

Beginfinite Inc.

GWAVA Retain

For GroupWise

Administration and User Guide

For version 1.5

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IMPORTANT NOTE:

Current Retain 1.0x Customers:

There is a schema update between 1.0 & 1.5 which takes place the first time Retain 1.5 is run after an update. With large databases, the update can take hours. WHILE THE DATABASE SCHEMA IS BEING UPDATED, THE WEB CONSOLE WILL BE UNAVAILABLE. **DO NOT INTERRUPT THE SCHEMA UPDATE OR DATABASE CORRUPTION MAY RESULT** Retain will write to the Retain Server log that a schema update is needed and then performs the update. Retain also warns, in the log, if any issues occurred, and lists them. Otherwise a successful schema update is logged, and Retain proceed to complete its startup. The Retain Server logs are nested with the Tomcat 5 logs, which differs depending on installation source and platform. The most common locations are:

Windows: C:\Program Files\Apache Software Foundation\Tomcat 5.5\logs

SLES 10.x /srv/www/tomcat5/base/logs

(OES2 on Linux may change this location.)

Post-Install Tasks

After running through the initial install guide for your OS, you are ready to configure Retain. From this point on, Retain works the same no matter what platform it is running on.

To get Retain ready for regular use, some last one-time procedures need to be run.

- Retain Server needs to be configured.
- At least one Retain Worker needs to be configured.

What the initial setup accomplishes:

Use a web browser on a Windows workstation to run this initial setup, since our Trusted Application Key generator, like all others, is written for Windows. Currently, you can only generate a Trusted Application Key on Windows.

- 1) Choose your storage path.
- 2) Creates an embedded database used to store all the configuration information and the GroupWise address book. Anything non-message store related is stored here. This step doesn't require any user intervention.
- 3) Prompts you to create an administrator account. (**admin**) It is the first account to be created.
 - This account is special:
 - It has ALL admin rights
 - It never expires
 - It always uses "offline authentication", (authenticates using a password stored in the embedded database).
 - Additional accounts can be created as desired with as many rights as you wish.
- 4) Prompts you for SMTP information for notification and forwarding.
 - SMTP Server to use for sending messages. (DNS or IP) (use DNS whenever possible)
 - From address. Enter the address that you want to appear in the From field on the messages Retain sends.
 - To address. Enter the address to which Retain will send notification.
 - Username: Enter the username to use the SMTP server for sending mail.
 - Password: Enter the password for this username.
- 5) Prompts you for access information to your SQL Database Server.
 - You must create this database beforehand. (See the MySQL Quick Start section in the install guide, or documentation for the SQL server of your choice.)
 - Retain will create the tables and do all the rest.
- 6) Prompts you to create a Trusted Application Key, using a utility you download directly from your Retain server (there is a link). This utility is written for Windows.
- 7) Prompts you to specify a default Post Office Agent. This POA is used for all address book caching, and is the point of the first try for ALL queries until the workers learn where a PO is. It needs to be speedy and reliable!

DNS host names are generally recommended instead of IP Addresses in almost all cases because they are easily centrally managed, and hence fixed if a server moves or is replaced.

- 8) Caches the GroupWise Address Book. Retain thus becomes aware of all GroupWise users in your system. This may take a few minutes, depending on the size of your GroupWise system, but typically takes only one or two minutes at most. The Address Book will be re-cached on a regular basis. See [Server Configuration](#).

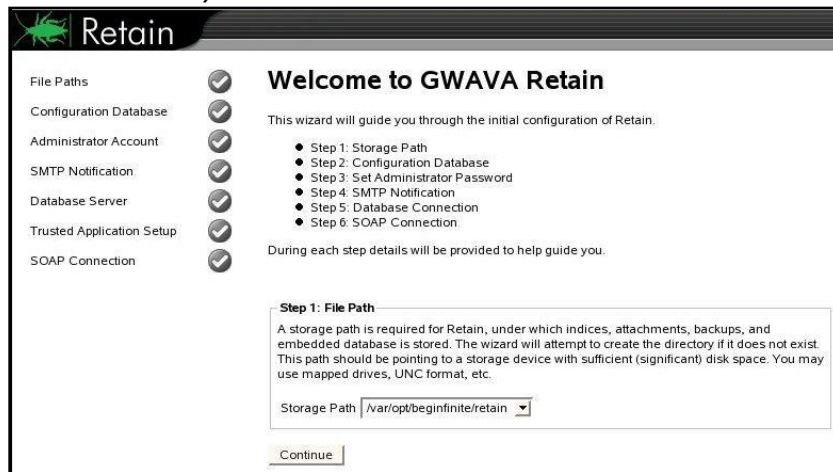
Running GWAVA Retain for the first time

Note: Tomcat needs to compile and load Retain. On initial start or after an update allow Tomcat several minutes to load and run Retain. How much time depends on memory tuning and system setup.

- 1) Open your web browser.
- 2) Go to <http://<your-RetainServer-ip>/RetainServer>

- 3) Follow the wizard.

You will see this screen initially:



Please pay special attention to the Storage Path and the Advanced Settings (see [next page](#)).

- 4) You are now ready to start your initial Retain configuration. Specify a storage path for Retain. Accept the default path unless you have a reason to choose a different one. See the [next page](#) for an important note about storage paths. If you are specifying a custom storage path, Retain must have rights to the location. For Linux instructions see Custom Storage Path Rights, at the end of the Linux install guide.
- 5) Click "Continue".

NOTE: Retain allows the creation of many user accounts that share administrative roles. The initial account created is not particularly special; it's merely a convenience to create one "super user" with all of the Administrative rights granted.

About Retain Storage Paths

Retain was designed to be very flexible in allowing you to choose where the data will be stored. Choosing the right hardware and software storage combination is crucial. Storage itself is a function of the operating system and hardware you choose.

As storage needs approach enterprise levels, the need to specify your data storage locations becomes more critical. Some hardware and operating systems have a hard limit of 2 Terabytes, for instance. Perhaps in situations like these, a SAN might be a good choice for consideration.

Either way, it's imperative that you take the time to investigate your storage needs BEFORE you begin. Estimate your storage requirements. When choosing your storage system, bear in mind the following considerations:

- 2 TB limit. Will your storage needs ever exceed this?
- OS Version and kernel to support the storage system of your choice.
- File system and partitioning.
- Is a SAN right for you?
- Speed and reliability.
- Backup/restore is your responsibility. Will it adequately serve your data store?

Advanced Storage Options

For this reason, Retain offers the advanced storage options. You can specify where you want Retain to store its information.

Storage

The storage path is where indices and archives are stored. It should be on a highly reliable storage device, with plenty of disk space.

Advanced Settings

Advanced Settings

For more advanced scenarios, some paths may be assigned to one device and some to another.

Derive all file locations from above base path? ☒

Encryption

Compression (always on)

By default, all data is stored under one master path, specified in the Storage section. From the Retain Server main screen, you can also find this under Server Configuration under the Index/Storage tab. If you wish to specify your storage locations in more detail, click on the “Advanced Settings”.

Storage

The storage path is where indices and archives are stored. It should be on a highly reliable storage device, with plenty of disk space.

Advanced Settings

Advanced Settings

For more advanced scenarios, some paths may be assigned to one device and some to another.

Derive all file locations from above base path? ☐

Store attachments under this path

Store xml mappings under this path

Store index files under this path

Store Embedded DB under this path

Store backups under this path

Store license under this path

Encryption

Compression (always on)

These fields are automatically populated if you only specify the main storage path. You may change them to point anywhere you wish.

You also specify what method to use, if any, to encrypt the data as it's stored.

Encryption

Compression

Retain – Initial setup

When you first call up the Retain Server screen, you are presented with this welcome page.

The screenshot shows the 'Welcome to GWAVA Retain' wizard. On the left, a sidebar lists configuration steps: File Paths, Configuration Database, Administrator Account, SMTP Notification, Database Server, Trusted Application Setup, and SOAP Connection. The first three are marked with green checkmarks, and the last four with grey checkmarks. The main content area is titled 'Welcome to GWAVA Retain' and explains that the wizard will guide through the initial configuration. It lists the steps: Step 1: Storage Path, Step 2: Configuration Database, Step 3: Set Administrator Password, Step 4: SMTP Notification, Step 5: Database Connection, and Step 6: SOAP Connection. Below this, it states 'During each step details will be provided to help guide you.' The current step is 'Step 3: Administrator Account', which explains that an administrator account is needed for full access. It provides fields for 'Login Name' (pre-filled with 'admin'), 'Password', and 'Confirm Password'. A 'Continue' button is at the bottom.

- 9) Now, supply a password for Retain's administrator account (admin). **Do not forget what you choose here!**

The screenshot shows the 'Welcome to GWAVA Retain' wizard at Step 4: SMTP Notification. The sidebar on the left shows that 'File Paths', 'Configuration Database', and 'Administrator Account' are completed (green checkmarks), while 'SMTP Notification', 'Database Server', 'Trusted Application Setup', and 'SOAP Connection' are pending (grey checkmarks). The main content area explains that SMTP Notification is used for progress reports and message forwarding. It provides fields for 'SMTP Mail Server' (192.168.10.96), 'SMTP Mail From Address' (retain@gwava.com), 'SMTP To Address' (colin@nw51.com), 'SMTP Username' (colin), and 'SMTP Password' (masked with dots). A 'Continue' button is at the bottom.

- 10) Enter the information for an SMTP relay host that Retain will use to send mail. Setup will attempt to send a test message. You cannot proceed with installation until the SMTP test message is successfully delivered. If you see an error, check firewall settings, and your SMTP server.

- 11) Next, this screen appears for entering the database connection parameters. This is the same information you will have created when you made the database during the preparation phase. (See Install guide)

Step 5: Database Connection Parameters

To successfully create the tables the database server must be running with a database created, and permissions for that database granted to a user. Be sure to specify:

- Driver: Type of Database Server. Currently only MySQL 5 is supported. MySQL 4.x will NOT work correctly.
- Database Server: **If the database server is not running on the same machine as Retain, change localhost to the IP address or host name of the machine.** (Preferably a DNS host name.)
- Database Name: Name of the database you have created for Retain to use.
- Username: Username with full rights to the database. We recommend that you create a specific user with rights only to the "retain" database.
- Password: Password for access.

Warning: If you have not setup the database according to the documentation, irreparable corruption to your data is likely to occur.

Driver:

Database Server:

Database Name:

DB Username:

DB Password:

- 12) Next you will be asked to supply a trusted application key. If you haven't already done it, click on the link to download the application to your workstation and select RUN.

Retain

File Paths ☒ Configuration Database ☒ Administrator Account ☒ SMTP Notification ☒ Database Server ☒ Trusted Application Setup ☐ SOAP Connection ☐

Welcome to GWAVA Retain

This wizard will guide you through the initial configuration of Retain.

- Step 1: Storage Path
- Step 2: Configuration Database
- Step 3: Set Administrator Password
- Step 4: SMTP Notification
- Step 5: Database Connection
- Step 6: SOAP Connection

During each step details will be provided to help guide you.

Step 5a: Trusted Application Key Generation

Retain uses the Trusted Application feature of GroupWise to access the user mailboxes. You must generate a trusted application key to continue.

The Trusted Application key generation requires a Windows machine, with a connection to the GroupWise Primary Domain.

- [Download the key generation application.](#)
- Run the key generation application
- Paste the key generated below

Trusted Application Key:

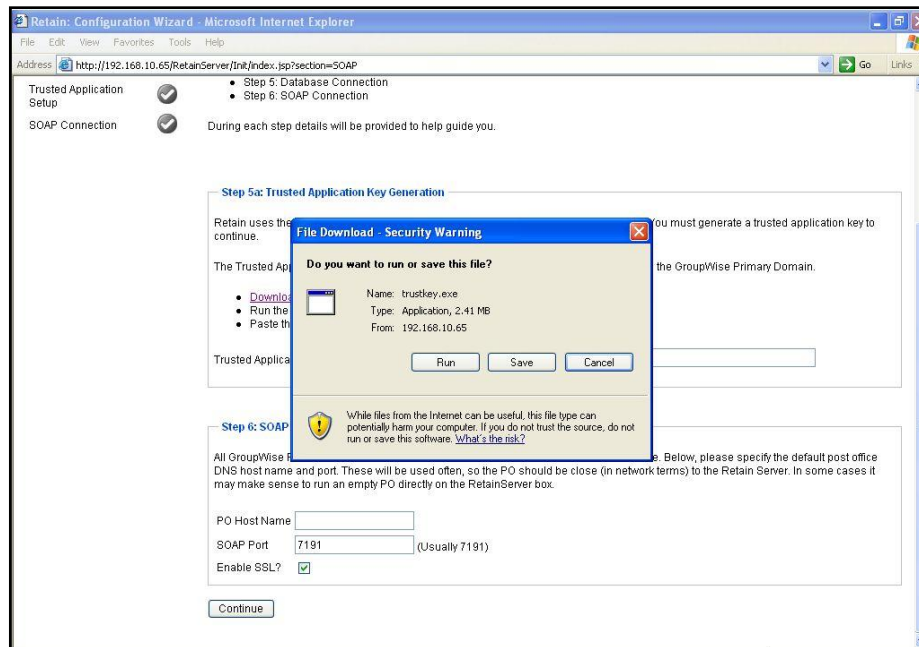
Step 6: SOAP Connection

All GroupWise Post Offices that Retain accesses must have SOAP enabled in ConsoleOne. Below, please specify the default post office

IMPORTANT Information about the Trusted Application Key generator:

- You must use the program included with Retain. The program included with other GWAVA products won't work for Retain.
- Your workstation must have the Novell client installed.
- You must be logged in as the ADMINISTRATOR of the PRIMARY DOMAIN.

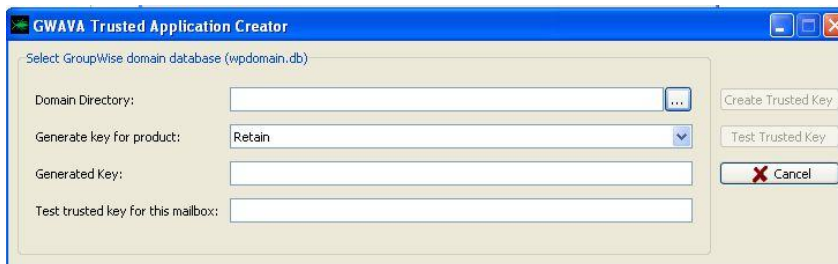
Note: The Trusted Application Key takes a few moments to propagate through the GroupWise system and therefore it may not be ready for testing or use immediately after you've generated it.



13) Click RUN to download and run the Trusted Application Key generator.



14) Follow the wizard. Click Next.



15) Find your GroupWise domain database. Click on the “...” button.



16) Once you have found your domain, click “Create Trusted Key”.



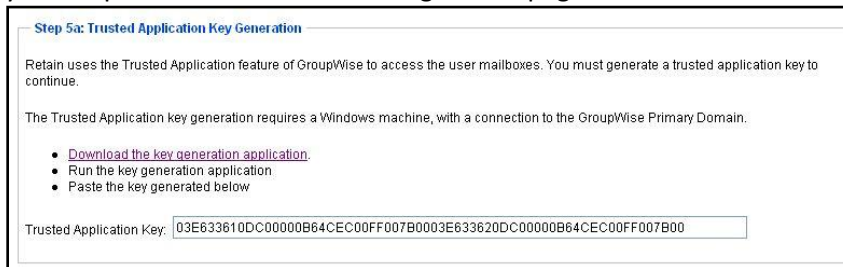
NOTE: Please allow a few moments for the Trusted Application Key to propagate through the GroupWise system before testing it. You may proceed without testing the key but if you want to test it, please allow the time for the key to propagate through the system.

17) When the key has been generated, enter the name of a valid user on your post office and test the key by clicking “Test Trusted Key”. You will be asked to log in to GroupWise for this user.

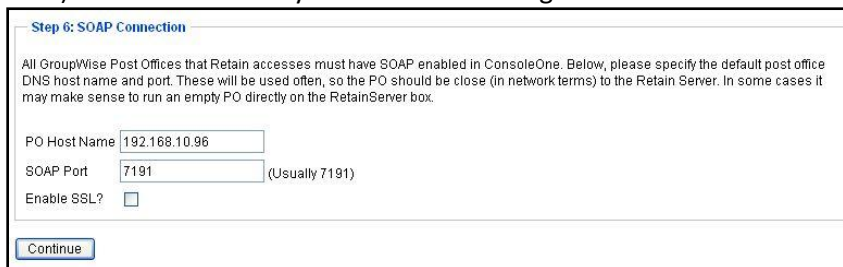




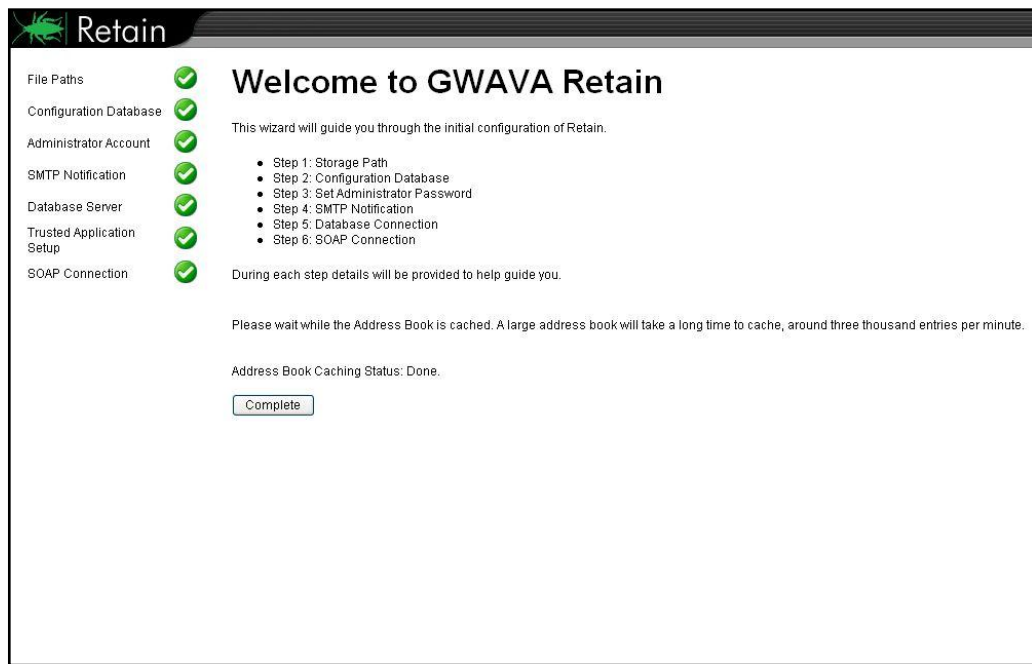
- 18) Once your login was successful, you know that both your trusted application key and the SOAP mechanism are working properly. The trusted application key is now copied to your clipboard so you can paste it to the Retain configuration page.



- 19) Now, below the Trusted Application Key section, enter the Post Office address (hostname/DNS or IP) and double-check your SOAP SSL setting. Click "Continue"



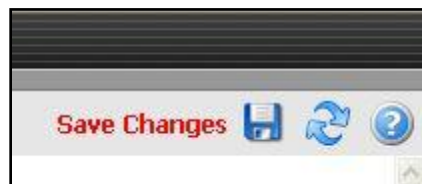
NOTE: Using a DNS name instead of an IP address is strongly recommended.



- 20) When all initial setup steps have been completed, a “Complete” button will appear. Click it and you are now ready to move on to “Using Retain”

SAVING CHANGES

Whenever you change any setting in Retain, you will see this at the top right of the screen:



When the “Save Changes” lights up, click on the disk icon to save any changes you have made on this screen otherwise your changes will be lost.

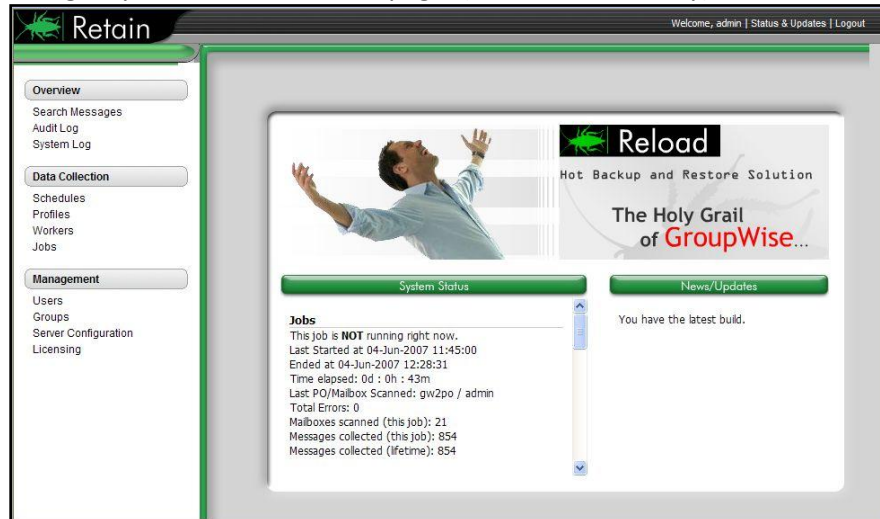
Using GWAVA Retain

Logging In

- 1) From your web browser, type:
<http://<your-RetainServer-ip>/RetainServer>
- 2) You'll be brought to the main login screen:



- 3) After you log in, you will see the home page: (administrators only)



This is the “status and updates” page. The latest status of jobs and recent activity is displayed on this page. If updates to the software are available, it's displayed here too.

Note: Only users possessing at least one administrative role will see the administrator's screen on login. Other users will be forwarded to the [Search Interface](#) (covered later).

USING ONLINE HELP

Retain has context-sensitive help screens that appear in the left column when you click the help icon.



Archiving/Data Collection – About Workers, Profiles, Schedules and Jobs

Getting data into the archive is one of the core functions of Retain. As such, sub-functions have been broken out to give you as much flexibility as possible in deciding your archive policy.

Your archive policy will cover several key points:

- ✓ **What** to archive (mailboxes/jobs)
 - Includes what post office(s) to collect.
- ✓ **Who** will archive it (worker)
- ✓ **Where** will the data be stored (database configuration)
- ✓ **When** will the data be collected (schedule)
- ✓ **Why** you are collecting this data will govern **HOW** you collect it. It's about your goals.
 - Desired data retention policy
 - First time dredge or day-to-day update
 - What do you want to be able to search and retrieve?
- ✓ **How** to collect the data will cover (profile)
 - Types of items or users to archive.
 - Date range of items to be archived.
 - Avoiding publishing e-mails multiple times.
 - Using the Retention, SmartPurge, or Item Store flags to achieve 100% retention.
 - Whether to store attachments.
 - Advanced criteria, such as attachment names, or folder locations.

Workers

You have one or more workers that perform the work. The Retain Worker actually pulls the data from your post office(s). The Retain Worker component is normally installed on each machine with a GroupWise post office from which you wish to collect data. Although a Worker may be installed on a machine running Retain Server, this is normally not recommended, except for very small (100 or fewer mailboxes) systems or for evaluation purposes.

Ideally, the worker you choose to do the job of dredging mail from your post office is local to the post office itself. Using a worker on "Server A" to pull data from a post office on "Server B" is possible but it will use up network bandwidth and it will be slower than simply pulling data from a post office on the same server.

For this reason, Retain was designed to allow you as many workers as you need, on any platform supported by GroupWise.

Based on the settings in your JOB, the worker selected in your JOB will pull the data defined in your PROFILE from the post office(s) or distribution list(s) defined in the JOB itself. It will do so according to the SCHEDULE specified by your JOB.

Worker Operation

A worker must be configured before it processes any jobs assigned to it. See [Jobs](#).

The normal flow of operation is:

- Worker starts up
- If the Worker has **not been configured**, the Worker does nothing, and waits for the administrator to upload the RetainWorker.cfg bootstrap file.
- If the Worker has been configured, the configuration information is used to connect to the Retain Server, and retrieve Jobs assigned to the Worker. The jobs are scheduled to run at the assigned times provided by the Schedule assigned to the Job.
- The worker regularly polls (see below) for changes to the worker configuration or to the Job assignments.
- The worker runs the job at the scheduled time.
- While the job is running, the Worker connects to the appropriate post offices, and collects the data according to the Profile assigned to the job. These messages are transmitted to the Retain Server component, and stored (or discarded if the item is already stored).
- While the job is running, the Worker regularly updates statistics (such as number of messages scanned) on the Retain Server.
- When the job completes or aborts, the Worker updates its status on the Retain Server.
- The Worker goes back to polling for new jobs. The Worker can only run one job at any time.

Worker Configuration Options

Worker

Interval

How often should the worker poll for configuration changes, and how many messages should the worker send before updating status?

Poll for configuration every minutes

Update status every messages

- **Polling:** Defines how often the worker polls for configuration changes. (Jobs, job changes, etc.)
 - Default is 10 minutes.
 - Default is to update the displayed status every 500 messages while running the job.
- **Logging** – Controls logging by the Retain Worker.
 - Default is INFO.
- **Connection. *Important.*** This is all the information the worker needs to connect.
 - Protocol
 - URL/host name
 - password
 - If the connection information is changed, you will need to manually copy the RetainWorker.cfg bootstrap file over to the Worker
 - **Correcting the Bootstrap:**
 - 1) Stop Tomcat.
 - 2) First delete the RetainWorker.cfg file on the Retain Worker machine. For security reasons, there is no way to do this except by manually deleting the file from the server console itself. The path is: <retainworker>/WEB-INF/cfg
 - Follow the [Retain Worker Setup procedure](#).
 - GroupWise Soap Access
 - This tells the worker which POA to connect to, regardless of what information the server supplies. Use this to correct IP address inconsistencies over a WAN or to directly specify which POA a worker is to connect to. *If you assign this worker to a job that includes a Post Office different than the one specified here, the worker will still attempt to connect to the POA specified in this field.*
- **Status** – Basic status information on the Worker. This status information is updated while the worker is running according to the “Update Status” interval described above.

