Best Practices for Running GroupWise® on Linux

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Novell®

Agenda

Why GroupWise on Linux

Server Setup

Administration

Maintenance

Backup Strategies

Agent Monitoring

Tips & Tricks

NetWare to Linux Migration

Why Run GroupWise on Linux

- Improved stability
  - Fewer operating system faults
  - Reduced impact from application faults
- Better application fault handling and recovery
  - GroupWise agents restart within seconds
  - core files generated withing seconds
- Lower overall impact
  - no database corruption on agent failure
  - minimal database corruption on hardware/power failure

Server Setup

Choose operating system OES Linux/SLES

- OES Linux
  - Integrated with eDirectory™
  - Novell client / NCP access to all file systems
  - Linux User Management
  - Novell Remote Manager
  - Novell Clustering Services
  - TSAFSGW Backup agent
- SLES
  - 1 free server license with GroupWise purchase
  - Manually install SMS (Storage Data Requester)
  - 64 bit server currently available (GroupWise is 32 bit)

Server Setup

Novell IS&T configuration

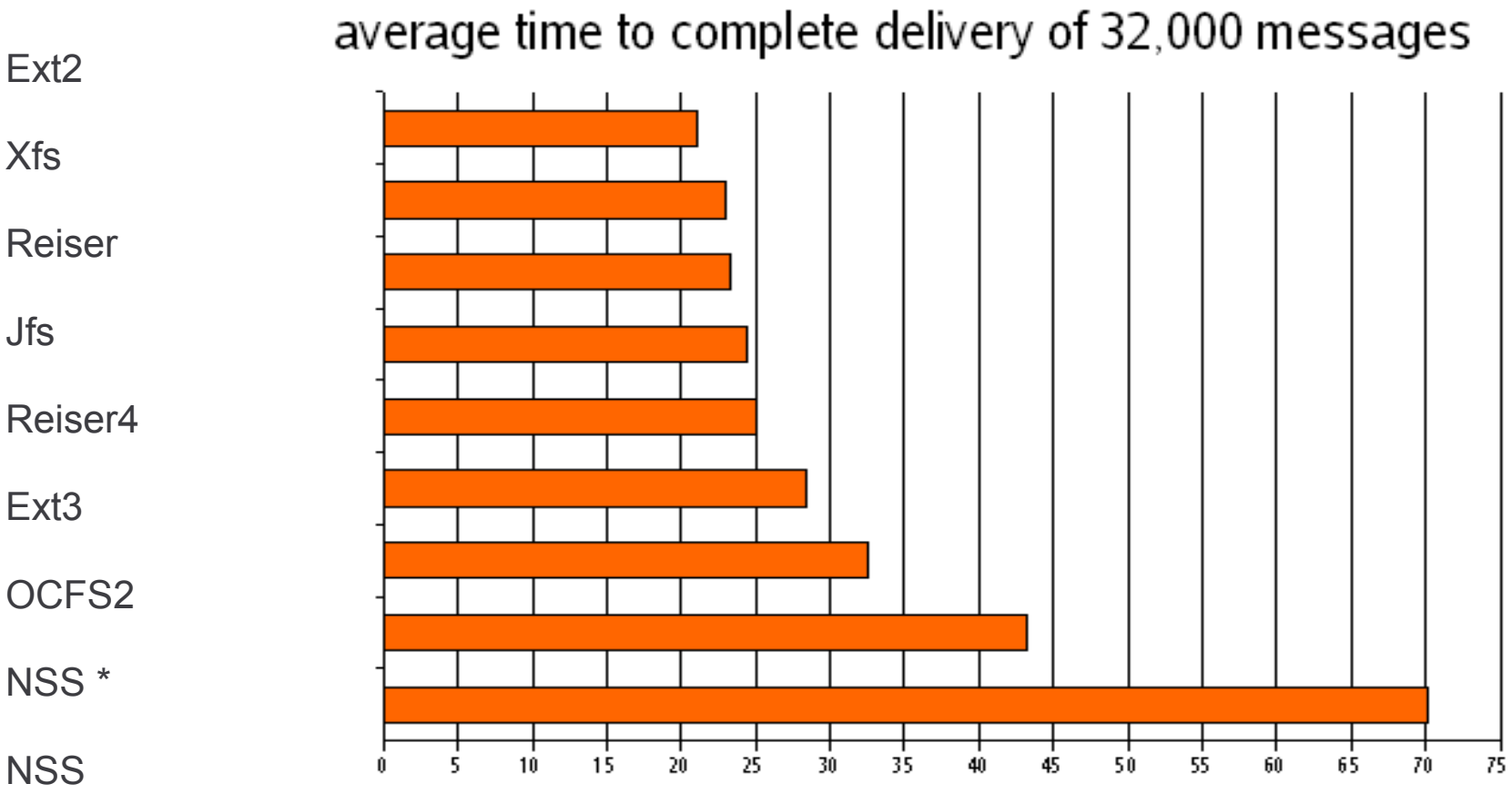
- Recommend server partitioning
  - /boot ext3 500 MB
  - / ext3 10GB
  - /var ext3 20GB
  - /swap min 2gb or installed memory whichever is larger
- GroupWise data partition(s):
  - **/opt/novell/groupwise/ reiser3**
  - Partition size depends on backup method, post office size
  - Rule of thumb
    - dbcopy backup = 3 times post office size
    - TSAFSGW backup = 2 times post office size

Server Setup

What file system?

- Reiser
  - Optimized for small files
  - Performance
- NSS
  - Provides easier migration from NetWare for SAN storage
  - Overhead of NSS features not needed for GroupWise post office
- EXT3
  - Better journaling, recovery
  - Performance on par with Reiser

Filesystem Benchmarks



* NSS without salvage

Sever Setup

Need root access to administer GroupWise

- Create account to administer GroupWise (gwadmin, e.g.)
- Give sudo root access to this account
  - (Modify the /etc/sudoers file to grant all root rights or to specific commands)
    - Use visudo as root to edit file
    - This command grants all rights to the user gwadmin
      - gwadmin ALL=(ALL) ALL
  - sudo sh
    - Gives gwadmin a root shell without needing root password

Server Setup

Configure OES Linux server

- Create ncp volume for GroupWise
  - ncpcon
  - create volume mail /opt/novell/groupwise/mail

- SLES options
  - Create SAMBA share for GroupWise
    - Yast, Network Services, Samba server
    - Create share mail /opt/novell/groupwise/mail for gwadmin user

Sever Setup

Run agents with UI

- Approx 10% overhead to update UI
- Easier access to logging information
- Can’t start agents on machine startup
  - Must start from terminal window

Run agents without UI (daemon mode)

- Use HTTP to monitor agents
- Better performance
- Auto start agents as part of runlevel boot sequence

Administration

Running ConsoleOne

- From Linux GroupWise server
  - Install ConsoleOne and snapins
  - Run as root or as sudo user
- From other Linux workstation
  - Install ConsoleOne and snapins
  - Mount “mail” partition using Samba or NCPFS
  - Do NOT use NFS!
  - Or use “ssh –X gwadmin@<server>
    - Run ConsoleOne from Linux server
    - Exports display to Linux workstation
- VNC into Linux Server (requires runlevel 5)

Administration

From Windows workstation

- Map drive to “mail” partition
  - NCP (Novell Client for Windows) if using OES
  - Samba (Windows map) if using SLES
- Use 7.02 ConsoleOne Snapins

Maintenance

Running standalone GWCheck

- Do NOT run standalone GWCheck from a Windows workstation if GroupWise 7.0.2 POA is running on SLES
  - Possible database corruption
- To run standalone GWCheck from a Windows workstation if GroupWise 7.0.2 POA is running on OES
  - Run ncpcon
  - Set CROSS_PROTOCOL_LOCKS=1
- Run Linux GWCheck from post office server
  - Use ssh, VNC, etc.
- Run POA GWCheck
- gwcheckt – for text based gwcheck

Backup Strategy

DBCopy

- Create separate backup partition
- Backup to tape from dbcopy partition
  - Weekly delete and full dbcopy
  - Dbcopy –i (incremental)
- SP1 IR1 – new multithreaded dbcopy
- Schedule copies with cron

TSAFSGW

- Not cluster aware
- Streams right to tape
- Minimal disk space

Agent Monitoring

GWHA

- Works with GWMonitor
  - Polls agents
  - Sends grpwise start <agent> to gwha
  - Enable gwha poll in grpwise-ma script

    Enable MA_OPTIONS="--hauser username --hapassword password --hapoll 120"

    Supply local user for –hauser –hapassword:

