

GWAVA Inc.

GWAVA Retain

Administration and User Guide

Version 3.5.1

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Contents	
Post-Install Tasks.....	7
Initial Setup Overview.....	7
GWAVA Retain Initial Setup.....	8
<i>About Storage Paths</i>	9
<i>Advanced Storage Options</i>	9
Setting Up GWAVA Retain	13
Logging In.....	13
<i>Status and Updates</i>	14
<i>Saving Changes</i>	15
<i>Notifications</i>	16
<i>Modules</i>	17
<i>Mailbox Mapping Options</i>	18
Exchange Module.....	19
Social Messaging.....	28
Google Apps Module	29
Mobile Module.....	31
<i>Host Name</i>	31
<i>Data Path</i>	31
<i>Worker</i>	32
<i>Profile</i>	34
<i>Device Management</i>	35
<i>Mobile Router Page</i>	38
GroupWise Module.....	39
BlackBerry Module.....	42
Retain BAAS for BBM Protected Setup	45
CellTrust SecureLine.....	49
<i>Retain Job components</i>	50
<i>Jobs</i>	51
Schedules	51
Profiles	53
<i>Exchange Profile</i>	53
<i>GroupWise Profile</i>	58
<i>About GroupWise's Smart Purge and Retention Flags</i>	62
<i>Setting up SmartPurge and Retention flags in GroupWise 7</i>	64
<i>Social Messaging Profile</i>	69
<i>BlackBerry Profile</i>	70
<i>Google Apps Profile</i>	72
<i>Mobile Profile</i>	75
Workers.....	76
Jobs	84
<i>Exchange Jobs</i>	84
<i>GroupWise Jobs</i>	89
<i>Social Messaging Jobs</i>	93
<i>Google Apps Jobs</i>	95
<i>Mobile Jobs</i>	98
<i>Blackberry Jobs</i>	100
Management.....	102

Users	102
<i>Offline Password</i>	102
Creating a new user	103
<i>Core Settings</i>	103
<i>User Rights</i>	104
<i>User Rights Summary</i>	105
<i>User-level rights</i>	106
<i>Other rights:</i>	106
<i>The Read Configuration right (Redline Integration)</i>	106
<i>Mailboxes</i>	107
Address Book Selector	108
<i>Adding Mailboxes</i>	108
<i>About “Show only recently cached items”</i>	108
<i>Miscellaneous Tab</i>	109
<i>GroupWise Proxy Support</i>	110
Groups	111
<i>Creating a New Group</i>	111
<i>Group Rights</i>	112
Deletion Management	115
<i>Core Settings</i>	115
<i>Basic Options</i>	115
<i>Date Scope</i>	116
<i>Job Members</i>	117
<i>Notification</i>	117
<i>Schedule</i>	117
<i>Mailbox Deletion</i>	118
<i>Litigation Hold</i>	119
Configuration	120
Server Configuration	120
<i>Communications</i>	120
<i>Index</i>	121
<i>Storage</i>	123
<i>Accounts</i>	123
<i>Intruder Lockout</i>	124
<i>Maintenance</i>	125
<i>Ignore Domains</i>	126
<i>Logging</i>	127
<i>Auditing Records</i>	127
<i>Miscellaneous</i>	128
<i>Export XML</i>	128
<i>REST API</i>	129
Rules Configuration	130
<i>Conditions</i>	130
<i>Actions</i>	131
Router Configuration	131
<i>Storage</i>	132
<i>Logging</i>	132
Storage Manager / Storage Engine	132

<i>Partitions</i>	135
Stubbing Server.....	136
<i>ConsoleOne GroupWise settings</i>	136
<i>Retain Stubbing Settings</i>	138
Reporting and Monitoring Configuration	141
Home.....	144
Report and Schedule Report.....	145
Reports.....	146
<i>Audit User Activity</i>	146
<i>Export Audit Table</i>	148
<i>Job Run Averages</i>	150
<i>Job Run Summary</i>	151
<i>Job Summary</i>	152
<i>Archive Summary by User</i>	154
<i>Server Utilization</i>	155
<i>Job Run Mailbox Summary</i>	157
<i>Job Mailbox Summary</i>	158
Schedule Report.....	159
Manage Scheduled Reports	160
System Monitor	161
Maintenance	162
Licensing.....	163
Overview	164
Audit Log	164
System Log	165
Searching the Retain Archives	166
<i>Quick View</i>	167
<i>Using Online Help</i>	167
Browse	168
<i>Language Selection</i>	168
<i>Merged Mailboxes</i>	169
<i>Browsing Tools (Widgets)</i>	169
<i>Browse Window Defaults</i>	169
<i>New Mailbox</i>	171
<i>Toolbar Options</i>	172
<i>Specifying a Date Range</i>	172
<i>Litigation Hold</i>	172
<i>Forwarding a Message</i>	172
<i>PDF Export</i>	173
<i>Restore</i>	176
Search.....	177
<i>Opening/Viewing a Message</i>	178
Search in More Detail	180
<i>Search Window</i>	180
<i>Core Tab</i>	180
<i>Selecting Mailboxes</i>	181
<i>Loading, Saving and Deleting Searches</i>	181
<i>Scope Tab</i>	182

Item Type	182
<i>Sort Tab</i>	182
<i>Misc. Tab</i>	182
<i>Litigation hold</i>	183
<i>Shared Queries</i>	183
Tag Definitions	186
Options Tab	188
<i>Core Settings</i>	188
<i>User Rights Tab</i>	189
<i>Mailboxes Tab</i>	189
<i>Confidential Exceptions</i>	189
<i>Miscellaneous Tab</i>	190
Using the Retain Help System	190
About and Diagnostics Page	191
Diagnostic Buttons	192
<i>Mailbox Merger / Splitter</i>	193
<i>GW to Exchange Scope</i>	194
<i>GW Exchange Migrator</i>	194
Appendix A: Backing up Retain	197
Fine tuning GWAVA Retain	198
<i>Tomcat Memory Usage Tuning Overview</i>	198
<i>Two Critical Issues</i>	198
General Recommendations	198
<i>Retain Server Component</i>	198
<i>Retain Worker Component(s)</i>	198
Tomcat Configuration Parameters	199
How to change memory values	200
<i>Checking memory</i>	200
UPGRADED SYSTEMS	200
Appendix B – Troubleshooting for Common GroupWise Problems	201
<i>EA04</i>	201
<i>D712/D714</i>	201
<i>C05D</i>	201
<i>Other notes regarding GroupWise 7, SP 3 (7.0.3)</i>	201
Appendix C – The Tools Folder	202
GroupWise tools	202
<i>GroupWise Archive Migration Tool</i>	202
<i>Archive Migration Tool</i>	202
<i>The Archive Plug-in</i>	209
<i>Blob Extraction Tool</i>	209
<i>Single Sign On</i>	209
<i>WebAccess</i>	210
Exchange Tools	212
<i>Exchange PST Migrator Migration Tool</i>	212
<i>Single Sign On</i>	216
Recover Admin	218
Appendix D – Reload Integration	218
<i>A Brief Review on How Reload Works</i>	219

<i>How Retain Takes Advantage of Reload's features</i>	220
<i>Multiple Workers on One Server</i>	220
<i>Timing</i>	220
Retain Settings	221
<i>How to Setup Reload to work with Retain</i>	222
IMPORTANT Notes for the Integration	229
<i>Retain</i>	229
<i>Reload</i>	230
Appendix E – Migrating Retain to a new Server or Platform	231
Appendix F – Switching the Indexing Engine	233
Appendix G – Exchange Permissions required for Retain.....	240
Exchange settings.....	240
<i>Grant Impersonation Permissions to the Retain user</i>	240
<i>Room and Equipment Resources</i>	241
<i>Authentication Methods</i>	242
Appendix H: Trusted Application Key Creation.....	243
Trusted Application Key creation through Console One for GroupWise 8.....	243
GroupWise Trusted Application Key generator	244
Appendix I Mobile Registration Email variables	247
Appendix J Secureline Server Configuration	248

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 regardless which platform it is running on.

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

- Retain Server needs to be configured.
- Configure the relevant module(s).
- At least one Retain Worker needs to be configured.

Initial Setup Overview

- 1) Choose your storage path.
- 2) Retain prompts you for access information to your SQL Database Server.
 - You must create this database beforehand. (See install document appendix for documentation for the supported SQL servers.)
 - Retain creates the tables, indexes, and prepares the database for use.

You will be prompted to provide SQL connection information for both the configuration and message store databases. For convenience and simplicity most installations store this information in the same database. The database(s) will be used to store Retain configuration, cached address books, and all saved message data.
- 3) Create an administrator account with the default username, 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 SQL configuration database).
 - Additional accounts can be created as desired with as many rights as you wish. User accounts may possess a mixture of administrator level and user level rights. As a result, users may have some admin level rights, but would not be considered an administrator.
- 4) Retain prompts you for the following SMTP information for notification and forwarding. (If no SMTP is present, this step may be skipped by typing the word ‘skip’ in the SMTP field.)

DNS host names are generally recommended instead of IP Addresses in almost all cases due to ease in central management and repair if a server moves or is replaced.

 - 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 for authentication with the SMTP server for relaying mail.
 - Password: Enter the password for this username.
- 5) Select the indexing engine. There are two different indexing engines available for use with Retain: Lucene and Exalead. Exalead is to be used with larger systems and requires a separate dedicated server. Lucene is a high performance embedded indexer, which requires fewer servers, but is more memory intensive and does not offer high availability features. Please see the install guides and system requirements for more information on which is appropriate and should be used. Exalead is priced separately; see your appropriate sales representative.

After initial setup, configuration of a module and creation of a profile, schedule, worker, and job are required before messages can be archived.

GWAVA Retain Initial Setup

- 1) Open your web browser.
- 2) Go to **http://<your-RetainServer-ip>/RetainServer**
- 3) Follow the wizard.

You will see this screen initially:

Retain

File Paths ✓
Message Store Database ✓
Configuration Database ✓
Administrator Account ✓
SMTP Notification ✓
Indexing Engine ✓

Welcome to GWAVA Retain

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

- Storage Path
- Message Store Database
- Configuration Database
- Set Administrator Password
- SMTP Notification
- Indexing Engine

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

File Path

A storage path is required for Retain, under which indexes, attachments, backups is stored. The wizard will attempt to create the directory if it does not exist. If you receive an error, check the rights you granted to your Tomcat application.

Storage Path

[Advanced Settings](#)

If you are planning to use the standard engine or the NetApp engine, this path should point to a storage device with sufficient (significant) disk space. You may use mapped drives, UNC format, etc.

For all engines except the standard engine (including NetApp), you'll need to perform additional configuration steps in the Storage Engine section of the main administrative interface, after completing the wizard.

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

For descriptions of the different engines, see the [Storage Manager](#) section. If you select a storage system that is not local, be sure to visit the [Storage Manager](#) after the initial setup to ensure that all information has been provided.

- 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”.

About 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. In situations like these, a SAN might be a good choice for consideration. (Please visit the [Storage Manager](#) section to view options for different SAN systems.) Either way, it's imperative that you take the time to investigate your storage needs BEFORE you begin.

When choosing your storage system, bear in mind the following considerations:

- 2 TB limit. Will 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.

Advanced Storage Options

For this reason, Retain offers the advanced storage options. (Located under Server Configuration.) You can specify where you want Retain to store its information.

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”.

These fields are automatically populated if you only specify the main storage path. You may change them to point anywhere you wish. You may also change the storage locations later due to storage space needs. Please see the [Partitions](#) section for details. You also specify to encrypt the data as it's stored. We strongly recommend for performance and recoverability that you do NOT encrypt using Retain but consider Block level encryption options (such as BitLocker) that have escrow keys and are processed directly at the operating system level.

Database Setup

Welcome to GWAVA Retain

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

- Storage Path
- Message Store Database
- Configuration Database
- Set Administrator Password
- SMTP Notification
- Indexing Engine

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

Message Store Database Connection Parameters

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

- Driver: Type of Database Server. MySQL 5.0/5.1/5.5, Oracle 10 and 11, MS SQL Server 2005/2008, and PostGres 9.0+ are supported. MySQL 4.x will NOT work correctly. If using MySQL 5, make sure you install the latest version - even minor revisions contain significant bug fixes and performance enhancements.
- 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.) Including port is legal syntax (e.g.: 192.168.2.31:3306); if not supplied, default ports will be used.
- 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. Also, remember that many database servers require specific settings or rights to connect locally (same box setup) vs. REMOTELY (multibox setup).
- 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 Instance (MSSQL only):

DB Username:

DB Password:

If you are running MySQL, we also need the database server root username/password for the initial setup. This will not be stored.

DB ROOT Username:

DB ROOT Password:

- 6) Next, this screen appears for entering the database connection parameters. This is the same information from the database created during the preparation phase. (See Install guide) The connection information must be supplied for both the storage and Configuration databases, though they can be housed in the same database. Assumed default is shown.

Welcome to GWAVA Retain

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

- Storage Path
- Message Store Database
- Configuration Database
- Set Administrator Password
- SMTP Notification
- Indexing Engine

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

Message Store Database Connection Parameters

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

- Driver: Type of Database Server. MySQL 5.0/5.1/5.5, Oracle 10 and 11, MS SQL Server 2005/2008, and PostGres 9.0+ are supported. MySQL 4.x will NOT work correctly. If using MySQL 5, make sure you install the latest version - even minor revisions contain significant bug fixes and performance enhancements.
- 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.) Including port is legal syntax (e.g.: 192.168.2.31:3306); if not supplied, default ports will be used.
- 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. Also, remember that many database servers require specific settings or rights to connect locally (same box setup) vs. REMOTELY (multibox setup).
- 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 Instance (MSSQL only):

DB Username:

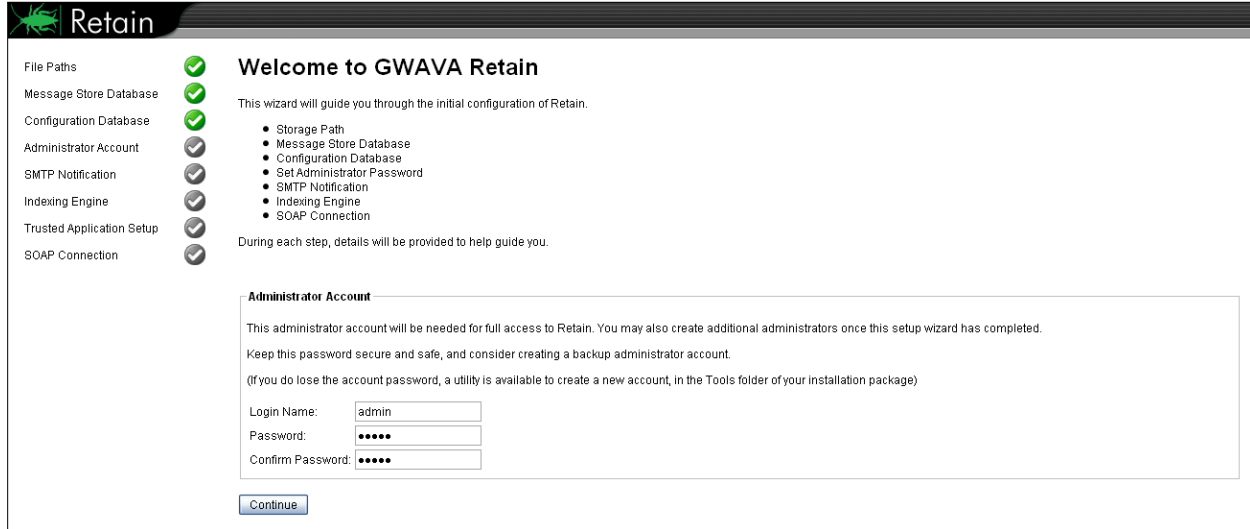
DB Password:

If you are running MySQL, we also need the database server root username/password for the initial setup. This will not be stored.

DB ROOT Username:

DB ROOT Password:

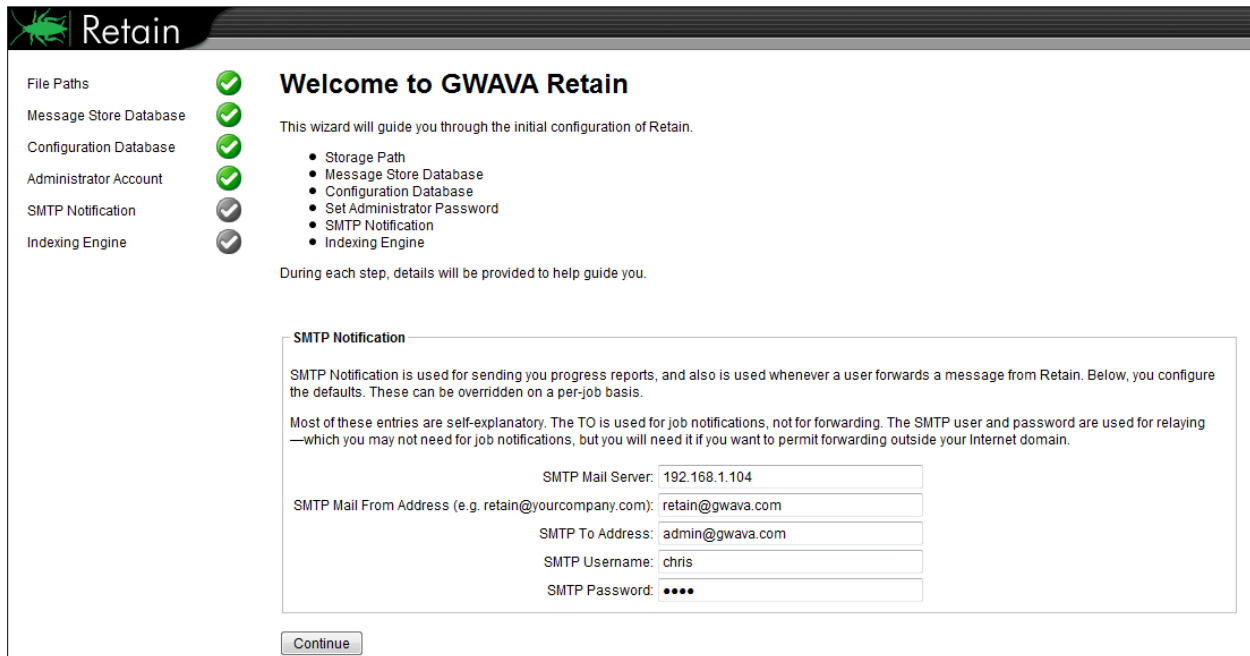
- 7) Now, supply a password for Retain's administrator account (admin). **Do not forget what you choose here!** (Use the [Recover Admin](#) utility if you have lost the administrator password.)



The screenshot shows the 'Welcome to GWAVA Retain' wizard. On the left, a list of steps is shown with progress indicators: File Paths (green check), Message Store Database (green check), Configuration Database (green check), Administrator Account (green check), SMTP Notification (grey circle), Indexing Engine (grey circle), Trusted Application Setup (grey circle), and SOAP Connection (grey circle). The main content area is titled 'Welcome to GWAVA Retain' and includes a list of steps: Storage Path, Message Store Database, Configuration Database, Set Administrator Password, SMTP Notification, Indexing Engine, and SOAP Connection. Below this, the 'Administrator Account' section explains that this account is needed for full access and provides instructions to keep the password secure. It includes fields for 'Login Name' (admin), 'Password' (masked with dots), and 'Confirm Password' (masked with dots). A 'Continue' button is at the bottom.

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. DO NOT delete this account. If the admin account is deleted, please contact support or refer to the [Recover Admin](#) tool to restore a full administrator account.

- 8) 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, (including local desktop/server firewalls such as McAfee, Symantec, and SUSE).



The screenshot shows the 'Welcome to GWAVA Retain' wizard. On the left, the progress indicators are: File Paths (green check), Message Store Database (green check), Configuration Database (green check), Administrator Account (green check), SMTP Notification (green check), Indexing Engine (grey circle), Trusted Application Setup (grey circle), and SOAP Connection (grey circle). The main content area is titled 'Welcome to GWAVA Retain' and includes a list of steps: Storage Path, Message Store Database, Configuration Database, Set Administrator Password, SMTP Notification, Indexing Engine, and SOAP Connection. Below this, the 'SMTP Notification' section explains that SMTP is used for progress reports and message forwarding. It includes fields for 'SMTP Mail Server' (192.168.1.104), 'SMTP Mail From Address (e.g. retain@yourcompany.com):' (retain@gwava.com), 'SMTP To Address:' (admin@gwava.com), 'SMTP Username:' (chris), and 'SMTP Password:' (masked with dots). A 'Continue' button is at the bottom.

9) Index Engine Selection

The screenshot shows the 'Welcome to GWAVA Retain' wizard. On the left, a list of configuration steps is shown with green checkmarks for 'File Paths', 'Message Store Database', 'Configuration Database', 'Administrator Account', and 'SMTP Notification', and a grey circle for 'Indexing Engine'. 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: Storage Path, Message Store Database, Configuration Database, Set Administrator Password, SMTP Notification, and Indexing Engine. Below this, it states 'During each step, details will be provided to help guide you.' The 'Step 5: Indexing Engine' section explains the importance of the choice and provides a summary of the two engines: Lucene (fast, easy, no additional software) and Exalead (fast, powerful, scalable, requires hardware and license). At the bottom, there is a dropdown menu for 'Indexing Engine' with 'Choose one of the listed engines' selected, and a 'Continue' button.

- Lucene is the default indexing engine, and is included in Retain. It is well suited for smaller installations and requires no further configuration or management.
- Exalead is a more robust and powerful search engine, providing high availability and clustering features, as well as more advanced search operations. It requires additional hardware, as well as an additional license, which you may obtain from your sales representative. **Exalead should not be installed on the same server where Retain server is installed.**

If you wish to use Exalead at this point, it **MUST** be installed and configured before this step is completed. If selecting Exalead, provide the IP address or DNS name of the Exalead server and the active base port.

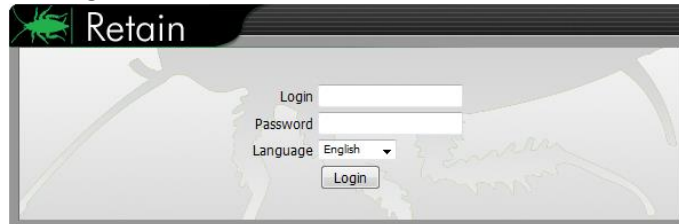
This screenshot shows the final step of the 'Welcome to GWAVA Retain' wizard. The left sidebar now shows green checkmarks for all steps, including 'Indexing Engine'. The main content area states 'The initial setup is complete. After you login, you will need to go to Module Configuration and configure your individual compliance solutions (GroupWise, Exchange, etc.). Afterwards, we recommend that you run all of the Test Connection options in the individual modules, and then do a Address Book synchronization.' At the bottom, there is a 'Complete' button.

Initial setup is now complete. Select the 'Complete' button to be presented with the login prompt.

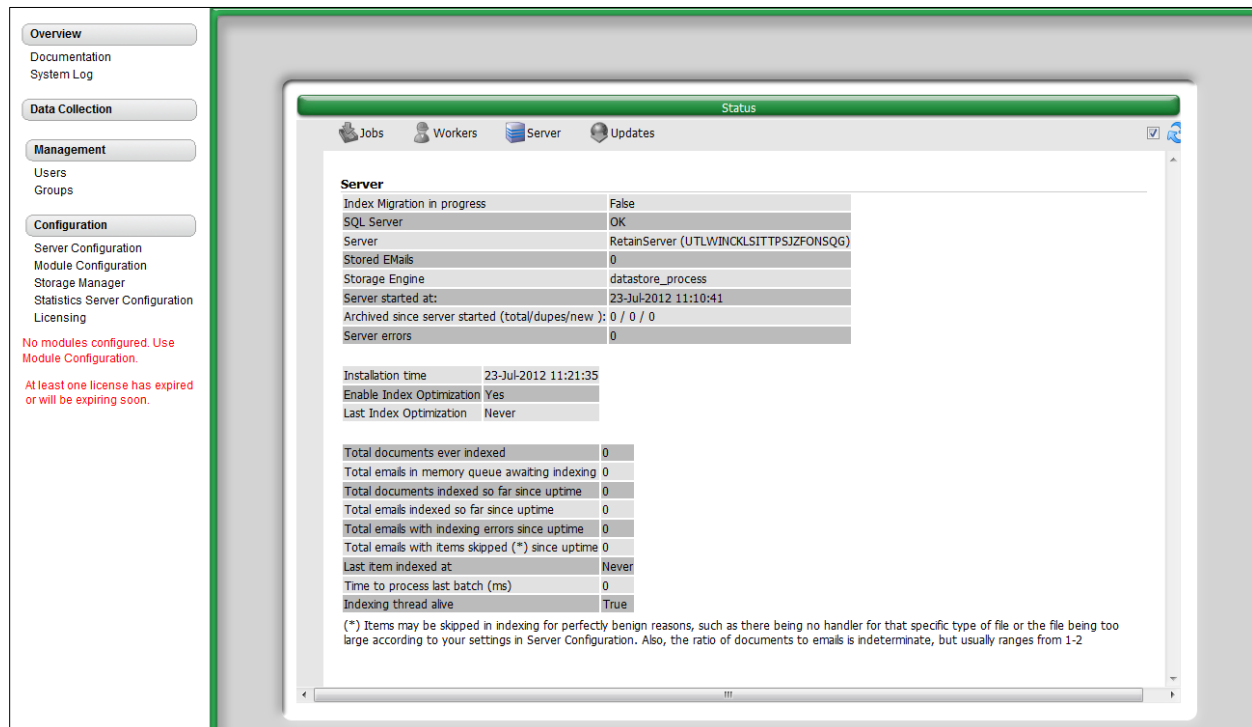
Setting Up GWAVA Retain

Logging In

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



- 3) After you log in, you will see the main administration page: (Non administrators will only see the Search Interface.)



An informational screen is displayed, showing among other things the latest job activity, server health information, and software updates that are available.

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).

Status and Updates

The status page has four different tabs which show the status of your system. The status page is set to display the tab that is deemed to require the most attention, or is deemed to hold the most important information at a given time. For instance, if an error has occurred, that tab will be shown, likewise the update tab will be shown by default if there is an update available. The tabs are discussed below.

The Server tab shows the basic status of the Server with the messages archived and maintenance information. The Workers tab shows the workers connected, and the status of each.

Server			
Index Migration in progress	False		
SQL Server	OK		
Server	RetainServer (GRZFZEOEQRNSETOAJSZYDVJY)		
Stored EMails	0		
Storage Engine	standard		
Server started at:	15-Mar-2011 19:51:32		
Archived since server started (total/dupes/new):	0 / 0 / 0		
Server errors	0		
Installation time	12-Jan-2011 09:02:14		
Enable Index Optimization	Yes		
Last Index Optimization	11-Mar-2011 01:02:00		
Total documents ever indexed	45363		
Total emails in memory queue awaiting indexing	0		
Total documents indexed so far since uptime	0		
Total emails indexed so far since uptime	0		
Total emails with indexing errors since uptime	0		

Workers			
Worker	migrator		
Last contact	Never		
Last Job:			
Last job start:	Never		
Last job end:	Never		
Registered:	Never		
Total messages stored:	0		
Total mailboxes scanned:	0		
Worker	new worker		
Last contact	15-Mar-2011 22:21:26		
Last Job:	new exchange		
Last job start:	15-Mar-2011 22:21:27		
Last job end:	15-Mar-2011 22:21:30		
Registered:	26-Jan-2011 05:07:25		
Total messages stored:	18590		
Total mailboxes scanned:	7		

The Jobs page shows the jobs that are assigned to the server and their status. You also can select the “show only active jobs” checkbox, and only jobs that are currently running will be displayed.

Jobs			
<input type="checkbox"/> Show only active jobs			
Job	new exchange		
Job running	No		
Job began	15-Mar-2011 22:21:27		
Job ended	15-Mar-2011 22:21:30		
Time elapsed	0d : 0h : 0m		
Next job time	Find		
Last PO / Mailbox scanned	-- / --		
Total errors	0		
Total mailboxes (job)	2		
Total messages (job)	0		
Total messages (lifetime)	0		
Job	new job		
Job running	No		
Job began	03-Mar-2011 20:45:00		

Updates			
You have the latest build.			
Announcements			
The following releases are the newest for your system:			
Current Release >>>			

The updates tab displays whether there is a later version of Retain available. This tab will be displayed by default only if there is a new update available.

If you are using Exalead as your indexing engine, you will see a 'Trigger Exalead Indexing' button on the 'Server' tab of the Status and Updates page. Selecting this button will force an immediate indexing run by Exalead.

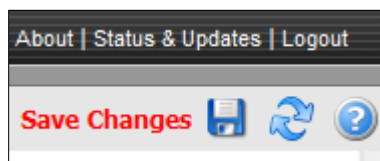
Jobs Workers Server Updates	
Installation time	03-Jun-2010 10:26:22
Enable Address Book Caching	Yes
Last Address Book Cache	03-Jun-2010 11:30:45
Enable Index Optimization	Yes
Last Index Optimization	Never
Total documents ever indexed	8423
Exalead internal queue	8423 Trigger Exalead Indexing
Total emails in memory queue awaiting indexing	0
Total documents indexed so far since uptime	8423
Total emails indexed so far since uptime	1821
Total emails with indexing errors since uptime	0
Total emails with items skipped (*) since uptime	772
Last item indexed at	03-Jun-2010 14:10:29
Time to process last batch (ms)	660

After many messages are sent to the Exalead server for indexing, these items are queued. In some cases, there may be a noticeable delay in the processing of that queue, as other processes (such as searching) take high priority. To force an immediate indexing run, press this button.

Warning: Repeatedly using this button can overwhelm your Exalead server, and should NOT be necessary in normal operations.

Saving Changes

Retain uses a web interface for all administration, and is unaware of changes made on the webpage until the information is returned to the Server. To make sure you keep all changes you have made in the interface, select the "Save Changes" button to commit the change to the Server. When you make a change, the website is aware and you will see the 'Save Changes' button become colored at the top right of the screen:

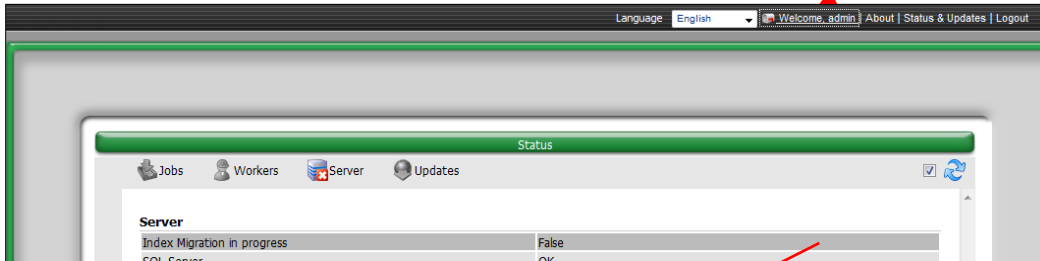


When the "Save Changes" lights up, click on the disk icon to save any changes you have made on this screen otherwise your changes will be lost.

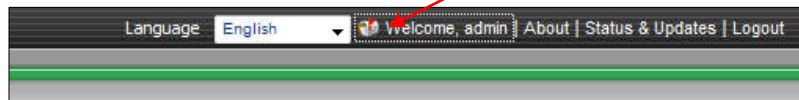
Notifications

Notifications are automatically sent to the administrator whenever data in Retain is moved. Moving data consists of system migration, exporting, forwarding, restoring, and publishing. By default, the address used is the address supplied during servers activation.

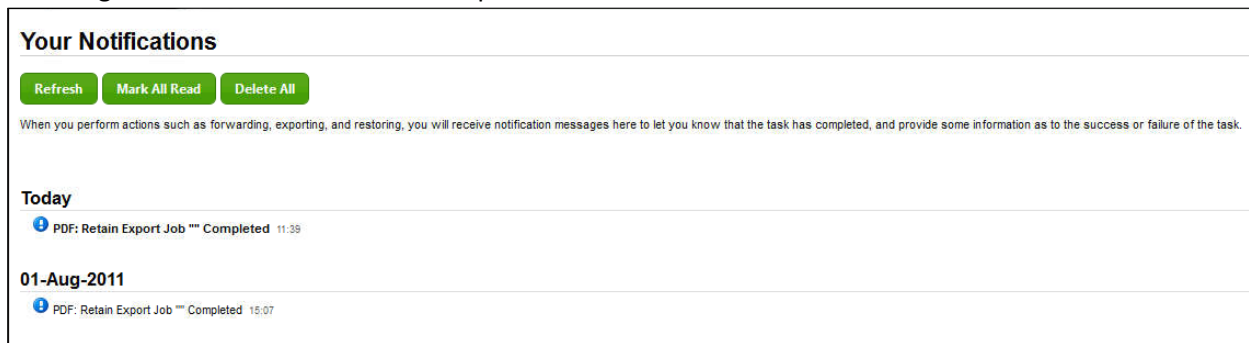
To spawn the notifications page, click on the 'Welcome' link at the top of the page.



When notifications are pending, the red flag on the mailbox is lifted.

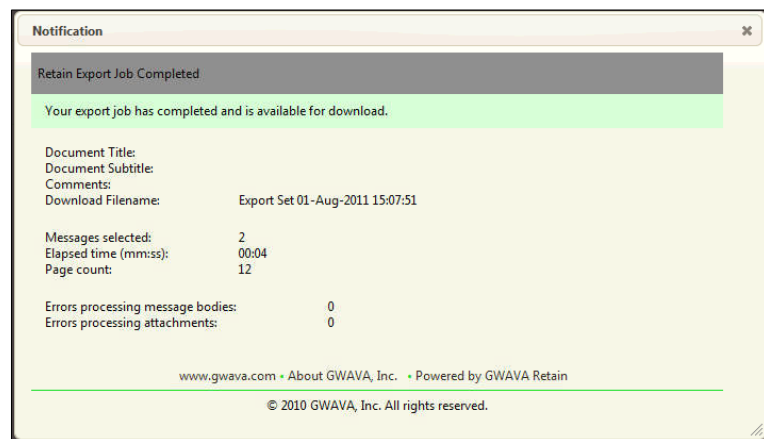


Selecting the mailbox or welcome link opens a new notifications window.



The highlighted notifications are new, unread notifications and events. Selecting the event notification provides all the pertinent information regarding the event.

If there are any errors, a truncated error log is provided which details the error and the reason for the error.



Modules

Retain integrates and works with several different message systems. Data collection will not be available until one or more modules are configured for the Retain system.

Note: Depending on what license you have purchased for your Retain system, different modules may require an additional license. Check the [licensing](#) page to see what licenses you own. An Evaluation license, issued upon initial install, lasts 30 days and grants licenses for all modules.

The REST API requires a license to enable the API, with an additional license file for each application accessing the API. This individual license contains security to ensure that only authorized applications may access the API and the Retain system in order to maintain archive integrity. REST API licenses are added to the Retain system through the REST API tab, found under **Server Configuration | REST API** tab.

To configure a module, select the 'Module Configuration' page from the Configuration menu.

Each module link will open a new configuration window or tab. If the modules are not configured correctly, messages will not be collected. Profiles and Jobs are separated into module specific sections and no jobs can be configured without first configuring a module. Select the appropriate module(s) for your system by clicking on the module icon.

Certain settings or actions for both Exchange and GroupWise message systems must be configured before Retain can communicate with them. Make sure to complete or check the following changes and settings for each system before continuing. (Links lead to sections in the appendix.)



Mailbox Mapping Options

Mailbox mapping automates the merging of users' mailboxes that have both GroupWise and Exchange accounts, combining the GroupWise and Exchange archives under the same user in Retain. Retain merges the internal UID's of accounts to reflect the same user. **After mailbox mapping has been activated, an immediate caching of the address books of both systems is required. Mailbox mapping is not permanent; however, "un-merging" must be performed manually via the [Mailbox Merger / Splitter tool](#) found on the 'bug' or 'about' screen.** If a refresh of the mailboxes is not performed before users attempt to login or other activity is present on the server, the merge may fail, leaving extra entities created in the Retain archive which must be [removed manually](#). Furthermore, the merge option is a once-off option. Please contact support for further options.

Mailbox Mapping Options

Mailbox Mapping Options

When running more than one email system, it is often desirable to automatically "map" two mailboxes from different email systems together. Effectively, these two separate mailboxes become one virtual mailbox. Switching between the two is a simple matter of the user choosing the mailbox from the current browse view. Also, rights to mailboxes become shared between the two, so the user need only log on as one mailbox to have access to them all.

To achieve this, during address book caching, the administrator needs to have enabled at least one mailbox mapping option. This **must** be enabled before the newly added email system is cached for the first time.

You may enable multiple address book mappings if you wish.

It is usually sufficient to enable mapping only for address book caching and only as a one-time procedure, unless both email systems will remain active. (For the latter case, enabling for all processes, and for constant activity, is advised)

Mapping Enabled

Never

Last time mappings were used never [Reset](#)

If you enable the XML File mapping option, you must provide the full path to the XML file, including the filename.

XML File Path

Active Mappings

Match the E-Mail Addresses

[Add](#)

CustomDescriptionClass

To map one mail system to another, both message systems, Exchange and GroupWise, must be functioning and have the desired accounts created on the system which allows for identification of the different users.

Accounts may be matched via email address, display names, or specified by an administrator supplied XML file. The Address book **MUST** be refreshed immediately in order to merge the users. The merge will not complete unless the Address Book is cached afterwards, and the merge cannot be re-run.

How the merge runs depends on the different users in the local system. If both message systems are to remain active, with users being added and removed from the system, it will be necessary to have mailbox mapping on all the time. Merged addresses are also required for the GroupWise to Exchange migration to function.

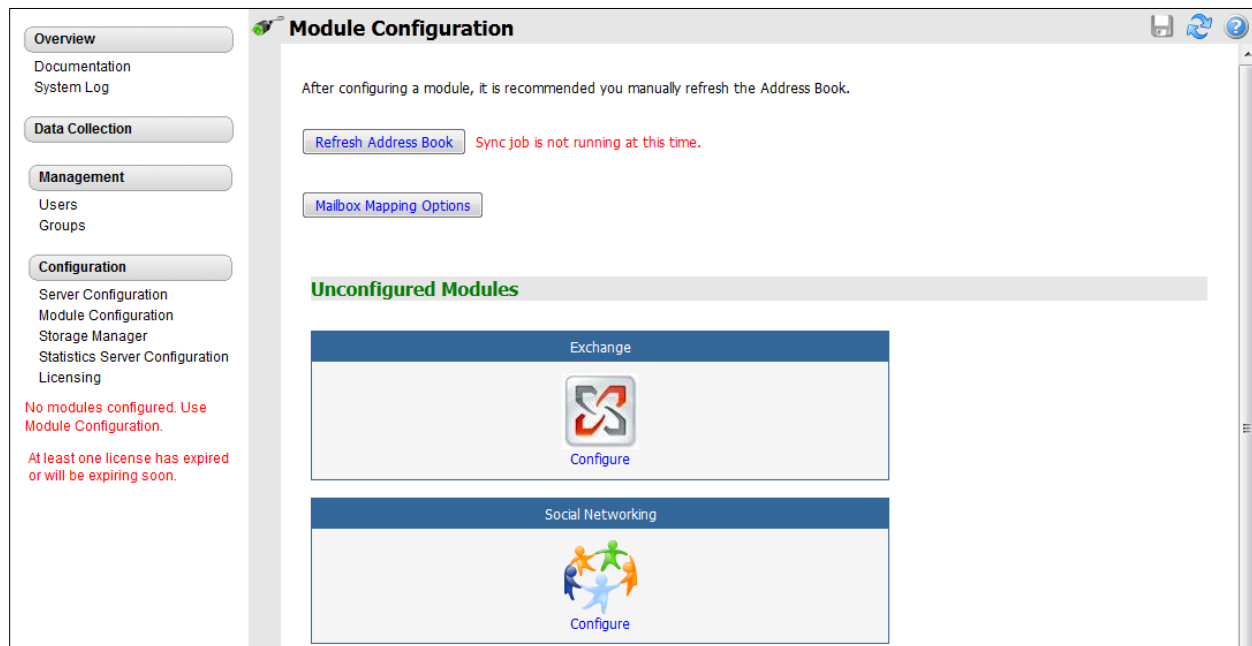
Exchange Module

Retain supports:

- A single forest Active Directory system, (Exchange and standard users)
- An Exchange Resource Forest, (One Exchange Forest linked to one or multiple User Forests)
- Office 365

Retain does NOT support multiple linked Exchange Forests. Ensure that the [Exchange settings](#) have been configured correctly before continuing the Exchange module setup.

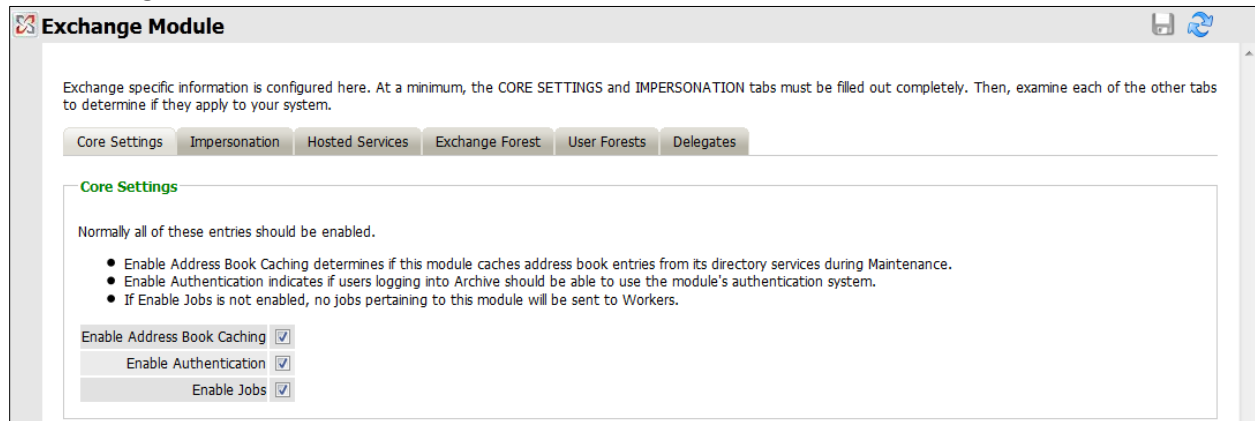
The Exchange module must be configured in the Retain Server before any communication between Retain and an existing Exchange message system can occur. Open the Retain management page on the Retain Server, and select Module Configuration.



Select the 'Configure' option in the Exchange module. A new window or tab will open with the module configuration.

NOTE: Ensure that your Retain Server DNS is set to the same DNS server that your Exchange server uses. The Exchange module uses these DNS setting to auto discover critical information about Exchange stored in Active Directory and will not function correctly unless both systems are pointed to the same DNS server.

Core Settings



Normally all of the checkboxes on this tab are always left selected. It is rare that you would ever deselect any of them. Two cases where you might would be troubleshooting, (as instructed by Technical Support), and retiring an old email system.

The Enable Address Book Caching function allows Retain to regularly cache the online email systems address book and synchronize it with Retain. This is critical for administration, authentication, and archiving purposes. It is recommended to cache the Address Book once every 24 hours to keep the Retain storage system up to date. By default, maintenance is set to cache the Address Book once every 24 hours.

The Enable Authentication checkbox determines if end-user authentication is performed when the user logs into Retain. If it is deselected, the Retain system will NOT authenticate the user against the email system and the user will not be able to log in unless another authentication method is enabled.

The Enable Jobs checkbox determines if configured data retrieval jobs are ever passed to the Worker. Even if the individual job is fully configured and enabled, if this checkbox is switched off, no jobs configured for this module will be processed.

Impersonation

If the Impersonation and Core Settings tabs are not completely configured with the correct information, the hosted system will not be archived correctly.

The screenshot shows the 'Exchange Module' configuration window with the 'Impersonation' tab selected. The window title is 'Exchange Module'. Below the title bar, there is a message: 'Exchange specific information is configured here. At a minimum, the CORE SETTINGS and IMPERSONATION tabs must be filled out completely. Then, examine each of the other tabs to determine if they apply to your system.' Below this message is a row of tabs: 'Core Settings', 'Impersonation', 'Hosted Services', 'Exchange Forest', 'User Forests', and 'Delegates'. The 'Impersonation' tab is active. Inside the tab, there is a section titled 'Impersonation' in green. Below this, it says: 'You will need to provide this information regardless of whether you are archiving a hosted or on premise Exchange system.' and 'The impersonation user MUST fulfill the following requirements:'. A bulleted list follows: '• Is mail enabled.', '• Has impersonation rights granted to all Exchange servers.', and '• Delegation rights must be granted to any Room or Equipment accounts that you wish to archive.' Below the list are two input fields: 'Global Catalog User' with the value 'user@fqdn.com' and 'Global Catalog Password' which is empty. To the right of the password field is the text '(Password is not set)'.

Hosted Services

If the Exchange system is a hosted service system, Retain must be configured to support the hosted system setup.

Setting up the system is no more taxing than setting up a normal system, though a hosted system requires that the Impersonation and Core Settings tabs are completely and correctly filled out. Other tabs are only applicable depending on the settings of the hosted system, configure as appropriate.

The screenshot shows the 'Exchange Module' configuration window with the 'Hosted Services' tab selected. The window title is 'Exchange Module'. Below the title bar, there is a message: 'Exchange specific information is configured here. At a minimum, the CORE SETTINGS and IMPERSONATION tabs must be filled out completely. Then, examine each of the other tabs to determine if they apply to your system.' Below this message is a row of tabs: 'Core Settings', 'Impersonation', 'Hosted Services', 'Exchange Forest', 'User Forests', and 'Delegates'. The 'Hosted Services' tab is active. Inside the tab, there is a section titled 'Hosted Services' in green. Below this, it says: 'Archive supports hosted Exchange services such as Live@Edu and Office365. You may ignore this tab if you are not using such services.' A bulleted list follows: '• These services generally do NOT provide LDAP access to their user store, therefore you must maintain a list of user accounts manually, using a Powershell script (see the user manual before proceeding).', '• If your service DOES provide LDAP access, uncheck the checkbox on this tab, and configure the items in the Exchange Forest and User Forest tabs.', and '• If your service DOES NOT provide LDAP access, check the checkbox on this tab. Do NOT configure the Exchange Forest, User Forest, and Delegates tabs - they will be ignored.' Below the list is a checkbox labeled 'I am using a hosted Exchange system' which is currently unchecked.

Mark the checkbox to enable Retain support for hosted Exchange services.

IF the hosted system in use is an Office 365 system, further configuration on the Office 365 system is required. Because Office 365 Exchange Servers do not directly expose LDAP information, a Powershell script must run periodically to cache user and group information.

The Script requires PowerShell 2.0. Without this script, you cannot run jobs on Office365, or authenticate users.

Setup

1. Install PowerShell 2.0 (not needed for Windows 7 or Windows Server 2008 R2)
2. Install the Office 365 PowerShell cmdlets
3. Allow PowerShell script execution
4. Adapt and execute the “sync365.ps1” script provided by GWAVA
5. Automate the script to run regularly.
6. Place the two resulting csv files in Retain

1. Install PowerShell 2.0

The appropriate version for the Windows system can be found here:

<http://www.microsoft.com/powershell>

Windows 7 and 2008 R2 already come with PowerShell 2.0
(Even if the version says 1.0, really it's 2.0)

2. Install the Office 365 PowerShell cmdlets

The cmdlets can be found here:

<http://onlinehelp.microsoft.com/en-us/office365-enterprises/hh124998.aspx>

Two setup files are needed from that page:

- Microsoft Online Services Sign-In Assistant
- Microsoft Online Services Module for Windows PowerShell

Execute them both in above order.

3. Allow PowerShell script execution

The Default Execution Policy is set to restricted, it can be viewed by entering this command in PowerShell:

Get-ExecutionPolicy

The script provided by GWAVA must be run in PowerShell while **running under Administrator rights.**

Set-ExecutionPolicy RemoteSigned

4. Adapt and execute the “sync365.ps1” script provided by GWAVA

Select the “sync365.ps1” script provided by GWAVA in Tools/Exchange/Office 365 folder.

Right click on the script and select “modify”.

This will open the script in the Microsoft Integrated Scripting Environment (ISE) editor.

At the top you can find 3 settings: \$User, \$PlainPassword, \$ExportBasePath.

- Set \$User to the UPN of an administrator account in Office 365.
- Set \$PlainPassword to the plain text password of the administrator account.
- Set \$ExportBasePath to a directory where the two resulting csv files will be saved. If the path does not yet exist, it must be created manually as the directory will not be created automatically.

Keep in mind that your backslashes must be quoted, and a final backslash is not needed.

Example:

```
$ExportBasePath="C:\\Temp"
```

Note: If it is unacceptable to set a password in clear text, please view the following solution:

<http://bsonposh.com/archives/338> -presents an alternative, which loads and saves encrypted credentials from file.

Execute the script by clicking the play button. This process can take a while for many users. Once the script has completed, a message indicating that the script is done should be displayed along the bottom status bar.

5. Automate it: to run automatically with Task Scheduler at least once a day

The frequency of automation is up to the administrator. However, the script needs to be run at least once a day, and, due to step 6, the files need to be copied to the Retain Server. To see how to utilize task scheduler to automate the script, see <http://support2.gwava.com/kb/?View=entry&EntryID=2409>

6. Get the files over to Retain Server

In Step 4 the ExportBasePath was set and should contain the two csv files. These files must be automatically copied to the RetainServer/WEB-INF/cfg directory once the script completes. That might require setting up a mapped network drive, or the acceptable solution for the local system. While the ExportBasePath may be mapped directly to the Retain Server, it is recommended to have the csv files copied afterwards.

Retain needs to know login information and existing domains before any archiving can be accomplished. Open the “Exchange Forest” tab and enter the login information.

The screenshot shows the 'Exchange Module' configuration window. At the top, there's a title bar with 'Exchange Module' and a 'Save Changes' button. Below the title bar, a message states: 'Exchange specific information is configured here. At a minimum, the CORE SETTINGS and IMPERSONATION tabs must be filled out completely. Then, examine each of the other tabs to determine if they apply to your system.' A tabbed interface is present with tabs for 'Core Settings', 'Impersonation', 'Hosted Services', 'Exchange Forest' (selected), 'User Forests', and 'Delegates'. The 'Exchange Forest' tab contains instructions: 'Ignore this tab if you are running a hosted system.' and 'You MUST fill out all of the entries on this tab if you are running an on-premise Exchange system. Hosted services do not normally use this information. Typically, you provide the connectivity information for a global catalog, and a user that has full access to Active Directory. Here are the specific requirements for this user:'. A bulleted list specifies requirements for the user account. Below this, it says 'You also provide a list of Active Directory DNs to search for users and groups.' There are three input fields: 'Global Catalog Host' (192.168.1.120), 'Global Catalog Port' (3268), and 'Global Catalog Security' (Plain Text). A green plus icon and text 'Add Search Base (e.g. dc=users,dc=company,dc=com)' are shown. Below that, a red X icon and text 'dc=b, dc=company, dc=com' are shown. A 'Test Connection' button is at the bottom. The 'Resource Forest' section has a checkbox 'Enable Resource Forest' which is unchecked.

Retain uses Active Directory extensively when integrating with Exchange. Its uses include: populating the address book, authentication, and access to the Exchange System.

There are settings required for Exchange, see the [Exchange settings](#) section in the appendix.

On the Exchange Forest tab, you configure all of the Active Directory information you need for an Exchange forest. There is no need to fill out any information on the User Forest tab unless the users exist in a separate forest from the Exchange Forest.

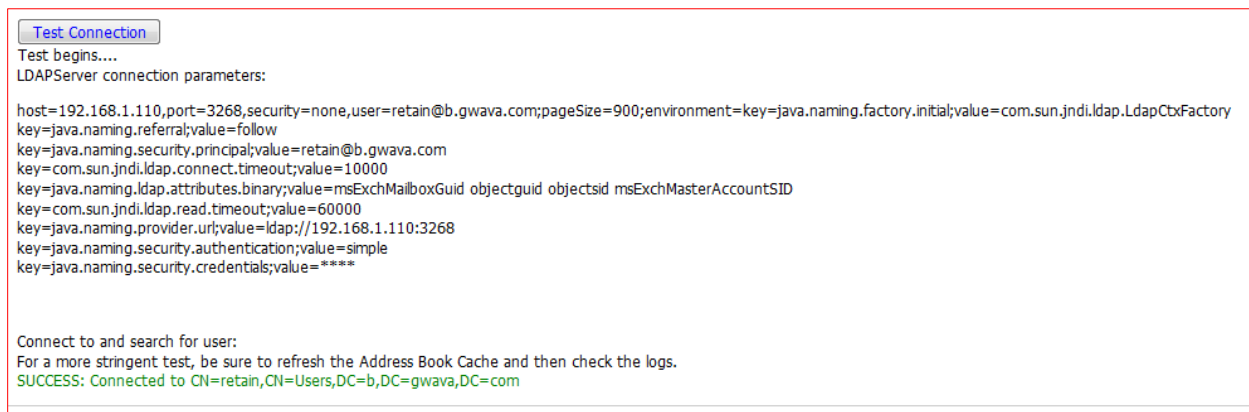
On the Exchange Forest tab, specify whether to use SSL or not for the Global Catalog Security, (strongly recommended), and the "search base". The search base is the LDAP path to the base of where Retain will start searching for valid Exchange users.

The Global Catalog Port defaults depend on whether SSL is used for security or not. SSL is **STRONGLY** recommended. (Default ports are 3268 for plain text, and 3269 for SSL.) Adjust as appropriate for your system.

You also must provide the credentials of an Active Directory user. This user is "special" It must have full read rights to Active Directory, be a mailbox-enabled, user, and be granted various Impersonation and Delegation rights. More on this is discussed in the [Exchange settings](#) section in the appendix. The username MUST be in UPN format, (user principal name).

This search base, in LDAP form, must be "high enough" in the tree to include ALL users, groups, and servers. Multiple search bases can be specified, though it often results in a less efficient interface. These are LDAP search bases which allow Retain to resolve all users, groups, and servers of interest in the forest.

After the Search Base has been added, test the connection to ensure information and connection works. The test performs a simple login to confirm that the user exists, the Exchange Server is reachable, and that the credentials are accepted. The test does not confirm impersonation or delegation rights necessary for the Service Account.



Test Connection

Test begins....

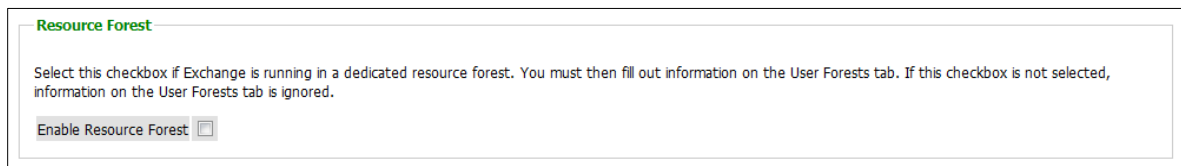
LDAPServer connection parameters:

```
host=192.168.1.110,port=3268,security=none,user=retain@b.gwava.com;pageSize=900;environment=key=java.naming.factory.initial;value=com.sun.jndi.ldap.LdapCtxFactory
key=java.naming.referral;value=follow
key=java.naming.security.principal;value=retain@b.gwava.com
key=com.sun.jndi.ldap.connect.timeout;value=10000
key=java.naming.ldap.attributes.binary;value=msExchMailboxGuid objectguid objectsid msExchMasterAccountSID
key=com.sun.jndi.ldap.read.timeout;value=60000
key=java.naming.provider.url;value=ldap://192.168.1.110:3268
key=java.naming.security.authentication;value=simple
key=java.naming.security.credentials;value=****
```

Connect to and search for user:
For a more stringent test, be sure to refresh the Address Book Cache and then check the logs.
SUCCESS: Connected to CN=retain,CN=Users,DC=b,DC=gwava,DC=com

If the test results in an error stating: "FAILURE: User doesn't exist or is not mail enabled," It indicates that the user's mailbox is unavailable. A mailbox is not required for Retain to utilize the specified user. If the user Retain utilizes does not have a mailbox, this error may be ignored. However, if the user specified does have a mailbox, this may indicate connection issues.

The Exchange Forest tab is the only tab required by the Server and the Worker to archive mail from the Exchange system. The User Forest tab, however, is required for Exchange systems utilizing a resource forest, to allow the end user to log into Retain.





Resource Forest

Select this checkbox if Exchange is running in a dedicated resource forest. You must then fill out information on the User Forests tab. If this checkbox is not selected, information on the User Forests tab is ignored.

Enable Resource Forest ☐

If the system contains a Resource Forest, enable the checkbox on the Exchange Forest tab and save changes. If the Resource Forest checkbox is not enabled, the User Forests tab will be non-functional and all settings contained on that tab will be ignored. **The checkbox must be unchecked in a single forest Active Directory deployment, but must be checked in a multiple forest Active Directory deployment.**

Check all information to ensure that it is correct and save changes, and then configure the User Forest if required.


Exchange Module Save Changes  


Exchange specific information is configured here. At a minimum, the CORE SETTINGS and IMPERSONATION tabs must be filled out completely. Then, examine each of the other tabs to determine if they apply to your system.


User Forests

Ignore this tab if you are running a hosted system.

You need to list every User Forest (dns name) that you will archive in Archive, along with a Global Catalog of that forest, and search base(s) capable of resolving all users. Information on this tab is used only for end-user authentication.