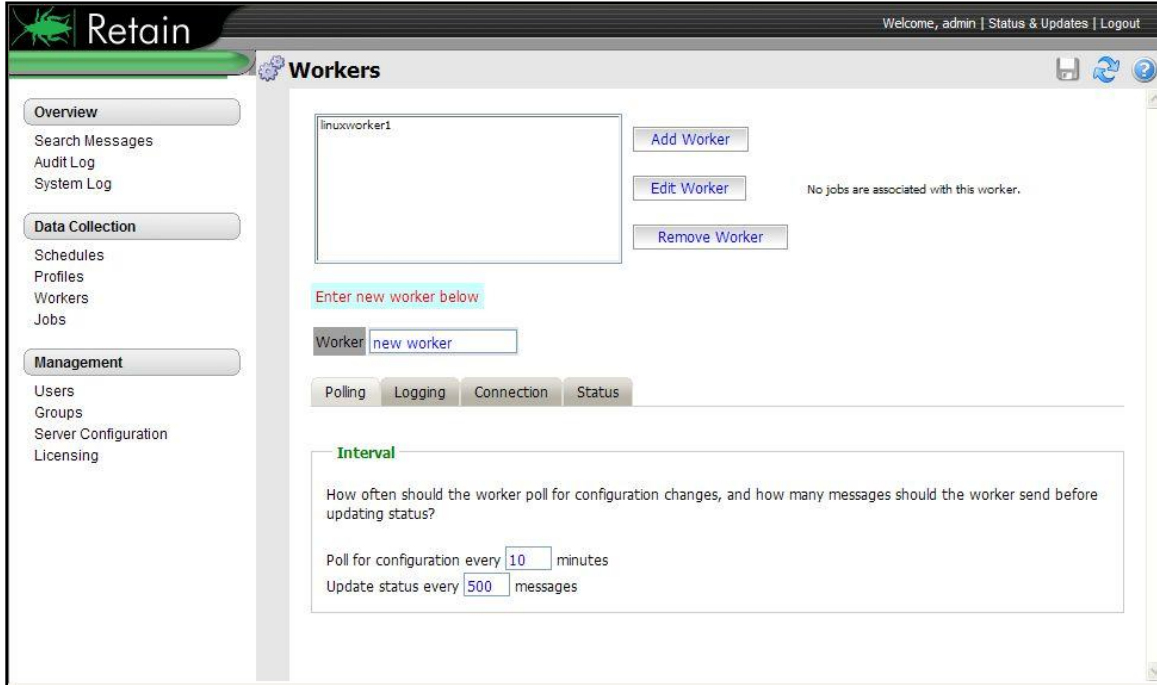
Worker Status	
Registered	12-Oct-2007 04:09:02
Last Contact	16-Oct-2007 22:50:46
Last Job	1576F3E6A27EDA9D0FF13C450C1070A7
Last Job Start	16-Oct-2007 15:11:45
Last Job End	16-Oct-2007 12:42:04
Total mailboxes scanned	60
Total messages stored	246496

- **Bootstrap** – Indicates the download link and when it was last downloaded.

Retain Worker Setup

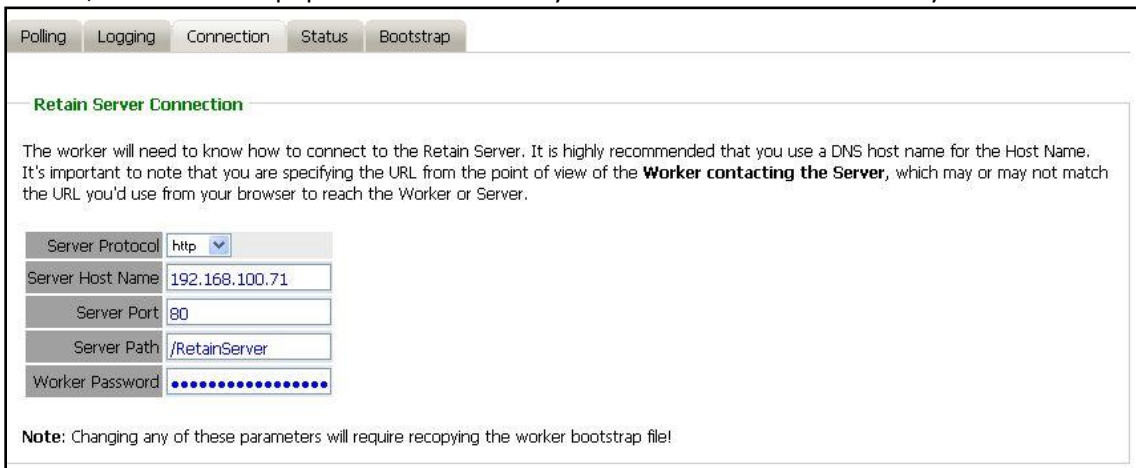
The first thing you will need to do is to set up at least one Retain Worker. The Retain Worker does the actual work of collecting the data from a Post Office Agent and delivering it to the Retain Server. Please note that you can have as many Retain Workers as you need.

From the Retain home page, click Workers. You will see this screen:



The screenshot shows the Retain web application interface. The top navigation bar includes the Retain logo, a user welcome message 'Welcome, admin | Status & Updates | Logout', and icons for save, refresh, and help. A left sidebar contains a menu with sections: Overview (Search Messages, Audit Log, System Log), Data Collection (Schedules, Profiles, Workers, Jobs), and Management (Users, Groups, Server Configuration, Licensing). The main content area is titled 'Workers' and displays a table with one worker named 'linuxworker1'. To the right of the table are buttons for 'Add Worker', 'Edit Worker', and 'Remove Worker'. Below the table, there is a section 'Enter new worker below' with a 'Worker' input field containing 'new worker'. At the bottom, there are tabs for 'Polling', 'Logging', 'Connection', and 'Status'. The 'Interval' section below the tabs contains instructions on polling and status updates, with input fields for 'Poll for configuration every 10 minutes' and 'Update status every 500 messages'.

- 1) Click "Add Worker".
- 2) Put the name of the worker in the "Worker" box. *Example: "Linux worker 1".*
- 3) Check the Connections Tab to be sure the IP address settings are correct relative to the Retain Worker connecting to the Retain Server. (Server Host Name or IP address must be correct, this should be populated automatically. Double check this for accuracy.



The screenshot shows the 'Connection' tab of the Retain Worker setup. It features a section titled 'Retain Server Connection' with explanatory text: 'The worker will need to know how to connect to the Retain Server. It is highly recommended that you use a DNS host name for the Host Name. It's important to note that you are specifying the URL from the point of view of the **Worker contacting the Server**, which may or may not match the URL you'd use from your browser to reach the Worker or Server.' Below this text are several input fields: 'Server Protocol' (a dropdown menu set to 'http'), 'Server Host Name' (text input with '192.168.100.71'), 'Server Port' (text input with '80'), 'Server Path' (text input with '/RetainServer'), and 'Worker Password' (password field with masked characters). A 'Note' at the bottom states: 'Changing any of these parameters will require recopying the worker bootstrap file!'

- 4) Then click “Save Changes” before browsing to another page to create and save your worker.

IMPORTANT NOTE!

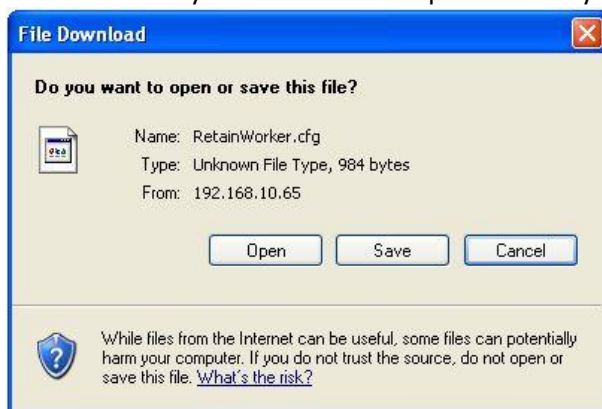
It is vitally important that the connection information is correct before you save the worker. On a single server system, it is easy enough – it’s the same server. However, in an enterprise setting where you might be using different components on different servers, it is extremely important that each component knows how to connect to the Retain Server.

If you do not set this correctly, the Retain Worker will NOT be able to contact the Retain Server and it will not run jobs.

- 5) After you have saved the changes, the Bootstrap tab appears (see below). Click “Download File” to save the configuration to a local workstation.

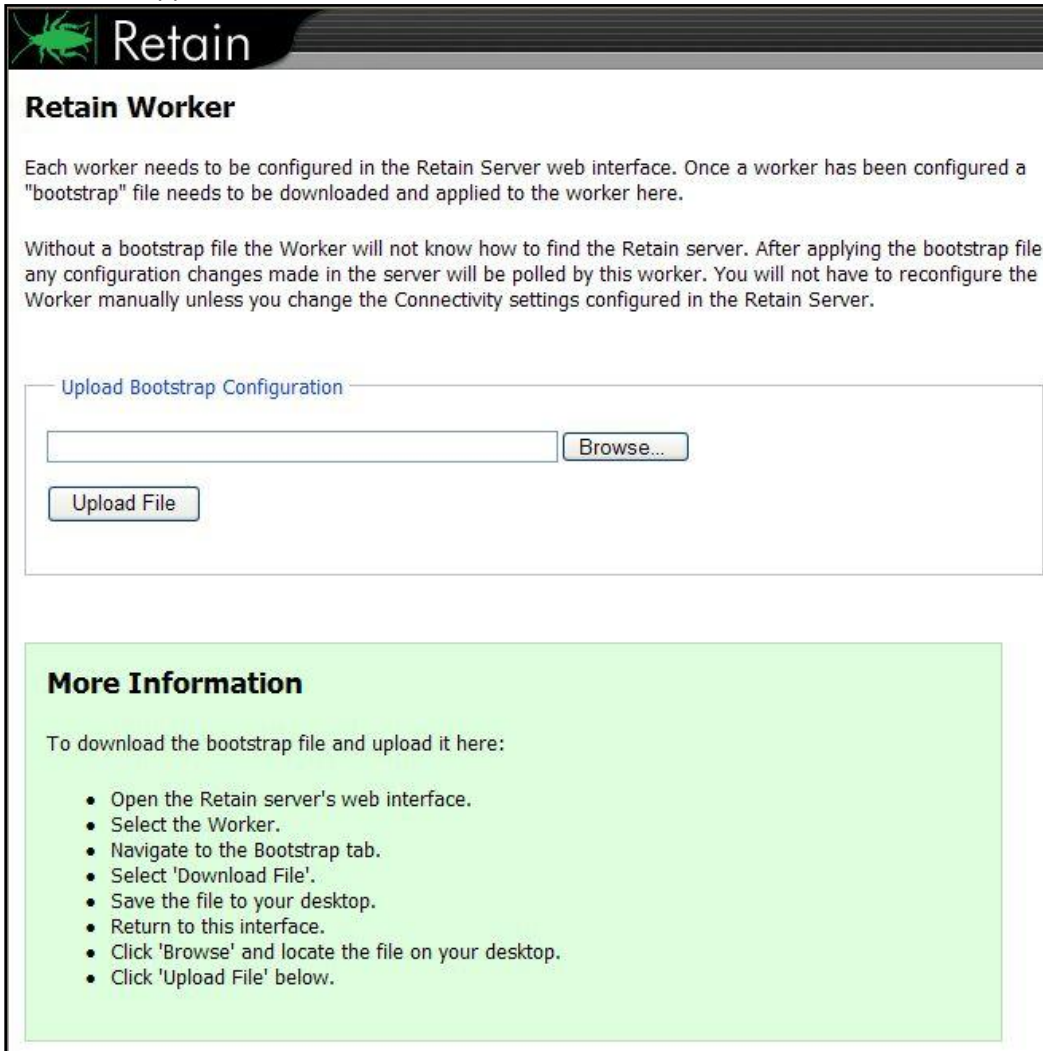


- 6) Save this file to your hard drive in a place where you can find it. Click “Save”.



- 7) Open a new browser window and type:
<http://<your-RetainWorker-ip>/RetainWorker>

This screen appears when a worker has not been initialized.



Retain

Retain Worker

Each worker needs to be configured in the Retain Server web interface. Once a worker has been configured a "bootstrap" file needs to be downloaded and applied to the worker here.

Without a bootstrap file the Worker will not know how to find the Retain server. After applying the bootstrap file any configuration changes made in the server will be polled by this worker. You will not have to reconfigure the Worker manually unless you change the Connectivity settings configured in the Retain Server.

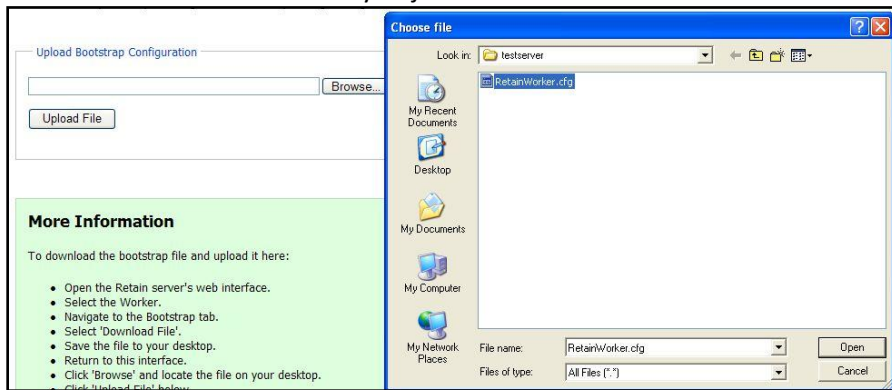
Upload Bootstrap Configuration

More Information

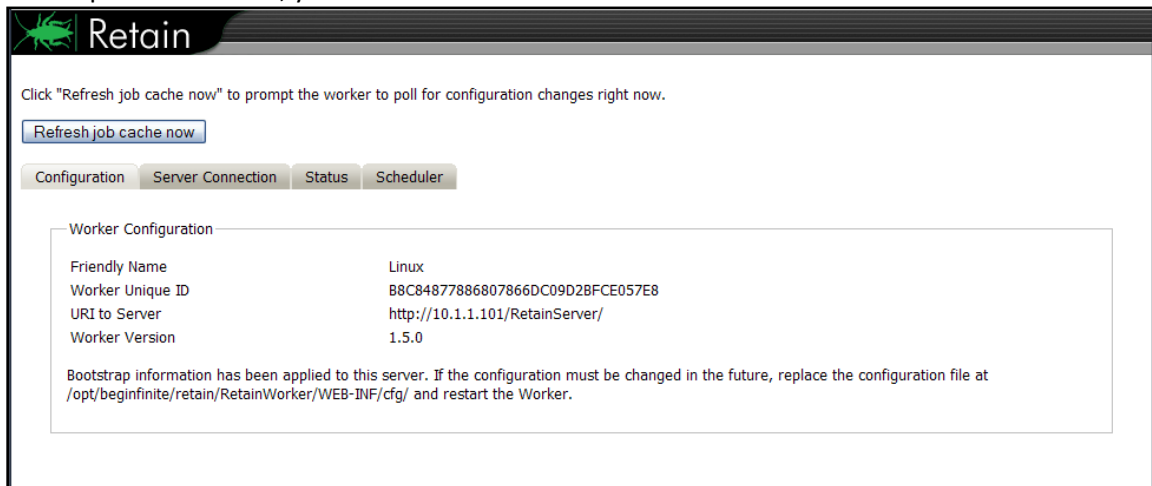
To download the bootstrap file and upload it here:

- Open the Retain server's web interface.
- Select the Worker.
- Navigate to the Bootstrap tab.
- Select 'Download File'.
- Save the file to your desktop.
- Return to this interface.
- Click 'Browse' and locate the file on your desktop.
- Click 'Upload File' below.

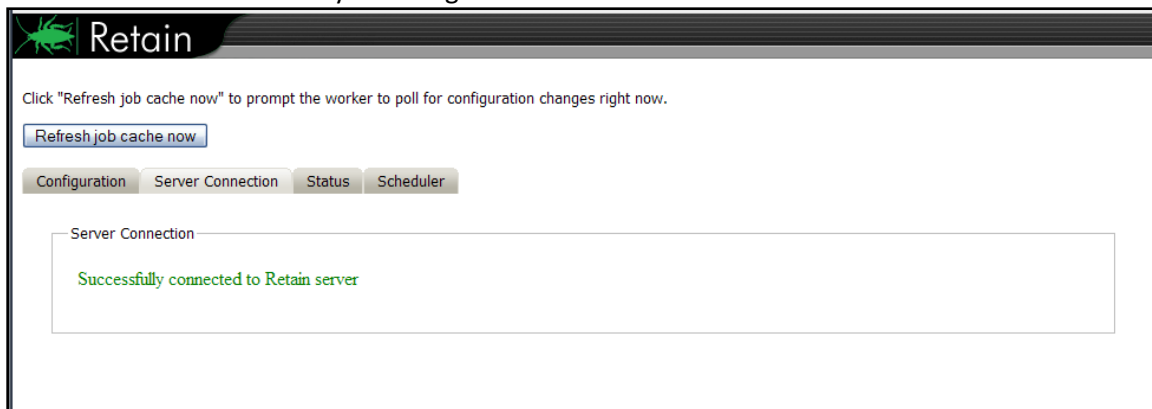
- 8) Click "Browse" to find the file you just downloaded to select it.



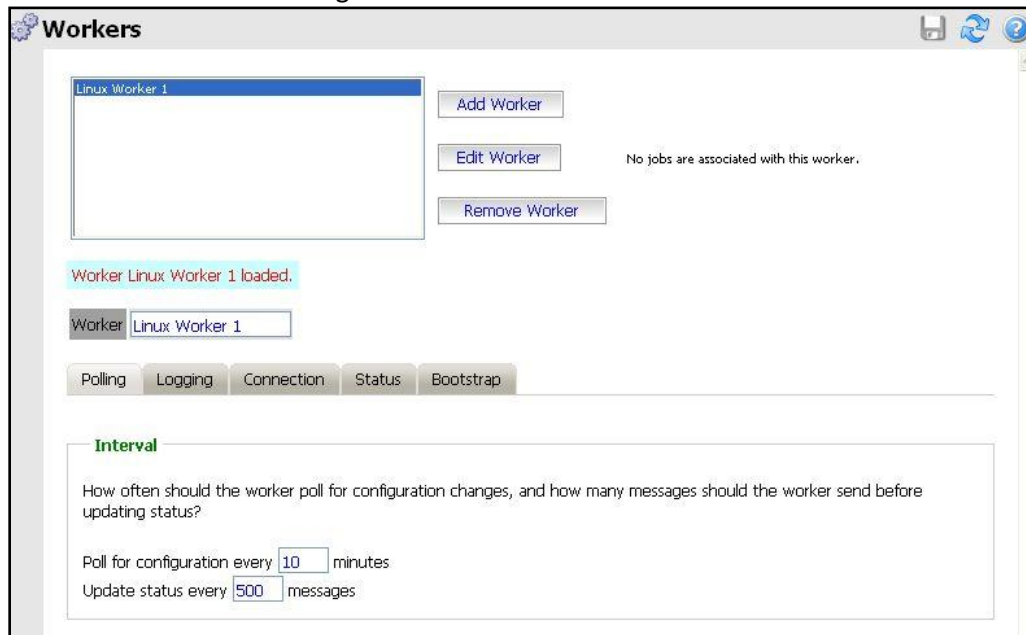
- 9) Click "Open".
10) Click "Upload File".
11) If the upload went well, you will see this screen:



- 12) Check connection success by selecting the Server Connection tab.



- 13) Go back to the Retain Server.
- 14) Click “Workers”.
- 15) Click on the worker you just created.
- 16) You should see the following:



Pay close attention to “Poll for configuration every ‘n’ minutes. This is how often Retain will check for new jobs. Be aware of this when you submit a job.

Also, status updates are not totally “live”. To speed things up, status updates are displayed on the admin page every ‘n’ messages.

- 17) Now, set logging to a level you would like. You may use “Diagnostic” at first, until the system is fully operational and tested. Please be aware, however, that using this setting will write a huge amount of data in the log files.
- 18) Now you need to set up [profiles](#), [schedules](#) and [jobs](#) to begin actual data collection.

Schedules

Schedules define **WHEN** to perform the data collection as defined in a **JOB**. A Job defines what **SCHEDULE**, **PROFILE** and **WORKER** to use.

- You can create as many schedules as you need.
- Schedules have no functionality until they are associated with one or more **JOBS**.
- They can be shared across multiple **JOBS**.
- You cannot DELETE a schedule that is currently associated with a **JOB**.
- Schedules can be recurring or one-time.

ONE-TIME schedules are configured on this screen:

The screenshot shows a window titled "Schedules" with a list on the left containing "daily" and "one-shot". The "one-shot" schedule is selected. To the right of the list are buttons: "Add Schedule", "Edit Schedule", and "Remove Schedule". Below the list, a message states "No jobs are associated with this schedule." Below this, a confirmation message says "Schedule one-shot added." The configuration fields show "Schedule Name" as "one-shot" and "Schedule Frequency" as "Single". At the bottom, a note states "This job will run only once, at the time specified below" followed by date and time pickers: Date: May 17, 2007; Time: 15:49.

RECURRING schedules are configured using this type of screen:

The screenshot shows a window for configuring a recurring schedule. The "Schedule Name" field contains "beta5" and the "Schedule Frequency" is set to "Recurring". Below this, a list of days is shown with checkboxes: Sunday (unchecked), Monday (checked), Tuesday (checked), Wednesday (checked), Thursday (checked), Friday (checked), and Saturday (unchecked). To the right of the days, there are settings: "Start Job at:" with a time picker set to 12:00, "Maximum job duration" with a picker set to 22 hours, and a checkbox "Do not interrupt job, even when duration expires" which is checked.

Choose when on which days you want this schedule to trigger a job.

You may specify maximum job duration. If the job runs longer than the time limit you set, it will be interrupted. For cases where you do not want the job to be interrupted – for example, with a job you know will last longer than 22 hours, you may prevent the schedule from interrupting the job.

Don't forget to "Save Changes".

Profiles

A profile assigned to a job tells it WHAT TO GET.

The profile defaults to collecting all data, with no date restrictions. This is almost never a wise selection in practice. After you've primed Retain by collecting data the first time, you'll want to narrow the date range and criteria considerably, or pay an intolerable price in performance.

The screenshot shows the 'Profiles' management window. At the top, there's a list of profiles with 'NW65-first-profile' selected. To the right of the list are buttons for 'Add Profile', 'Edit Profile', and 'Remove Profile'. Below the list, a message states 'No jobs are associated with this Profile.' Below this is a confirmation message: 'Profile NW65-first-profile added.' Underneath is a 'Profile Name' field containing 'NW65-first-profile'. There are four tabs: 'Core Settings' (selected), 'Scope', 'Miscellaneous', and 'Advanced'. The 'Core Settings' tab contains two sections: 'Mailbox Type' and 'Message Item Type'. The 'Mailbox Type' section explains that items can be stored from Users or Resources, with both checkboxes checked. The 'Message Item Type' section explains that Retain stores every type of message by default, and lists checkboxes for Mail, Appointment, Note, Task, and Phone, all of which are checked.

Core Settings:

- Mailbox Type: You can restrict the type of mailbox to users, resources or both.
- Message Item Type: Select what type of items within these mailboxes to dredge.
- Message Source: Select whether incoming, outgoing, draft or posted items get dredged.
- Message Status: You can decide whether to dredge an item based on its GroupWise flags.
 - Default is to dredge all items, regardless of flag status.

By default, all items are selected for collection.

This screenshot shows a detailed view of the 'Core Settings' tab. It features two sections: 'Message Source' and 'Message Status'. The 'Message Source' section explains that GroupWise classifies messages into categories and lists checkboxes for Incoming, Outgoing, Draft, and Posted, all of which are checked. The 'Message Status' section explains that storage can be restricted based on status flags and shows three dropdown menus: 'Opened is' (set to 'doesn't matter'), 'Read is' (set to 'doesn't matter'), and 'Private is' (set to 'doesn't matter').

Scope

Core Settings Scope Miscellaneous Advanced

Date Range to Scan

You can restrict the date range of messages to be scanned in the mailbox. Generally, this is a good idea for performance reasons.

All Messages (ignore date) ▼

Duplicate Check

Retain only stores a single instance of each message and attachment. Defining how the dredger determines new items is an important performance factor. Using the retention or purge flag choices are the fastest, if these are options.

Try to publish all messages (slowest) ▼

DATE RANGE

The Date Range determines which message items are collected, depending on the date of the message.

While the default is to collect all messages, regardless of dates, the administrator will **want and need** to change this. Dredging all messages makes sense **only** when you are collecting data for the very first run (priming the archive). On a day-to-day basis, however, the performance toll will be intolerable.

For instance, you may want to dredge everything once and then make a daily or weekly dredge for items that are ‘n’ days old. These limited-scope dredges will run much more quickly and they will save you bandwidth. See below under “duplicate check.

Sometimes, you might just want to dredge items that fall within a specific date range. Specify that here.

DUPLICATE CHECK

Retain is a single-instance-storage system. In other words, any given message is stored only once, to eliminate wasted disk space. Therefore, there are mechanisms in place to check for duplicates as messages are dredged and stored. The Retain Worker dredges the messages, sends them across a network link to the Retain Server and the Retain Server stores them in the database.

Eliminating duplicates will save network bandwidth and it will eliminate wasted disk space.

The Retain Server will check for duplicates before a message is stored, so there is already a check for duplicates at the storage end. However, sending megabytes of messages and attachments to the Retain Server only to have them discarded because “they are already here” wastes the Retain Worker’s processor time and the network bandwidth between the Worker and the Server. Therefore, you want to be able to do some checking at the Worker side.