Agent Monitoring

Enable GWHA

- Runs as xinetd service
- /etc/xinetd.d/gwha
- service gwha

```
{ socket_type = stream
  user = root
  server =
    /opt/ /groupwise/agents/bin/gwha
  wait = no
  instances = 1
  protocol = tcp
  type = UNLISTED
  port = 8400
  disable = no
```

Agent Monitoring

Protect GWHA using SSL

- /etc/opt/novell/groupwise/gwha.conf
- [gwha]
- ssl = yes
- key = /etc/opt/novell/groupwise/gw.key
- cert = /etc/opt/novell/groupwise/gw.crt
- password = novell
- [provo.utah]
- server = /opt/novell/groupwise/agents/bin/gwpoa
- command = /etc/init.d/grpwise
- startup = utah.poa
- delay = 2
- wait = 10

Agent Monitoring

Monitor script running as cron job

```
#!/bin/bash

declare -i CNT=0

CNT=`ps -aef | grep -v grep | grep -c '@provo.poa'`

if [ $CNT -eq 0 ]

then

   echo "restarting Provo POA"

   echo "Restarted Provo POA" `! date` >>  /var/log/gw/gwagentchk.log

   /etc/init.d/grpwise start provo.utah &

   mail -s "Provo POA restarted" gwadmin@novell.com <
        var/log/gwagentchk.log

else

   echo "Provo POA is running"
```

Tips & Tricks

GWIA – Postfix compatibility

- Local mail processes are needed
  - Send logs/alerts to root user
  - “mail” command tied to postfix
- Must Bind GWIA exclusive to configured TCP/IP address
  - ConsoleOne GWIA Network Address page
- Configure Postfix to listen only on 127.0.0.1
  - /etc/postfix/main.cf
    - inet_interfaces = 127.0.0.1

Tips & Tricks

Getting a coredump

- Set ulimit –c unlimited before running agent
  - **Edit /etc/profile.local**
  - **ulimit -c unlimited**
  - **Or edit /etc/security/limit.conf**

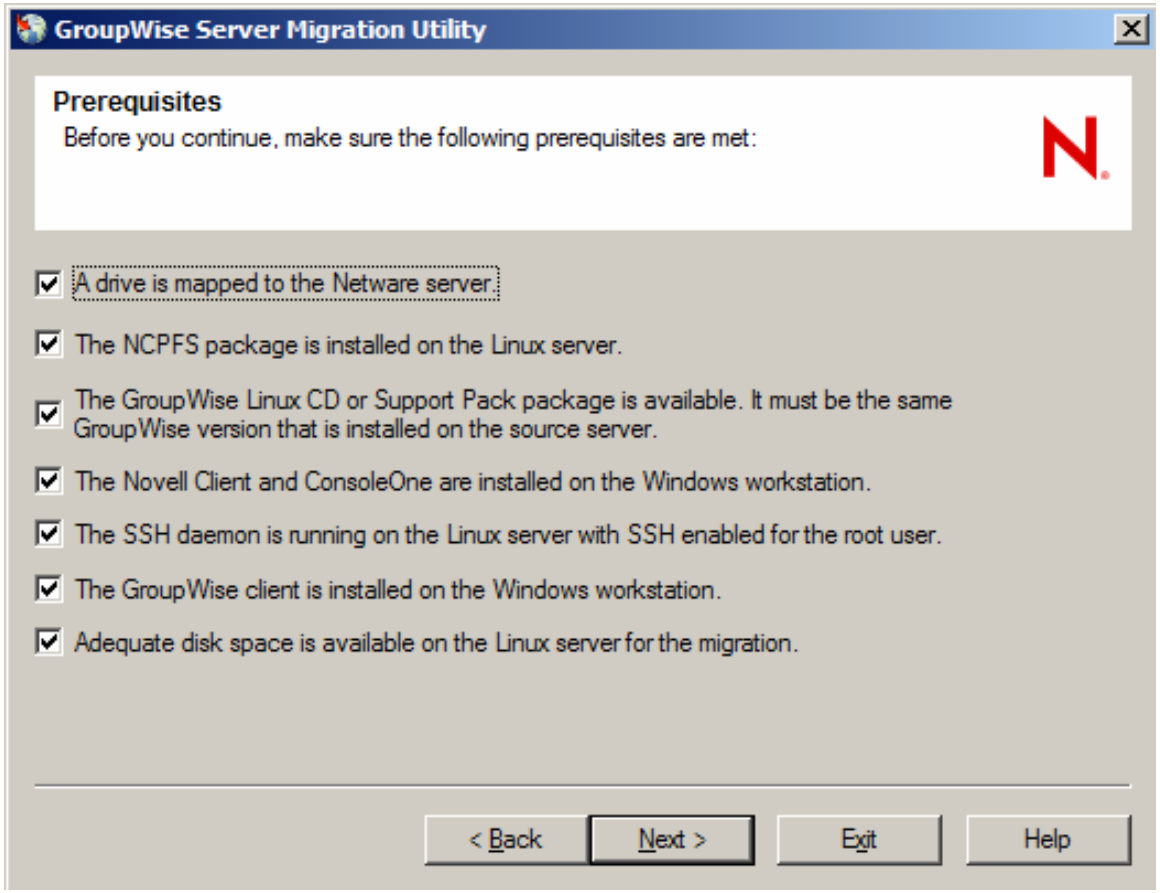
```
*    soft    core    unlimited
```

GroupWise Server Migration Utility

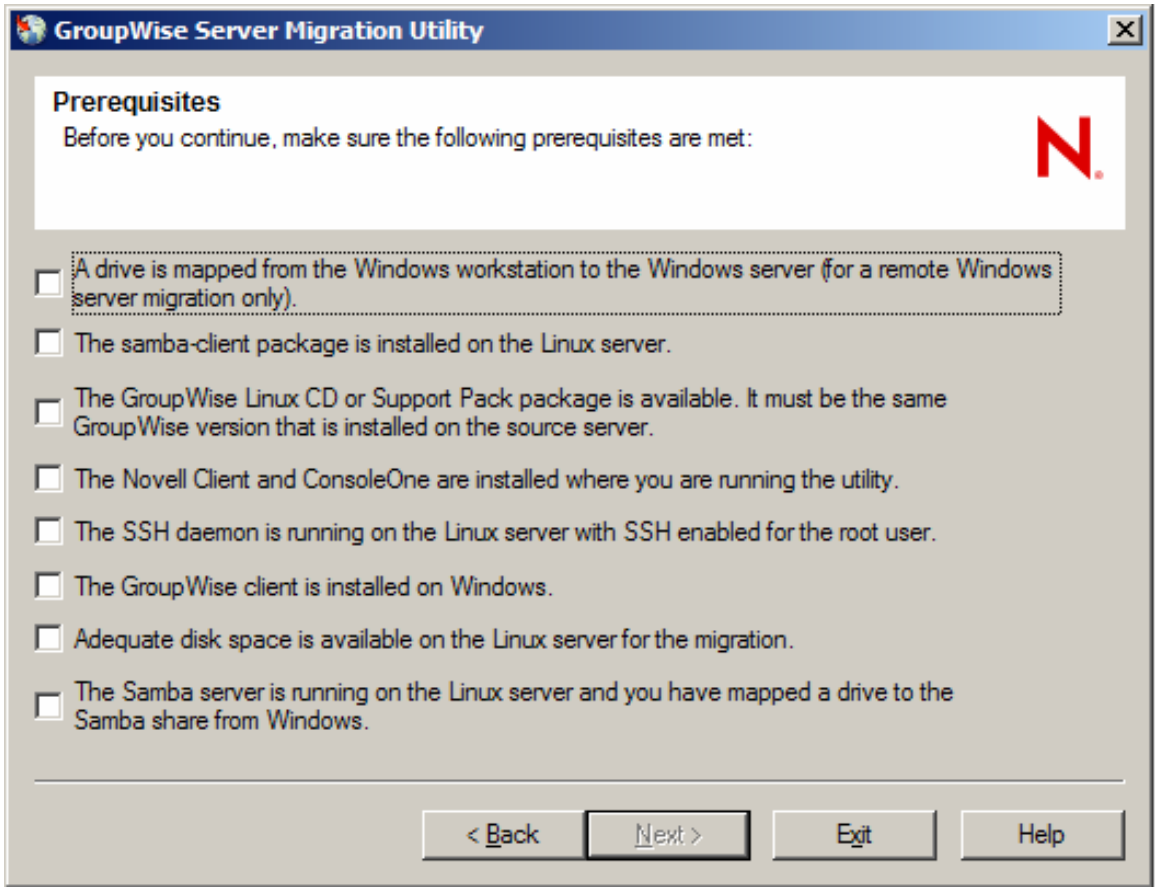
Migrating a GroupWise Post Office from NetWare to Linux