 Add User Forest



 Add Search Base (e.g. dc=users,dc=company,dc=com)

The User Forest must have an entry for each user forest attached to the system. Select the green '+' button and input the LDAP information required by the Forests' Global Catalog server: IP address or hostname, port, security, (SSL is STRONGLY recommended), and all search bases to include all the users. No administrative credentials are required. Each end user's provided credentials will be used on login.

Save all changes before closing the Exchange Module page.

Exchange Module Save Changes  

Exchange specific information is configured here. At a minimum, the CORE SETTINGS and IMPERSONATION tabs must be filled out completely. Then, examine each of the other tabs to determine if they apply to your system.

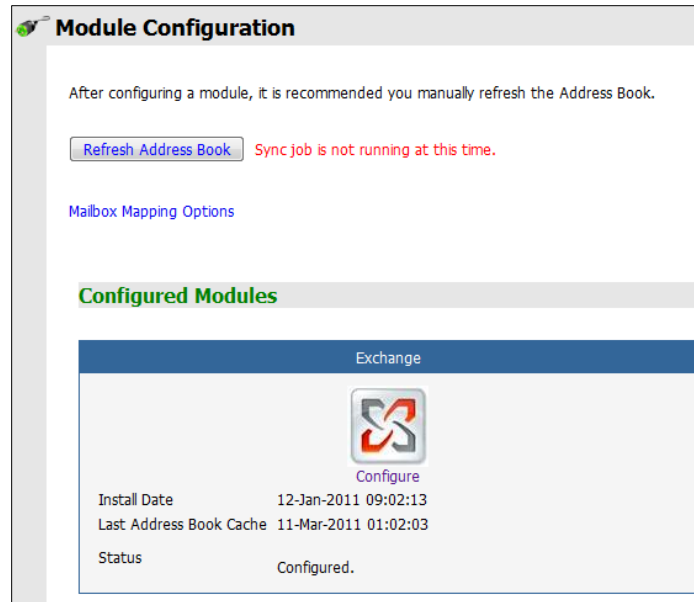
Delegates

Ignore this tab if you are running a hosted system.

Archive can partially support the Delegates feature in Exchange. If a user uses Outlook to grant delegation rights to their mailbox to another user, the second user can have access to the Archive mailbox of the first user. Please note the rights are not granular in this case - the second user either has full rights or no rights to the Archive mailbox.

Enable delegates support ☐

After saving changes, return to the Retain server Module Configuration page, and trigger a refresh of the Address Book.



Depending on the size of the address book, it may take several minutes to return with information, but a successful configuration will return a correct address book cache date and no errors. The date should reflect the date of when the address book refresh was triggered.

The Status may show “Address Book Cache Never Run” or may list commonly misconfigured or missed items if the Refresh job fails.

Once the status is ‘configured’ and the Address Book has been cached, Retain can connect to and archive messages from the Exchange server. The system is ready to have workers, schedules, profiles, and jobs configured, and those options will now appear on the main administrative interface.

Social Messaging

The Social Messaging module allows Retain to archive Social Messaging communications from Facebook and Twitter. To configure the Social Messaging module, all that is required is to provide the connection information and address to the Retain for Social Messaging Gateway. If the RSM Gateway is not yet installed or available, a direct download link is provided on the last tab.

Social Messaging

Connections to Social Messaging Gateway are configured here.

Core Settings Gateway Download RSM ISO

Download RSM ISO

You need to [download](#) , install and configure the Retain for Social Messaging ISO, which contains the proxy services needed to capture social media information.

The “Enable Jobs” box must be checked to have any jobs function against the RSM Gateway. See the Retain for Social Media installation guide for more information.

Social Messaging

Connections to Social Messaging Gateway are configured here.

Core Settings Gateway Download RSM ISO

Core Settings

Normally this entry should be enabled.

- If Enable Jobs is not enabled, no jobs pertaining to this module will be sent to Workers.

Enable Jobs ☒

On the Gateway tab, the connection information must be filled-out. Either place the host name or the IP Address of the RSM appliance and the connection port for the administration interface. Default is shown.

Social Messaging

Connections to Social Messaging Gateway are configured here.

Core Settings Gateway Download RSM ISO

Connection

Provide the information necessary to access the Social Messaging proxy.

Host:

Port:

Security:

User:

Password: (Password is set)

Security and user login credentials are required to connect to the RSM. The user must have administration rights to gather data from the Gateway. By default the user account is ‘tech’ with the password ‘retain’.

Save changes and the module is configured.

Google Apps Module

The Google Apps module allows Retain to archive Gmail data items from Gmail. To configure Retain for Gmail archiving, Retain needs Gmail to be configured to allow Retain access, and the appropriate information entered into Retain.

Google Apps requires that a project be created, an OAuth key created and a Service Account specified and enabled before the Retain system can connect and archive mail.

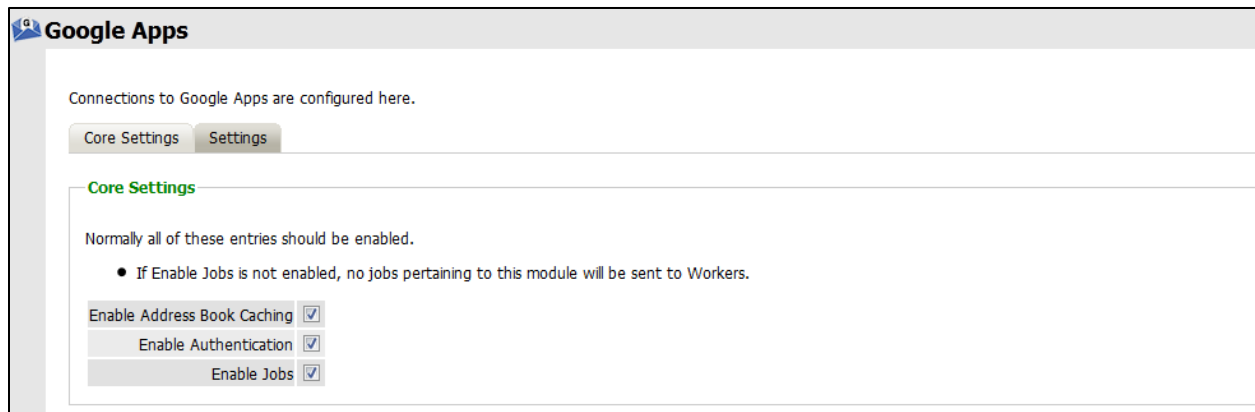
To archive from Google Apps:

1. Create a project
2. Create a new Client ID key.
3. Generate a P12 key certificate

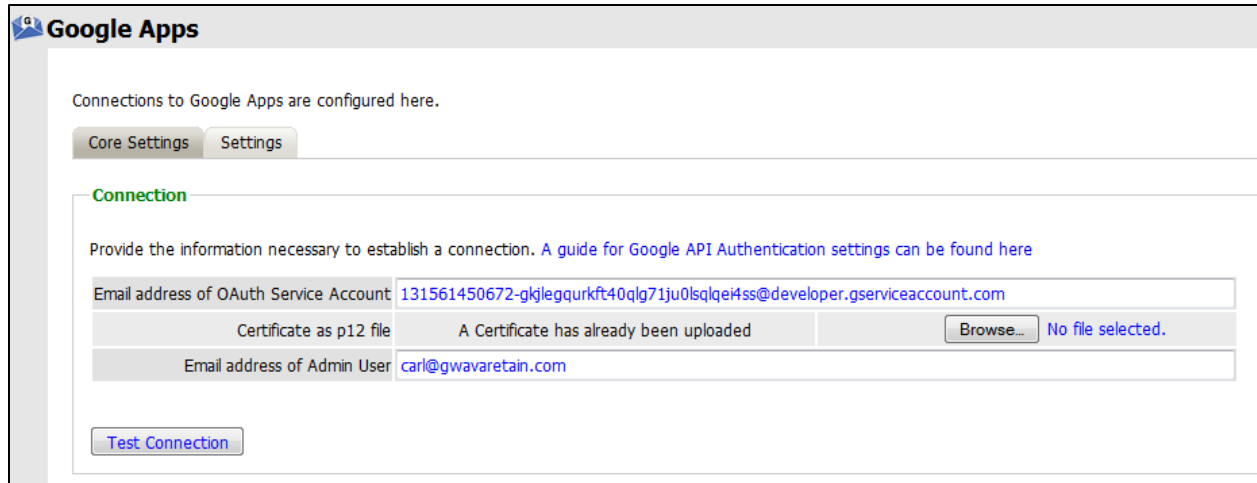
For updated information on configuring Google Apps, and the Google Apps module, see:

<http://support.gwava.com/kb/?View=entry&EntryID=2516>.

Once Google has been configured to allow access to Retain, the Google Apps Module may be configured.



Address book caching must be enabled to gather and maintain an updated list of users. Authentication is used to allow access to the Retain message store for users based on their existing Gmail account login. If the Enable Jobs option is not enabled, no jobs may be completed with the Google Apps module.



The screenshot shows the 'Google Apps' configuration page. At the top, there's a header with the Google Apps logo and the text 'Connections to Google Apps are configured here.' Below this, there are two tabs: 'Core Settings' and 'Settings'. The 'Settings' tab is active. Under the 'Connection' section, there's a message: 'Provide the information necessary to establish a connection. A guide for Google API Authentication settings can be found here'. Below this message, there are three input fields: 'Email address of OAuth Service Account' with the value '131561450672-gkjlegqurkft40qlg71ju0lsqle4ss@developer.gserviceaccount.com', 'Certificate as p12 file' with the value 'A Certificate has already been uploaded' and a 'Browse...' button next to it, and 'Email address of Admin User' with the value 'carl@gwavaretain.com'. At the bottom of the form, there is a 'Test Connection' button.

In order to connect to the Google system, Retain requires the email address of the Admin user, the OAuth Service Account and a p12 Certificate for authentication. Retain archives the Gmail system through IMAP, and will login and download the message data to the Retain data store.

Test the connection to ensure that the configuration has been completed correctly.

Jobs and profiles for Gmail will not be visible until the address book has been cached. After the module has been cached, all configuration options for profiles, workers, schedules, jobs and data storage will be enabled and visible.

Mobile Module

The Retain for Mobile module allows the capture and archiving of MMS, SMS, and phone call information from Android smartphones. (Android 2.2.2+ is supported.) To enable mobile data archiving the following tasks must be completed, in order:

1. The Router must be installed and be available outside the host network. (in DMZ)
2. The Mobile Module must be configured, and a Mobile worker created.
3. The Retain Android application must be installed to users' phones.
4. Devices must be registered under 'Device Management'.
5. Users must use the registration email to verify device registration with the GWAVA server.
6. The data path folder(s) must be manually created.

The Retain Router should be installed in the DMZ area of the host network. The Router must be available to the internet and the Retain Server. The Router and Worker may be installed on the same machine, or apart, however both the Router and the Worker must have access to the Data Path location. If they are not to be installed on the same machine, a mapped drive must be created to the location. See the install guides for more information.

The Retain.apk application is found in the Retain program installation folder in the '.../mobile/android' directory. Use your existing mobile device management system to distribute the APK to devices. (No data will be archived until the application is registered and configured.) The application sends collected information, approximately every hour, to the Retain Router.

Mobile

Core Settings Provisioning

Core Settings

Normally this entry should be enabled.

- If Enable Jobs is not enabled, no Jobs pertaining to this module will be sent to Workers.

Enable Jobs ☒

There are three parts to setting up the Mobile Module: a Tenant ID, a Message Router, and the Retain Worker.

- A Tenant ID was generated for your Retain system when this page was loaded. It is used to identify your system during the registration and data collection processes.
- The Message Router receives the registration and data collection requests from the devices and forwards them on to your Retain system.
- A Retain Worker is used to process the data the Message Router collects from the devices.

Tenant ID

The Tenant ID is used by Retain, the Message Router and the devices to verify the connections made to the Retain system.

Tenant ID 5118e409-78c7-47e2-8980-f584d68f0764

Message Router Configuration

The Message Router needs to know where to store the device data that is processed by the Worker.

Data Path C:\opt\beginfinite\MessageRouter

The base URL to use when connecting to the Message Router.

Base URL /RetainRouter/api/config

Host Name

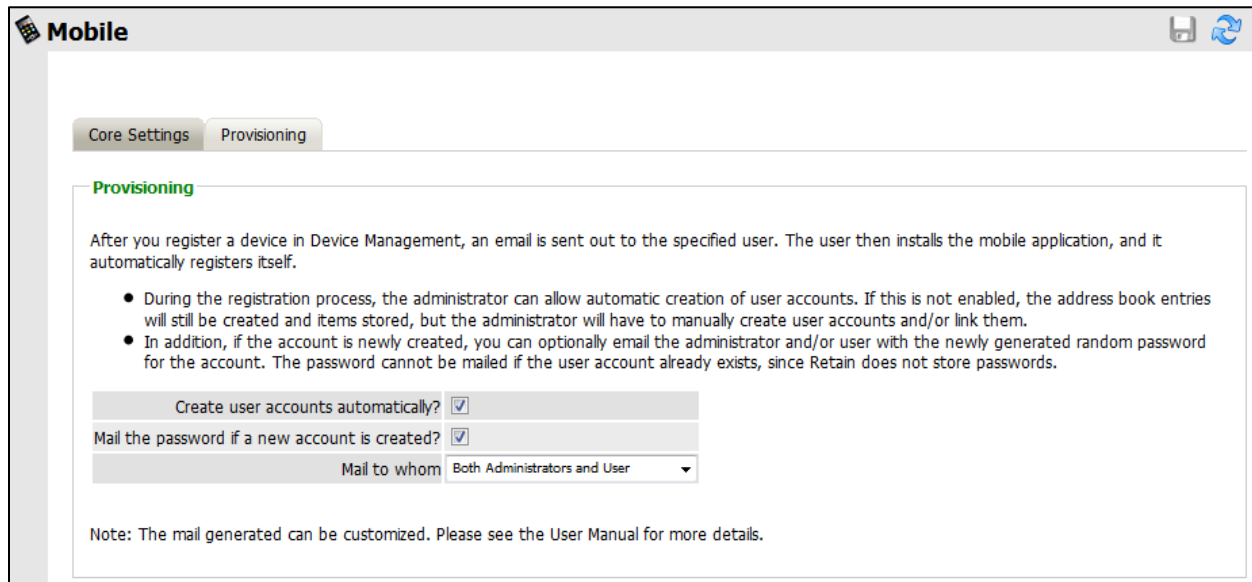
The host name of the router endpoint must be accessible from outside the network. This is the connection information which GWAVA will use to deliver the mobile messages to the Retain Server. While an IP Address will work in this field, DNS is strongly recommended.

Data Path

The data path is the store location for messages received by the router, but not yet input into the Retain Server. This must be a location which the router will have constant and reliable access to. This location

must also be accessible to the worker assigned to the router. A mapped drive will be required if the data path is not located on the same box as the mobile worker and mobile router. This path should be the path to the data directory from the Router, and should be absolute. Folders will not be created automatically. If the data path is being created on a Linux system, the ownership should be tomcat:tomcat. After entering the configuration, test the connection.

Provisioning options allow for automatic user accounts, and associated passwords mailed to the designated address. Defaults are shown.



The screenshot shows the 'Mobile' configuration interface with the 'Provisioning' tab selected. The page title is 'Mobile' with a mobile phone icon. Below the title bar are two tabs: 'Core Settings' and 'Provisioning'. The 'Provisioning' section contains the following text: 'After you register a device in Device Management, an email is sent out to the specified user. The user then installs the mobile application, and it automatically registers itself.' Below this text are two bullet points: '• During the registration process, the administrator can allow automatic creation of user accounts. If this is not enabled, the address book entries will still be created and items stored, but the administrator will have to manually create user accounts and/or link them.' and '• In addition, if the account is newly created, you can optionally email the administrator and/or user with the newly generated random password for the account. The password cannot be mailed if the user account already exists, since Retain does not store passwords.' Below the bullet points are three configuration fields: 'Create user accounts automatically?' with a checked checkbox, 'Mail the password if a new account is created?' with a checked checkbox, and 'Mail to whom' with a dropdown menu showing 'Both Administrators and User'. At the bottom, a note states: 'Note: The mail generated can be customized. Please see the User Manual for more details.'

After the module configuration has been saved, a worker must be created to allow the information to be accepted into the Retain Server. The Mobile worker, Profile, and Device Management menu pages will not be available until the Mobile Module has been configured, and the configuration has been saved.

Worker

The Mobile worker is a special worker configuration which contacts the Retain Router with all the information it needs to function. This includes the configuration settings for the data path and connection information. In general, the Mobile Worker is configured the exact same as most workers in the Retain system, however there is one setting for the Mobile Worker which is specific to the Mobile Module; the data path. The data path is essential for the worker to function with the Mobile Module.

The mobile data is delivered to the Retain Server through a router service, which must be informed how to contact the Retain Server. While the Router is gathering information between jobs, the mobile data is stored. The stored location is specified by the data path. This is why the Router and the worker must have direct and constant access to the data path; the data path stores the message data collected by the Router and retrieved by the Worker.

To ensure connection to both the data path and the Retain Server are correct, the Connection and the Module Specific tabs must be reviewed and configured. The Connection tab holds the connection address which the Retain Worker will use to contact the Retain Server. Depending on where the Server and the Worker are located in the network, and because the Worker may be installed alongside the Router in the DMZ, the connection information must be accurate to allow a clean connection to the

Retain Server. An IP Address will work, but the DNS hostname of the Retain Server is also recognized and supported.

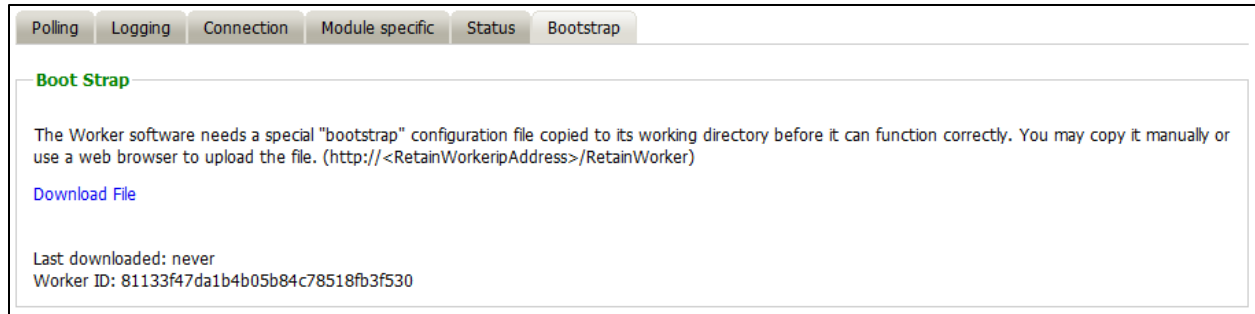
The port and address must be open or forwarded through security and firewalls from the Worker to the Server. In addition, the Retain Server will not accept connections without the password set here. The password is randomized and doesn't need to be changed. Set the correct information and move to the 'Module Specific' tab.

Polling	Logging	Connection	Module specific	Status	Bootstrap										
<p>Server Connection</p> <p>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.</p> <p>For administrators using the Reload interface, note the worker password assigned must be the same for each worker that contacts the Reload Server. As part of setting of the Reload Server, you must know this password.</p> <table> <tr> <td>Server Protocol</td> <td>https</td> </tr> <tr> <td>Server Host Name</td> <td>127.0.0.1</td> </tr> <tr> <td>Server Port</td> <td>443</td> </tr> <tr> <td>Server Path</td> <td>/RetainServer/Server</td> </tr> <tr> <td>Worker Password</td> <td>..... (Password is default)</td> </tr> </table> <p>Note: Changing any of these parameters will require recopying the worker bootstrap file!</p>						Server Protocol	https	Server Host Name	127.0.0.1	Server Port	443	Server Path	/RetainServer/Server	Worker Password (Password is default)
Server Protocol	https														
Server Host Name	127.0.0.1														
Server Port	443														
Server Path	/RetainServer/Server														
Worker Password (Password is default)														

Under the Module Specific tab, the only field that applies to the Mobile Module is the field at the bottom marked 'Message Router'.

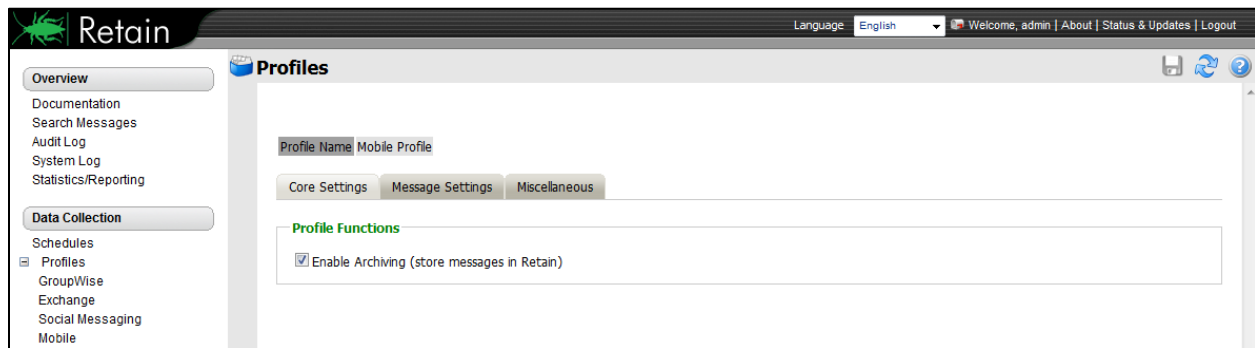
<p>Message Router</p> <p>Messages received from the mobile devices are stored in datafiles for the Worker to process and send up to Retain. The Worker needs to know the path to the datafiles and how many days to keep the files.</p> <table> <tr> <td>Data Path</td> <td></td> </tr> <tr> <td>Delete files after</td> <td>0 days</td> </tr> </table>		Data Path		Delete files after	0 days
Data Path					
Delete files after	0 days				

The path that the Worker will use to connect to the mobile Data directory should be placed here. This may be a mapped drive or a local path. The path should be absolute. The connection to the data directory is essential to the worker function, if this is unavailable or blocked, mobile jobs will fail. The worker will delete files after adding them to Retain according to the time frame listed. A setting of '0' will tell the worker to delete files immediately after importing them into the Retain Server. Once the Mobile Worker has been configured, save the changes. Once the settings have been saved, the worker will be created, and the configuration saved to the bootstrap file. The bootstrap file must be uploaded to the Retain Worker before the Worker will function. Select the 'Download File' link to save the configuration file. Browse to the worker's page, (<http://<RetainWorkerIPAddress>/RetainWorker>), and upload the configuration file. Once uploaded, the worker automatically reads the configuration and checks with the Retain Server for jobs.



Profile

The Mobile Profile allows the administrator to dictate what types of message data is collected from registered mobile devices. The profile is universal, and once configured works for the entire mobile system.

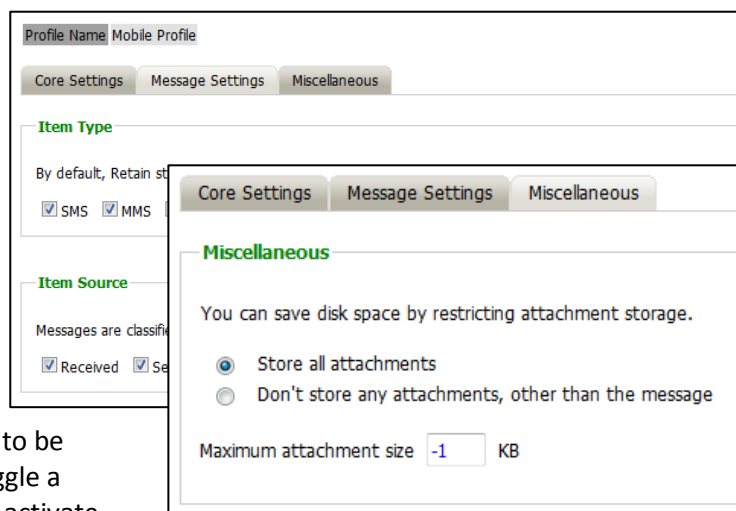


The Mobile Profile is fairly straight-forward. To enable message data collection for the mobile system, the profile must be activated.

Under Message Settings, the different types of messages which can be archived from Mobile devices are listed and configured. The message source and type are available for selection or exclusion.

Finally, the Miscellaneous tab allows for configuring attachments. Attachment size and general attachment settings can be configured here. If there is a maximum limit, set it in the field below. The attachment size limit is listed in KB. If the size limit is configured to -1, then there is no limit and all attachments will be archived no matter the size.

Before the profile can be saved, some setting must change for the Retain Server to recognize that something needs to be saved. If no setting has been modified, toggle a setting to trigger the save changes icon to activate and then save the changes.



If changes are not saved, then the profile will not be saved. Jobs cannot be run unless the profile has been saved.

Once the module, worker, and profile have been configured, devices must be added through Device Management.

Device Management

Devices are added to and deleted from Retain through the Device Management interface. Device Management is split into two sections: Mobile and BlackBerry. In both sections, multiple devices may be selected and acted on. In addition, all selected devices remain selected until either an action is taken or the administrator has navigated away from the page.

BlackBerry

Retain supports archiving data from both BlackBerry devices and devices running the BBM Protected system. Devices running the BBM Protected system can have their communication data archived through the BBM app, obtained from BlackBerry.

The BlackBerry device page displays all devices which have been registered into the Retain system. Native BlackBerry and BBM Protected devices are displayed together. Retain registers BlackBerry devices through log files from the BES server or through data sent by the device running the BBM Protected application. If a device is not yet registered, it is either not in the BES address book or no data has been archived for the device. The device list may be filtered for any specified content desired. In addition, devices may be selected for removal.

Mobile

The screenshot shows the 'Device Management' interface. On the left is a navigation menu with sections: Overview, Data Collection, Management, and Configuration. The 'Management' section is expanded, showing 'Device Management', 'Mobile', 'BlackBerry', and 'Deletion Management'. The 'BlackBerry' option is selected. The main area displays 'Information about the BlackBerry devices known to Retain.' with a note: 'One way the device information is added to Retain is during the BES Address Book synchronization.' Below this is a 'Delete Devices' button and a search bar. A 'Device List' table follows, containing columns for Enrollment Code, Display Name, Email Address, PIN, Phone Number, UID, and Time of Registration. The table lists several devices, including 'GWAVA TheMan', 'Pontiac TransAm', 'Donna Lush', and various BlackBerry Q10 and Q10 QA Phones. At the bottom right, a timestamp reads '09-Apr-2015 07:41:06'.

Enrollment Code	Display Name	Email Address	PIN	Phone Number	UID	Time of Registration
98766789	GWAVA TheMan	gwavaman@qa.gwava.com	98766789	801-555-1243	a31685cd-8863-415c-981b-2d082ccc07d1	
2W87Z8L	Pontiac TransAm	78transam@qa.gwava.com	2W87Z8L	801-400-2561	f4b9540c-7f72-434a-aceb-0c8edc0399a5	
2a8e2297	Donna Lush	B08c01@sqm.testnet.rim.net	2a8e2297	15142522535	e44f263c-4e4d-47e8-86aa-8f74391d299b	
2AC601FE	BlackBerry Z10 QA Phone	BlackBerryZ10@qa.gwava.com	2AC601FE	13852595593	91018482-c744-4b60-87ea-94de5cb887d6	
2AC6448F	Hakim Rasol	HakimR@exchange2013.qa.gwava.com	2AC6448F	+15144631598	ef76e679-fc72-47bb-be1f-54291da00e91	
24F1BE1A	BlackBerry Q10 QA Phone	BlackBerryQ10@qa.gwava.com	24F1BE1A	18016757731	64ee53c-959e-4687-a561-444896a13eb5	
2448CF31	BlackBerry8320 QA Phone	BlackBerry8320@qa.gwava.com	2448CF31	18016757662	f2a5f7d8-c224-4516-bcd7-ae352c7d6383	
2ADD0A2D	Rick Liljenquist	RickL@exchange2013.qa.gwava.com	2ADD0A2D		d61c8cf8-108d-49ac-8235-ada26e29a151	
enrollmentcode1234	Bryce Lee	brycel@qa.gwava.com				

Once a device is added to the interface, Retain creates an email which contains an activating link. Users need to open this email and follow the link on their mobile device. The link should be activated through the Retain application on the Android device. The activation email can be customized. The template this email is generated from is located in the file:

...\\RetainServer\\WEB-INF\\classes\\config\\mobile\\registeruser.html

The email sent to users may be customized, including any specific instructions for the organization, can be added or modified here, and all emails sent to users will contain information placed in this template. For information on customizing the registration email template, see [appendix I](#).

When a user is sent an email, the Retain system creates a unique device and user identification key, and ties it to the organization from which it came, allowing the Retain system to 'route' the appropriate messages to the owning Retain Server. Devices which have installed the application and activated through the emailed link, will display in the Retain Server as 'registered', in that they will show a code, a device key, and a UID key. Once registered, device data including SMS, MMS, and phone call data will be archived in the Retain System.

Retain

Language: English | Welcome, admin | About | Status & Updates | Logout

Device Management

Before managing devices, make sure the Mobile Module, Worker, and Job are properly configured.

- Mobile devices can be added for existing Retain users or for a new user.
- Once added, an email with a registration link will be sent to the user.
- The user should open the email on the device and click the registration link.
- Once the registration completes, messages should flow from the device to the Message Router and then to Retain.
- Deleting a device will stop the message flow to Retain and un-register the device.
- Note: User provisioning options in the Mobile Module should be configured appropriately to ensure user accounts are created.

[Delete Devices](#)
[Add Devices](#)
[Resend Email](#)
[Re-register](#)

Enrollment Code	Display Name	EMail Address	Device ID	UID
<input type="checkbox"/> 90K3QR0	Device One	Device1@mobile.gwava.com		
<input type="checkbox"/> 8RMTLL2	Device Two	Device2@mobile.gwava.com		
<input type="checkbox"/> 8F68IZM	TestUser One	TestUser1@mobile.gwava.com		
<input type="checkbox"/> XDY4807	TestUser Two	TestUser2@mobile.gwava.com		
<input type="checkbox"/> 8HL08ZG	TestUser Three	TestUser3@mobile.gwava.com		
<input type="checkbox"/> P904L5S	QA Phone One	QAPhone1@qa.gwava.com		
<input type="checkbox"/> ATYYVJ8	QA Phone Three	QAPhone3@qa.gwava.com		
<input type="checkbox"/> CEZELAX	longfirstnamepart longlastnameandfordisplayname	longemailaddressfordevice1@longprefixforemail.companynamename.com		
<input type="checkbox"/> C280JRI	Samsung Four	Samsung4@qa.gwava.com		
<input type="checkbox"/> 054R4IX	Samsung Five	Samsung5@qa.gwava.com		
<input type="checkbox"/> 1DCQUPH	Device Six	device6@mobile.gwava.com		
<input type="checkbox"/> P9ZZLJ9	Samsung Six	Samsung6@qa.gwava.com		
<input type="checkbox"/> J77KTKX	Daron Parcell	dparcel@qa.gwava.com		
<input type="checkbox"/> 4PZ5VEK	Samsung Seven	samsung7@qa.gwava.com		
<input type="checkbox"/> KELP3F3	QA Phone Six	qaphone6@qa.gwava.com		
<input type="checkbox"/> 4JKSLXZ	Bob Marley	bob@gwava.com		
<input type="checkbox"/> M7Z1ASK	Ernie Riedelbach	ernie@mobile.gwava.com		
<input type="checkbox"/> ZVBPJWX	Rick Lijenquist	rick@mobility.gwava.com		
<input type="checkbox"/> CRQPE62	David Nuttall	dave@mobility.gwava.com		
<input type="checkbox"/> 1071703	Device One	Device1@mobile.gwava.com	1071703-0a52-41aa-	e2f9124b-0a52-41aa-

Devices Selected: 0

To add a device to the Retain system, open the Device Management window and select the 'Add Devices' button.

The Add Devices window opens, which allows administrators to select and add multiple users. The system may also add users which are not cached in the Retain system, but they must be added one at a time. Manually input the name and associated email address at the bottom and select the 'add user' button.

Once devices have been added and registered, they are accessible to be modified, removed from, and archived by the Retain system.

Enrollment Code	Display Name	Email Address	Device ID	UID
S24UGPX	Rick L Jensen	rickl@qa.gwava.com		
DEV387B	Russ Bateman	russb@qa.gwava.com		
WDR51A9	John Stalsworth	johns@qa.gwava.com		
RFIEQ89	Bryce Test6	btest6@qa.gwava.com	BEAD1234	0aa518fa-2d39-47a3-9d32-b77a115d3308
85O39TL	Bryce Test7	btest7@qa.gwava.com	BEAD1234	0aa518fa-2d39-47a3-9d32-b77a115d3308
UBEC0HH	Bryce Test8	btest8@qa.gwava.com	BEAD1234	0aa518fa-2d39-47a3-9d32-b77a115d3308
NE49Q9A	Bryce Test10	btest10@qa.gwava.com	BEAD1234	0aa518fa-2d39-47a3-9d32-b77a115d3308

Mobile Router Page

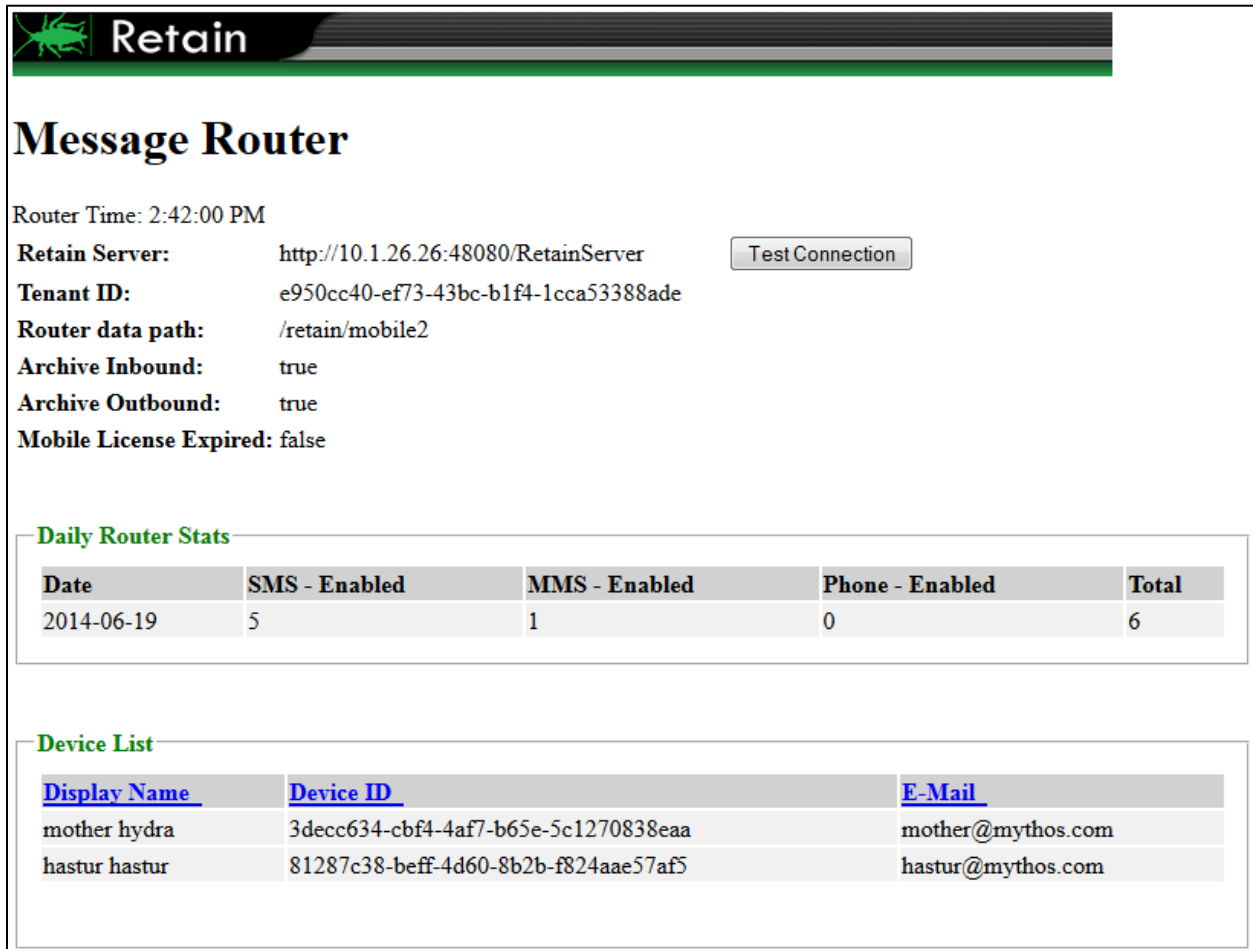
The Retain Router has its own webpage. This page can be used to test the connection to the Retain Server, as well as verify that communication is open and that devices registered in the Retain Server are listed in the Retain Router.

To access the Router page, open a browser and enter the connection URL.

http://Retain_Router_IP_or_Domain/RetainRouter

For example: <http://192.168.1.21/RetainRouter>

The resulting page should look very similar to this:



Retain

Message Router

Router Time: 2:42:00 PM

Retain Server: <http://10.1.26.26:48080/RetainServer>

Tenant ID: e950cc40-ef73-43bc-b1f4-1cca53388ade

Router data path: /retain/mobile2

Archive Inbound: true

Archive Outbound: true

Mobile License Expired: false

Daily Router Stats

Date	SMS - Enabled	MMS - Enabled	Phone - Enabled	Total
2014-06-19	5	1	0	6

Device List

Display Name	Device ID	E-Mail
mother hydra	3decc634-cbf4-4af7-b65e-5c1270838eaa	mother@mythos.com
hastur hastur	81287c38-beff-4d60-8b2b-f824aae57af5	hastur@mythos.com

Devices which are active are listed along with daily statistics. The daily statistics are reset every night, and full statistics are kept in the Retain Server.

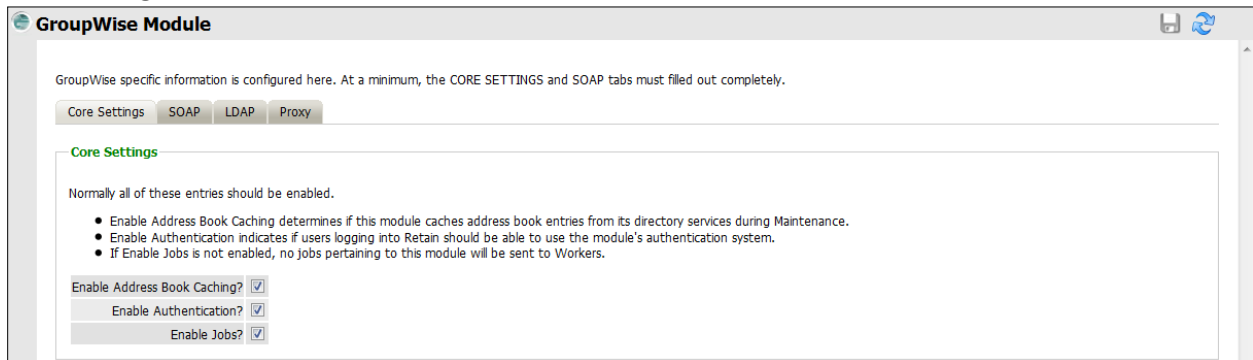
This page is mainly an informational page.

GroupWise Module

The GroupWise module must be fully configured before Retain can archive or communicate with the GroupWise mail system. Retain must be provided with an IP address and port of a readily accessible Post Office (fast access), appropriate login credentials, and a trusted application key.

The GroupWise module page opens first with the Core Settings.

Core Settings



Normally all of the checkboxes on this tab are always left selected. It is rare that you would ever deselect any of them. Two cases where you might would be troubleshooting, (as instructed by Technical Support), and retiring an old email system.

The Enable Address Book Caching function allows Retain to regularly cache the online email systems address book and synchronize it with Retain. This is critical for administration, authentication, and archiving purposes. It is recommended to cache the Address Book once every 24 hours to keep the Retain storage system up to date. By default, maintenance is set to cache the Address Book once every 24 hours.

The Enable Authentication checkbox determines if end-user authentication is performed when the user logs into Retain. If it is deselected, the Retain system will NOT authenticate the user against the email system and the user will not be able to log in unless another authentication method is enabled.

The Enable Jobs checkbox determines if configured data retrieval jobs are ever passed to the Worker. Even if the individual job is fully configured and enabled, if this checkbox is switched off, no jobs configured for this module will be processed.

SOAP

Provide the POA Host Name and SOAP port. IP addresses are acceptable, but host names are preferred as IP addresses may change. SSL is supported, but comes at the price of speed, and will slow down the archiving process. Create a Trusted Application key for Retain, either manually from Console One for GroupWise 8.x and higher, or via the provided Key Generator provided and linked from the page. For instructions, see the [trusted app key section in the appendix](#).

The screenshot shows the 'GroupWise Module' configuration window. It has tabs for 'Core Settings', 'SOAP', 'LDAP', and 'Proxy'. The 'SOAP' tab is selected. Under 'Trusted Application Key Generation', there is a list of instructions: 'Download the key generation application', 'Run the key generation application', and 'Paste the key generated below'. Below this, the 'Trusted Key Name' is 'Retain' and the 'Trusted Application Key' is a long alphanumeric string. The 'GroupWise SOAP Access' section contains fields for 'POA Host Name' (192.168.1.104), 'SOAP Port' (7191), and a checkbox for 'Enable SSL?' which is unchecked. A 'Test Connection' button is located below these fields. The 'Post Office Redirection Tables' section is partially visible at the bottom.

The SOAP access information must be provided, and the connection tested and verified before the system can connect. After providing the required information, click the 'Test Connection' button. The results are displayed. A successful result must be reached before Retain can archive messages from GroupWise.

This screenshot shows the 'Test Connection' results. The 'Test Connection' button is at the top. Below it, the following text is displayed: 'Initiate Soap Connection. Use the following parameters: host:port= 192.168.1.104:7191 trustname=Retain, trustkey=1274F00111E00000A5BFEDA2F08107161274F00211E00000ADDCE493233A1E86 ssl=false'. Below this, it says 'SUCCESS: Connected to admin' and 'For a more stringent test, be sure to refresh the Address Book Cache and then check the logs.' The 'Post Office Redirection Tables' section is also visible at the bottom.

If mail server Redirection is required for mail servers which are not contained on the local WAN and must have the connection addresses manually specified, the appropriate information may be modified in the redirection table. Most installations will not require any modification.

LDAP

GroupWise Module

GroupWise specific information is configured here. At a minimum, the CORE SETTINGS and SOAP tabs must filled out completely.

Core Settings SOAP **LDAP** Proxy

E-Mail Address Based Login

If enabled, Retain can use the email address of the user as an alternative to the mailbox login name. An LDAP query will be performed, and the password will be matched against the LDAP directory password. Most administrators do not need this functionality - the LDAP Authentication option in GroupWise at the Post Office level largely duplicates this functionality. However, if you want to allow users to login using their e-mail addresses it is required.

- The email address attribute in eDirectory is not indexed by default. For large trees, you may want to index this field. Consult the user manual for details on how to do this.
- The Admin DN, and Search DN need to be in LDAP form, not eDirectory form. The Admin DN should specify a user with rights to all properties in the LDAP Server.

Enable EMail Address lookup? ☐

LDAP Server (DNS/IP) 127.0.0.1

LDAP Port (usually 389 or 636) 389

Use SSL? ☐

LDAP Admin User (e.g. cn=admin,o=beginfinite) cn=admin,o=beginfinite

Password for LDAP Admin User

Top Search Context (e.g. o=beginfinite) o=beginfinite

LDAP may be used for individual users wishing to access their respective archives. If LDAP is setup and desired to be used for Retain user authentication, it must be fully configured in the GroupWise module.

Utilizing LDAP allows users to log into their respective archives using the user's full email address. This authentication requires that the email attribute be marked indexed in ConsoleOne.

Proxy

GroupWise Module

GroupWise specific information is configured here. At a minimum, the CORE SETTINGS and SOAP tabs must filled out completely.

Core Settings SOAP LDAP **Proxy**

Proxy

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.

Enable support for GroupWise Proxy ☐

Cache Proxy verifications (days) 7

Users who have been given proxy to another account in GroupWise may be granted access to proxy accounts in the Retain archive as well. For performance reasons, Retain caches proxy verifications for a period of days.(Default is '7' days.) Revocation of proxy access might not be reflected immediately in Retain. The caching period may be reduced or even disabled, (a value of '0' disables caching), but this is not recommended.

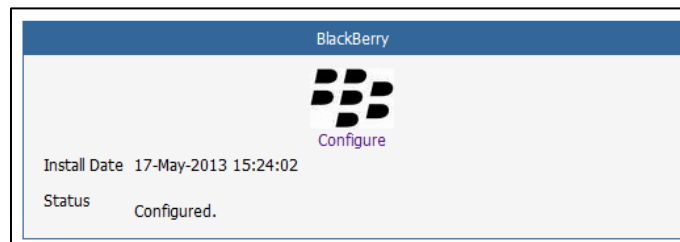
BlackBerry Module

The BlackBerry module allows the collection of BlackBerry phone data from the Enterprise server into the Retain system. BES 5.x, 10.x, and 12.x are supported. To archive the BlackBerry information, the BlackBerry Enterprise Server must be configured to log phone calls, PIN, BBM and SMS data. Archiving BBM Protected data is also supported through the REST API. (Archiving BBM Protected will require two additional licenses: REST API license and the BBM Protected License. See the [REST API](#) section.)

The server log files are what Retain uses to collect the information about phone activity, and as such no software or modification needs to be made to any system phones. If the BlackBerry server has not been configured to log the data, Retain will be unable to archive the information. For BES 5.x, instructions to modify the logging in the BlackBerry Enterprise Server can be found in the BlackBerry Enterprise Server help file. (Found under Start | Programs | BlackBerry Enterprise Server | Help | BlackBerry Manager Help)

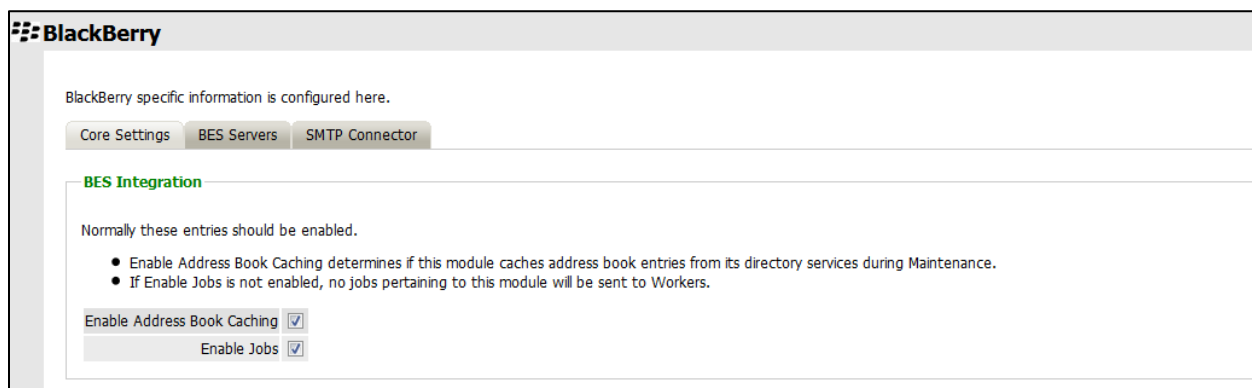
For BES 10.x and 12.x, users must be set on EMM – Regulated mode and have the logging set to ‘yes’ for all types desired. Balanced mode users will not have logs created for them in the BES system and as a result will not be archived.

Installing the BlackBerry Module is incredibly simple. Essentially, the module needs to be enabled and configured with the BES log file location. Afterwards, the data is treated the same as any other data entering the Retain archive. Data is archived in the database under the user/phone it originated from and can be searched and viewed through the Search Messages interface.



To enable the BlackBerry Module, select the ‘BlackBerry Module’ from the module page and click ‘configure’.

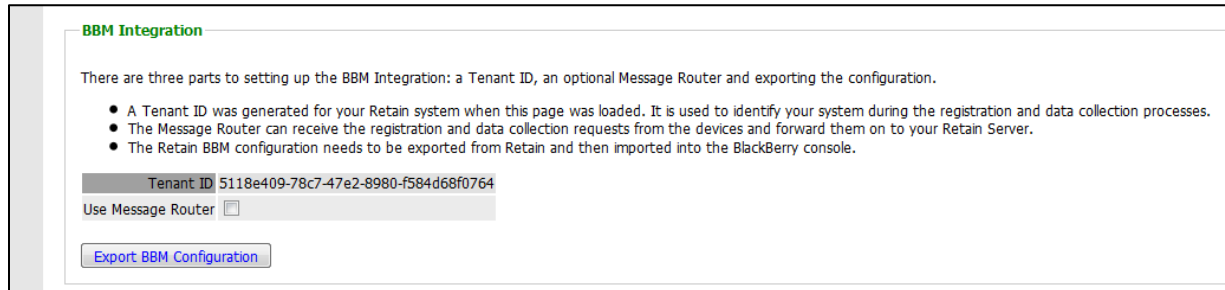
The BlackBerry module needs to be enabled on this page to make it active in the Retain system.



For address book caching to occur, it must be enabled on the Core Settings screen. For more information on caching, see below.

Before data can be archived, the BES Servers must be configured and a BES log file path must be provided.

If BBM Protected integration is to be used, no BES servers will be listed and no other configuration in the BlackBerry Module is required. However, the BBM Configuration file needs to be exported and uploaded to the BBM server. Please see the BBM setup and install checklist for specific information on how to configure the BBM server.



BBM Integration

There are three parts to setting up the BBM Integration: a Tenant ID, an optional Message Router and exporting the configuration.

- A Tenant ID was generated for your Retain system when this page was loaded. It is used to identify your system during the registration and data collection processes.
- The Message Router can receive the registration and data collection requests from the devices and forward them on to your Retain Server.
- The Retain BBM configuration needs to be exported from Retain and then imported into the BlackBerry console.

Tenant ID: 5118e409-78c7-47e2-8980-f584d68f0764

Use Message Router ☐

[Export BBM Configuration](#)

BES Servers



BlackBerry Enterprise Server

BES specific information is configured here.

Core Settings | **BES Servers** | SMTP Connector

BlackBerry Enterprise Servers

The Retain Worker needs to know where the BES log files are located.

Retain accesses the BlackBerry Enterprise Servers via the SOAP protocol which needs to be enabled.

[+ Add BlackBerry Enterprise Server](#)

X Server Name: BES10.2

Logfile Path: C:\Program Files (x86)\Research In Motion\BlackBerry Enterprise Service 10\Logs

SOAP Host:

SOAP Port:

SOAP User:

SOAP Password:

[Test Connection](#)

The log file location must be the address to the Blackberry Server log files, from the perspective of the Retain Worker. Regardless of where the worker is installed, local or remote to the Blackberry Server, it must have direct file access to the logs. This access can be accomplished through a shared folder or location, but it must be available to the Retain worker. The path must be an open and active path from the Worker to the log file location. Appropriate access through firewalls or network security must be made available if the worker is not installed on the BES system.

The SOAP data must also be filled-out. The SOAP connection is how the Retain Server connects to cache the address list. SOAP must be enabled on every BES listed. List every BES server which the Retain system will be archiving data from. The SOAP address or host name and port which is configured must

be specified for each Server. The SOAP user name and password are the credentials to the BES admin web console.

Caching

Retain will attempt to cache the address book from each server listed if address book caching is selected. Because the Blackberry Server logs, and especially the BBM Protected data does not always contain user names attached to the device ID's, Retain works to cache the address book to fill out data for messages; user name, email address, etc. Without Address Book caching, stored message data may only be identified by a device ID or phone number. Each server's configuration has a test button to help ensure that Retain can successfully connect to the server. Selecting the 'Test Connection' button will initiate a connection attempt by Retain for the server. The results will be displayed after the test has been completed.

SMTP Connector

In order to allow the forwarding of BES items out of the Retain system, the Blackberry Module needs to be configured with an SMTP connector. This connector provides an option for Blackberry data to be forwarded out of Retain.

The screenshot shows the BlackBerry Enterprise Server (BES) configuration interface. At the top, there's a header with the BES logo and the text "BlackBerry Enterprise Server". Below the header, there's a navigation bar with three tabs: "Core Settings", "BES Servers", and "SMTP Connector". The "SMTP Connector" tab is selected. Below the tabs, there's a section titled "SMTP Connector" with a green header. Underneath, there's a note: "An SMTP Mail Server only needs to be defined when forwarding the BES items to an external system." Below this note, there are five input fields: "SMTP Mail Server" with the value "10.1.109.24", "SMTP Mail From Address" with the value "BESjobOn61", "SMTP Mail To Address" with the value "rickl@smtparchive.qa.gwava.com", "SMTP Username" with the value "rickl", and "SMTP Password" with a masked password represented by blue dots. At the bottom of the form, there is a "Test Connection" button.

The amount of configuration necessary for the SMTP Connector depends on the specific setup of the SMTP system. If a username and password are required for the host SMTP system, then it must be provided. If it is not required, the configuration of the username and password is optional.

The address of the Mail Server, the SMTP Mail From Address, and the SMTP Mail To Address, must all be configured for the system to function correctly. The 'to' address is the destination address where the data will be forwarded to. The 'from' is the specified 'from' address.

In addition, the 'Enable SMTP Connector' option must be enabled in the 'jobs' configuration for the Blackberry section.

Retain BAAS for BBM Protected Setup

Item and Requirements Checklist:

- Enterprise ID (From Blackberry)
- Base API license (In licensing tab)
- BlackBerry license (In Licensing tab)
- REST API base License (In REST API tab)
- BBM REST API license (In REST API tab)
- SSL security certificate for either Server or Router (whichever is to be used).

Pre-setup tasks:

- Network structure plan (Where to place the Retain Server, and or to use the Router.)
- Retain Server setup and configured – or – Server and router configured
- Router or Server connected to, accessible in DMZ

The setup for Retain BAAS for BBM Protected is quite simple for Retain, as the BBM Protected application directly inputs data to the Retain BAAS system. The BBM Protected app can forward data to either the Retain Router or the Retain Server, but it will only archive to one or the other. Because the BBM Protected app communicates directly to the Retain BAAS system, Retain needs to have an open connection to the internet. Due to this requirement, the desired connection should be placed in the network's DMZ. To protect the Retain Server, the Retain Router has been designed to be placed in the DMZ. When the Router cannot be installed in the system, the Retain Server can handle all communication, but will need to be installed in the DMZ. Whichever will be used, Router or Server, the configuration and a security certificate must be generated before setup can be completed.

Setting up the Retain environment

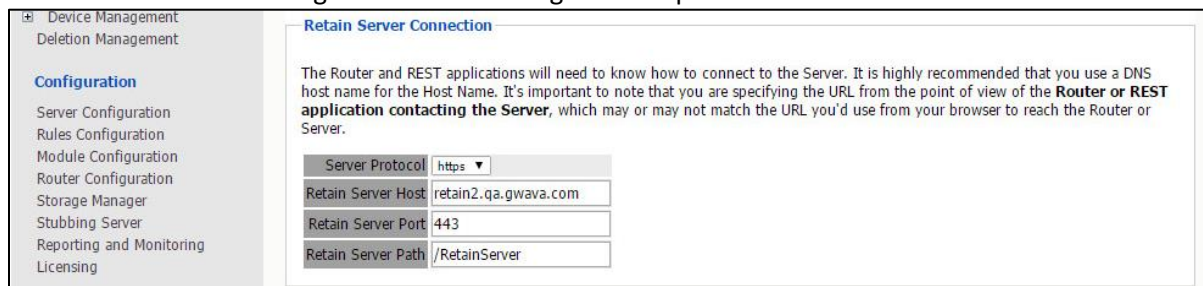
Process Steps:

1. License Retain.

Retain requires a total of 4 licenses to enable Retain BAAS. The first two licenses, base Retain license and the Blackberry module license, are uploaded to the Licenses page in the Retain Server management console. The second two licenses are REST API licenses, REST API base license and the Blackberry REST API license, are installed under the Server Configuration | REST API tab.

2. Configure Retain server connection.

Found under Server Configuration | Communications tab, the Retain server connection info at the bottom of the page. This connection setting is the information which will be used by the REST applications, (in this case BBM Protected application), or the Retain Router, to connect to the Retain Server. If this is not correct, the Router or the REST applications will not be able to connect the Retain Server. This must be configured before moving on to step 3.



Retain Server Connection

The Router and REST applications 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 **Router or REST application contacting the Server**, which may or may not match the URL you'd use from your browser to reach the Router or Server.

Server Protocol	https
Retain Server Host	retain2.qa.gwava.com
Retain Server Port	443
Retain Server Path	/RetainServer

3. From Blackberry module, Export BBM configuration file.

The BBM Configuration file is generated through the Blackberry module configuration page. Open the module configuration and look at the Core Settings tab. Look at the BBM Integration section. Here the decision is made whether to use the Retain Router or to use the Retain Server. If the Retain Router is to be utilized, select the 'Use Message Router' checkbox.

The Device Transmission Frequency setting is the setting which determines how often the BBM Protected application will upload archive data to the Retain Server. If there is no information to be archived, the BBM Protected application will wait until there is. The setting is in minutes. Minimum is every 5 minutes, maximum is 1440 minutes (24 hours). Once configured, select the 'Export BBM Configuration' button and save the file; you will need it later.