If you are using the Reload integration, the item store flag is the only duplicate check flag that will work. The Retention and Purge flags will not work against a Reload backup.

In this section, you will tell the worker how to decide whether to dredge a message.

Here are your options:

- **Publish All Messages:** No duplicate checking.
 - Every message is sent to the Server.
 - The Server is responsible for duplicate checking.
 - If there are duplicates, the Server will discard them.
 - This is the slowest option.
- **Use SmartPurge Flag:** Uses the GroupWise flags to determine the newest message.
 - Fastest option.
 - Compares time stamp of the flag to run time.
 - Ignores messages older than flag's time stamp.
 - It is NOT a usable option when dredging from Reload.
- **Use Retention Flag** functions very similarly to the SmartPurge flag.
See below for a comparison
- **Use Item Store Flag** Use an internally stored timestamp.
 - Similar in function to GroupWise Retention/Purge flags.
 - Determines last message stored.
 - Fast option but not as fast as Retention/Purge flags.
 - Ignores messages older than flag's time stamp.

About GroupWise's Smart Purge and Retention Flags

The SmartPurge, Retention, and Item Store flags all perform similar functions. The SmartPurge and Retention flags are stored internally in the GroupWise post office on a per-mailbox basis. The Item Store flag is stored by the Retain Server internally in Retain's own configuration database.

Each can be thought of as simply a "timestamp" indicating the last time data was retrieved by a 3rd party application. There are a few subtle differences between the three flags, which are discussed below.

The SmartPurge flag was introduced by Novell in GroupWise version 6.0.

With **SmartPurge** enabled in GroupWise,

- The flag is a timestamp, stored in the user's mailbox.
- Items older than the timestamp can be deleted freely.
- Items newer than the timestamp cannot be deleted.
- A 3rd party application, such as backup software can retrieve and/or set this timestamp value. GroupWise itself never changes the timestamp value.
- The initial purpose of this was for backup software. Backup software can either manually or automatically (via the SMS TSAGW component of GroupWise) advance this timestamp once all items are backed up. The backup software can also use this timestamp to "know" that all items older than this timestamp have already been backed up, and can be skipped.
- Retain can use this flag to skip archived items, and automatically advance it as well. However, in practice, you'll rarely want to do this, because backup software, including GWAVA Reload, already uses this flag. There's no way to "share" the flag.

Because makers of retention and compliance software wanted a flag of their own, one that wasn't shared with the backup software SmartPurge flag, the Retention flag was introduced by Novell in GroupWise 6.5.1.

In almost all respects, the Retention flag is exactly identical in purpose and function to the SmartPurge flag. Like the SmartPurge flag, it is stored internally, and is primarily used to prevent premature deletion, and to skip previously stored messages. In fact, these are so identical in purpose, in theory virtually all backup software could switch to using the Retention flag, and all Retention software to the SmartPurge flag, and you'd notice almost no difference. The primary difference is simply it's a different value, used by different vendors.

There are some *small* distinctions:

- It's enabled and configured in a different location in ConsoleOne.
- It cannot be enabled or configured until a Trusted Application (like Retain) is installed and specifically requests it be made available.
- The SmartPurge flag is turned on/off globally. The Retention flag can be configured at the Domain, PO, or user level.

Most customers using Retain will want to use the Retention flag. It's logical and consistent to do so, and avoids conflict with backup software. It is recommended that you use this flag unless there is a compelling reason not to. A few possibilities are discussed below.

Retain can use the SmartPurge and Retention flags. In addition, a third flag, the Item Store flag is also available for use. The Item Store flag is similar to the other flags, but has some important differences:

- It's stored in the Retain Server's configuration database, instead of in GroupWise. This rarely matters much, but it does mean that the existence and storage of the flag is not dependent on the existence of the mailbox.
- Just like the SmartPurge and Retention flags, it can be used by Retain to skip previously archived messages, enormously increasing performance.
- Unlike the SmartPurge and Retention flags, it cannot be used to prevent users from prematurely deleting message items before they are stored by Retain. Given this severe limitation, the administrator might well wonder why this flag is useful...

It's true that you cannot prevent premature deletion using the Item Store flag. However, there are two scenarios where the Item Store flag becomes useful or even essential:

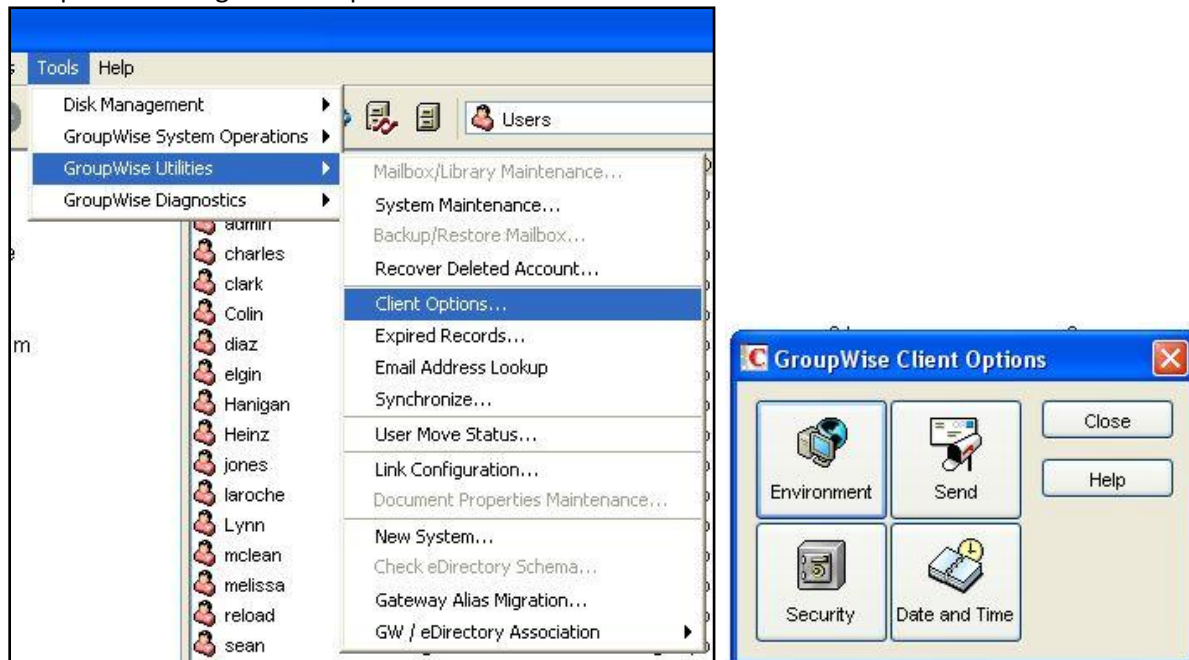
- The first is if for some reason the administrator needs to run multiple jobs or profiles on mailboxes that overlap. In this case, two separate flags are needed so the two different jobs can keep track of where (or more accurately WHEN) to continue archiving from. Admittedly, this is a rare scenario, but without a separate flag, your options would be severely limited.
- More commonly, consider the case of GWAVA Reload. Customers have expressed interest in using the backups created by GWAVA Reload to feed Retain, avoiding unnecessary network bandwidth utilization. But you cannot do this with the built in SmartPurge or Retention flags!
 - GWAVA Reload already uses the SmartPurge flags, and date ranges and profiles between Reload and Retain don't necessarily (and in fact rarely do) match.
 - The Retention flag would be perfect, but Retain isn't able to change the Retention flag. Or more accurately, it is changing it on the Reload box, not on the live GroupWise server. Hence, the changes will never be synchronized with GroupWise, leading to the disastrous

results of:

- Users will never again be able to delete e-mail from the live GroupWise system.
 - Retain will rescan the entire post office every night, because Reload will make a new backup, with an unchanged Retention flag!
- The situation is resolved by using the internal Item Store flag.

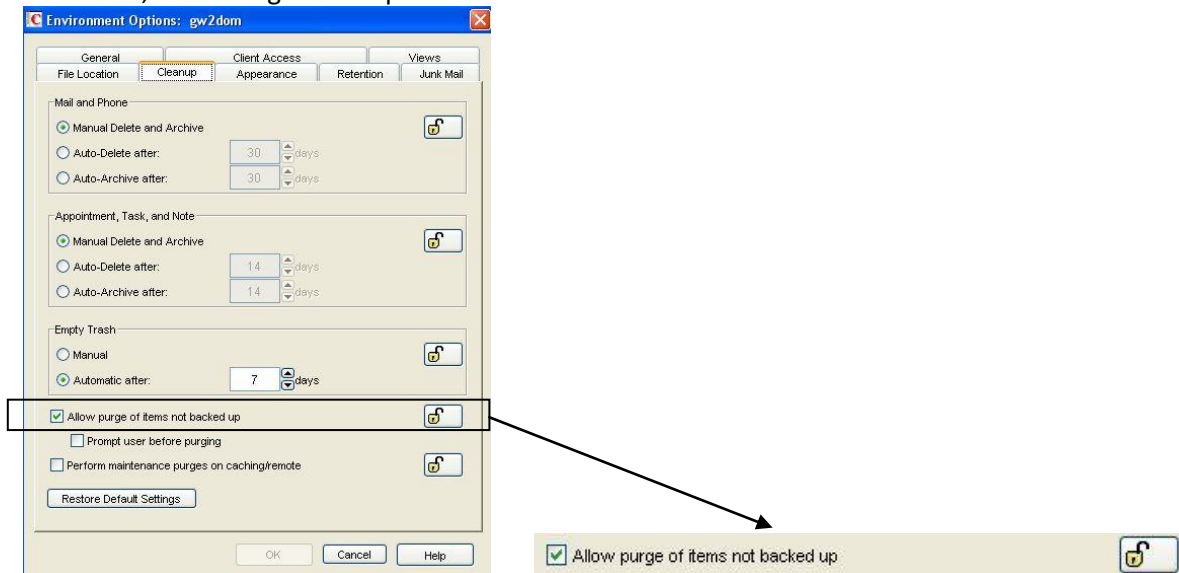
Setting up SmartPurge and Retention flags in GroupWise

Setup for both flags is accomplished in ConsoleOne:



- 1) Go into ConsoleOne
- 2) Select your domain or post office
- 3) Go to Tools | GroupWise Utilities | Client Options
- 4) Select Environment

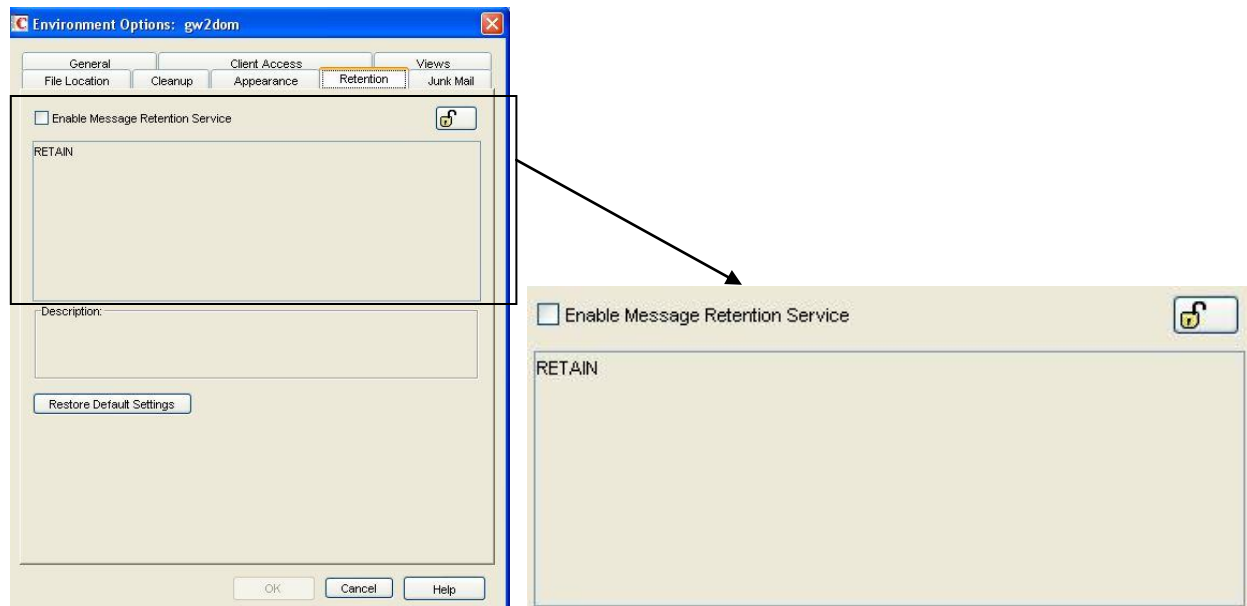
Once here, SmartPurge is set up like this:



In the Cleanup tab, UNCHECK the box on “Allow purge of items not backed up” to ENABLE SmartPurge. Lock it to prevent users from disabling it.

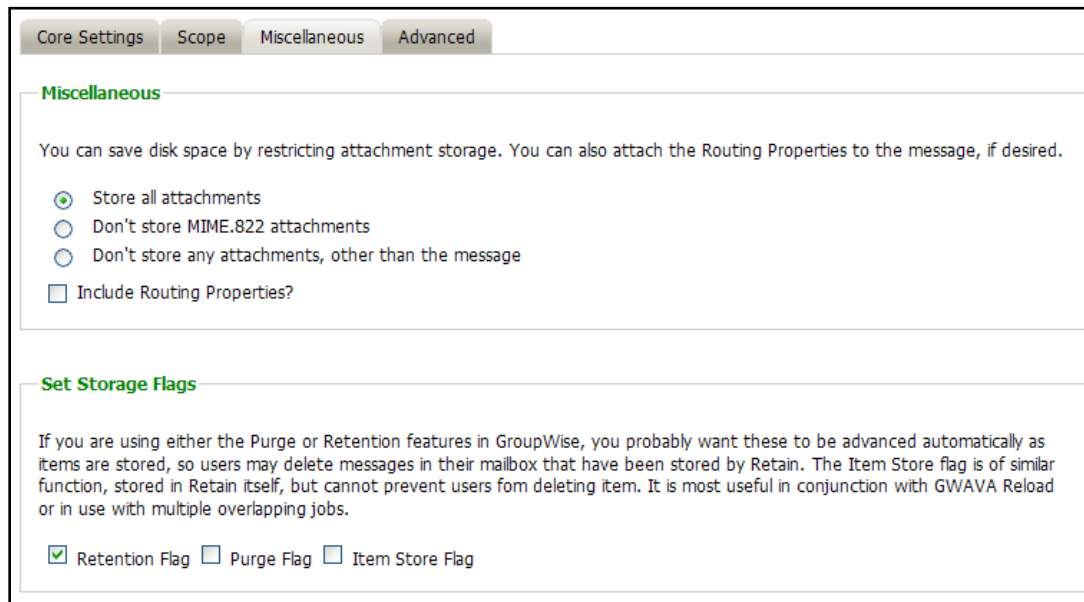
The Retention flag is set up a little differently than SmartPurge.

- 1) A Trusted App requesting Retention Services must be created. (Done at Retain setup time).
- 2) The Retention flag is enabled on a per domain/po/user basis.



Notice in this example that **RETAIN** is listed as a trusted application. This was done during our post-install tasks when we ran the Trusted Application Key program.

Next, CHECK the box to ENABLE the Retention Flag service. Lock it on.



The screenshot shows the 'Miscellaneous' tab in the GWAVA Retain settings interface. At the top, there are four tabs: 'Core Settings', 'Scope', 'Miscellaneous' (which is selected), and 'Advanced'. Below the tabs, the 'Miscellaneous' section is titled in green. It contains a paragraph explaining that disk space can be saved by restricting attachment storage and that routing properties can be attached to messages. There are four radio button options for attachment storage: 'Store all attachments' (selected), 'Don't store MIME.822 attachments', 'Don't store any attachments, other than the message', and 'Include Routing Properties?' (which is a checkbox). Below this, the 'Set Storage Flags' section is also titled in green. It contains a paragraph explaining the purpose of the flags. At the bottom, there are three checkboxes: 'Retention Flag' (checked), 'Purge Flag', and 'Item Store Flag'.

MISCELLANEOUS TAB

Miscellaneous: What to do with attachments

Most of the time, you will want to store “everything”. That is the default.

But if you don’t want to store attachments, you can control this here. Note that the attachment names and sizes will still be listed when viewing the message, but the attachments will be clearly marked as unavailable.

Retain can also store the Tracking information on messages, (routed to, opened by etc...). This information is stored in a XML attached to the message document and is searchable.

Set Flags:

[As discussed previously](#), Retain can use the SmartPurge, Retention, and/or the Item Store flags. Select which flags should be “advanced” (in their timestamp values) as items are archived by this profile. Normally, the Retention flag is the one most administrators will wish to use.

NOTE: Generally, if you’re using a backup system that leverages SmartPurge, like most backup software (such as GWAVA Reload) does, you will not want to touch that flag.

ADVANCED TAB

The screenshot shows a software interface for configuring search criteria. It is divided into two main sections: 'Advanced Criteria' and 'Folder Scope'.

Advanced Criteria: This section has a title bar 'Advanced Criteria' and a descriptive text: 'You may add advanced criteria such as specific attachment names, sizes, subject here.' Below this is an 'Add' button. A 'Delete' button is positioned to the left of a criteria entry. The entry consists of a dropdown menu currently showing 'Subject', followed by the text 'is', and then an empty text input field. A dropdown menu is open below the 'Subject' dropdown, listing the following options: 'Subject', 'Sender', 'Recipient', 'Size', and 'Attachment Name'.

Folder Scope: This section has a title bar 'Folder Scope' and descriptive text: 'Normally, you want to include all folders in your scan. However, you may have specific reasons to include. Choose a folder root, an optional subfolder (you may have multiple subfolders with the \ delimiter, and whether to include all subfolders in the pattern.' Below this text is a dropdown menu currently set to 'Items from All Folders'.

Advanced Criteria

If you want to be more specific as to what to dredge or not to dredge, add the criteria here. Each line will be **logically AND**-ed together.

Think “Dredge all items where the following is true:”

Criteria A **and** Criteria B **and** Criteria C etc

You may select based on:

- Subject
- Sender
- Recipient
- Size
- Attachment Name

Whether they are equal to, not equal to, whether they contain or do not contain, the item you specify.

This gives you great flexibility and granularity. It allows you to customize dredges and retention for many different groups, or even individuals.

Folder Scope

By default we dredge items from all folders. You can specify one or more inclusions or exclusions.

Your choices are:

- Dredge everything
- Dredge only these listed folders
- Dredge everything EXCEPT these listed folders

How to specify the list of folders to dredge/exclude:

- 1) Specify a System Folder (mandatory). Example: Calendar.
- 2) You specify a subfolder of that folder (optional).
Example: entering “old” would mean the folder “old” under “Calendar”.
- 3) You can have multiple hierarchies under that with the / delimiter.
Example “old/mail” would mean the subfolder “mail” under “old” under “Calendar”.
- 4) You specify if the option includes subfolder.
Example: If you select “old” and “includes subfolder” is unchecked, “Calendar/mail” is selected. If “includes subfolder” is CHECKED, “Calendar/old/mail” would also be selected.

JOB

The actual data collection in Retain is controlled by **JOBS**.

- They start when their **SCHEDULE** says so.
- They collect data according to a specified **PROFILE**.
- They specify which **WORKER** will do the actual data collection.
- You specify which **POST OFFICE(s)** or **DISTRIBUTION LIST(s)** to collect the data from.

Jobs tie everything together. When you define a job, you specify:

- ✓ Schedule
- ✓ Profile
- ✓ Worker
- ✓ Entities to be scanned (Post Office(s), Distribution List(s))
- ✓ Notify in case of error
- ✓ Send Summary

The screenshot shows the 'Jobs' configuration window. At the top left is a 'Jobs' header with a folder icon. At the top right is a 'Save Changes' button with a floppy disk icon and a refresh icon. Below the header is a large empty box for job details, with 'Add Job', 'Edit Job', and 'Remove Job' buttons to its right. Below this box is a text input field with the placeholder 'Enter new job below'. Below that is a 'Job' label followed by a text input field containing 'First job'. Below the text input field are five tabs: 'Core Settings', 'Mailboxes', 'Reload', 'Notification', and 'Status'. The 'Core Settings' tab is selected. Under the 'Core Settings' tab, there is a 'Job enabled?' checkbox which is checked. Below this is a text label 'Each Job must have the following assigned to it:' followed by a bulleted list: 'A schedule - How often to run', 'A profile - What to do when running', and 'A worker - where to run the job'. Below the list are three rows of configuration fields: 'Schedule' with a dropdown menu showing '(none)', 'Profile' with a dropdown menu showing '(none)', and 'Worker' with a dropdown menu showing '(none)'.

Core Settings: Self Explanatory

Mailboxes:

The mailboxes tab is where the administrator specifies which entities (Post Offices(s) and/or Distribution List(s)) are to be scanned.

Expand the Post Office and/or Distribution List trees, and check off the items you want to be dredged.

Note: If you desire to have a job backup a single user, create a distribution list with only that user included then select that distribution list as the mailbox assigned.

The screenshot shows the 'Mailboxes' tab in the GWAVA Retain interface. At the top, there are five tabs: 'Core Settings', 'Mailboxes', 'Reload', 'Notification', and 'Status'. The 'Mailboxes' tab is selected. Below the tabs, the section is titled 'Mailboxes' in green. A message states: 'Assign the Post Offices and/or Distribution Lists to be included in this job. Distribution Lists *must* have System Visibility.' There are two expandable sections: 'Post Offices' and 'Distribution Lists'. Under 'Post Offices', there is a checkbox and the text 'po-702 (dom-702)'. The 'Distribution Lists' section is currently collapsed.

Notification

When a job runs, you can request an error report or job summary to be sent by e-mail.

The screenshot shows the 'Notification' tab in the GWAVA Retain interface. At the top, there are five tabs: 'Core Settings', 'Mailboxes', 'Reload', 'Notification', and 'Status'. The 'Notification' tab is selected. Below the tabs, the section is titled 'Notification' in green. A message states: 'You can have Retain e-mail a summary of operations and/or of errors that occurred when the job completes.' There are two checkboxes: 'Mail when Errors Occur?' and 'Mail summary when job complete?'. Below these are six input fields for SMTP configuration: 'SMTP To Address' (admin@bitter.com), 'SMTP Mail From Address' (Retain@linux.com), 'SMTP Mail Server' (10.1.1.101), 'SMTP Username' (chris), and 'SMTP Password' (masked with four dots). At the bottom, there is a 'Test Connection' button.

Job Status

When a job is not running, the status tab displays information about the last time it ran:

Status [Refreshes in 1]			
Job: daily (582844007495D6705B173FFE5E4EC23B)			
	Current	Last	Overall
Job Began	Not running	12-Oct-2007 12:00:00	---
Job Ended	---	16-Oct-2007 12:42:04	---
Mailboxes	46	46	46
Messages	7596	238896	238896
Errors	0	0	0
	Current	Last	Error
Mailbox	steve	beta	
PO	rpo	rpo	
Error			---

When a job is running, you have the option of aborting the job:

Status [Refreshes in 7]			
Job: first backup (27318D8551ED008C24B8EABC6CDF8A36)			
	Current	Last	Overall
Job Began	19-Feb-2008 13:10:00	never	---
Job Ended	Abort Job	never	---
Completed: 12 / 13 (92%)			
Mailboxes	13	0	0
Messages	3568	0	0
Errors	0	0	0
	Current	Last	Error
Mailbox	lindy	craig	
PO	po-702	po-702	
Error			---

NOTE: *If you abort a job, the abort does not take effect until after the current mailbox is done.*

This window will refresh every ten seconds to keep you up to date as to the status of the selected job. Is it running, did it run and when, how long did it take, what did it accomplish, etc.

In the title, it displays a refresh countdown in seconds.

The completed line is displayed during an active job. The completed status is a display of how many mailboxes have been completed, the job mailbox total, and gives an incrementing percentage for the amount completed. This amount is based entirely on the number of mailboxes, not the amount of mail. Because the last mailbox could be larger than the rest of the system, this percentage may not be accurate according to time.

Management

Groups

Once you have created users, you can group them and give them common rights. For instance, you can make a group called “Auditors” and this group will have rights to certain specific functions. If you then add users to this group, these users will get those specific rights in addition to the rights you have explicitly given them.

This is a great way to save time in managing the rights of a large number of users.

The screenshot shows the 'SPECIAL ADMIN PROPERTIES' section for a group named 'auditor'. It indicates that the group has administrative rights, specifically that members can see all audit logs. A message states 'Group auditor loaded.' Below this, there are tabs for 'Core Settings', 'Group Rights', 'Mailboxes', and 'Miscellaneous'. The 'Group Membership' section shows a list of members with 'guest' currently selected. To the right of the list are buttons for 'Remove Member' and 'Add Member'. The 'Add Member' button is disabled, and the 'Member' dropdown is set to 'admin'. At the bottom, there is a 'Language' dropdown set to 'English' and a checkbox for 'Prevent members from changing password?' which is checked.

This is the main Groups administration screen. It’s laid out just like the Users screen and rights are assigned the same way, for the most part.

In the Groups screen, you will see all defined groups. The group *default* is created when you install Retain. Users are automatically assigned to this group. If you want users to be part of another group, you must first create that group and then add users to it.

You will notice the drop-down list that allows you to select a member. If it says “(no users)”, it means that all users are part of the currently selected group and that there are no more users available to add.

You may specify the default language used in the Search Interface for this group of users.

Creating a New Group

If you want to create a new group, simply

- 1) Click “Add Group”
- 2) Type the name in “Group”
- 3) Click “Save Changes”.
- 4) Change the properties of the group in the tabs below.