http://download.novell.com/Download?buildid=hlBhizgetE4~

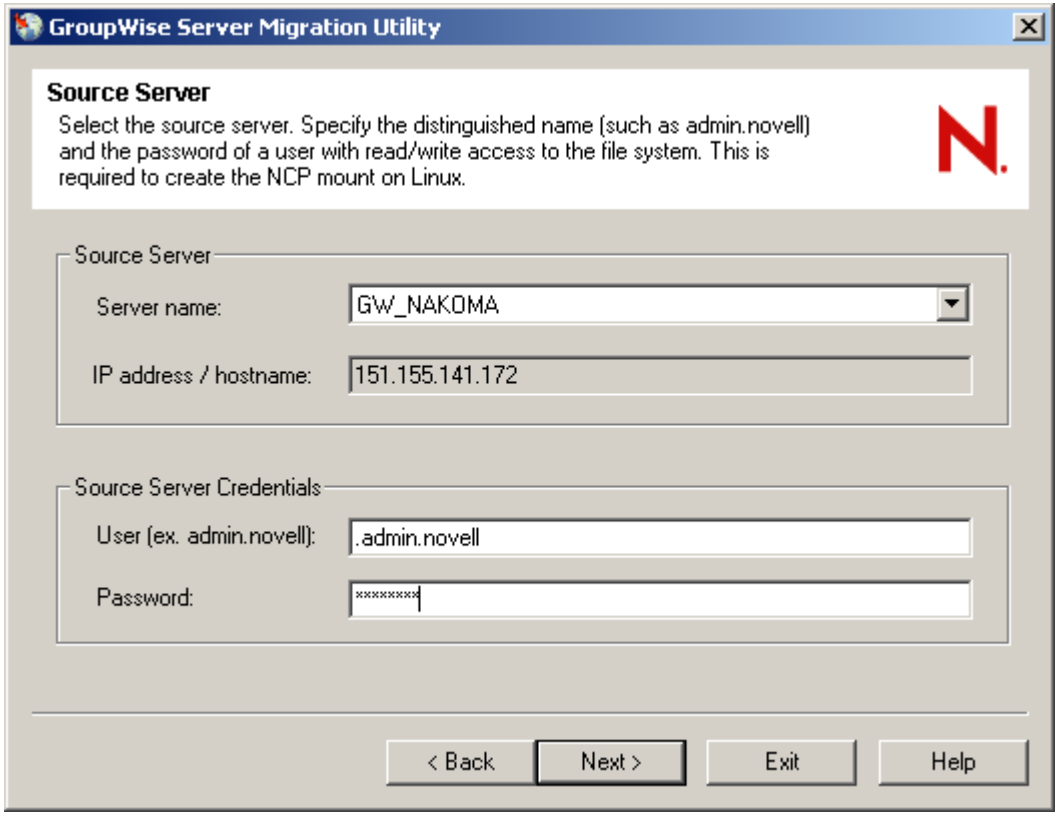
Prerequisites – NetWare



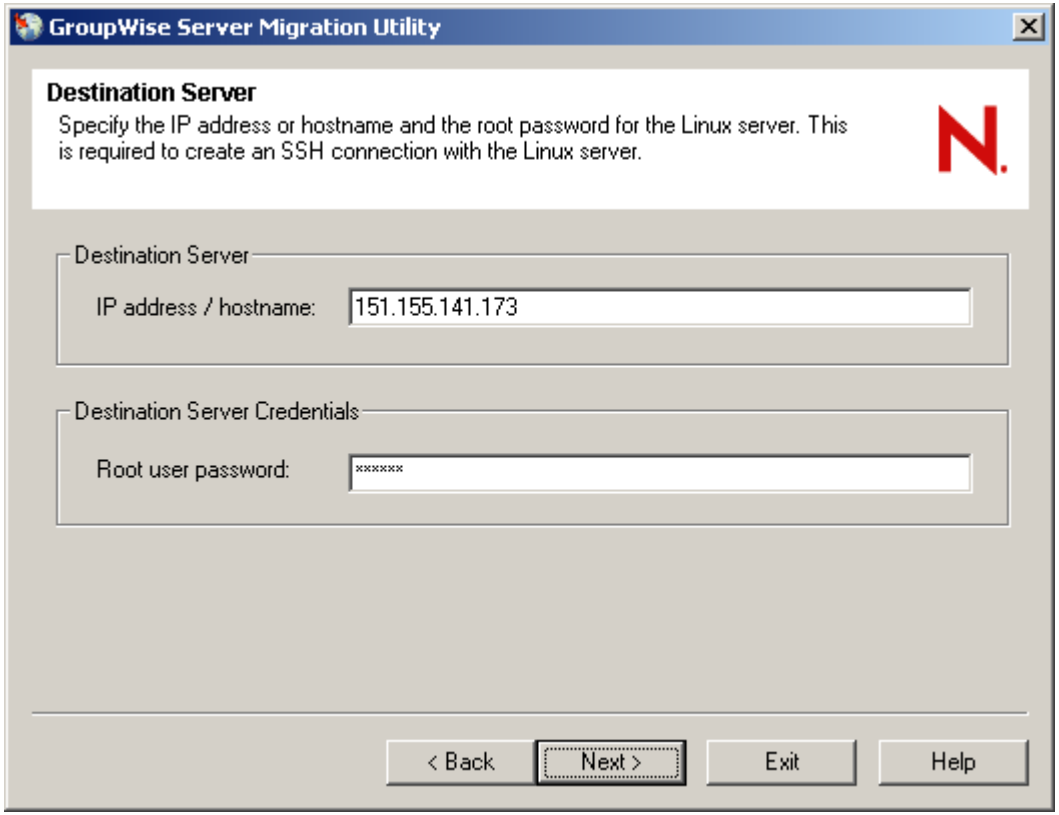
Prerequisites – Windows



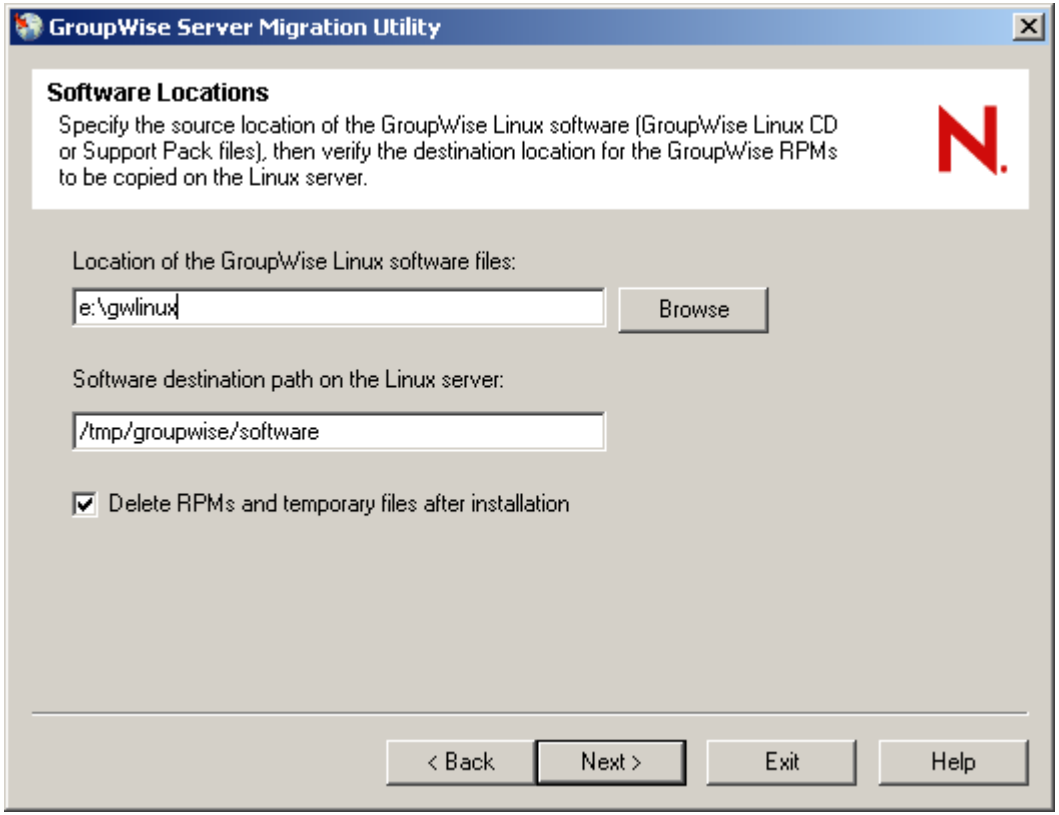