The screenshot shows the BlackBerry configuration interface. At the top, there's a header with the BlackBerry logo and the text "BlackBerry specific information is configured here." Below this are three tabs: "Core Settings", "BES Servers", and "SMTP Connector". The "Core Settings" tab is active. Under "BES Integration", there's a note: "Normally these entries should be enabled." followed by two bullet points: "Enable Address Book Caching determines if this module caches address book entries from its directory services during Maintenance." and "If Enable Jobs is not enabled, no jobs pertaining to this module will be sent to Workers." Below these are two checkboxes: "Enable Address Book Caching" (checked) and "Enable Jobs" (checked). The "BBM Integration" section follows, with a note: "There are three parts to setting up the BBM Integration: a Tenant ID, an optional Message Router and exporting the configuration." It lists three bullet points: "A Tenant ID was generated for your Retain system when this page was loaded. It is used to identify your system during the registration and data collection processes.", "The Message Router can receive the registration and data collection requests from the devices and forward them on to your Retain Server.", and "The Retain BBM configuration needs to be exported from Retain and then imported into the BlackBerry console." Below this are three fields: "Tenant ID" (61a1c88d-c9a7-418d-bfd1-b7a08f6544c4), "Use Message Router" (checked), and "Device Transmission Frequency" (15 minutes (5-1440)). At the bottom is a button labeled "Export BBM Configuration".

4. Obtain a SSL security certificate for destination server/or router (if not already obtained)

The security certificate must be obtained to configure the Blackberry Identity console. The security certificate needs to be in base 64 format.

Go to Enterprise Identity Console. (<https://idp.blackberry.com/enterprise>)

5. Go to the Blackberry Enterprise Identity Console. (<https://idp.blackberry.com/enterprise>)

The screenshot shows the "Sign In to BlackBerry ID" page. It has a header with the BlackBerry logo and the text "Sign In to BlackBerry ID". Below this is a form titled "To access: Enterprise Identity By BlackBerry". The form contains two input fields: "Username" (with the placeholder text "Email Address") and "Password". Below these fields are two links: "Forgot password?" and "Don't have a BlackBerry ID? Create one.". At the bottom right of the form are two buttons: "Cancel" and "Sign In".

6. Enter the credentials provided by Blackberry when account was created.

7. Enter administrator console.
8. Select the 'Services' page.
9. BBM protected must be enabled.

Enterprise Identity
Administrator Console



10. Enter 'entitlements' and invite users/devices to be added to the service (In this case BBM Protected)

Users must first be added to the BBM Protected system before they can be added to Retain BAAS.

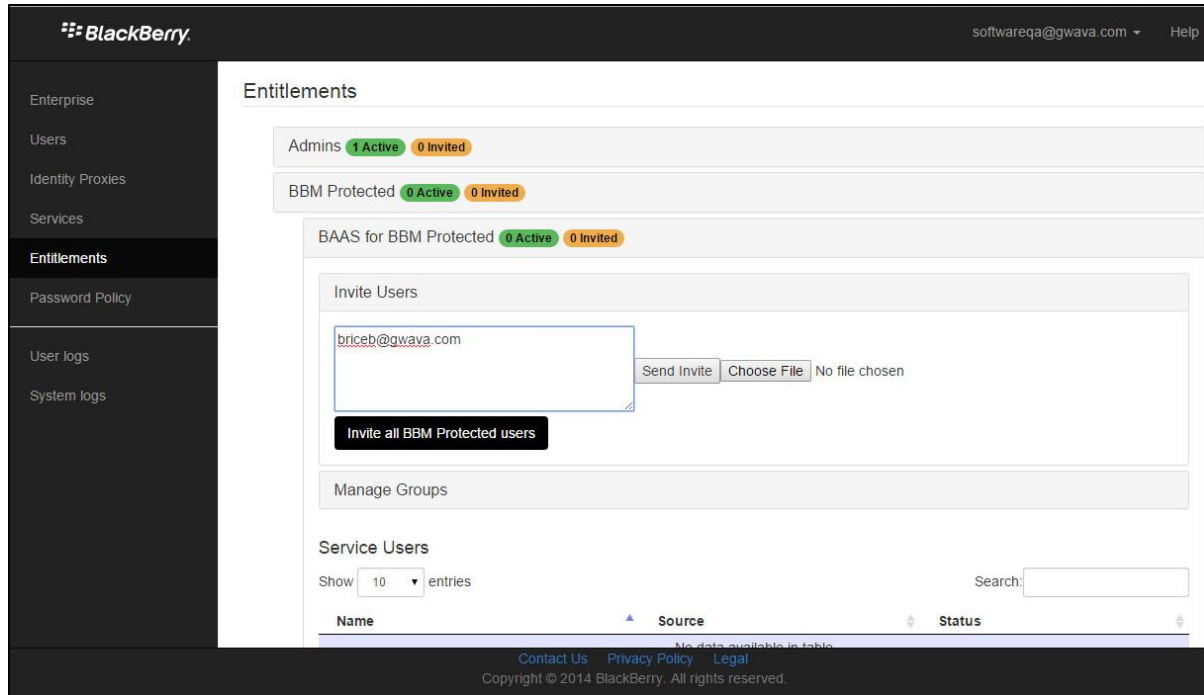
11. Enable BAAS for Protected.

To enable BAAS for protected, select the 'enable' button for BAAS. There are two files which must be uploaded to the BlackBerry Identity Console, these are the two files saved earlier: the SSL security certificate for the Retain Server or the Retain router, (whichever is going to be used), and the BBM Configuration file created in step 3.

The Archiving configuration file is the BBM Configuration File, and the SSL certificate needs to be uploaded to the 'Archiving SSL Certificate' section. Select the 'Choose file' button and browse to the appropriate file to upload it. Once both files have been uploaded, select the 'Save' button.

12. Enter Entitlements and invite users

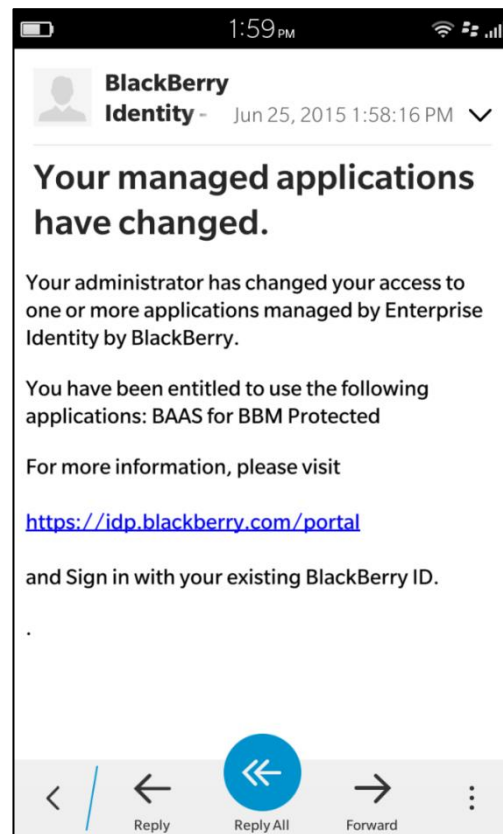
Users invited to BAAS MUST already be users of BBM Protected. If users are not registered to use BBM Protected, BAAS will not work. First invite them to BBM Protected, and then invite to BAAS after the device has been registered with the BBM server for BBM Protected service.



13. Users will be notified that they have been added to the archiving

Once the devices and users have been invited to join the BAAS program, they will be sent a notification that they are now part of the BAAS archive.

They are now part of the BAAS system and their BBM Protected communication will be added to the Retain BAAS archive.

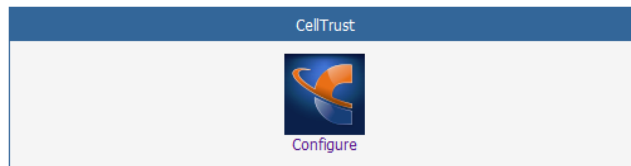


CellTrust SecureLine

The CellTrust SecureLine module allows the collection of phone data from the CellTrust Secureline server into the Retain system. CellTrust Secureline supports the archival of sms and phone call data from both Android and iOS phones. All devices which are supported by the Secureline server are covered by Retain.

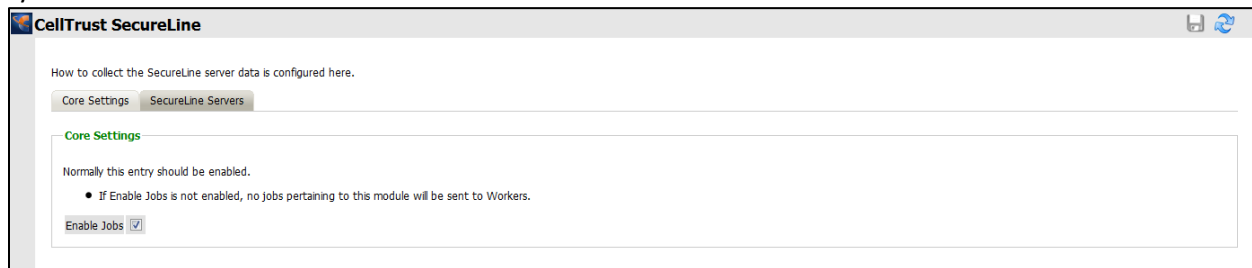
To archive CellTrust SecureLine information, the SecureLine server must be configured to log phone calls, PIN and SMS data. The server log files are what Retain uses to collect the information about phone activity. If the SecureLine server has not been configured to log the data, Retain will be unable to archive the information. [See appendix J for Secureline server configuration.](#)

Configuring the CellTrust SecureLine Module is incredibly simple. Essentially, the module needs to be enabled and configured with the log file location. Afterwards, the data is treated the same as any other data entering the Retain archive. Data is archived in the database under the user/phone it originated from and can be searched and viewed through the Search Messages interface.

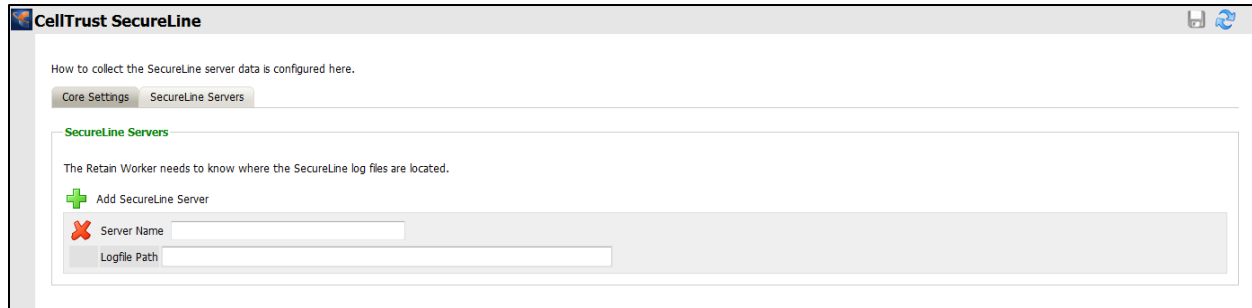


To enable the CellTrust module, select the 'Configure' link under the 'CellTrust' icon from the module page.

The CellTrust SecureLine module needs to be enabled on this page to make it active in the Retain system.



The log file path for each server in the system is required to archive the phone data. To add a server to the Retain process, select the green plus sign and then configure the server name, (any name will do), and then the log file path.



The log files must be directly accessible to the worker tasked with archiving the CellTrust SecureLine data, whether through direct access or through a mapped drive. The logfile path is the direct file access path to the log files of the CellTrust Secureline server, (/opt/PM/scheduler/external by default), and should be specified as the worker will access the log files.

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

Getting data into the archive is 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 archiving policy will cover several points:

- What to archive (jobs)
 - Includes what message server(s) to collect data from.
- What worker
- When will the data be collected (schedule)
- How to collect the data will cover (profile)
 - Types of items or users to archive.
 - Date range of items to be archived.
 - Avoiding redundant data collection.
 - Utilizing storage flags to achieve 100% retention.
 - Whether to store attachments.
 - Advanced criteria, such as attachment names, or folder locations.

Retain Job components

Schedule

The Schedule is the time framework that is set for the job to run on and provides the choice of how often, and when, the job is run. Single time, (job runs once), or a recurring time frame are available. Schedules are universal and are not module or job specific. They may be used for one or all jobs.

Profile

The Profile dictates which kinds of files to retrieve from the message system. All message system items are selectable to be archived, but you may also specify time periods, exclude folders or subjects, and how the data is stored. Profiles are module specific, and the profile section contains sections specified by each module and information only applicable to that module.

The Profile also has a very important function, duplicate checking. This keeps the Retain system from storing multiple instances of the same message. Make sure you check and read the section on Purge (GroupWise), Retention (GroupWise), and Item Store (Exchange/GroupWise) flags.

Worker

The worker is the part of Retain that actually pulls the data from the message system servers. The Worker contacts the Retain Server and gathers information on which jobs are associated with it, when to start them, and which items to get. Workers can only run one job at a time. Workers are not module specific, but may require module specific settings. These settings, where applicable, are found under the module specific tab.

Jobs

The Jobs section is where the Worker, Profile, and Schedule are all brought together and associated into a comprehensive configuration by allowing the user to tie their configuration to a selected Secureline server and selected user list. The desired SecureLine server must be selected. The Worker will not start archiving anything until a created job is bound to a Worker, Schedule, and Profile.

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.

SINGLE schedules are configured with one start time, and one date.

To keep jobs from queuing up to the worker, select the box to do not resend a job that has an elapsed start time. Otherwise, a job will queue up on the worker if a previous job has not yet completed, causing the new job to start as soon as the current job is complete or terminated.

The screenshot shows the 'Schedules' configuration window. It has a title bar with a '12' icon and standard window controls. Inside, there's a list box on the left containing 'default' and 'new default'. To the right of the list are three buttons: 'Add Schedule', 'Edit Schedule', and 'Remove Schedule'. Below the list box, there's a text area that says 'No jobs are associated with this schedule.' Below this, there's a 'Schedule Name' field with 'default' entered and a 'Schedule Frequency' dropdown set to 'Single'. A horizontal line separates this from the scheduling details. Below the line, there's a paragraph of text: 'This job will run only once, at the time specified below, unless an error occurs. If an occur occurs, the job will be retried unless you select the checkbox below.' Below this text are date and time pickers. The date is set to 'Aug 13 2008' and the time is set to '16:36'. At the bottom, there's a checkbox labeled 'If time assigned for job start has elapsed, don't resend job' which is currently unchecked.

RECURRING schedules are configured using a start and interrupt time, and which days to start on.

Schedule Name	full run job		
Schedule Frequency	Recurring ▼		
<input type="checkbox"/> Sunday			
<input checked="" type="checkbox"/> Monday			
<input checked="" type="checkbox"/> Tuesday	Start Job at:	01 ▼	:00
<input checked="" type="checkbox"/> Wednesday	Maximum job duration	22 ▼	hours
<input checked="" type="checkbox"/> Thursday	Do not interrupt job, even when duration expires <input checked="" type="checkbox"/>		
<input checked="" type="checkbox"/> Friday			
<input type="checkbox"/> Saturday			

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".

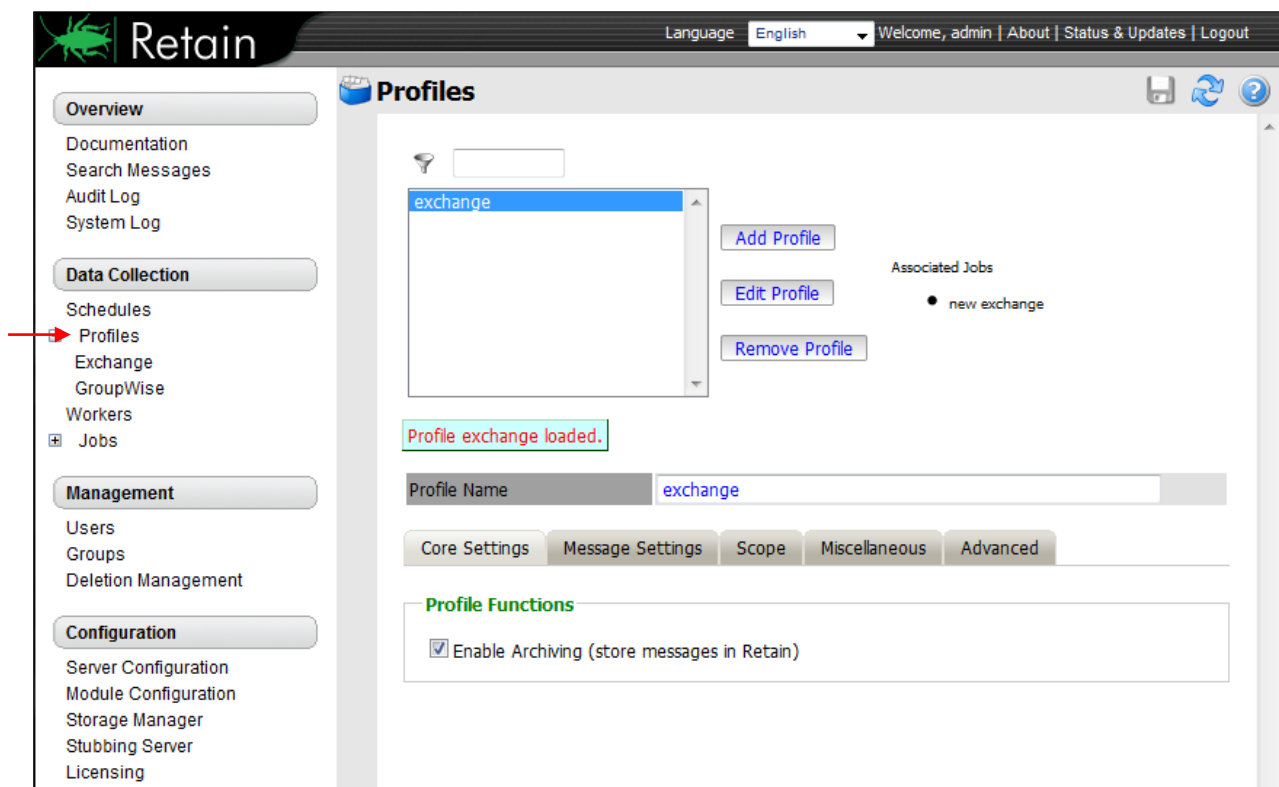
Profiles

A profile assigned to a job tells the system what to archive. Message types, status, date ranges, excluding or including specific users, private or public folders or both, and redundancy check settings are all configured under the profile.

The profile defaults to collecting all data, with no date restrictions. After Retain has finished collecting data the first time, you'll want to narrow the date range and criteria considerably, or pay a high price in performance. Each module has a specific profile page, but different profile pages will not display unless multiple modules have been configured. Each module's profile is explained below.

Exchange Profile

After the Exchange Module has been configured, the Exchange Profile will be available for configuration. If an Exchange Profile is not configured, jobs cannot be run against the Exchange system.



Click on 'Add Profile' and provide a profile name, or select an already existing profile to access the configuration tabs. All changes made on this page must be saved by selecting the 'save changes', disk icon, at the top right of the page. **Tabs may be changed and navigated through without affecting new settings**, but any move to another page will require saving, or abandoning the changes made.

Core Settings

The core settings consist of an enabled/disabled option which must be enabled for any jobs based on this profile to archive anything.

Manage Settings

Retain can archive and select specific types of mail and Exchange system items to be archived. The Manage Settings tab provides access to manage those settings.

The screenshot shows the 'Manage Settings' interface with five tabs: Core Settings, Message Settings, Scope, Miscellaneous, and Advanced. The 'Message Settings' tab is selected. It contains four sections:

- Mailbox Type:** A description states, 'You can choose to store items only from User mailboxes or from Room / Equipment resources.' Below are two checked checkboxes: ☒ Users and ☒ Room / Equipment.
- Item Type:** A description states, 'By default, Retain stores every type of message. You can restrict this.' Below are five checked checkboxes: ☒ Mail, ☒ Appointment, ☒ Note, ☒ Task, and ☒ Voice Message.
- Item Source:** A description states, 'Messages are classified in one of these categories. You may restrict the storage of messages if desired.' Below are four checked checkboxes: ☒ Received, ☒ Sent, ☒ Draft, and ☒ Posted.
- Message Status:** A description states, 'You can restrict the storage of messages based upon the setting of various status flags'. Below are four dropdown menus: 'Read is', 'Private is', 'Personal is', and 'Confidential is'. Each dropdown currently shows 'Doesn't matter'.

The Mailbox type specifies whether to include or exclude the available types of mailboxes. Because there can be multiple profiles and jobs, it may be advantageous to archive the Users and Room / Equipment mailboxes separately as needed and appropriate for the system.

The Item Type option specifies the different types of messages found in Exchange that can be archived, and allows the exclusion of or inclusion of the different individual types.

The Item Source option allows administrators to exclude or include messages that have not yet been sent or received, or posted.

The Message Status allows messages which have or have not been read or opened, or marked private or confidential to be archived. The different options in the drop-down menu are as shown.

A close-up of a dropdown menu with the following options: 'Doesn't matter' (selected), 'True', and 'False'.

Scope

The Scope tab dictates how pervasive the attached archiving jobs are, and what kind of duplicate checking is done, or not done, in the Retain system.

The Date Range instructs Retain to scan for, and archive, messages after, or before, a certain date. This is useful if only specific chunks or areas of mail are to be archived.

The duplicate check either scans for all messages, or instructs Retain to only look for messages which are newer than the Item Store Flag, which is a time-stamp on the system. All messages younger than the time stamp will be archived by Retain if the item store flag is utilized, but Retain will ignore all messages which are older. **Be sure to set the item store flag for the CellTrust Secureline module to avoid duplicates.**

NOTE: Unlike GroupWise, Exchange does not ensure any compliance when scanning end user mailboxes; users may freely delete their email. The Item store flag does not prevent mail deletion. Only Journaling and archiving a journaling mailboxes, guarantees all items have been archived.

The screenshot shows the 'Scope' tab in the GWAVA Retain settings interface. At the top, there are five tabs: 'Core Settings', 'Message Settings', 'Scope' (which is selected), 'Miscellaneous', and 'Advanced'. The 'Scope' tab contains three main sections:

- Date Range to Scan:** A dropdown menu is set to 'All Messages (ignore date)'.
- Duplicate Check:** A text block explains that Retain stores a single instance of each message and attachment, and that defining how the Worker determines new items is an important performance factor. It recommends using the item store flag. Below this, a dropdown menu is set to 'Try to publish all messages (SLOW)'.
- Set Storage Flags:** A text block explains that the Item Store flag is normally advanced after a job is run, but might not be if overlapping jobs are run. Below this, there is a checkbox labeled 'Item Store Flag' which is checked.

It is recommended that the first job be allowed to scan for all mail that is desired to be archived, with the duplicate check set to 'publish all messages'. Afterwards, it is recommended to have the duplicate check look for the Item Store Flag, and only check for new mail in the system.

Miscellaneous

The Miscellaneous tab allows access to particular settings detailing how messages are stored and what is archived. Attachments, message information such as the internet headers, and how the data is stored and named, (by folders, year, or year and month), dictate not only the message store structure, but affect the storage size.

Miscellaneous options also allow for the archiving of the 'recoverable items'. To enable checking and archiving of the 'Recoverable Items' for compliance reasons, select the checkbox next to the option.

The screenshot shows the 'Miscellaneous' tab selected in a settings window. The window has tabs for 'Core Settings', 'Message Settings', 'Scope', 'Miscellaneous', and 'Advanced'. The 'Miscellaneous' section is titled 'Miscellaneous' in green. It contains the following options:

- You can save disk space by restricting attachment storage.**
 - ☒ Store all attachments
 - ☐ Don't store any attachments, other than the message
- You may choose to store and index the Internet Headers. This exacts a performance penalty. However, it may be necessary for your compliance policy.**
 - ☐ Store/index Internet Headers
- Note: The following options can dramatically slow down archiving and increase disk space utilization.**
 - ☐ Include user's archive mailbox
 - ☐ Include user's recoverable items
 - ☐ Include Public Folders(exhaustive)
- You may store Journaling Mailboxes in one flat folder, or partition them by year and/or month.**
 - ☒ Store in one folder
 - ☐ Store by year (yyyy)
 - ☐ Store by year and month (yyyyMM)

A tooltip is visible over the 'Store all attachments' option, showing a list of folders: 'Items from All Folders', 'ONLY items from folders listed below', and 'All folders EXCEPT those listed below'.

Advanced

The screenshot shows the 'Advanced' tab selected in a settings window. The window has tabs for 'Core Settings', 'Message Settings', 'Scope', 'Miscellaneous', and 'Advanced'. The 'Advanced' section is titled 'Advanced Criteria' in green. It contains the following options:

- You may add advanced criteria such as specific attachment names, sizes, subject here.**
 -
 -
- Folder Scope**
 - 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).
 -

A dropdown menu is open for the 'Delete' button, showing a list of criteria: 'Subject', 'Sender', 'Recipient', 'Size', and 'Attachment Name'.

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) Select ‘Add’ to open a new selection.

- 2) Specify a System Folder (mandatory). Example: Calendar.

- 3) You specify a subfolder of that folder (optional).

Example: entering “old” would mean the folder “old” under “Calendar”.

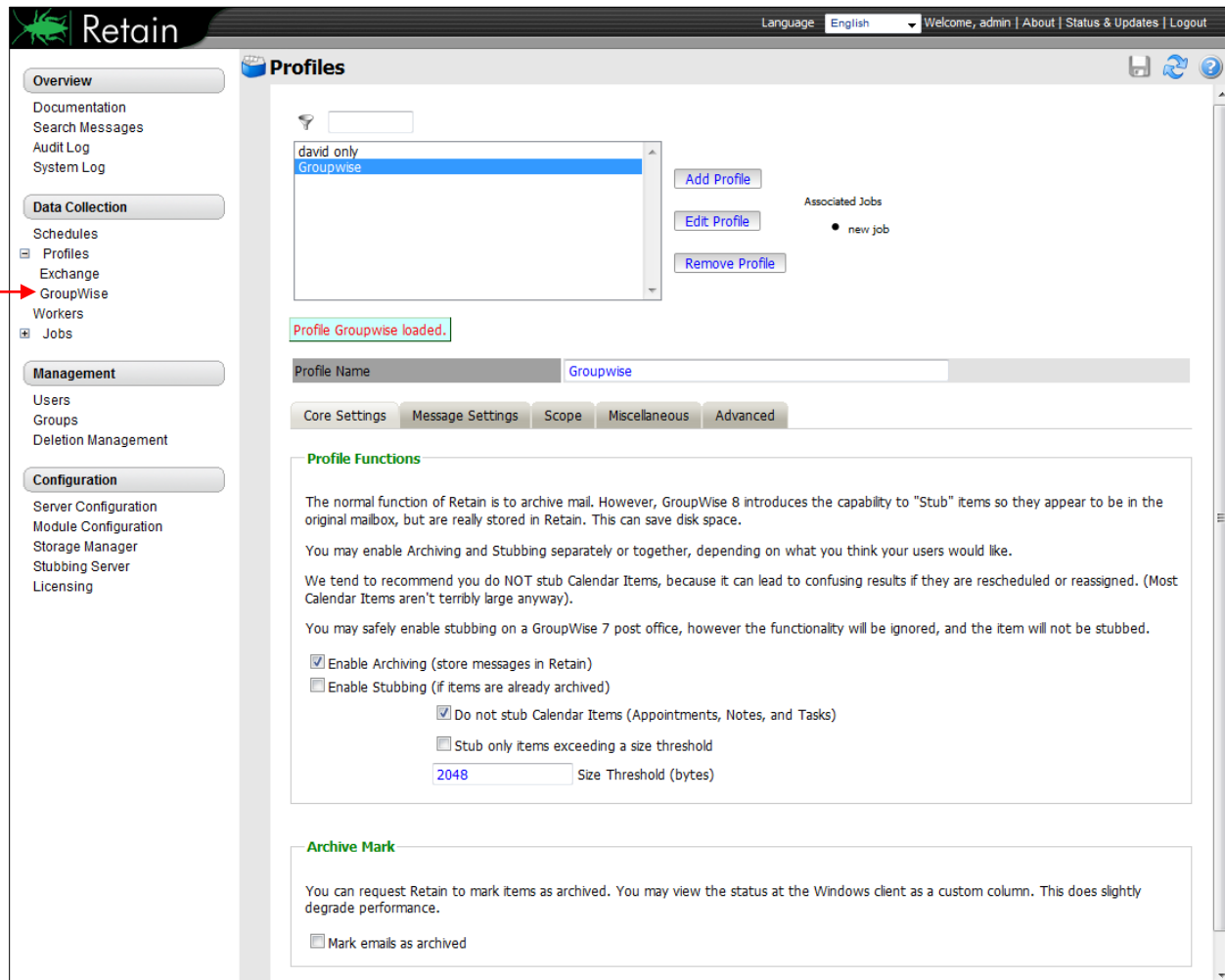
- 4) You can have multiple hierarchies under that with the / delimiter.

Example “old/mail” would mean the subfolder “mail” under “old” under “Calendar”.

- 5) 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.

GroupWise Profile



Core Settings

The Profile Functions tell the Retain Server what to do with the mail it archives from the GroupWise system. If Archiving is not enabled, mail will not be archived by Retain.

Stubbing

Before enabling stubbing, make sure you understand the way stubbing works and how that will work in your system because **once enabled, you cannot reverse the stubbing process**. Stubbing, (requires GroupWise 8), allows Retain to replace archived messages and items in the GroupWise Post office with 'stubs' that link back to the full message or item in the Retain Archive. End users should not notice a difference as they have transparent access to the stubbed item through the GroupWise Post office. The stub behaves much like the native item is still in the GroupWise system.

Stubbing CANNOT be reversed. Plan your system and understand the positive and negative sides to Stubbing before you continue. **To use stubbing, it is strongly recommended that the GroupWise system be at least 8.02HP1. Previous versions of GroupWise do not contain critical stability fixes.**

Why stubbing is good:

- Save Disk space. Mail can be removed from the system without being 'deleted'.
- Users have easy access to items stored in Retain
- Transparent access, no need to login to Retain for common tasks.

Why stubbing may not work for your system:

- Stubbing CANNOT be reversed. (Once a message is stubbed, it cannot be returned to the same position in the system)
- User training for stubbed items may be necessary due to decreased access speed
- No method for protecting stubs from deletion in the GroupWise client. (Recreation is difficult and complicated.)
- Non-mail items should not be stubbed. (Calendar and appointment items behave erratically when rescheduled).
- Stub items are NOT COMPATIBLE with third party API's. These applications view the stubs as posted items only, with no text or attachments.
- Mobile, Web, IMAP, and POP3 clients will only see posted empty items, not actual contents.



Determine the correct option for your system. If you wish to enable Stubbing, you need to install and configure the Stubbing Server as well. Refer to the install guide for your specific OS, and the [Stubbing Server](#) section for configuration. Stubbing can only be active for items which have been archived by Retain.

Calendar Items should not be stubbed unless necessary, as this can cause erratic behavior if archived items are rescheduled. If you wish to only stub large items in your Post Office, you may set a size threshold. Any item larger than the specified size will be stubbed. If this option is not set, all messages will be stubbed, regardless of size.

Archive Mark

Some users may opt to use the Archive Mark in GroupWise for messages that have been archived by Retain. The archive mark is a custom flag and may be modified, therefore is not secure and should not be used for compliance. Archive Mark slightly degrades job performance. Check the check box to enable Archive Mark for the selected profile.

When the Archive Mark is active, Retain creates a custom column for mail, called "RetainArchived" which users and administrators may add to their GroupWise clients to view mail which has been archived. The RetainArchived column indicates an archived mail item by displaying a '1' in the message row, while remaining blank when the message is not archived.

	From	Subject	Date ▾	RetainArchived
	Suzie Wathen	cool lightning	8/25/2008 4:21 PM	
	Steve Orchard	Old Ladies' Noggins	8/25/2008 4:17 PM	1

To add the column, in the client: highlight desired mailbox or folder, right-click on columns header, select **More Columns**, select **RetainArchived**, and select **Add**.

Message 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.

The screenshot shows the 'Message Settings' tab in the GWAVA Retain configuration interface. It contains four sections: 'Mailbox Type', 'Item Type', 'Item Source', and 'Message Status'. Each section has a descriptive paragraph and a set of checkboxes or dropdowns to configure message collection rules.

Core Settings | **Message Settings** | Scope | Miscellaneous | Advanced

Mailbox Type
You can choose to store items only from Users or from Resources.
☒ Users ☒ Resources

Item Type
By default, Retain stores every type of message. You can restrict this.
☒ Mail ☒ Appointment ☒ Note ☒ Task ☒ Phone Message

Item Source
Messages are classified in one of these categories. You may restrict the storage of messages if desired.
☒ Received ☒ Sent ☒ Draft ☒ Posted

Message Status
You can restrict the storage of messages based upon the setting of various status flags in GroupWise.
Opened is Read is Private is

By default, all items are selected for collection.

Scope

The screenshot shows the 'Scope' tab in the GWAVA Retain configuration interface. It contains three sections: 'Date Range to Scan', 'Duplicate Check', and 'Set Storage Flags'. Each section provides options to refine the message collection process.

Core Settings | **Message Settings** | **Scope** | Miscellaneous | Advanced

Date Range to Scan

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.

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

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

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.

Try to publish all messages (SLOW) ▼

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. However, sending megabytes of messages and attachments to the Retain Server only to have them discarded because "they are already here" wastes 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:

Try to publish all messages (SLOW)
Ignore all messages older than retention flag (fastest)
Ignore all messages older than purge flag (fastest)
Publish all messages newer than last stored message (fast)

"Reload" is a trade mark of GWAVA Inc., 100 Alexis Nihon, Suite 500, Saint Laurent, Quebec H4M 2P1

- **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.

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.*

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 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:

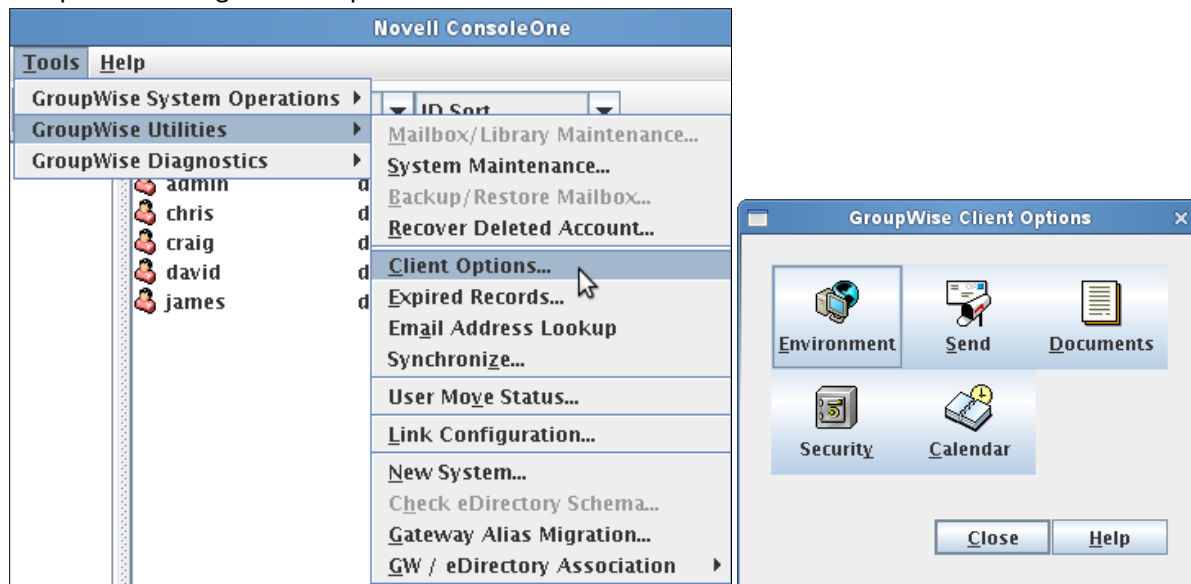
- Users will never again be able to delete e-mail from the live GroupWise system.
- Retain will rescan the entire post office every night, because Reload will make a new backup, with an unchanged Retention flag!

➤ The situation is resolved by using the internal Item Store flag.

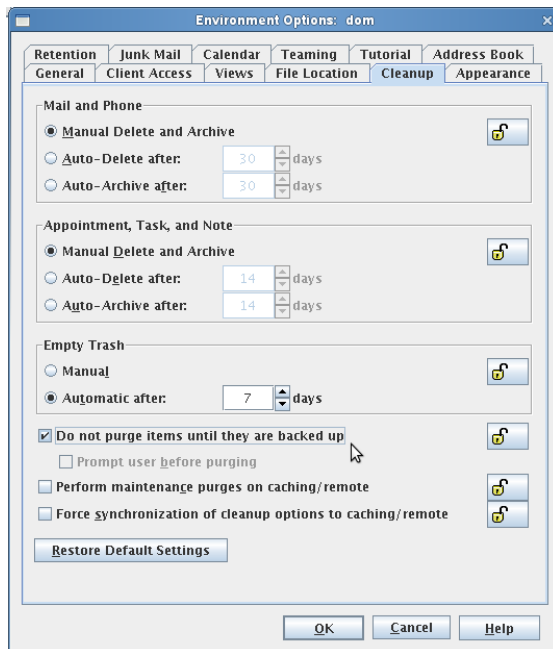
Setting up SmartPurge and Retention flags in GroupWise 7

(Smart Purge Setup under GroupWise 8 is similar.)

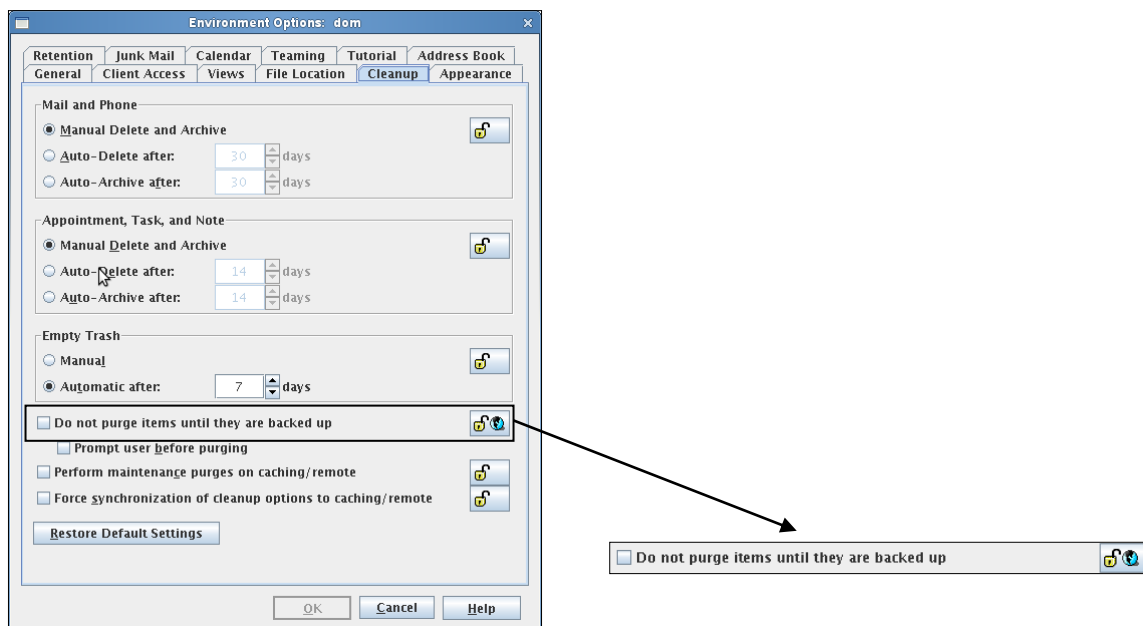
Setup for both flags is accomplished in ConsoleOne:



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



Once here, SmartPurge is set up like this:



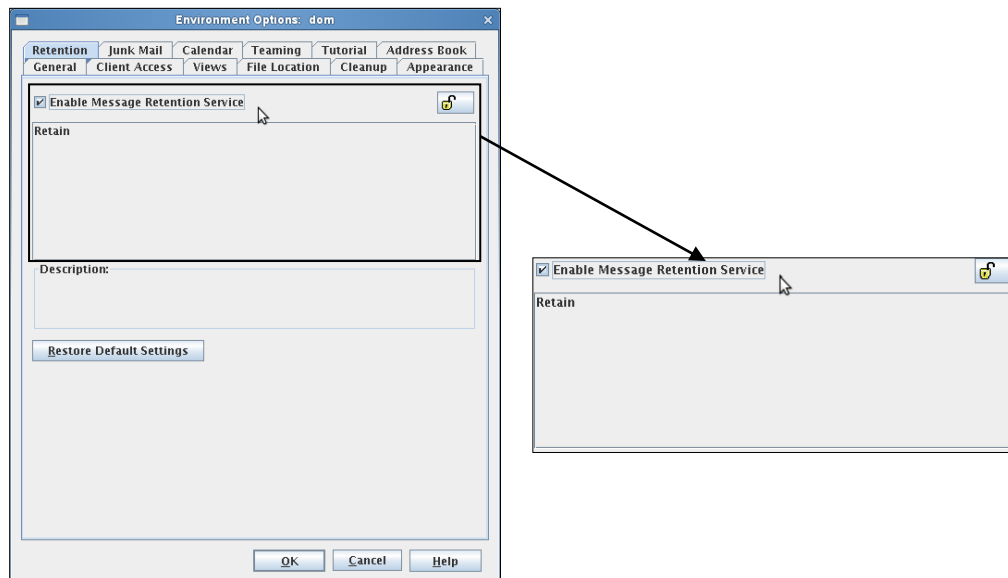
In the Cleanup tab, UNCHECK the box on “Allow purge of items not backed up” to ENABLE SmartPurge. Lock it to prevent users from disabling it.
(GroupWise 8 uses reverse logic with the purge option. GroupWise 8 lists to “Do not purge items until they are backed up.” Reverse the setting for the desired effect.)

Several different backup-retention services may currently use this same timestamp. Plan your system accordingly as Retain also uses this flag. The SmartPurge feature ONLY uses the backup / purge flag set as shown above. If another flag is desired, use of the Item Store Flag is recommended.

Retention Flag

The Retention flag is set up a little differently than SmartPurge. (This is only used when Stubbing.)

- 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.
- 3) From the 'Retention' tab under Environment Options, the setting should look like this:



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.

Miscellaneous

The screenshot shows a settings window with five tabs: 'Core Settings', 'Message Settings', 'Scope', 'Miscellaneous', and 'Advanced'. The 'Miscellaneous' tab is selected and highlighted. Inside this tab, there is a section titled 'Miscellaneous' in green. Below the title, a paragraph explains that disk space can be saved by restricting attachment storage and that routing properties can be attached to messages. There are three radio button options: 'Store all attachments' (selected), 'Don't store MIME.822 attachments', and 'Don't store any attachments, other than the message'. Below these, another paragraph explains that users can choose to store Sent Items properties and/or Internet Headers, noting a performance penalty for the latter. At the bottom, there are two checkbox options: 'Store/index Internet Headers' and 'Include Routing Properties', both of which are currently unchecked.

Core Settings Message Settings Scope **Miscellaneous** Advanced

Miscellaneous

You can save disk space by restricting attachment storage. You can also attach the Routing Properties to the message, if desired.

☒ Store all attachments
☐ Don't store MIME.822 attachments
☐ Don't store any attachments, other than the message

You may choose to store Sent Items properties, and/or store and index the Internet Headers. Both of these (particularly Sent Items properties) exact a performance penalty. However, it may be worthwhile to store and index the Internet Header if your compliance policy then allows Retain to choose to skip storing MIME.822 (which consumes lots of disk space since it's not usually single-instanceable).

☐ Store/index Internet Headers
☐ Include Routing Properties

Miscellaneous: What to do with attachments

Most of the time, you will want to store all attachments. 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 store the Index or Internet Headers and the Routing properties of messages. This information is stored in a XML attached to the message document and is searchable.

Store/index Internet Headers

This option tells Retain to store the headers in the SQL database. In order to use the header search option in the search interface you must have this option selected. To save disk space and still satisfy storage compliance, select this option and select "Don't store the mime.822 attachments". All other parts of the MIME file are already being archived, so if you store and index the Internet Header, you will already be archiving all information required.

Advanced

The screenshot shows a software interface with two main sections. The top section, titled 'Advanced Criteria', contains an 'Add' button and a 'Delete' button. Below these is a row of dropdown menus: 'Subject' (with a list showing 'Subject', 'Sender', 'Recipient', 'Size', and 'Attachment Name'), 'is', and an empty text box. The bottom section, titled 'Folder Scope', contains a paragraph of text and a dropdown menu. The dropdown menu is currently set to 'Items from All Folders' and has a list showing 'Items from All Folders', 'ONLY items from folders listed below', and 'All folders EXCEPT those listed below'.

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

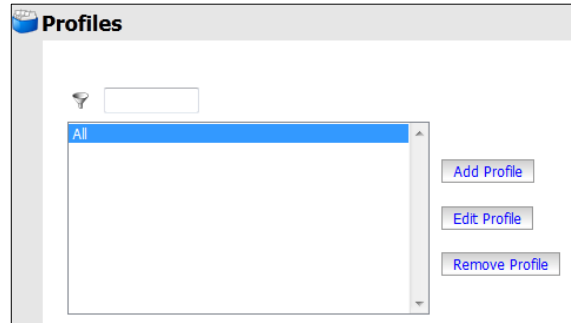
How to specify the list of folders to dredge/exclude:

- 6) Specify a System Folder (mandatory). Example: Calendar.
- 7) You specify a subfolder of that folder (optional).
Example: entering “old” would mean the folder “old” under “Calendar”.
- 8) You can have multiple hierarchies under that with the / delimiter.
Example “old/mail” would mean the subfolder “mail” under “old” under “Calendar”.
- 9) 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.

Social Messaging Profile

To create a new profile to archive social messaging data, first select the 'add profile' button and name the profile. Then continue configuring as desired.

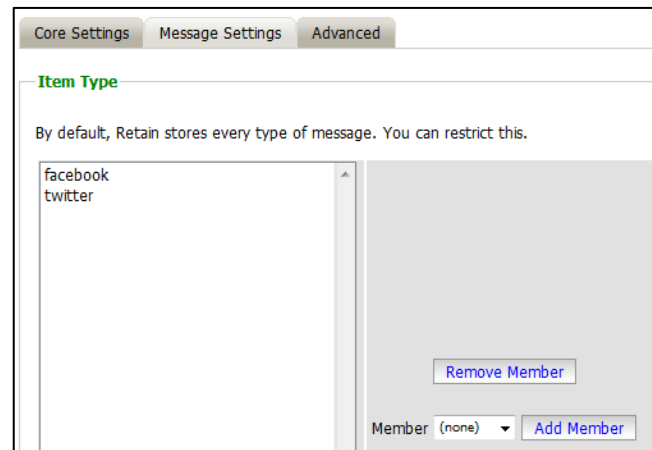
The **Core Settings** tab holds the enabling setting, which allows jobs connected to this profile to run. This must be checked before jobs will run.



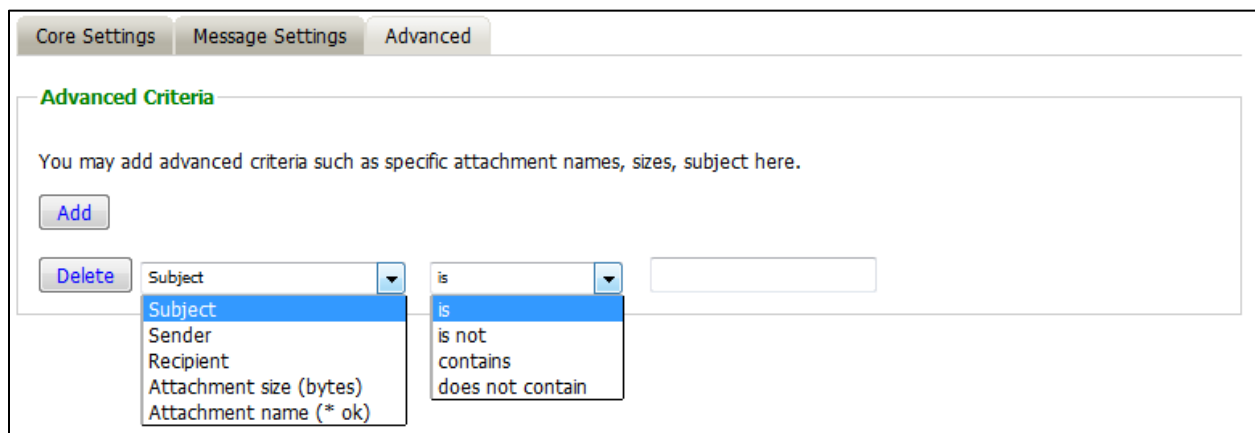
The **Message Settings** tab can be used to exclude or include specific data types for this profile. By default all types of messages will be archived. If left blank, the default will persist.

If only specific data types are to be included in a profile, they can be selected from the Member drop-down list, and added to the inclusion list.

All types of data included in the list will be archived. If the list is blank, all users and data will be archived.



Under the **Advanced** tab, specific criteria can be used to restrict the archived data. Any combination of the variables listed may be used to restrict the data selection. Advanced criteria may be added up to 7 fields.

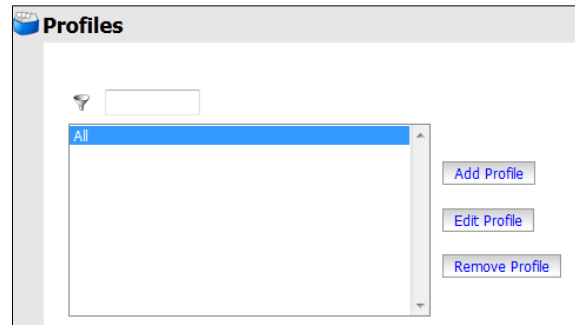


Save changes and the profile is configured.

BlackBerry Profile

To create a new profile to archive BlackBerry data, first select the 'add profile' button and name the profile. Then continue configuring as desired.

The **Core Settings** tab holds the enabling setting, which allows jobs connected to this profile to run. This must be checked before jobs will run.

A screenshot of the 'BES Profile' configuration window, specifically the 'Core Settings' tab. The 'Profile Name' field contains 'BES Profile'. Below the tabs, the 'Profile Functions' section has a checkbox labeled 'Enable Archiving (store messages in Retain)' which is checked.

The **Message Settings** tab can be used to exclude or include specific data types for this profile. By default all types of messages will be archived. All BlackBerry data which is selected to be archived **MUST** be logged in the BlackBerry Enterprise Server or the data will not be available for Retain to archive it.

A screenshot of the 'BES Profile' configuration window, specifically the 'Message Settings' tab. The 'Item Type' section contains the text: 'By default, Retain stores every type of message. You can restrict this.' Below this, there are five checked checkboxes: 'SMS', 'MMS', 'Phone Call', 'BB PIN', and 'BB Message'.

Scope

A screenshot of the 'BES Profile' configuration window, specifically the 'Scope' tab. It contains three sections: 'Date Range to Scan' with a dropdown menu set to 'All Messages (ignore date)'; 'Duplicate Check' with explanatory text and a dropdown menu set to 'Try to publish all messages (SLOW)'; and 'Set Storage Flags' with explanatory text and an unchecked checkbox for 'Item Store Flag'.

The Scope tab dictates how pervasive the attached archiving jobs are, and what kind of duplicate checking is done, or not done, in the Retain system.

The Date Range instructs Retain to scan for, and archive, messages after, or before, a certain date. This is useful if only specific chunks or areas of mail are to be archived.

The duplicate check either scans for all messages, or instructs Retain to only look for messages which are newer than the Item Store Flag, which is a time-stamp on the system. All messages newer than the time stamp will be archived by Retain if the item store flag is utilized, but Retain will ignore all messages which are older.

It is recommended to have at least the first job archive everything, with the item store flag checked to archive everything possible in the logs, while setting the item store flag. Subsequent jobs should use the duplicate check and the item store flag to only archive new data afterwards.

Advanced

Advanced Criteria

You may add advanced criteria such as specific attachment names, sizes, subject here.

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.

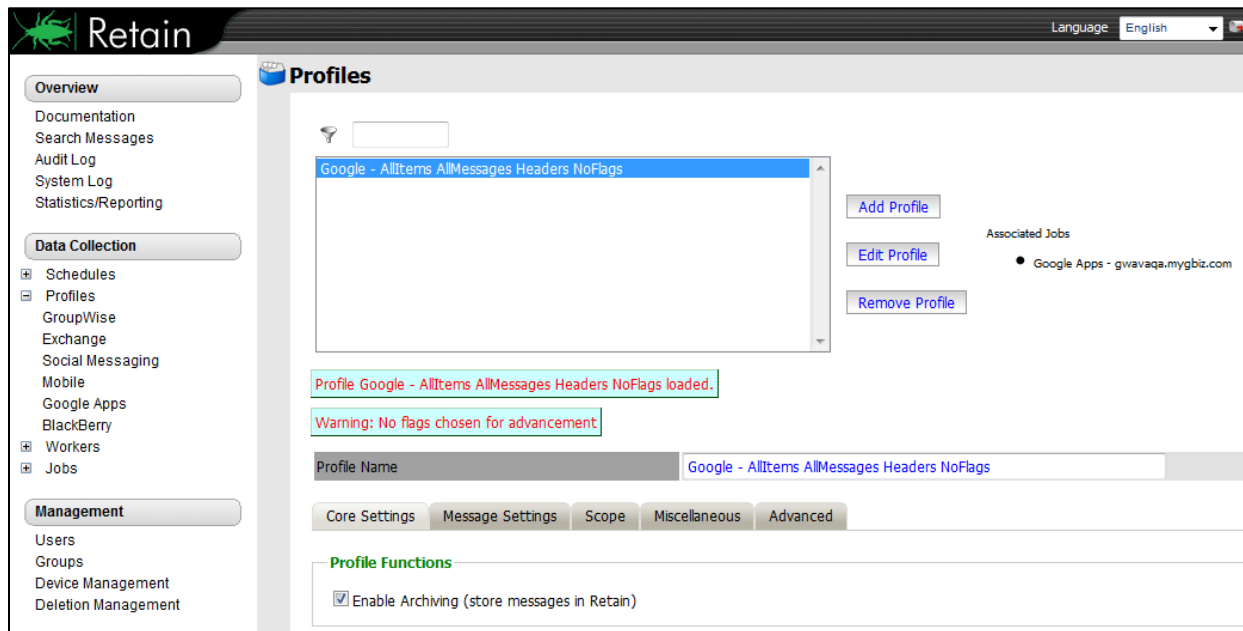
This gives you great flexibility and granularity. It allows you to customize dredges and retention for many different groups, or even individuals.

Google Apps Profile

To create a profile to archive email and data from Google Apps, select the add profiles button and name the profile then continue configuring as desired. The Google Apps profile must be configured and all settings saved before a job can be created and run.

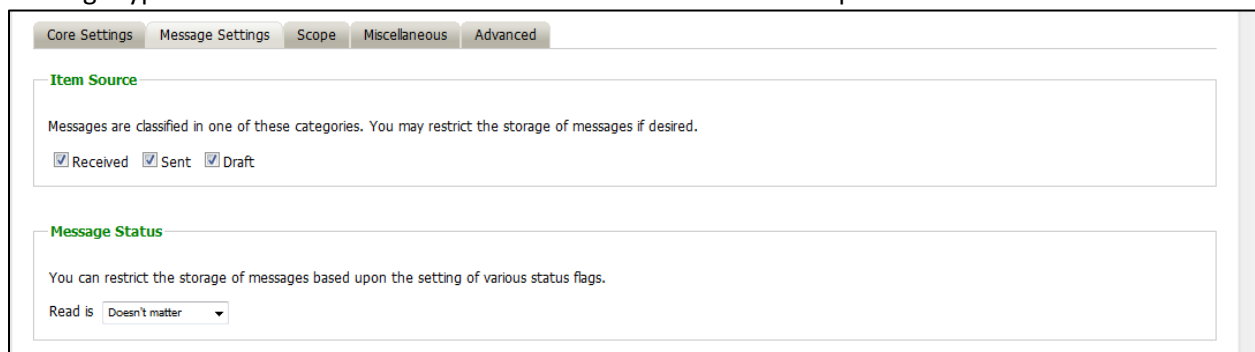
Core Settings

The profile will not become active and will not allow jobs to be run unless the profile is enabled. Enable the profile by placing a checkmark in the 'Enable Archiving' checkbox.



Message Settings

The Message Settings tab contains the source and status settings for the messages to be archived. Message types and sources which are checked will be archived in this profile.



Any item type or status which is not selected or specified will exclude qualifying items from being archived in Retain.

Scope

The Scope tab covers the Date Range, Duplicate Check, and Storage Flags. The date range limits the data items archived based on when it was created or sent. The Duplicate check is the method used to eliminate already archived messages from an archival job. Initial jobs should be left to archive all messages, as there are no messages currently archived in the system. Afterwards, the duplicate check should be set to use the storage flag which only attempts to archive messages which are not already in the archive, thus speeding the archival process.

The screenshot shows the 'Scope' tab in the GWAVA Retain configuration interface. It contains three main sections: 'Date Range to Scan' with a dropdown set to 'All Messages (ignore date)'; 'Duplicate Check' with a dropdown set to 'Try to publish all messages (SLOW)' and explanatory text about retention and purge flags; and 'Set Storage Flags' with explanatory text and a checkbox for 'Item Store Flag' which is currently unchecked.

Storage Flags are markers which Retain uses to keep duplicate data items from being added into the archive. This option should be enabled to allow Retain to only archive original data.