Group Rights

The screenshot shows a web interface for configuring group rights. At the top, there are four tabs: 'Core Settings', 'Group Rights' (which is selected), 'Mailboxes', and 'Miscellaneous'. Below the tabs, the title 'Group Rights' is displayed in green. A descriptive text states: 'Rights granted to the group. All group members will gain these rights.' There are two sections of rights, each with a header and a list of checkboxes. The first section, 'Administrator level rights', includes: 'Access all audit logs', 'Manage Server', 'Manage Users and Groups', 'Manage Workers, Schedules, Profiles, Jobs', and 'Search all Mailboxes'. The second section, 'User level rights', includes: 'View/Save Attachments' (checked), 'View own audit log', 'Forward Messages' (checked), 'Print Messages' (checked), and 'Read Configuration (Redline)'.

Category	Right	Status
Administrator level rights	Access all audit logs	<input type="checkbox"/>
	Manage Server	<input type="checkbox"/>
	Manage Users and Groups	<input type="checkbox"/>
	Manage Workers, Schedules, Profiles, Jobs	<input type="checkbox"/>
	Search all Mailboxes	<input type="checkbox"/>
User level rights	View/Save Attachments	<input checked="" type="checkbox"/>
	View own audit log	<input type="checkbox"/>
	Forward Messages	<input checked="" type="checkbox"/>
	Print Messages	<input checked="" type="checkbox"/>
	Read Configuration (Redline)	<input type="checkbox"/>

In this tab, you define all the rights that will be common to all members of the group. These rights are ADDITIVE and will be in ADDITION to the rights you have explicitly given to the individual user.

For this reason, if you want to manage users as a group, you would typically not assign any individual rights. Rather, you would assign rights to their group.

These rights have all the same meanings and function as the [users' rights](#).

TIPS

Typically, you will not want a Redline group but in case you have more than one Redline control center and you want to see which one is monitoring, you can assign Redline rights to a group.

Typically, you will want to make the default group's rights rather restrictive, granting very limited access by default. If you wanted a user to have more rights, you would simply assign them to another group or you could assign additional explicit rights.

By using groups, you can have groups of individuals with rights to totally different sets of archives. Users only get rights to the mailboxes you allow them.

Mailboxes

The screenshot shows the 'Mailboxes' configuration page for a group named 'default'. At the top, there are tabs for 'Core Settings', 'Group Rights', 'Mailboxes' (which is selected), and 'Miscellaneous'. Below the tabs, the 'Additional Mailboxes' section contains a text box with instructions: 'These are additional mailboxes beyond the primary mailbox that the members of the group may access. A non-admin user will only view messages addressed to these e-mail addresses (and to their primary mailbox), and might be able to forward/delete messages if given rights. An admin with *Search All Mailboxes* rights can access all mailboxes and perform any operation in the Search Interface.' Below this is a 'Currently Selected' section, which is currently empty. The 'Criteria' section includes a 'First Name' dropdown, a 'begins with' dropdown, a text input field, and a 'Search' button. Below the search criteria are two checkboxes: 'Show only users' (checked) and 'Show only recently cached items' (checked), followed by an 'Add Selected Items' button. The 'Address Book' section has a text input field with the placeholder text 'Enter criteria to search the cached GroupWise addressbook.'

This screen works exactly like the user's access to mailboxes. [Please see that section](#) on details on how to select which mailbox(es) to assign to the group.

You use the address book selector to choose which mailbox(es) to give the group access to.

By default, groups have access to NO mailboxes; users may only access their own mailboxes. If the user exists only in Retain (no GroupWise account) and their group has access to no mailboxes, then they will have access to no mailbox either.

Typically, you'll give group access to mailboxes only when you want all members of the group to be able to access a particular mailbox. Some examples could include a general sales account or accounts being audited by a group of auditors, a workgroup needing to access each others' archives, and so on.

Groups – Miscellaneous

Group default loaded.

Group

Core Settings Group Rights Mailboxes Miscellaneous

Comment

The default comment appended to forwarded messages can be set here.

Comment

Date/Time Formats

Defines how dates and times are displayed

Date

Time

Example: 11-Jun-2007 14:56

This is exactly like the users' miscellaneous configuration screen. It applies to all users in the group and users' explicit settings will override the group settings.

These settings govern the way the search interface works. See more information about these settings in the [users' miscellaneous section](#).

Users

User and Rights Management in Retain includes:

- Creating, deleting, and editing users.
- Allowing new user accounts, and restricting specific ones from being created.
- User expiration.
- Assigning users to groups, to conveniently grant rights or set initial settings on a multiple user basis.
- Granting access to mailboxes others than the user's personal mailbox.
- Changing the specific functions the user can perform.

To access User and Groups Management, the user logging in needs the “Manage users and groups” administrative right.

Creating Users

The primary purpose of a user account is to store their preferences, rights, mailboxes to which they have access, and authentication information.

Users come from one of two places

- They may be valid GroupWise users logging in with their GroupWise credentials
 - These users use SOAP authentication.
 - Retain checks their login credentials with GroupWise
 - These users initially belong to the group *default*. You may change this later.
 - You may restrict users (prevent them from logging in) in [Server Configuration](#).
- They may be specially created in Retain independently of GroupWise
 - Users created in Retain do not need to have a GroupWise account.
 - Users who don't exist in GroupWise use the *offline password*.

Offline Password


There are, however, occasions when you might want someone to search through the Retain archives who is not part of the GroupWise system. Such a person might be an independent auditor, a lawyer, a user deleted from the live system, etc.

For this reason, Retain has an *offline password* system. These passwords are stored in Retain's control database. Retain does not care how a user authenticates, whether offline or via SOAP, the same rights can be assigned in either case. An administrator who possesses the Manage Users and Groups' administrative right can.

Users may also be assigned access to more than one mailbox. Offline users will need to be given access to at least one mailbox to perform searches. Users who are assigned “Search All Mailboxes” rights have access to all users' mailboxes.

GroupWise Proxy support only works for users who authenticate via SOAP protocol.

Creating a new user

- 1) Begin by clicking on the *Add User* button.
- 2) Enter a new user name and then fill out the options under each tab.
- 3) When you are done, click the **SAVE CHANGES** disk icon  at the upper right.

All previously created users are listed and can be edited or removed, by clicking on the *Edit User* or *Remove User* buttons respectively.

The screenshot displays the 'Users' management interface. On the left, a list of users is shown with 'admin' and 'colin' as examples. Buttons for 'Add User', 'Edit User', and 'Remove User' are present. Below the list, there are tabs for 'Core Settings', 'User Rights', 'Mailboxes', and 'Miscellaneous'. The 'Core Settings' tab is active, showing various configuration options for a selected user. These include the 'Authentication Method' set to 'SOAP Authentication', a 'Primary UID' field, 'Group Membership' set to 'default', an 'Account does not expire' checkbox that is checked, a 'Change Internal Password' section with 'New' and 'Confirm' fields, a 'Language' dropdown set to 'English', and a 'Disable Account?' section with a date picker set to 2008 Mar 11.

Core Settings

- Authentication method
 - SOAP (for GroupWise users)
 - GroupWise users logging in are authenticated using SOAP.
 - These users are automatically entered into Retain's user list.
 - Offline Password (credentials stored within Retain)(any type of user)
 - You may lock a user account so it can only use one type of authentication.
 - If "exclusive" is not checked, it will try one, then the other.
- Primary UID
 - Shows the UUID of their SOAP mailbox. All GroupWise users normally have one.
 - The first time GW users login via SOAP this field is populated.
 - *Offline* only accounts usually won't have one.
 - The initial Admin account is set to use *OFFLINE* exclusively, so it never has one.
- Group Membership.
 - Default is "default"
 - Create groups under "[Groups](#)" and they will appear as choices here.
 - Users may belong to one and only one group. From an assigned group, additional rights, mailboxes, and initial settings may be inherited.
- Account Expiration.
 - Check this box if this user's account should not expire.
 - Useful for administrator accounts.
 - Normally, accounts expire after 30 days or whatever you set in [Server Configuration](#).
- Offline Password.
 - If you use this authentication method, store the password here.
 - May be changed as needed.
 - You can prevent the user from changing it themselves.
 - Passwords are always stored in an encrypted format – never in clear text.
- Default Language.
 - Choose which language will be used in the Search Interface for this user.
- Disable account
 - This allow the admin to pick a date when the account will no longer be allowed to login, but the account will not be deleted.

User Rights

Users

Core Settings User Rights Mailboxes Miscellaneous

User Rights

Rights explicitly granted to the user.

Administrator level rights

- ☐ Access all audit logs
- ☐ Manage Server
- ☐ Manage Users and Groups
- ☐ Manage Workers, Schedules, Profiles, Jobs
- ☐ Search all Mailboxes

User level rights

- ☐ View/Save Attachments
- ☐ View own audit log
- ☐ Forward Messages
- ☐ Print Messages
- ☐ Read Configuration (Redline)

The following rights are additionally inherited from the user's group membership:

- View/Save Attachments
- Forward Messages
- Print Messages

- Control what rights you grant to the user here. Check the box to enable the right.
- These are extra rights.
 - You don't need ANY of them for the user to access their mailboxes.
 - You do need them to do “special things”. The first admin account gets them all.
- Retain first checks your assigned group and you start with the [group rights](#).
- The rights you explicitly set here are ADDED to the group rights for the user's effective rights.
- This way, you can control users as a group and give different rights to different groups.
- If you don't have rights to an administrative option, it won't appear on the left.
- It should be clear from this screen that there is no such thing as an “Administrator” per se in Retain. Instead, some users simply have more rights to do more things than others. A distinction is made between Administrator level rights (which allow a user global system wide power) and User level rights, but any user can have zero or more rights in either category. The “administrator” you created in the setup wizard was simply a user account with all of the Administrator level rights granted by default.

USER-LEVEL RIGHTS SUMMARY

Administrator-level rights

- Access Audit Logs
 - The Audit Logs become visible.
 - Main menu audit log
 - Message properties audit log
 - You can see user activity on two levels
 - Globally
 - On an individual message basis
- Manage Server
 - Access Server Configuration and Licensing
 - Access diagnostic utilities
- Manage Users and Groups
 - Access Users and Groups
- Manage Workers, Profiles, Jobs, Schedules
 - Access data collection system.
- Search All Mailboxes
 - Grants access to all mailboxes in the system
 - Allows the user to search and browse them.

Note: Only users with administrative rights will see the administrator's screen on login. Non-admin users are simply forwarded to the Search Interface.

Administrator level rights	
<input checked="" type="checkbox"/>	Access all audit logs
<input type="checkbox"/>	Manage Server
<input type="checkbox"/>	Manage Users and Groups
<input type="checkbox"/>	Manage Workers, Schedules, Profiles, Jobs
<input checked="" type="checkbox"/>	Search all Mailboxes

User level rights	
<input checked="" type="checkbox"/>	View/Save Attachments
<input checked="" type="checkbox"/>	View own audit log
<input checked="" type="checkbox"/>	Forward Messages
<input checked="" type="checkbox"/>	Print Messages
<input checked="" type="checkbox"/>	Read Configuration (Redline)

User-level rights

All user level rights are strictly optional, and add additional functionality.

- **None are needed** to access your own mailbox and other mailboxes assigned to you.
- You may wish to grant Forwarding, View Attachment, and Printing rights.
 - The initial "default" group created upon installation does this.

Note: There is no way to perfectly block printing in a web browser, so using this feature should not be taken as a 100% guarantee that users won't be able to print. Nonetheless, for most users, it is effective.

These rights are self explanatory:

- View/Save Attachments
- View own audit log (You can also view the audit log in the PROPERTIES tab of each message.)
- Forward Messages
- Print Messages

The Read Configuration **right** (Redline Integration)

If you are integrating with GWAVA's **Redline** monitoring product, you will need to create a user account so that Redline can log in and retrieve monitoring information. We recommend the following settings:

- Account Never Expires
- Offline Password Authentication is required. (use exclusively) (be sure to set the password)
- Read Configuration (Redline) right.

Mailboxes

Select the mailboxes this user will be able to access in addition to their own.

The screenshot shows a web application window titled 'Users'. At the top, a status message says 'User colin loaded.' Below it is a text field for 'User ID' containing 'colin'. There are four tabs: 'Core Settings', 'User Rights', 'Mailboxes' (which is selected), and 'Miscellaneous'. The 'Mailboxes' tab contains the following sections:

- Additional Mailboxes:** A text block explaining that these are additional mailboxes beyond the primary mailbox. It states: 'These are additional mailboxes beyond the primary mailbox that the user may access. A non-admin user will only view messages addressed to these e-mail addresses (and to their primary mailbox), and might be able to forward/delete messages if given rights. An admin with *Search All Mailboxes* rights can access all mailboxes and perform any operation in the Search Interface.'
- Currently Selected:** A list of two mailboxes: 'Willem Bagchus' and 'Colin James'. Each entry has a red 'X' icon to its left, indicating it can be removed.
- Criteria:** A section with search filters. It includes a dropdown for 'First Name', a dropdown for 'begins with', a text input field, and a 'Search' button. Below these are two checked checkboxes: 'Show only users' and 'Show only recently cached items'. An 'Add Selected Items' button is at the bottom of this section.
- Address Book:** A large text area with the instruction 'Enter criteria to search the cached GroupWise addressbook.'

Often, you will want some users to be able to search through more than just their own mailbox. Administrators can have “Search All Mailboxes” as a right which gives them access to EVERYTHING. This section allows you to give a far more selective range of mailboxes to a user for searching.

In the example above, the user has explicit rights to two mailboxes. These mailboxes can be taken away from the user simply by clicking on the red **X**.

Adding users to the list is done using the Address Book selector. In the criteria section, you may enter information to search for a mailbox or a set of mailboxes. The search results will appear in the Address Book section. Each listed entry has a check box you can use to select that mailbox for addition to the list. Once you are done selecting, click **Add Selected Items** to add those mailboxes to your list of searchable mailboxes.

ADDRESS BOOK SELECTOR

This interface is used a lot in various other areas, so here is an in-depth discussion.

Currently Selected

✖ Willem Bagchus

✖ Colin James

Criteria

First Name begins with

Show only users ☒ Show only recently cached items ☒

Address Book

	First	Last	PostOffice	Mailbox	Dept.	Type	Domain	UID
<input type="checkbox"/>	Willem	Bagchus	gw2po	Willem		U	gw2dom	109A2120 1112 0000 B003 2C91B3A1EB12
<input type="checkbox"/>		Greg	gw2po	Lynn		U	gw2dom	DA34E130 11C8 0000 9AD4 0D003A008A00
<input type="checkbox"/>	Colin	James	gw2po	Colin		U	gw2dom	4CC19AC0 1112 0000 B003 2C91B3A1EB12
<input type="checkbox"/>		Miss	gw2po	Hanigan		U	gw2dom	69896270 11C9 0000 9AD4 0D003A008A00
<input type="checkbox"/>		admin	gw2po	admin		U	gw2dom	DBDF8400 1104 0000 8EA7 7FEA5E8CB6DF
<input type="checkbox"/>		carl	gw2po	Heinz		U	gw2dom	C9381FF0 11C8 0000 9AD4 0D003A008A00

It shows the currently selected items at the top, and lets you delete an item by clicking the red X.
(The New Mailbox selector in the Search Interface is an exception; just choose another item)

Adding Mailboxes

- 1) Fill out basic criteria to narrow your search results (or no criteria for the first 100)
- 2) Click **Search**.
- 3) The results up to a maximum of 100 are displayed. The user can then page back and forth among the first 5 pages of results.
- 4) Choose which of the results you want to add to the selected list
- 5) Click **Add Selected Items**

Notes: You can restrict to just Users (skipping Resources)
 You can show only recently cached items (last 10 days)
 The search is not case sensitive.

About "Show only recently cached items"

This option restricts the list of items shown in the selector to those with items stored within the last 10 days. In user/group management, it restricts the list to users who have logged in to the live GroupWise system within the last 10 days. The idea is to show only current items. If you DO want to see all items regardless of whether they've shown activity within the last 10 days, just uncheck this option.

Miscellaneous Tab

This tab contains settings that mainly govern the way the Search Interface works for the selected user. Note that the user can change any of these settings by using the User Options tab in the [Search Interface](#).

Users

Core Settings User Rights Mailboxes Miscellaneous

Comment

The default comment appended to forwarded messages can be set here.

Comment

Date/Time Formats

Defines how dates and times are displayed

Date Day-ShortMonth-Year

Time 24 Hour

Example: 08-Jun-2007 16:02

Display Number

How many items to display per page

Number of Items 25

- **Comment** Default comment for forwarding messages.
- **Date/Time Format** How you want your dates and times to be displayed.
- **Display Number** How many items to display per page.
- **Message Age Display** Default date filter for searching. May be changed on the fly.
- **Session Timeout** Inactive session timeout. Can be between 5 and 60 minutes.

Message Age Display

How many days of messages should be displayed by default?

Display Last 24 hours

Session Timeout

Time in minutes, to expire an inactive login session

Time (minutes) 10

GroupWise Proxy Support

Retain supports the GroupWise proxy function. To enable it, check the box in the [Server Configuration \(Miscellaneous\)](#) section.

This function is used to enable a user to access the mailbox of another user. For example, if user B grants the right to user A to access their mailbox, then user A can “proxy” in to user B’s mailbox.

Much the same way, if user A has proxy rights into user B’s mailbox in GroupWise, and the function is enabled in Retain, then user A may select user B’s mailbox for browsing or may search through user B’s mailbox in the Search Screen.

In Retain, it is the MAIL READ right which grants access.

Retain uses the list of available mailboxes shown in the GroupWise client to determine which mailboxes will be made available to the logged in user (user A in our example). Thus, it is important that user A has proxied in to user B’s mailbox using the GroupWise client before doing this in Retain. While user B might have granted the rights to user A, if user A has not yet proxied in to user B’s mailbox with GroupWise, then user B will not appear in user A’s list of available accounts to proxy into.

Retain checks these proxy lists as often as configured in the Server Configuration – Miscellaneous tab.

If you have access to another mailbox by virtue of GroupWise proxy, then you will see that mailbox appear in the mailbox selector in the search screen or you may search through that mailbox as well.

SERVER CONFIGURATION

The overall operation of Retain is configured in this section.

Retain Server Configuration

Welcome, admin | Status & Updates | Logout

Overview

- Search Messages
- Audit Log
- System Log

Data Collection

- Schedules
- Profiles
- Workers
- Jobs

Management

- Users
- Groups

Configuration

- Server Configuration
- Storage Engine
- Licensing

30 days remaining in eval

Communications | Index | Storage | Accounts | Maintenance | Notification | Logging | Miscellaneous

Database Connectivity

The message store data is stored on a database server.

To successfully create the tables, the database server must already be running, with a database named retain created. Be sure to specify:

- The correct JDBC URL. If the database server is not running on the same machine as Retain, the IP address or host name of the machine must be included in the URL.
- You must provide a user and password for the database server which has full rights to the database you created.

Database Driver: MySQL 5

Database URL: jdbc:mysql://10.1.1.101/retain_test

Database User Account: admin

Database User Password:

Trusted Application Key Generation

Retain uses the Trusted Application feature of GroupWise to access the user mailboxes. You must generate a trusted application key to continue.

The Trusted Application key generation requires a Windows machine, with a connection to the GroupWise Primary Domain.

- Download the key generation application.
- Run the key generation application
- Paste the key generated below

Trusted Application Key: CCD7819104450000BF450A00F500E600CCD7819204450000BF450A00F500E600

GroupWise SOAP Access

Retain accesses the GroupWise message store via the SOAP protocol, which needs to be enabled at all Post Offices in ConsoleOne. Retain needs a initial default POA to gather the information from.

POA Host Name: 10.1.1.101

SOAP Port: 7191

Enable SSL? ☐

Each tab will be explained below.

Along the top, you will see configuration options for the Retain server and workers known to this server.

The most important topic is communications. These are the settings you have set when you initially installed Retain. You may make changes here.

After changing any communications options, it is strongly recommended that Tomcat be restarted immediately..

Communications

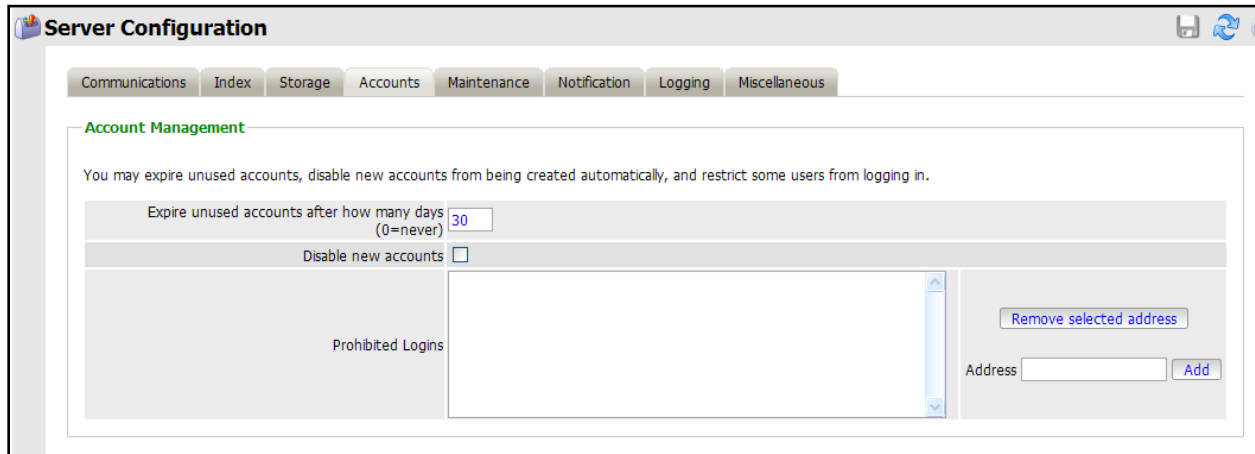
Topics covered on the communications page are covered elsewhere in this manual – look for [initial setup](#) of Retain.

- [Database Connectivity](#)
- [Trusted Application Key](#)
- [GroupWise SOAP Access](#)

Index

[Communications](#)
[Index](#)
[Storage](#)
[Accounts](#)
[Maintenance](#)
[Notification](#)
[Logging](#)
[Miscellaneous](#)

ACCOUNTS



The screenshot shows the 'Server Configuration' window with the 'Accounts' tab selected. The 'Account Management' section is active, displaying options to manage accounts. It includes a text input for 'Expire unused accounts after how many days (0=never)' set to 30, a checkbox for 'Disable new accounts' which is unchecked, and a list box for 'Prohibited Logins' which is currently empty. To the right of the list box is a 'Remove selected address' button and an 'Address' input field with an 'Add' button.

Open System vs. Closed System

Normally, Retain lets all GroupWise users log in. This is considered to be an “open” system. When that happens, Retain will check to see if a Retain account already exists and if not, it will create a new account for them and assign them to the group *default*.

Sometimes, you don’t want certain users to have access to the Retain archives. In this case, you may add these users to the list of **Prohibited Logins**. You do so by entering their name in the Address field and click “Add”.

To make a “closed” Retain system, simply click on “Disable New Accounts”. If you use this option, it means that you will have to manually create accounts in Retain for authorized users. In other words, the only people who can access your system will be people who you specifically create an account for.

In Retain, user accounts expire after 30 days of inactivity by default. You may choose the number of days or choose 0 for “accounts never expire”.

See “[User Rights](#)” for more information.

MAINTENANCE

Maintaining a Retain system involves many tasks:

- Backup Configuration (Embedded) Database
- Compress Configuration Database
- indexing (All Indexes)

These items are all controlled here.

Maintenance/Caching

You may automatically backup and/or compress the embedded database at a specified time. The indices are also backed up. The Retain Server is offline at this time. so no jobs may be active at this point.

Retain scans the GroupWise address book on a regular interval, and permanently stores user, Post Office, Domain, and Distribution List information. This is stored in a local database for Retain to be able to access at all times. It is critical this address book be kept up to date.

Enable Backup of Embedded Database	<input checked="" type="checkbox"/>	Sunday	weekly
Enable Backup of Indices	<input checked="" type="checkbox"/>	Sunday	weekly
Enable Index Optimization	<input checked="" type="checkbox"/>	(every day)	weekly
Enable Compression of Embedded Database	<input checked="" type="checkbox"/>	(every day)	
Enable Address Book Caching	<input checked="" type="checkbox"/>	(every day)	
Run maintain procedure at	01	00	
Last Backup of DB	(never)		
Last Backup of Indices	(never)		
Last Index Optimization	(never)		
Last Compression	(never)		
Last Address Book Cache	05-Mar-2008 11:57:29		

This configuration database – the “Embedded” database:

- should be backed up regularly
- contains your system address book
- also contains key information used by Retain

Configure how often it gets backed up here.

You can also configure how often indexes get backed up and how often the indexes are optimized for speed.

The system address book is cached from the GroupWise address book. It is read and updated daily by default. Here you configure whether or not to automatically do this and when.

Retain also lists a history of backups and maintenance here.

Note: This maintenance section does **NOT** involve backup or maintenance of the data store. You must back that up yourself with your normal backup tools.

You must backup:

- SQL Database
- File System where your data is stored. (see [index/storage](#) for location)

MAINTENANCE – POST OFFICES

Redirection Tables

Retain has overrides for the addresses of known post offices. While Novell's SOAP protocol furnishes addresses to the post offices, sometimes they are not correct. For example, the IP addresses may not be reachable by the Retain Worker across a NAT or WAN link. So you may manually enter an address or DNS name that the Retain Worker will use to access the selected Post Office Agent.

A classic example of this is the case of GWAVA Reload. If you wish to draw the data from a Reload server, you will use the same Post Office Agent name but the SOAP protocol will furnish the address of the LIVE POA. In this case, you would put the address/DNS name of the Reload POA so the Retain Worker will draw the data from that server instead of the live one.

The login column allows you to specify which server to use for AUTHENTICATION purposes – for instance, when a user logs in to Retain.

The Worker column is used to specify which server the WORKER should use to draw data from.

