zip file, right-click on the file and choose "Extract All" and place it in a directory of your choice. For example **c:\temp\gwinstall**. This would then serve as your **<installationfiles>** directory for the rest of this SETUPIP section.

  - change to this new **<installationfiles>\server\win64** directory

- run **setup.exe /extract c:\temp\gwserver** (or any location you choose). Use this location as your **<serverfiles>** location for accessing the required client files.

Our preference is actually the latter. In any event, you must have access from Windows for this process!

To generate your **setupip.exe** follow these steps.

1. From your **<serverfiles>/data/client/setup/win32** folder, run the utility called **writeip.exe.**

2. In the WRITEIP utility fill in the DNS name or IP address of the web server with the appropriate location to the GroupWise client directory on the web server. Based on the previous section this would be **http://<your server IP or DNS name>/gwclient**
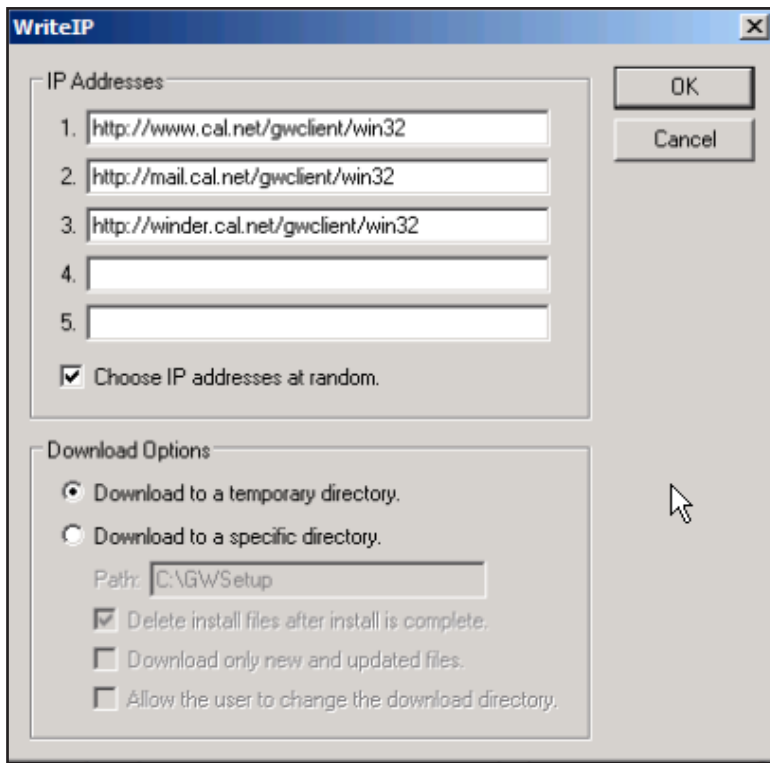

Figure 14-10: The Write IP interface

NOTE: You can define multiple web servers for the GroupWise client download. This allows the client to be downloaded randomly from the sites you define if you check this option. Otherwise, if the first web server is down, the client will be downloaded from the next web server on the list. If you are providing SETUPIP functionality for users both on your network and across the Internet, you might want to provide URLs with both private and public IP addresses to the same web server location.

3. After filling in the information in the WRITEIP utility select the OK button, which will generate a new executable in the **<serverfiles>/agents/data/client/setup/win32** directory called **setupip.exe**.

4. Copy the **setupip.exe** file to the into the **<documentroot>/gwclient** directory of the web server.

5. You can instruct users to set up their GroupWise client by going directly to http://yourserver. com/gwclient/setupip.exe - then when they download this file, the installation of the client will begin.

6. Alternatively, you can email the **setupip.exe** to your users. Instruct them to save the attachment locally, close groupwise and run **setupip.exe** to upgrade.

Troubleshooting SETUPIP

The SETUPIP utility makes a file called **setupip.err** in the Windows program directory. The Windows program directory is usually **c:\windows**. If you experience problems with SETUPIP, look at this file for some clues.