NetWare Server



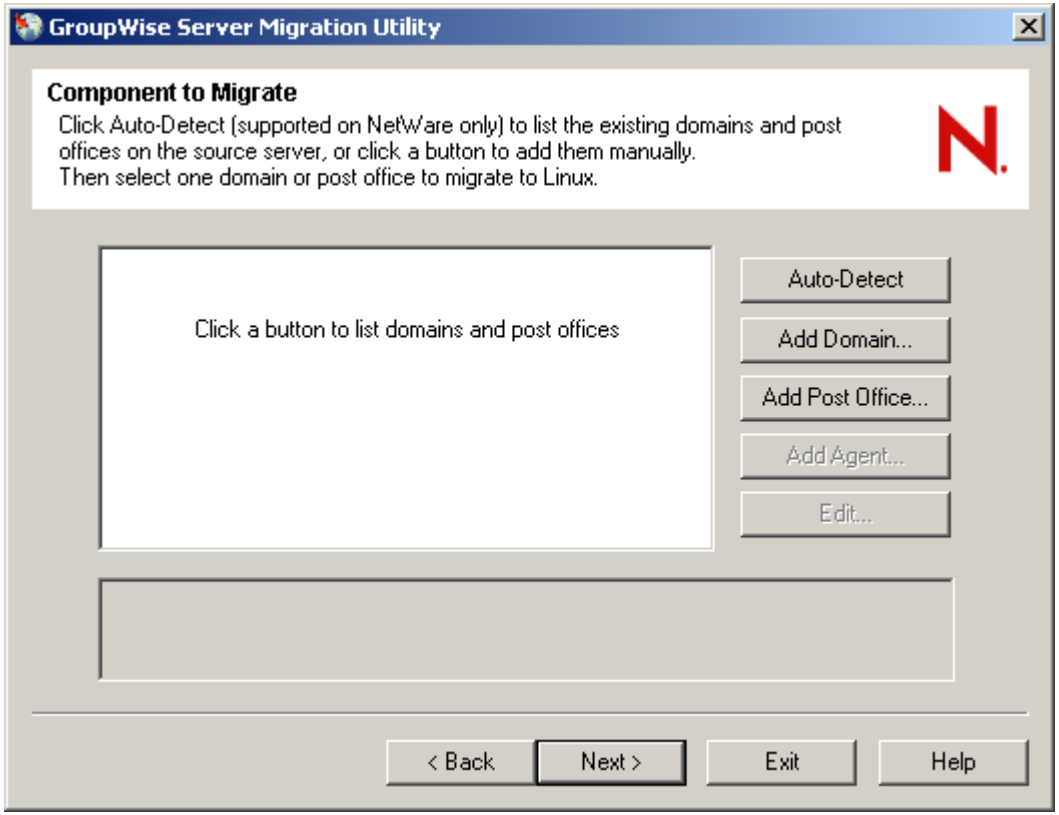
Linux Server



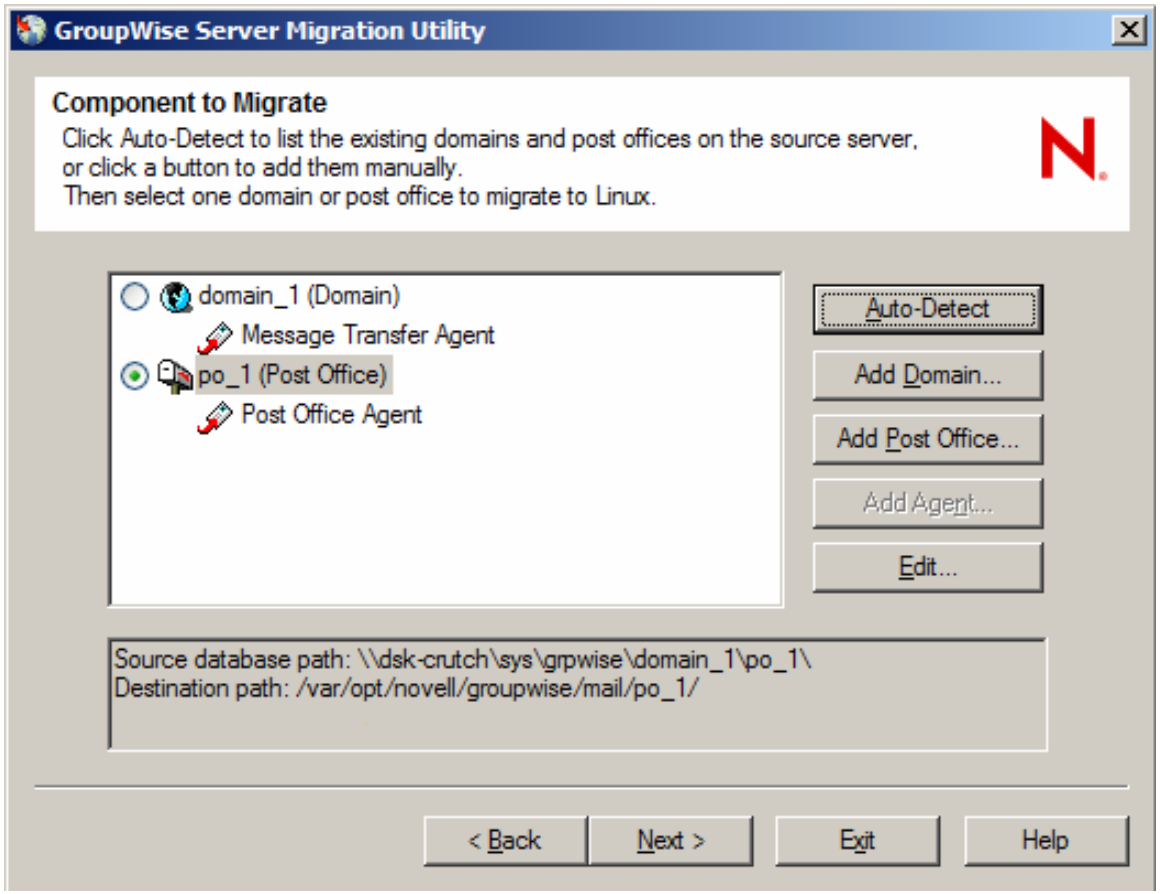
Software Location



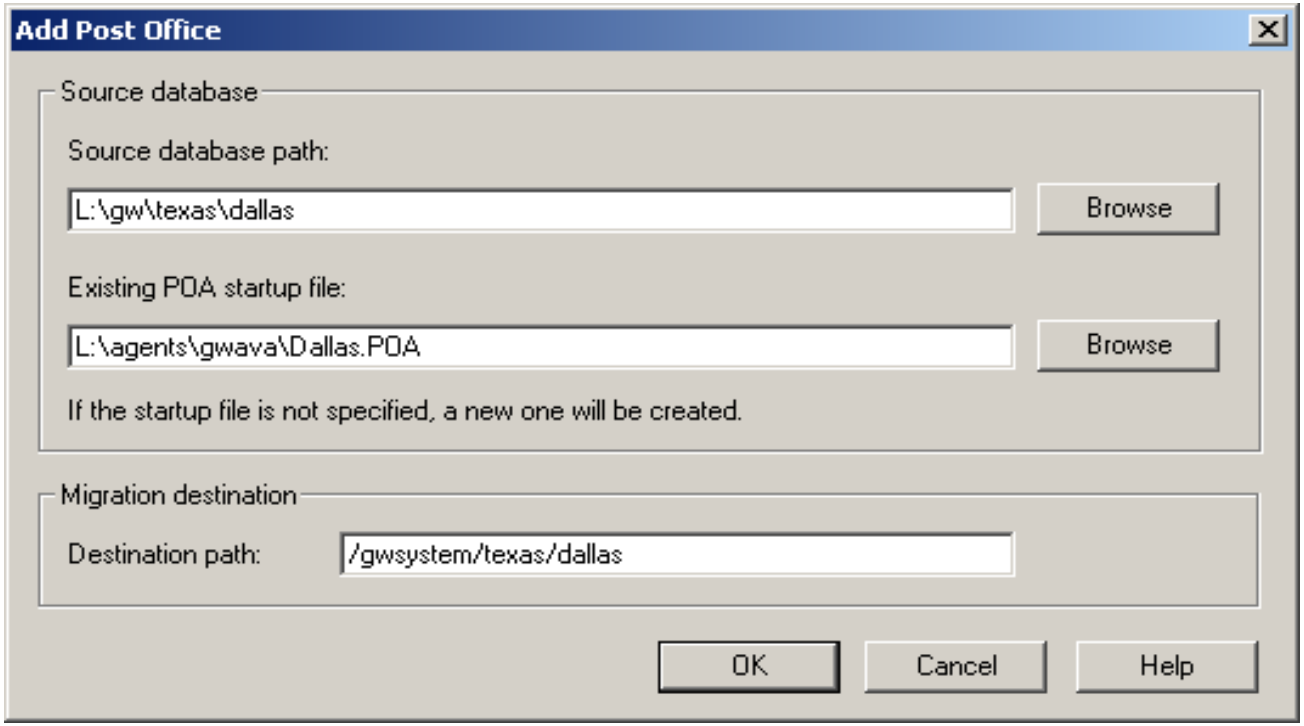
Auto Detect /Add Post Office