Post Office Redirection Tables

You may view the cached Post Offices below, and edit the redirection tables used internally by Retain. This may be necessary for complex systems spanning WANs.

[Refresh Address Book](#)

Post Offices	PO Name	Login (Force by selecting checkbox)	Worker (Force by selecting checkbox)
	gw2po (gw2dom)	192.168.100.17 : 7191 <input checked="" type="checkbox"/>	192.168.100.17 : 7191 <input checked="" type="checkbox"/>

Click “Refresh Address Book” to update Retain on your GroupWise system and in particular, to make it aware of any changes to your GroupWise system or users.

Ordinarily, Retain refreshes this every night but you can force a refresh here.

IGNORE DOMAINS

Ignore Domains

You might want specific Domains (and their child POs and users) to be completely ignored - not cached, not stored, etc. The reason? GroupWise has the capability to add non-GroupWise (external) domains to the system. This is commonly used, for example, to add internet addresses to the System Address Book or to Distribution Lists. However these objects cause problems with Retain, since it obviously cannot log into them.

Ignored Domains

[Remove Selected Domain](#)

Domain [Add](#)

GroupWise allows you to add non-GroupWise (external) domains to the system. Sometimes, you might do this to add external domains to the GroupWise address book. However, GroupWise cannot pull up e-mail from these domains and you may want to tell Retain to ignore references to these external domains to avoid wasting time during data collection.

Specify these domains in this window.

NOTIFICATION

On this screen, you can configure the SMTP options so that Retain may send e-mail for notification or forwarding from the search screen.

The screenshot shows the 'Notification' tab in the GWAVA Retain configuration interface. The tab is highlighted in green. Below the tab, there is a section titled 'Notification' with a green header. A note states: 'Retain uses these values for forwarding and for job notifications. If the mail server is not set, forwarding is disabled'. The configuration fields are as follows:

SMTP Mail Server	10.1.1.101
SMTP Mail From Address	Retain@test_attachment.com
SMTP To Address	admin@bitter.com
SMTP Username	chris
SMTP Password	••••
Mail when Errors Occur?	<input type="checkbox"/>

At the bottom of the form is a button labeled 'Test Connection'.

Retain logs in to the SMTP server (usually a GWIA) to authenticate before sending a message. You may also test the setup to be sure it works.

This is another step you complete during [initial setup](#) and you may change it here as needed.

LOGGING

Configure the system logging here. Normally, you want verbose logging. Diagnostic is ordinarily done just for troubleshooting purposes.

The screenshot shows the 'Logging' tab in the GWAVA Retain configuration interface. The tab is highlighted in green. Below the tab, there is a section titled 'Logging' with a green header. The configuration fields are as follows:

Logging Enabled?	<input checked="" type="checkbox"/>
Log level	Normal
Compress logs?	<input checked="" type="checkbox"/>
Remove old logs	<input checked="" type="checkbox"/>
When age exceeds (days)	10

You also specify how long to keep logs here. By default, logs are deleted after 10 days. Logs may be compressed to save disk space.

Server Configuration – Miscellaneous

Communications	Index	Storage	Accounts	Maintenance	Notification	Logging	Miscellaneous
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Miscellaneous

You may change the default Worker password, which is assigned to all Workers when they are created (but can be individually overridden).

You can enable or disable XML Export, which creates XML representations of each message as they are created. Generally this is not recommended unless you absolutely need this feature - it uses a lot of disk space, and slows down the Server.

You may also enable or disable Proxy Support, which allows users to access mailboxes which they have proxy access to. For performance reasons, proxy access is verified when the user accesses the account, and the verification status is cached, for a period of days that you specify. This does mean that if the proxy access was revoked in GroupWise, several days may pass before access is revoked in Retain. A value of zero disables caching, but is not recommended.

Default Worker Password
Export XML	<input type="checkbox"/>
Enable support for GroupWise Proxy	<input type="checkbox"/>
Cache Proxy verifications (days)	7

You may choose the default worker password here. One is automatically generated for you when you create a worker but you may change the password here if you like.

GroupWise Proxy support is also enabled here. Just check the box and specify the refresh interval. (Cache Proxy verifications) Since it is a very performance intensive operation, Retain will reload and recheck proxy settings according to the interval you specify. The default is every 7 days.

XML Export

This XML Export function is included in Retain in case you have an XML compliance mandate. You enable it here.

When selected, each attachment will have an XML export file of its parent message. In other words, an XML representation of the metadata is created and linked to the blobs as the messages are stored. There's nothing more done.

Ordinarily, you would not want to do this because it consumes enormous quantities of disk space, loads up your file system and degrades performance.

When you do NOT use the XML export function, you will benefit from Retain's single-instance message storage and data compression to save disk space and improve performance.

SYSTEM LOG

This option lets you read and parse through the latest system log file. The level of detail is controlled in [system configuration](#).

The actual filename and path on the server is also listed. You may clear the view buffer at any time in case you want to monitor a particular operation for troubleshooting purposes.



AUDIT LOG

All operations involving the archives are logged. This is for auditing purposes so you may know who did what when.

- Accessing the audit log requires the “Access Audit Log” administrative right.
- Ordinary users cannot access their audit logs, unless you grant the “Access Personal Audit Log” right, in which case they can find the audit log on a per-message basis under the [Properties tab](#).

Date	Info	User	Mailbox	IP Address	Action
08-Jun-2007 03:08	Agent Accounting Data File	linuxworker1	taylor	192.168.100.71	Archived
08-Jun-2007 03:08	Agent Accounting Data File	linuxworker1	taylor	192.168.100.71	Archived
08-Jun-2007 02:03	Retain Error	linuxworker1	willem	192.168.100.71	Archived
08-Jun-2007 02:03	Retain Error	linuxworker1	willem	192.168.100.71	Archived
08-Jun-2007 02:03	Retain Error	linuxworker1	willem	192.168.100.71	Archived
08-Jun-2007 02:03	Retain Error	linuxworker1	willem	192.168.100.71	Archived
08-Jun-2007 02:03	Retain Status Information	linuxworker1	willem	192.168.100.71	Archived
07-Jun-2007 14:09	Retain Test Message Wed Apr 25 17:06:53 EDT 2007.txt	admin	Willem	192.168.100.126	Viewed
07-Jun-2007 14:05	Retain Test Message Wed Apr 25 17:06:53 EDT 2007.txt	admin	Willem	192.168.100.126	Viewed
06-Jun-2007 02:48	Retain Test Message Tue Jun 05 09:30:33 EDT 2007	linuxworker1	willem	192.168.100.71	Archived
06-Jun-2007 02:48	Retain Status Information	linuxworker1	willem	192.168.100.71	Archived
06-Jun-2007 02:45	Agent Accounting Data File	linuxworker1	taylor	192.168.100.71	Archived
05-Jun-2007 11:44	Retain Test Message Wed Apr 25 17:06:53 EDT 2007.txt	guest	taylor	192.168.100.126	Viewed
05-Jun-2007 11:36	Retain Test Message Wed Apr 25 17:06:53 EDT 2007.txt	guest	taylor	192.168.100.126	Viewed
05-Jun-2007 02:49	Retain Status Information	linuxworker1	willem	192.168.100.71	Archived
05-Jun-2007 02:47	Agent Accounting Data File	linuxworker1	taylor	192.168.100.71	Archived

To view the system audit trail,

- 1) Enter your search criteria (what part of the log do you want to see?)
- 2) Set a date range
- 3) Click Search.

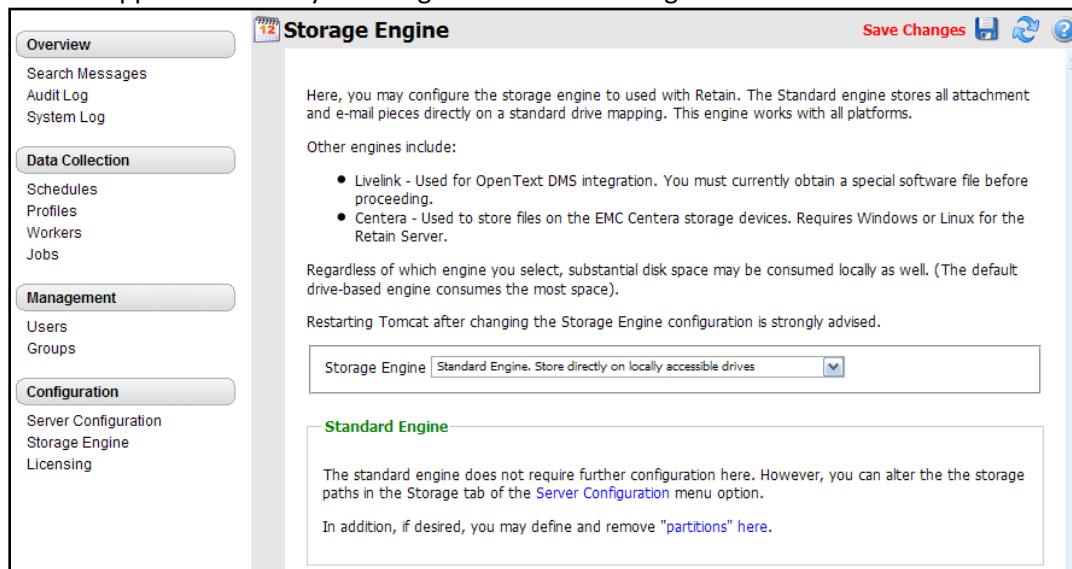
The results appear below. This may be printed.

If you have rights, you may click on the **Action** link to open the message.

An auditor does not automatically get the rights to READ messages in mailboxes that are not assigned to them.

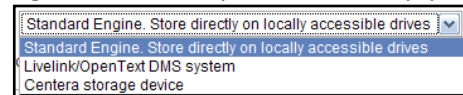
STORAGE ENGINE

Retain Supports the ability to change the location or engine used to store the archived mail.



To change the storage option settings which were created during the initial setup of Retain, simply select the different storage engine of your choice.

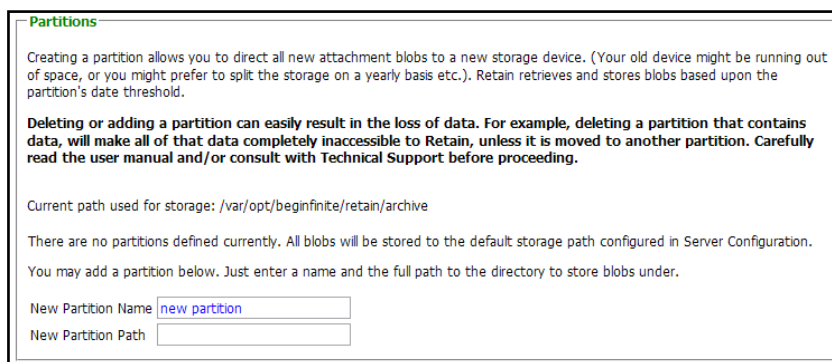
If the Standard Engine is selected, then the Standard Engine window is displayed. This details the setting location for the default storage location, under Server Configuration, [Storage tab](#).



Partitions

Retain also supports the ability to define a different storage location, through the partitioning option. To access the partitions option click on “partitions” in the Standard Engine window. (Shown below) Ideally, this option would **only** be used to archive to a new, larger, location when the current storage path has been filled, or to separate mail storage between years. (I.e. /archive/2008; /archive/2009)

A Retain system without a specified partition location will store all mail in the default storage location. This is defined in the Server Configuration menu, under the Storage tab mentioned previously. The default location is set during the initial install.



READ THE BOLD WARNING ON CHANGING PARTITIONS!

You may only specify one new partition at a time. After you have entered the new partition information, click ‘save changes’. *Creation or changes to a partition requires Tomcat to be restarted.*

Once Tomcat has been restarted, the new partition can be viewed, edited, or deleted from this window.

In addition, if desired, you may define and remove [partitions](#) here.

Partitions

Creating a partition allows you to direct all new attachment blobs to a new storage device. (Your old device might be running out of space, or you might prefer to split the storage on a yearly basis etc.). Retain retrieves and stores blobs based upon the partition's date threshold.

Deleting or adding a partition can easily result in the loss of data. For example, deleting a partition that contains data, will make all of that data completely inaccessible to Retain, unless it is moved to another partition. Carefully read the user manual and/or consult with Technical Support before proceeding.

Current path used for storage: /var/opt/beginfinite/retain/archive

Begin Date	Name	Path	Delete
04-Mar-2008 12:53:24	<input type="text" value="new partition"/>	<input type="text" value="/var/opt/beginfinite/retain/new"/>	<input type="button" value="Delete"/>

Partitions are listed with their Begin Date, Name, and Path.

The Begin Date is the creation date. A partition is used to store all archived mail from the moment it is created

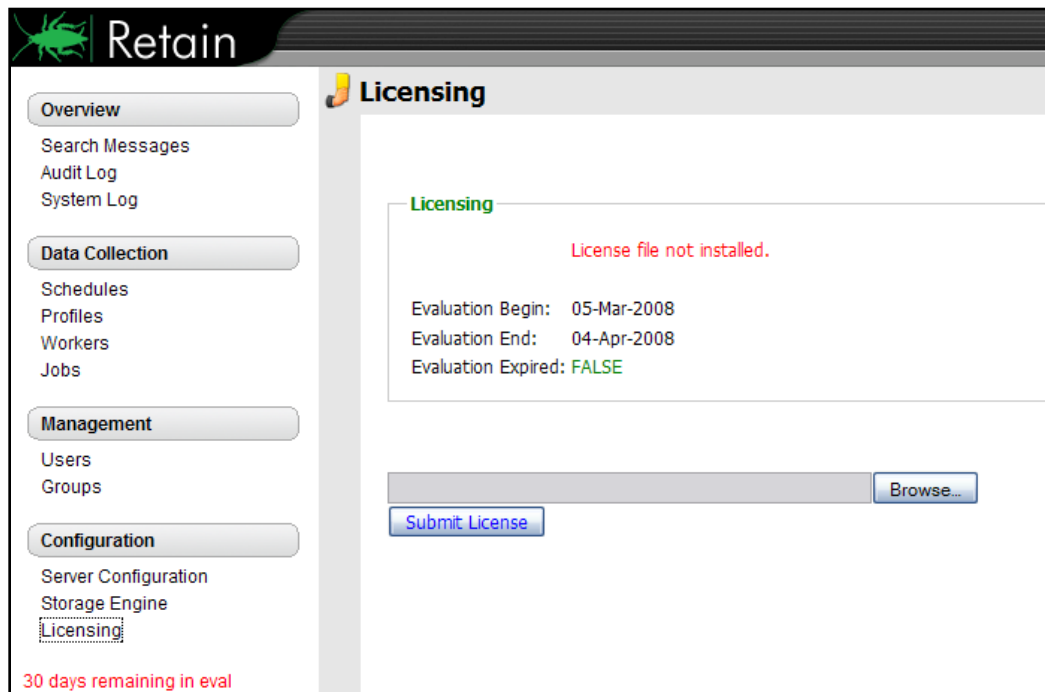
Because of how Retain indexes and tracks messages that are archived, **deleting a partition can lead to catastrophic data loss. Do not delete an active storage partition or location without consulting support first.**

If a partition is deleted Retain will look for the archived mail that was stored in the deleted partition to be stored in the default storage location. (This is defined in Server Configuration, under the [Storage tab](#).) Removing a designated partition in the management console does not delete the storage directories or data on the hard drive or SAN, but it does disconnect Retain from the storage location.

All partition changes are logged in the partition.log file, located in the backup directory specified in Server Configuration. (By default this is located in <your storage location>/backup)

Licensing

Retain uses PEM based licensing. That is, your license is a .PEM file and you submit it on this screen.



Without a license, Retain will function for 30 days for evaluation purposes.

After this period elapses, the following occurs.

- Users without the "Manage Servers" right are not allowed to log in at all.
- Users with the "Manage Servers" right are allowed access, but only to the Licensing Page.
- All jobs continue to be processed normally

To submit your license, browse to your .PEM file and click "Submit License".

SEARCHING THE RETAIN ARCHIVES

Now that you have data in your Retain archives, you will want to retrieve this information. This is the heart and soul of the information retrieval system in Retain. You search for what you want, the results appear and you can view, print or forward the results.

If the logged on user has at least one administrative right assigned, the user is brought to the administrative menus upon login, and must click on “Search Messages” to access the search interface.

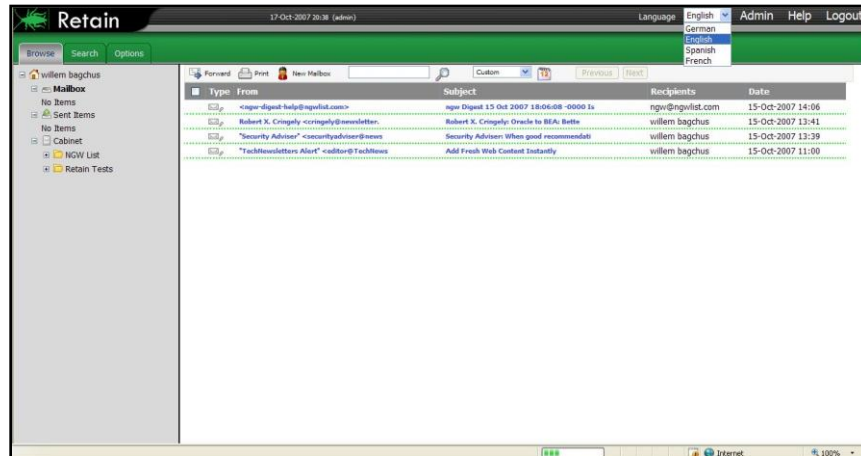
There are three tabs in the Search Interface:

- Browse- for casual browsing and filtering. You may only browse one mailbox at a time.
- Search- for in-depth search, possibly across many mailboxes.
- Options- for changing user settings. Similar to settings in the User Admin.

The browse screen shows you one mailbox at a time. The mailbox you’re viewing is listed at the top left and the folder structure is replicated as it is in GroupWise. The screen is designed to resemble GroupWise WebAccess so that users may become quickly familiar with it.

If you have GroupWise Proxy rights, and the proxy function is enabled or if you have the rights to access more than one mailbox, you will see the “New Mailbox” icon along the toolbar allowing you to switch between mailboxes you have access to.

In addition, you may switch display languages using the drop-down language selector along the top.



NOTE: DATE RANGE FILTER

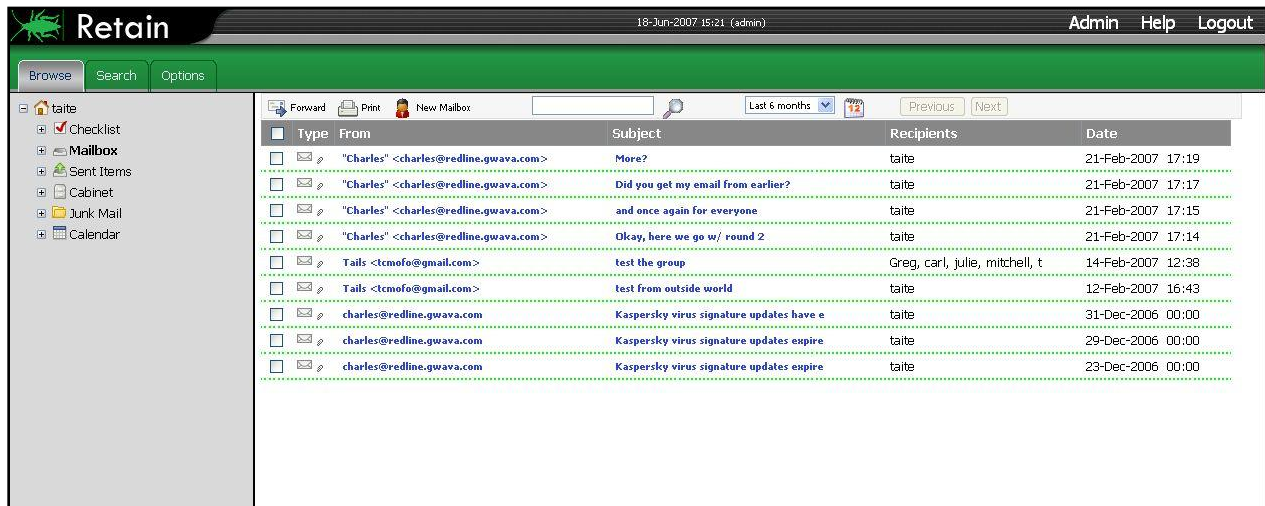
Please pay particular attention to the date range filter. Only messages that match the date range filter are displayed. If you don't see the results you expect, check the date range filter to be sure that the settings are correct. See [Specifying a Date Range](#).

USING ONLINE HELP

Retain has context-sensitive help screens that appear in the left column when you click the help icon. (



BROWSE



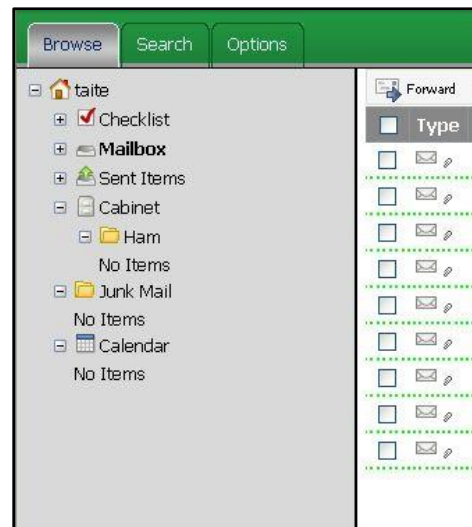
This is the default **Browse** screen.

The logged-in user's mailbox will be displayed by default along the top of the window. You may choose to browse through another mailbox if you wish (and if you have rights to do so).

If the user's mailbox is empty, or the user has no specifically assigned mailbox (e.g. a user using offline authentication), the user will be prompted to select a mailbox to browse. Only mailboxes to which the user has rights to will be available.

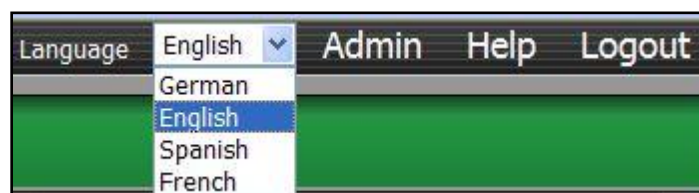
Notice that the folder structure of the mailbox is reproduced at left. You can expand the folder list until there are no more sub folders. When there are no more subfolders, you will see "No Items" marked.

You browse the folders in the current mailbox and when you click on them the contents are displayed.

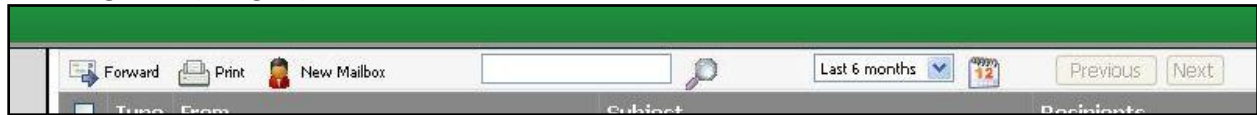


Language Selection

You may select what language the browse screen will use by selecting the drop-down language selector control and choosing your desired language. This selection will apply to the search screen too.



Browsing Tools (Widgets)



Retain will display various options for the user. The specific options displayed depend upon the user's rights. These include:

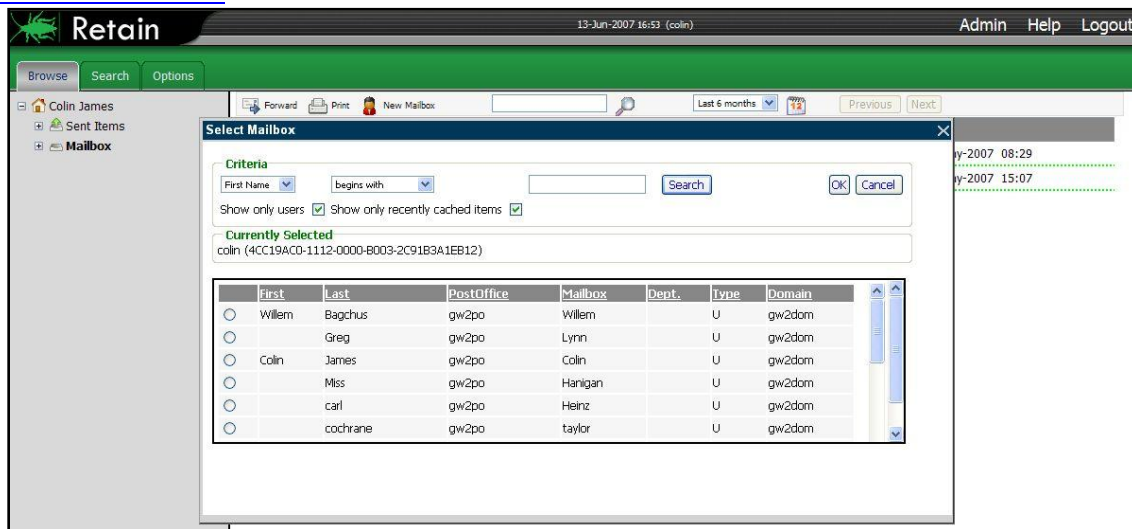
- **FORWARD:** forward selected items by e-mail.
- **PRINT:** print selected items.
- **NEW MAILBOX:** select a new mailbox to view.
- **QUICK SEARCH:** search the current folder for text in “from”, “to”, “subject” or body.
- **DATE SELECTOR:** select a custom date range. Retain will show items within this range. The date filter selection is saved automatically whenever it is changed in the browse and search windows and persists between logged-in sessions. Users should take care that the date range sufficiently covers the time range of interest – a common mistake is to assume Retain has not archived anything, when in fact the date range is simply too narrow.
- **PREVIOUS/NEXT:** move to the next or previous page of items.