Some of the more common problems with SETUPIP are

- not putting in the entire path to the files in the http: links

- not configuring the web server to be able to access the files

- having errors in the gwclient.conf on Apache

Upgrading Users with ZENworks Configuration Management

The following information is applicable to ZENworks Configuration Management (ZCM) 10.3 through 11.3. If you have earlier versions of ZCM, these instructions may not work in your environment. We will not cover any other ZCM versions for this guide. Also, we will not cover every permutation of ZCM that you might need for installing GroupWise. If you are using ZCM, we assume you are familiar with the ZCC dialogs, and that you know how to assign your own relationships and requirements to your application bundles. The steps below are only intended to show the part of the ZCM setup that is specific to the GroupWise 2014 client installation.

The first thing that we do when preparing the GroupWise client for ZCM is to generate the GroupWise MST file required for the installation. This is done by using the **gwtuner.exe** file that is supplied with GroupWise 2014. The **gwtuner.exe** file is found in both the Linux and Windows distributions in **<installationfiles>\admin\utility\tools.**

As you can probably see, **gwtuner.exe** is a Windows application, and it needs access to files from the **<installationfiles>\client** folders. The Zenworks Control Center needs access to both the **<installation files>** and the **<serverfiles>** folders. If your GroupWise server is on Linux, this presents a bit of a complication, because you have not "installed" server files on Windows in order to extract these files. There are a couple of ways to get access to these files for our purposes. A few ideas are:

- If this is an OES server, place the **<serverfiles>/agents/client** directory and your **<installationfiles>** on a NCP accessible drive.

- Configure SAMBA for shares to the **<serverfiles>** and **<installationfiles>** and map drives from Windows to these SAMBA shares.

- Download the Windows GroupWise full distribution and extract the files by doing the following:

- After downloading the full Windows distribution zip file, right-click on the file and choose "Extract All" and place it in a directory of your choice. For example **c:\temp\gwinstall**. This would then serve as your **<installationfiles>** directory for the rest of this ZCM section.

- change to this new **<installationfiles>\server\win64** directory

- run **setup.exe /extract c:\temp\gwserver** (or any location you choose). Use this location as your **<serverfiles>** location for accessing the required client files.

Our preference is actually the latter. In any event, you must have access from Windows for this process!

1. Run the **gwtuner.exe** file. You will see the information in <u>Figure 14-11</u>.
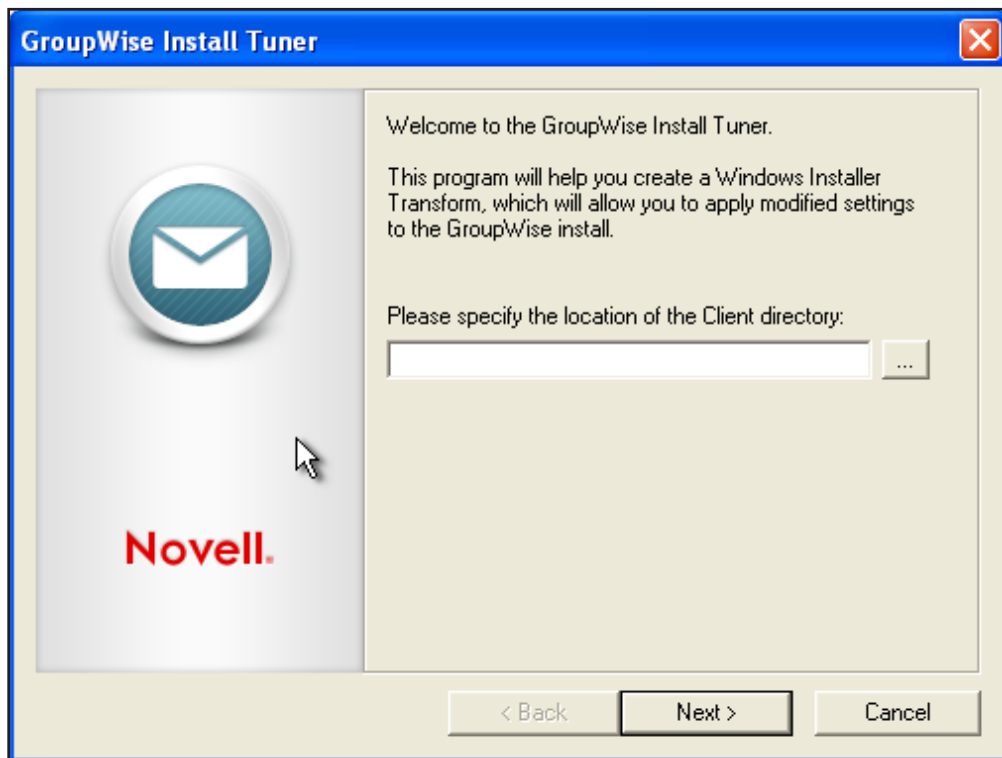