Select Component to Migrate



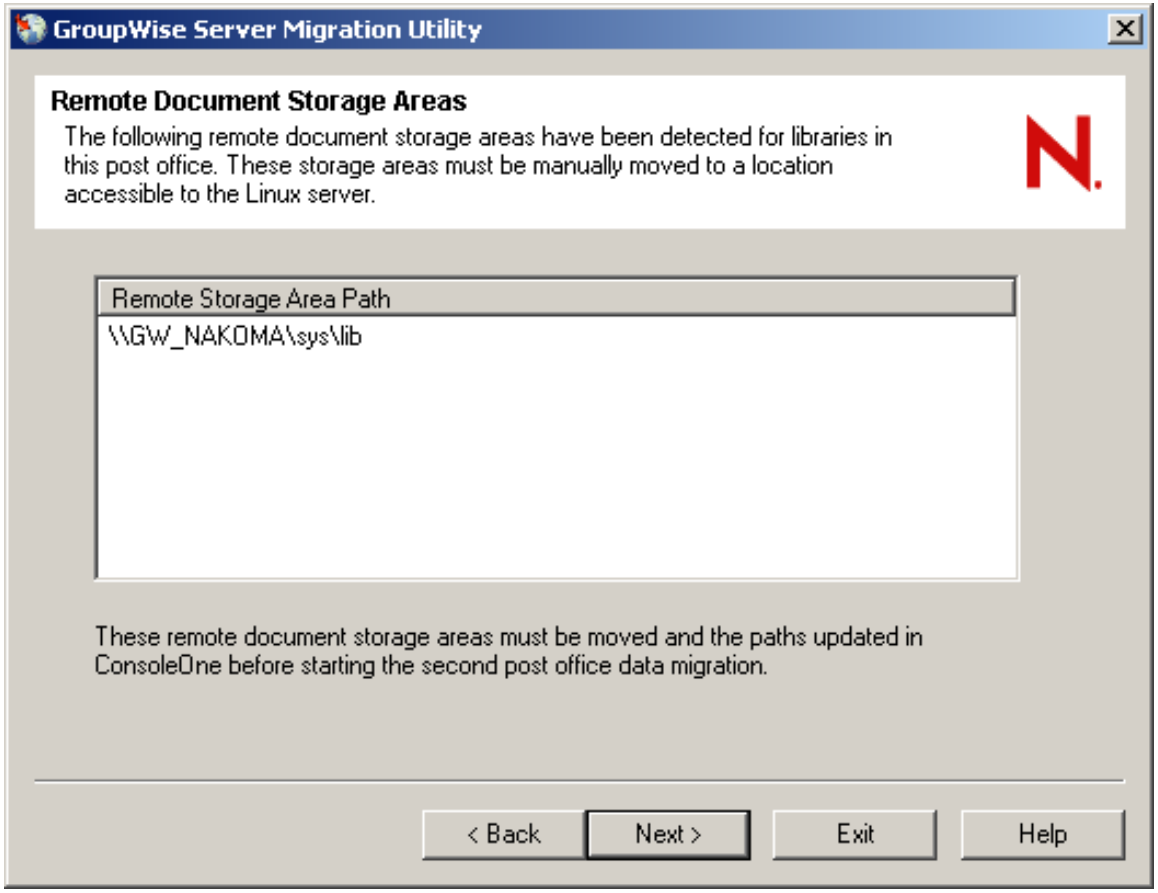
Auto Detect /Add Post Office



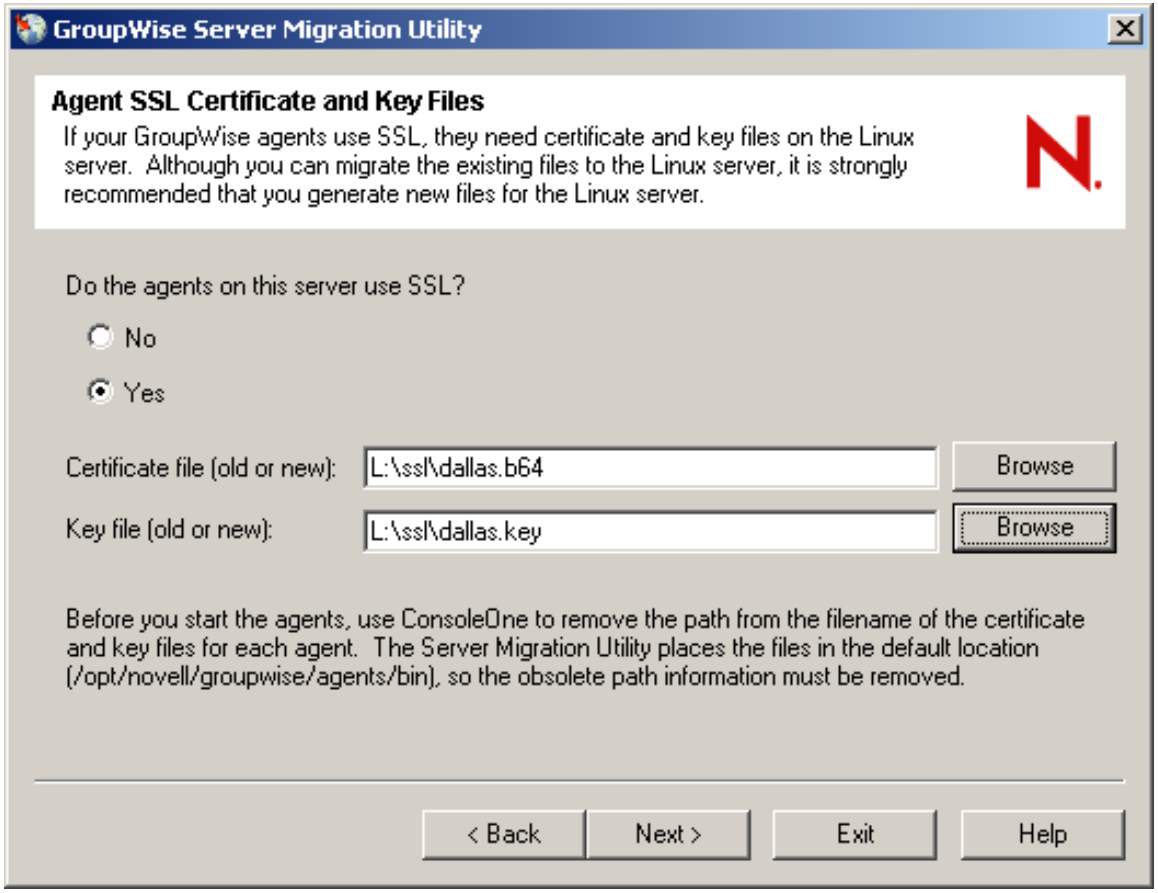
Looks in SYS:\SYSTEM for GRPWISE.NCF and agent startup files