Browse Window Defaults

- Retain remembers what the last browsed mailbox was.
- Non administrators go right to their mailbox when they log in.
- Administrators get a prompt to select the mailbox they want to view.

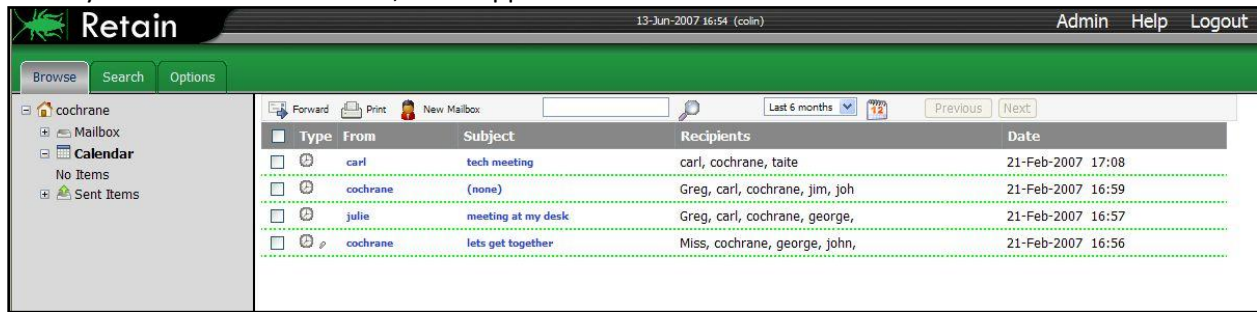
New Mailbox

If you click “New Mailbox” (which is available if you have access to at least one other mailbox in the system), you will see the mailbox selector screen pop up. Select which mailbox you want to see by clicking on its radio button and clicking OK. This is just like the [mailbox selector used in the user rights administration section](#).



In Retain, you can only browse one mailbox at a time. To search multiple mailboxes simultaneously, use the search function.

When you view another mailbox, it will appear like this:



Notice how calendar items appear.

Toolbar Options:

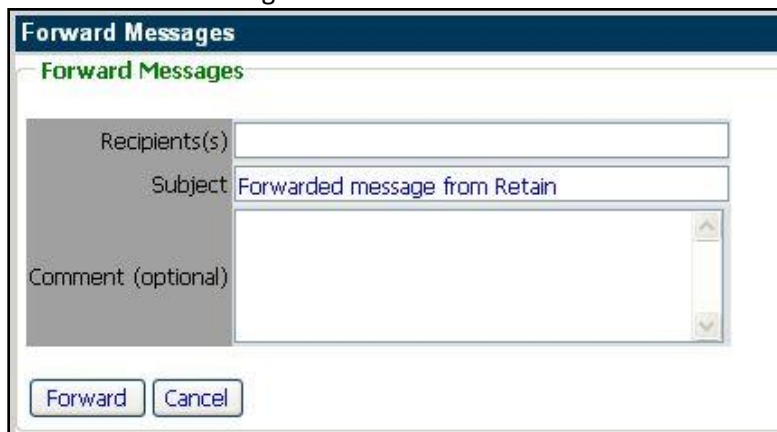
Specifying a Date Range

You can narrow the scope of your browse by entering a date range. This is what it looks like.



Forwarding a Message

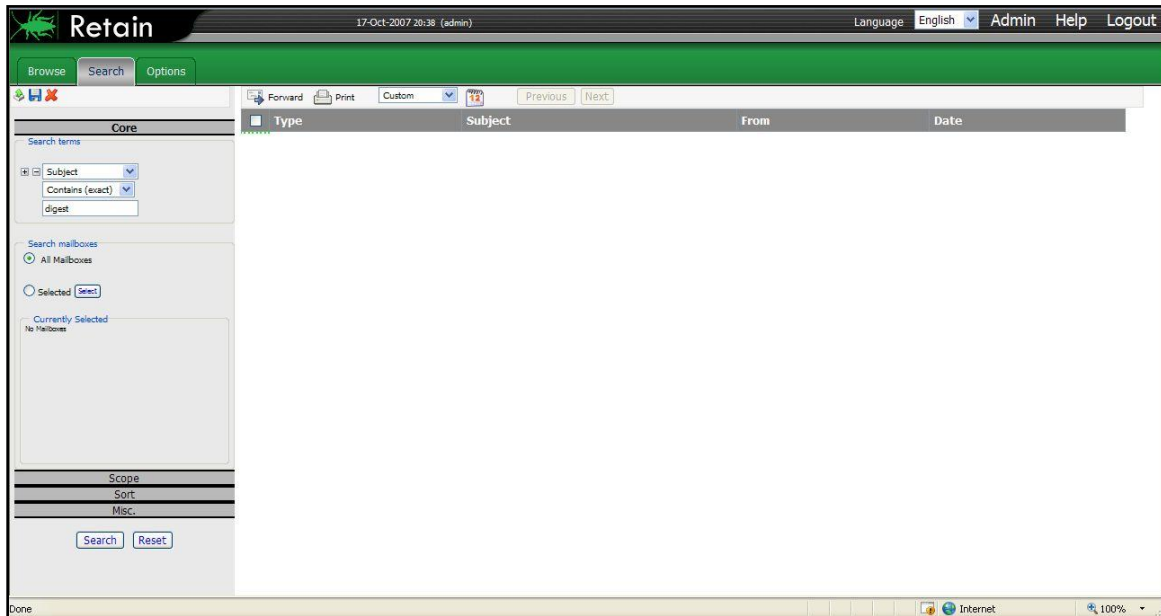
In the main browser window, you can select a message by checking its checkbox and then click Forward. You will see this dialog:



Enter the recipients (where you want the message(s) to be forwarded), separated by commas. Enter a comment if desired and click **Forward**. Retain will send the message(s) via SMTP.

SEARCH

This is the default **Search** screen.



In Search, you enter your criteria on the left, including the scope of your search. Multiple criteria are permitted and you can perform a precise search this way. Your search results appear in the main window.

Retain will search across all mailboxes you have rights to. By default, a regular user only has rights to their own mailbox and therefore will only see results from that.

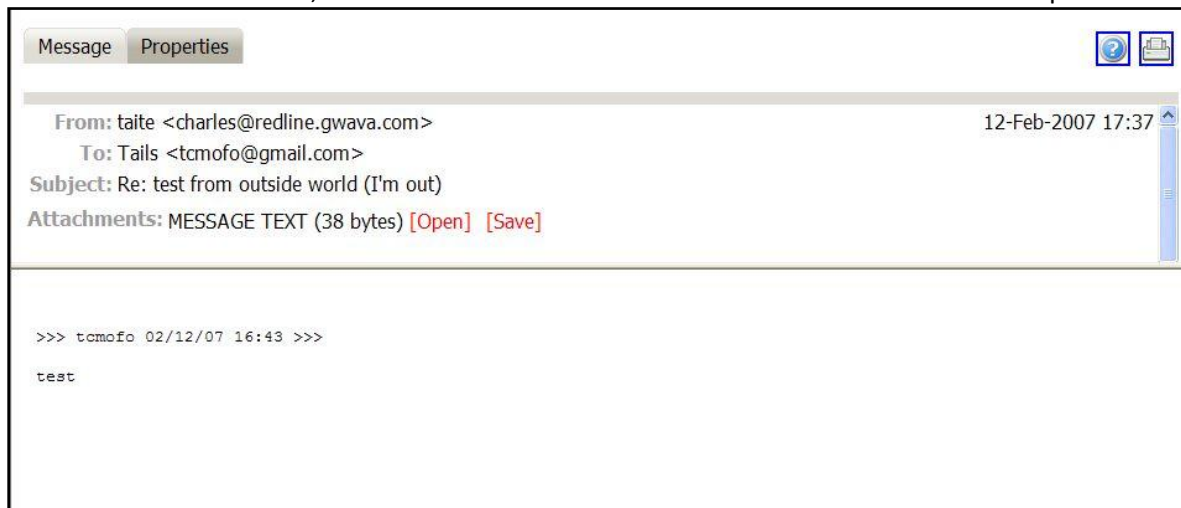
[See Search in More Detail](#)

Opening/Viewing a Message

Here is an example of a message opened in the Retain message window:



You will see all of the text, the headers and attachments as listed. Here is another example:



Notice how the message's metadata has all been saved: time/date, status of attachments and so on.

The user may print the message or save it to disk, if they possess the necessary [rights](#). You can also select the properties tab to see more information about the message:

Message Properties

From: taite <charles@redline.gwava.com> 12-Feb-2007 17:37
To: Tails <tcmofo@gmail.com>
Subject: Re: test from outside world (I'm out)
Attachments: MESSAGE TEXT (38 bytes) [Open] [Save]

Core

Item Type: Mail
Box Type: sent
Owner UID: 013BDEC0-0C5E-0000-AD6D-170031001600
Parent Node: 839
Read: no
Created: 12-Feb-2007 17:37
Delivered: 12-Feb-2007 17:37
Stored: 04-Jun-2007 12:27
Path: / taite / Sent Items / Re: test from outside world (I'm out)

Additional Properties

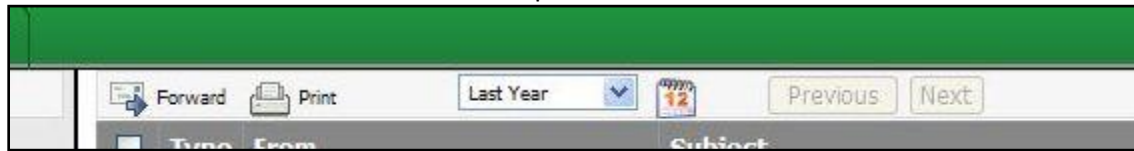
domain: gw2dom
priority: Standard
status: accepted,opened,read
postoffice: gw2po

The message's item type, status, relationship information, opened status, original location and so on are all stored. All of these items are valid based on the time the message was archived from GroupWise.

The properties section is where a lot of fields that are specific to GroupWise are saved.

Search in More Detail

The search window has some of the same top buttons as the browse window.



Search Window

The browse window allows the user to access a single mailbox at a time, access the folder tree of the mailbox and perform some basic searching and filtering. For more advanced searching options, and the ability to search multiple mailboxes at once use the Search Window.


Core Tab:

Search Terms – What To Look For

You specify up to 5 criteria here. All items are logically ANDed together to narrow the search unless specified with a double pipe. Using the double pipe denotes an 'or' search criteria. (i.e. A search criteria with 'Retain || Vertigo' would result with messages containing the words 'retain' OR 'vertigo' in the specified field.)

You can search based on all items shown on the right with operators including:

- Contains (fuzzy)
- Contains (exact)
- Starts with
- Does not contain

You must have at least one search item. You can add and delete them using the  buttons to the left.

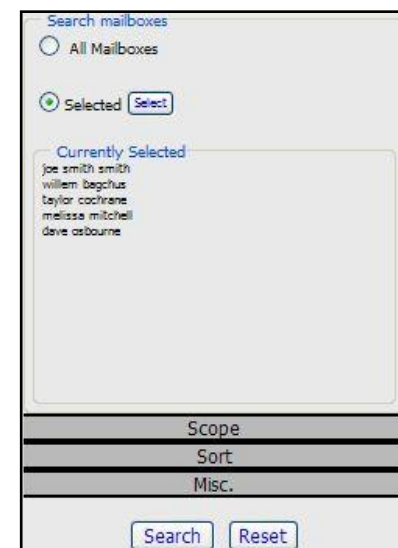
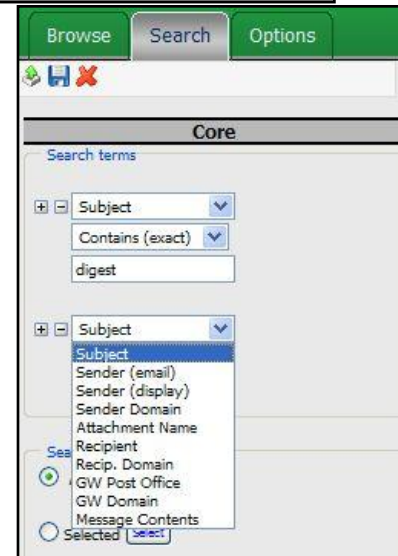
Search Mailboxes – Where To Look

Click the radio button to search through all mailboxes (that you have rights to) or click the other radio button to search through selected mailboxes.

You choose which mailbox(es) to search through using the mailbox selection tool. ([see below](#)) Mailboxes that you have selected for the search are listed in the Currently Selected panel.

Start Your Search

To initiate a search, click the search button. The results will appear on the right, and will be saved as a persistent query. Every time you execute search, even between login sessions, the same query will be executed. If you click on the Reset button, the current query is cleared.



The toolbar on the right provides similar functionality to the browse window toolbar, and allows the user to forward messages from the search results, print, etc. - assuming the user has rights to do so.



RESET – clears the query entirely.

Selecting Mailboxes

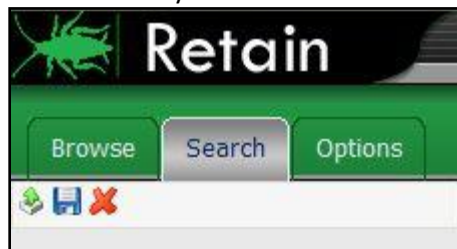
When you click on SELECT, you choose which mailbox(es) to search through using the selection tool. Use the check boxes to select mailboxes and click “Add Selected” to add them to the list in “Currently Selected”. You may remove mailboxes from the “Currently Selected” list by clicking on the red X next to them.

You will see the mailboxes made available to you via GroupWise proxy rights (if the function is enabled in Retain), via the “Search All Mailboxes” right or via mailboxes you have been granted access to specifically.

	First	Last	PostOffice	Mailbox	Dept.	Type
<input type="checkbox"/>	Willem	Bagchus	gw2po	Willem		U
<input type="checkbox"/>	Greg		gw2po	Lynn		U
<input type="checkbox"/>	Colin	James	gw2po	Colin		U
<input type="checkbox"/>	Miss		gw2po	Hanigan		U
<input type="checkbox"/>	carl		gw2po	Heinz		U

Loading, Saving and Deleting Searches

The user may save searches for future use, and reload them whenever they are useful. These search queries may also be deleted freely.



The icons (below the tabs) from left to right mean:

- Load
- Save
- Delete

You can save up to ten queries and you may delete queries you no longer want.

Scope Tab:

This tab contains functions to further narrow what you're searching through.

Item Type

If no boxes are checked, you will search through every GroupWise item type. Otherwise, Retain will search through only those types of items you have checked off.

Item Source

If no boxes are checked, you will search through every GroupWise item source. Otherwise, Retain will search through only those items whose source matches what you have selected.

Attachment Size

When searching through messages, you can tell Retain to search through all messages regardless of the size of the attachments or whether to restrict your search to only those items whose attachments are within the size range you select.

Sort Tab:

Choose how you want Retain to sort your search results.

You may sort your results by the date the items were created in GroupWise, by the Subject, Sender, Sender's Domain, the Recipient's e-mail address, or display name.

Your sort may be up to three levels deep.

Misc. Tab:

Choose your Date Range here. It is important to note WHAT date is being filtered here. It is NOT the same as the date range selector on the results window. The results window date range filters based on the date the item was created in GroupWise.

In this case, it is for filtering appointments and tasks. So you are filtering based on the start/end dates of the item, regardless of when it was created in GroupWise. For example, you might have created an appointment for yourself that will happen in three months. The creation date is three months away from the start/finish dates.

The screenshot shows the 'Sort' tab selected in the interface. It features a 'Sort Results' section with three dropdown menus: 'First By:' set to 'Creation Date', 'Then By:' set to 'Sender Domain', and 'Then By:' set to 'Recip. (display)'. Below this is a 'Misc.' section with 'Search' and 'Reset' buttons.

The screenshot shows the 'Misc.' tab selected in the interface. It features a section titled '(Appointment, Task)' with two date range selectors. The first is 'Start Date' with a dropdown set to '(any date)' and a 'Range' button. The second is 'End/Complete Date' with a dropdown set to '(any date)' and a 'Range' button. At the bottom are 'Search' and 'Reset' buttons.

Search Window – Options Tab

The options section here is exactly like the section in the [Administration | Users section](#). These settings here are specific to the currently logged in user. The current loaded user is shown next to “User ID” located below the Core Settings tab.

Retain

Browse Search Options

Options

Core Settings User Rights Mailboxes Miscellaneous

User ID charles

CORE SETTINGS

Authentication Method	SOAP authentication (Preferred)
Primary UID (links your rights)	013BDEC0-0C5E-0000-AD6D-170031001600 (none)
Group Membership	default
Account does not expire	No
Change Offline Password	Old <input type="text"/>
	New <input type="text"/>
	Confirm <input type="text"/>

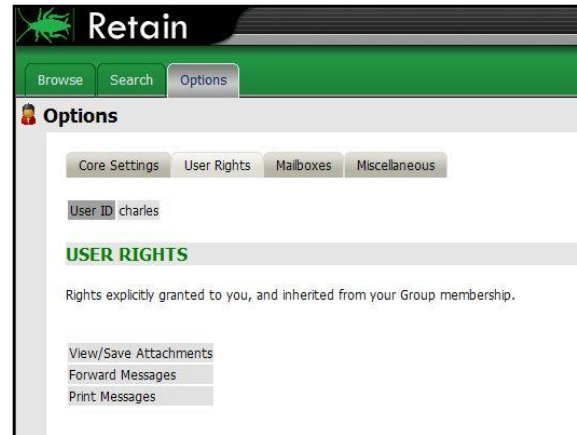
CORE SETTINGS

Among the information displayed is:

- Your User ID (internally generated by Retain)
- Your Group Membership (you cannot change that here)
- Your authentication method (you may change this if you have rights to)
- Your offline password if you don't use SOAP to authenticate
 - You may change the password only if you have rights to

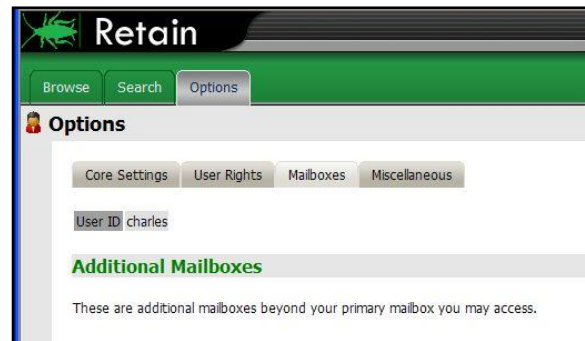
User Rights Tab

You're shown the rights you have within Retain on this screen. Available rights may only be changed by a user administrator within the Administration screen.



Mailboxes Tab

In this section, you're shown the mailboxes you have been given explicit rights to work in. By default, you have rights to only your own mailbox. If an administrator explicitly gives you rights to other mailboxes or you are a member of a group that has rights to other mailboxes explicitly, those mailboxes will be shown here.



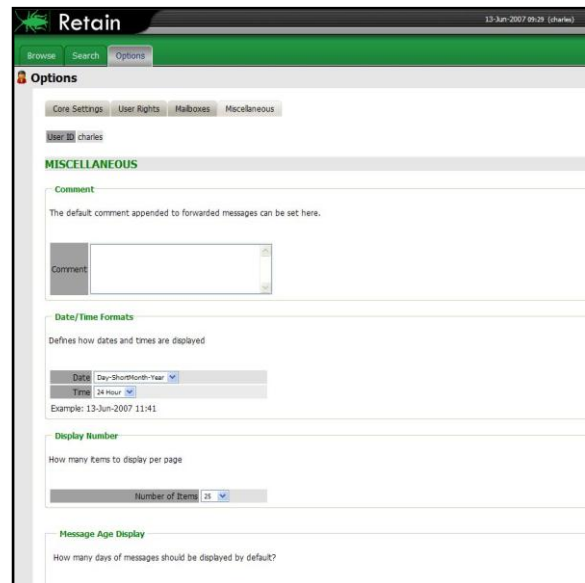
Miscellaneous Tab

This contains your display and session options.

These work just as described in the [user display](#) options in the Administration screen.

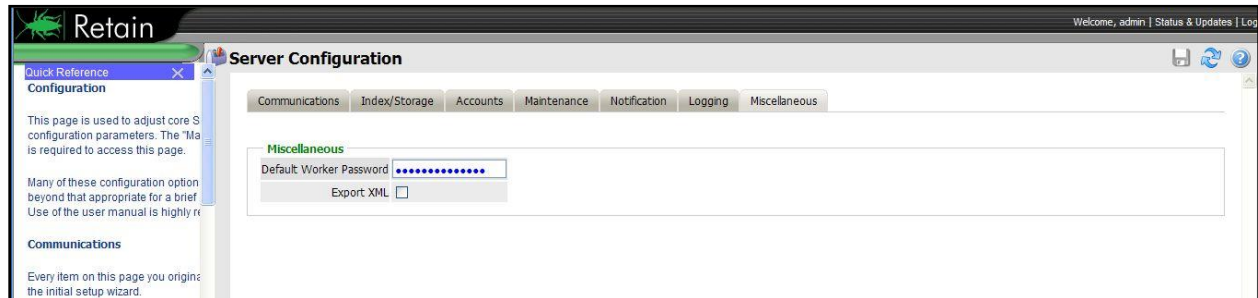
Options are:

- Comment Default comment for Forwarding messages.
- Date/Time Format How you want your dates and times to be displayed.
- Display Number How many items to display per page.
- Message Age Display Default date filter for searching. May be changed on the fly.
- Session Timeout Inactive session timeout. Can be between 5 and 60 minutes.



USING THE RETAIN HELP SYSTEM

Retain has context-sensitive help screens that appear in the left column when you click the help icon. (



To view help, click the help icon on the right (the blue question mark circle icon) and the help will appear on the left.

Scroll through and read what you need. To hide the help and make the menus re-appear, click the X at the upper right of the help screen.

All topics in the main window are covered in help.

CREDITS AND DIAGNOSTICS PAGE

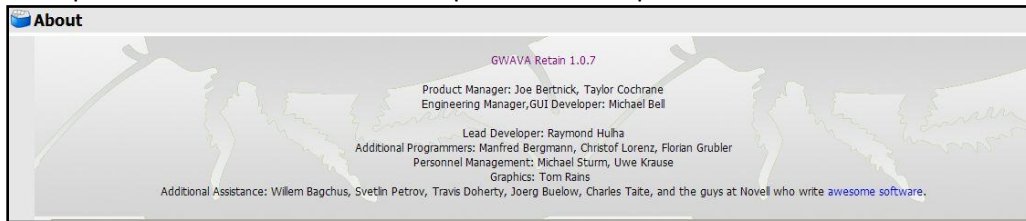
There is a special page in Retain containing credits for those who helped with the project.

There are also valuable diagnostics on this page. When you tune the memory usage of the Retain components, you may want to refer to these diagnostics and statistics.

To get this page from anywhere in the administrative console of Retain, click on the GWAVA bug logo in the top left corner.



There are two parts to this screen. The credits part is at the top.



The diagnostics part is below.

Operational statistics are listed such as uptime, component version numbers, directory paths and memory statistics.

Below that, the buttons will give you more detailed diagnostic information. Generally, you will only use these at the request of technical support.

Please pay particular attention to the Tomcat memory statistics. This information is needed to fine tune Tomcat.

uptime	1d : 17h : 19m
currentTime	Thu Oct 18 08:29:49 EDT 2007
timezone	Eastern Standard Time
retainName	Retain-retaindemo
jvmVersion	1.4.2_11-b06
jreVersion	1.4.2_11-b06
javaHome	/usr/lib/jvm/java-1_4_2-sun-1.4.2.11/jre
tomcatHome	/srv/www/tomcat5/base
logHome	/srv/www/tomcat5/base/logs
osArchitecture	i386
osName	Linux
userName	tomcat
tmpDir	/var/cache/tomcat5/base/tmp
tomcatVersion	Apache Tomcat/5.0
tomcatFreeMemory	10944
tomcatMaxMemory	65088
tomcatTotalMemory	47584
retainHome	/opt/beginfinite/retain/RetainServer
retainEdition	Standard
retainBuild	46
retainAvailability	beta
derbySchema	2
messageStoreSchema	1
indexingSchema	1
derbyVersion	10.2.2.0
luceneVersion	2.2.0
hibernateVersion	3.2.2.ga

Core Info	JAR List	Jobs
Schedules	Profiles	Workers
Quartz	Retention Date Utility	

APPENDIX A:

Backing up Retain

There are a few areas of Retain that are important to backup.

- ASConfig.cfg
- Derby database (Embedded database)
- License
- Indices
- Archive
- SQL Database

The storage directory and location holds all of these files, and the backed up versions of those that should not be backed up while in use. (To find your storage location, see the [Storage tab](#) under Server Configuration.)

Retain automatically creates a backup of certain files, you may specify the settings for the index and embedded database backup under [Maintenance](#). Retain will automatically backup ASConfig.cfg, the Derby database, and the Indices. These backups are located in the storage location, under the backup directory. The Archive and the License are kept in the storage location as well, though Retain does not create backups of these, so these require a manual backup.

The sensitive location to backup for Retain is:

<your storage location>/backup

<your storage location>/license

<your storage location>/Archive

To backup the SQL database is dependent on the SQL database you chose to use. See the recommendations of your SQL vendor to find instructions and backup procedures.

Fine tuning GWAVA Retain

Tomcat Memory Usage Tuning Overview

WARNING: *Failure to tune Tomcat's memory usage will guarantee failure of the Retain components and may lead to severe and irreparable data loss and/or corruption!*

The Tomcat Servlet Container is configured with parameters to indicate how much memory is available for allocation to web applications. Regardless of the amount of physical memory available in the server machine, Tomcat will never exceed these values.

Tomcat is preconfigured with extremely conservative memory allocation parameters— usually from 64 MB to 256MB RAM parameters. This is by design, to avoid taking away too much memory away from other server processes. Once memory is allocated by Tomcat, it is NEVER returned to the general server memory pool.