Miscellaneous

The miscellaneous tab allows the configuration to allow or deny archiving and indexing of attachments in Retain. If attachments are to be archived, they may also be indexed to provide searching capability in the browse messages interface.

The screenshot shows the 'Miscellaneous' tab in the GWAVA Retain configuration interface. It includes instructions on saving disk space by restricting attachment storage and attaching routing properties. There are two radio button options: 'Store all attachments' (selected) and 'Don't store any attachments, other than the message'. Below this, there is text about storing Sent Items properties and Internet Headers, followed by a checked checkbox for 'Store/index Internet Headers'.

Advanced

The advanced tab allows the administrator to be even more specific in what to archive and what to exclude. The criteria added under the 'advanced' tab will limit associated jobs to only the items matching the criteria. Up to 6 lines of advanced criteria may be added to each profile. Each additional line will be **logically AND**-ed together. For example, the system will archive 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 archival jobs 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:

10) Select 'Add' to open a new selection.

11) Specify a System Folder (mandatory). Example: Calendar.

12) You specify a subfolder of that folder (optional).

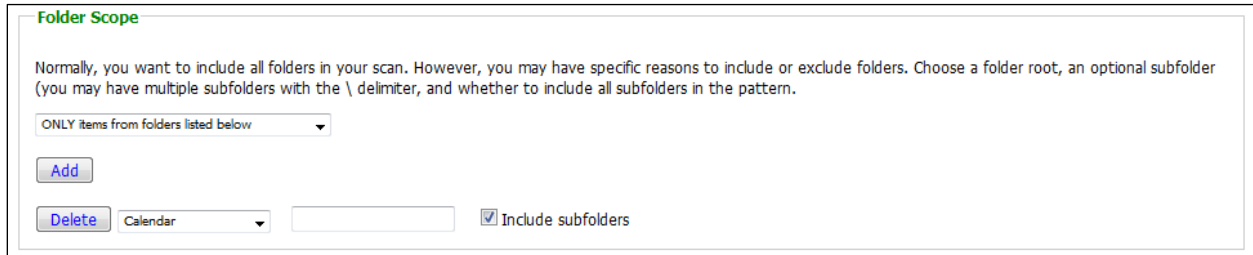
Example: entering "old" would mean the folder "old" under "Calendar".

13) You can have multiple hierarchies under that with the / delimiter.

Example "old/mail" would mean the subfolder "mail" under "old" under "Calendar".

14) 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.



Folder Scope

Normally, you want to include all folders in your scan. However, you may have specific reasons to include or exclude folders. Choose a folder root, an optional subfolder (you may have multiple subfolders with the \ delimiter, and whether to include all subfolders in the pattern.

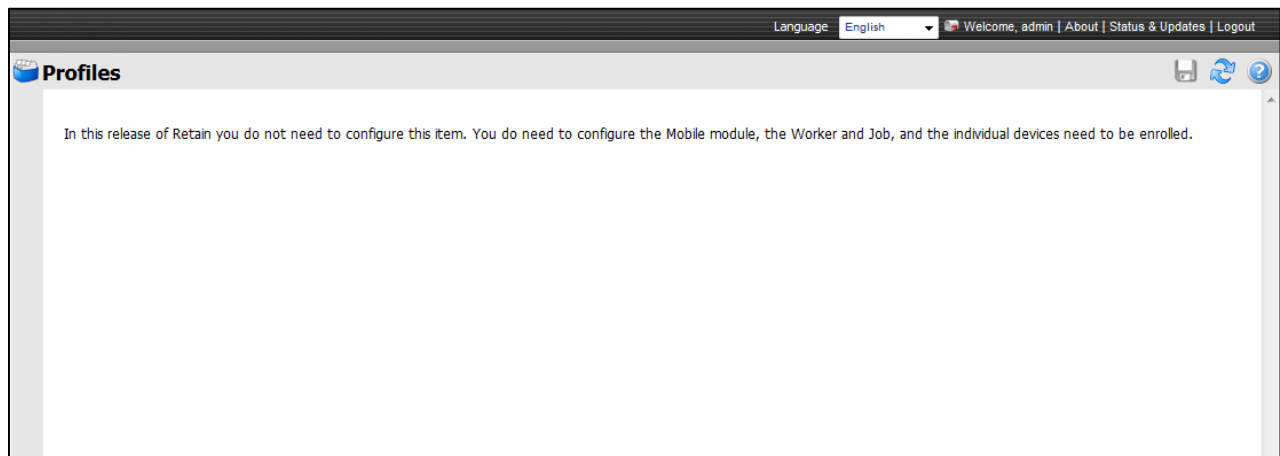
ONLY items from folders listed below ▼

Add

Delete Calendar ▼ ☒ Include subfolders

Mobile Profile

The mobile profile is unnecessary, as all the gathering of data items is performed by the configured router and application installed on individual Android phones.



There is no configuration necessary for the profile, however, as stated in the [mobile module configuration section](#), the mobile module requires the setup and installation of the mobile application on the Android devices, registration of the individual mobile devices, and the Tenant ID created by GWAVA. Contact the appropriate sales representative for your area.

Workers

You will need to set up at least one Retain Worker. The Retain Worker does the actual work of collecting the data from a message system and delivering it to the Retain Server. The Retain Worker component is normally installed local to each GroupWise mail server, or any Exchange server from which you wish to collect data. Although a Worker may be installed on a machine running Retain Server, this is normally not recommended or sufficient, except for very small (100 or fewer users) systems or for evaluation purposes. Ideally, the worker you choose to dredge mail from a desired server is local to the server itself. Using a worker on "Server A" to pull data from a mailbox server on "Server B" is possible, but it will use up network bandwidth and will be slower than simply pulling data locally. For this reason, Retain was designed to allow you as many workers as you need, on Linux or Windows.

Worker Configuration Options

The screenshot displays the 'Workers' configuration window. On the left is a sidebar with navigation links: Overview, Documentation, Search Messages, Audit Log, System Log, Data Collection (Schedules, Profiles, Workers, Jobs), Management (Users, Groups, Deletion Management), and Configuration (Server Configuration, Module Configuration, Storage Manager, Stubbing Server, Licensing). The main area is titled 'Workers' and contains a list of workers: 'migrator' and 'new worker'. To the right of the list are buttons for 'Add Worker', 'Edit Worker', and 'Remove Worker'. Below the list is a text input field with the placeholder 'Enter new worker below' and a 'Worker' dropdown menu currently set to 'new worker'. At the bottom, there are tabs for 'Polling', 'Logging', 'Connection', and 'Module specific'. The 'Polling' tab is active, showing a section titled 'Interval' with the text: 'How often should the worker poll for configuration changes, and how many messages should the worker send before updating status?'. It includes two input fields: 'Poll for configuration every 10 minutes' and 'Update status every 500 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 NORMAL.
- **Connection. *Important.*** This is the information the worker needs to connect to the Server. Double check this setting.
 - Protocol
 - URL/host name
 - password
 - If the connection information is changed, you will need to manually copy the Retain Worker.cfg bootstrap file over to the Worker
 - **Correcting the Bootstrap:**
 - 1) Stop Tomcat.
 - 2) First delete the Retain Worker.cfg file on the 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: Retain Worker/WEB-INF/cfg. Removing the bootstrap resets the worker to initial configuration.
 - 3) Restart and re-upload the bootstrap to the worker.
- **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.

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

Worker Configuration

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

The screenshot shows the 'Workers' management interface. At the top, there's a search bar and a list of workers: 'migrator' and 'new worker'. To the right of the list are buttons for 'Add Worker', 'Edit Worker', and 'Remove Worker'. Below the list, there's a section for 'Enter new worker below' with a 'Worker' label and a text input containing 'new worker'. Below this are tabs for 'Polling', 'Logging', 'Connection', and 'Module specific'. The 'Interval' section is expanded, showing instructions on how often the worker should poll for configuration changes and how many messages it should send before updating status. The 'Poll for configuration every' is set to 10 minutes, and the 'Update status every' is set to 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 Retain Server IP address settings are correct. This tells the Worker where the Retain Server is located. (Server Host Name or IP address must be correct; this should be populated automatically, but double check for accuracy.) The Server Connection setting must be able to resolve to the Retain Server if placed in a browser address bar.

The screenshot shows the 'Server Connection' configuration page. It includes instructions on how to connect to the server, emphasizing the use of a DNS host name and the importance of specifying the URL from the point of view of the worker. It also notes that the worker password assigned must be the same for each worker that contacts the Reload Server. Below the text are input fields for 'Server Protocol' (http), 'Server Host Name' (192.168.1.106), 'Server Port' (48080), 'Server Path' (/RetainServer), and 'Worker Password' (represented by dots). A note at the bottom states: 'Note: Changing any of these parameters will require recopying the worker bootstrap file!'

The Connection tab holds very important contact information for the worker's connection to the Retain Server and the Post Office. Make sure that the Retain Server connection address is correct, or the Retain Worker will not be able to talk to the server.

Double check all these settings to ensure that you will have the best performance and connection for your system.

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.

- 4) The Module Specific tab contains information specific to individually configured modules. With Exchange, you may optionally specify a specific Active Directory Site the worker is located in. That allows Retain to find the "closest" Exchange Server that is appropriate for the user to be archived. The settings specified here are tied only to the specific worker configured, and does not affect the rest of the system. In general this setting may be ignored unless required. If required, input the appropriate information.

Depending on the modules you have configured, you will need to provide additional configuration information here.

GroupWise SOAP Access

When using GroupWise, the Retain Worker needs to connect via SOAP to a initial default POA (preferably one local to the Worker) to gather job membership information. Initially this is set to the default you specified in the Groupwise Module Configuration, but it can be changed on a per worker basis.

POA Host Name:

SOAP Port:

Enable SSL: ☐

Exchange

As the worker processes each mailbox, it performs an auto-discovery process to find the "best" server to connect to. Providing an Active Directory Site improves the accuracy of the algorithm, although this is optional.

Active Directory Site (case sensitive):

- 5) After you have checked and set your settings, click **"Save Changes"** before browsing to another page to finish creating and to save your worker.

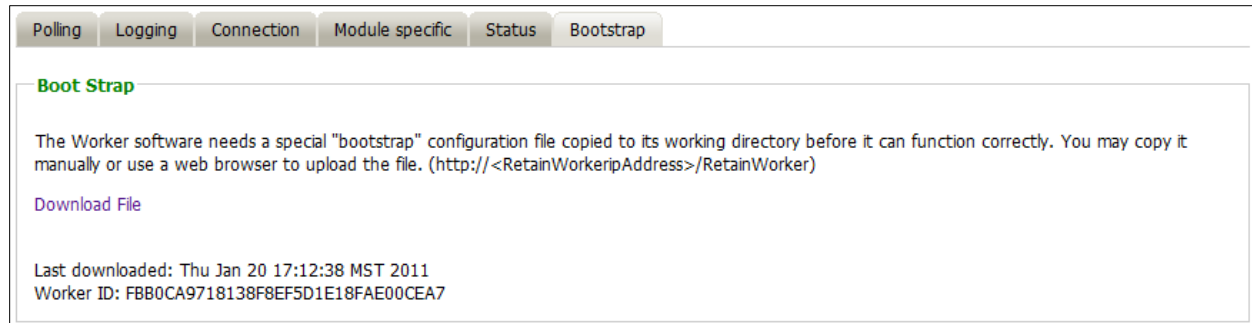
After the worker has been saved, two additional tabs become visible for settings on the worker. You MUST save changes on a newly created worker before the 'Bootstrap' tab is available to be used.

The status tab for the new worker will not hold any pertinent information until a job has been run or the worker has registered to the server and is in communication. Once a job has been completed, information will be displayed on the general status of the selected Worker.

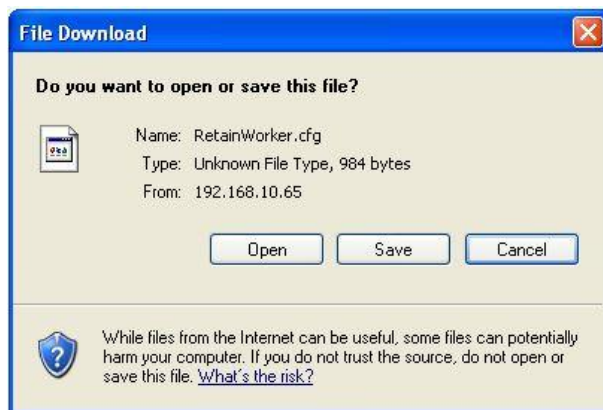
Polling	Logging	Connection	Module specific	Status	Bootstrap
Worker Status					
Registered	26-Jan-2011 05:07:25				
Last contact	09-Mar-2011 20:35:39				
Last Job	new exchange {D69530CFFBACFFE9F4A32EE560D13257}				
Last job start	09-Mar-2011 20:35:39				
Last job end	09-Mar-2011 20:35:42				
Total mailboxes scanned	7				
Total messages stored	18590				

Check this page after the worker has completed connecting to the Server for information and jobs. After a job has been run, or is running, more pertinent information, such as total mailboxes scanned and messages stored, will be displayed.

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



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



- 8) Open a new browser window and type:

http://< your-RetainWorker-ip >/RetainWorker

This screen appears when a worker has not been initialized.

9) Upload the bootstrap file.

Worker

Each worker needs to be configured in the Archive 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 Archive 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 Archive Server.

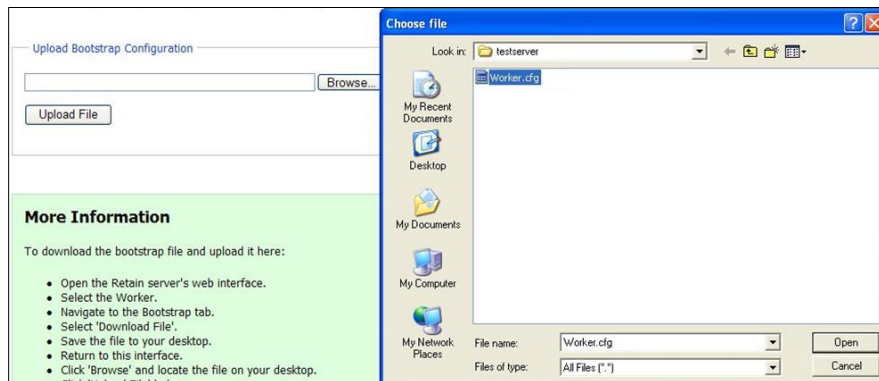
Upload Bootstrap Configuration

More Information

To download the bootstrap file and upload it here:

- Open the Archive 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.

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

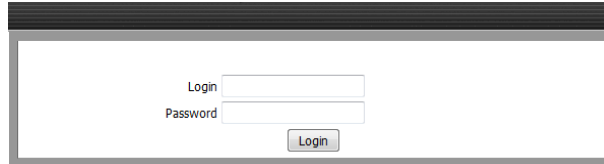


- Click "Open".
- Click "Upload File".
- If the upload went well, you will see this screen:

Configuration Complete. From now on, you'll have to log in as a user (such as the initially created admin user) with the Manage Workers right.

After you click the "Continue" button, you will be returned to the login page.

10) Login as Admin.

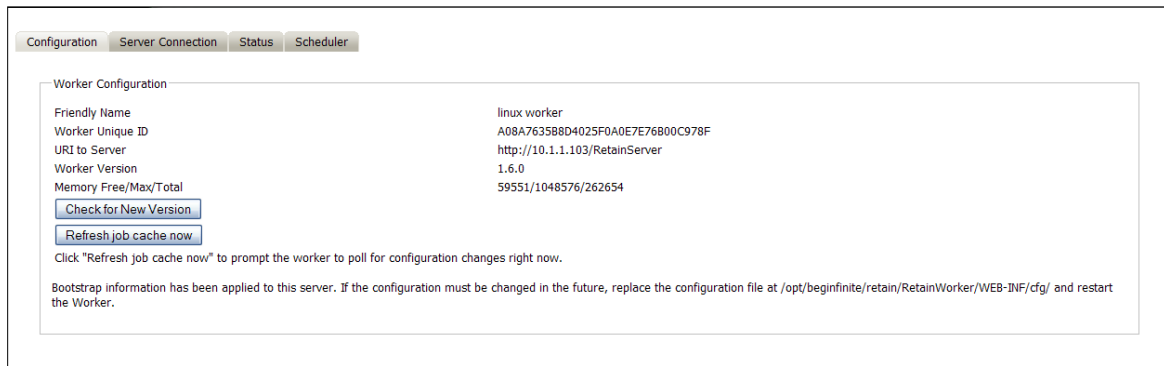


Login

Password

Login

On all subsequent logins, you should be shown the configuration page first.



Configuration Server Connection Status Scheduler

Worker Configuration

Friendly Name	linux worker
Worker Unique ID	A08A76358BD4025F0A0E7E76800C978F
URI to Server	http://10.1.1.103/RetainServer
Worker Version	1.6.0
Memory Free/Max/Total	59551/1048576/262654

[Check for New Version](#)

[Refresh job cache now](#)

Click "Refresh job cache now" to prompt the worker to poll for configuration changes right now.

Bootstrap information has been applied to this server. If the configuration must be changed in the future, replace the configuration file at /opt/beginfinite/retain/RetainWorker/WEB-INF/cfg/ and restart the Worker.

You should be able to see your configuration on the screen, as shown. The “Check for New Version” button checks for updates. The “Refresh job cache now” button tells the worker to poll the server for configuration changes and new jobs. After this button is selected, the Worker page will refresh automatically after the Retain Server has been polled. It takes just a few seconds.

11) Verify the Retain Server connection success by selecting the Server Connection tab.



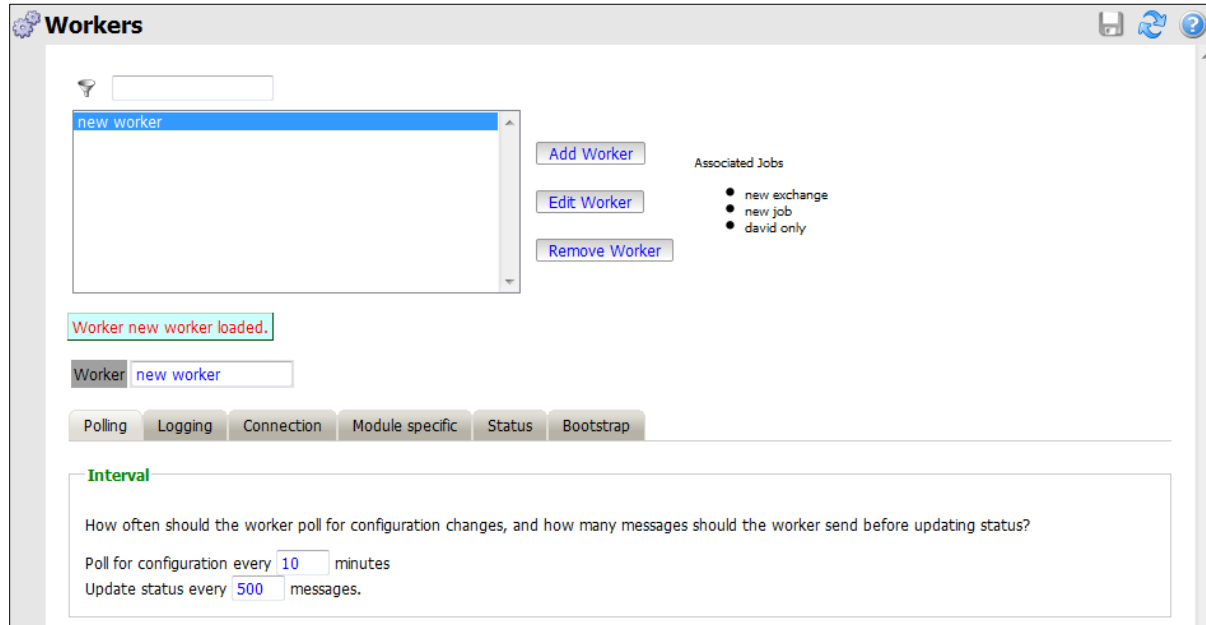
Configuration Server Connection Status Scheduler

Server Connection

Successfully connected to server

- Go back to the Retain Server.
- Click “Workers”.
- Click on the worker you just created.

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.

Also, status updates are displayed on the admin page every ‘n’ messages.

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.

The [profiles](#), [schedules](#) and [jobs](#) must be setup, if they already have not been, in order to begin actual data collection.

Jobs

Jobs are separated into different modules. A module, schedule, profile, and worker must be configured before a Job can be created. Module specific job menu's only display when multiple modules are configured. Jobs bring the entire configuration together to archive mail from the mail server, according to the configuration. Jobs are where data collection is achieved.

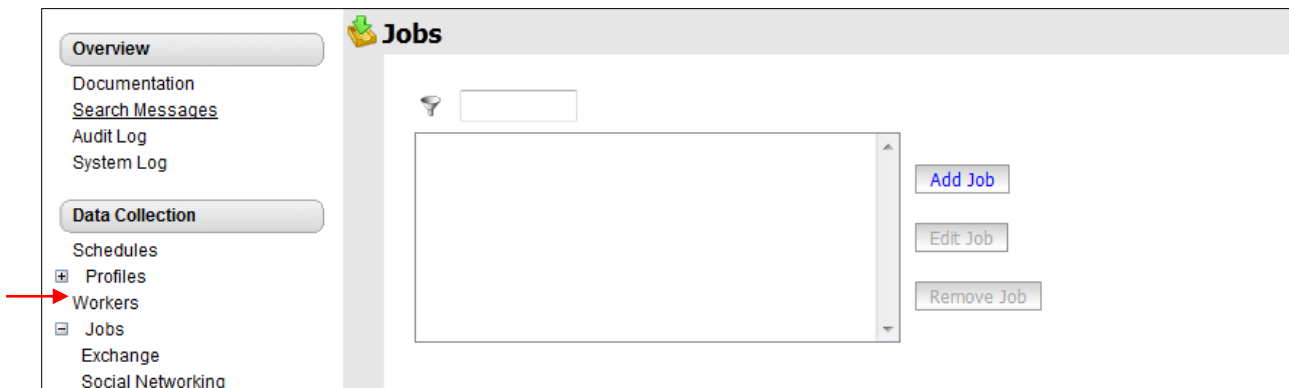
A job:

- Starts according to the selected **SCHEDULE**.
- Collects data according to the selected **PROFILE**.
- Utilizes the selected **WORKER**, and only the selected worker according to the schedule and profile.
- Collects data from the specified mail source, (messaging server, distribution list, group, and individual user)

Jobs look and act differently depending on which module they are configured under. Select the desired module from the Job menu, (or simply 'Jobs' if only module is configured), and configure according to job needs.

Exchange Jobs

All mail archiving is accomplished through this interface because the methods to interact with the Exchange system are tied into this job interface. Only Exchange profiles will be able to be viewed or selected through this interface, and no other modules profile will be selectable here. However, schedules and workers are universal and can be selected in any modules' job interface.



To create a new job, select the 'Add Job' button and provide a name for the job. To save a job, the job must have a Profile, Worker, Schedule, and a mailbox, distribution list, or server to be archived. In other words, a job must have a time to run, types of things to get, something to get it with, and a target or a place to get it, in order to be saved and run.

A job without an assigned profile, schedule, worker, or mailbox cannot be saved.

Core Settings

Under 'Core Settings' the profile, schedule, and worker are selected. Only existing profiles, workers, and schedules may be selected. The selected schedule will determine when the job is run; the Profile determines what kinds of mail are archived, and the worker is the agent which performs the work.

The data expiration is an option to place a timestamp on the mail in the Retain database, which allows for ease of automation for the deletion manager. In addition, devices such as NetApp, Centera, and Hitachi HCAP may use this number to enforce hardware level protection of the stored item so that no one (including Retain) may delete the item before its expiration date.

This time stamp simply puts a date on which the mail is "set to expire" and can be in days, months, or years. Mail that has 'expired' due to this time stamp will remain in the database until removed by the deletion manager. Job Expiration is not retroactive for mail in the database and only applies to mail archived by the job that it is active for.

There may be some folders which it may not be desirable to place an expiration time stamp on. Such folders may be specified through the 'add' button at the bottom of the page.

The base folders and criteria are specified here. All messages included in these folders will have a different date, if specified, or exempted from this expiration date. **In order to have messages with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete messages with an Expiration Date older than 1 day.**

Journaling

Journaling **MUST** be enabled on the Exchange system, and Journaling mailboxes must be provided for legal archive compliance.

To archive messages contained in the Journaling mailbox, specify the Journaling mailbox by selecting it from the user/mailbox list. Open the mailbox selection window by selecting the 'Journaling mailbox' button and searching for the desired mailbox.

After searching for mailboxes and users in the cached address book, the users must be added to the list by selecting the checkbox next to the desired name in the search results box, then selecting the 'Add Selected' button at the top.

The red 'X' next to the names in the 'Currently Selected' list allows removal of selected items. Once the list has been configured as designed, selecting the 'Ok' button from the top of the window will add the selected names to the list.

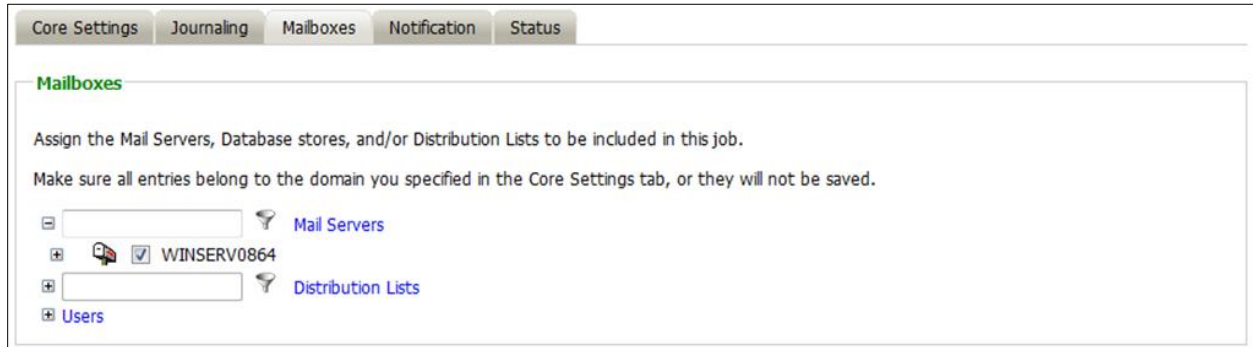
First	Last	Mail Server	Mailbox	Dept.	Type	Domain
<input type="checkbox"/>	admin	po	admin		U	dom
<input type="checkbox"/>	David	po	David		U	dom
<input type="checkbox"/>	Samuel	po	Sam		U	dom
<input type="checkbox"/>	Benjamin	po	Benjamin		U	dom

A 'Funnel' mailbox creates a single mailbox in Retain that 'funnels' all the mail from all the different journaling mailboxes into one. If this is not specified, then each Journaling mailbox will be created and archived in the Retain system as any normal mailbox would be archived and created.

It is **HIGHLY** recommended to delete archived items from the journaling mailbox to avoid bloating the existing message system or requiring manual maintenance and management of the Journaling mailboxes.

Mailboxes

The final setting that a Job must have in order to be saved and run, is a target: where to archive mail from. The Mailboxes tab dictates where a Job will look for mail to archive. Only the users or mail server included in a job will be archived by the job when it is run.



The screenshot shows the 'Mailboxes' tab selected in a navigation bar at the top, which also includes 'Core Settings', 'Journaling', 'Notification', and 'Status'. Below the tab, the 'Mailboxes' section is titled in green. It contains two instructional paragraphs: 'Assign the Mail Servers, Database stores, and/or Distribution Lists to be included in this job.' and 'Make sure all entries belong to the domain you specified in the Core Settings tab, or they will not be saved.' Below these instructions are three selection areas. The first is for 'Mail Servers', featuring a search box, a plus icon, and a list item 'WINSERV0864' with a checked checkbox and a server icon. The second is for 'Distribution Lists', featuring a search box and a plus icon. The third is for 'Users', featuring a plus icon. Each section has a corresponding icon (envelope for mail servers, folder for distribution lists, and person for users) and a label to its right.

Users may be specified separately, whole servers may be selected, and distribution lists spanning different servers may be selected. A job may span all the selected options, or only one of them, but jobs will be faster and more efficient if they are balanced in their scope, for instance, one separate job for each server each with its respective worker, to allow multiple jobs to be run simultaneously without overwhelming one server or worker.

The open text box next to the selection area is a search or filtering interface which allows the administrator to only display distribution lists or mail servers that match the criteria. A blank criteria window will result in all known servers or distribution lists being displayed.

If a user is desired to be included in or excluded from a job, the selection method is identical to that of the Journaling mailbox. Search for the user via the Select Mailbox window and add it to the list.

Mail servers in Exchange may also be expanded into their respective mailbox databases, and individual, or selective mailbox databases may be selected or excluded from any specific job.

Notification

All errors, summaries, and statistics may be sent in an email notification to a desired address on job completion. If it is desired to be notified, configure the notifications under this tab. At least one of the two notification options must be selected in order for an email notification to be created.

The screenshot shows the 'Notification' tab selected in the top navigation bar. Below the tab, there is a section titled 'Notification' with a description: 'You can have Archive e-mail a summary of operations and/or errors that occurred when the job completes.' Below this, there are several input fields for SMTP configuration: 'SMTP Mail Server' (192.168.1.121), 'SMTP Mail From Address' (admin@company.com), 'SMTP To Address' (admin@company.com), 'SMTP Username' (sam), and 'SMTP Password' (masked with dots, with a note '(Password is default)'). There are also two checkboxes: 'Mail when errors occur' and 'Mail summary when job complete', both of which are currently unchecked. At the bottom of the form is a 'Test Connection' button.

Status

On initial creation, there will be nothing of interest shown under the 'Status' tab, as the job is under creation or has not yet run.

However, after a job has been run, or has begun, the 'Status' tab becomes a monitoring tool to report on exactly how much mail and mailboxes have been archived, along with any errors encountered.

The screenshot shows the 'Status' tab selected in the top navigation bar. Below the tab, there is a section titled 'Status [Refreshes in 0]' with a job ID: 'Job: new exchange (D69530CFFBACFFE9F4A32EE560D13257)'. Below this, there are two tables. The first table shows job statistics with columns 'Current', 'Last', and 'Overall'. The second table shows mailbox statistics with columns 'Current', 'Last', and 'Error'.

	Current	Last	Overall
Job began	---	04-Mar-2011 10:35:46	---
Job ended	---	04-Mar-2011 10:35:50	---
Mailboxes	0	2	2
Messages	0	0	0
Errors	0	0	0

	Current	Last	Error
Mailbox			
MS			
Error			---

GroupWise Jobs

All data collection for the GroupWise is configured through the GroupWise job interface. The jobs here combine the GroupWise Profile, the Schedule, and a worker together to archive a specified mailbox, distribution list, or domain. A Job must have a Profile, Schedule, Worker, and a target, mailbox, list, or domain, before it can be saved or run.

Core Settings

The screenshot shows the 'Jobs' management interface. On the left is a sidebar with navigation links: Overview, Documentation, Search Messages, Audit Log, System Log, Data Collection (Schedules, Profiles, Workers, Jobs, Exchange, GroupWise), Management (Users, Groups, Deletion Management), and Configuration (Server Configuration, Module Configuration, Storage Manager, Stubbing Server, Licensing). The main area is titled 'Jobs' and shows a list of jobs with 'david only' and 'new job' (selected). To the right of the list are 'Add Job', 'Edit Job', and 'Remove Job' buttons. Below the list, a message says 'Job new job loaded.' and a 'Job' dropdown shows 'new job'. A tabbed interface at the bottom of the main area includes 'Core Settings' (selected), 'Mailboxes', 'Reload', 'Notification', and 'Status'. The 'Core Settings' tab contains:

- 'Job enabled' checkbox checked.
- Text: 'Each Job must have the following assigned to it:'
- List:
 - schedule - How often to run
 - profile - What to do when running
 - worker - Where to run the job
- Fields:
 - Schedule: 'full run job' (dropdown)
 - Profile: 'Groupwise' (dropdown)
 - Worker: 'new worker' (dropdown)
- Text: 'Items archived with this job can optionally be set with an "expiration timestamp" which the Deletion Manager can use to remove obsolete items. The expiration timestamp can only be extended, never reduced.'
- 'Enable data expiration' checkbox unchecked.
- 'Expire in' field: '0' (input) and 'Days' (dropdown).
- 'Base Expiration Time on' dropdown: 'Date Item is stored in Retain (recommended)'.
- Text: 'Some customers may wish to override the default expiration settings for specific folders. You may specify these folders below - any folders that do NOT meet these criteria will have the expiration settings specified above applied. If you only want the folders to have expiration policies, enter -1 above for the base expiration value.'
- 'Add' button at the bottom.

The Schedule, Profile, and Worker selected here will determine what is archived, when it is archived, and what worker does the actual archival work. The Job **MUST** be enabled in order to run. Only previously configured Schedules, Profiles, and Workers can be selected.

The **Data Expiration** is an option to place a timestamp on the mail in the Retain database, which allows for ease of automation for the deletion manager. In addition, devices such as NetApp, Centera, and Hitachi HCAP may use this number to enforce hardware level protection of the stored item so that no one (including Retain) may delete the item before its expiration date.

Job Expiration is not retroactive for mail in the database, and only applies to mail archived by the job that it is active for. The base folders and criteria are specified under the custom expiration dates accessed through the 'Add' button at the bottom. All messages included in these folders will have a different date, if specified, or exempted from the standard expiration date. **In order to have messages with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete messages with an Expiration Date older than 1 day.**

Mailboxes

The mailboxes tab is where the administrator specifies which entities (mail server(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, or selected group of users, select the Users menu and assign the user(s) desired

The users section allows you to select individual users to include, or exclude them from an archive job.

For example: you can select an entire Post Office to be archived, and then expand the users section to include or exclude users to the job.

This can also be used to select only certain users in the system for an archive job.

To add a user to the Include or Exclude list, select the respective 'Add user' button and search for the user. It can be helpful to unselect the 'only show recently cached items' option.

Add the selected users to the list in the search window, then select 'OK' to add them to the include or exclude list.

NOTE: Retain cannot access certain GroupWise accounts due to GroupWise account limitations. Expired and Disabled accounts are inaccessible to Retain. Prior to GroupWise 7.0.3, limited license accounts also cannot be accessed by Retain.

If an expired or disabled user account, (or limited license accounts under GroupWise 7.0.3), is selected for a job, or a post office containing such user accounts is selected, Retain will notify the administrator of a failure to archive those users. This is not an error, it is a limitation imposed by GroupWise. GroupWise and Retain are functioning correctly.

Reload

Selecting this option tells the job to use the Reload integration for systems utilizing Reload. See the [Reload integration](#) section for more information. The Server URL must be edited with the correct contact info for the reload server. The default Reload port is 5555.

The screenshot shows the 'Reload' tab in the settings interface. At the top are tabs for 'Core Settings', 'Mailboxes', 'Reload', 'Notification', and 'Status'. The 'Reload' section has a title 'Reload' in green. Below it is a paragraph: 'You can backup your GWAVA Reload server, saving network bandwidth if desired. This requires Reload 2.5 or newer and some configuration changes on the Reload machine. Please consult the user manual for additional information.' There are two input fields: 'Enable Reload Integration' with a checkbox, and 'Reload Server URL' with the text 'http://myReloadBox:5'. Below these is a link 'Advanced Reload Settings'.

Retain instructs Reload to load the corresponding backup set for each date range in the profile. If a different set needs to be specified, the override setting specifies a date range specifically for Reload, which then will ignore the date range in the profile. Retain will still archive according to the profile date range or settings.

The screenshot shows the 'Advanced Reload Settings' section. It has a title 'Advanced Reload Settings' in purple. Below it is a paragraph: 'Normally the Reload Sets that are backed up correspond to the Date Range specified in the profile. Occasionally, you might want to override this.' There is a checkbox 'Override Reload Date Range'. Below this are two rows of date pickers: 'Start' and 'End'. Each row has dropdowns for year (1995), month (Jan), and day (01), followed by a calendar icon.

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 settings interface. At the top are tabs for 'Core Settings', 'Mailboxes', 'Reload', 'Notification', and 'Status'. The 'Notification' section has a title 'Notification' in green. Below it is a paragraph: 'You can have Retain e-mail a summary of operations and/or errors that occurred when the job completes.' There are several input fields: 'SMTP Mail Server' (192.168.1.104), 'SMTP Mail From Address' (retain@gwava.com), 'SMTP To Address' (admin@gwava.com), 'SMTP Username' (chris), and 'SMTP Password' (masked with dots). There are also two checkboxes: 'Mail when errors occur' and 'Mail summary when job complete'. At the bottom is a button 'Test Connection'.

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			---

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?

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.

Social Messaging Jobs

All data collection for the Social Messaging module is configured through the Social Messaging job interface. The jobs here combine the Profile, the Schedule, and a Worker together to archive a specified mailbox, distribution list, or domain. A Job must have a Profile, Schedule, Worker, and a target, mailbox, list, or domain, before it can be saved or run.

Core Settings

The Schedule, Profile, and Worker selected here will determine what is archived, when it is archived, and what worker does the actual archival work. The Job **MUST** be enabled in order to run. Only previously configured Schedules, Profiles, and Workers can be selected.

The **Job Expiration** is an option to place a timestamp on the data in the Retain database, which allows for ease of automation for the deletion manager. In addition, devices such as NetApp, Centera, and Hitachi HCAP may use this number to enforce hardware level protection of the stored item so that no one (including Retain) may delete the item before its expiration date.

Job Expiration is not retroactive for mail in the database, and only applies to mail archived by the job that it is active for. **In order to have messages with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete messages with an Expiration Date older than 1 day.**

Mailboxes

The mailboxes tab contains the target users, distribution lists or groups to be archived by the job. By default, all users are included.

The job may be restricted to specific users, either on the 'Include Users' list. To add users, expand the User's option box and select the users to be archived. For users to be available for this dialog box, the RSM must have been configured with users. Users may be selected through the user search interface, spawned through selecting the 'add user' button.

If there are users listed, then the users listed in the 'Include Users' box are the ONLY included users, while those listed in the 'Exclude' window are excluded from the jobs.

Notification

All errors, summaries, and statistics may be sent in an email notification to a desired address on job completion. If it is desired to be notified, configure the notifications under this tab. At least one of the two notification options must be selected in order for an email notification to be created.

Status

On initial creation, there will be nothing of interest shown under the 'Status' tab, as the job is under creation or has not yet run.

However, after a job has been run, or has begun, the 'Status' tab becomes a monitoring tool to report on exactly how much mail and mailboxes have been archived, along with any errors encountered.

Job: first (78778DFEC4A3E6D22C03108FB693079A)			
	Current	Last	Overall
Job began	---	15-Sep-2012 15:38:09	---
Job ended	---	15-Sep-2012 15:42:09	---
Mailboxes	0	4	4
Messages	0	3321	3321
Errors	0	0	0
	Current	Last	Error
Mailbox		admin	
MS		po	
Error			---

Google Apps Jobs

All data collection for Google Apps is configured through the Google Apps job interface. The jobs here combine the Profile, the Schedule, and a Worker together to archive a specified mailbox, distribution list, or domain. A Job must have a Profile, Schedule, Worker, and a target, mailbox, list, or domain, before it can be saved or run.

The Schedule, Profile, and Worker selected here will determine what is archived, when it is archived, and what worker does the actual archival work. The Job **MUST** be enabled in order to run. Only previously configured Schedules, Profiles, and Workers can be selected.

The screenshot shows the 'Jobs' configuration window. At the top, there's a search bar and a list of jobs. One job, 'Google Apps - gwavaqa.mygbiz.com', is selected. To the right of the list are buttons for 'Add Job', 'Edit Job', and 'Remove Job'. Below the list, a status message says 'Job Google Apps - gwavaqa.mygbiz.com loaded.' and the job name is displayed in a box. Below this are tabs for 'Core Settings', 'Mailboxes', 'Notification', and 'Status'. The 'Core Settings' tab is active, showing a 'Job enabled' checkbox checked. Below this, it states 'Each Job must have the following assigned to it:' followed by a bulleted list: 'schedule - How often to run', 'profile - What to do when running', and 'worker - Where to run the job'. There are three dropdown menus: 'Schedule' set to 'Google Apps', 'Profile' set to 'Google - AllItems AllMessages Headers NoFlags', and 'Worker' set to 'Worker on 118'. Below these, a paragraph explains the 'expiration timestamp' feature. There is a checkbox for 'Enable data expiration' which is checked. Below it, 'Expire in' is set to '1' and 'Days'. 'Base Expiration Time on' is set to 'Date Item was delivered to mail server.'. A final paragraph explains that customers can override default expiration settings for specific folders, with an 'Add' button below it.

The **Data Expiration** is an option to place a timestamp on the mail in the Retain database, which allows for ease of automation for the deletion manager. In addition, devices such as NetApp, Centera, and

Hitachi HCAP may use this number to enforce hardware level protection of the stored item so that no one (including Retain) may delete the item before its expiration date.

Job Expiration is not retroactive for mail in the database, and only applies to mail archived by the job that it is active for. The base folders and criteria are specified under the custom expiration dates accessed through the 'Add' button at the bottom. All messages included in any specified folders will have a different date or be exempted from the standard expiration date. **In order to have messages with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete messages with an Expiration Date older than 1 day.**

Mailboxes

The mailboxes tab is where the administrator specifies which entities (mail server(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, or selected group of users, select the Users menu and assign the user(s) desired

The screenshot shows the 'Mailboxes' tab selected in a navigation bar with 'Core Settings', 'Mailboxes', 'Notification', and 'Status'. Below the tab, the heading 'Mailboxes' is in green. A instruction reads: 'Assign the Post Offices and/or Distribution Lists to be included in this job. Distribution Lists *must* have System Visibility.' There are three input fields, each with a plus icon on the left and a funnel icon on the right. The first field is labeled 'Mail Servers', the second 'Distribution Lists', and the third 'Distribution Lists (exclude)'. Below these fields is a link labeled 'Users' with a plus icon.

The users section allows you to select individual users to include, or exclude them from an archive job. For example: you can select an entire Mail Server to be archived, and then expand the users section to include or exclude users to the job.

This can also be used to select only certain users in the system for an archive job.

To add a user to the Include or Exclude list, select the respective 'Add user' button and search for the user. It can be helpful to unselect the 'only show recently cached items' option.

The screenshot shows a window titled 'Users'. It has two sections: 'Include:' and 'Exclude:'. Each section has an 'Add User' button. Under 'Include:', there are two entries: 'Bastula' and 'blufish', each with a red 'X' icon. Under 'Exclude:', there are two entries: 'Jamison' and 'maston', each with a red 'X' icon.

Add the selected users to the list in the search window, then select 'Ok' to add them to the include or exclude list.

Notification

When a job is run, the notification option allows the administrator to be emailed a summary of each running job if desired.

For notification to function correctly, the SMTP information for the desired SMTP server must be fully filled-out. How much information is required varied depending on the mail system used.

The screenshot shows the 'Notification' tab selected in the top navigation bar. Below the tab, there is a section titled 'Notification' with a green header. A message states: 'You can have Retain e-mail a summary of operations and/or errors that occurred when the job completes.' Below this message is a form with the following fields:

SMTP Mail Server	10.1.12.16
SMTP Mail From Address	Retain320
SMTP To Address	softwareqa@gwava.com
SMTP Username	
SMTP Password	(Password is not set)
Mail when errors occur	<input checked="" type="checkbox"/>
Mail summary when job complete	<input checked="" type="checkbox"/>

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

Status

The Status tab displays the status of any currently running jobs, as well as the stats of the last completed job.

The screenshot shows the 'Status' tab selected in the top navigation bar. Below the tab, there is a section titled 'Status [Refreshes in 5]' with a green header. Below this header, the following job information is displayed:

Job: Google Apps - gwavaqa.mygbiz.com (435254EFAA7D131D948D968F790D2FED)

	Current	Last	Overall
Job began	---	04-Sep-2013 22:08:44	---
Job ended	---	04-Sep-2013 22:12:57	---
Mailboxes	2	2	4
Messages	0	4	77
Errors	0	0	0

	Current	Last	Error
Mailbox			
MS			
Error			---

This tab is informational only unless a job is currently running, an option to abort the currently running job is displayed.

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

	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

This window will refresh every ten seconds to keep you up to date as to the status of the selected job. 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.

Mobile Jobs

Usually, the Job interface combines the worker, profile, and schedule configurations into a workable format for data collection. However, due to the particular nature of archiving from Mobile devices and the setup of the Mobile module, the profile, schedule, and worker are already dictated. The Job's interface for the Mobile module contains the Data Expiration, Notification, and Status functions for message data gathering. Enabling of Mobile data archiving is achieved in configuring the Mobile module, acquiring a tenant ID, and registering mobile devices.

Core Settings

The core settings tab contains information on the schedule, profile, and worker utilized for the mobile module, as well as the data expiration date.

The screenshot shows the 'Jobs' window with the 'Core Settings' tab selected. The window title is 'Jobs' and it has standard OS window controls. Below the title bar, a message states: 'You should configure these settings. You also need to configure the Worker, and then begin registering devices under Device Management'. There are three tabs: 'Core Settings' (active), 'Notification', and 'Status'. Under 'Core Settings', there are three rows: 'Schedule' with value 'mobile_schedule', 'Profile' with value 'mobile_profile', and 'Worker' with a long alphanumeric string '81133f47da1b4b05b84c78518fb3f530'. Below these, a paragraph explains the 'expiration timestamp' feature. At the bottom, there is a section for 'Enable data expiration' which is checked, an 'Expire in' field set to '1' with a 'Days' dropdown, and a 'Base Expiration Time on' dropdown set to 'Date Item was delivered to mail server.'.

Setting	Value
Schedule	mobile_schedule
Profile	mobile_profile
Worker	81133f47da1b4b05b84c78518fb3f530

Items archived with this job can optionally be set with an "expiration timestamp" which the Deletion Manager can use to remove obsolete items. The expiration timestamp can only be extended, never reduced.

Enable data expiration ☒

Expire in Days

Base Expiration Time on

The **Job Expiration** is an option to place a timestamp on data in the Retain database, which allows for ease of automation for the deletion manager. In addition, devices such as NetApp, Centera, and Hitachi HCAP may use this number to enforce hardware level protection of the stored item so that no one (including Retain) may delete the item before its expiration date. Job Expiration is not retroactive for mail in the database, and only applies to mail archived by the job that it is active for. **In order to have messages with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete messages with an Expiration Date older than 1 day.**

Notification

When a job is run, the notification option allows the administrator to be emailed a summary of each running job if desired.

For notification to function correctly, the SMTP information for the desired SMTP server must be fully filled-out. How much information is required varied depending on the mail system used.

Notification

You can have Retain e-mail a summary of operations and/or errors that occurred when the job completes.

SMTP Mail Server	10.1.12.16
SMTP Mail From Address	Retain320
SMTP To Address	softwareqa@gwava.com
SMTP Username	
SMTP Password	(Password is not set)
Mail when errors occur	<input checked="" type="checkbox"/>
Mail summary when job complete	<input checked="" type="checkbox"/>

[Test Connection](#)

Status

The Status tab displays the status of any currently running jobs, as well as the stats of the last completed job.

Status [Refreshes in 3]

Job: Mobile Job (301acdda20554dbe92e7aaa4e6239da6)

	Current	Last	Overall
Job began	---	07-Sep-2013 12:56:44	---
Job ended	---	07-Sep-2013 12:56:46	---
Mailboxes	0	1	5602
Messages	0	0	419
Errors	0	0	3

	Current	Last	Error
Mailbox			
MS			
Error			---

This tab is informational only for the Mobile module.

Blackberry Jobs

All data collection for the Blackberry module is configured through the Blackberry job interface. The jobs here combine the Profile, the Schedule, and a Worker together to archive the specified server logs. A Job must have a Profile, Schedule, Worker, and a selected server, before it can be saved or run. To create a new job, click, 'Add Job', and configure and save.

Core Settings

The core settings tab contains the basic configuration. Select the 'Job enabled' option to enable archiving. Also select a Schedule, Profile, and Worker to complete the job. If the SMTP Send is enabled, the worker will forward BES message data.

The screenshot shows the 'Jobs' window with a list of jobs on the left and the 'Core Settings' tab selected. The job list includes '0 BES 05 Now' (selected), '0 BES 10 Now', and several BES jobs at hourly intervals from 08:00 to 15:00. To the right of the list are buttons for 'Add Job', 'Edit Job', and 'Remove Job'. Below the list, a status message reads 'Job 0 BES 05 Now loaded.' and a 'Job' dropdown shows '0 BES 05 Now'. The 'Core Settings' tab is active, displaying the following configuration:

- Job enabled:** ☒
- Each Job must have the following assigned to it:**
 - schedule** - How often to run
 - profile** - What to do when running
 - worker** - Where to run the job
- Schedule:** BES 05 Now
- Profile:** BES Profile
- Worker:** BES5 Worker
- Send BES items via the SMTP connector to an external system.**
 - Enable SMTP Send:** ☒
- Items archived with this job can optionally be set with an "expiration timestamp" which the Deletion Manager can use to remove obsolete items. The expiration timestamp can only be extended, never reduced.**
 - Enable data expiration:** ☒
 - Expire in:** 1 Days
 - Base Expiration Time on:** Date Item was delivered to mail server.

The **Data Expiration** is an option to place a timestamp on the data in the Retain database, which allows for ease of automation for the deletion manager. In addition, devices such as NetApp, Centera, and Hitachi HCAP may use this number to enforce hardware level protection of the stored item so that no one (including Retain) may delete the item before its expiration date. Job Expiration is not retroactive for mail in the database, and only applies to mail archived by the job that it is active for. The base folders and criteria are specified under the custom expiration dates accessed through the 'Add' button

at the bottom. All messages included in any specified folders will have a different date or be exempted from the standard expiration date. **In order to have messages with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete messages with an Expiration Date older than 1 day.**

Mailboxes

The mailboxes tab contains the target users, and BES servers to be archived by the selected job.

Under the Mailbox tab, select the BES server to be included in the Job. The list of available BES servers is configured from the Modules page. Once selected, all users associated or present on the BES server are included.

Once a job has been run, the user list will be populated and further configuration is possible. The job may also be restricted to specific users, specified on the 'Include Users' list, or restricted to exclude users listed on the 'Exclude' list. To add users, expand the User's option box and select the users to be archived. Users may be selected through the user search interface, spawned through selecting the 'add user' button.

If there are users listed, then the users listed in the 'Include Users' box are the ONLY included users, while those listed in the 'Exclude' window are excluded from the jobs.

Notification

All errors, summaries, and statistics may be sent in an email notification to a desired address on job completion. If it is desired to be notified, configure the notifications under this tab. At least one of the two notification options must be selected in order for an email notification to be created.

Status

On initial creation, there will be nothing of interest shown under the 'Status' tab, as the job is under creation or has not yet run.

However, after a job has been run, or has begun, the 'Status' tab becomes a monitoring tool to report on exactly how much mail and mailboxes have been archived, along with any errors encountered.

Job: first (78778DFEC4A3E6D22C03108FB693079A)			
	Current	Last	Overall
Job began	---	15-Sep-2012 15:38:09	---
Job ended	---	15-Sep-2012 15:42:09	---
Mailboxes	0	4	4
Messages	0	3321	3321
Errors	0	0	0
	Current	Last	Error
Mailbox		admin	
MS		po	
Error			---

Management

Users

User and Rights Management in Retain include:

- 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 message system users logging in with their credentials
 - These users use SOAP authentication for GroupWise and Active Directory authentication for Exchange.
 - Retain checks their login credentials with GroupWise or Exchange
 - 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 any message system
 - Users created in Retain do not need to have a message system account.
 - Users who don't exist in the message system will use the *offline password*.

Offline Password


There are, however, occasions when you might want someone to search through the Retain archives, but who is not part of the mail 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, via SOAP for GroupWise, Exchange, or LDAP, the same rights can be assigned. An administrator who possesses the Manage Users and Groups' administrative right can assign all the rights they contain.

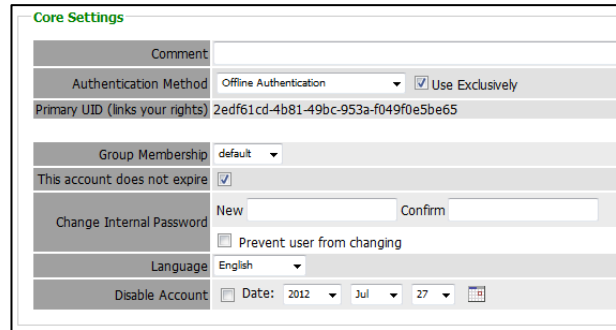
Users may also be assigned access to more than one mailbox. Offline users will need to be given access to at least one mailbox to perform searches. Users who are assigned “Search All Mailboxes” rights have access to all users' mailboxes.

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

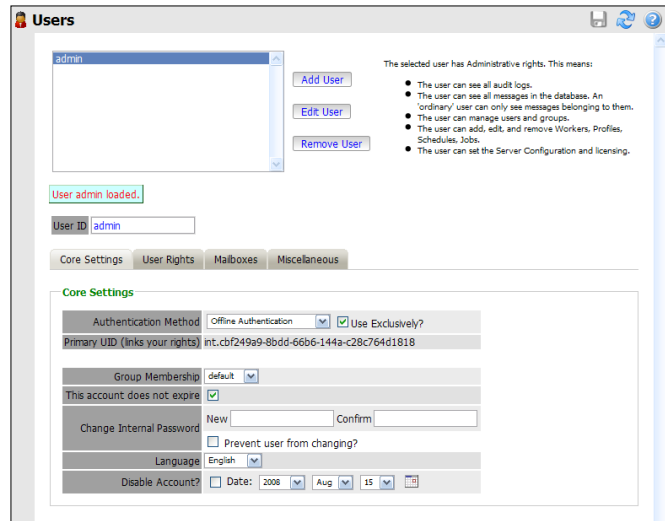
All previously created users are listed and can be edited or removed, by clicking on the *Edit User* or *Remove User* buttons.



The screenshot shows the 'Core Settings' form for a user. It includes fields for 'Comment', 'Authentication Method' (set to 'Offline Authentication' with 'Use Exclusively' checked), 'Primary UID (links your rights)' (2edf61cd-4b81-49bc-953a-f049f0e5be65), 'Group Membership' (set to 'default'), 'This account does not expire' (checked), 'Change Internal Password' (with 'New' and 'Confirm' fields and 'Prevent user from changing' unchecked), 'Language' (set to 'English'), and 'Disable Account?' (with a date picker set to 2012 Jul 27).

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.
 - Exchange (SOAP for Exchange). Exchange users are authenticated via SOAP for Exchange and users are added into Retain's user list.
 - Offline Password (credentials stored within Retain)(any type of user)
 - LDAP authentication – The [LDAP authentication](#) must be setup under Server Configuration, accounts tab.
 - 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
 - *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.
 - By default, accounts never expire, (0=never), but can be changed 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.



The screenshot shows the 'Users' management interface. At the top, a list of users is shown with 'admin' selected. Buttons for 'Add User', 'Edit User', and 'Remove User' are visible. Below the list, a message states 'User admin loaded.' and the 'User ID' is 'admin'. The 'Core Settings' tab is active, showing the same settings as the previous screenshot. A note on the right states: 'The selected user has Administrative rights. This means: The user can see all audit logs, The user can see all messages in the database. An ordinary user can only see messages belonging to them, The user can manage users and groups, The user can add, edit, and remove Workers, Profiles, Schedules, Jobs, The user can set the Server Configuration and licensing.'

- 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 allows 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

User Rights

The restore right has been activated. Please understand how this functions for your messaging system(s).

When restoring to Exchange, the full item is restored, including attachments. There are no dependencies.

In GroupWise, we restore just the "stub" of the item. This has the advantage of being quite quick, and accurate.

However, for your users to read the stubbed items, you **MUST** enable the Retain Stubbing Server, and must set up stubbing in ConsoleOne. You do NOT have to enable stubbing while archiving messages.

Rights explicitly granted to the user.