Add Post Office to configure manually

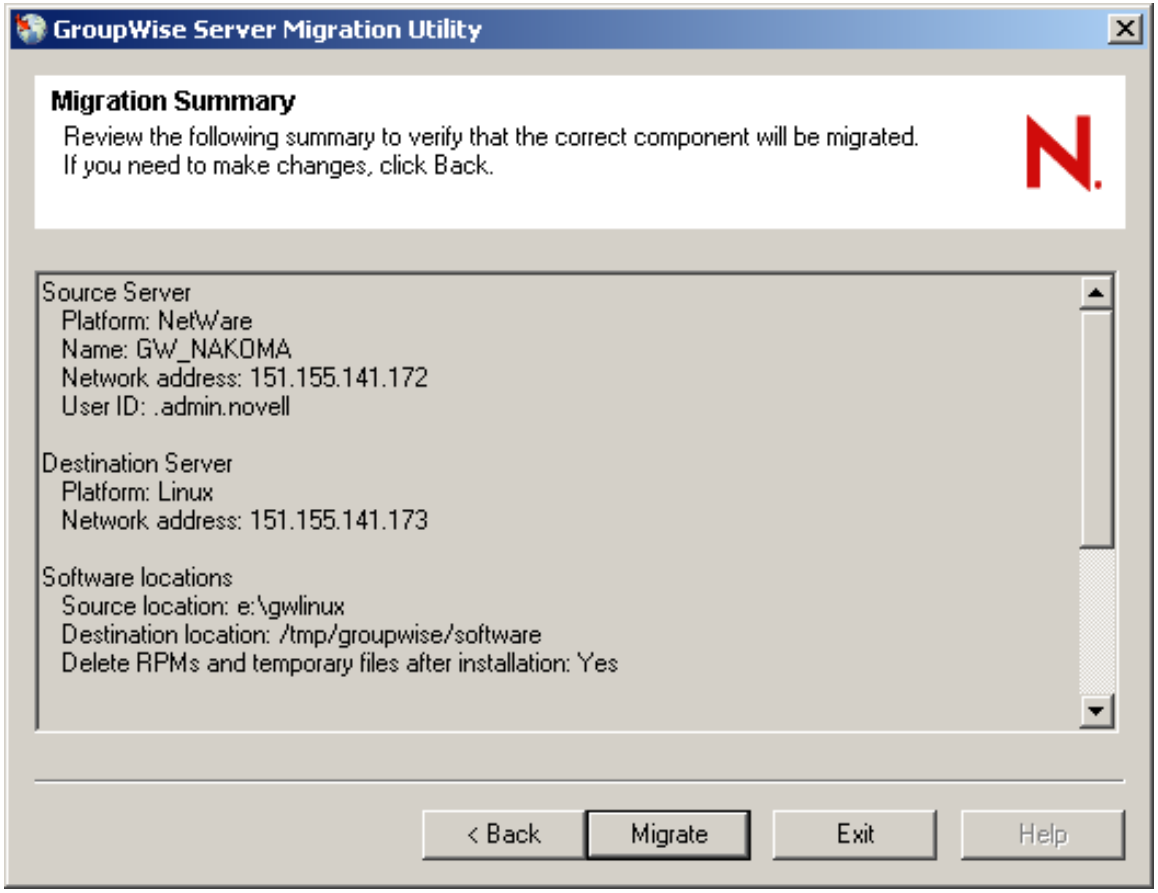
Remote Document Storage



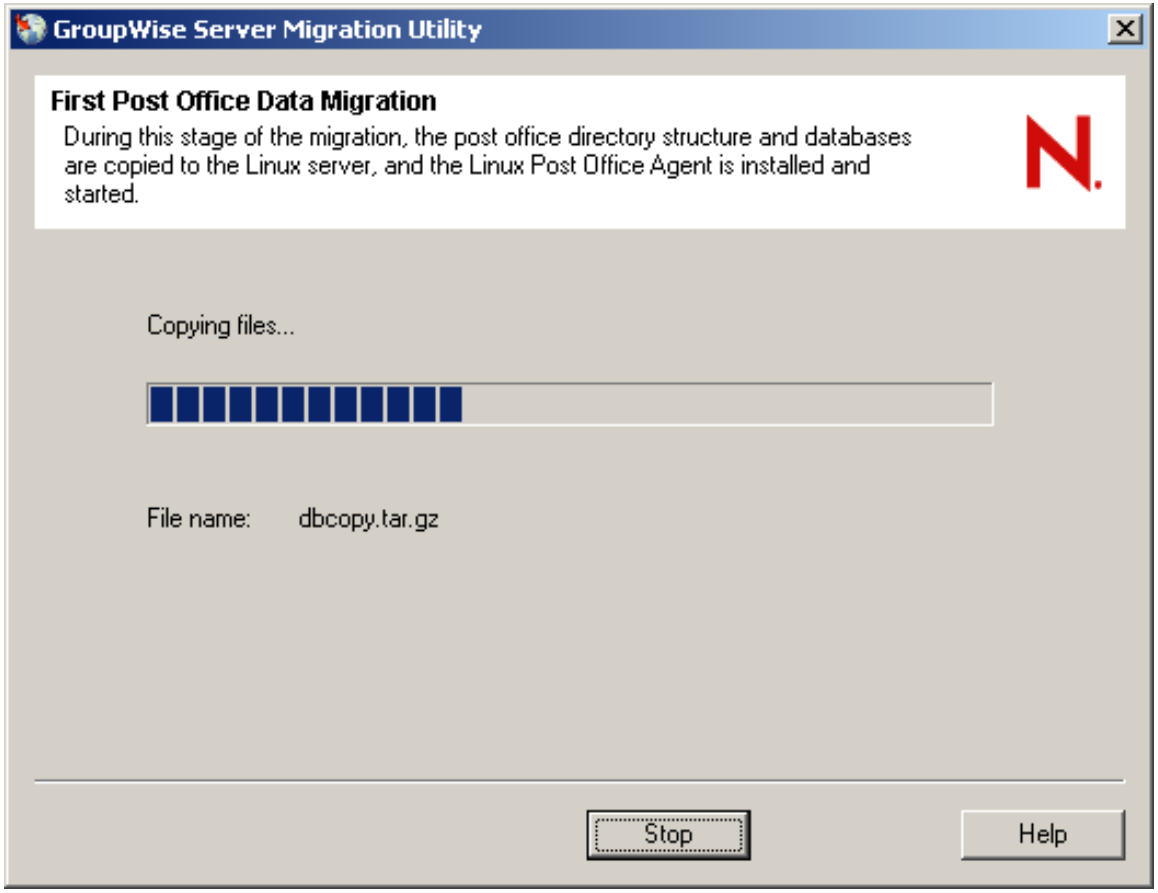
SSL



Summary



Post Office Migration – Phase One



Behind the scenes – Phase One

Creates directory structure on Linux server

Copies and installs RPM's to Linux server

Mounts source server

- NCP mount to Netware
- Samba mount to Windows

Behind the scenes – Phase One

Runs dbcopy –a 127.0.0.1 –p –m –f –k –u 5001

- -a address to send status update to update utility
- -p designates a post office copy
- -m to migrate
- -f first pass (phase one copy)
- -k don't compute size before copy
- -u port for –a parameter