Two Critical Issues

However, Tomcat's conservative settings present two critical issues:

- The memory allocation is shared among all web applications running under the Tomcat instance. You **cannot** specify a specific amount to be reserved for one specific web application. This is the major reason it is strongly recommended that Retain components (especially the Server component) run on a dedicated Tomcat instance on a dedicated server -- Other web applications such as WebAccess, iManager, iFolder, etc, may consume too much of the shared resources.
- The preconfigured memory parameters may be sufficient for the Retain Worker components. They are definitely not sufficient for the Retain Server component.

Failure to alter these parameters will guarantee a slow Retain Server, or severe unexplainable crashes and/or irreparable data loss. Recovery of information can potentially be impossible.

Hence, it is crucial that the administrator carefully examine and alter the memory allocation parameters on each server.

General Recommendations

The following are our general recommendations for the maximum memory allocation parameter. The initial memory allocation parameter may be anywhere from 50%-100% of these values. These parameters are discussed in more detail in the next section.

Retain Server Component

A minimum of 1 GB of RAM is recommended. For larger systems, 2-3 GB RAM may be fully warranted. Remember, if this RAM is in use by Tomcat, it is unavailable to other server processes – leave sufficient physical RAM for these. Of course, these others server processes are ideally minimal. Also, remember this memory is shared with other web applications.

Retain Worker Component(s)

The Retain Worker component(s) have been designed to be light weight. Nonetheless, a minimum of 64 MB RAM is recommended, and 160 MB is strongly recommended, to give room for future functionality.

Remember, if this RAM is in use by Tomcat, it is unavailable to other server processes – leave sufficient physical RAM for these. Also, remember this memory is shared with other web applications.

Tomcat Configuration Parameters

There are three significant parameters:

1) Memory allocated upon Tomcat startup

- Indicates how much memory is immediately allocated and reserved to Tomcat upon startup. This memory will be in usage for the entire lifetime of Tomcat and never available to the other server processes.
- Typically this is set to 50%-100% of the maximum memory parameter discusses below. It can be lower, but pre-allocating a sizeable percentage of memory ***enhances performance*** and reduces memory fragmentation.

2) Maximum Memory available to Tomcat

- If the memory usage grows beyond the startup allocation, Tomcat will allocate additional blocks of memory in chunks as needed up to this limit. It will never return this memory to the general server memory pool. (Although memory internally will be freed and reused for Tomcat applications).
- Tomcat guarantees that it will never exceed this memory allocation parameter. If Tomcat runs out of memory, it will try to reclaim unused memory via garbage collection. If this is insufficient, the web application will be denied the memory allocation. Unpredictable (but invariably unpleasant) results will then occur.
- **This is the most critical parameter to tune.**

3) Stack Size

- For each thread (which includes each and every concurrent user request), Tomcat will allocate stack space.
- This value is typically measured in KB, and defaults to 512KB.
- It is allocated per concurrent users, and is in fact far too generous a number in general. 1000 users for example would take 500 MB of RAM just for stack space, before the program even allocates memory to run!
- Generally we recommend reducing this number to 128k-160k. Increase conservatively, in 64 KB chunks, if you see out-of-stack-space errors in the logs.

How to change memory values.

Every OS has a different methodology! Please read carefully.

Netware/OES NetWare:

- 1) Make a backup copy of **tomcat4.ncf**.
- 2) Edit **tomcat4.ncf**. You'll find these command line switches, that will look something like this:

- -Xmx256m 256MB maximum memory by default. Change to 1024MB, for example.
- -Xss160k 160KB stack size
- -Xms512m 512MB initial memory allocated.

SLES 9:

- 1) Edit **/usr/share/tomcat/catalina.sh**.
- 2) Add a line right below the **#!/bin/sh** like (for a Retain Server):
CATALINA_OPTS="-Xms512m -Xmx1024m -Xss160k"

OES Linux:

If you are using the OES Tomcat4 instance (default)

- 1) Edit **/etc/opt/novell/tomcat4/tomcat4.conf**.
- 2) Edit **JAVA_OPTS** (may contain some settings already) to something like: (for a Retain Server)
JAVA_OPTS="-Xms512m -Xmx1024m -Xss160k"

***** A typical OES Linux server uses lots of web services and if you installed them, don't skimp on RAM.**

If you are using the SLES Tomcat5 instance, apply the SLES 9 instructions.

SLES 10:

- 1) Edit **/etc/sysconfig/j2ee**
- 2) Change the **CATALINA_OPTS** line to something like: (for a Retain Server)
CATALINA_OPTS="-Xms512m -Xmx1024m -Xss160k"

Windows:

- 1) Go to the System Tray icon for Tomcat.
- 2) Choose configure.
- 3) Go to the Java tab.
- 4) Set the Minimum Memory (always used), Maximum Memory, and Stack Size.

Checking memory:

After logging into Retain Server, click the bug icon at the upper left. Among other stats, you'll see the tomcat Memory statistics. These are for all web apps, not just Retain Server.

APPENDIX B – Troubleshooting Some Common Error Messages.

EA04

EA04: Response is too large. SOAP protocol error. POA received too much data at once. This error message is largely invalid and gets thrown due to a bug in the current (7.0.2) GroupWise Post Office Agent. Retain has been tested with multiple attachments, some even tens of megabytes in size, that it does get the entire attachment.

To change the setting, edit the POA startup file and add the `/soapsizeLimit` variable. Please consult the Novell GroupWise online documentation for the syntax.

Example on NetWare: `/soapsizeLimit=2048`

The real solution will be in GroupWise 7 SP3. One workaround is to set the chunking size limit to 2048. We will only take 1024 chunks, and this setting is sufficiently high to fool the POA into not throwing the message.

D712/D714

D712/D714 The administrator has disabled/expired the entire post office or a specific user database. Retain cannot log in.

D714 The Database is temporarily disabled. GroupWise believes a MOVE is in progress. The MOVE must complete before Retain is allowed to log in.

C05D

C05D Item store is missing from Database. A mandatory database file is missing. This implies one of two possibilities:

- 1) Significant database corruption in the user database, which may be fixed with GWCHECK, or
- 2) This account has never been logged into before. Until an account is logged into at least once from the GroupWise client, Retain cannot access it.

Other notes regarding GroupWise 7, SP 3 (7.0.3):

Retain cannot access mailboxes with either of the following set

- Limited client license
- Disabled/Expired account

Novell will be addressing the limited client license issue in GroupWise 7 SP 3.

APPENDIX C – The Tools Folder

There is a TOOLS folder included in the Retain download package.

It contains:



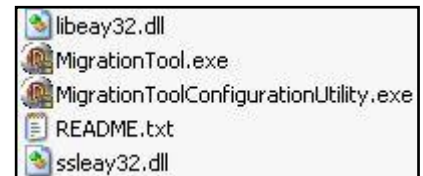
The Archive Migration Tool

This migration tool is designed to import native GroupWise archives directly into Retain.

There are two modes:

1. Run at all workstations mode.
From a command line, you'll run this and it will log into the users mailbox, and then open the local archive. It will then feed messages directly to Retain.
2. Centralized run.
This only works if you have all archives stored at a central point. In this case, one can conveniently run all of the migration from a single workstation, and not involve the users at all.

See [Appendix D](#), below for more information.

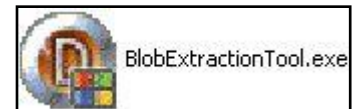


The Archive Plugin

This is a simple C3PO plugin for Win32 clients that allows you to

- add a Retain menu item for easy access to web archives
- hide current Archive options.

It can be run interactively or via command line. Run the program for the command line switches.



Blob Extraction Tool

This command line utility provides a quick way to extract the original contents of any compressed/encrypted blob in the system. This is for diagnostic and disaster recovery purposes.

Simply type BlobExtractionTool at the command line for the usage options.

Diagnostic Tester

This is a tool for troubleshooting and diagnostics. You can copy the code to your retain server directory, and you will be able to go to a user's live mailbox, read mail items, and test archiving.

Consult the readme file for further information on its use.

Recover Admin

This is an emergency tool you can use if you happen to lose your admin account/password.

This utility will let you create a new admin.

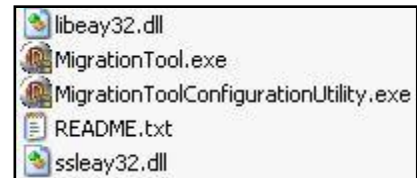
Consult the readme file for further information on its use.

APPENDIX D – Archive Migration Tool

The Archive Migration Tool is for taking your existing native GroupWise archives and sending them to your Retain archive.

The directory contains 5 files:

- 1) The migration tool itself.
- 2) The migration tool configuration utility.
- 3) Two support DLL's and a readme file.



SYSTEM REQUIREMENTS

- A Windows XP workstation running GroupWise client 7.0.1 and up.
- Access to the archives you want to migrate.

OVERVIEW/MODES OF OPERATION

The migration tool uses the GroupWise client to access the archives you want to migrate.

- In **single-user mode**, the migration tool will access the mailbox of the logged-in GroupWise user and it will read the archives available to the GroupWise client and send them to the Retain Server you specify.
- In **multi-user mode**, it will use the **trusted application key** to log in to the mailboxes of the users specified in a chosen **GroupWise distribution list**, attempt to access the archives defined in their mailbox and will send them to the Retain Server you specify.

HOW IT WORKS

The migration tool does not access the archive files directly. Due to the way GroupWise stores its archives, you need the GroupWise client to read the archives and to hand the data to the migration tool. The migration tool then sends the archives to a Retain Server, much like a worker would. In normal operation, a Retain Worker reads data from the live GroupWise system and sends it to a Retain Server. With the migration tool, the tool itself is a worker that reads the archived data from the GroupWise client and sends it to a Retain Server.

The migration tool reads the path to the archives as defined in the GroupWise mailbox that you're accessing. That path must be accessible by the workstation you're on. It will then ask GroupWise to open the archives and it will read the items in the archive and send them to the Retain Server you have specified.

If you run in single-user mode, the migration tool will access the mailbox currently logged into by the GroupWise client. If none is logged in, GroupWise will be opened and you will be asked to log in.

If you run in multi-user mode, the migration tool will open GroupWise, you can be logged in as any valid user, and it will use the trusted application key to log in to each user specified in a GroupWise distribution list, one at a time.

PREREQUISITES

The GroupWise client on the workstation you're using **MUST** be able to open the archives you wish to migrate. The process depends on GroupWise being able to access these archives. If you're migrating the archives of another user, as you would be doing in multi-user mode, you **MUST** be able to access that user's archives from the workstation you're on.

It is not enough that the archives are on a network-accessible volume. GroupWise must be aware of the path to these archives and that path must be available from the workstation you're going to use for migration.

SETTING IT ALL UP

In multi-user mode, you can use one workstation to migrate the archives of multiple users. In so doing, you can migrate the data without affecting the user(s) in question. In single-user mode, you will run the migration tool on a workstation that has access to the archives you want to migrate (typically the workstation of the user whose archives you're migrating) and you'll migrate just that one mailbox.

- 1) Copy the migration tool files to any directory accessible to your workstation.
- 2) Log in to the Retain Server you want to migrate the archives to.
- 3) Create a new worker. You're not actually installing a new Retain Worker anywhere; you're creating a new bootstrap file for the use of the migration tool so it knows which Retain Server to send the archives to. Be sure the settings listed are accessible/usable by the workstation where you will be running the migration tool. The migration tool will use these settings to log into the Retain Server.

Workers ADD WORKER Save Changes

No jobs are associated with this worker.

Edit Worker Remove Worker

Enter new worker below

Worker:

Polling Logging Connection

Server Connection

The worker will need to know how to connect to the Server. It is highly recommended that you use a DNS host name for the Host Name. It's important to note that you are specifying the URL from the point of view of the **Worker contacting the Server**, which may or may not match the URL you'd use from your browser to reach the Worker or Server.

Server Protocol:

Server Host Name:

Server Port:

Server Path:

Worker Password:

Note: Changing any of these parameters will require recopying the worker bootstrap file!

- 4) Once you've saved changes, you will be able to save the bootstrap file. Save it in the directory of the migration tool.

- 5) Now start up the migration configuration utility. At the very top of the screen you will see a drop-down selector to tell it where to find the bootstrap file you have just saved.

General Options:

- Run minimized. Sometimes, you might want to run the migration in the background while the user is doing other things.
- Startup automatically. Select this to make the migration tool start the migration process as soon as it is loaded.

The Multiple User section only appears in **multi-user mode**. (If you click "scan multiple user archives".) It displays the available distribution lists.

The archives belonging to the users in the selected distribution list(s) will be migrated.

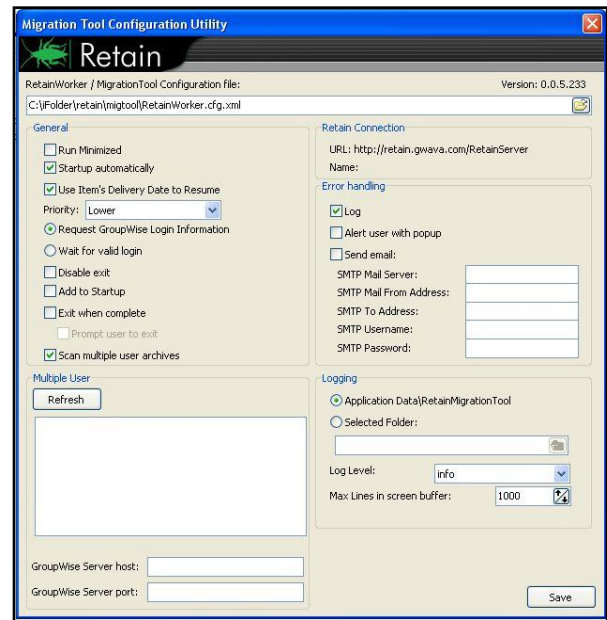
- Use item's delivery date to resume. If the migration process is interrupted and this option is selected, the migration tool will pick up where it left off the next time it runs.
- Request GroupWise Login Information. If you run the migration tool when the GroupWise client is not logged in, it will start up GroupWise and prompt you for login credentials.
- Wait for valid login. If you run the migration tool when the GroupWise client is not logged in, it will wait for the user to log in to GroupWise and then it will begin archive migration.
- Disable exit. This will prevent the user from closing the migration tool while it is running.
- Add to startup. This will add the migration tool to the startup so it begins when the workstation is booted. This is useful for long migrations where you want the tool to continually pick up where it left off and keep running while the user is logged in.
- Exit when complete. This option will force the migration tool to quit once the migration is complete. This is useful for unattended long migrations. You can also prompt the user before exiting.

Retain Connection.

- a) This information is a confirmation of what is in the bootstrap file you created for this migration. It lists the URL that the migration tool will use to talk to the Retain Server.

Error Handling

- a) Log. Choose whether you want the migration session to be logged.
- b) Alert user with popup. In case of an error, choose this option if you want the user to be notified of an error.
- c) Send email: If you want the user to be notified of an error by e-mail, choose this option and then fill in the SMTP details so it can send the message. This can be your GWIA if you wish. Be sure you can relay through this SMTP server!



Logging

- a) Choose where to store the log file.
- b) Log level. What severity of message would you like to appear in the log.
- c) Max Lines in screen buffer. Choose how many log lines will be in the scroll buffer that will appear on screen. This does not affect the size of the log FILE.

Multiple User

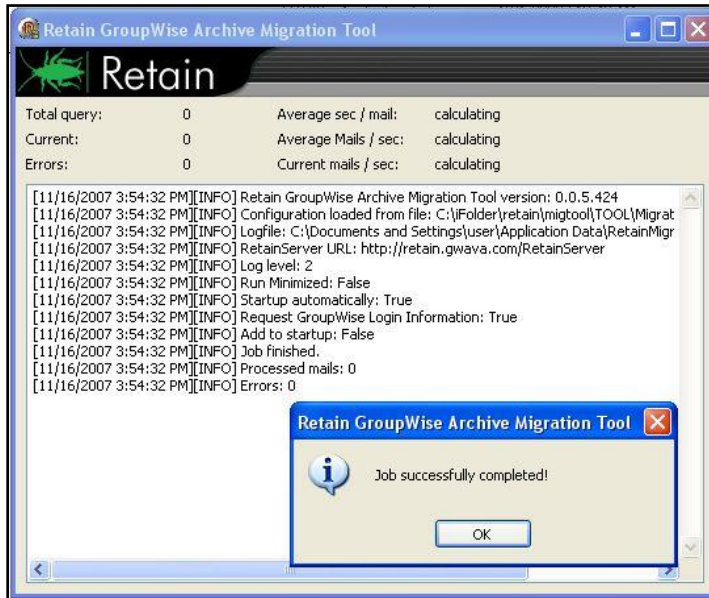
- a) Select "Scan multiple user archives" to enable multi-user mode.
 - b) Refresh. If you click refresh, it will ask the GroupWise client to return the distribution lists in the GroupWise system. The server used is by default the one the GroupWise client is currently logged into.
 - c) You may specify another GroupWise POA to log into.
- 6) Finally, click SAVE to save the migration tool configuration file. Save it into the directory where you will run the migration tool itself.
 - 7) Run the migration tool when ready. It will read the configuration file and it will attempt to start the migration.



Running the Migration

The migration tool will use the configuration file to run the job as you have specified in the configuration tool. You may run this tool as often as you need to set up the migration job to your liking.

When the tool runs, you will see a screen like this:



You will see any errors in this screen and when the job is complete, it will say so.

For each user in a multi-user job, it will read the location of the archives from GroupWise and then it will attempt to open the archives. This is why it is critically important that the workstation you're using for the migration can access the archive files.

LIMIT OF 5 CONCURRENT MIGRATIONS

There is a maximum of 5 migrations permitted at any given time. For instance, if you're running the migration tool from the workstations of your users, only 5 at a time will be migrating their archives. The others will wait their turn. This is to prevent all the migration requests from overwhelming the server.

OTHER NOTES

The migration tool may be deployed using management tools such as Novell ZenWorks. This is one method to collect archives which have been stored on users' workstations. Users may run the tool manually or it can be run automatically.

APPENDIX E – Reload Integration

GWAVA Reload and GWAVA Retain perform very different functions. Retain is an archiving product whose main feature is the storage of data in one place for later search and retrieval. Reload is a Hot Backup, Quick Restore and Push-Button Disaster Recovery product whose main feature is the storage of instances of GroupWise post offices for the purposes of restoring items to their original location in their original form or providing disaster recovery of domains or post offices.

So, why would you want to integrate Reload and Retain?

1. Reload is very good at moving data efficiently from point A to point B.
 - a. It copies your post office data in its original form.
 - b. It can make what is effectively a full backup by moving and storing as little as 12% of the total amount of data in the post office.
 - c. By having the backed up data available in its original form, it can serve as a data source for Retain.
 - d. Reload's backups are available the moment the backup job is complete.
2. Retain moves a lot of data and needs strong network links to do so rapidly.
 - a. An archiving job moving "everything" will move all of the data. This may seem self evident but when you combine Reload with Retain, you can achieve the same thing by moving only 12% of the data.
 - b. If you don't integrate them, you will pull data twice over the link – once for Reload, and once for Retain. On top of that, if you don't have Reload and you only have Retain, you will definitely have to move your data twice.
 - c. By integrating Reload and Retain, you can centralize your archives and ensure good backups and achieve a single data pull.

A Brief Review on How Reload Works

No Helper Software Needed.

Reload runs on a Linux server. It does not use agents or helper software on the source post offices to work. In other words, no agents or TSA's are required. Reload simply connects to the server where a post office or domain is stored and then copies the data to its backup storage location.

Backups are instantly available.

Because the data is copied in its original format, the data becomes available as soon as a backup job is complete by simply running a post office agent (POA) against it (for post office backups) or a message transfer agent (MTA) (for domain backups).

Backups Have Little or no Impact on Users.

Because Reload does not use the Post Office Agent to make backups, there is very little impact on users. The POA will continue to run and service users as normal. Reload also does not use TSA software or helper agents on the live post office server. Backups can be made while the users are logged in and working.

Reload Leverages GroupWise's Architecture to Save Bandwidth.

A GroupWise post office is composed of databases and overflow files. Databases contain users' mailbox layouts and indexes and other databases contain users' authentication information. For any GroupWise item exceeding 2KB in size, such as e-mail with attachments, overflow files are stored, commonly called BLOBs (Binary Large Object).

While the contents of the databases changes almost constantly, the BLOBs are static. Therefore, in a Standard Backup, Reload grabs the databases in their entirety but only those BLOBs that have been newly created since the last backup.

Generally, the BLOBs take up almost 90% of the space occupied by the whole post office. Therefore, with a standard backup, Reload can get away with copying only 12% of the data – the databases and only those BLOBs which have recently been added. For those BLOBs that have been backed up in prior backup instances, Reload links to a master backup directory, taken the first time a backup was run, using a Linux feature called symbolic links. A symbolic link is like a Windows shortcut except that it looks, feels and acts like the real thing.

This is how Reload can achieve VERY fast backups. In addition, using Reload to move data will save tremendously on network bandwidth compared to traditional backup systems which grab all of the data.

Backups Can be Made of Backups Allowing Centralization and Redundancy

Reload was made to backup live post offices and domains and it can also make backups of other Reload backups. The following two cases can help illustrate how useful this can be:

Consider client "A" who has two physical locations, one post office in each. This client wants redundant backups – a primary backup plus a secondary in case the primary fails.

This client installed a Reload server in each location. The servers backed up the local post office in addition to making a backup of the Reload server in the other location. Thus, each Reload box effectively had backups of both servers.

Consider client "B" who has one central data center and four branch offices. This client wants the head office to have backups of all post offices in all locations.

Branch offices 1, 2, and 3 have fast WAN links to head office but branch office 4 has a very weak connection to head office. However, branch office 4 has a strong WAN link to branch office 2.

So the client installed a Reload server in each office and one in the head office. The Reload server in the head office was set to back up the Reload servers in branch offices 1, 2 and 3. For Branch office 4, the Reload server in Branch office 2 was set up to back up the data from the Reload server in branch office 4 and then the head office was set to back this data up from the Reload server in branch office 2.

Thus, backups can make as many hops and can be backed up in as many places as you need. Using the ability to backup one Reload server with another, you can achieve data centralization and redundancy. The redundancy also gives you the ability to use Reload for off-site disaster recovery. Additionally, for client “B”, their old backup system moved all of the data every day. Using Reload, they managed to cut their network traffic by 88%.

How Retain Takes Advantage of Reload’s features

Consider client “B” from the earlier example who has four branch offices and a head office. They want their Retain Server to be located at head office. So they need to centralize their data.

Without Reload, they would have Retain Workers on the branch office POA servers and the data would be sent over the WAN links. For a data collection involving “everything”, all data would surely saturate the WAN links.

Plus, their backup/restore software would use the WAN links too, if they were centralizing their backups.

Adding Reload to the mix, they are able to achieve huge bandwidth savings and performance gains.

Reload would be set up to centralize the data to one Reload server in head office, saving immediately 88% of their bandwidth compared to their existing backup/restore system.

Next, A Retain Worker would be set up on the central Reload box to draw data from all backed up post offices.

One Retain Worker can only run one job at a time, so the post offices would be archived one at a time.

Multiple Retain Workers on One Server

It is possible to install more than one Retain Worker on one server but this would double the hardware requirements, Tomcat memory tuning, and is limited to Linux as the platform OS. This option is built into the Linux installer and is activated by using the ‘addworker’ switch to the install command. (i.e.

`./RetainInstall.sh addworker`)

You would normally only add additional workers if you wanted to dredge more than one post office at a time.

On a Reload server, it might not be so time critical to dredge the post offices on it since there is no impact on the end users. On top of that, Reload has a special feature made especially for Retain, a special post office agent that stays up all the time, except to move to the latest backup. This way, it is always available to Retain.

So you will have to decide if it is acceptable to have the post offices dredged one at a time or if you would prefer to dredge many at a time. To do many at a time requires multiple workers.

Timing

It’s important to time the data collection on Retain so that the Reload backup will be complete long before the Retain job is scheduled to start. This is set in the schedule section under the Data Collection menu in Retain.

Retain Settings

To set a Retain to run a job against the Reload Post Office backup instead of against the live POA, is quite simple. Retain has been designed to work with Reload, and all that is involved is to assign the reload password for the worker and assign the running jobs to use the Reload integration. This setting is found in the Jobs configuration page in the Retain management console, (you must be logged-in as the administrator or posses administrator rights).

Enter the management console, and select Jobs from the Data Collection menu.

Create or select a job which you desire to use against the Reload system, and select the Reload Tab. You must select the Enable Reload Integration option, as well as supply the correct connection address for the Reload Server URL. (Both IP address and DNS name will work, but DNS is recommended wherever possible.)

Set the rest of the Core Settings, Notification, and Status as you would normally for your Retain system, but note that in the Mailboxes section you **MUST** assign the mailbox that Reload is backing-up. Save the changes.

To specify the Reload – Retain password to the worker, open the specified worker in the worker settings page, and click on the Connection tab. Specify the new Worker Password by entering it into the provided field and then click ‘Save changes’ in the top corner of the page. **You must re-upload the bootstrap file to the worker after creating a new password.** (See the worker section to get instructions on [correcting the bootstrap file](#)).

How to Setup Reload to work with Retain

This part assumes that you have already set up and configured one or more Retain workers to collect data from your Reload box.