Administrator level rights

<input type="checkbox"/>	Access Reporting and Monitoring Server
<input checked="" type="checkbox"/>	Access all audit logs
<input checked="" type="checkbox"/>	Deletion Manager
<input checked="" type="checkbox"/>	Add, edit, remove global tag definitions
<input checked="" type="checkbox"/>	Apply or remove litigation hold
<input checked="" type="checkbox"/>	Manage Server
<input checked="" type="checkbox"/>	Manage Users and Groups
<input checked="" type="checkbox"/>	Manage Workers, Schedules, Profiles, Jobs
<input checked="" type="checkbox"/>	Publish Messages
<input checked="" type="checkbox"/>	Restore messages [Any Mailbox]
<input checked="" type="checkbox"/>	Search all mailboxes
<input checked="" type="checkbox"/>	See Confidential Items [other mailboxes]

User level rights

<input checked="" type="checkbox"/>	Apply Confidential Tag [other mailboxes]
<input checked="" type="checkbox"/>	View/Save attachments
<input checked="" type="checkbox"/>	View personal audit log
<input checked="" type="checkbox"/>	Delete messages in other mailboxes
<input checked="" type="checkbox"/>	Delete personal Messages
<input checked="" type="checkbox"/>	Export Messages
<input checked="" type="checkbox"/>	Forward Messages
<input checked="" type="checkbox"/>	Print Messages
<input checked="" type="checkbox"/>	Read Configuration (Redline)
<input checked="" type="checkbox"/>	Restore messages [My Mailbox]
<input checked="" type="checkbox"/>	Apply Confidential Tag [own mailbox]
<input checked="" type="checkbox"/>	Add, edit, remove user tag definitions

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

View/Save attachments
Forward Messages

When an administrator level right is granted a user, that user will see that right in the management console when they log into Retain. If a right that the full Administrator can view is missing from the menu of that user, they are missing that right. To view and have access to that option, they must have the missing right granted to that user. **If you have performed an upgrade and are missing options, check for a missing administrator right.**

- 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 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
- Deletion Manager
 - Allows management of Deletion jobs.
- Add, Edit, Remove global tag definitions.
 - Allows manipulation of global tags in the view messages interface.
- Litigation hold
 - Allows excluding mail from Deletion
- 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.
 - Login to Worker web interface
- Allows use of Publisher
- Allows messages to be restored to all mailboxes

<u>Administrator level rights</u>	
<input checked="" type="checkbox"/>	Access all audit logs
<input checked="" type="checkbox"/>	Deletion Manager
<input checked="" type="checkbox"/>	Add, edit, remove global tag definitions
<input checked="" type="checkbox"/>	Apply or remove litigation hold
<input checked="" type="checkbox"/>	Manage Server
<input checked="" type="checkbox"/>	Manage Users and Groups
<input checked="" type="checkbox"/>	Manage Workers, Schedules, Profiles, Jobs
<input checked="" type="checkbox"/>	Publish Messages
<input checked="" type="checkbox"/>	Restore messages [Any Mailbox]
<input checked="" type="checkbox"/>	Search all mailboxes
<input checked="" type="checkbox"/>	See Confidential Items [other mailboxes]
<u>User level rights</u>	
<input checked="" type="checkbox"/>	Apply Confidential Tag [other mailboxes]
<input checked="" type="checkbox"/>	View/Save attachments
<input checked="" type="checkbox"/>	View personal audit log
<input checked="" type="checkbox"/>	Delete messages in other mailboxes
<input checked="" type="checkbox"/>	Delete personal Messages
<input checked="" type="checkbox"/>	Export Messages
<input checked="" type="checkbox"/>	Forward Messages
<input checked="" type="checkbox"/>	Print Messages
<input checked="" type="checkbox"/>	Read Configuration (Redline)
<input checked="" type="checkbox"/>	Restore messages [My Mailbox]
<input checked="" type="checkbox"/>	Apply Confidential Tag [own mailbox]
<input checked="" type="checkbox"/>	Add, edit, remove user tag definitions

- Search All Mailboxes
 - Grants access to all mailboxes in the system
 - Allows the user to search and browse them.
- See Confidential Items [Other Mailboxes]
 - Allows users to view items which others have tagged as confidential.

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

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 | ➤ Restore Messages (My mailbox only) |
| ➤ View own audit log | ➤ Print Messages |
| ➤ Forward Messages | |

Other rights:

- Delete messages in other mailboxes
 - Allows access to delete items from mailboxes that the user is granted access to, but is not their personal account
- Delete personal Messages
 - Allows deletion of items from the user's personal account
- Export Messages
 - Grants the right to use the export option which sends groups of messages or items as a single PDF document.
- Add, Edit, remove user tag definitions
 - This allows the user to create, remove, and edit the user's tags in the search messages interface.

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 interface with four tabs: 'Core Settings', 'User Rights', 'Mailboxes' (selected), and 'Miscellaneous'. The 'Mailboxes' section has a title 'Mailboxes' in green. Below it is a paragraph explaining that these are additional mailboxes beyond the primary mailbox, accessible to non-admin users with specific rights. A box labeled 'Currently Selected' contains two entries: 'David Bassett' and 'Benjamin Rush', each with a red 'X' icon to its left. Below this is a 'Criteria' section with a 'First Name' dropdown, a 'begins with' dropdown, and a text input field. There is a 'Search' button. Below the search criteria are two checkboxes: 'Show only users' (checked) and 'Show only recently cached items' (unchecked). An 'Add Selected' button is at the bottom of the criteria section. At the bottom of the interface is an 'Address Book' section with a text input field containing the message 'No items found. Please try another search.'

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 utilized in various other areas, but is described here.

Currently Selected

- David Bassett
- Benjamin Rush

Criteria

First Name begins with

System Show only users ☒ Show only recently cached items ☐

Address Book

	First	Last	Mail Server	Mailbox	Dept.	Type	Domain
<input type="checkbox"/>		admin	po	admin		U	dom
<input type="checkbox"/>	David	Bassett	po	David		U	dom
<input type="checkbox"/>	Samuel	Clements	po	Sam		U	dom
<input type="checkbox"/>	Benjamin	Rush	po	Benjamin		U	dom

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) Choose between the configured module systems
- 2) Fill out basic criteria to narrow your search results (or no criteria for the first 100)
- 3) Click **Search**.
- 4) 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.
- 5) Choose which of the results you want to add to the selected list
- 6) 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 Mail 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](#).

The screenshot shows the 'Miscellaneous' tab selected in a settings interface. The tab is part of a group including 'Core Settings', 'User Rights', 'Mailboxes', and 'Miscellaneous'. The settings are organized into sections, each with a green title and a description. The sections are: 'Comment' (with a text input field), 'Forward Messages' (with an 'Internet Domain' input field), 'Date/Time Formats' (with 'Date' and 'Time' dropdowns and an example), 'Display Number' (with a 'Display Number' dropdown), 'Message Age Display' (with a 'Message Age Display' dropdown), and 'Session Timeout' (with a 'Time (minutes)' input field).

Setting	Description
Comment	The default comment appended to forwarded messages can be set here.
Forward Messages	Internet Domain
Date/Time Formats	Defines how dates and times are displayed.
Display Number	How many items to display per page
Message Age Display	How many days of messages should be displayed by default?
Session Timeout	Time in minutes, to expire an inactive login session.

- **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.

GroupWise Proxy Support

Retain supports the GroupWise proxy function. To enable it, check the box in the [Module Configuration](#) section. (NOTE: using proxy is useless if the user you wish to enable this function for is set to use offline authentication – found under the [core settings of the user](#).)

NOTE: The 'All User Rights Access' in GroupWise is NOT supported.

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 in the GroupWise client, 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 logged into user B’s mailbox as proxy 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 logged in as proxy to user B’s mailbox with GroupWise, then user B will not appear in user A’s list of available accounts to proxy into.

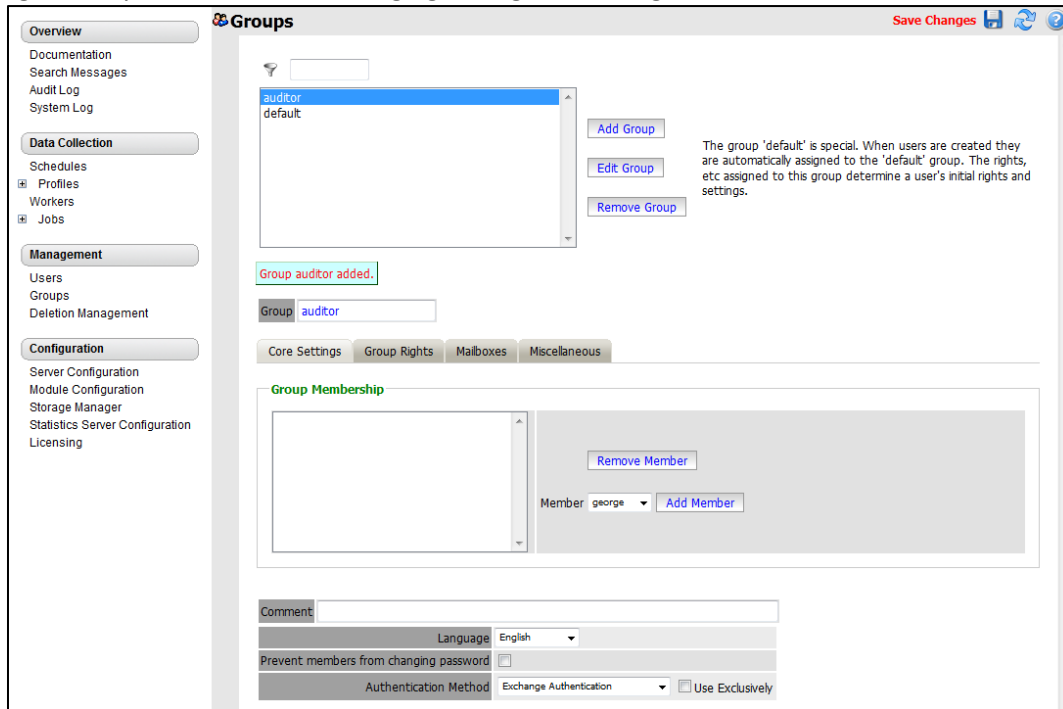
Retain checks these proxy rights the first time you access a proxy users mailbox, then caches the information for 7 days as configured in the server Configuration – Miscellaneous tab. (Default is 7 days.)

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.

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.



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

Category	Right	Checked
Administrator level rights	Access all audit logs	<input checked="" type="checkbox"/>
	Deletion Manager	<input checked="" type="checkbox"/>
	Apply or remove litigation hold	<input checked="" type="checkbox"/>
	Manage Server	<input checked="" type="checkbox"/>
	Manage Users and Groups	<input checked="" type="checkbox"/>
	Manage Workers, Schedules, Profiles, Jobs	<input checked="" type="checkbox"/>
	Publish Messages	<input checked="" type="checkbox"/>
	Restore messages [Any Mailbox]	<input checked="" type="checkbox"/>
	Search all mailboxes	<input checked="" type="checkbox"/>
User level rights	View/Save attachments	<input checked="" type="checkbox"/>
	View personal audit log	<input type="checkbox"/>
	Export Messages	<input type="checkbox"/>
	Forward Messages	<input checked="" type="checkbox"/>
	Print Messages	<input checked="" type="checkbox"/>
	Read Configuration (Redline)	<input type="checkbox"/>
	Restore messages [My Mailbox]	<input checked="" 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](#).

To log into and manage or monitor Workers, a User or Group must have the manage workers, Schedules, Profiles, Jobs right. To set or work with the Deletion Manager, the user must likewise have the Deletion Manager right, or they will not be able to modify those settings.

TIPS

Typically, you will not want to grant Redline rights to a group, but in a situation where you have more than one Redline control center and you want to see which one is monitoring, group-level Redline rights would be appropriate.

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.

"Redline" is a trade mark of GWAVA Inc., 100 Alexis Nihon, Suite 500, Saint Laurent, Quebec H4M 2P1

Mailboxes

The screenshot shows the 'Mailboxes' configuration screen. At the top, there are four tabs: 'Core Settings', 'Group Rights', 'Mailboxes' (which is selected), and 'Miscellaneous'. Below the tabs, the 'Mailboxes' section is titled in green. A paragraph explains that these are additional mailboxes beyond the primary mailbox that group members may access, and that 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 the explanation, there is a section titled 'Currently Selected' in green, which is currently empty. Below that is a 'Criteria' section. It contains a dropdown menu for 'First Name', a dropdown for 'begins with', and a text input field. To the right of the text input is a 'Search' button. Below the 'Search' button, there is a 'System' dropdown menu set to 'Exchange', and two checkboxes: 'Show only users' (checked) and 'Show only recently cached items' (unchecked). Below the checkboxes is an 'Add Selected' button. At the bottom of the form is an 'Address Book' section with a text input field containing the placeholder text 'Enter criteria to search the cached addressbook.'

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

You use the address book selector to choose which mailbox or mailboxes 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 other's archives, and so on.

Groups – Miscellaneous

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

Day-ShortMonth-Year

Time

24 Hour

Example: 15-Mar-2011 23:45

Display Number

How many items to display per page

Display Number

25

Message Age Display

How many days of messages should be displayed by default?

Message Age Display

Last 30 days

Session Timeout

Time in minutes, to expire an inactive login session.

Time (minutes)

10

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.

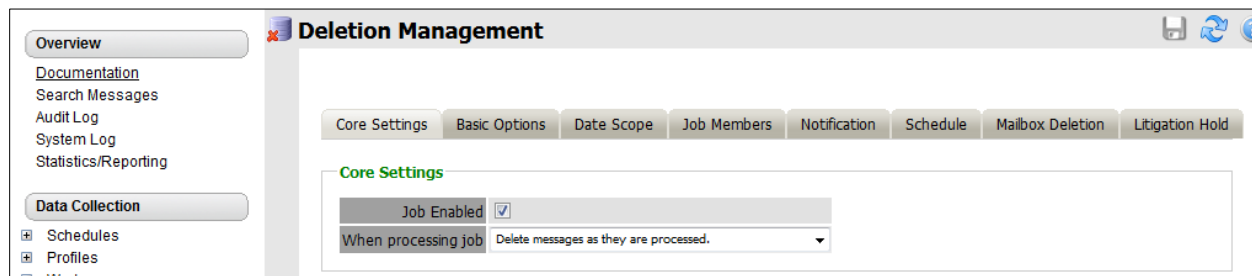
These settings govern the way the search interface works for the selected group. See more information about these settings in the [users' miscellaneous section](#).

Deletion Management

The Deletion Manager provides for the removal of items from the archive according to the specified criteria. The Deletion Manager runs as a scheduled job in the archive, looking for, and processing or deleting items that match the search terms. Mail removed from the archive is permanently deleted. Use this option with care. The Deletion Manager will not show up in your system menu if you have not granted the logged-in user the Deletion Management right, or have the litigation hold right. See [User Rights](#). The Litigation Hold right allows users to go to the deletion management section and add or remove the Litigation Hold right for other users. They cannot modify other settings. Users with the deletion management right can view the litigation hold tab, but they cannot grant rights; it is read only.

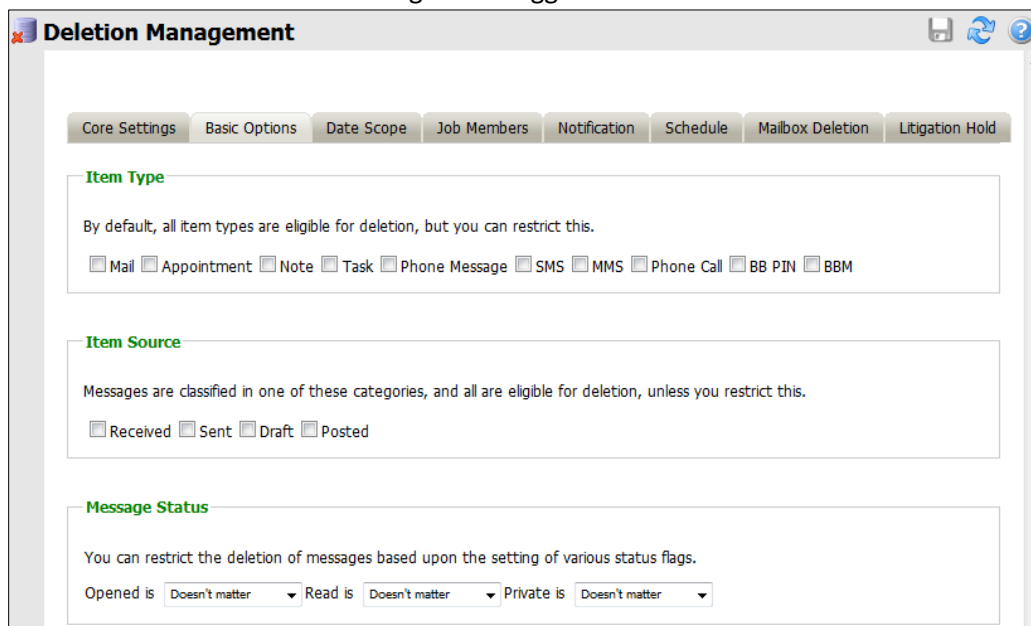
Core Settings

Here you enable and disable deletion jobs, and detail which actions they will take. When setting up a deletion job, you have the option to tell the job delete and report on the messages deleted, or to simply generate a report on the mail that will be removed from the database. The report function can be very handy to ensure that a job will not remove any mail that is needed, before the messages are actually deleted.



Basic Options

This tab provides the criteria that the deletion job will use to identify messages to be deleted. This should look nearly identical to the profile of an archive job. The functions are the same. The item type, source, and status determine which messages are flagged for deletion.



Date Scope

There are many dates that are contained in a mail system, and the deletion manager allows you to select different date ranges to identify the scope of the deletion manager. The setup is simple; the date range between the “Begin” and “End” dates will be targeted by the delete job.

Deletion Management

Core Settings Basic Options **Date Scope** Job Members Notification Schedule Mailbox Deletion Litigation Hold

Date Scope

Here the date range of messages to be deleted is defined. It's important to choose the correct range, and the correct date type. The creation and delivered date are internal dates of the message. The stored date is when the message was stored in Retain. The expiration date is related to the expiration settings active in the Job when the message was stored.

Delete messages where **Date Stored in Retain** is:

☐ Older than Days

☒ Between two specific dates

Start Date: Jan 01 1995 Time: 18 02

End Date: Dec 31 2013 Time: 18 02

The dates can be identified by the date filter. The Date filter allows you to specify the mail system or Retain message dates. The creation and delivered date are mail system dates. The date archived and expiration dates are set in Retain. The expiration date is tied to the job, and is set under the job section.

Date Stored in Retain
Delivered Date
Expiration Date
Created Date

In order to have data with custom job or folder expiration dates properly expire, the deletion management date scope must be set to delete data with an Expiration Date older than 1 day.

The Job Expiration option allows you to set an ‘expiration date’ that the mail no longer needs to be archived after. (Different States have different laws and requirements. Usually it is between 5 and 10 years.) The Deletion Management interface can utilize this expiration date to identify messages that are due for removal.

The screenshot shows the 'Job Members' tab with the following elements:

- Exclude Journaling Mailboxes:** A checkbox that is currently unchecked.
- Include these objects:** A section containing a dropdown menu with 'BESX (blackberry.gwava.com)' selected, an 'Add Mail Server' button, and an 'Add User' button.
- Exclude these objects:** A section with an 'Add User' button and an empty text area below it.

Select the options as desired.

Schedule

The Schedule allows you to automate and run a deletion job automatically on mail that has passed its required archive duration. The options are to run this weekly or on a specific day of the month. The Deletion job is set to run at the same time as the rest of your scheduled maintenance. (Scheduled Maintenance is found under Server Configuration – [Maintenance](#) tab. Manual starting of a job is not currently supported.)

Job Members

A delete job will only be active for selected users or a selected mail server. The Job Members tab allows you to include an entire mail server or group of users, while excluding specific users from the delete job.

Use this in conjunction with the Generate Report option under Core Settings to pinpoint the mail that will be included in the delete job.

Notification

The reports, errors, and summaries of delete jobs can be sent to the listed address in the notification tab. Using the Generate Report option in Core Settings is useless unless you set this variable.

The screenshot shows the 'Notification' tab with the following elements:

- Text:** 'You can have Archive e-mail a summary of operations and/or errors that occurred when the job'.
- SMTP Mail Server:** 192.168.1.121
- SMTP Mail From Address:** admin@company.com
- SMTP To Address:** admin@company.com
- SMTP Username:** sam
- SMTP Password:** (Password is default)
- Mail when errors occur:** ☐
- Mail summary when job complete:** ☐
- Test Connection:** A button at the bottom.

The screenshot shows the 'Deletion Management' window with the following elements:

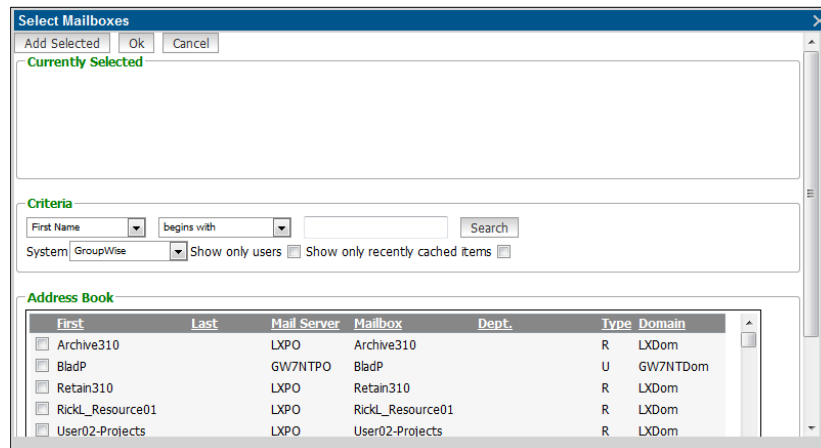
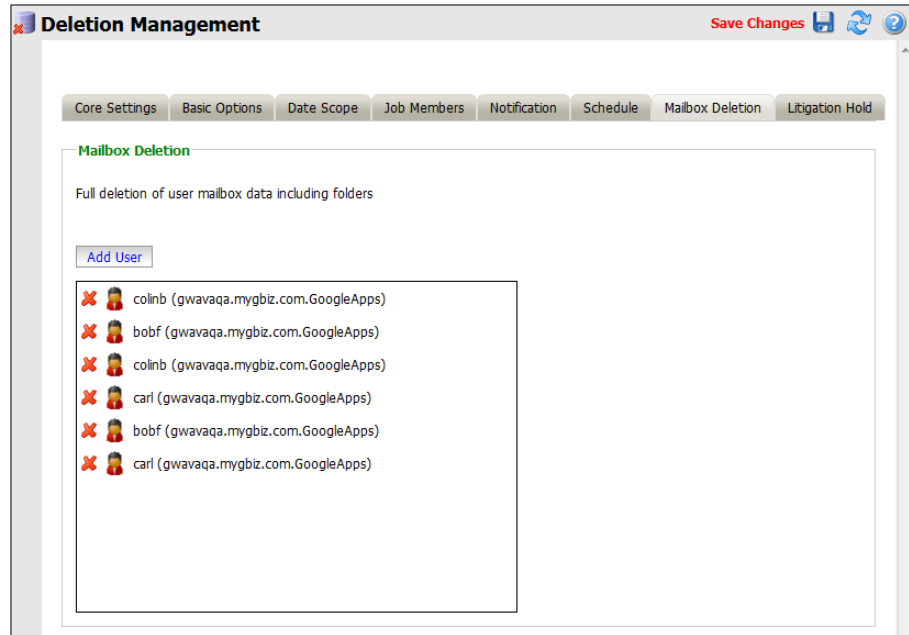
- Buttons:** 'Save Changes', a save icon, a refresh icon, and a help icon.
- Tabs:** Core Settings, Basic Options, Date Scope, Job Members, Notification, Schedule, Mailbox Deletion, and Litigation Hold.
- Schedule Section:**
 - Text:** 'A deletion job executes during the maintenance period on a weekly or monthly basis. A deletion job can take a very long time to run, and be quite intensive, if you have many messages to delete.'
 - Run Job when:** A dropdown menu with 'weekly' selected.
 - Day:** A dropdown menu with 'Sunday' selected.

Mailbox Deletion

Deletion Management also has the ability to clean out mailboxes which no longer need to be archived. Mailbox Deletion will not remove the mailbox itself, but will remove everything in a mailbox; messages, items, and folder structures. Any mailbox which has a litigation hold applied to the whole mailbox will be skipped if placed on this list. Likewise, and any item or message with a litigation hold applied will remain with the dependent folder structure. Everything not protected by a litigation hold will be deleted from the mailbox, archive, and index.

Mailbox Deletion may be performed with a standard deletion job, but it is not something usually left with a scheduled, recurring job, because there is no need to re-delete an empty mailbox. It is recommended to use the Mailbox Deletion option on single instance jobs.

To set a mailbox for deletion, select the 'Add User' button to open the 'Select Mailboxes' dialog.



Search for and select the desired user, or users' mailboxes.

Select the 'Add Selected' button to add the selected users to the selected user list. Additional searches may be performed after selected users are added to the currently selected list. Repeat until all desired users are selected, then select 'OK' to add the user mailboxes to the

deletion list.

Save the changes on the page. There is no other work to be completed. Once the deletion job executes, the mailbox is cleaned out and all items not subject to a litigation hold are deleted.

Litigation Hold

The Litigation Hold tab provides the ability to exclude any specified user's data from any deletion job, preventing any of their data from being deleted when the job runs.

The screenshot shows the 'Deletion Management' window with the 'Litigation Hold' tab selected. The window has a title bar with a close button, a save icon, a refresh icon, and a help icon. Below the title bar is a tabbed interface with tabs for 'Core Settings', 'Basic Options', 'Date Scope', 'Job Members', 'Notification', 'Schedule', and 'Litigation Hold'. The 'Litigation Hold' tab is active and contains the following text: 'If you have been granted rights to do so, you may apply or remove litigation hold on an entire users mailbox. You can apply a hold on a per item basis from the main search interface. Holds placed here will prevent ALL messages from being deleted from the relevant user listed when running a deletion manager job.' Below this text is a blue 'Add User' button and a large empty rectangular box for listing users.

Any official auditors, legal representatives, system administrators, or users may be added to this list. These accounts will be able to set and lift any legislative hold in the system, and therefore this is not a generally granted right and should be restricted to only specified users. Because of the power of this right it is granted separately from the usual rights for users.

To add a user to the legislative hold list, select the 'Add User' button to open the 'Select Mailbox' window.

Select the source system for the user and enter search criteria. After searching, select the desired user or users and select the 'Ok' button to add them to the list. Save all changes.

The screenshot shows the 'Select Mailboxes' dialog box. It has a title bar with a close button. Below the title bar are buttons for 'Add Selected', 'Ok', and 'Cancel'. The main area is divided into two sections. The first section, labeled 'Currently Selected', is empty. The second section, labeled 'Criteria', contains a search interface with a 'First Name' dropdown, a 'begins with' dropdown, a text input field, and a 'Search' button. Below these are two checkboxes: 'System Exchange' (selected) and 'Show only users' (unchecked), and a 'Show only recently cached items' checkbox (unchecked). The third section, labeled 'Address Book', contains a text input field with the placeholder text 'Enter criteria to search the cached addressbook.'

Configuration

Server Configuration

The overall operation of Retain is configured in this section.

Retain Language: English Welcome, admin | About | Status & Updates | Logout

Server Configuration

Communications Index Storage Accounts Maintenance Logging Miscellaneous REST API

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.

Message Store DB		Configuration DB	
Database Driver	Postgres 9.0.9.1	Database Driver	Postgres 9.0.9.1
Database URL	jdbc:postgresql://127.0.0.1/retain35	Database URL	jdbc:postgresql://127.0.0.1/retain35_conf
Database User	retain	Database User	retain
Database Password (Password is set)	Database Password (Password is set)

Notification

Retain uses these values for forwarding and for job notifications. If the mail server is not set, forwarding is disabled

SMTP Mail Server	mail.qa.gwava.com
SMTP Mail From Address	Retain351@qa.gwava.com
SMTP To Address	softwareqa@gwava.com
SMTP Username	
SMTP Password (Password is set)
Mail when errors occur	<input checked="" type="checkbox"/>

[Test Connection](#)

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

The settings for the Communications tab are set in the initial setup of Retain. These include the connection to the SQL Database server, the Retain database, and the notification, SMTP information. If any changes in the system or corrections are needed, they should be configured here.

Index

The Index tab allows the management of the indexing engine as well as the ability to decide what kinds of attachments are indexed, and what size.

Indexing Engine

At the core of Retain's searching functionality is the indexing engine. Retain supports two indexing engines currently, Exalead and Lucene. It is possible to migrate from one to the other, but this may require significant effort. It is better to choose an indexing engine initially that fits your needs.

Here is a brief summary of the Indexing Engines provided. There is more detail in the user manual:

- Lucene - Fast and easy to use. Requires no additional software or hardware installation. Well suited for small scale environments that have only modest searching and storage requirements. Some features, such as extended queries, enhanced publishing and exporting, etc are not available using the Lucene engine. Not clusterable or high availability friendly.
- Exalead - Fast, extremely powerful, and very scalable. Can be clustered with multiple index and search nodes. All Retain advanced features available. Requires one or more dedicated 64 bit servers (quad core recommended), with at least 16GB RAM. Requires an installation process. Recommended for medium to large customers, as well as organizations that need advanced searching, exporting, availability functions.

If you do decide to switch indexing engines, be sure to read the user manual, and follow the [Migration Steps](#) carefully. The Migration Steps page contains a complete step by step guide, as well as special migration functionality.

Current Indexing Engine: Lucene

Indexing

Here, you adjust the different types of items to be indexed. You may add, delete, or edit items.

- The first column indicates if the entry is based on a filename extension or MIME type.
- The next column is the entry itself, filename extension or MIME type.
- The third column indicates the built-in extractor to use to process the attachment. New extractors may be provided in future versions of Retain.
- The fourth and fifth column specify the maximum size to process, with -1 indicating no limit (this should rarely be used). The Stream Size is an upper limit on how much text is stored. The File Size limit indicates any file above this size should not be processed at all.

Note: If an extension or mime type is not listed, the indexing engine will not index the contents. For Lucene, use any appropriate extractor except the "exalead" handler. For Exalead, regardless of the extractor selected, the text extraction will be handled by Exalead. The "exalead" handler can be used to indicate items that should only be indexed by Exalead.

Because Exalead is a much more robust indexing engine it requires its own server and resources. As such, when Exalead is selected as the indexing engine, a connection address and starting base port are required. The default BASEPORT is 10000. To ensure that the connection to the Exalead server is working, the 'Test Connection' button may be selected, which triggers Retain to contact the Exalead server. The results should shortly appear as a small notification window in your browser.

Lucene is hosted locally on the same machine as the Retain Server, and requires no further configuration, but does not have the same options or the extent of the capabilities as the Exalead engine does.

Current Indexing Engine: Lucene

The indexing engine can be changed between the two engines, but requires the index to be re-created. Recreating the indexes is a time consuming process and should not be done unless required. Searches of the Retain Archive during the index re-creation or migration process may not contain all results.

For details on how to change from one index to another, see the appendix section on [switching the index engine](#).

You can control what Retain indexes here. You may add as many items as you wish to the list of attachment types to index. **Note the explanation at the top of the table.** The items are listed (in order) by type, extension, archived form (extractor used), and maximum stream size and file size. You choose whether to index the attachment based on its filename extension or its MIME type (the content itself). You also choose which extractor to use to index the attachment. Retain supports HTML, RTF, TEXT, XML, OpenXML – (MS Office 2007 .docx), OpenOffice2, Word Perfect documents, Excel files, .DOC, and .PDF under the Lucene indexing engine, while Retain supports many more under Exalead. (Because of high CPU, memory, and performance requirements, MS Word and Adobe PDF are not indexed by default and must be enabled to be indexed. If you need to index these items, the allotted memory should be increased. Indexing these items will slow down the indexing process.) Select as many as you need. If an attachment type common in the system which needs to be indexed, but which does not already exist in the system, it may be added by using the 'add' row.

Force Indexing tells the server to index items that are not currently indexed. This queries the system for the top 500,000 items that are not currently indexed, and starts the indexer working if it is not currently working.

Indexing

Here, you adjust the different types of items to be indexed. You may add, delete, or edit items.

- The first column indicates if the entry is based on a filename extension or MIME type.
- The next column is the entry itself, filename extension or MIME type.
- The third column indicates the built-in extractor to use to process the attachment. New extractors may be provided in future versions of Retain.
- The fourth and fifth columns specify the maximum size to process, with -1 indicating no limit (this should rarely be used). The Stream Size is an upper limit on how much text is stored. The File Size limit indicates any file above this size should not be processed at all.

Note: If an extension or mime type is not listed, the indexing engine will not index the contents. For Lucene, use any appropriate extractor except the "exalead" handler. For Exalead, regardless of the extractor selected, the text extraction will be handled by Exalead. The "exalead" handler can be used to indicate items that should only be indexed by Exalead.

<input checked="" type="checkbox"/>	Extension	Item:	exalead	Stream Size:	File Size:	Add
<input checked="" type="checkbox"/>	Extension	Item: log	text	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: eml	text	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: docx	openxml	Stream Size: 2048576	File Size: 2048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: html	html	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: cfg	text	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: xml	xml	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: rtf	rtf	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: odt	ooffice	Stream Size: 2048576	File Size: 2048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: txt	text	Stream Size: 1048576	File Size: 1048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: odp	ooffice	Stream Size: 2048576	File Size: 2048576	Delete
<input checked="" type="checkbox"/>	Extension	Item: ods	ooffice	Stream Size: 2048576	File Size: 2048576	Delete
<input type="checkbox"/>	Extension	Item: doc	word	Stream Size: 2048576	File Size: 2048576	Delete
<input type="checkbox"/>	Extension	Item: pdf	exalead	Stream Size: 2048576	File Size: 2048576	Delete

Force Indexing Now

Storage

Communications	Index	Storage	Accounts	Maintenance	Logging	Miscellaneous	REST API
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Storage

The configuration database, indices, XML files, and the archive files are stored under the storage path which should be on a highly reliable storage device with plenty of disk space.

The standard storage engine places archive files under the storage path. You may change the storage path on this screen; the storage engine can be changed from the Storage Manager menu.

Storage Engine:

Base Storage path:

Advanced Settings

Encryption:

Compression:

The default storage path for your Retain archives is listed here. (See [About Storage Paths](#) and [Storage manager](#) sections.)

Retain uses a **hybrid storage system**. All message headers and metadata is stored in the database but all message text and attachments are stored as files on the file system in the location listed here (and subdirectories). This is done a little like GroupWise, where the OFFILES directory stores Binary Large Objects (anything larger than 2KB). In the case of Retain, this is transparent to the user and you may choose whether to encrypt this data. If it is stored in a location accessible **ONLY** to the Retain Server, then encryption is not strictly necessary.

Accounts

Communications	Index	Storage	Accounts	Maintenance	Logging	Miscellaneous	REST API
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Account Management

You may expire unused accounts, disable new accounts from being created automatically, and restrict some users from logging in.

Expire unused accounts after how many days (0=never):

Disable new accounts: ☐

Prohibited Logins

Address:

You may enable a password strength policy if you want to enforce strong passwords for users. Keep in mind these passwords may be overridden by individual messaging systems.

Password strength:

Must be between 5 and 15 characters in length.

Open System vs. Closed System

Normally, Retain lets all mail system 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.

Password Strength

User-created passwords may be controlled for strength. By default, Retain accepts any password set by users. To require a higher security password, select the higher level desired. Requirements for the low, medium, and high settings are defined as:

Low

Must be between 5 and 15 characters in length, with at least 0 lower case characters, at least 0 upper case characters, at least 0 numerical characters, and at least 0 special characters.

Medium

Must be between 5 and 20 characters in length, with at least 1 lower case characters, at least 1 upper case characters, at least 1 numerical characters, and at least 0 special characters.

High

Must be between 8 and 20 characters in length, with at least 2 lower case characters, at least 2 upper case characters, at least 2 numerical characters, and at least 2 special characters. . In addition the password will be checked against a dictionary.

Intruder Lockout

The screenshot shows a web form titled "Intruder Lockout" with a green header bar. Below the title, there is a descriptive text: "Enable this feature to temporarily lockout an account that may be the subject of an illegal entry attempt. You may clear lock outs using the button below, or by restarting Tomcat". The form contains several configuration options: a checkbox for "Enable Intruder Lockout?", a dropdown menu for "Number of invalid login attempts" set to 3, a dropdown menu for "Time interval (minutes)" set to 5, and a dropdown menu for "If triggered, lock account for this period (minutes)" set to 10. At the bottom of the form is a button labeled "Clear lock outs".

Accounts may be locked if multiple failed attempts are detected, according to the specified time window. This is useful to deny password cracking attempts on the server.

To enable Intruder Lockout, select the checkbox next to the 'Enable Intruder Lockout' option and save the changes. All changes will be immediate as soon as the save button is selected.

If a user has locked their account and requires immediate access to the system, all lockouts may be cleared. To clear any locked accounts, select the 'clear lock outs' button at the bottom of the page. There is no need to save changes; the clear command is immediate.

Maintenance

Maintaining a Retain system involves many tasks:

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

These items are all controlled here.

Communications	Index	Storage	Accounts	Maintenance	Logging	Miscellaneous	REST API																												
<h3>Maintenance/Caching</h3> <p>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.</p> <p>Note that with the Exalead engine, backup and optimization of the indices will always be disabled.</p> <table border="1"> <tr> <td>Enable Backup of Indices</td> <td><input checked="" type="checkbox"/></td> <td>Sunday</td> <td>weekly</td> </tr> <tr> <td>Enable Index Optimization</td> <td><input checked="" type="checkbox"/></td> <td>(every day)</td> <td>weekly</td> </tr> <tr> <td>Mail Job Report</td> <td><input checked="" type="checkbox"/></td> <td></td> <td></td> </tr> <tr> <td>Purge exported files when older than</td> <td></td> <td>12</td> <td>hours</td> </tr> <tr> <td>Run maintain procedure at</td> <td></td> <td>01 : 15</td> <td></td> </tr> <tr> <td>Last Backup of Indices</td> <td colspan="3">29-Mar-2015 01:17:10</td> </tr> <tr> <td>Last Index Optimization</td> <td colspan="3">02-Apr-2015 01:17:09</td> </tr> </table>								Enable Backup of Indices	<input checked="" type="checkbox"/>	Sunday	weekly	Enable Index Optimization	<input checked="" type="checkbox"/>	(every day)	weekly	Mail Job Report	<input checked="" type="checkbox"/>			Purge exported files when older than		12	hours	Run maintain procedure at		01 : 15		Last Backup of Indices	29-Mar-2015 01:17:10			Last Index Optimization	02-Apr-2015 01:17:09		
Enable Backup of Indices	<input checked="" type="checkbox"/>	Sunday	weekly																																
Enable Index Optimization	<input checked="" type="checkbox"/>	(every day)	weekly																																
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Run maintain procedure at		01 : 15																																	
Last Backup of Indices	29-Mar-2015 01:17:10																																		
Last Index Optimization	02-Apr-2015 01:17:09																																		
<h3>Ignore Domains</h3> <p>You might want specific Domains (and their child POs and users) to be completely ignored - not cached, not stored, etc.</p> <table border="1"> <tr> <td rowspan="10">Ignored Domains</td> <td>emaildom</td> <td rowspan="10"> <input type="button" value="Remove Selected Domain"/> </td> </tr> <tr> <td>gw5ntdom</td> </tr> <tr> <td>admdom</td> </tr> <tr> <td>cbiwebdomain</td> </tr> <tr> <td>dmsdom</td> </tr> <tr> <td>faxdom</td> </tr> <tr> <td>gw6ntdom</td> </tr> <tr> <td>outthere</td> </tr> <tr> <td>mythos</td> </tr> <tr> <td>travdom</td> </tr> <tr> <td colspan="3"> Domain <input type="text"/> <input type="button" value="Add"/> </td> </tr> </table>								Ignored Domains	emaildom	<input type="button" value="Remove Selected Domain"/>	gw5ntdom	admdom	cbiwebdomain	dmsdom	faxdom	gw6ntdom	outthere	mythos	travdom	Domain <input type="text"/> <input type="button" value="Add"/>															
Ignored Domains	emaildom	<input type="button" value="Remove Selected Domain"/>																																	
	gw5ntdom																																		
	admdom																																		
	cbiwebdomain																																		
	dmsdom																																		
	faxdom																																		
	gw6ntdom																																		
	outthere																																		
	mythos																																		
	travdom																																		
Domain <input type="text"/> <input type="button" value="Add"/>																																			

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.

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)

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

Some mail systems allow for the addition of non-system, or external domains. Sometimes, you might do this to add external domains to the mail system address book. However, the mail system 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.

Logging

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



Communications Index Storage Accounts Maintenance **Logging** Miscellaneous REST API

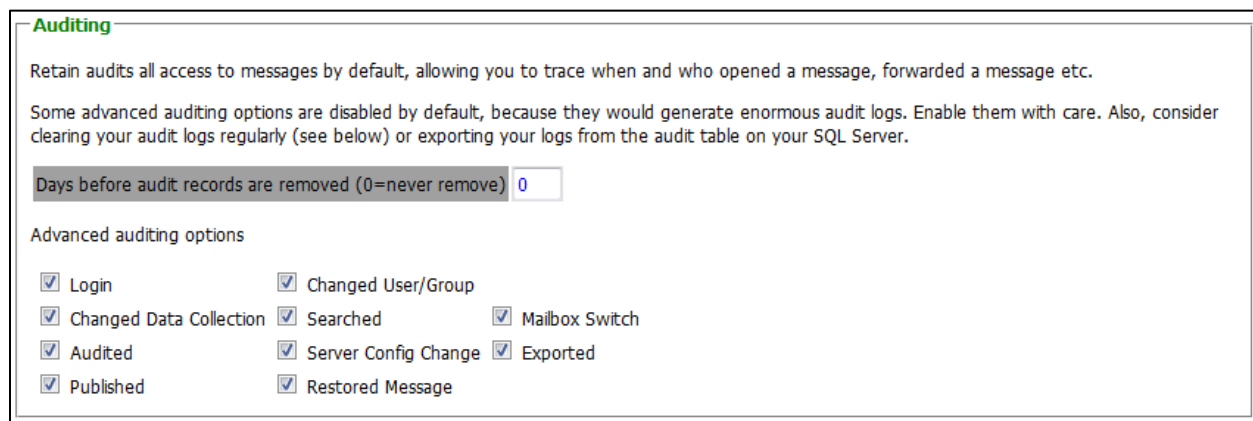
Logging

Logging enabled	<input checked="" type="checkbox"/>
Log level	Diagnostic
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.

Auditing Records

Retain now will create an auditing record of all actions, specified by the user, which are taken on a specific piece of mail. Auditing records can be removed automatically after a specified length of time. The variable is set in days. All of the options associated with this feature are found under the Server Configuration page, Logging tab.



Auditing

Retain audits all access to messages by default, allowing you to trace when and who opened a message, forwarded a message etc.

Some advanced auditing options are disabled by default, because they would generate enormous audit logs. Enable them with care. Also, consider clearing your audit logs regularly (see below) or exporting your logs from the audit table on your SQL Server.

Days before audit records are removed (0=never remove) 0

Advanced auditing options

<input checked="" type="checkbox"/> Login	<input checked="" type="checkbox"/> Changed User/Group
<input checked="" type="checkbox"/> Changed Data Collection	<input checked="" type="checkbox"/> Searched
<input checked="" type="checkbox"/> Audited	<input checked="" type="checkbox"/> Server Config Change
<input checked="" type="checkbox"/> Published	<input checked="" type="checkbox"/> Restored Message

This logging option creates very detailed logs for the options selected, and it is very important to know that if every option is turned on, the logs can become extremely large. It is highly recommended that an expiration date is set for the logs, so that they are automatically removed from the system to avoid filling up your disk space. Selecting all options for logging will also adversely affect performance. Do not select all the options at one time unless requested by Support.

Miscellaneous

Communications	Index	Storage	Accounts	Maintenance	Logging	Miscellaneous	REST API
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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.

Default Worker Password	(Password is set)
Export XML	<input type="checkbox"/>	
Server Friendly Name	RetainServer	
Restrict Global Tag application to users with rights	<input checked="" type="checkbox"/>	

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.

Export XML

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.

REST API

Communications
Index
Storage
Accounts
Maintenance
Logging
Miscellaneous
REST API

REST API

The Retain REST API allows external applications to interact with the archive. In order to enable the API, a base API license is required. Additionally, an application license is required for each application that requires access to the API.

License Summary

Global Settings

API Enabled	True
Maximum read requests per minute	600
Maximum write requests per minute	600
Maximum read requests per application per minute	600
Maximum write requests per application per minute	600
Maximum read requests per user per minute	600

Application Settings

Application	BBM Protected Development License
Enabled	True
Application Key	cd9abe4d-aad7-48bf-8cc2-dda51d6d9935
Maximum read requests per minute	600
Maximum write requests per minute	600
Capabilities	Manage, Read, Search, Insert

Submit License

Browse... No file selected.

Submit License

The Rest API is an interface built into Retain which allows third-party applications input data into the Retain archive. This API was developed to open new horizons to the Retain Archive for any application which conforms to the API requirements. Due to the access the API grants to applications, access to the API is limited by an additional API license file for each application which contains credentials and access rights. In order for a third party application to utilize the Rest API, the application must have a credentialed key provided by GWAVA Inc.

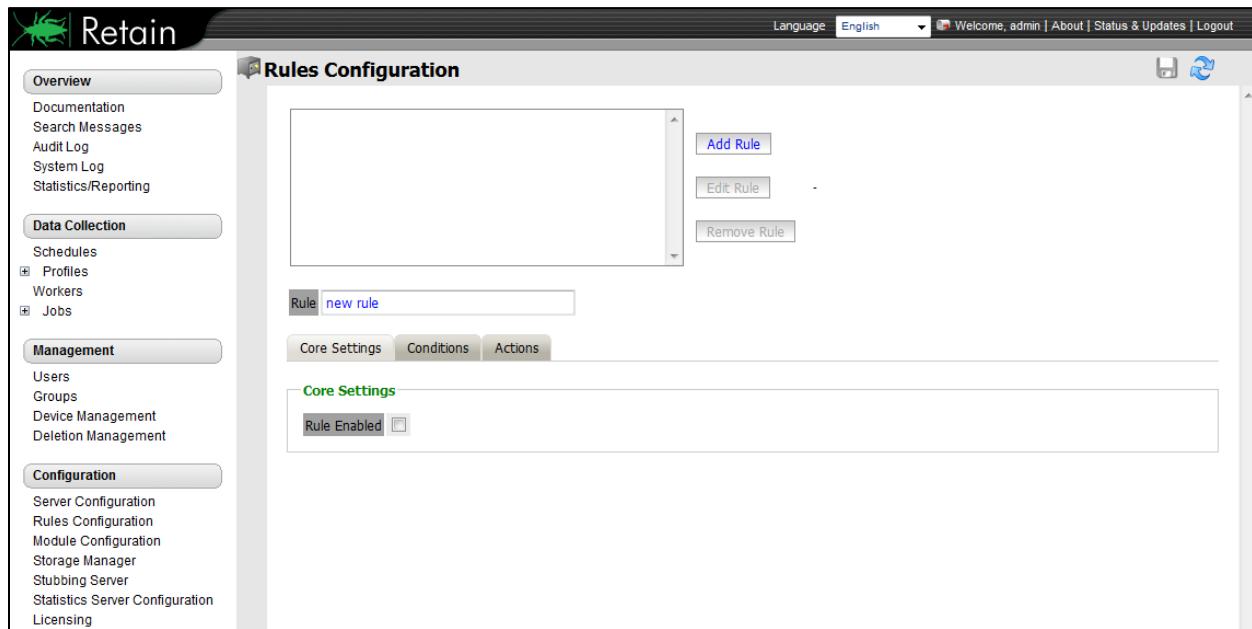
The REST API is an input protocol only. For Archive security, the API prohibits migrating data out of the Retain Archive. There are also limits placed in each applications API license file to protect the integrity of the data being input into the archive, based on the application.

To gain a credentialed key for a third party application, contact a GWAVA sales representative. Use of the REST API will require a REST API base license, and an application specific license for each desired application.

Rules Configuration

Rules for Retain is a way for administrators to automate tasks and administration based on criteria. This means that any message containing items or information specified in the criteria to have the described action applied automatically. A rule must be enabled, have at least one condition, and one action defined before a rule comes into effect.

To create a rule, select the 'add rule' button and name the rule. To make the rule active, select 'Rule Enabled'.

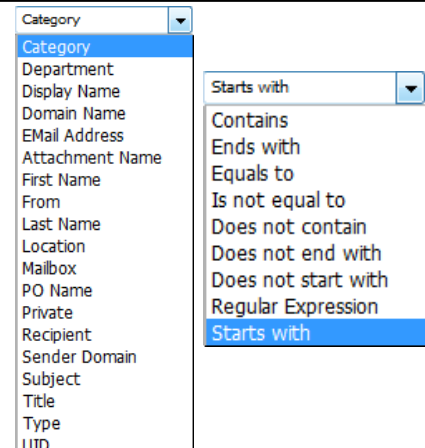
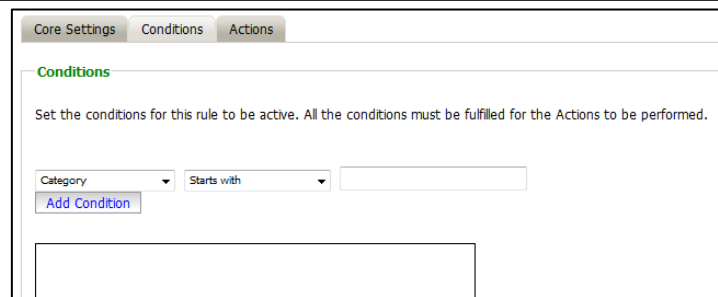


Conditions

The conditions are the criteria which determine whether the action is applied to message data or not.

Criteria is entered in plain text or in regular expression, and are separated into categories. Select the category that the criteria is to be restricted to, from the menu.

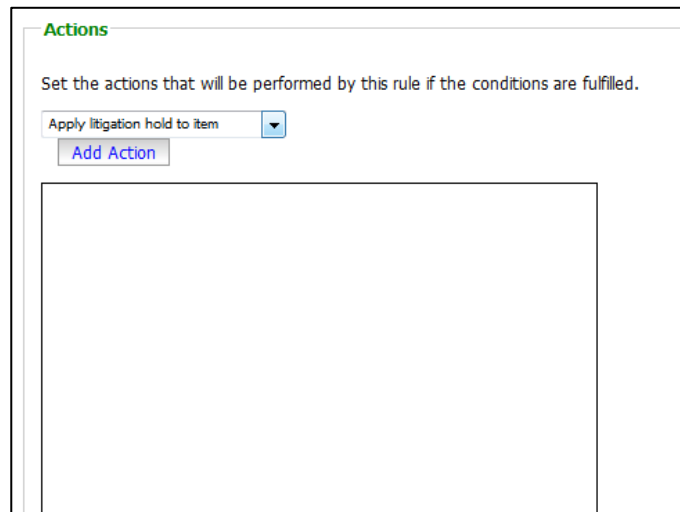
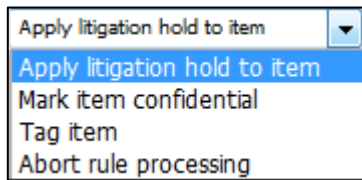
Once a category has been selected, the criteria to be applied to that needs to be specified. The 'Starts with' menu further defines the criteria. The 'Starts with' menu also allows the administrator to either relax some constraints by selecting a vague entry like 'Contains' or 'Starts with', or specify the criteria with 'Regular Expression'. Select the appropriate limiter and then select the 'Add Condition' button. Multiple conditions may be added. Make sure to save changes before leaving the page.



Actions

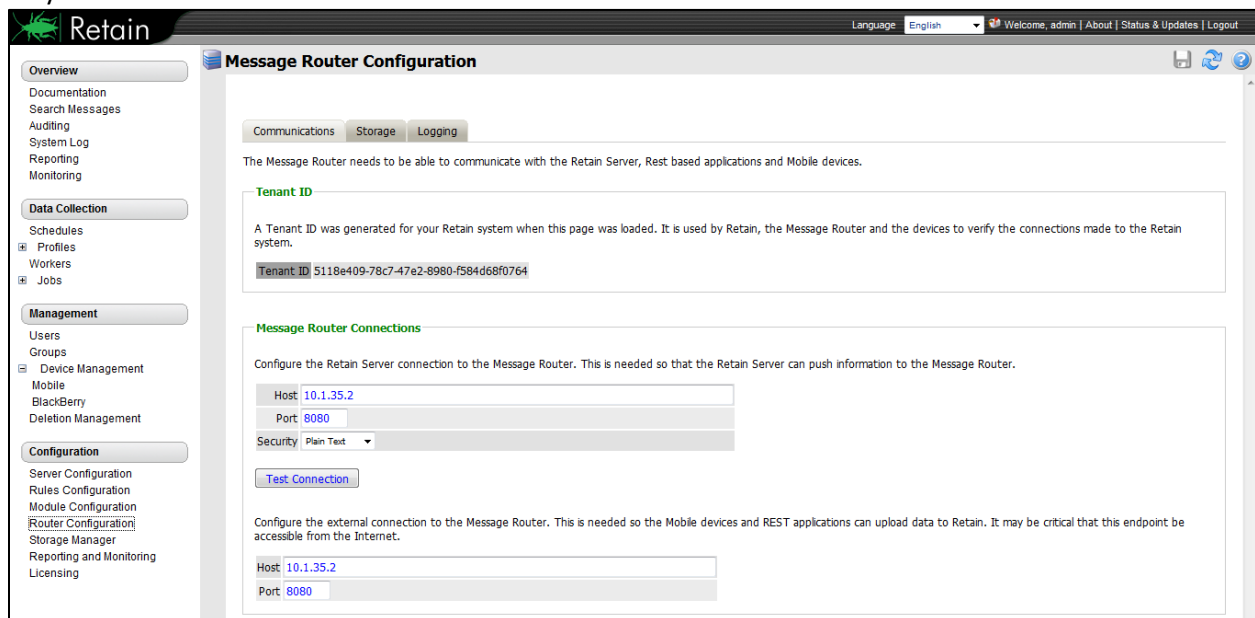
The actions tab defines which actions are to be taken. There are four different options to choose from.

All four actions may be applied to any one rule. Once the desired actions are applied to a rule, save changes before leaving the page.



Router Configuration

Configuration for the Message Router may be changed or checked on this page. The Router is used in conjunction with the mobile module, the BBM module integration, and any other REST API integrations. In contrast with the Retain Server, the Router is best placed in a network's DMZ zone, enabling it to be fully accessible to communication from the internet as well as the network.



The Router's communication settings and port for both the Retain Server and the internet is kept here. The connection address should be the address of the Retain Router from the Server. Test the connection to ensure success. The external address and port of the Router may also be configured here. The external port and address are required to be open to the internet to allow the mobile module or external REST API connections to send desired data to the Retain archive.

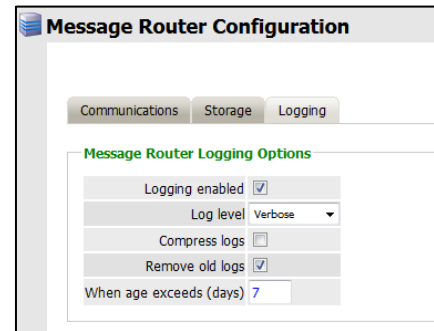
Storage

The storage tab contains the path to the temporary storage location local to the REST Router. The storage is used by the REST Router to store data for a few seconds before it is sent on to the Retain Server. In the event of a failure to access the Retain Server, the REST Router will house the data until the Server is accessed. This storage area is not required to be large, and a few gigabytes is more than sufficient.



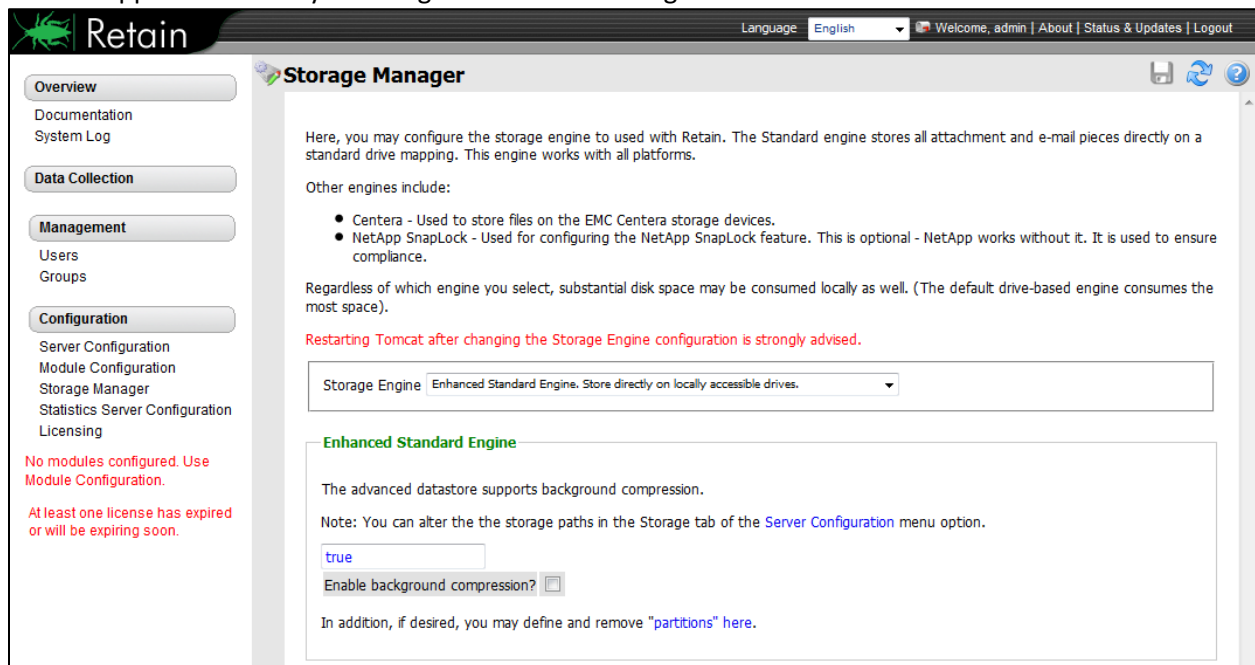
Logging

The logging tab contains settings to enable logging, dictate the logging level of the Router, and settings to purge old logs from the system after a specified age.



Storage Manager / 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.

The other three options are:

Legacy Engine
Centera Storage Device
NetApp SnapLock

Enhanced Standard Engine

The Enhanced standard storage engine is the standard storage option which should be selected for all new installations of Retain. The storage engine utilizes locally accessible drives and media. When selecting this option, make sure that storage requirements will be easily met, size or capacity increased, and managed.