Figure 14-11: The GWTuner Client Directory Window

2. At this screen, enter the location of your client directory in **<installationfiles>** folder.

3. The next screen shows the options for the installation. For our purposes, we wish to have ZCM control the client entirely, so we will go over the options here. In order to allow ZCM to control these options, we are unchecking most of the boxes in the dialog:

- **Install path**: Enter your installation path. The default is shown in the figure below.

- **Program folder:** This is the name of the Program folder, should you choose to create one (as you will see later, we will not be creating a program folder during our setup).

- **Add GroupWise to the Desktop:** If you choose, you can add a GroupWise icon to the desktop during installation. For our purposes this is unchecked, as we will allow ZCM to control this

- **Add GroupWise to the Quick Launch:** We can also add an icon to the Quick Launch. We are leaving this unchecked.

- **Add Notify to the Startup folder:** We wish to control this with ZCM, so we are leaving this unchecked.

- **Install Internet Browser Mail Integration:** This adds "mail to" functionality to your browsers to launch GroupWise when a "mail to" link is clicked.

- **Add icons to the Start Menu:** If we leave this checked, the Program folder listed above will be created for the Start Menu.
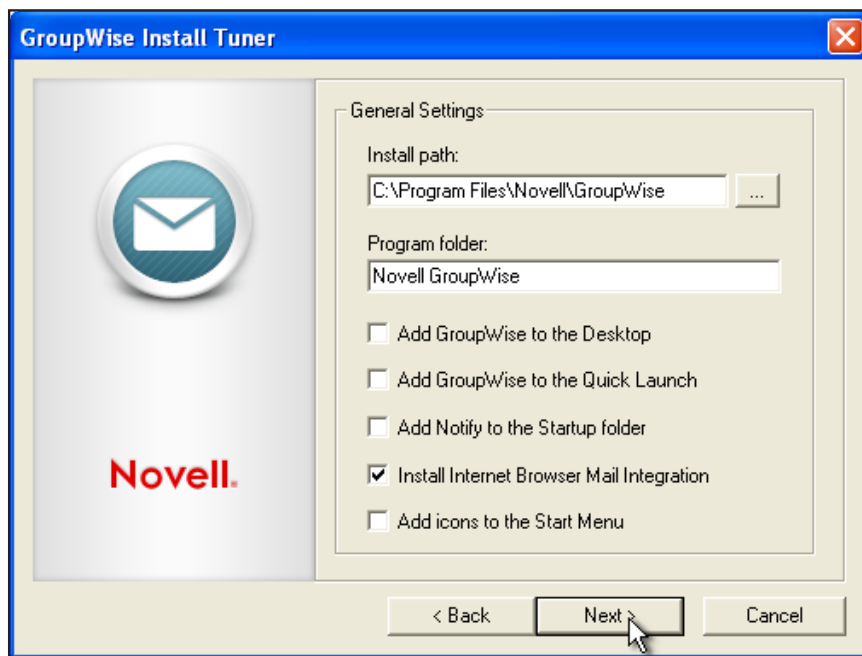

Figure 14-12: The GWTuner General Settings

4. The next screen will allow you to choose the languages you wish to install. You can, of course, choose as many languages here as you require. If you choose more than one language, the next screen will prompt you for the default language for the installation.