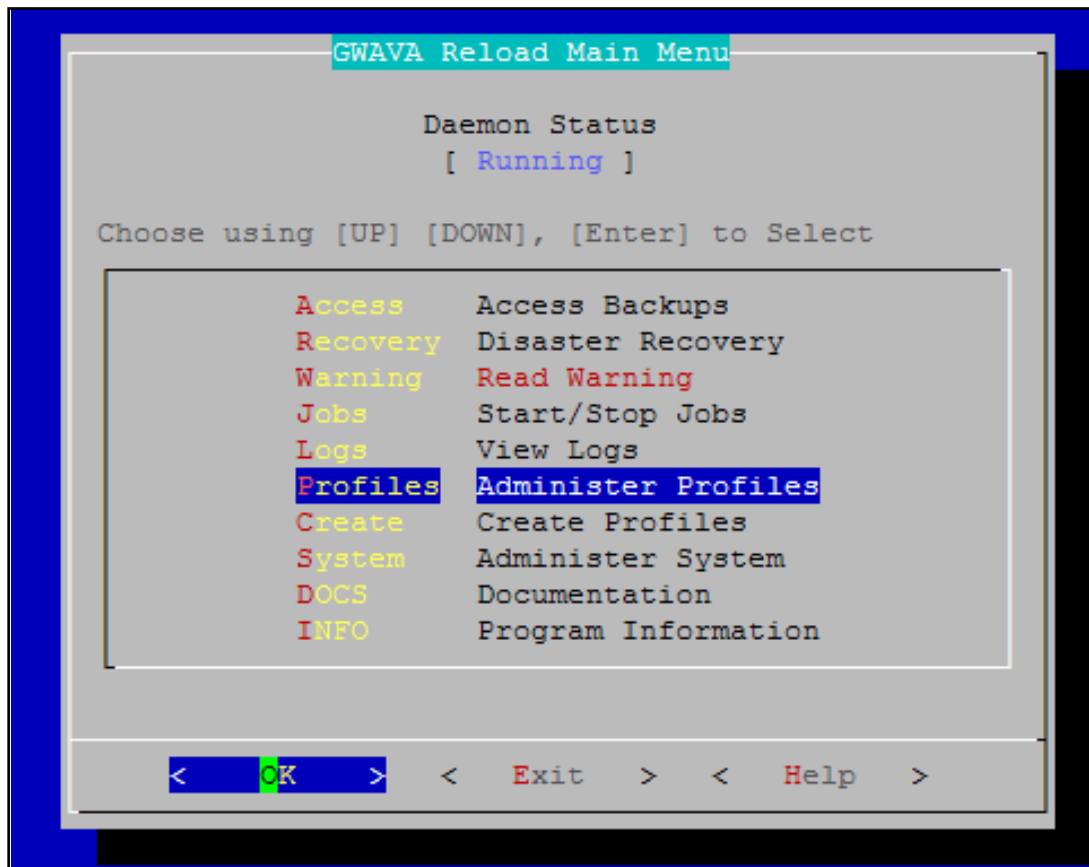
First, Reload must be set up so that the backups are available. There is a special feature in Reload for this. It calls up a post office agent that stays up all the time and it only goes down long enough to change to the most recent backup. So it will always be there with very small interruptions as the POA is brought down then up.

Setting up Reload is done on a Profile-by-profile basis. Each post office that you set up for Retain to dredge from must be configured within the profile configuration menu.

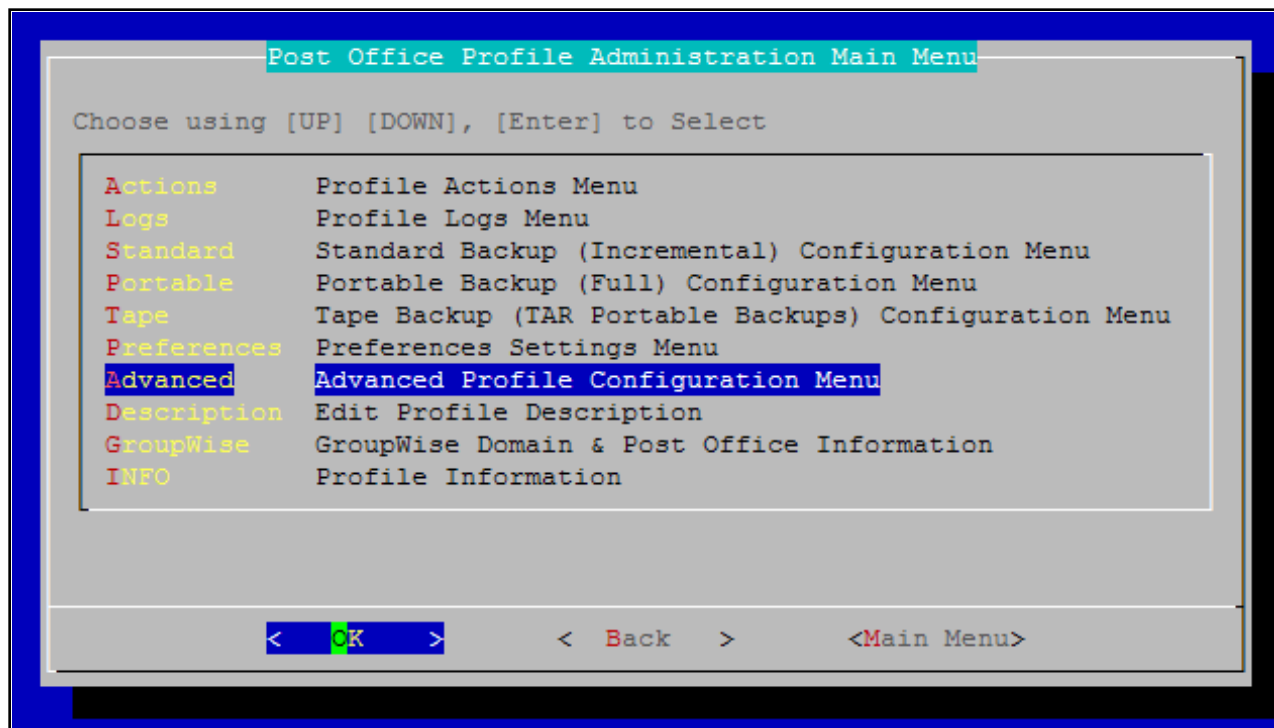
- 1) Start up Reload's Administration menu.



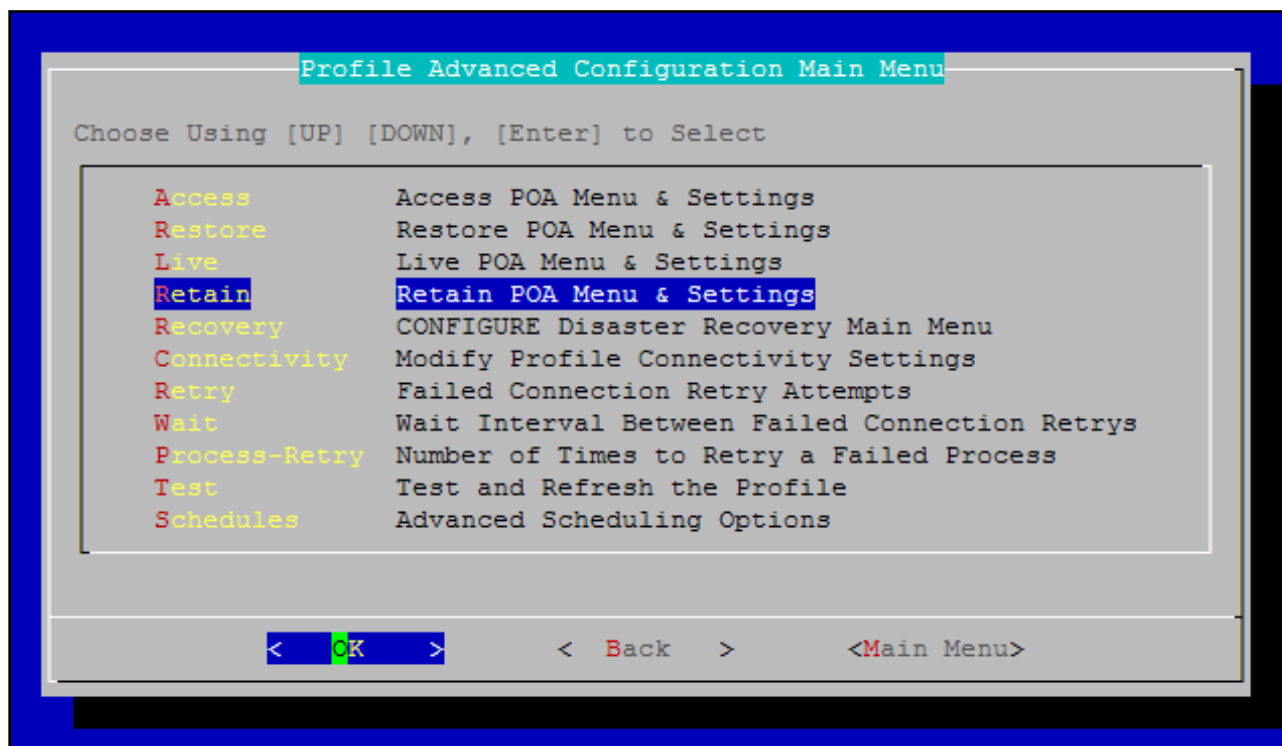
- 2) From the main menu, choose Profiles – Administer Profiles.

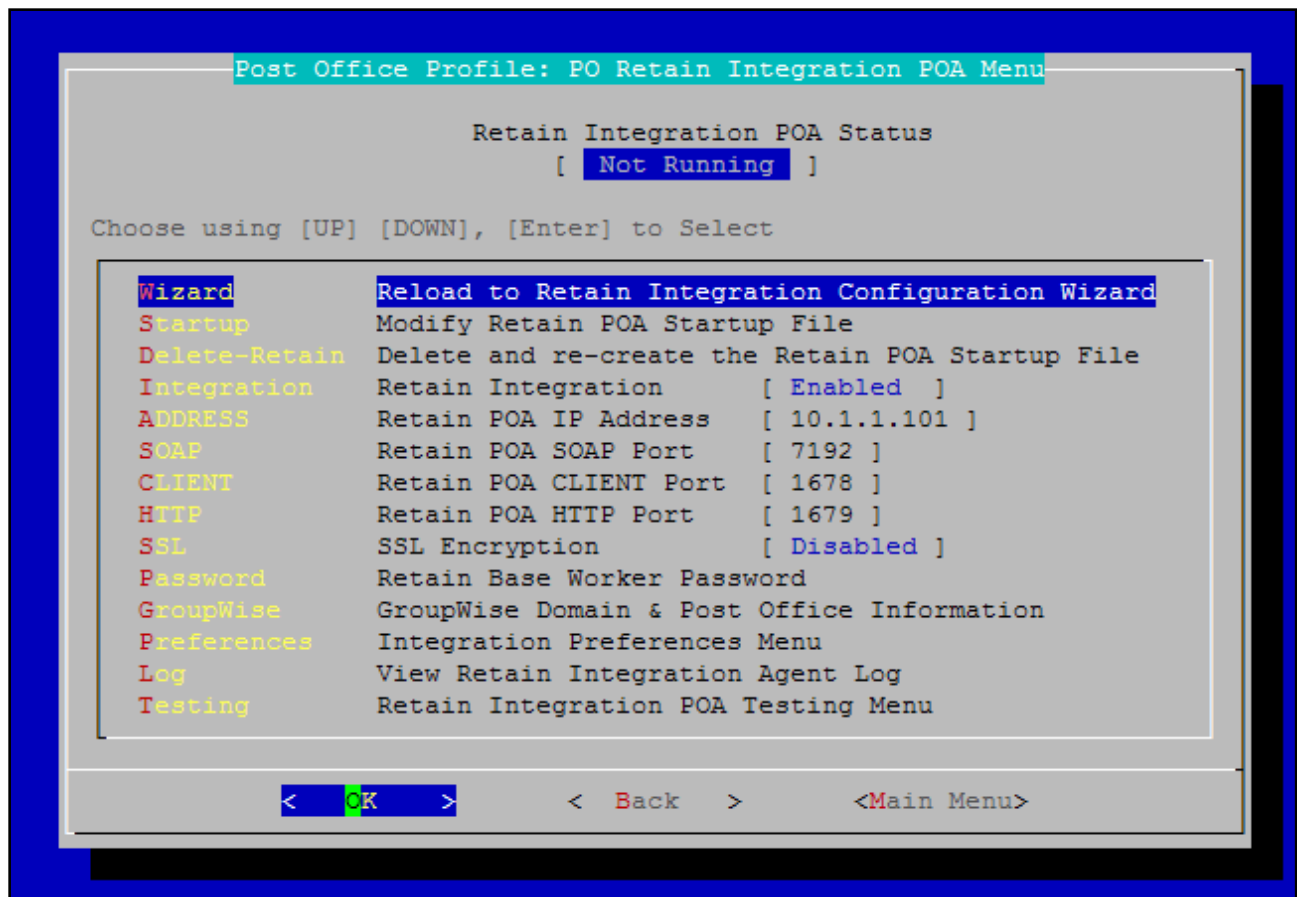


- 3) Choose Advances Profile Configuration Menu



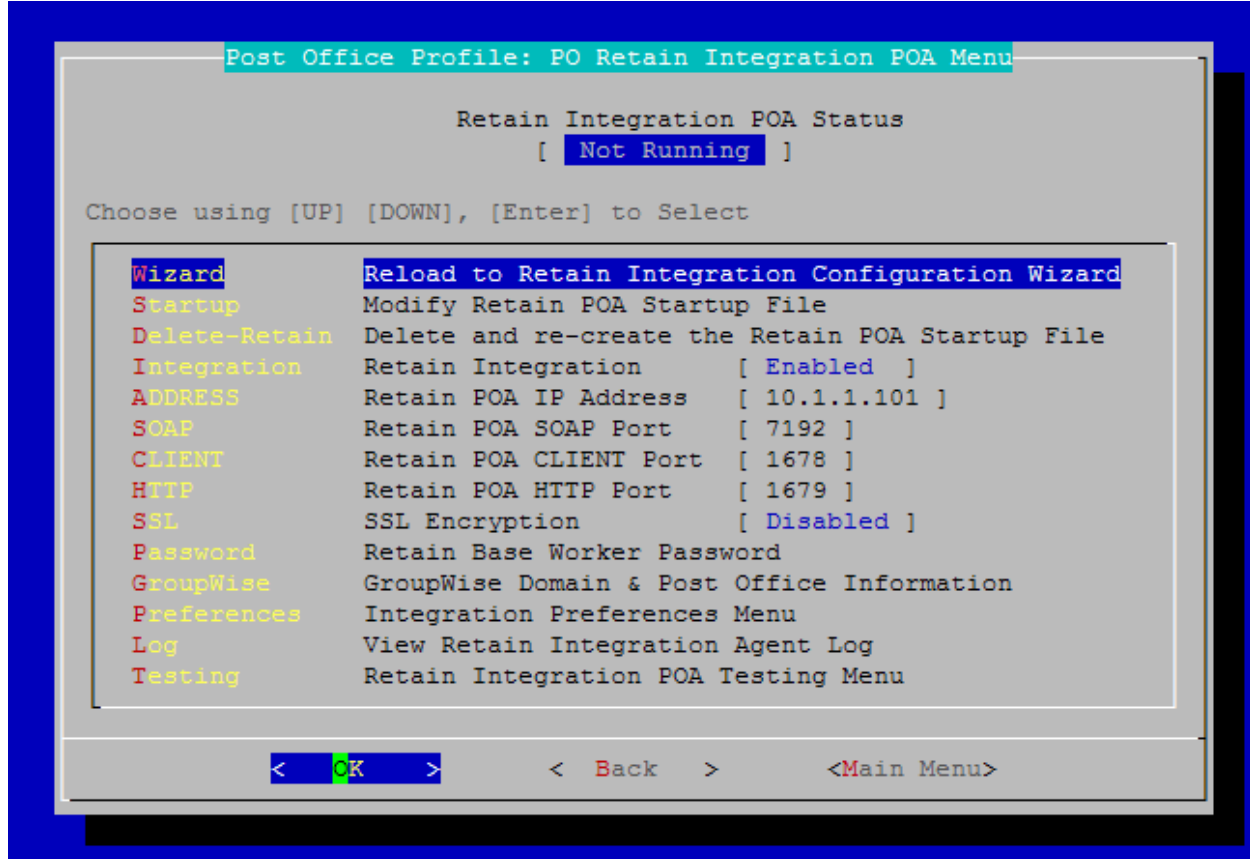
4) Choose Retain POA Menu & Settings





Now it's worthwhile examining this menu. It contains all the settings you will need to make the Retain integration work. This will be a new post office agent running and it will not interfere with the POA being used to access, backup or disaster recovery. Thus, the settings NEED to be different. The easiest way to start is to run the wizard.

Here is another shot of the configuration screen after running the wizard. You will see sample settings and the menu options will be described below.



At the top, the status of the Retain Integration POA is displayed.

- Wizard: Run the configuration wizard.
- Startup: modify the startup file for the POA if you want to make specific changes to it.
- Delete-Retain: delete the startup file if you want to start fresh and configure from default.
- Integration: Enable or disable the Retain Integration
- Address: The IP address this POA will listen on.
- SOAP: The SOAP port this POA will use.
- CLIENT: The port that a GroupWise client may use to access this POA.
- HTTP: The HTTP port for this POA.
- SSL: Enable or disable SSL (Generally keep SSL Disabled)
- Key: A password Retain will use to access this POA.
- GroupWise: Specify the domain name and post office name for this POA.
- Log: View the Integration Agent Log.

The wizard will be shown below.

1) Run the Wizard

GroupWise Post Office Name

In the field below indicate the name of the GroupWise Post Office that this Reload Profile represents.

gwpo

< Save >

GroupWise Domain Name

In the field below indicate the name of the GroupWise Domain that owns the GroupWise Post Office:

gwpo

gwdom

< Save >

2) Enter the name of the post office and domain.

Retain Worker Authentication Key

In the field below indicate a key (string of characters) that the Retain Worker can use to get access to the Reload to Retain integration for this profile.

NOTE: Use only letters and numbers for this key. The case of the letters does matter.

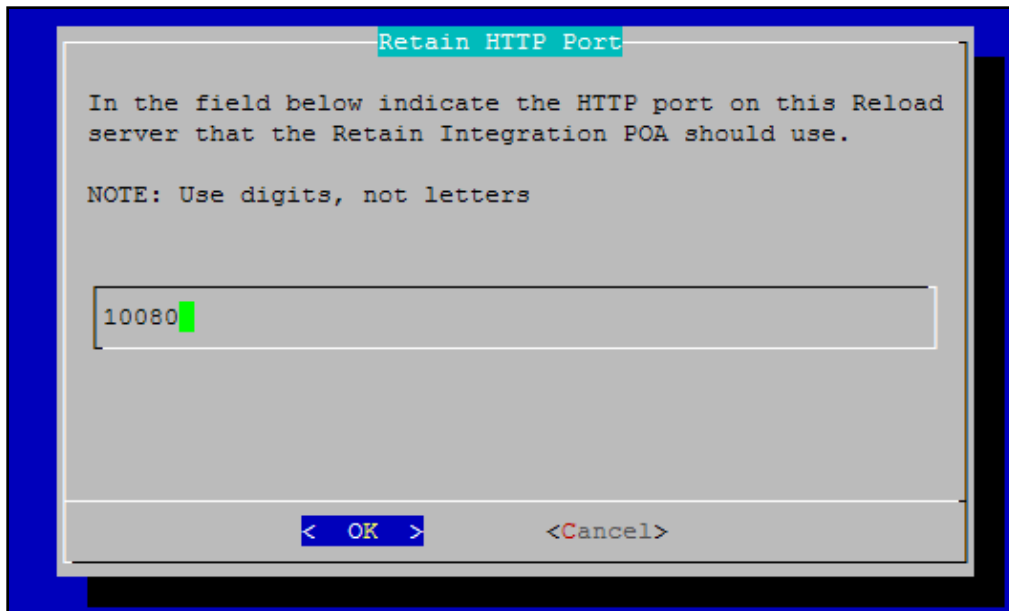
1234

< OK > <Cancel>

3) Choose an authentication key that Retain will use to access this POA. **This must match the password you assigned to the Retain Worker.** (See the [Retain Settings](#))

The image contains two screenshots of a software interface. The top screenshot is a dialog box titled "Retain POA SOAP Port". It contains the text: "In the field below indicate the SOAP port on this Reload server that the Retain Integration POA should use." followed by "NOTE: Use digits, not letters". Below the text is a single-line text input field. At the bottom are two buttons: "< OK >" and "<Cancel>". The bottom screenshot is a dialog box titled "Retain POA CLIENT Port". It contains the text: "In the field below indicate the CLIENT port on this Reload server that the Retain Integration POA should use." followed by "NOTE: Use digits, not letters". Below the text is a single-line text input field. At the bottom are two buttons: "< OK >" and "<Cancel>".

- 4) Specify the IP address and SOAP port for this POA. **Be sure it is unique.** Some will choose one IP for the whole box with different client ports and SOAP ports for each POA. Others use the same ports but the IP addresses are different.



- 5) Choose the HTTP port for this POA.

Because Reload is creating a faux POA for Retain to archive mail from, the Reload POA must be on a different or unique port, so there is no conflict with your original POA. If your Reload installation is on a separate machine from your POA, any port will do, but if it is the same, pick a port that you know is open, different from the live system.

Retain will pull all necessary connection information from the Reload server. There is no need to enter these settings into the Retain Server.

Now that you have set up the basics, you may edit the POA startup file in case you wish you change any other settings, (retain.poa), or you can re-run the wizard from step 1.

IMPORTANT NOTES FOR THE INTEGRATION

Retain

Because Reload essentially creates a snapshot of the Post Office, the duplicate checks that Retain can use are very limited. The retention flag and purge flag will not function as they are kept within GroupWise and would be changed back as soon as Reload creates a new backup. **The Item Store Flag is the only duplicate check that is internal to Retain, and is the ONLY duplicate check ability that will work when Retain archives against a Reload system.** Again, the retention and purge flags will not work but the item store flag will. Be sure your Retain Profile matches this setting.

Profiles

default
reload

Add Profile

Edit Profile

Remove Profile

No jobs are associated with this Profile.

Profile reload saved.

Profile Name: reload

Core Settings | Scope | Miscellaneous | Advanced

Date Range to Scan

All Messages (ignore date)

Duplicate Check

Retain only stores a single instance of each message and attachment. Defining how the Worker determines new items (so it may skip sending them to the Server) is an important performance factor. Using the retention or purge flag choices are the fastest choices, if these are options. Never publish all messages unless you are priming the system for the first time.

Publish all messages newer than last stored message (fast)

The item store flag is set in two places: Duplicate Check under the Scope tab and under Set Storage Flags under the Miscellaneous tab. The correct settings are shown.

Set Storage Flags

If you are using either the Purge or Retention features in GroupWise, you probably want these to be advanced automatically as items are stored, so users may delete messages in their mailbox that have been stored by Retain. The Item Store flag is of similar function, stored in Retain itself, but cannot prevent users from deleting item. It is most useful in conjunction with GWAVA Reload or in use with multiple overlapping jobs.

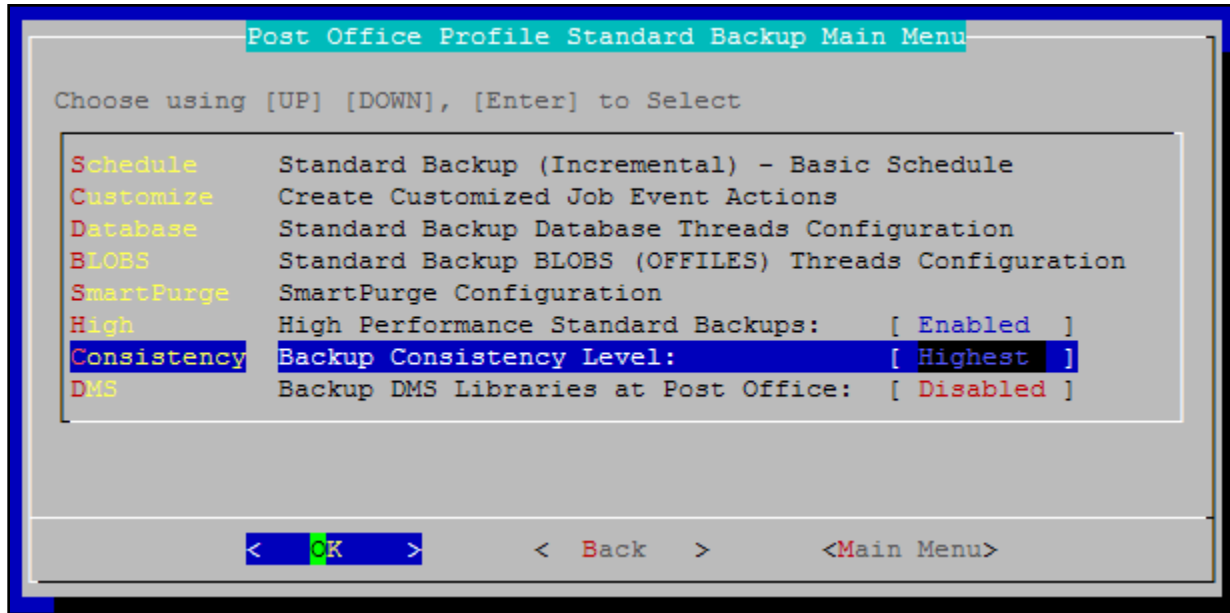
☐ Retention Flag ☐ Purge Flag ☒ Item Store Flag

Reload

To mitigate the chances of getting Retain Worker archive errors while working against a Reload POA, it is STRONGLY recommended that Reload is set to create highly consistent backups.

This setting is located at:

Main menu > Profiles (Administer Profiles) > Standard (Standard backup (incremental) Configuration Profile) > Consistency (Backup Consistency level): Set to highest.



This is enabled by default for new installs of Reload 2.5, but will have to be manually enabled on systems that are upgraded to Reload 2.5. You want a highly consistent backup, to make sure that you have all the blobs associated with the database. Database is picked-up first, so the blobs that are referenced in the database will be consistent with the current backup.