The enhanced engine also allows for background compression to be used. Background compression is recommended for social media and mobile modules, to help keep the size of the data store down.

Legacy Engine

The legacy engine works as a seamless connection to the 2.x line of Retain, and is available as a bridge for upgraded devices and legacy support systems.

Centera Storage Device

The Centera Storage option simply requires you to put the storage server IP address or DNS name, and the authentication method.

Centera

Server Connectivity Settings

Note: The hostname/ip may be suffixed with a :port entry, and you may enter more than one hostname. For example, mycenterbox.com:4256,152.62.65.11,152.62.65.12?name=2profile3,secret=2profile3 is a valid entry. At least one hostname must be entered.

Centera Server/IP

Server Access settings

With Centera devices, you have three options for authentication:

- Anonymous, which requires no password, but is insecure.
- Credentialed, in which you supply a traditional username and password.
- PEA, in which you supply a file system path accessible by Retain of the PEA file you encrypted to provide authentication information. A good place to put this is in the license directory, (/var/opt/beginfinite/retain/license).

Authentication Method Anonymous

The different Authentication options are PEA and Credentialed. The PEA requires the full path to the PEA file. For a credentialed authentication, simply input the username and the password for the Centera server.

Authentication Method PEA

PEA Path (full path)

Authentication Method Credentialed

User

Password

NetApp SnapLock

NetApp is fully supported with SnapLock for storage. Note the information in the option. To enforce WORM rules you MUST set the [Job Expiration](#) feature. Also set the IP address, username, password, and the correct path to the server. THE PATH MUST BE SET IN NETAPP FORMAT.

NetApp SnapLock

SnapLock settings

If you enable SnapLock, then as items are stored on the NetApp appliance with a Job specifying an expiry date, their retention date is set according to your Job options. This effectively enforces WORM rules. You may use NetApp without this setting, if preferred, in which case none of the parameters on this screen need to be filled out.

A note about the path requested below: it is not a Linux, Windows, or UNC path. There is no definite correlation for example between this path and a share path. It uses the NetApp format, and must point to the directory containing all of the Retain blob files. Consult your NetApp Technical Support for more information on this or on enabling SnapLock.

Enable SnapLock?	No <input type="button" value="v"/>
NetApp Server/IP	<input type="text"/>
Port	<input type="text" value="80"/>
Admin User	<input type="text"/>
Admin Password	<input type="password"/>
Base path to archive directory (example: /vol/myvolname/archive)	<input type="text"/>

Partitions

Retain also supports the ability to define a different storage location, through the partitioning option. **Partitioning is only available when Storage is set to the 'local' drive.** To access the partitions option click on “partitions” in the Enhanced or Standard Engine window. 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)

Partitions DS

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: /opt/archive/2012

Begin Date	Name	Path	Delete
02-Aug-2012 22:25:43	first partition	/opt/archive/2012	Delete

You may add a partition below. Just enter a name and the full path to the directory to store blobs under.

New Partition Name

New Partition Path

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.* **When adding a Partition on Linux, the path needs to be created manually on the Linux Server before specifying the path within Retain. Ensure that the permissions for the new path are given to Tomcat.**

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

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 first consulting support.**

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.

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

There are no partitions defined currently. All blobs will be stored to the default storage path configured in Server Configuration.

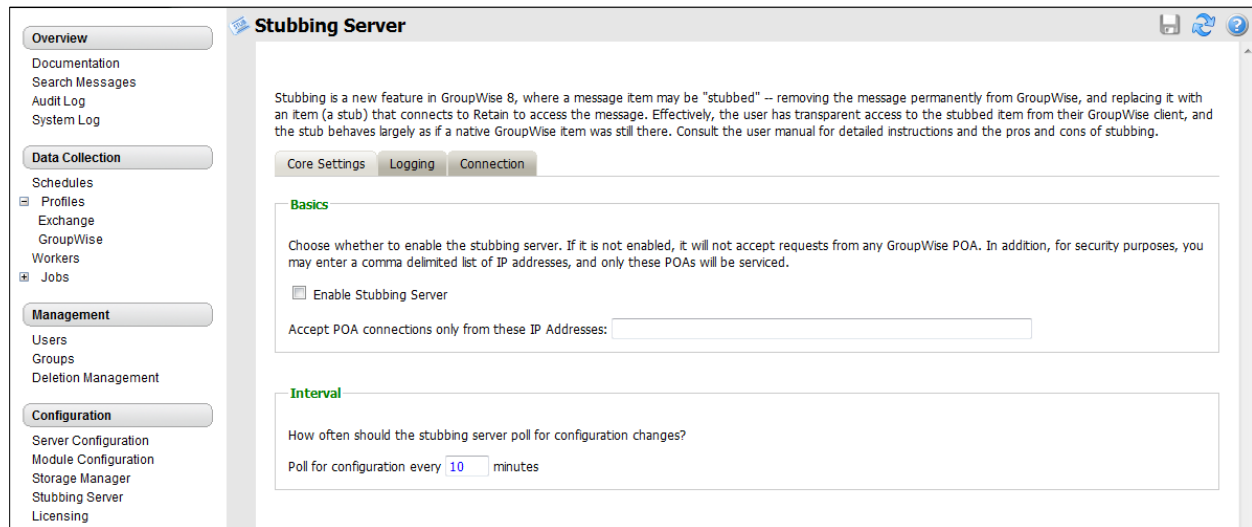
You may add a partition below. Just enter a name and the full path to the directory to store blobs under.

New Partition Name

New Partition Path

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)

Stubbing Server



To set up stubbing, you must perform the following tasks:

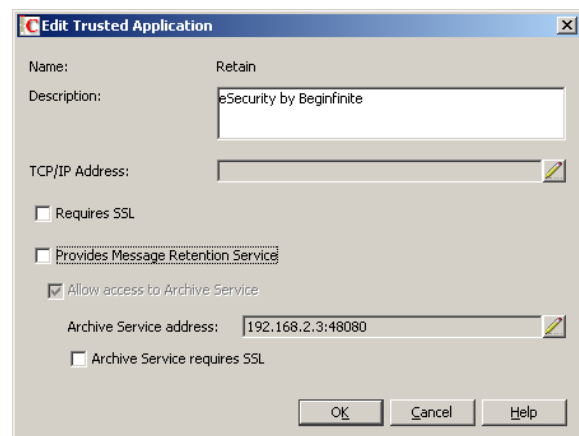
1. You **must** be running GroupWise 8.0HP1 Post Office Agent(s). **Once enabled, the stubbing process cannot be reversed. Stubbing requires GroupWise 8.0HP1. Previous versions of GroupWise do not contain critical stability fixes.**
2. ConsoleOne must be configured as discussed below.
3. Retain job profiles must have Stubbing turned on. (see the [Profiles section](#))
4. Stubbing server must be installed and setup as discussed below. (For install see your platform install guide.)

ConsoleOne GroupWise settings

For the Retain Server to function, GroupWise must be told where the Stub Server is located.

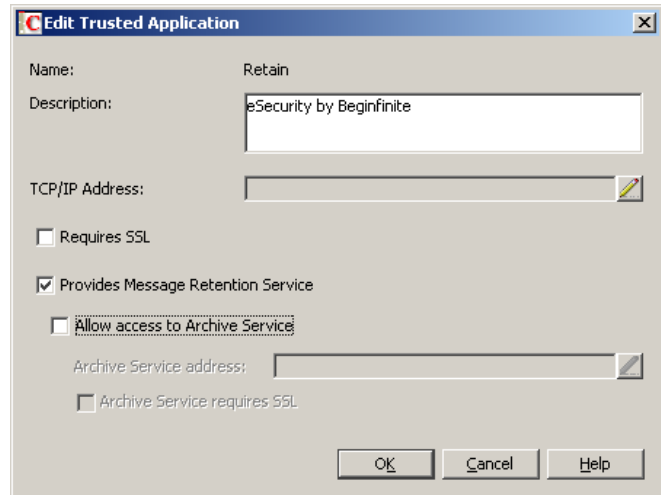
In ConsoleOne;

- Connect to the domain and highlight the domain or GroupWise system.
- Select Tools | GroupWise System Operations | Trusted Applications
- Select Retain and click Edit.
- Select “Allow Access to Archive Server”



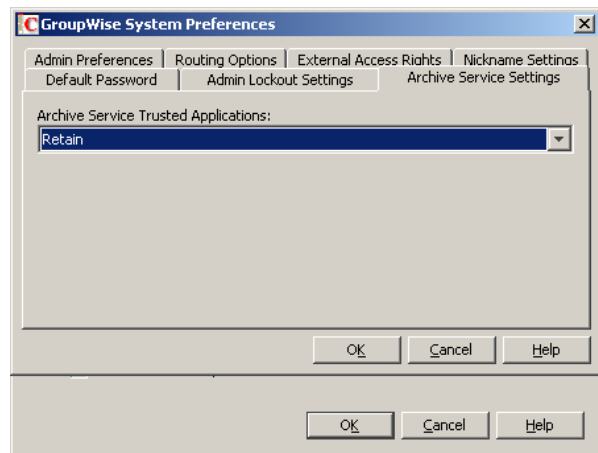
- Put the address or DNS name of the Stub Server and the correct port as shown. (48080)
- Click OK and exit the rest of the windows.

Your settings should look the same as the settings pictured here with your specific DNS or IP address for the Stub Server.



We also need to change the settings in the preferences menu:

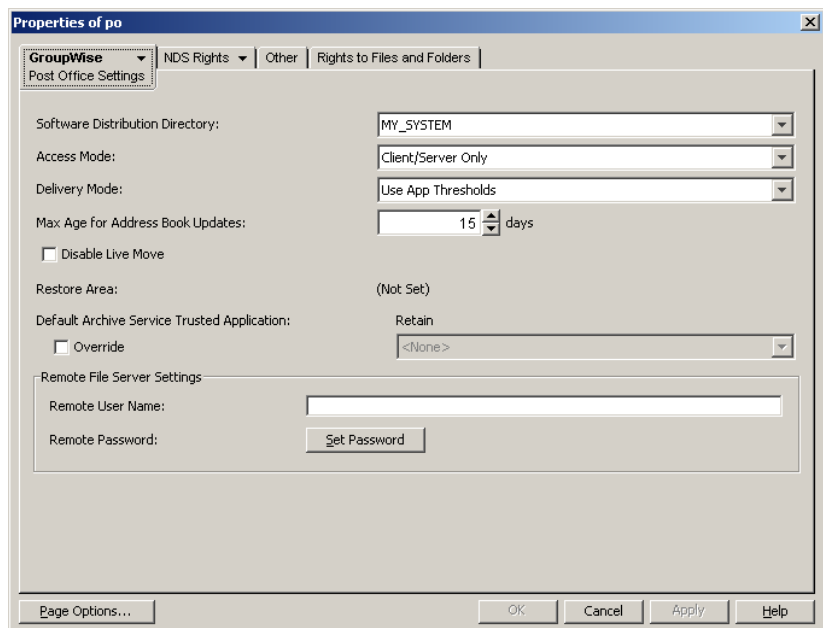
- Connect to the domain and highlight the domain or GroupWise system.
- Select Tools | GroupWise System Operations | System Preferences...
- Ensure that Retain is set under the Archive Service Settings as a trusted Application. Select it if it is not already selected.



Set the Post Office Remote File Server Settings.

Enter the properties of the Post office. The settings should look as they do here.

Retain should be listed as the Default Archive Service Trusted Application. If it is not set as the default, override and select Retain.



Retain Stubbing Settings

Job profiles must have Stubbing enabled for the Server to function. See the [Profiles section](#) for details. The Stub Server must first be enabled in order to allow access to the bootstrap file required for communications. Set the interval as desired. (10 min. is lowest recommended setting. Anything lower may be unnecessary.)

The screenshot shows the 'Retain Stubbing Settings' window with tabs for 'Core Settings', 'Logging', 'Connection', and 'Bootstrap'. The 'Basics' section contains the following text: 'Choose whether to enable the stubbing server. If it is not enabled, it will not accept requests from any GroupWise POA. In addition, for security purposes, you may enter a comma delimited list of IP addresses, and only these POAs will be serviced.' Below this is a checked checkbox for 'Enable Stubbing Server?' and a text input field for 'Accept POA connections only from these IP Addresses:'. The 'Interval' section contains the text 'How often should the stubbing server poll for configuration changes?' and a text input field set to '10' minutes for 'Poll for configuration every'.

If you wish to restrict connections to the Stub Server, input the IP address(es) of all the Post Offices that the Stub Server will service. Use commas to separate multiple addresses. Save changes before continuing.

Logging

Log levels higher than Normal are not necessary unless troubleshooting or working with Support. It is strongly recommended to compress and remove logs after a time period to protect system space. Set time to desired level.

The screenshot shows the 'Logging Options' section of the configuration window. It includes a table with the following settings: 'Logging Enabled' (checked), 'Log level' (Normal), 'Compress logs' (checked), 'Remove old logs' (checked), and 'When age exceeds (days)' (10).

Connection

The connection to the Retain Server is very important. This must be set to the address of the Retain Server, and is automatically filled out for you. Verify that the Retain Server is located at the specified address and is accessible. Generally you may leave this section default as the Stub Server should be installed local to the Retain Server. If your Retain Server IP address is assigned by DHCP, change the Host Name to the DNS name or localhost (127.0.0.1).

The screenshot shows the 'Retain Server Connection' section of the configuration window. It includes the following text: 'The Stubbing Server 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 **Stubbing Server contacting the Retain Server**, which may or may not match the URL you'd use from your browser to reach the Stubbing Server or Retain Server.' Below this is a table with the following settings: 'Server Protocol' (http), 'Retain Server Host Name' (64.34.151.106), 'Retain Server Port' (48080), 'Retain Server Path' (/RetainServer), and 'Stubbing Server Password' (masked with dots). A note at the bottom states: 'Note: Changing any of these parameters will require recopying the stubbing server bootstrap file!'

When you have finished configuring the Stub Server, Save your changes and select the Bootstrap tab. (The bootstrap tab will not be available unless the Stubbing Server has been enabled and settings saved.)



Download and save the bootstrap file.

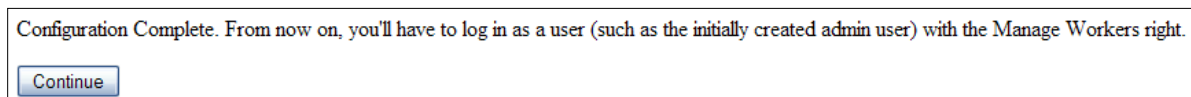
Open a new browser tab or window, and browse to the Stub Server. The Stub Server answers to the following address (The address is case sensitive):

http://<IP address of StubServer>:48080/RetainStubServer

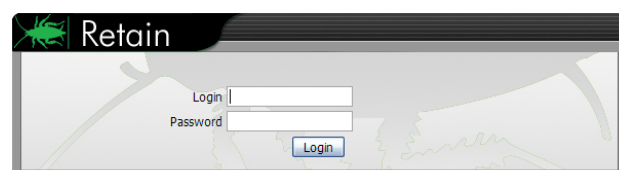
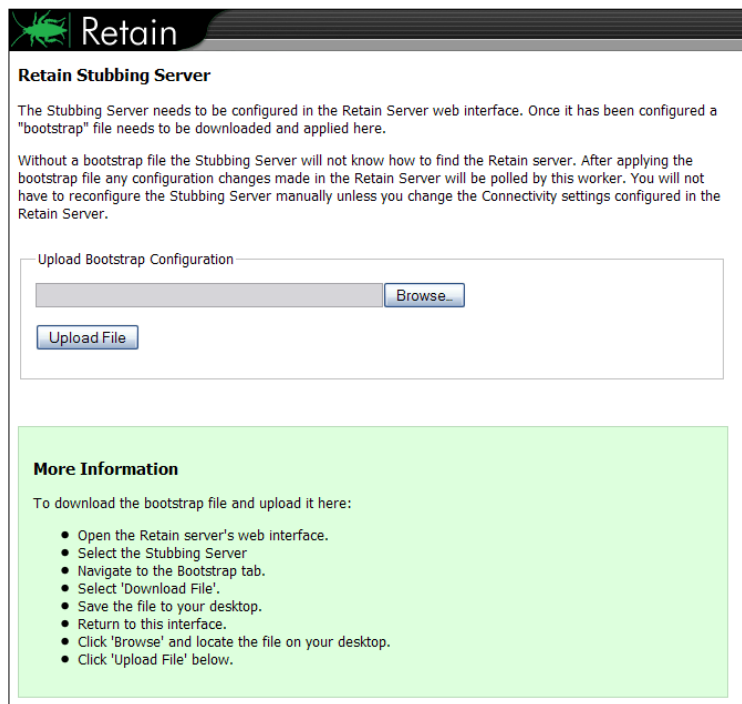
You should see a window like the one pictured here.

- Click 'Browse' and browse to the location where you saved the bootstrap file.
- Select the "StubConfig.cfg" file and select 'Open'.
- Select the 'Upload File' button.

After uploading the configuration file, the Stub Server will alert you that it requires authentication from a user with the "Manage Workers" right. Click 'Continue'.



We can now Login to the Stub Server. You must Login with a user that has sufficient rights. See the [User Rights](#) section to add or remove rights.



The Stub Server Interface is nearly identical to the Worker interface. You may check for updated versions of the Stub Server or manually trigger server polling by selecting the Refresh 'Configuration now' button.

The screenshot shows the 'Retain' web interface with the 'Configuration' tab selected. The 'Stub Server Configuration' section displays the following information:

- URI to Server: <http://192.168.0.101:48080/RetainServer/>
- Stub Server Version: 1.7.0
- Memory Free/Max/Total: 233775/1040512/260224

Below the configuration details are two buttons: 'Check for New Version' and 'Refresh Configuration now'. A note below the buttons states: 'Click "Refresh Configuration now" to prompt the Stubbing Server to poll for configuration changes right now.' At the bottom, a paragraph reads: 'Bootstrap information has been applied to this server. If the configuration must be changed in the future, replace the configuration file at /opt/beginfinite/retain/RetainStubServer/WEB-INF/cfg/ and restart the Stubbing Server.'

Check the **Server Connection** tab to verify the connection to the Server.

The screenshot shows the 'Retain' web interface with the 'Server Connection' tab selected. The 'Server Connection' section displays the message: 'Successfully connected to Retain server' in green text.

Status

The Status tab gives statistics about up-time and function.

The screenshot shows the 'Retain' web interface with the 'Status' tab selected. The 'Status 4' section displays a table with the following data:

Up since	Fri Nov 21 08:45:19 MST 2008
Successful Logins	0
Failed Logins	0
Message Served	0
Attachments Served	0
Communication Errors (POA)	0
Communication Errors (Retain)	0
Cached Sessions	0
Max Sessions	0
Expired Sessions	0

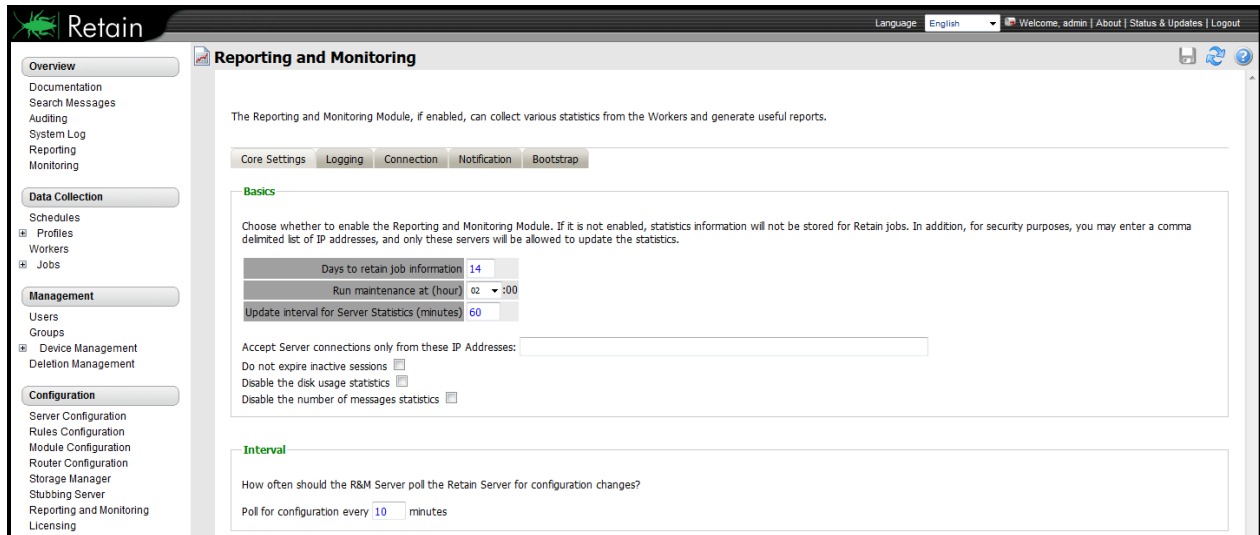
Scheduler

The scheduler tab contains the configuration details sent by the Server this tab is mainly used for Support.

The screenshot shows the 'Retain' web interface with the 'Scheduler' tab selected. The 'Scheduler Status' section displays the text: 'To see advanced information regarding the thread scheduler, click [here](#).'

Reporting and Monitoring Configuration

Retain comes equipped with a separate Reporting and monitoring server. Reporting and Monitoring may be installed on the same or a different physical or virtual machine as the Retain Server.



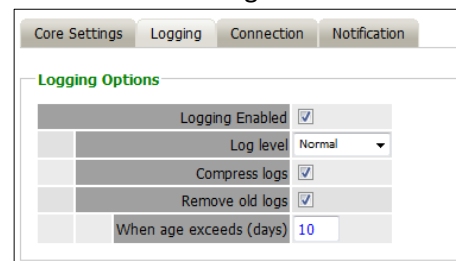
Reporting and Monitoring functions much like the Retain Worker in that it is installed as a separate entity and requires connection information from the Retain Server. Additional security is provided through the option to specify exactly which IP address(es) the Retain Server will allow a connection from. Separate with commas the IP addresses allowed if more than one. No mail data is transferred through this connection, only server statistic information.

The Core Settings, Logging, Connection and Notification sections of Reporting and Monitoring configuration work identically to the Worker connection settings, and should be filled-out accordingly. Most server implementations will require little to no modification to these settings save the notification tab. Limiting the server connections to specified IP Addresses limits which machines have access to the Reporting and Monitoring module. Separate multiple addresses with a comma.

Putting a checkmark in the 'Do not expire inactive sessions' will allow sessions with the R&M module to never expire. This is useful in conjunction with the 'monitoring' page.

Selecting the 'Disable the disk usage statistics' box will disables the 'archive size' from server utilization report. Selecting 'Disable the number of messages statistics' disables the 'total messages stored' on the Reporting and Monitoring dashboard. These options are for systems which encounter a bottle-neck which impacts system performance with these checks.

Set the logging level to the desired setting. Leaving the logging as default 'normal' is recommended unless instructed to increase the logging level by Support.



Core Settings

Logging

Connection

Notification

Bootstrap

Connection from R&M Server to Retain Server

The R&M Server 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 **R&M Server contacting the Retain Server**, which may or may not match the URL you'd use from your browser to reach the R&M Server or Retain Server.

Server Protocol	http
Retain Server Host Name	10.1.12.59
Retain Server Port	80
Retain Server Path	/RetainServer/
R&M Server Password (Password is set)

Note: Changing any of these parameters will require recopying the R&M Server bootstrap file!

Connection from Retain Server to R&M Server

The Retain Server will need to know how to connect to the R&M 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 **Retain Server contacting the R&M Server**, which may or may not match the URL you'd use from your browser to reach the R&M Server or Retain Server.

Server Protocol	http
Retain Server Host Name	10.1.12.59
Retain Server Port	80
Retain Server Path	/RetainStatsServer/

The Connection between Reporting and Monitoring, and the Retain Server should not be changed unless the Retain Server requires a modified connection path, (such as a custom port.)

The R&M server is different from the Retain Worker in that the Retain Server is able to contact the R&M server as well. The connection address to R&M should not be modified unless custom connection settings have been created.

Core Settings

Logging

Connection

Notification

Bootstrap

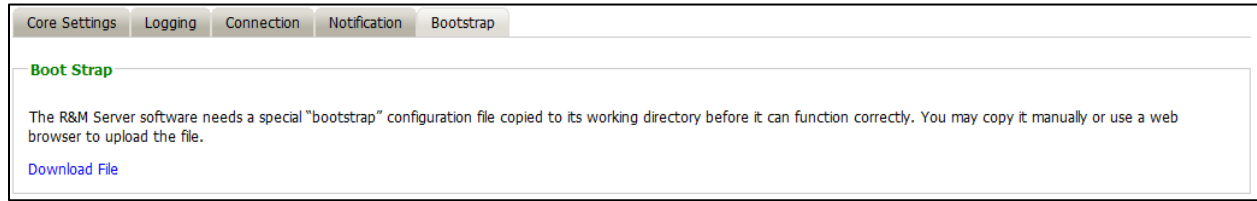
Notification

You can have the R&M Server e-mail a summary of operations and/or errors that occur while the R&M Server runs.

SMTP Mail Server	mail.qa.gwava.com
SMTP Mail From Address	Retain34@qa.gwava.com
SMTP To Address	softwareqa@gwava.com
SMTP Username	
SMTP Password	(Password is not set)

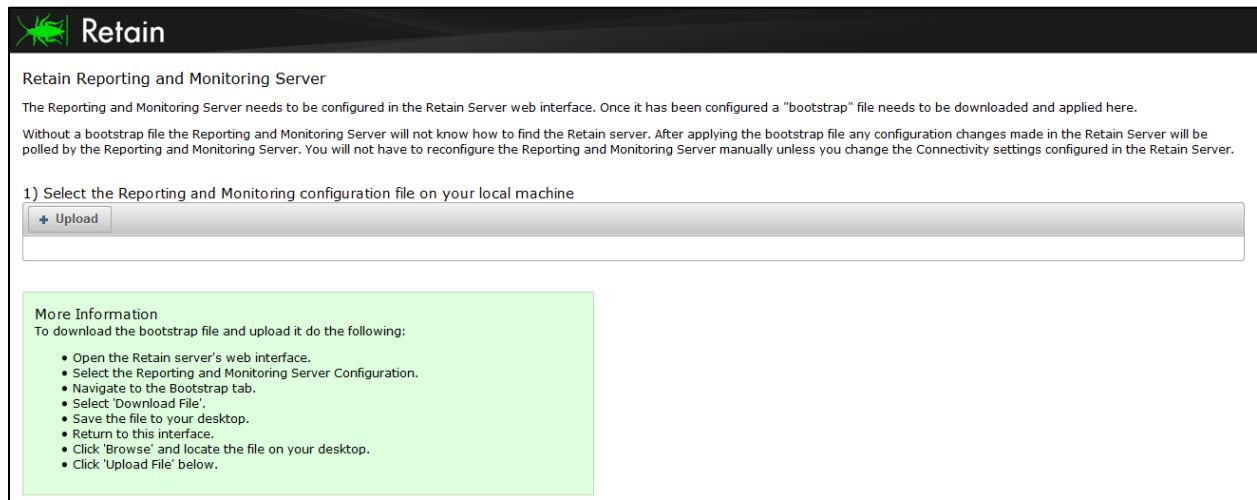
Test Connection

Notification defaults to the standard notification address specified in the Retain Server activation and initial configuration. If the notification is desired to be different, modify the settings here. Make sure to test the connection to ensure proper function.



Like the Retain Worker, the R&M server must be uploaded a saved configuration or 'bootstrap' file. To access this tab, the configuration must be saved first. Then the bootstrap tab will become available. Download the file to a known location and then browse to the R&M server webpage. The default connection address is shown on the connection tab.

ie. <http://<ip address of server/RetainStatsServer>



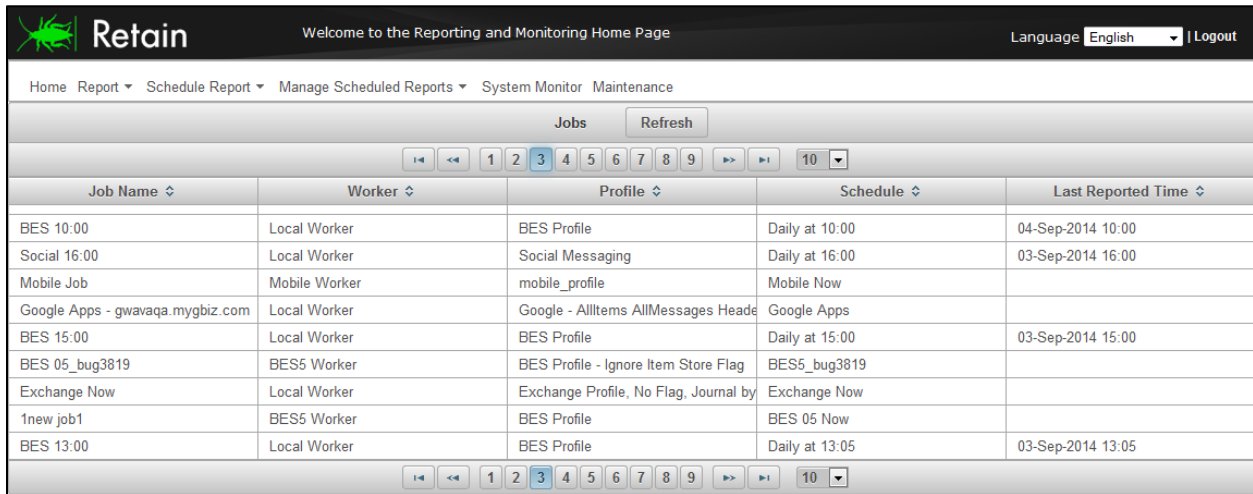
From the R&M initial webpage, click on the "Browse" button and browse to the saved bootstrap file and select it.

Click 'Continue' to upload the bootstrap file. As the bootstrap file is uploaded, R&M functions will become available. **Only users with the administrative "Access Reporting and Monitoring Server" right will be able to login to the stat server.**

To log into the R&M server, select the 'Reporting' or 'Monitoring' links from the Retain Server left menu to spawn a new tab or page to the R&M module.

Home

On login, Reporting and Monitoring opens to the Home page. The Home page is also accessible through the 'Home' button along the top bar. The R&M server has different page links and menus across the top of the menu bar, accessing different functionality. The R&M server has many tables and columns displaying a large amount of information. To make this information more accessible, every column has been made sortable. To sort the columns, simply click on them. They may be sorted to show the highest number first, lowest number first, or not sorted at all.



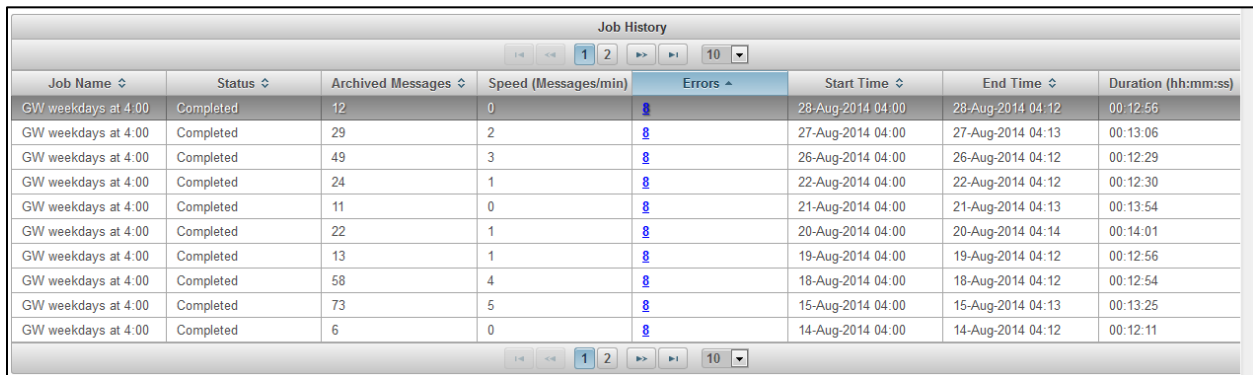
Retain Welcome to the Reporting and Monitoring Home Page Language English | Logout

Home Report Schedule Report Manage Scheduled Reports System Monitor Maintenance

Jobs Refresh

Job Name	Worker	Profile	Schedule	Last Reported Time
BES 10:00	Local Worker	BES Profile	Daily at 10:00	04-Sep-2014 10:00
Social 16:00	Local Worker	Social Messaging	Daily at 16:00	03-Sep-2014 16:00
Mobile Job	Mobile Worker	mobile_profile	Mobile Now	
Google Apps - gwavaqa.mygbiz.com	Local Worker	Google - AllItems AllMessages Heade	Google Apps	
BES 15:00	Local Worker	BES Profile	Daily at 15:00	03-Sep-2014 15:00
BES 05_bug3819	BES5 Worker	BES Profile - Ignore Item Store Flag	BES5_bug3819	
Exchange Now	Local Worker	Exchange Profile, No Flag, Journal by	Exchange Now	
1new job1	BES5 Worker	BES Profile	BES 05 Now	
BES 13:00	Local Worker	BES Profile	Daily at 13:05	03-Sep-2014 13:05

The Home page list the different jobs, associated workers, profiles, schedules, and last reported run times configured for the system. These jobs can be selected to display the job history and detailed information for each instance of when that job was run.



Job History

Job Name	Status	Archived Messages	Speed (Messages/min)	Errors	Start Time	End Time	Duration (hh:mm:ss)
GW weekdays at 4:00	Completed	12	0	8	28-Aug-2014 04:00	28-Aug-2014 04:12	00:12:56
GW weekdays at 4:00	Completed	29	2	8	27-Aug-2014 04:00	27-Aug-2014 04:13	00:13:06
GW weekdays at 4:00	Completed	49	3	8	26-Aug-2014 04:00	26-Aug-2014 04:12	00:12:29
GW weekdays at 4:00	Completed	24	1	8	22-Aug-2014 04:00	22-Aug-2014 04:12	00:12:30
GW weekdays at 4:00	Completed	11	0	8	21-Aug-2014 04:00	21-Aug-2014 04:13	00:13:54
GW weekdays at 4:00	Completed	22	1	8	20-Aug-2014 04:00	20-Aug-2014 04:14	00:14:01
GW weekdays at 4:00	Completed	13	1	8	19-Aug-2014 04:00	19-Aug-2014 04:12	00:12:56
GW weekdays at 4:00	Completed	58	4	8	18-Aug-2014 04:00	18-Aug-2014 04:12	00:12:54
GW weekdays at 4:00	Completed	73	5	8	15-Aug-2014 04:00	15-Aug-2014 04:13	00:13:25
GW weekdays at 4:00	Completed	6	0	8	14-Aug-2014 04:00	14-Aug-2014 04:12	00:12:11

Further selection of a listed job instance will display details for that selected run of the selected job. If an error exists on any job, it will show up as a linked number under the error column. Errors reported here are linked to information on the error which has occurred.

A selected error will spawn a new window which displays the error and any applicable information, such as any associated files or error code numbers, a quick description (if a Retain error), the severity level, how often it has occurred, and in how many different mailboxes it has occurred.

Retain Welcome to the Reporting and Monitoring Home Page Language English Logout					
Home Report ▾ Schedule Report ▾ Manage scheduled reports ▾ System Monitor Maintenance					
Error Summary for Job Run 30					
Error ▾	Description ▾	Severity ▾	Job Run Occurrences ▾	Mailbox Occurrences ▾	Last Occurrence ▾
java.io.IOException: GWPOA HTTP server returned http error (gw error): 400(0xC081) , Code: c081, Attachment: Windows Installation.pdf		Normal	4	4	28-Aug-2014 18:37

The last error encountered in a job is also displayed in the Job details window. Select a column header to sort as desired. The Errors column shown below has been sorted to show the highest number of errors first.

Job Details			
Job Name	GW weekdays at 4:00	Status	Completed
Worker	Local Worker	Duration (hh:mm:ss)	00:12:56
Start Time	28-Aug-2014 04:00	End Time	28-Aug-2014 04:12
Mailboxes Processed	212	Archived Messages	12
Messages Processed	255	Message Data Stored	0MB
Last PO Scanned	gw_po	Last Mailbox Scanned	mkures
Errors	8	Last Error	java.io.IOException: GWPOA HTTP server returned http error (gw error): 400(0xC081) , Code: c081, Attachment: Windows Installation.pdf

Job Mailbox Summary								
<div> <div>1 2 3 4 5 6 7 8 9 10</div> <div>10</div> </div>								
Mailbox ▾	Messages Processed	Archived Messages	Errors ▾	Warnings ▾	Advanced Date Flag	Start Time ▾	End Time ▾	Duration (hh:mm:ss)
SeeZeroEightOne(LXF)	1	0	1	1		28-Aug-2014 04:10	28-Aug-2014 04:10	00:00:01
SeeZeroEightOne(LXF)	1	0	1	1		28-Aug-2014 04:06	28-Aug-2014 04:06	00:00:01
noDefSig(LXPO)	1	0	0	0	Item Store Flag (04-Aug-2014 14:12), Retention Flag (04-Aug-2014 14:12), Last Archived Flag (04-Aug-2014 14:12)	28-Aug-2014 04:12	28-Aug-2014 04:12	00:00:01

Report and Schedule Report

Report and Schedule Report functions are accessed through drop-down menus in the interface. To access the different reports, select the 'Report' or 'Schedule Report' menus from the top menu and then click on the desired report. Most reports which are accessible through the 'Report' menu are also available as a 'Scheduled Report', except for 'Job Run Summary, and 'Job Run Mailbox Summary'. All reports under the 'Report' menu except 'Job Run Summary and Job Run Mailbox Summary, can be scheduled and have a 'Schedule' button at the bottom of the delivered HTML report. Selecting this button copies the settings used to generate the visible report to the Schedule Report interface. This convenience is designed to allow rapid fine-tuning of reports to deliver the desired information. First select the report you wish to run, and then fine-tune the report until it reaches the desired effect. Once the desired settings have been achieved, select the 'Schedule' button from the bottom of the report to carry all settings into the corresponding 'Schedule Report' interface, and schedule the report.

Schedule Report ▾	Report ▾
Audit User Activity	Audit User Activity
Export Audit Table	Export Audit Table
Job Run Averages	Job Run Averages
Job Summary	Job Run Summary
Archive Summary by User	Job Summary
Server Utilization	Archive Summary by User
Job Mailbox Summary	Server Utilization
	Job Run Mailbox Summary
	Job Mailbox Summary

Reports differ from Scheduled reports in more than immediate delivery, reports support HTML in addition to PDF and XLS delivery formats. However, both report structures may be emailed to a desired

recipient. When a report is created and emailed it is formatted as selected and then attached to a message which is sent to the desired recipient. When the Email delivery option is selected, additional configuration is required. The R&M module needs to know not only what address to send the report to and what mail server to use, but also allows the configuration of the email subject and sender address. If an SMTP username and password are required for the desired host system, they should be provided.

The R&M module will automatically copy the SMTP configuration from the Retain Server. If this information is not correct, it should be configured here before selecting the 'Generate' button.

Deliver Report In	Email
Email Details:	
Mail Server Hostname/IP	mail.qa.gwava.com
Sender Email Address	Retain34@qa.gwava.com
Recipient Email Address(es)	softwareqa@gwava.com
Email Subject	Audit User Activity
SMTP Username (Optional)	
SMTP Password (Optional)	
<input type="button" value="Generate"/>	

This configuration is the same interface for all emailed reports, immediate and scheduled.

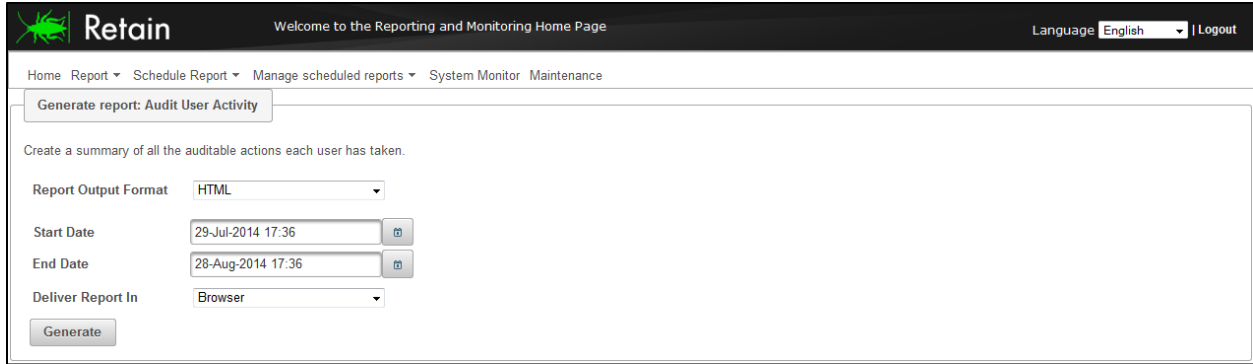
Reports

The screenshot shows the 'Report' dropdown menu open, displaying the following options: Audit User Activity, Export Audit Table, Job Run Averages, Job Run Summary, Job Summary, Archive Summary by User, Server Utilization, Job Run Mailbox Summary, and Job Mailbox Summary. The background interface includes navigation links (Home, Report, Schedule Report, System Monitor, Maintenance) and input fields for Start Date (2014 05:45), End Date (2014 05:45), and Delivery Method (Email).

Reports may be created in HTML, PDF, or XLS, and may be delivered straight to the Browser or in a specified email. Different reports have different settings, however the basics are the same; select or specify the desired criteria, specify the format and delivery method, then click on the "Generate" button to create the report.

Audit User Activity

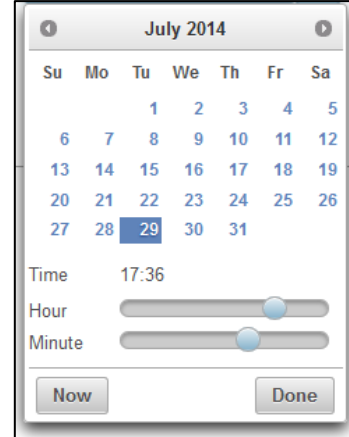
The Audit User Activity report details the different actions performed in the Retain system by different users. This report is a detailed list of all auditable actions taken and which users took them in the Retain system.



The screenshot shows the Retain web application interface. At the top, there is a navigation bar with the Retain logo and the text "Welcome to the Reporting and Monitoring Home Page". On the right, there is a language dropdown set to "English" and a "Logout" link. Below the navigation bar, there is a breadcrumb trail: "Home > Report > Schedule Report > Manage scheduled reports > System Monitor > Maintenance". The main content area is titled "Generate report: Audit User Activity". It contains a description: "Create a summary of all the auditable actions each user has taken." Below this, there are several input fields: "Report Output Format" (a dropdown menu set to "HTML"), "Start Date" (a text input field with "29-Jul-2014 17:36" and a calendar icon), "End Date" (a text input field with "28-Aug-2014 17:36" and a calendar icon), and "Deliver Report In" (a dropdown menu set to "Browser"). At the bottom of the form is a "Generate" button.

While this report lists all actions by all users, it may still be restricted by a date range. The date ranges are specified through a calendar interface.

The date and year are selected through the top bar, while the hour and minute, if desired, are selected through sliders. The date can be immediately set to the current moment by selecting the 'Now' button. When configuration has been completed, select the 'Done' button to set the date. Both the Start and End Date have identical date tools.




The screenshot shows a date and time selection interface. At the top, there is a title bar with "July 2014" and navigation arrows. Below the title bar is a calendar grid with days of the week (Su, Mo, Tu, We, Th, Fr, Sa) and dates (1 through 31). The date "29" is highlighted. Below the calendar grid, there are sliders for "Time", "Hour", and "Minute". The "Time" slider is set to "17:36". At the bottom, there are two buttons: "Now" and "Done".

When the settings are as desired select the 'Generate' button to create the report.

The report lists all users, a quick description of the action taken and how many times it was performed, and the date of the last time it was performed. Actions such as viewing an item, searching the archive, changing settings on either the server or in the interface, forwarding items, applying litigation holds, publishing items, etc. To take the same settings used when creating this report, select the 'Schedule' button to enter the Schedule Report interface with the same settings.

Schedule

 **Retain**
Actions Performed on Archive

User Name	Count	Action	Last Action
admin	9	Changed Server	18-Aug-2014 14:55
admin2	4	Viewed	14-Aug-2014 09:02
	3	Searched	28-Aug-2014 09:47
	5	Changed Server	28-Aug-2014 14:13
benb			
benb.ntpo2.ntdom			
briceb			
daronp			
demo			
dinuttall			
ericm			
hakimr			
james			
james2			
jasonb			
johns			
matts			
rickl	69738	Published	21-Aug-2014 09:22
saren@mass.effect			
shepard@mass.effect			

Friday 29 August 2014Page 1 of 1

Export Audit Table

The Export Audit Table sorts the entire Audit log with the settings desired and creates a report for specific users or all users, with specific events or all events. This report can be limited in size and date.

Generate report: Export Audit Table

Export the audit log and filter the results by date range, user, or action.

Report Output Format: HTML

Start Date: 30-Jul-2014 23:57

End Date: 29-Aug-2014 23:57

Sort Rows by Column: Select a value, Ascending

Maximum Returned Rows: 25000

Actions:

- ☒ Select/Unselect all actions
- ☒ Archived
- ☒ Audited
- ☒ Changed Data Collection
- ☒ Changed User/Group
- ☒ Deleted
- ☒ Exported
- ☒ Forwarded
- ☒ Litigation Hold

Run Report On: ☐ All Users ☒ Select Users

Deliver Report In: Browser

Generate

User Name	User UID	Display Name
aa@qa.gwava.com	9133CA00-01EC-0000-9001-2783F1A17F1E	aa
abooker@qa.gwava.com	2504B001-1804-0000-A507-00805F389D4A	Andre Booker
acalay@qa.gwava.com	438A0181-1C71-0000-843D-000BCDEF4955	ADAM CLAY
acramer@qa.gwava.com	1BBE3880-043C-0000-BF22-3E8417E3B118	Alicia Cramer
adewoody@qa.gwava.com	BBB3B440-074E-0000-A158-000000006826	Allen Dewoody
admin	f6a74683-e576-423e-a76d-0b33545d34d8	admin
admin@qa.gwava.com	F2F45CF0-0840-0000-A0E4-EC0001005600	admin
administrator@mass.effect	a49dce07-e70b-49ee-bd06-5832971a6f37	Administrator
aegwuonwu@qa.gwava.com	87EFF301-1462-0000-A0FC-00805F389D4A	Anthony Egwuonwu
afuentes1@qa.gwava.com	2B545DE0-1811-0000-B65B-60D312000000	Anita Fuentes

If restricting the report to a specific user or users, a menu displaying 'auditable users' is displayed. The different fields are searchable. The option to select all, or none, is also present. Users may be searched for via User Name or email address, User UID, or the user Display Name.

The rows and columns are not sortable in the generated report, but they can be sorted or organized from the report generation interface. The rows may be organized by the columns listed. This has the exact same effect as organizing columns for the jobs on the reporting and monitoring home page. Configure as desired and then select 'Generate' to create the report.

Select a value

- Date
- Info
- User
- Mailbox
- Job Name
- Action

Schedule

Date	Info	User	Mailbox	Job Name	Action
28-Aug-2014 11:29	success	-	admin	-	Login
28-Aug-2014 14:13	loaded	admin2	RetainServer	ServerConfig	Changed Server
28-Aug-2014 14:13	success	-	admin2	-	Login
28-Aug-2014 12:37	success	-	admin	-	Login
28-Aug-2014 10:59	success	-	admin	-	Login
28-Aug-2014 10:48	success	-	admin	-	Login
28-Aug-2014 10:25	success	-	admin	-	Login
28-Aug-2014 09:47		admin2	-	-	Searched
28-Aug-2014 09:40	Mailbox prime	local worker	bobf	google apps -	Archived
28-Aug-2014 09:40	Fwd: Forum Report 04-09-13 05:01	local worker	bobf	google apps -	Archived
28-Aug-2014 09:40	Fwd: Forum Report 04-11-13 06:01	local worker	bobf	google apps -	Archived
28-Aug-2014 09:40	Fwd: [Bug 3216] Localization -	local worker	bobf	google apps -	Archived

To Schedule the report, select the 'Schedule' button from the top of the report to keep the settings.

Job Run Averages

The job run averages report takes the performance of any selected particular job and creates a chart to display the trends. The effectiveness, overall load, and performance can be rapidly displayed. The Job Run Averages report requires a single job to be selected. The 'Jobs' selection window has columns which are sortable for convenience.

Retain Welcome to the Reporting and Monitoring Home Page Language: English | Logout

Home Report Schedule Report Manage scheduled reports System Monitor Maintenance

Generate report: Job Run Averages

Create a summary of a job's performance throughout the course of its history.

Report Output Format: HTML

Start Date: 29-Jul-2014 18:13

End Date: 28-Aug-2014 18:13

Deliver Report In: Browser

Generate

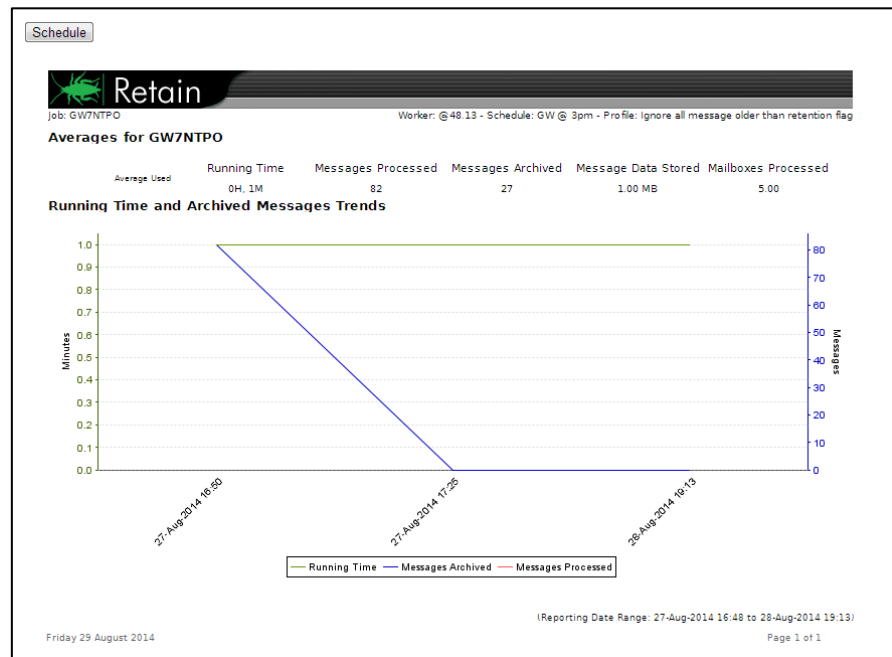
Job Name	Worker	Schedule	Profile
GW14LXPO	Local Worker	GW14LXPO	AllFolders AllMessages NoArchiveMark NoStubbing NoFlags
Mobile Job	Mobile Worker	Mobile Now	mobile_profile
BES5 at 12:30	BES5 Worker	Daily at 12:30	BES Profile
GW8LXPO	Local Worker	GW8LXPO	AllFolders AllMessages NoArchiveMark NoStubbing NoFlags
GW8NTPO	Local Worker	GW8NTPO	AllFolders AllMessages NoArchiveMark NoStubbing NoFlags
BES5 at 13:05	BES5 Worker	Daily at 13:05	BES Profile
1new job1	BES5 Worker	BES 05 Now	BES Profile
BES5 at 08:00	BES5 Worker	Daily at 08:00	BES Profile
BES5 at 14:05	BES5 Worker	Daily at 14:05	BES Profile

3 of 9

Once the date period has been configured, select 'Generate' to create the report.


Performance trends are immediately apparent as run time is compared with message counts over a time period. The averages used to create the graph are listed above the graph, as well as a legend below.

As with the rest of the reports which exist in the 'Schedule Report' interface, to schedule this report with the settings which created it, select the 'Schedule' button from the top of the report to use the same settings and be linked directly to the 'Schedule Reports' interface.



Job Run Summary

The Job Run Summary report gives a complete report of the performance of a single job. Whereas the Job Run Averages report charts raw performance averages, the Job Run Summary report goes into greater detail on the total number of archived messages, the errors, and mailbox summary for a single instance of a job.


Retain
Welcome to the Reporting and Monitoring Home Page
Language English | Logout

[Home](#)
[Report](#)
[Schedule Report](#)
[Manage Scheduled Reports](#)
[System Monitor](#)
[Maintenance](#)

Generate report: Job Run Summary

This report generates a summary for a job run that includes the number of messages archived, the errors that have occurred, and a summary by mailbox.

Report Output Format
HTML

Deliver Report In
Browser

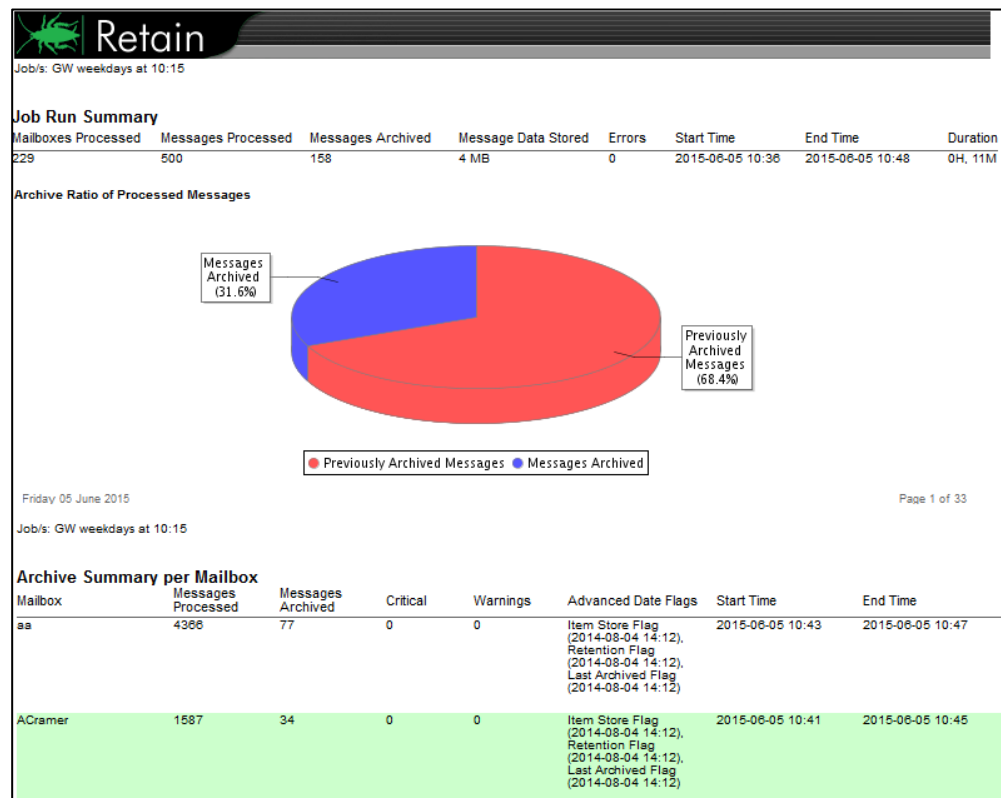
Generate

Job Runs				
	Job Name Select a value	Start Time	End Time	Duration (hh:mm:ss)
<input type="checkbox"/>	CellTrust 11:15	2015-06-10 11:15	2015-06-10 11:15	00:00:00
<input type="checkbox"/>	BES05 at 11:00	2015-06-10 11:00	2015-06-10 11:00	00:00:05
<input type="checkbox"/>	BES10 11:00	2015-06-10 11:00	2015-06-10 11:00	00:00:22
<input type="checkbox"/>	BES12 11:00	2015-06-10 11:00	2015-06-10 11:00	00:00:01
<input type="checkbox"/>	Social 11:00	2015-06-10 11:00	2015-06-10 11:00	00:00:07
<input type="checkbox"/>	GW weekdays at 10:15	2015-06-10 10:15	2015-06-10 10:25	00:10:56
<input type="checkbox"/>	BES10 10:00	2015-06-10 10:00	2015-06-10 10:01	00:00:57
<input type="checkbox"/>	BES05 at 10:00	2015-06-10 10:00	2015-06-10 10:00	00:00:12
<input type="checkbox"/>	Social 10:00	2015-06-10 10:00	2015-06-10 10:00	00:00:08
<input type="checkbox"/>	Exchange 2013 M W F at 5:00	2015-06-10 05:00	2015-06-10 09:33	04:33:27

1 of 59
1 2 3 4 5 6 7 8 9 10 10

Select the desired single instance of a job and then select 'Generate'.

The summary displays the total mailboxes, messages, data store, errors, and running time of the job. Afterwards, this information is broken down by each mailbox the job covers. Due to a single instance needing to be selected, this job cannot be scheduled.



Job Summary

The Job Summary report is much the same to the Job Run Summary report, except that this report covers the entire history of a job and not just a single run. To run the report, select the desired job and any time period, if desired, the desired output and delivery method, and click 'Generate'.

Welcome to the Reporting and Monitoring Home Page

Language: English | Logout

Home Report Schedule Report Manage scheduled reports System Monitor Maintenance

Generate report: Job Summary

Create a summary for a single job that includes the number of messages archived, the errors that have occurred, and a summary by mailbox.