5. When you click Finish, your **groupwise.mst** file will be created in the **win32** directory under the **<installationfiles>\client\win32** folder.

Now that our **groupwise.mst** file has been created, we can configure the ZCM routine to deliver this client to the workstation. Novell has made some modifications to the GroupWise and ZCM settings that allow this to happen with much less work that in past versions. As we saw in the *"Upgrading the GroupWise Client with SETUPIP"* section above, the GroupWise client for SETUPIP is packaged in a file called setupip.fil that contains the complete GroupWise client for distribution. This is found in your **<serverfiles>/agents/data/client/setup/win32** folder. ZCM will be able to use this file, and a few other files to manage the GroupWise installation, rather than thousands of individual files as in the past. The only files we will need for our ZCM

repository are **setupip.fil**, **extract_setupip_packs.cmd** and the language files we chose in the GroupWise Install Tuner. So, if we had chosen English and German as our languages to install above, we would need to also have **setupip.en** and **setupip.de** for our bundle. We will walk through those steps now.

1. Launch your Zenworks Control Center in your browser, and choose Bundles.

2. Create a new bundle by clicking on "New" and then choosing "Bundle" and then indicating it is a Windows Bundle and click Next.
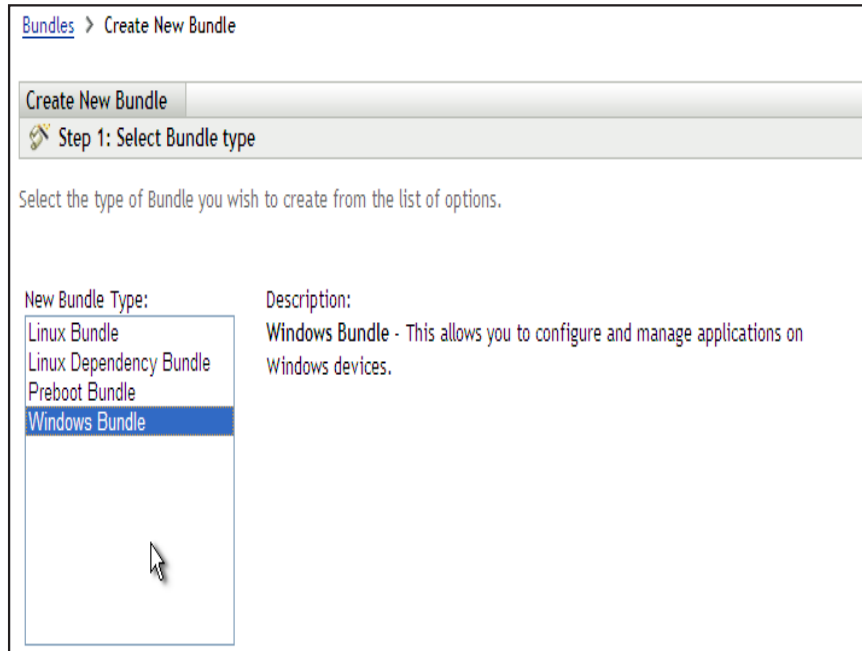

Figure 14-13: Creating a new ZCM Windows Bundle

3. Create this as an empty bundle so that we can configure the actions as necessary.

4. On the next screen we will need to fill in a number of values:

   • **Bundle Name**: Give your bundle a name such as "**GW2014**"

   • **Folder**: The default is **/Bundles**.

   • **Icon**: GroupWise 2014 has specified an icon for this use. Browse to your **<installationfiles>/client/win32** directory and choose **grpwise2014.ico** as your icon file.

   • **Description**: Enter your description for GroupWise 2014 Client here.