Creates POA startup file

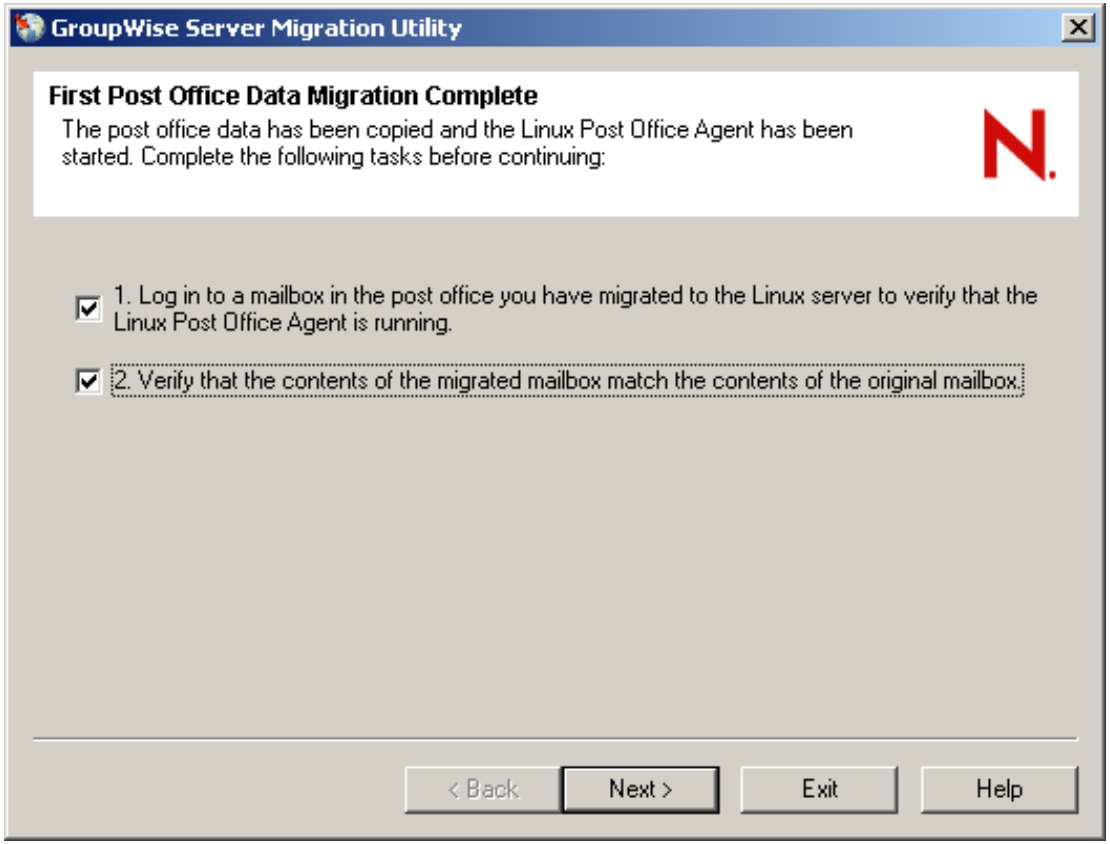
Configures gwha.conf

Starts POA on Linux server for testing

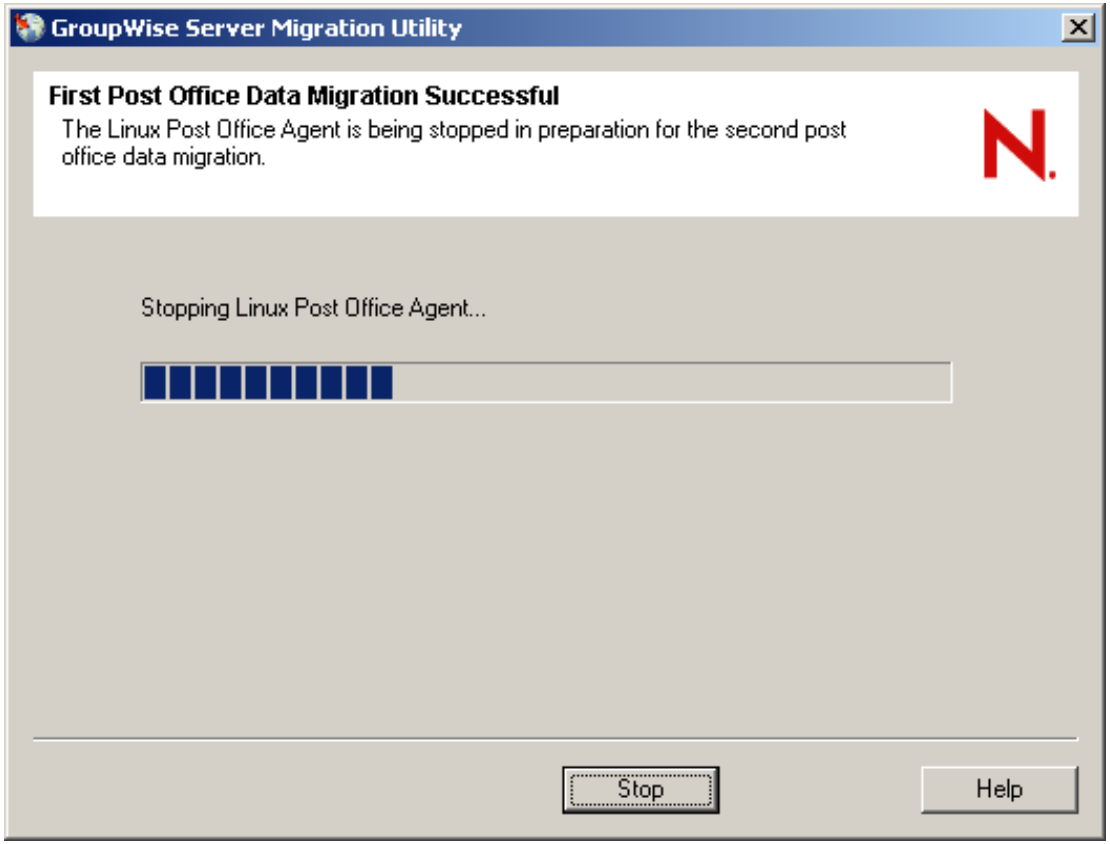
Removes RPM files (if selected)