Report Output Format: HTML

Start Date: 29-Jul-2014 20:22

End Date: 28-Aug-2014 20:22

Deliver Report In: Browser

Generate

Jobs			
Job Name	Worker	Schedule	Profile
BES5 at 15:00	BES5 Worker	Daily at 15:00	BES Profile
BES5 at 17:00	BES5 Worker	Daily at 17:00	BES Profile
BES 10:00	Local Worker	Daily at 10:00	BES Profile
BES 15:00	Local Worker	Daily at 15:00	BES Profile
Exchange 2013 M W F at 5:00	Local Worker	M W F at 05:00	Exchange Profile, No Flag, Journal by Year
BES 05_bug3819	BES5 Worker	BES5_bug3819	BES Profile - Ignore Item Store Flag
BES 13:00	Local Worker	Daily at 13:05	BES Profile
Social 13:00	Local Worker	Daily at 13:05	Social Messaging
Social 17:00	Local Worker	Daily at 17:00	Social Messaging
Social 16:00	Local Worker	Daily at 16:00	Social Messaging

4 of 9

The report generated displays the number of mailboxes that the job processes, the total messages the job has processed, how many messages are actually archived, the message data stored, the total errors encountered, when the job first started, and the total time the job has been active.

Immediately below the initial information, a pie chart displays the amount of messages actually archived in comparison to the number of messages the job processed.

Finally, below the pie chart is a summary, by individual mailbox, of job actions. Each mailbox is displayed with the pertinent information, including the messages archived, messages processed, critical errors, a record of the advancement of message store flags, and the duration of the job in that mailbox.

To schedule this job with the settings desired, select the 'Schedule' button from the top of the report. All settings used to create the report will automatically be copied into the 'Schedule Report' interface.

[Schedule](#)

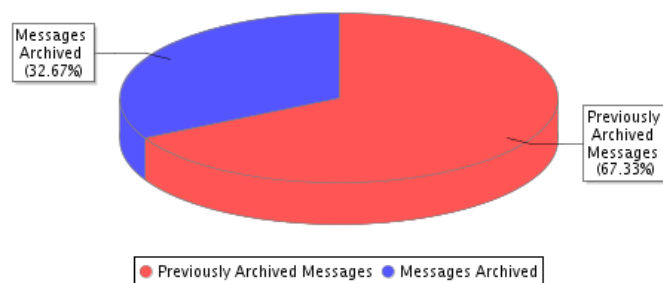

Job/s: GW8NTPO, GW weekdays at 10:15

Job Summary

Mailboxes Processed	Messages Processed	Messages Archived	Message Data Stored	Errors	Start Time	End Time	Duration
2515	5519	1803	50	4	2015-05-22 10:15	2015-06-05 10:48	336H, 33M

Errors Encountered During Job

Error Name	Error ID	Severity	Occurred	Last Occurrence
com.gwava.gweasysoap.GWSoapAPIException: User Database is temporarily disabled	457433	Normal	2	2015-05-22 10:23
com.gwava.gweasysoap.GWSoapAPIException: User account is expired , Code: d023	457435	Normal	2	2015-05-22 10:23

Archive Ratio of Processed Messages

Friday 05 June 2015

Page 1 of 36

Job/s: GW8NTPO, GW weekdays at 10:15

Archive Summary per Mailbox

Mailbox	Messages Processed	Messages Archived	Critical Errors	Warnings	Advanced Date Flags	Start Time	End Time
sa	4366	77	0	0	Item Store Flag (2014-08-04 14:12), Retention Flag (2014-08-04 14:12), Last Archived Flag (2014-08-04 14:12)	2015-05-22 10:21	2015-06-05 10:47
ACramer	1587	34	0	0	Item Store Flag (2014-08-04 14:12), Retention Flag (2014-08-04 14:12), Last Archived Flag (2014-08-04 14:12)	2015-05-22 10:19	2015-06-05 10:45
admin	0	0	0	0		2015-05-22 10:21	2015-06-05 10:47

Archive Summary by User

The Archive Summary by User report creates a summary of all users', or a specific user's, archive history. The summary includes all pertinent information for each mailbox's archive. To run the report, either all or one mailbox must be selected. If all mailboxes are selected, the maximum returned rows may be a very important setting to keep the report from becoming immense.

While the report cannot be sorted after it is generated, it may be sorted at generation through the 'Sort Rows by Column' feature. The columns may be sorted by either descending or ascending order. Select 'Generate' to create the report.

Retain Welcome to the Reporting and Monitoring Home Page Language English Logout

Home Report Schedule Report Manage scheduled reports System Monitor Maintenance

Generate report: Archive Summary by User

Create a summary of the archive history for each user. This report includes the number of messages archived and processed, the disk space used, and the timestamps that are modified.

Report Output Format: HTML

Start Date: 29-Jul-2014 20:23

End Date: 28-Aug-2014 20:23

Sort Rows by Column: Select a value, Ascending

Maximum Returned Rows: 25000

Run Report On: All Users, Select Users

Deliver Report In: Browser

Generate

Users				
Mailbox	First name	Last name	Email	Mail Server
<input type="checkbox"/> GW7NTUser1	GW7 NT	User One	gw7ntuser1@qa.gwava.com	GW7NTPO
<input type="checkbox"/> GW7NTUser10	GW7 NT	User Ten	gw7ntuser10@qa.gwava.com	GW7NTPO2
<input type="checkbox"/> GW7NTUser2	GW7 NT	User Two	gw7ntuser2@qa.gwava.com	GW7NTPO
<input type="checkbox"/> GW7NTUser3	GW7 NT	User Three	gw7ntuser3@qa.gwava.com	GW7NTPO
<input checked="" type="checkbox"/> GW7NTUser4	GW7 NT	User Four	gw7ntuser4@qa.gwava.com	GW7NTPO
<input type="checkbox"/> GW7NTUser5	GW7 NT	User Five	gw7ntuser5@qa.gwava.com	GW7NTPO
<input type="checkbox"/> GW7NTUser6	GW7 NT	User Six	gw7ntuser6@qa.gwava.com	GW7NTPO2
<input type="checkbox"/> GW7NTUser7	GW7 NT	User Seven	gw7ntuser7@qa.gwava.com	GW7NTPO2
<input type="checkbox"/> GW7NTUser8	GW7 NT	User Eight	gw7ntuser8@qa.gwava.com	GW7NTPO2
<input type="checkbox"/> GW7NTUser9	GW7 NT	User Nine	gw7ntuser9@qa.gwava.com	GW7NTPO2

7 of 26

The report displays the total information for every mailbox selected; User name, the time stamps and their advanced dates, and the message store for the associated user.

Schedule

Retain

Total Users in Address Book: 10120

Messages Archived by User

User Full Name (Mail Server)	Message Store	Timestamps
GW7 NT User Four	Archived: 94	Item Store Flag: 04-Aug-2014 14:12
(GW7NTPO)	Processed: 6219	Last Archive Flag: 04-Aug-2014 14:12
	Disk Space Used: 3 MB	Retention Flag: 06-Dec-2013 11:50
		Purge Flag: 31-Dec-1969 17:00

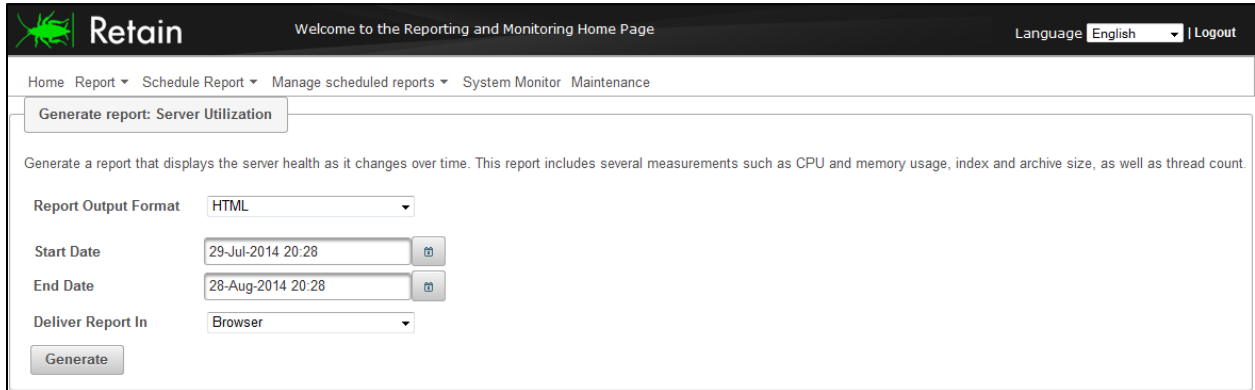
Date Since: 11-Feb-2014 07:23

The most valuable part of this report, and what will make this report a staple for administrators, is the ability to monitor and get a concise report for the disk space used for each individual user along with the messages processed and stored.

If the report is to be scheduled, select the 'schedule' button from the top of the report to use the same settings which created the report.

Server Utilization

The Server Utilization report is a direct report on the load that the Retain Server is under. The only option is to limit the date range for which the report is active. Select the report period and then select 'Generate' to produce the report.



The screenshot shows the Retain web interface. At the top, there's a header with the Retain logo, the text "Welcome to the Reporting and Monitoring Home Page", a language dropdown set to "English", and a "Logout" link. Below the header is a navigation bar with links: "Home", "Report", "Schedule Report", "Manage scheduled reports", "System Monitor", and "Maintenance". The main content area is titled "Generate report: Server Utilization". It contains a descriptive text: "Generate a report that displays the server health as it changes over time. This report includes several measurements such as CPU and memory usage, index and archive size, as well as thread count." Below this text are four input fields: "Report Output Format" (a dropdown menu set to "HTML"), "Start Date" (a date picker set to "29-Jul-2014 20:28"), "End Date" (a date picker set to "28-Aug-2014 20:28"), and "Deliver Report In" (a dropdown menu set to "Browser"). Each date field has a small calendar icon to its right. At the bottom of the form is a "Generate" button.

The Server utilization report details the memory, CPU utilization, Archive size, Thread usage, Index size, heap memory, and non-heap memory usage all in quick to digest charts.

To schedule the report, select the 'Schedule' button from the top of the report to utilize the same settings.

Schedule



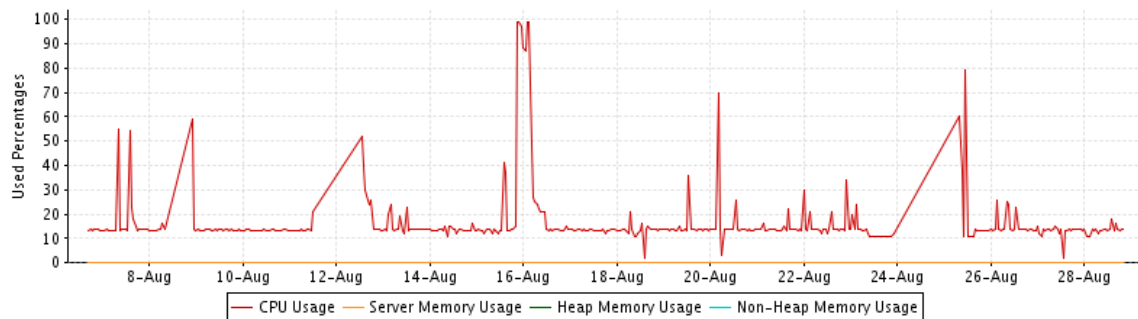
Retain

8 server(s) known

Server Usage Report for 127.0.0.1

	Average Used	Minimum Used	Maximum Used	Total Available
CPU Usage	16.85 %	0.00 %	99.00 %	Not Applicable
Server Memory	1,821.63 MB	1,730.23 MB	1,843.12 MB	1,894.91 MB
JVM Heap Memory	365.55 MB	87.65 MB	872.39 MB	1,979.75 MB
JVM Non-Heap Memory	184.63 MB	128.73 MB	236.10 MB	560.00 MB
Index Size	0.33 GB	0.32 GB	0.34 GB	Not Applicable
Archive Size	3.79 GB	3.50 GB	3.89 GB	Not Applicable
Threads	161	131	197	Not Applicable

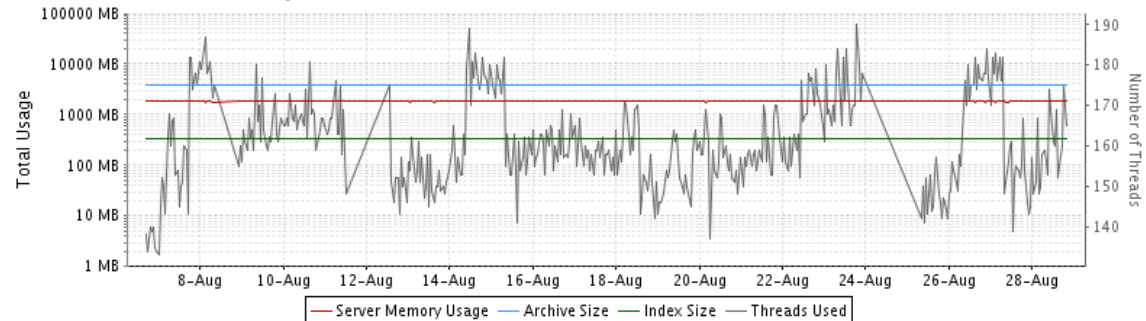
Resource Utilization History - Percentages



Thursday 28 August 2014

Page 1 of 2

Resource Utilization History - Totals



(Reporting Date Range: 06-Aug-2014 17:20 to 28-Aug-2014 20:18)

Job Run Mailbox Summary

The Job Run Mailbox Summary is much like the Job run Summary except it is dedicated to specific mailboxes and specific jobs. This job requires both a job, and a user or users to be selected.

The screenshot shows the 'Generate report: Job Run Mailbox Summary' page in the Retain application. The page includes a navigation bar with links like Home, Report, Schedule Report, Manage scheduled reports, System Monitor, and Maintenance. Below the navigation bar, there's a section for generating the report. On the left, there are several configuration options: 'Report Output Format' set to HTML, 'Sort Rows by Column' set to 'Select a value' with 'Ascending' selected, 'Maximum Returned Rows' set to 25000, 'Run Report On' with 'All Users' selected, and 'Deliver Report In' set to 'Browser'. A 'Generate' button is located below these options. On the right, there is a table titled 'Job Runs' with columns for 'Job Name', 'Start Time', 'End Time', and 'Duration (hh:mm:ss)'. The table contains 14 rows of data for various jobs like BES 17:00, Social 17:00, BES 16:00, etc. At the bottom of the table, there is a pagination control showing '1 of 54' and a set of numbered links from 1 to 10.

Select the desired job and either all users, or only select users. If desired, the columns may be sorted by a selected value through the 'Sort Rows by Column' drop-down menu. Once set as desired, select the 'Generate' button.

The report shows the details for the selected job and mailboxes. The user name, messages archived, disk space used, and archiving time is all displayed for each mailbox as well as for the total job.

The screenshot shows the 'Archive Report Totals' and 'Archiving Detail by User' section of the Retain application. The 'Archive Report Totals' section displays the following information: Messages Archived: 6, Disk Space Used: 0 MB, Archiving Time: 0H, 11M. The 'Archiving Detail by User' section displays a table with columns for User Name, Messages Archived, Disk Space Used, and Archiving Time. The table contains four rows of data for users CSec, Samantha Traynor, HealthMailbox20239ce910e3 0, and HealthMailboxff4624bec97f4 0.

User Name	Messages Archived	Disk Space Used	Archiving Time
CSec	0	0 MB	7 Minutes
Samantha Traynor	0	0 MB	1 Minutes
HealthMailbox20239ce910e3 0	0	0 MB	0 Minutes
HealthMailboxff4624bec97f4 0	0	0 MB	0 Minutes

This report cannot be scheduled.

Job Mailbox Summary

The Job Mailbox Summary report displays the number of messages archived, the disk space used, and the time the job took, separated by separate mailboxes. This report may be restricted to a date range, a limited amount of rows, and may be performed on all, or only select users. This report may also sort the data according to a selected column, in either ascending or descending value.

The screenshot shows the Retain web interface for generating a Job Mailbox Summary report. The top navigation bar includes 'Home', 'Report', 'Schedule Report', 'Manage scheduled reports', 'System Monitor', and 'Maintenance'. A 'Generate report: Job Mailbox Summary' button is visible. Below this, a description states: 'Create a summary of the mailboxes scanned during the selected job. This report includes the number messages archived, the disk space used, the duration of the mailbox scan, and any errors that were encountered.'

On the left, there are configuration options:

- Report Output Format: HTML
- Start Date: 29-Jul-2014 20:41
- End Date: 28-Aug-2014 20:41
- Sort Rows by Column: Select a value, Ascending
- Maximum Returned Rows: 25000
- Run Report On: ☒ All Users ☐ Select Users
- Deliver Report In: Browser
- A 'Generate' button is at the bottom of these options.

On the right, a table titled 'Jobs' displays the following data:

Job Name	Worker	Schedule	Profile
BES5 at 15:00	BES5 Worker	Daily at 15:00	BES Profile
BES5 at 17:00	BES5 Worker	Daily at 17:00	BES Profile
BES 10:00	Local Worker	Daily at 10:00	BES Profile
BES 15:00	Local Worker	Daily at 15:00	BES Profile
Exchange 2013 M W F at 5:00	Local Worker	M W F at 05:00	Exchange Profile, No Flag, Journal by Year
BES 05_bug3819	BES5 Worker	BES5_bug3819	BES Profile - Ignore Item Store Flag
BES 13:00	Local Worker	Daily at 13:05	BES Profile
Social 13:00	Local Worker	Daily at 13:05	Social Messaging
Social 17:00	Local Worker	Daily at 17:00	Social Messaging
Social 16:00	Local Worker	Daily at 16:00	Social Messaging

At the bottom of the table, it shows '4 of 9' rows and a pagination control with buttons for navigating between pages.

Select the 'Generate' button to create the report.

The screenshot shows the 'Schedule' report interface in the Retain application. The top navigation bar includes 'Schedule'. Below this, the Retain logo is displayed, followed by the reporting date range: '(Reporting Date Range: 11-Aug-2014 05:00 to 27-Aug-2014 05:12)'.

Archive Report Totals

Messages Archived	172
Disk Space Used	0 MB
Archiving Time	1H, 9M

Archiving Detail by User

User Name	Messages Archived	Disk Space Used	Archiving Time
CSec	0	0 MB	47 Minutes
Samantha Travnor	0	0 MB	3 Minutes
HealthMailbox20239ce910e3 166	0	0 MB	3 Minutes
HealthMailboxff4624bec97f4 0	0	0 MB	1 Minutes
Samuel Shepherd	0	0 MB	0 Minutes

To create a scheduled report with the same settings as used to generate the report, select the 'Schedule' button from the top of the report.

Schedule Report

Scheduling reports is accomplished through the Schedule Report interface. Every report which can be scheduled is also available as an instant report with a 'schedule report' button located at the top of the HTML report. Because these instant reports are easier to fine-tune, it is recommended to first configure a scheduled report through the 'Report' interface first, to allow immediate fine tuning and viewing of the results. Once achieved, selecting the 'Schedule' button on the report will take all settings used to generate that report and input them into the schedule Report interface. To schedule any report, a destination email address, SMTP information, and a set schedule are required.

Scheduled reports differ from normal reports in that, due to the scheduled nature, they must be given a time to generate the report and be given an email address to deliver the report to. Reports are delivered as an attachment in an email sent to a specified user. As such, scheduled reports are only offered in PDF and XLS formats.

Retain Welcome to the Reporting and Monitoring Home Page Language: English | Logout

Home Report Schedule Report Manage scheduled reports System Monitor Maintenance

Report Schedule: Audit User Activity

Create a summary of all the auditable actions each user has taken.

Report Output Format: PDF

Use Data from Last: Day(s) 7

Email Details:

Mail Server Hostname/IP: mail.qa.gwava.com

Sender Email Address: billy@qa.gwava.com

Recipient Email Address(es): johndoe@gwava.com

Email Subject: Audit User Activity

SMTP Username (Optional): admin

SMTP Password (Optional):

Report Schedule:

Send Report: Daily

At Time (24-Hour Format): 00 : 00

Schedule Start Date: 8/30/14

Schedule End Date:

Schedule

Reports which have a time frame attached to them as part of the criteria will have a floating time window which they may take information from. The configuration allows reports to use data created in the past number of hours, days, weeks, or months. The number may be set by the user.

Hour(s)
Day(s)
Week(s)
Month(s)

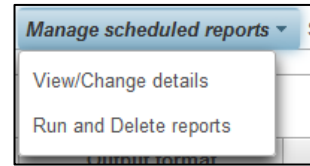
Also, the frequency of the report may be configured to be either a single instance or a reoccurring report. The frequency allows for hourly, multiple times on specified hours every day, daily, weekly or on any specified number of days in the week, or at any specified day or days in the month.

Once
On the hour(s)
Daily
On weekday(s)
On day(s) of month

In addition, a scheduled start and end date allow the administrator to control exactly when the start and stop dates for any specific report can be. The end date is not required, but is optional.

Manage Scheduled Reports

Once reports have been scheduled, it may be necessary to either cancel or modify the frequency or settings of the report. The Manage Scheduled Reports interface allows jobs to be immediately run, modified, or removed. As with all other columns in the R&M interface, the columns are sortable and even searchable to allow quick access to any desired Report through any of the scheduled criteria. For instance, a user which doesn't want to receive a report anymore, but doesn't know what report is being delivered to their email, only needs to know the email subject, or the next delivery time, to immediately identify the report. Unique sender addresses or subjects will readily allow any report to be identified.



To modify or view a report's settings select the 'View/Change details' window.

Report name Select a value	Output format Select a value	Schedule type Select a value	Next fire time	Sender Email Address	Email Subject
Job Summary	pdf	Recurring	29-Aug-2014 18:06	Retain34@qa.gwava.com	Job summary
Audit User Activity	pdf	Recurring	29-Aug-2014 00:00	Retain34@qa.gwava.com	Audit User Activity

View/Change details

Once the desired report has been located, select the report and then select the 'View/Change details' button at the bottom to be taken to the Report's configuration. Make any desired changes and select the 'Update' button at the bottom to save the changes.

To remove or immediately run a scheduled report, select the 'Run and Delete reports' window.

<input type="checkbox"/>	Report name Select a value	Output format Select a value	Schedule type Select a value	Next fire time	Sender Email Address	Email Subject
<input type="checkbox"/>	Job Summary	pdf	Recurring	31-Aug-2014 18:06	Retain34@qa.gwava.com	Job summary
<input type="checkbox"/>	Audit User Activity	pdf	Recurring	31-Aug-2014 00:00	Retain34@qa.gwava.com	Audit User Activity

Run report now Remove selected

Any report or reports may be immediately run or removed from the system through this window. All scheduled reports will be displayed. A select all/none box is at the top left of the table, and allows for a quick selection or clearing of all previous selections which have been made.

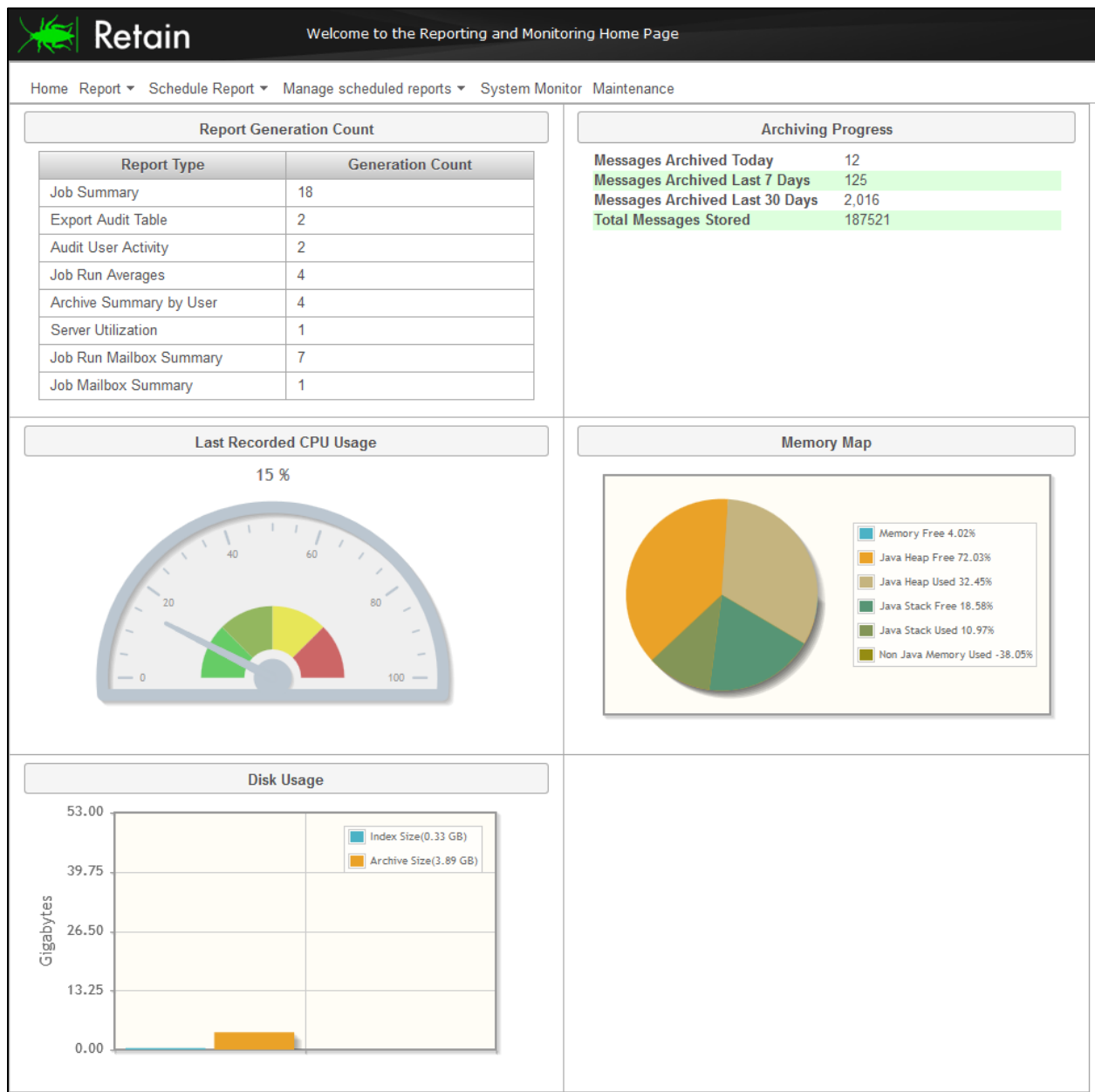
To run a report or reports, select the desired report by clicking on the associated checkbox and then select the 'Run report now' button at the bottom. The report will be immediately triggered, and emailed to the specified recipient.

To remove a report or reports, select the desired report(s) by placing a check in the associated checkbox. Once the reports are selected, click the 'Remove selected' button at the bottom of the table.

System Monitor

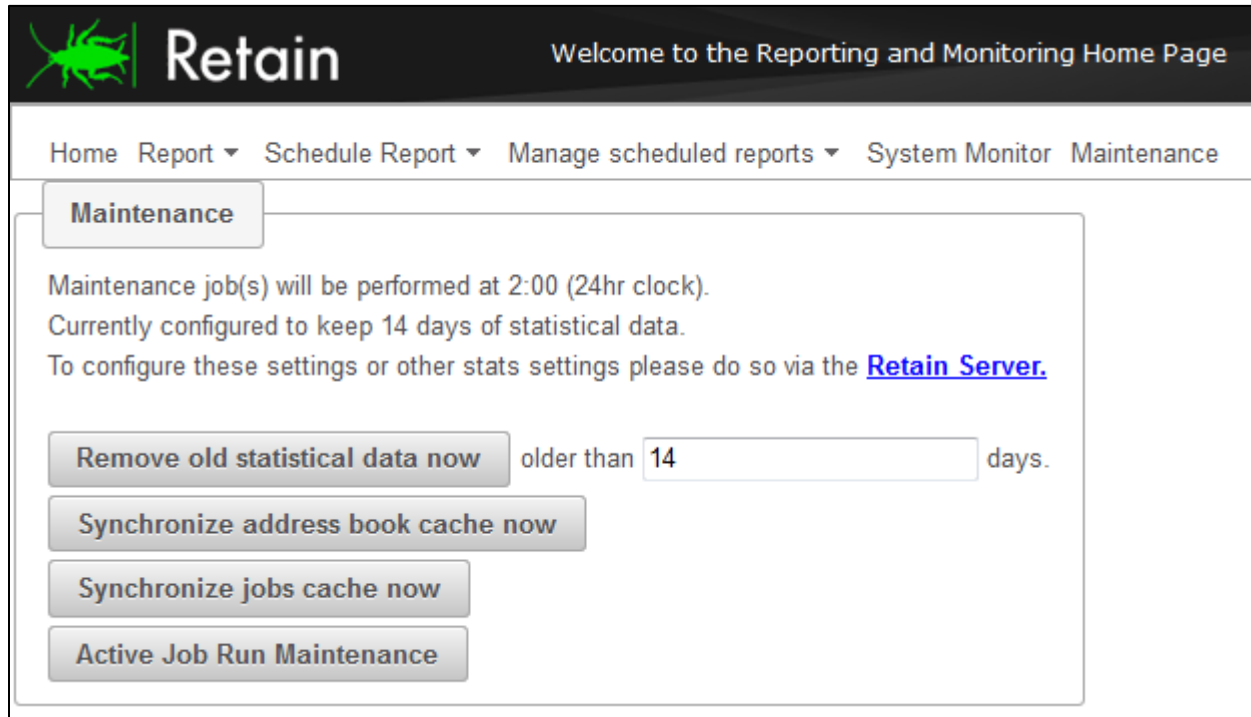
The System Monitor page is a quick, graphed page which displays the essential stats of the Retain Server system. The R&M module statistics are displayed, with how many reports have been created and of what type. The basic archive progress is also displayed showing the daily, weekly, monthly, and total amount of messages which have been archived in the system.

The system CPU load, memory usage map, and Disk Usage are displayed. These numbers are for the actual host server, and not just the Retain system, with exception of the memory map, which has both. The Memory map is broken out to total system memory free and used, but also includes Java memory statistics – which will be Retain specific unless additional Java applications are running on the Retain Server. This page will not time-out or expire, to allow quick monitoring of the system.



Maintenance

The Maintenance page contains the basic maintenance for the R&M module. This is not maintenance for the entire Retain Server. Because the R&M module maintains individual statistics, it needs to be refreshed and purged at regular intervals. The defaults are shown.



The screenshot shows the 'Retain' web interface. At the top, there is a green bug icon and the word 'Retain'. To the right, it says 'Welcome to the Reporting and Monitoring Home Page'. Below this is a navigation bar with links: 'Home', 'Report' (with a dropdown arrow), 'Schedule Report' (with a dropdown arrow), 'Manage scheduled reports' (with a dropdown arrow), 'System Monitor', and 'Maintenance'. The 'Maintenance' link is highlighted. Below the navigation bar, there is a section titled 'Maintenance'. Inside this section, it states: 'Maintenance job(s) will be performed at 2:00 (24hr clock). Currently configured to keep 14 days of statistical data. To configure these settings or other stats settings please do so via the [Retain Server](#).' Below this text are four buttons: 'Remove old statistical data now' (with a text input field set to '14' and the label 'older than' and 'days.'), 'Synchronize address book cache now', 'Synchronize jobs cache now', and 'Active Job Run Maintenance'.

The R&M Module maintains a separate record of the address book and the job cache. The system automatically synchronizes this information with the Retain Server every 24 hours. Still, the different records may become out of sync. If a synchronize job is required before regular maintenance, a manual sync may be individually triggered.

By default, the statistics server only maintains a record of statistics for 14 days, and all data older than 14 days will be automatically expired and the data deleted. If the statistic data is required for longer or shorter, configure and save the setting.

It is not recommended to maintain statistical data older than 30 days.

Licensing

The Retain license is a file which should be uploaded through this screen. To acquire a license, contact your [GWAVA sales representative](#).

Licensing

Licensing

✖ Licensed to CN=pg-1384, EMAILADDRESS=info@gwava.com, O=GWAVA, L=Montreal, ST=QC, C=CA
License ID 108f3478-d038-4f15-92a8-ae7e9f6c617c
License State **Valid License file installed**
License Type base exchange gw socialnetworking
Install Date Fri Jul 27 20:50:36 MDT 2012
License expires **Thu May 30 21:59:59 MDT 2013**
Support expires Thu May 30 23:59:59 MDT 2013
Your license file is currently stored at: /var/opt/netboxblue/archive/license/rtn334351597124430935.pem
Make sure you keep a backup of this file.

Submit License

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 license file and click "Submit License".

Logout and re-login to the server to see the license in effect.

Overview

Audit Log

All pertinent actions performed by users in Retain are logged and can be discovered and printed. If Reporting and Monitoring is installed, four buttons are added to the following page, as shown below.

Retain Audit

Report ▾ Schedule Report ▾

Start date 29-Jul-2014 21:03

End date 28-Aug-2014 21:03

Sort rows by column Select a value ▾

Maximum returned rows 250

Actions

- ☒ Select/Unselect all actions
- ☒ Forwarded
- ☒ Litigation Hold
- ☒ Login
- ☒ Published
- ☒ Searched
- ☒ Server Config Change
- ☒ Viewed

Run report on

☐ All users ☒ Select users

Search **Reset**

1 of 27			
User Name ▾	User UID ▾	Display Name ▾	
	e31d2007-005a-45ed-96f9-841b50	null	
	03a266d2-ccd7-44ab-aa5a-f3a75a	matts@NBLOCAL	
	b738f150-a0a3-4a1a-a8ef-6c78086	amandeepk@NBLOCAL	
	5c1a630c-dc03-4dc3-b0b8-fdd33d	nickl@NBLOCAL	
	d92238b5-316a-4f9a-99cd-fa808be	james@EDIR4	
	3d486a63-0b40-49ac-b60c-38797c	enim@EDIR4	
	8480577d-5218-4541-b44-bd51df	nickl@EDIR4	
	cce2c41a-6034-4a3b-8ca6-497d4e	tech@NBLOCAL	
	a4c22aa6-eb1b-4806-b6f4-d7f46f6	sorchard@EDIR4	
	848b4657-26eb-453e-873a-9c9f65	james@NBLOCAL	

1 of 27

1 of 25					
Date ▾	Info ▾	User ▾	Mailbox ▾	Job Name ▾	Action ▾
30-Jul-2014 14:26	success	-	admin2	-	Login
31-Jul-2014 04:00	Global Tech: Hacking's Necessary	local worker		gw weekdays at 4:00	Archived
31-Jul-2014 04:01	Most Popular: Secret Tunnels Under	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	Share the View 2: Act Now on Clim	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	The Market Now - The Menace Fron	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	GWAVA Retain: Job Status Report	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	Global Tech: Putin's Tor Bounty, Chi	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	Retain Status Information	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	Retain Cumulative Error Report	local worker	MengT	gw weekdays at 4:00	Archived
31-Jul-2014 04:01	Retain Status Information	local worker	MengT	gw weekdays at 4:00	Archived

1 of 25

Print **Generate report** **Schedule email report**

- Accessing the audit log requires the "Access all audit logs" administrative right.
- Ordinary users cannot access their audit logs unless you grant the "View Personal Audit Log" right, in which case they can find the audit log on a per-message basis under the Properties tab.

To view actions, select the desired actions, one or all, a date range, and a user, one or all, and then select 'Search'. The results will be displayed in a table below. All columns in this table are sortable.

The results appear below. This may be printed by selecting the 'Print' button at the bottom. The print button will only print what is shown in the action table, not the criteria or the interface.

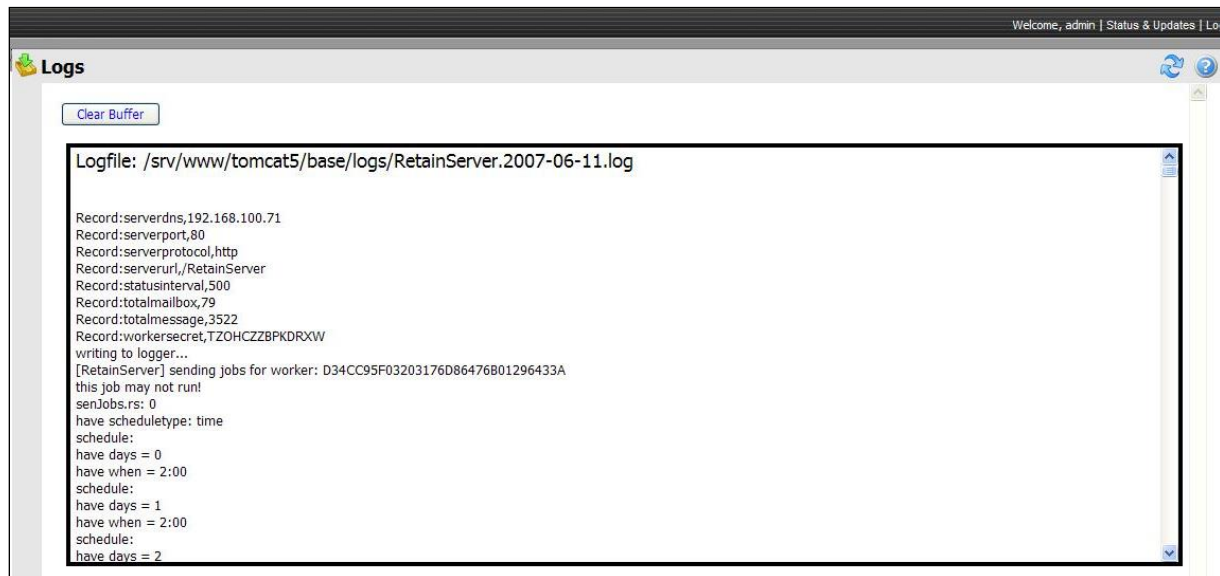
If you have rights, you may click on the Action link to open the message. An auditor does not automatically gain the rights to READ messages in mailboxes that are not assigned to them.

If the Reporting and Monitoring module is installed, the 'Report' and 'Schedule Report' menu options on the top bar, and the 'Generate Report' and 'Schedule email report' buttons along the bottom will appear. These buttons link to the R&M interface to extend R&M ability to generate and schedule reports based on the selected criteria. If the Generate report or Schedule email report buttons are pressed, the criteria used in the Audit window will be automatically propagated to the Reporting interface.

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.



Searching the Retain Archives

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

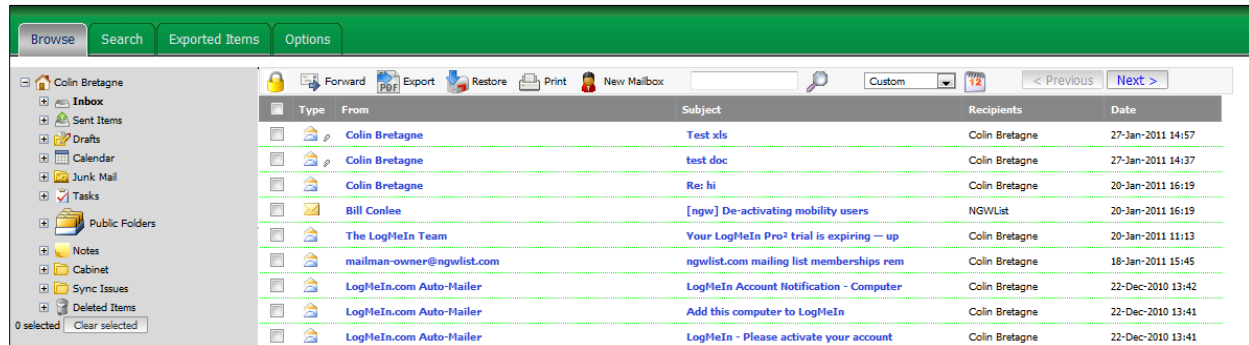
There are four tabs in the Search Interface:

- Browse- for casual browsing and filtering. You may only browse one mailbox at a time.
- Search- for in-depth search, possibly across many mailboxes.
- Exported Items- List of all export
- Tag Definitions- ONLY VISIBLE if the user has rights to Tag Definitions.
- Options- for changing user settings. Similar to settings in the User Admin.

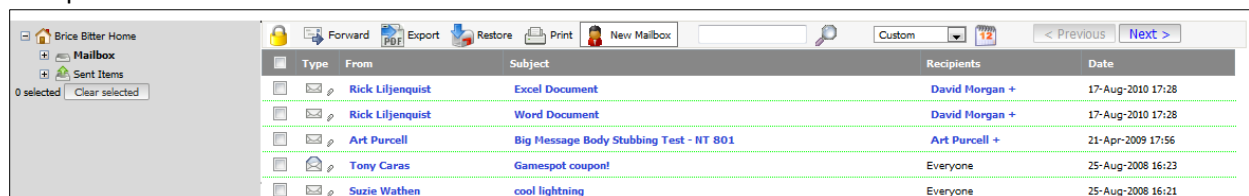
The browse screen shows you one mailbox at a time. The mailbox you’re viewing is listed at the top left and the folder structure is replicated as it is in the mail system. The view the screen displays is dependent on the source mail system for the selected or displayed mailbox. Accordingly, the icons and folder structure of different mailboxes will appear differently for a GroupWise account than it does for an Exchange account.

If you have the rights to access more than one mailbox in the mail system, (such as GroupWise proxy rights and the proxy option enabled in Retain), 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.

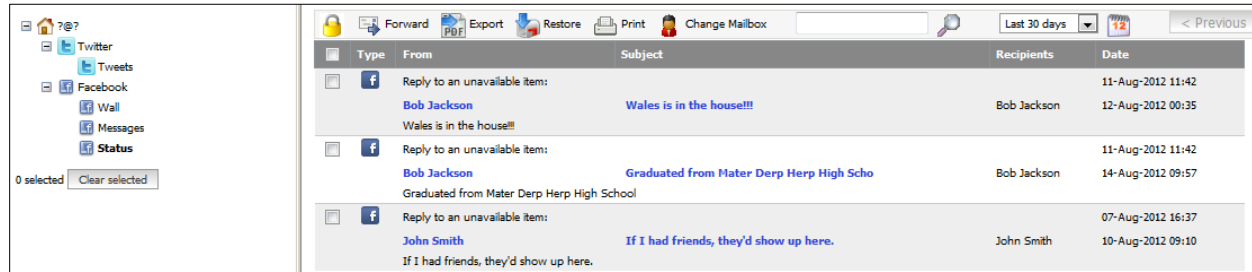
An Exchange mailbox:



GroupWise mailbox:



Social Messaging:

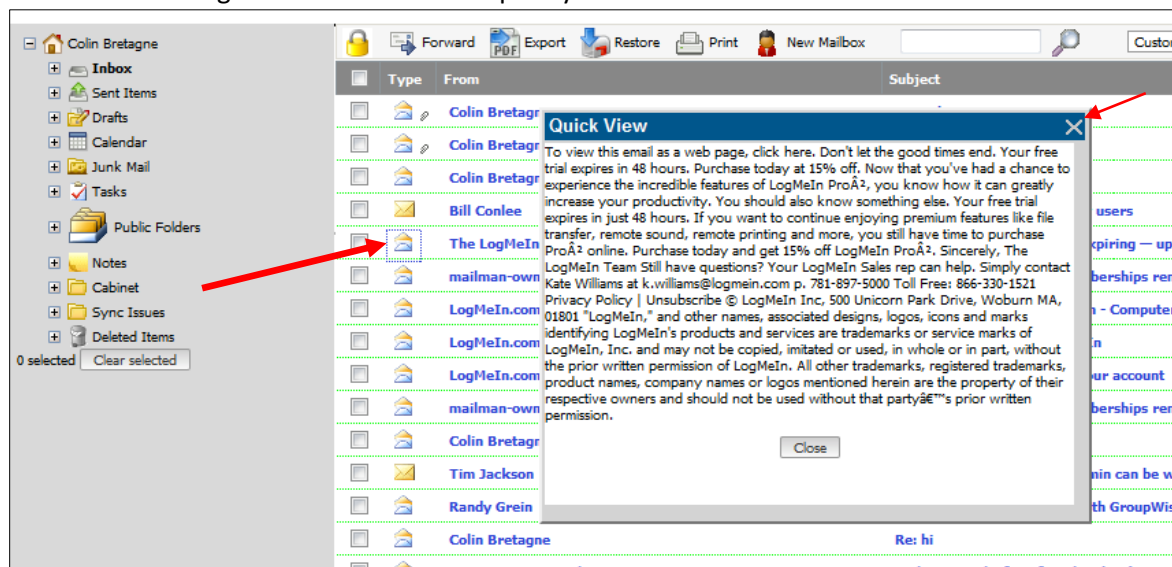


Cumulative Selections

In browse and search as you click on selections, these are preserved cumulatively from page to page or across searches, folders, etc. So you can forward, restore stub, PDF export from many places at once.

Quick View

The search messages interface allows to quickly view items.



Accessing the quick view is simple. Simply select the item icon in the 'Type' column, (mail envelope icon), to spawn the quick-view for that item. The quick view displays up to the first 2kb of text for that item in a small window.

NOTE: Date Range Filter



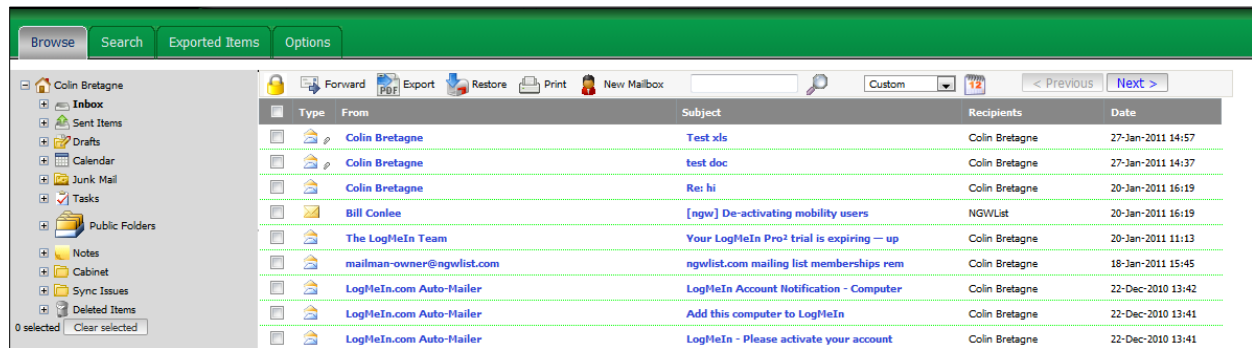
Please pay particular attention to the date range filter. Only messages that match the date range filter are displayed. If you don't see the results you expect, check the date range filter to be sure that the settings are correct. See [Specifying a Date Range](#).

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).

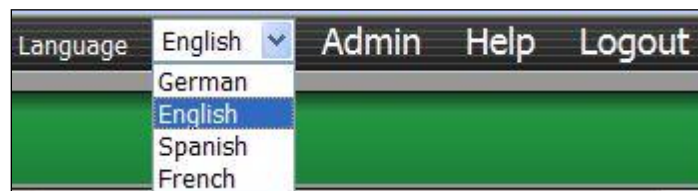
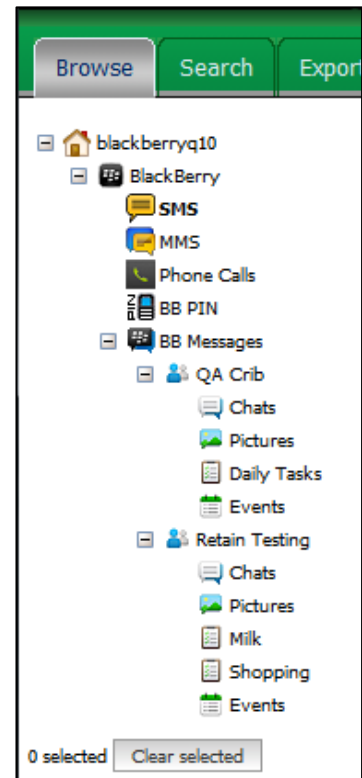
If the user's mailbox is empty, or the user has no specifically assigned mailbox, then the user will be prompted to select a mailbox to browse. Only mailboxes which the user has rights to, will be available.

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.

You browse the folders in the current mailbox and when selected, their contents are displayed.

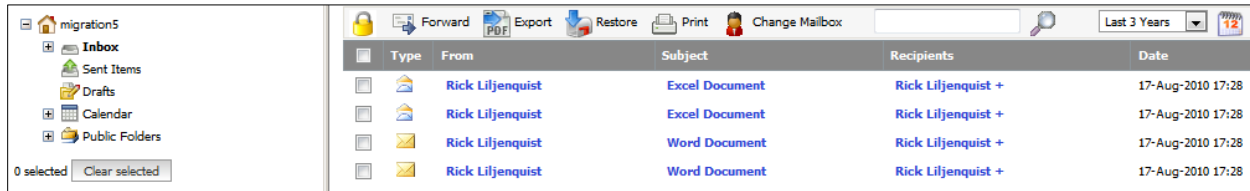
Language Selection

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 applies to the search screen as well as the administration interface.

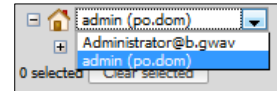


Merged Mailboxes

If a mailbox has been merged with its migrated counterpart or any other specified mailbox in Exchange, then the user will have the option to switch mailboxes with a drop-down selection box.



Mail from both systems will be viewable and manageable in the same window without having to logout or switch mailboxes.



Browsing Tools (Widgets)



Retain will display various options for the user. The specific options displayed depend upon the user's rights, if a user has not been granted the rights to a particular tool, that tool will not be present in their Search Messages interface. The rights are found in the Retain Server Management section, on the [Users](#) page. The full range of options includes (From Left to Right):

- **LITIGATION HOLD** Applies or removes the litigation hold, banning removal from archive. Litigation hold prohibits the deletion manager and jobs from removing applied and marked messages.
- **CONFIDENTIAL** Toggles the confidential state. Confidential items are only visible with Admin rights, or to those specified by the user under the **Options | Confidential Exceptions** tab.
- **TAG DEFINITIONS** Apply or remove tags to messages. ONLY visible with rights.
- **DELETE** The Delete option is ONLY visible for users with rights to delete data.
- **FORWARD** forward selected items by e-mail.
- **PDF EXPORT** opens the PDF export window to create a PDF of the selected items to be emailed to a specified mailbox
- **RESTORE** Restores messages to the Mail system. See section for details.
- **PRINT** prints a list of 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.
- **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 “Change 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](#).

(If Retain for Social Messaging is set to anonymous user, all Social Messaging data will be contained under the single user ‘?@?’, and separate user names and pertinent information is contained in the ‘from’ dialog. Otherwise, individual user accounts will be displayed.)

First	Last	Mail Server	Mailbox	Dept.	Type	Domain
?@?	?@?	SocialNetwork	?@?		U	SocialNetwork

When selecting a single mailbox, the source of the mailbox must be selected as mailboxes from different systems may have the same user name or criteria. Select which mail system the desired user belongs to, specify any further criteria, or leave the criteria blank to display all possible mailboxes from that system.

	ID	Name	Email	Department	Domain
<input type="radio"/>	d96	d96	BESX	d96	U blackberry.gwava.com
<input type="radio"/>	d97	d97	BESX	d97	U blackberry.gwava.com
<input type="radio"/>	d98	d98	BESX	d98	U blackberry.gwava.com
<input type="radio"/>	d99	d99	BESX	d99	U blackberry.gwava.com
<input type="radio"/>	Rick	Liljenquist	BESX	rickl development	U blackberry.gwava.com
<input type="radio"/>	MikeFirst	MikeLast	BESX	MikeAlias mikedepartment	U blackberry.gwava.com
<input type="radio"/>	Art	Purcell	BESX	art	U blackberry.gwava.com
<input type="radio"/>	u1	u1	BESX	u1	U blackberry.gwava.com

If the search results are extensive, the system will have a ‘Next’ or ‘Previous’ button at the bottom of the search results window, which displays the next set of results.

Refine search parameters to reach a manageable search result.

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

After selecting a mailbox, click ‘Ok’ to load that mailbox into the viewer.

Type	From	Subject	Recipients	Date
✉	<john@squirrel.com>	-	maston	03-Mar-2011 21:56
✉	<john@squirrel.com>	-	maston	03-Mar-2011 21:56
✉	<john@squirrel.com>	-	maston	03-Mar-2011 21:56

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.



Litigation Hold

See the [Litigation Hold](#) section later in the document.

Add / Remove Tag Definitions

See the [Tag Definitions](#) section later in the document.

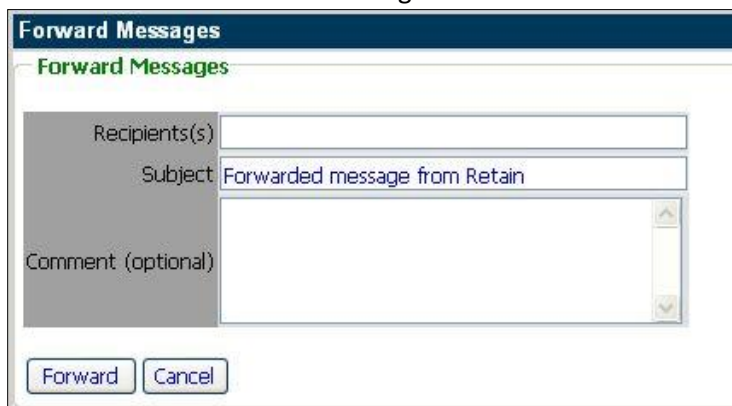


Delete

The user delete option allows for the removal of data from personal archives. This option will not be displayed unless the user has been granted the delete right or rights in the administration console. The Delete right is not a default right, it must be specifically added to users or groups. Messages or data marked to be deleted will not necessarily be immediately removed, but will be queued for deletion. The actual item removal will depend on server availability and the amount of items queued for deletion.

Forwarding a Message

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

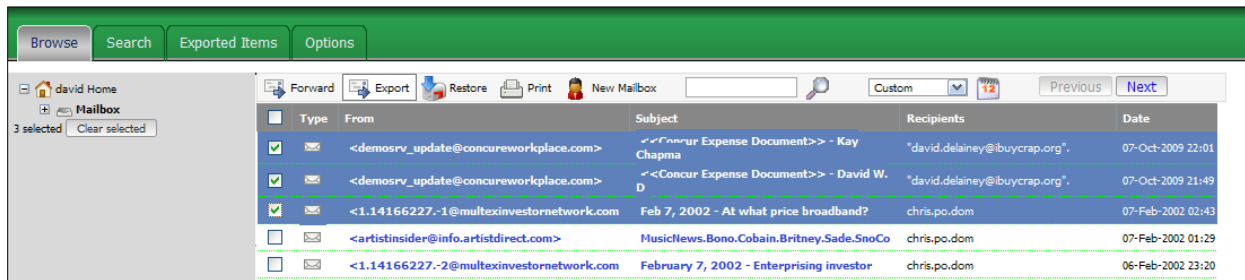


Enter the recipients (where you want the message(s) to be forwarded), separated by commas. Enter a comment if desired and click "**Forward**". Retain will send the message(s) via SMTP.

PDF Export

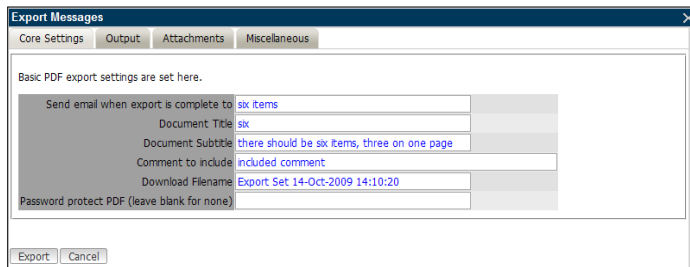
PDF Export is a new function which allows users, (with appropriate rights), to export single or multiple items into a PDF file. This PDF can be named and defined by the user exporting the document. Items will appear as navigable files in the PDF. The default view provides a list on top of the PDF viewer which works as a table of contents to provide access to the exported archive.

If you have rights to do so (new user right), can export browse or search results to PDF. Select the desired items and then select the “Export” button.

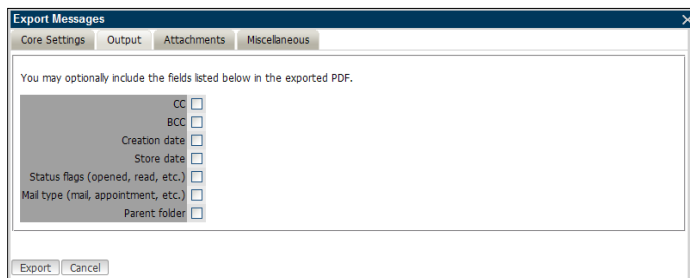


Fill out the various options as desired.

The different options include the file information.









The File output and included fields can be edited.