Figure 14-14: Creating the new GroupWise Bundle

5. On the next screen ZCM 11 will allow you to create your bundle as a "Sandbox" version if you choose to do so until you are ready to publish the bundle for installation. Leave "Define Additional Properties" checked here so that we can further customize the application.

Figure 14-15: The GroupWise Bundle Page

Next we will create some installation actions for our bundle.

1. Click on the Actions Tab, and then the Install tab to create some new actions.

2. For the first Action, choose a Prompt User action. For this action we will use the following values:

    •   Name the action something such as "Prompt User that the Client will be installed"

    •   User Cancels Allowed: If you wish to force the installation immediately, leave this at 0

    •   Seconds to be Displayed: Choose how long the prompt should stay on the screen - perhaps 30 seconds.

    •   Click "Add" in the Define Prompts box to type in the text to be displayed. For example "The GroupWise Client will now be installed. Please be patient".

    •   Scroll down and select OK to save the action

We'll now create a second action

1. Now, choose "Install File(s)" as a second action. In this action we are essentially having ZCM put the installation files in a temporary location on the workstation so that the **extract_setupip_packs.cmd** can perform the extraction. Name this action something that will make sense to you. For example "Install files to temporary installation folder".

    •   Click on Add to get to the Select Files dialog, and click Add again to find the files. This time we need to go to the **<serverfiles>\agents\data\client\setup\win32** folder and select the **extract_setupip_packs.cmd**, **setupip.fil**, and our language files (for example, **setupip.en** and **setupip.de**). Click "Open" to include these files in the Select Files dialog.

    •   The **setupip.fil** file is already a compressed file, so it not necessary to compress these files further. Thus, check the box that says "do not compress or encrypt uploaded content".

    When you click Okay, you will see a confirmation screen to show you the files that will be uploaded to your repository.

2. Once the files are uploaded, you will be returned to the Select Files dialog. Now you will need to specify where these files should be placed on the local machine. Remember this is a temporary installation directory, so you can choose any location you like. An example would be **c:\gwclient**. Select Okay.
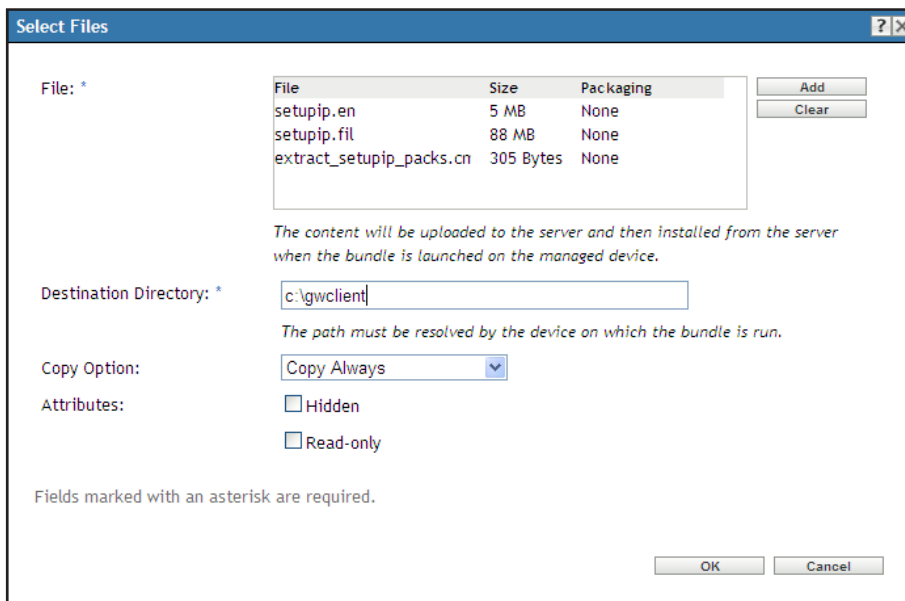
Figure 14-16: The completed Select Files dialog

3. At the next screen, you can select to run this installation as a dynamic administrator user to avoid any rights problems during the copy. Select okay to save this action.

The next action we need to create is one to extract the files from the **setupip.fil** file for GroupWise.