Shuts down POA

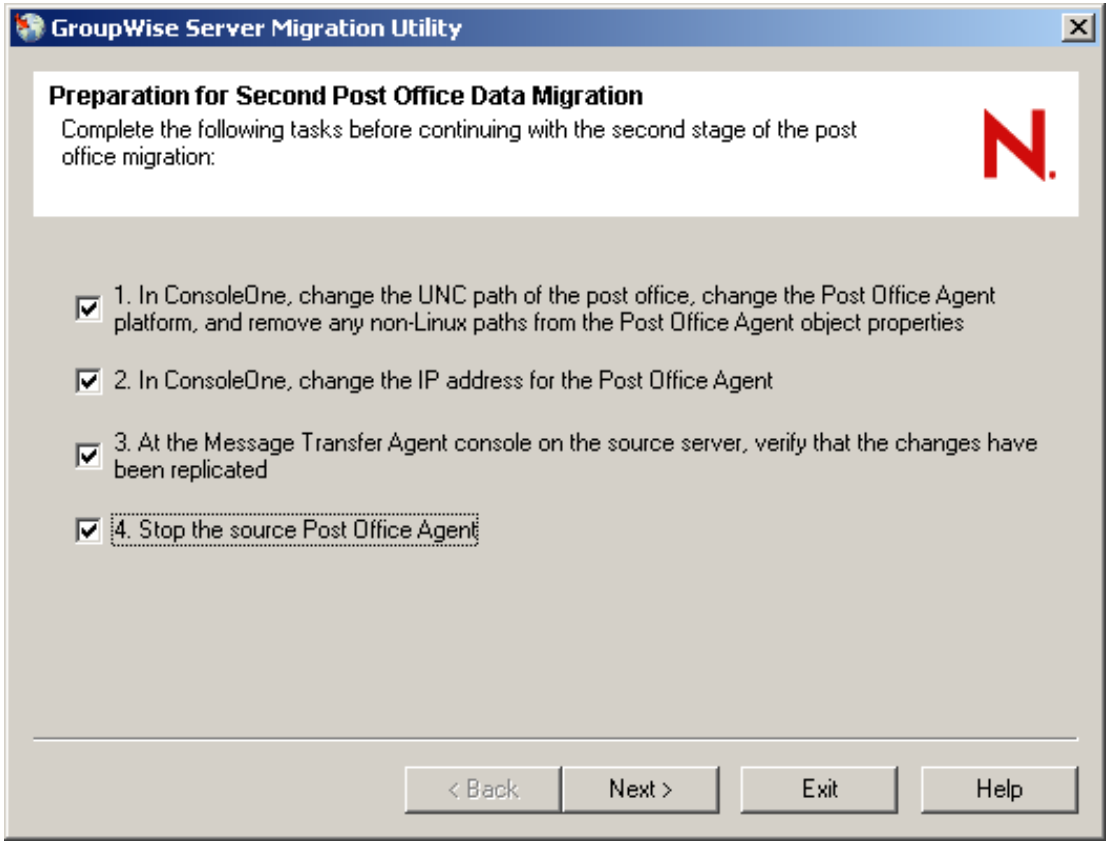
Post Office Migration – Phase One



Linux POA stopped



Post Office Configuration

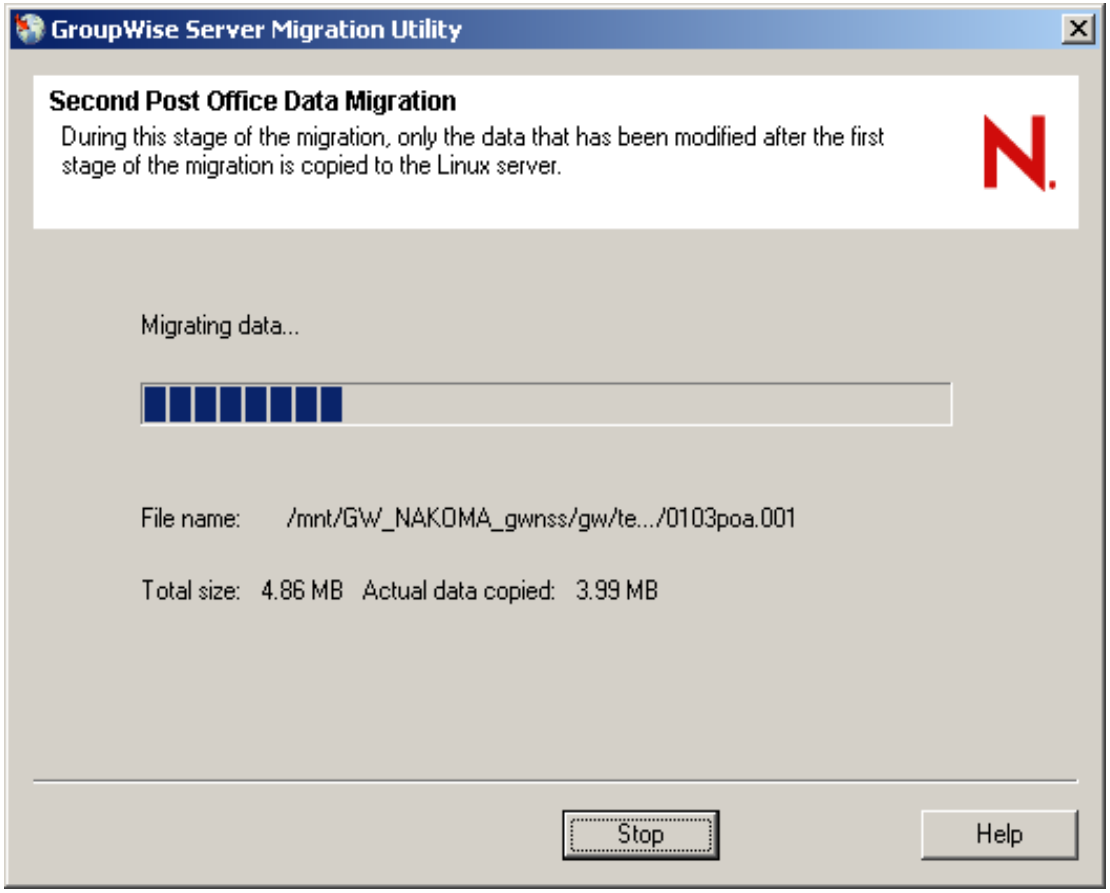


Post Migration Configuration

Edit Post Office configuration

- Post Office UNC path (do this first)
- POA IP address
- POA Platform
- ports (if needed)
- Log file path
- SSL cert/key file paths
- Remote Library Storage area path
- LDAP server Trusted Root certificate for LDAP authentication

Post Office Migration – Phase Two



Behind the scenes – Phase Two

Mounts source server

dbcopy –a 127.0.0.1 –m –s –i <date> –u 5001

- -a sends status update to update utility
- -m to migrate to lower case
- -s second pass (phase two copy)
  - -i incremental copy based on date
- -u port for –a parameter

dbcopy executes gwcheck call for /storelowercase option

Behind the scenes – Phase Two

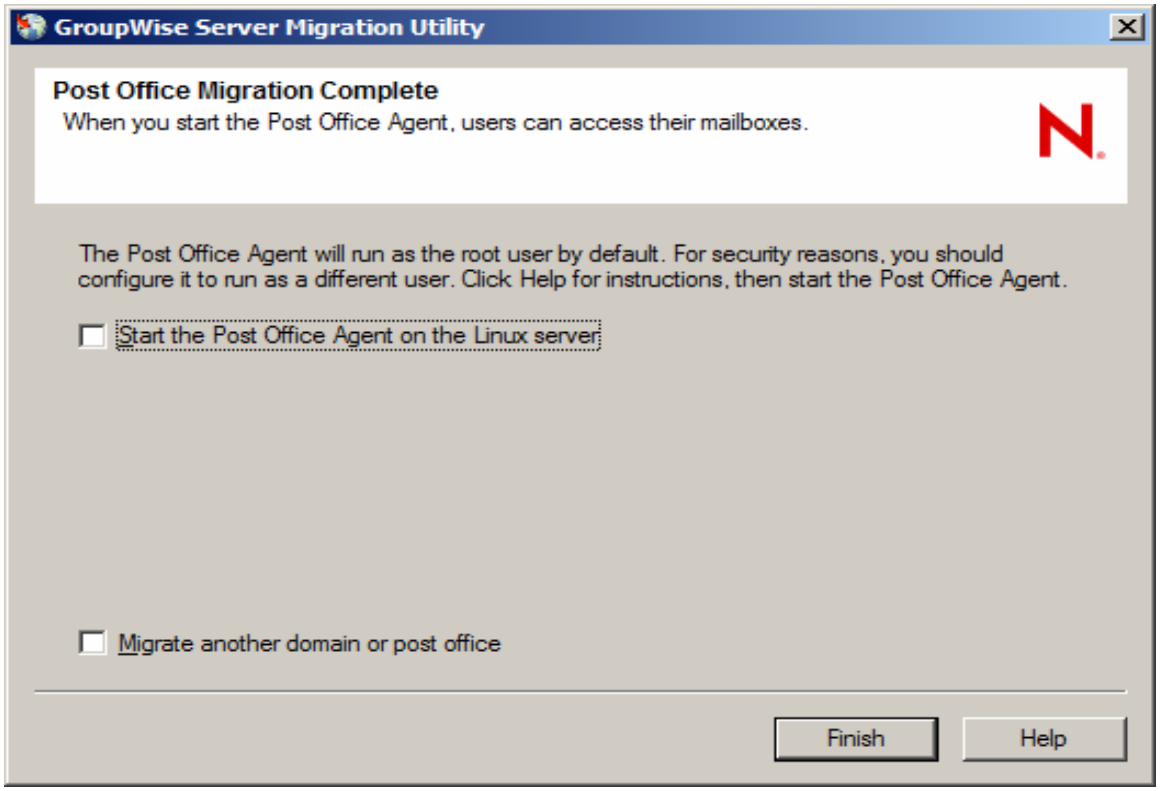
Migration utility ships with own version of dbcopy

- Optimized for performance

Removes temp files

Dismounts source server

Post Office Migration



Troubleshooting

Utility log file

- gwsvrmig_MM-DD-YYYY.log
  - In gwsvrmig directory or temp directory
- Check log for errors

dbcopy log file

- <po>/<date>gwbk.001

ssh

- Firewall issues – enable ssh port 22

nfsmount/Samba mounts

- Verify reads/writes to mounted file systems

Additional Resources

Existing Best Practices Guide.

- http://www.novell.com/coolsolutions/feature/9814.html
  - System Administration
  - System Design
  - GroupWise Monitoring
  - Software Installation and Patching
  - Novell Directory Services Configuration
  - WebAccess and Wireless
  - GroupWise Training
  - System Maintenance
  - Document Management

Q & A

Novell®

Color Palette

BLUE
RGB
0 166 238

RED
RGB
224 0 0

ORANGE
RGB
230 120 20

TEAL
RGB
50 118 109

GREEN
RGB
98 158 31

YELLOW
RGB
255 221 0

DK GRAY
RGB
60 60 65

MD GRAY
RGB
90 90 100

LT GRAY
RGB
204 204 205

Note:
The gray dotted-line box represents the margins or "working area" into which all text and most graphics and diagrams should conform.

How to Add Novell Colors to Your OpenOffice Color Palette:

1. Go to the "**Tools**" menu
2. Select "**Options**"
3. Expand "**OpenOffice.org**"
4. Select "**Colors**"
5. Delete existing colors (one-by-one)
6. Add Novell Colors by giving them a name and entering RGB values
7. Click "**OK**"

Graphics & Typeface

Download Icon Library at: http://innerweb.novell.com/brandguide

How to Add Novell Icons to OpenOffice Gallery:

1. Go to the "**Tools**" menu
2. Select "**Gallery**"
3. In the Gallery window select "**New Theme...**"
4. With the "**General**" tab active name your new theme (ie.Red flat)
5. Select the "**Files**" tab.
6. Select "**Find Files...**"
7. Find the downloaded folder containing the icons named and click "**Select**"
8. Select "**Add All**" and then "**OK**"
9. Repeat for all icon groups

Note:

Icons/Lines: This presentation refresh simplifies the current template and pushes focus on the content being presented. The icon library will continue to be utilized, but a refresh will be noticeable with the addition of the "Bubble" set of icons, and a subtle color shift. These icons are created to provide a professional, consistent look. When these icons are used sparingly, and in direct relation to the content on the slides, our presentations will communicate and work more effectively.

Typeface: Arial has been selected as the new typeface for all Novell communications. The following were considered.

1. Our typeface needs to be designed to carry information quickly to the reader.
2. It needs to be usable for Novell employees in company correspondence and presentations, as well as for outside vendors for marketing and promotion.
3. It needs to easily function on the Linux, Windows and Macintosh platforms.
4. And finally, Arial was created for these exact purposes.