1. Back on the Install Tab, click Add to create a new action, and choose Run Script as the action.

2. In our first action, we copied **extract_setupip_files.cmd** to **c:\gwclient**, so we can enter **c:\gwclient\extract_setupip_packs.cmd** as the Script File Name. The **extract_setupip_packs.cmd** file will then extract all of the files under this directory into **c:\gwclient\win3**2. This is important for our final installation step.

3. Click the radio button next to "When Action is Complete" for the wait parameter for this script.

Figure 14-17:   Creating the Run Script Command

4. Before you leave this screen, you should give the Action Name a more specific name, such as "Run Script to extract GW2014 files".

5. Choose to run the script as dynamic administrator to avoid problems during the extraction.

6. Click OK and you will now see two actions in your Install tab.

    The next step is to copy the MST file that we created with the GroupWise Install Tuner to the local temporary installation directory. The following steps will do this:

1. Click Add again to create a new action. Choose "Install File(s)", and give the action a name that designates that you wish to "Copy **groupwise.mst** to local directory".

2. Click Add to show the Select Files screen, and click Add again to show the add dialog.

3. Browse to your **<installationfiles>/client/win32** directory and choose the **groupwise. mst** file that we created above. Click OK. The file will be uploaded to the ZCM repository.

4. Next you will be asked where this file should be copied. The **extract_setupip_packs. cmd** process created **c:\gwclient\win32** (if you used **c:\gwclien**t as your temp directory). This is where the **groupwise.mst** file must reside.

5. Leave the copy option as Copy Always.

6. Change to the Requirements tab and run the process as Dynamic Administrator.

    Our final action will be to actually install GroupWise using the **groupwise.mst** file.

1. Again, at the Install Tab, add a new action of "Launch Executable". Name this Action "Launch install.bat for GroupWise 2014".

2. The command name in our case will be **c:\gwclient\win32\install.bat**.

3. For command line parameters you can choose:

   - /unattended - this will show the typical GroupWise progress statuses for the installation

   - /silent - the user will not see anything while GroupWise installs

4. Click on Add under Environment Variables and add the following:

   - **Name**: GW_INST_TRANSFORM_FILE

   - **Value**: **groupwise.mst** - note that this assumes the same folder as the **install.bat** file, which in our case is correct.

   Click Ok.

5. Click on Add under Environment Variables for a second variable to update existing GroupWise installations to match our current installation msi:

   - **Name**: GW_INST_REMOVE_MSI
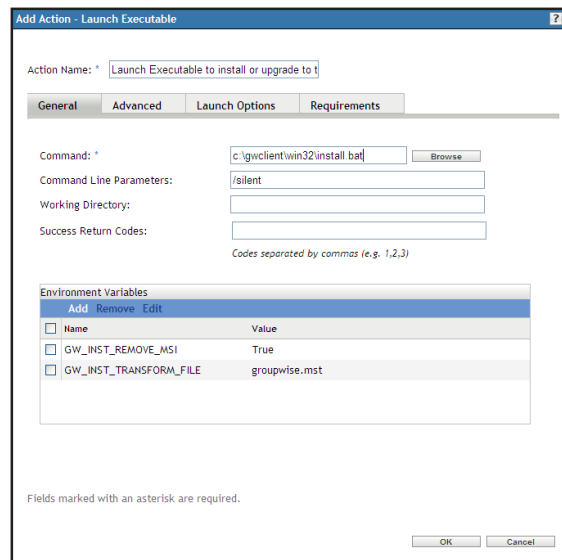
   - **Value**: True

   Click OK

Figure 14-18: Our action for running install.bat

6. Next click on the Advanced tab and select "When action is complete" for the wait time. Also choose to run as dynamic administrator. Click OK.

Next we will create a launch action for the GroupWise 2014 bundle.

1. Click on the Launch Tab, then click on the Add button and choose "Launch Executable" as the type.

2. For the command, you will have "**${ProgramFiles32}\Novell\Groupwise\grpwise. exe**".

3. For command line parameters you can choose any parameters you typically use.

4. Click on the Advance Tab. Since this is for the launch of the client, you should choose "no wait" and "Run as logged in user". Click OK.

5. Apply your changes.

Back at the script parameters for the installation, we had the choice of running the installation in "unattended" or "silent" mode. If you chose silent, you might wish to allow ZCM to control the dialog that users see. To do so, go back to the Summary page of your new bundle, and scroll down until you see "Show Bundle Activity". If you change this to "Yes", ZCM will provide the status information to the user as the application installs.

Figure 14-19: Change Show Bundle Activity to Yes

Next, change the "Displayed Version" at the top of the Summary from Sandbox to Published. To do so, click on the "Publish" button, publish as a new version.

To complete your installation, add your relationships, requirements, icon choices and schedule.

SETUP.INI

The **setup.ini** file in the **<installationfiles>\client\win32** directory is full of interesting settings for the Microsoft Installer. It also has one very important setting that you will want to set if you wish to totally automate your installation. You can disable the language dialog in the installation by verifying that the EnableLangDlg setting is set to No (N).

VERSION.INI

The **version.ini** file simply designates the "development version" of the GroupWise software. For the version of GroupWise 2014 we used most recently in this book, the contents of this file are:

[General]

BuildNumber=4863

Whenever the GroupWise client is installed, the Build Number of the GroupWise client is put into the Windows registry. The **BuildNumber** string value is kept in the following registry location:

HKEY_LOCAL_MACHINE\SOFTWARE\Novell\GroupWise

or

HKLM/SOFTWARE\WOW6432NODE\NOVELL\GROUPWISE

SETUP.CFG

As we mentioned above, the **setup.cfg** no longer contains the settings for the auto-update, as those have been moved to the Client Settings in the databases. This is still a very important file in the installation process. There is a **setup.cfg** file that ships with GroupWise 2014 in the **<installationfiles>\client** directory. This is a template file that is used for customizing the GroupWise client installation. This file does not have an effect on the installation of the GroupWise software unless it is copied in to the **<serverfiles>\agents\data\client\setup\win32\win32** directory. If the **setup.cfg** resides in this directory, it will be used to set parameters for the client installation. There are a number of options you can set for the installation through the **setup.cfg** file. Here are some of the more common:

- If you wish to make the installation automatic for the users so that they are asked no questions and only see the progress and ending of the installation:

  ShowDialogs=No

  ShowProgress=Yes

  ShowFinish=Yes

(Remember to also check the **setup.ini** file for EnableLangDlg=N)

- GroupWise Notify will not be put in the Windows startup folder

  Notify=No

- Enable GWCheck at the workstation for Caching clients

  [GWCheck]

> **InstallGWCheck=Yes**
> **GWCheckEnabled=No**

- The Language will be English (or your language of choice).

    [Language]
    Default=English
    English=Yes

Upgrading the Linux Cross-Platform Client

There is no upgraded GroupWise Linux client for GroupWise 2012. The GroupWise 8 client is currently available at http://download.novell.com/Download?buildid=X95cxyoSSiE~ . If you need to install the GroupWise Linux client, follow these instructions.

- Download the GroupWise Linux client from the above location.

- Install the RPM manually from the \client\linux\ directory of the GroupWise Linux installation CD. You can install the RPM as follows:

    rpm -Uvh novell-groupwise-gwclient-8.0.0-84910.i586.rpm
    SuSEconfig

Of course, the actual version of the RPM will change over time. The name of the RPM above is simply the shipping version.

Upgrading the MAC Cross-Platform Client

There is no upgraded GroupWise Mac client for GroupWise 2012. The GroupWise 8 client is currently available at http://download.novell.com/Download?buildid=X95cxyoSSiE~ . If you need to install the GroupWise Mac client, deploy the groupwise.dmg file to your Mac users.

Auditing the GroupWise Client Upgrade

The GroupWise 2014 POA has a feature that can give you a quick look at who has upgraded to GroupWise 2014. In order to see this feature your GroupWise 2014 POA should support HTTP monitoring and your post office must have enabled the setting for tracking a minimum client version. You can either enable HTTP monitoring in the Administration Console or in the startup file of the POA. The advantage of using the Administration Console to apply these settings is that the POA will pick up the settings dynamically, and you will not need to restart the post office agent.

The minimum client version settings will highlight in red the version number or release date of the GroupWise client for any user who is using a client older than the version or date you indicate.

Below is how you can enable these settings through the Administration Console:

1. Click on Post Offices

2. Click on the Post Office you wish to monitor.

3. Click on the Client Settings tab.

4. Enter the version you would like for your Minimum Client Release Version (14.0 would represent the GroupWise 2014 client).

5. Make sure you do not check the box next to the Minimum Client Release or only your GroupWise 2014 users will be able to log in.

6. Click Apply, then OK to exit.

NOTE: If you check the check box to Lock Out Older GroupWise Clients then users will get a message before even entering their GroupWise password that states "The version of GroupWise you are using is older than the minimum version allowed by the system administrator." You need to be careful about enabling the lock out function, as the user will not even be given the opportunity to update their client if you select this option. You may be better off using the grace login option in the Client Options to give the user X number of grace logins before they are able to login without updating.

After enabling these settings you can monitor the client versions from your browser. Go to the POA's http port in this manner from your browser:

http://192.168.100.238:7181

NOTE: If you are not sure what HTTP port your POA is using, you can hit the C/S port (1677) and it will redirect you to the HTTP Port.

You may be prompted for the User Name and Password for the POA HTTP Monitor. Once you have loaded the Web monitor for the POA, click on the C/S Users link. From here you can view the version of GroupWise client that your various users are using. Any user that is using an older GroupWise client than you specified will show up in red. Any user that is using at least the GroupWise client version you have specified will show up in blue.

Hopefully this chapter will get you on your way to finishing up your GroupWise upgrade. Good luck!

Appendix 1: LDAP Attributes Map

GroupWise	LDAP	eDir	AD
User Name	uid		samAccountName
GUID	entryUUID	GUID	objectGuid
Login Disabled	loginDisabled	loginDisabled	userAccountControl
Email Address	mail	eMailAddress	
Extra Email		mail	proxyAddresses
Description	description		
City	l	physicalDeliveryOfficeName	
Company	o	company	company
Department	ou		department
Fax	facsimileTelephoneNumber		
Given Name	givenName		
Home Phone	homePhone		
Middle Name	initials		
Mobile Phone	mobile		
Other Phone	otherTelephone		
Pager	pager		
Location	physicalDeliveryOfficeName	l	
Postal Code	postalCode		
PO Box	postOfficeBox		
Surname	sn		
State	st		
Street Address	street		streetAddress
Phone	telephoneNumber		
Title	title		
Name Prefix	personalTitle		
Name Suffix	generationQualifier		

Blank cell in eDir or AD column indicates that the standard LDAP mapping is used. Note that AD largely uses the standard LDAP mappings. eDirectory is the "oddball" on several attributes.

nGWFileID
nGWGroupWiseID
nGWObjectID
nGWPostOffice
nGWVisibility
nGWAccountID
nGWMailboxExpirationTime

These will be synced into eDir by the Admin Service.

"*The Caledonia Upgrade Guide for GroupWise 2014* is researched, written, and provided by some of the most recognized and trusted voices in the GroupWise community. Every GroupWise system demands a knowledgeable professional to configure, update, optimize, and customize their collaboration ecosystem to benefit their organization. Danita and Paul are simply the best! Deep consultant experience, with an abundance of real-world expertise, make this technical resource invaluable for every GroupWise organization."

--Dean Lythgoe, Novell, Inc.

From start to finish, this Guide provides technical detail and specialized insight that no GroupWise Administrator should be without. Small or large, every GroupWise system will be upgraded with confidence with this Guide in hand.

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