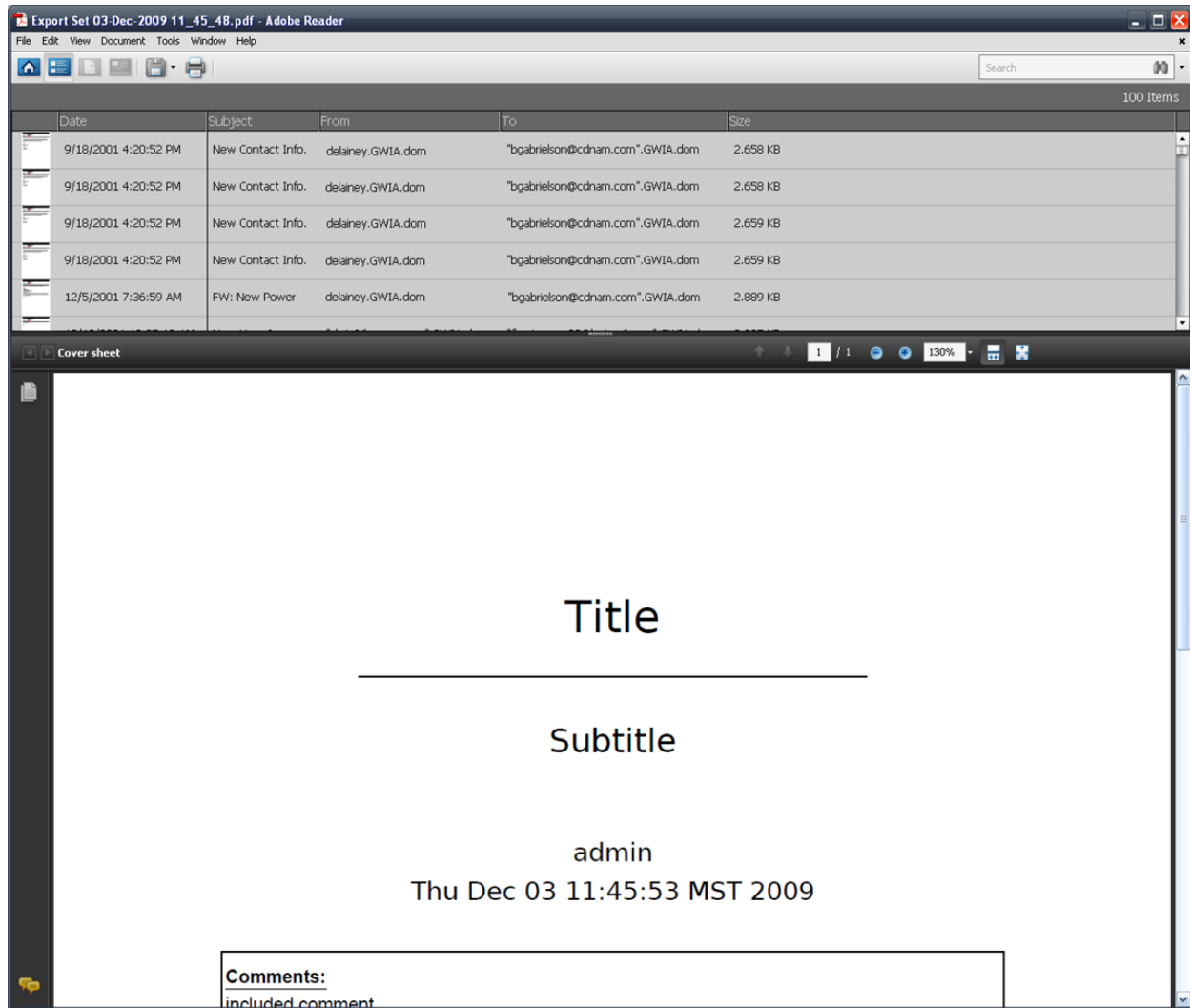
Any attachments to the email sent to the defined recipient.

...And finally, any restrictions to size or time zone for the PDF. If the archive size does not exceed the maximum size, then the archive will be contained in one file. If larger, the archive will be exported into multiple PDFs will be created according to the maximum limit, until the archive export is complete. Time zone information will be used for formatting any time and date information in email headers. The time written to the cover sheet and date column in the PDF table of contents is written according to the time zone of the Retain Server.

When finished, select 'Export'. Depending on the size of the PDF export list, the export may take some time. The Export will notify via email when it is complete, if a notification address was provided. Currently running export jobs are also listed under the 'Exported Items' tab. Once the Export has completed, the finished PDF is available under the 'Exported Items' tab. Locate the appropriate export list and select the disk icon to download the finished PDF.

Browse Search Exported Items Options				
A list of Export jobs is shown below. If you have any running (but not completed) jobs, they will be displayed, and you may request cancellation.				
For jobs that have completed, you may download and/or delete the exported file. Please note that the deletion cannot be undone.				
Running Jobs:				
No Items Found.				
Completed Exports:				
#	File	Size (KB)	Date	Action
0	Export Set 14-Oct-2009 14:10:20.pdf	39	14-Oct-2009 14:18:42	 
1	Export Set 13-Oct-2009 13:22:23.pdf	15	13-Oct-2009 13:23:02	 
2	Export Set 09-Oct-2009 14:19:41.pdf	39	09-Oct-2009 14:20:23	 

The finished PDF is structured with an email or item list on top as a working table of contents, and the selected item is displayed below. The title, subtitle, and comments are listed on the title page, as shown.

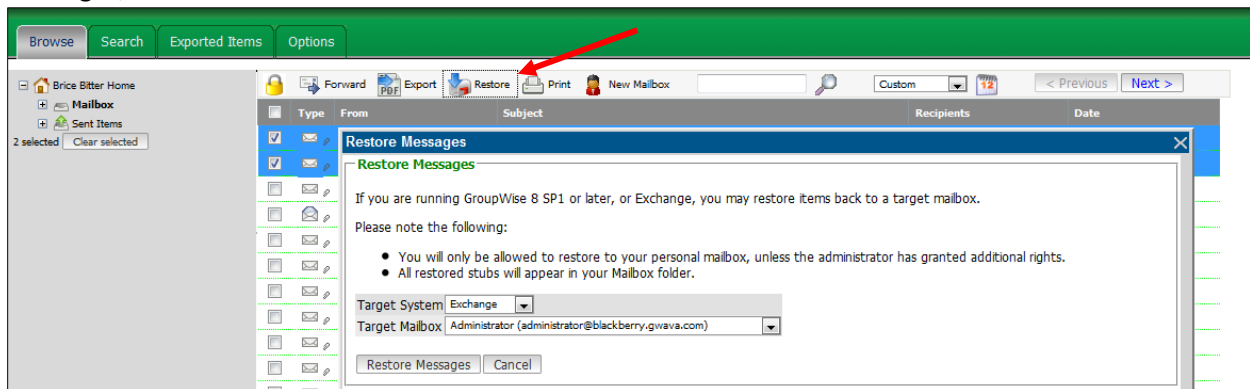


Restore

Retain can restore messages to target mailboxes in the mail system, for those users who have the appropriate rights to restore messages. If a user has the rights to restore messages their user interface will have the 'Restore' button visible on their toolbar. Restoring messages **requires** GroupWise 8, or Exchange.

The action that the restore function performs is dependent on what platform the messages are to be restored to. For GroupWise, when the restore function is called, the selected GroupWise message(s) will have a stub restored to the mail system. Because the stub connects to and references the full item in the Retain archive, this function is effectively a 'full restore' of the message or messages. If message(s) are restored to Exchange, a full copy of the entire message with attachments is restored to the mail system. GroupWise messages may be restored to either Exchange or GroupWise.

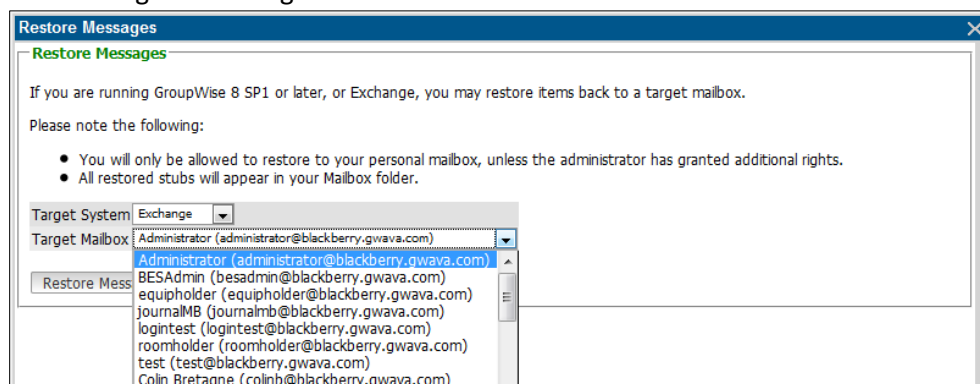
To restore a message or messages, log into the Retain archive, locate and select the desired message, or messages, and click on the 'Restore' button.



Select the desired target mail system for the restored messages. (This is usually the source mail system, though GroupWise messages may also be restored to the Exchange system.)



After the 'Restore' option has been selected, and if the user has rights to restore to any mailbox, the target mailbox must be specified, otherwise, only the user's mailbox will be available. When the 'Restore Messages' button is selected, Retain connects to the mail system and places a stub or the entire selected message in the target mailbox.

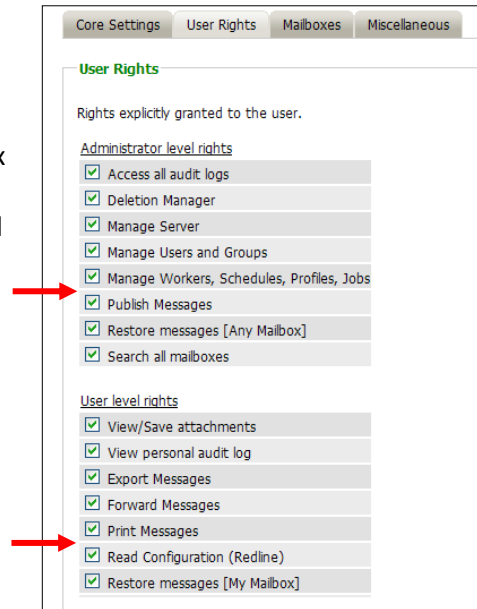


The Users Right that is required to use the Restore feature is called “Restore Messages”. Administrator level right allows users to restore messages to any mailbox, including mailboxes which did not have the message before.

Restoring a message which currently exists in the target mailbox results in a duplicate message existing in that mailbox. It is recommended to only restore messages that have been deleted from the mail system, but exist in the Retain archive.

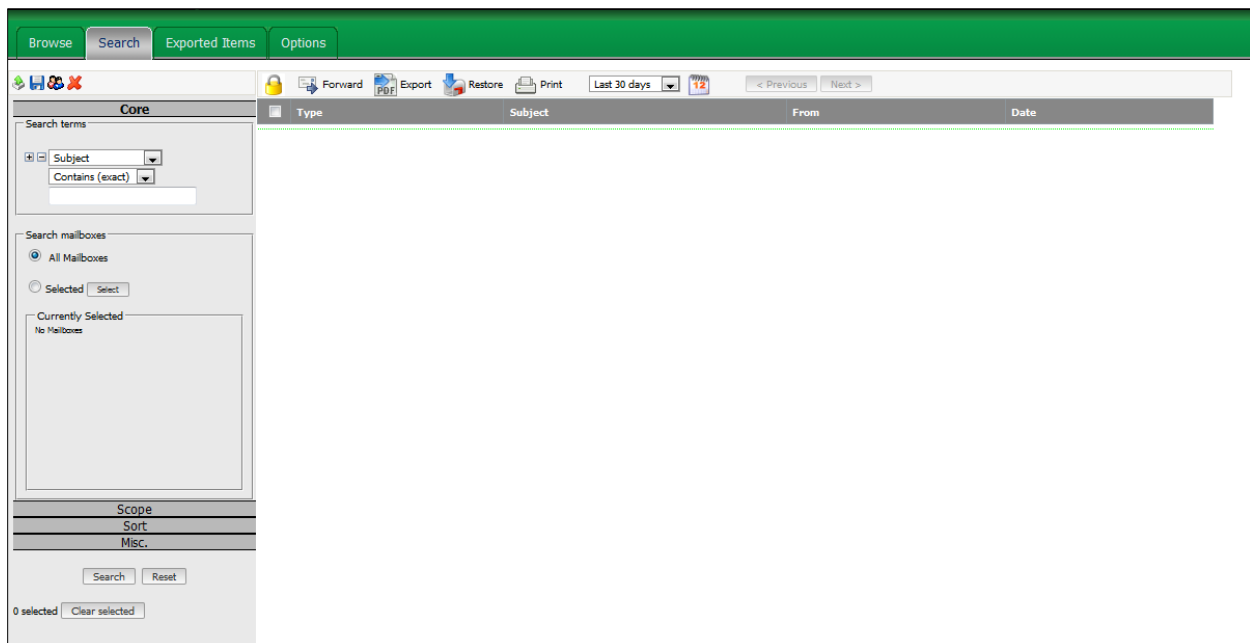
The Restore Stub feature requires:

- GroupWise 8 Client
- GroupWise 8 Post Office
- Retain Stubbing Server
- Stubbing correctly setup in ConsoleOne.
- Sufficient user rights to restore messages.



Search

This is the default **Search** screen.



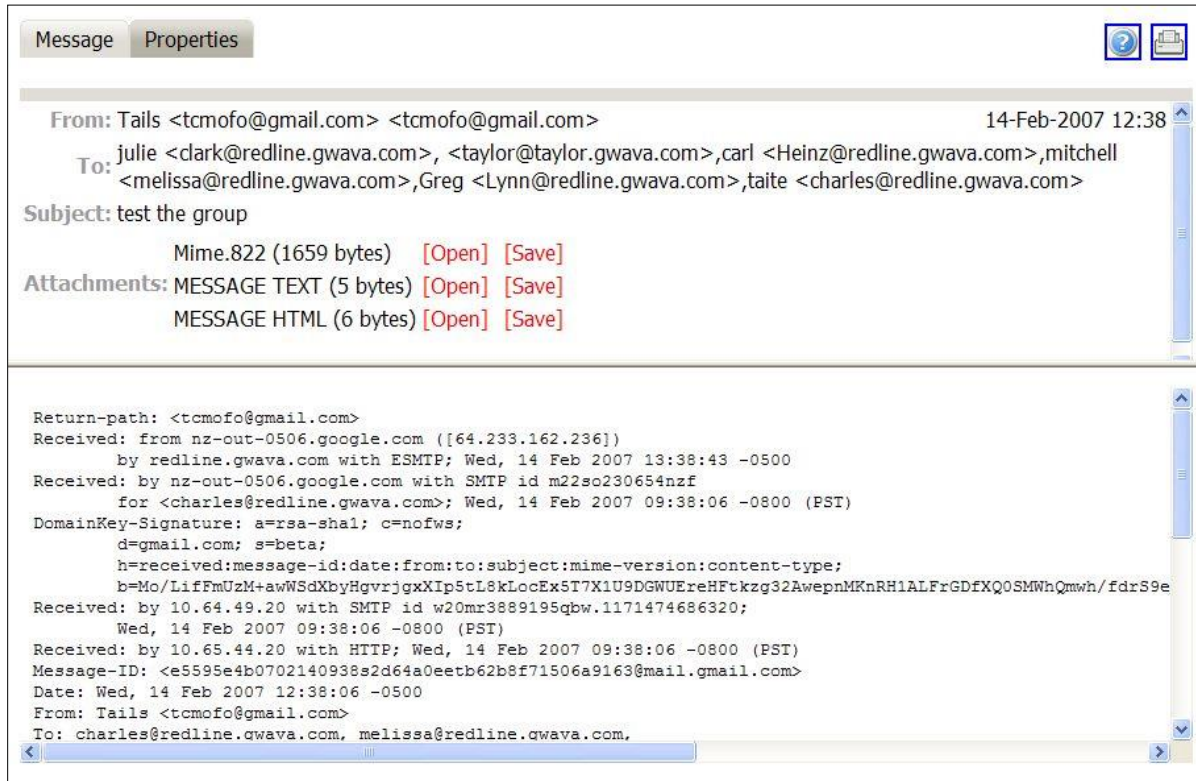
In Search, you enter your criteria on the left, including the scope of your search. Multiple criteria are permitted and you can perform a precise search this way. Your search results appear in the main window. Users with more rights will have more tools and search options available. Only users with rights to the different options in the archive will have those options appear in their toolbar.

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.

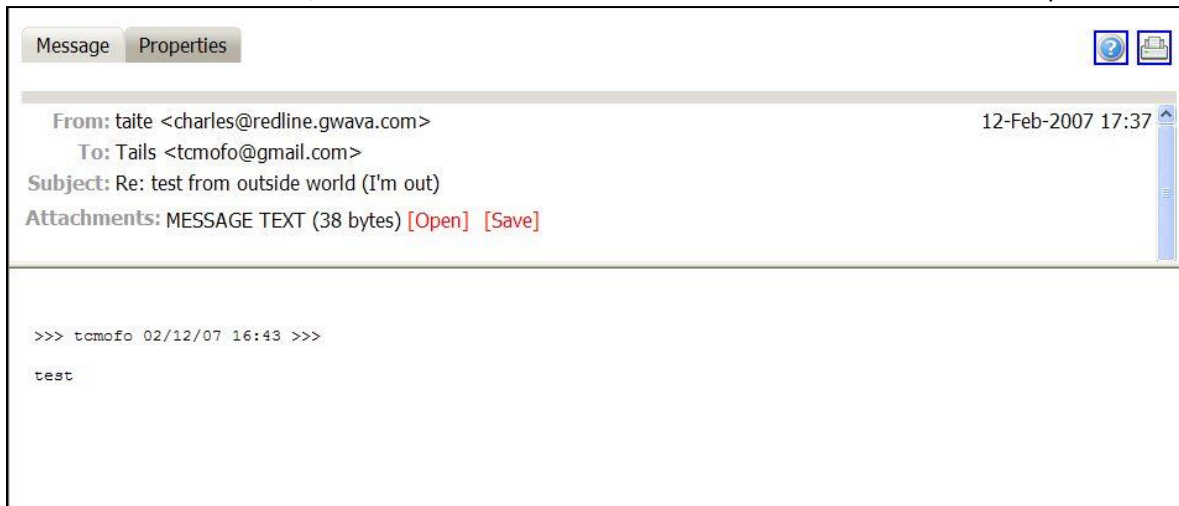
[See Search in More Detail](#)

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

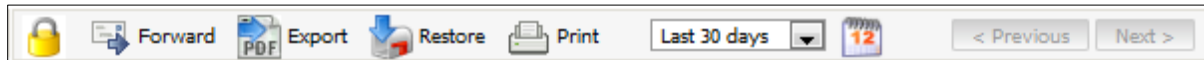
domain: gw2dom
priority: Standard
status: accepted,opened,read
postoffice: gw2po

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 the Mail system 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 additional criteria here. All items are logically AND-ed 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.) To use the Internet Header search term, you must

[enable the Internet Header options in the profile.](#)

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.

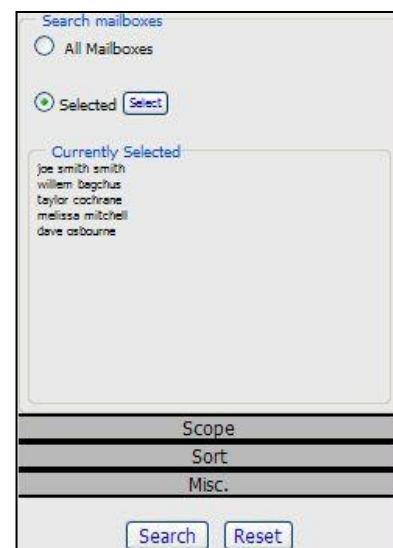
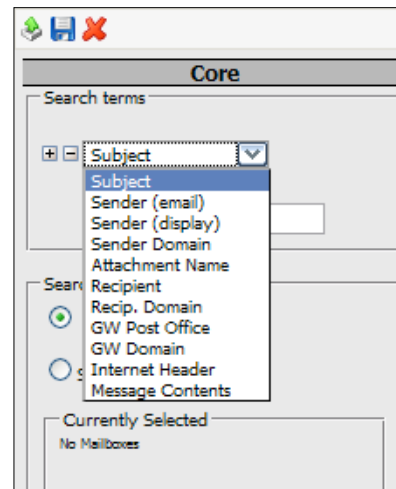
Search Mailboxes – Where to Look

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.

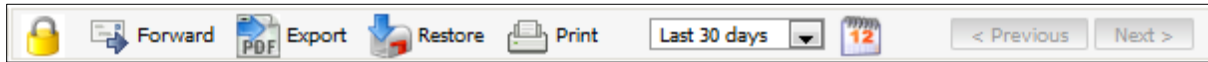
You choose which mailbox, or mailboxes to search through using the mailbox selection tool. ([See below](#)) Mailboxes that you have selected for the search are listed in the Currently Selected panel.

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.

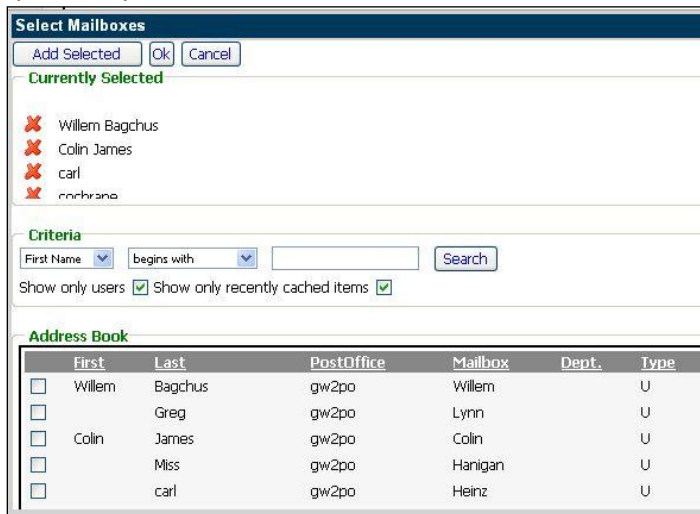


RESET – clears the query entirely.

Selecting Mailboxes

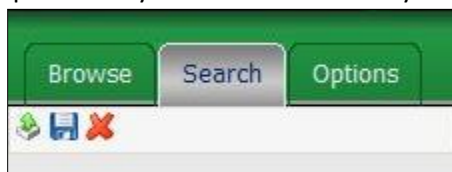
When you click on SELECT, you choose which mailboxes to search through using the selection tool. Use the check boxes to select mailboxes and click “Add Selected” to add them to the list in “Currently Selected”. You may remove mailboxes from the “Currently Selected” list by clicking on the red X next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



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 mail system 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 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.

Scope

Item Type
(Leave unselected to search all types)

☐ Mail ☐ Phone Message
☐ Appointment ☐ Task
☐ Note ☒ SMS
☒ MMS ☒ Phone Call
☐ BB PIN ☐ BBM

Item Source
(Leave unselected to search all sources)

☐ Received ☐ Posted
☐ Sent ☐ Draft

Attachment Size
 Any ▼

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 the mail system, 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 the mail system.

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 the mail system. 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.

Core
Scope
Sort

Sort Results
 First By: Creation Date ▼
 Then By: Sender Domain ▼
 Then By: Recip. (display) ▼

Misc.
 Search Reset

Core
Scope
Sort
Misc.

(Appointment, Task)

Start Date
 (any date) ▼ Range

End/Complete Date
 (any date) ▼ Range

Search Reset

Litigation hold

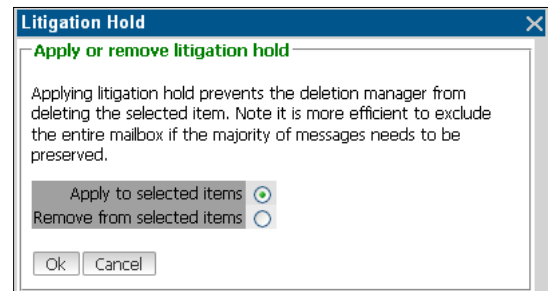
Litigation hold is a feature which counteracts the deletion manager. To use the Litigation hold feature, users MUST have the litigation hold right granted to them in the Retain Server.

The deletion manager is how mail is expired out of the archive, and removed when no longer needed due to age or other circumstance. Litigation hold tells the system to ignore the remove command from the deletion manager; messages or entire user mailboxes with litigation hold applied will not have any mail removed from the system until the hold is removed.



To apply the Litigation hold to an item, select the item then select the padlock at the top of the browse window. The following window will be displayed:

Choose whether to apply or remove the hold from the selected items. The entire use mailbox may be excluded from a deletion job in the deletion manager.



<input type="checkbox"/>		<1.14166227.-1@multexinvestornetwork.com>	Feb 7, 2002 - At what price broadband?	chris.po.dom	07-Feb-2002 02:43
<input type="checkbox"/>		<artistinsider@info.artistdirect.com>	MusicNews.Bono.Cobain.Britney.Sade.SnoCo	chris.po.dom	07-Feb-2002 01:29

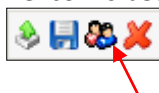
Items that have a litigation hold active on them are marked by a small padlock in the interface. If a hold needs to be removed, selecting the item then the litigation hold button at the top will bring up the option to remove the hold from the selected items.

Shared Queries

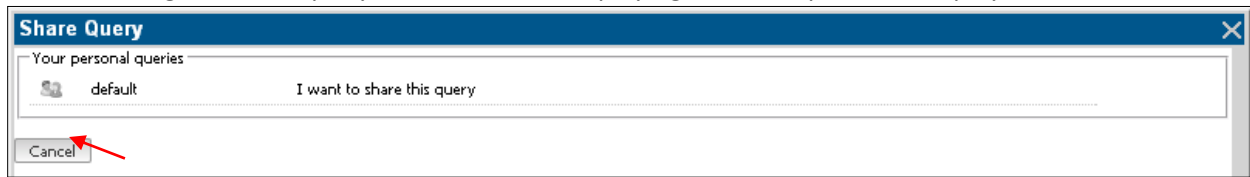
Queries may be shared with other users in the system. Shared queries are still subject to the individual rights of any user that the query is shared with. A shared query shows the full results to the query but does not grant access to the messages. If a user is restricted from viewing the mail from another user, but has a shared query, they will be unable to access the messages outside their rights.

Any search may be saved and any saved query may be shared with other users. When a shared query is created, the creator decides which users to share the query with. Once a query has been saved by using the disk icon at the top of the search window, it can become a shared query.

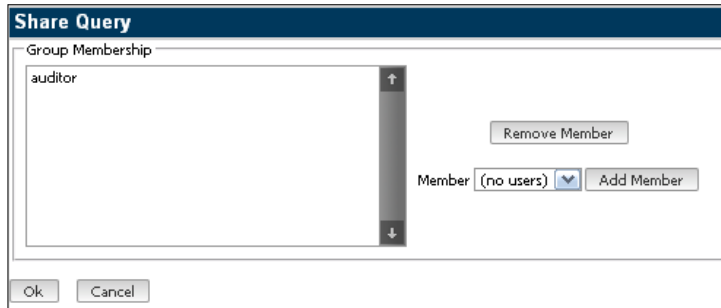
Creating a shared query takes two main steps. A query must be shared, and then accessed by the user it was shared with. To share an existing query, select the sharing icon at the top of the search window. This icon looks like red and blue users. The icon is between the save, and the close icons.



After selecting the share query icon, a window displaying all saved queries is displayed.



There are no queries shared in this window. The queries are listed, displaying name and description. If a query is to be shared, select the gray icon at the beginning of the saved query.

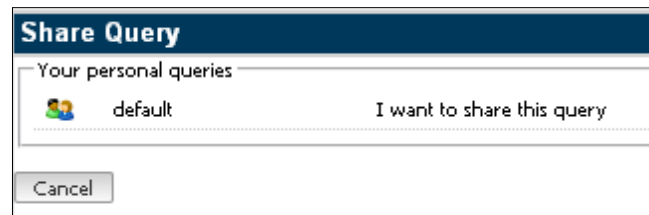


After selecting the shared query icon, the query creator must now select which users to share the query with.

Use the drop-down menu and 'Add Member, Remove Member' buttons to populate the group the query is to be shared with.

Once the group has been selected, click 'Ok' to be returned to the Share Query window. If the share query icon is now colored instead of gray, then the query has been successfully shared, and the users in the shared group now have access to the query.

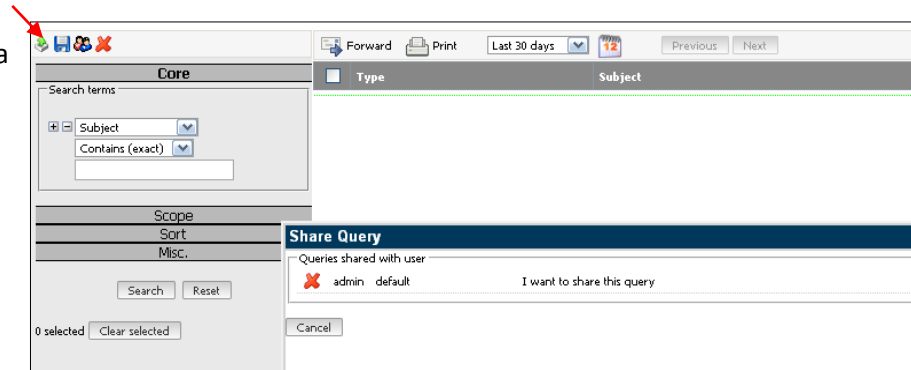
There is no limit to the amount of users that a query can be shared with. Adding users to an existing shared query group is accomplished by selecting the shared query icon and editing the existing list. The user which created and initially shared the query retains the rights to remove users from the shared query group membership or cancel the share altogether.



Accessing Shared Query

To access a shared query, a user which has membership in a shared query group logs into Retain and selects the Search tab. In the Search window, the user selects the Load icon at the top left of the search window. All saved queries will be

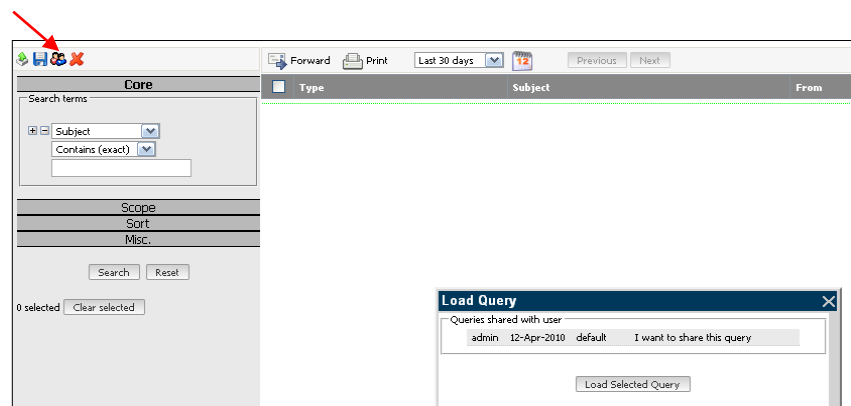
displayed, and the query that was shared will be available to be viewed. Select the desired query and the 'Load Selected Query' button to load the search criteria. Clicking 'Search' loads the messages fitting the shared criteria.



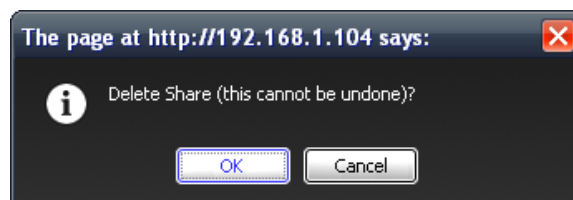
Removing a Shared Query

Users have the option to remove a shared query from their saved query list.

If a user desires to remove a shared query from their query list, it is accomplished through the 'Shared Query' window. Select the 'Shared Query' icon to view all queries that are shared, and that the user is sharing.



Selecting the red 'X' next to the offending query in the shared query window will remove the query and remove the user from the shared query group.

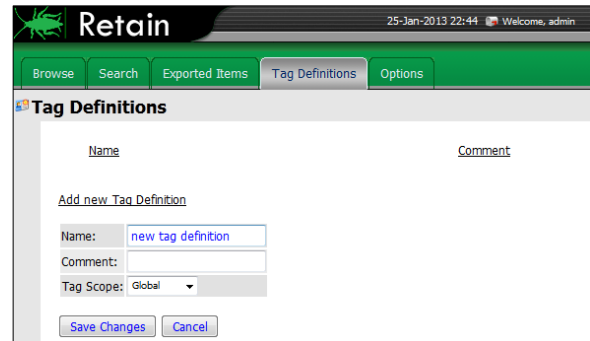


This action cannot be reversed, but the query may be re-shared.

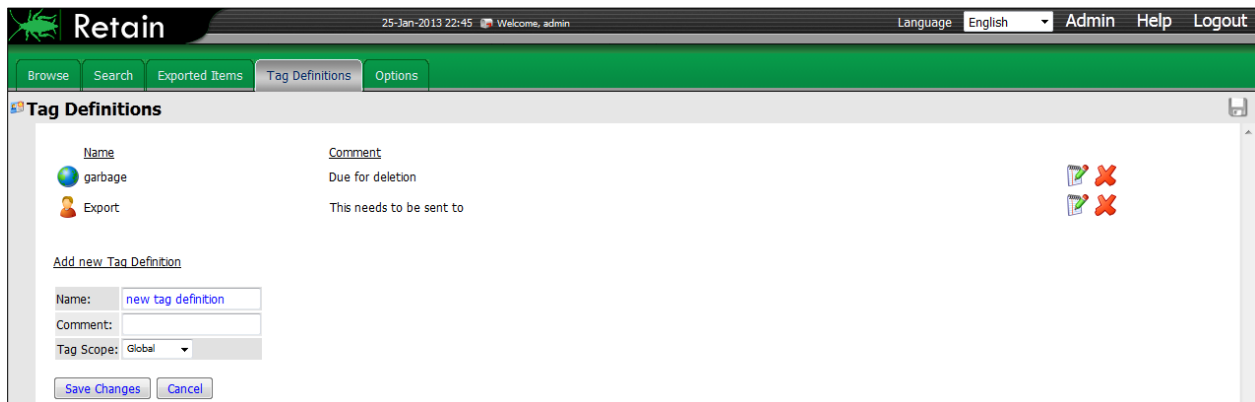
Tag Definitions

The Tag Definitions tab allows the creation and removal of Tags, their automatic comment, and name. Tags are an informative note which can be attached to any data item in the search messages interface. There is no limit to how many tags any one item may have applied to it, and there is no limit to how many tags a user may create. In addition, tags are also a serachable item, making this one of the most versitile ways to add long-term identification for items in the data store.

Before the tag icon will appare on the toolbar in the search interface, there must be at least one tag defined. To define a tag, enter the tag name and initial comment if desired, then, if the user has permissions to do so, define whether the tag is personal or global. Once saved the tag is available for use.



Global tags are tags that any user with the rights to see global tags will be able to view and apply. Personal tags are limited to the user who created them. Only tags visible to users will be available to be searched for by that user.

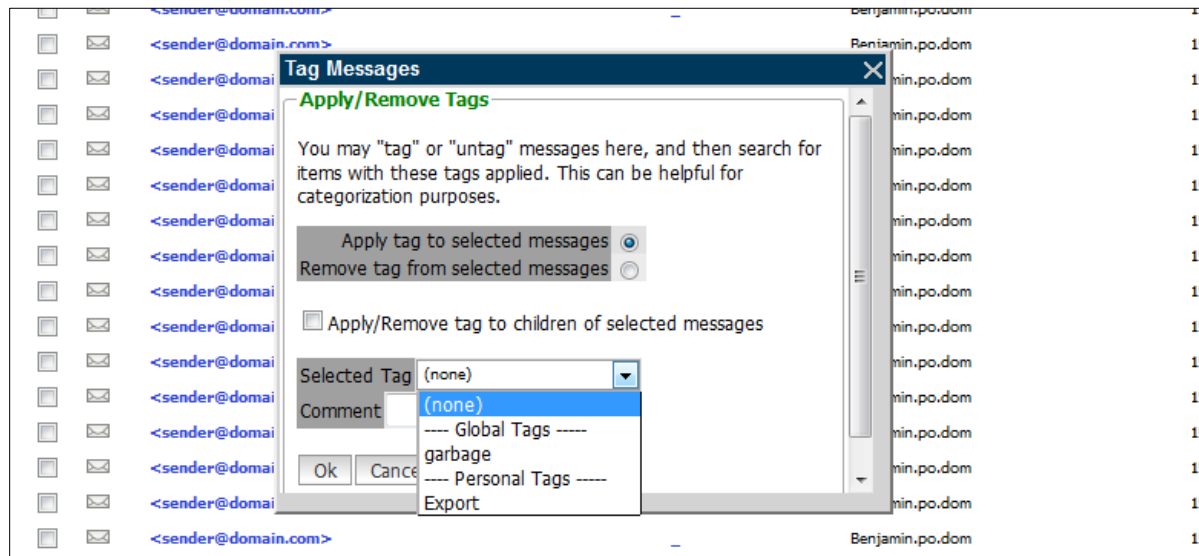


Any tags created or subject to manipulation by the user logged-in will be displayed under this tab.



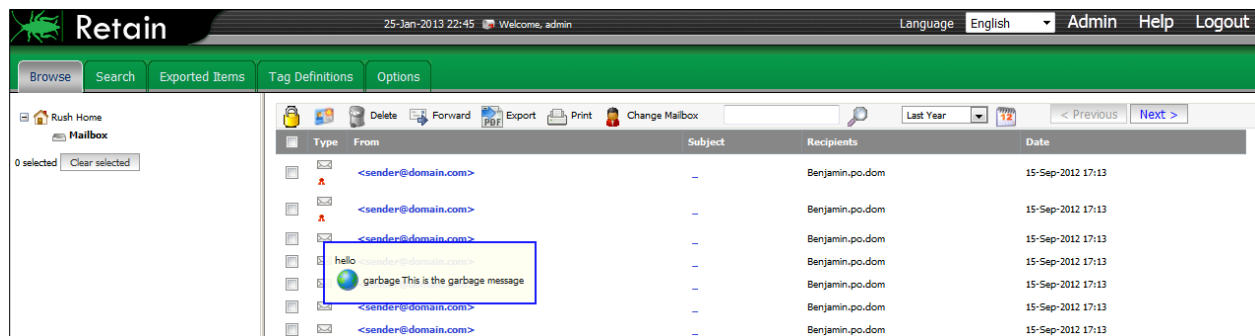
To apply a tag to a message or data item in the search messages interface, simply select the data item or items, and then click the 'Add / Remove' tag button in the toolbar.

Once the 'Add / Remove Tags' button has been pressed, the following information box is displayed:



All tags open for use by the user will be displayed, both global and personal. There is no limit to the amount of tags that can be applied to any one message. An additional comment may be added to the tag for the specific item or items selected. In addition, any associated 'children' messages or data items connected to the selected ones, may also be selected for tag application.

Once a message has one or more tags applied to it, a badge is displayed below the item icon in the window.



Hovering over the item's tag badge will display the tag; the global or personal icon along with the name and initial comment.

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.

The screenshot shows the 'Options' tab in the GWAVA Retain interface. At the top, there are five tabs: 'Browse', 'Search', 'Exported Items', 'Tag Definitions', and 'Options'. The 'Options' tab is selected. Below the tabs, there is a section titled 'Options' with a user icon. Underneath, there are five sub-tabs: 'Core Settings', 'User Rights', 'Mailboxes', 'Confidential Exceptions', and 'Miscellaneous'. The 'Core Settings' sub-tab is selected. The 'Core Settings' section displays the following information:

User ID	admin	
Comment		
Authentication Method	Offline Authentication (forced) (Use exclusively)	
Primary UID (links your rights)	bec67228-3b4b-4a29-bc42-d2eb9237db29 (none)	
Group Membership	(none)	
Account can expire	<input checked="" type="checkbox"/>	
Change Internal Password	Old	<input type="text"/>
	New	<input type="text"/>
	Confirm	<input type="text"/>

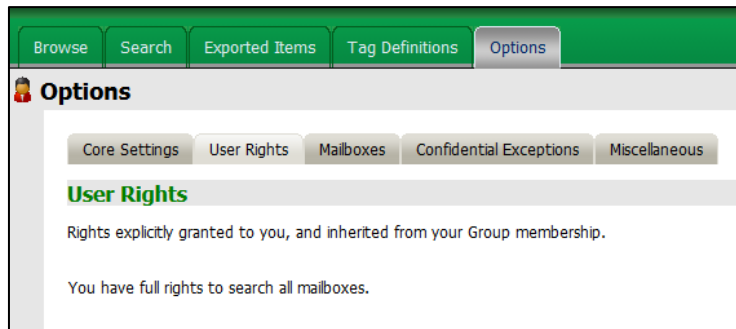
Core Settings

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 change it.

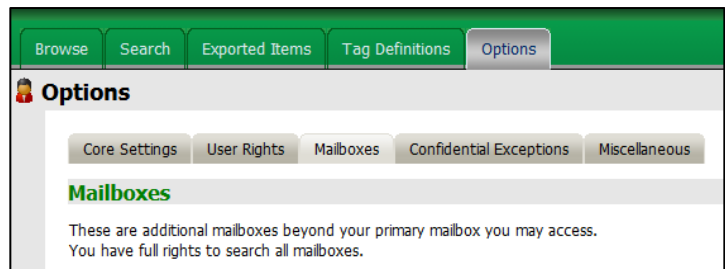
User Rights Tab

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.

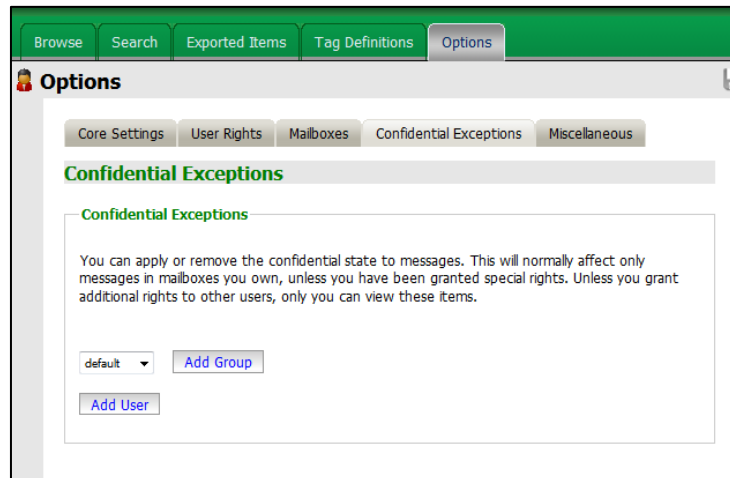


Confidential Exceptions

When a user marks a message as 'Confidential' in the archive, the message becomes invisible to all except administrators who have been given the confidential right, or any user which is specified in the exception list.

The 'Confidential Exceptions' allows users to add any necessary exceptions to the confidential tagging. Confidential tagging may be applied to protect sensitive. However, sometimes this information may need to be viewed by others and instead of granting that user rights to see confidential items for all users, a user may apply that right to only their items.

A group or individual user may be added to or removed from the list.



Miscellaneous Tab

This contains your display and session options.

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

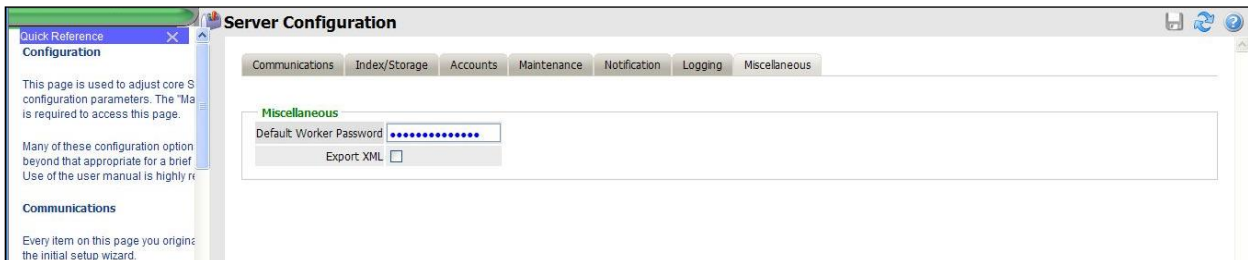
Options are:

- **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. It may be changed on the fly.
- **Session Timeout** Inactive session timeout. Can be between 5 and 60 minutes.

The screenshot shows the 'Options' window with the 'Miscellaneous' tab active. The 'User ID' is 'admin'. The 'Comment' section has a text area for the default comment. The 'Date/Time Formats' section shows 'Date' set to 'Day-ShortMonth-Year' and 'Time' set to '24 Hour', with an example '16-Mar-2011 00:38'. The 'Display Number' section shows 'Display Number' set to '25'. The 'Message Age Display' section shows 'Message Age Display' set to 'Last 30 days'. The 'Session Timeout' section has a label 'Time in minutes, to expire an inactive login session.'.

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.

About 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 logo in the top left corner, or the 'about' link in the top right.

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	0d : 1h : 9m
currentTime	Tue Aug 02 22:51:48 MDT 2011
timezone	Mountain Standard Time
retainName	SLES11x64
jvmVersion	20.1-b02
jreVersion	1.6.0_26-b03
javaHome	/opt/beginfinite/retain/java6/jdk1.6.0_26/jre
tomcatHome	/opt/beginfinite/retain/tomcat
indexDoc	45363
logHome	/opt/beginfinite/retain/tomcat/logs
osArchitecture	amd64
osName	Linux
userName	tomcat
tmpDir	/var/cache/retain-tomcat5/work/Catalina/localhost/RetainServer
tomcatVersion	Apache Tomcat/5.5.27
tomcatFreeMemory	193878
tomcatMaxMemory	932096
tomcatTotalMemory	250752
indexEngine	lucene
indexHost	
indexPort	10000
indexProtocol	http
retainHome	/opt/beginfinite/retain/RetainServer
retainEdition	Standard
retainBuild	250
retainAvailability	alpha
configSchema	16
messageStoreSchema	3
indexingSchema	1
derbyVersion	10.5.3.0
indexingType	lucene
indexingVersion	3.0.3
hibernateVersion	3.3.2.GA

Core Info	JAR List	Jobs
Schedules	Profiles	Workers
Quartz	Retention Date Utility	Indexer Status
Exchange Test	GW to Exchange Migrator	GW to Exchange Scope
Mailbox Merger/Splitter	Indexer Test	System Properties

Diagnostic Buttons

In usual operation, none of these buttons will be used without instruction of support. The diagnostic buttons found on the diagnostics page are used in conjunction with support and can be dangerous for the system if used without understanding or instruction. The utilities contained here display or modify core settings and functions of the Retain Server. Mismanagement of these functions may render the Retain Server unmanageable and in a nonfunctioning state.

Core info, JAR List, Jobs, Schedules, Profiles, Workers

The **Core info, JAR List, Jobs, Schedules, Profiles, and Workers** buttons initiate a download of the configuration .xml for each of those categories. All configuration tied to those items which have been configured in the Retain Server will be contained in the downloaded .xml and can be used to examine recorded configuration.

Quartz

The **Quartz** button displays a page containing all information and configuration for the Quartz scheduler. These settings determine when jobs start, when maintenance is, and time in the system.

Retention Date Utility

The **Retention Date Utility** tests the retention and purge flags in the mail systems. It is set in UNIX time stamp format, and should not be used without express guidance from Support.

Indexer Status

The **Indexer Status** displays the current health of the indexer engine along with the total unindexed items and associated memory load. There is also an option to shut off or to turn on the indexer. As the indexer should be alive at 'on' at all times during normal operation, only use this utility under instruction from Support.

Exchange Test

The **Exchange Test** utility attempts to connect to and login to the specified mailbox in the Exchange mail system, utilizing current configuration from the Exchange module, if configured. This is used to ensure that sufficient rights and access is open to Retain in the Exchange system. A target mailbox different from the Retain 'service' account must be specified.

Mailbox Merger / Splitter

This utility lets you move a mailbox to belong to part of the virtual mailbox of another entity. It should be used with care, and knowledge. Backups recommended.

Merge

Source Mailbox:
admin (po.dom)

The virtual mailbox associated with this item has the following mailboxes connected to it:

- admin (po.dom), which has these mailbox types connected:
 - gw (4AC5FF80-11DB-0000-81DB-F15CE5F2B5EF)

DestinationMailboxGroup:
New Entity

This uid doesn't have ANYTHING associated with it

After moving, if the original entity container is now orphaned, remove it

☐

Merge

Batch Load from a File

See [mergesample.xml](#) for the format.

XML File:

Merge

Mailboxes may be automatically merged by the Retain system if configured correctly under the Module Configuration | [Mailbox Mapping](#) options screen, but it must be done in correct order or the system will not recognize that a change has occurred and the merge will fail. Automatic merge can only be performed once.

Manually merging and splitting mailboxes is repeatable and is also the only way to undo a merge, automatic or otherwise. A batch load may be created and processed, but requires specific formatting, see the 'mergesample.xml' for format information.

Merging accounts creates a connection between two existing entities in the Retain database by merging their UID's in Retain, and allows a user with two differing email accounts, or one account repeated on two different systems, to manage their mail from within the same interface without having to search for and select a different account, or separately logging-in to two different systems.

To merge two addresses, first select the source mailbox and then select the destination mailbox. After the desired mailboxes have been selected, click the green 'merge' button.

To remove currently merged accounts, select the account you wish to sever as the source mailbox and merge it to a 'new entity'. Because the merge utility relies on tying entities to accounts in the database, the 'new entity' simply unties the account

This utility lets you move a mailbox to belong to part of the virtual mailbox of another entity. It should be used with care, and knowledge. Backups recommended.

Merge

Source Mailbox:
Administrator (LION.lion.gwava.com)

The virtual mailbox associated with this item has the following mailboxes connected to it:

- Administrator (LION.lion.gwava.com)
- migration (LION.lion.gwava.com)
- migration3 (LION.lion.gwava.com)
- migration4 (RHINO.lion.gwava.com)
- migration5 (LION.lion.gwava.com)
- David Andersen (PO1.Domain)
- David Anderson (LION.lion.gwava.com)
- Jason Bailey (PO1.Domain)
- Jason Bailey (LION.lion.gwava.com)
- Russ Bateman (RHINO.lion.gwava.com)
- Russ Bateman (PO1.Domain)
- Michael Bell (LION.lion.gwava.com)
- Ben Bishop (LION.lion.gwava.com)
- Ben Bishop (PO1.Domain)
- Brice Bitter (LION.lion.gwava.com)
- Brice Bitter (PO1.Domain)
- Colin Bretagne (LION.lion.gwava.com)
- Tony Caras (RHINO.lion.gwava.com)
- Tony Caras (PO1.Domain)
- Marlow Draney (RHINO.lion.gwava.com)

DestinationMailboxGroup:
New Entity

This uid doesn't have ANYTHING associated with it

After moving, if the original entity container is now orphaned, remove it

☐

Merge

from any other connections. Tying a user to a new entity does not create any new, floating entities or make any changes in the mail systems; it only severs the selected account from previously merged accounts.

GW to Exchange Scope

The GroupWise to Exchange Scope utilizes mailbox mappings to direct data from the mailbox and is required for the Migration.

The scope is used to specify which users are to be included in a migration job. If a user's mailbox data is desired to be migrated from GroupWise and placed into Exchange, they must be included in a scope file used by the migration.

From this point you can create a new scope file or modify an existing scope file. Please select one of the two options to continue.

Select 'New Scope File' unless a scope file already exists and is to be modified. After an uploaded file is loaded and modified, a new file will be created.

From the new scope page, users which have been merged are displayed below. For any users to appear, their accounts must first be merged.

Select the mailboxes mappings that this scope file should contain. Mailbox mappings can be created automatically or using the MergeUD tool.

<input type="checkbox"/>	Source	Destination
<input type="checkbox"/>	BenB Ben Bishop benb@retainesting.gwava.com	benb Ben Bishop benb@ion.gwava.com
<input type="checkbox"/>	BriceB Brice Bitter briceb@retainesting.gwava.com	briceb Brice Bitter briceb@ion.gwava.com
<input type="checkbox"/>	Candace Candace Riedelbach candace@retainesting.gwava.com	candace Candace Riedelbach candace@ion.gwava.com
<input type="checkbox"/>	DaronP Daron Parcell daronp@retainesting.gwava.com	daronp Daron Parcell daronp@ion.gwava.com
<input type="checkbox"/>	DavidM David Morgan davidm@retainesting.gwava.com	davidm David Morgan davidm@ion.gwava.com
<input type="checkbox"/>	EricM Eric Maughan ericm@retainesting.gwava.com	ericm Eric Maughan ericm@ion.gwava.com
<input type="checkbox"/>	Ernie Ernie Riedelbach ernie@retainesting.gwava.com	ernie Ernie Riedelbach ernie@ion.gwava.com

Select the desired users from the list by selecting the checkbox next to the name. A global select option is available at the top.

Once the desired users have been selected, click on the 'Generate Scope File' button to create and download the scope file.

GW Exchange Migrator

The GroupWise to Exchange Migrator is enabled via an additional license file. Because of the complexities of the Exchange environment and possible configuration options with Retain, it is recommended that you consult with your reseller or GWAVA Sales Engineer who can provide the license as well as assistance to ensure a successful system migration.

Warning

You can really badly break a mail system with this tool.

By clicking "Agree" below you understand the risks associated with this utility and that use is governed by the end user license agreement.

The process to migrate mail from GroupWise to Exchange begins with an existing Exchange system containing existing accounts equivalent to those found in GroupWise. The GW to Exchange migrator will not create accounts, it must have destination accounts to place the mail, and be told which types of mail, and which accounts to put it into.

Migrating data from GroupWise to Exchange is not a straight-forward endeavor, as Exchange contains default settings which, at default, block messages from 'untrusted' source, messages with specific attachment types or attachments which are too large. (Default limit for Exchange is 10 mb.) Setting appropriate trusted message types, sources, and size settings in Exchange are the responsibility of the system administrator. GWAVA Inc. is not responsible for any data that is not migrated due to incorrect settings.

To migrate data from an existing GroupWise system into an Exchange system, several steps must be performed in correct order.

1. Configure and cache the address book for both GroupWise and Exchange modules.
2. Merge the virtual Retain accounts either [manually](#) or via the automatic merge through [mailbox mapping](#)
3. **Immediately** run an [Address book refresh](#) from the modules page. (If the address book is not re-cached *immediately* after an automatic merge, the merge will fail and addresses will have to be manually separated and re-connected. Forcing a failed automatic merge can be accomplished by contacting GWAVA Support.)
4. Create a migration [scope profile](#)
5. Open the migration tool and fill in the pertinent information
6. Run the migration

To initiate a migration, select the 'GW to Exchange Migrator' from the diagnostic page. (If your system license does not enable Migration, you will be notified; contact your Retain sales representative.)

The migration tool requires a scope, which functions as a profile for the migration specifying included mailboxes, types of mail to be migrated, and the applicable date range. When an appointment is migrated from GroupWise into Exchange, an alarm can be set in the Exchange system to notify the user of the active appointment. The optional start date creates alarms only for appointments after specified date.

Migrate Store

☐ Enable Null Mode

Default Sender:

Start Date:

End Date:

Scope File:

Duplicates:

Message Types:

- ☒ Mail
- ☒ Appointment
- ☒ Note
- ☒ Task
- ☒ Phone

Enable Alarms: ☒ Set Alarms for applicable items

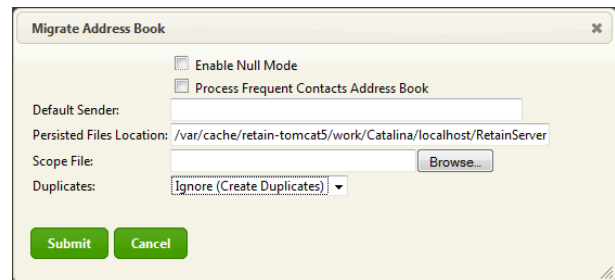
Start Date:

Alarm Time (Minutes):

When using the 'Migrate Store' option, only users specified in the scope will be migrated. Browse to the saved scope file, set the start and end date, (blank migrates everything), the message types desired, and then click 'submit' to initiate the migration. If a specific user is necessary for mail system operation, specify a default sender name.

Migrate Address Book migrates the users' personal address book for the users specified in the scope file.

Be sure to manage the duplicates accordingly, as the migration may be performed multiple times.

The screenshot shows a 'Migrate Address Book' dialog box with a title bar and a close button. It contains several configuration options: two checkboxes at the top, 'Enable Null Mode' and 'Process Frequent Contacts Address Book'; a text field for 'Default Sender'; a text field for 'Persisted Files Location' with the value '/var/cache/retain-tomcat5/work/Catalina/localhost/RetainServer'; a text field for 'Scope File' with a 'Browse...' button; a dropdown menu for 'Duplicates' with the selected option 'Ignore (Create Duplicates)'; and two green buttons at the bottom, 'Submit' and 'Cancel'.

Indexer Test

The indexer test utility provides a simply and quick query to the index engine and database. This is used as a low-level diagnostic tool for Support and is best used in conjunction with Support. Normal operation does not require any use of this tool.

System Properties

The System Properties utility displays basic system information and settings about the Retain Server, host environment, and functioning parts.

Appendix A: Backing up Retain

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

- ASConfig.cfg
- 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 Lucene index backup under [Maintenance](#). Retain will automatically backup ASConfig.cfg and Lucene Indices. (Exalead indices are **not** backed-up by Retain, as Exalead is a completely separate system and should be backed up individually.) 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

Steps to back up the SQL database are dependent on the SQL database. 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

Linux Embedded Tomcat Memory Tuning

For Embedded Tomcat which ships with Retain, Edit the following configuration file:

```
<<Tomcatconfigurationfilej2ee location>>  
<</etc/opt/beginfinite/retain/tomcat/j2ee>>
```

Edit the following line with the appropriate parameters for your system:

```
CATALINA_OPTS="-Xms256m -Xmx1024m -Xss160k"
```

This line sets the initial memory pool at 256MB, the maximum at 1024MB, and the stack size at 160KB.

By default, the embedded Tomcat is pre-tuned for basic functions, with 1024MB as the default for the Retain Server, and 256MB for the Retain Worker. THIS WILL NOT BE ENOUGH IN A FULL PRODUCTION ENVIRONMENT. Please tune to fit your system needs.

Windows Embedded Tomcat memory tuning:

- 1) Go to the System Tray icon for Tomcat. (If using the embedded Retain Tomcat, launch tomcat5w.exe located in C:\Program Files\Apache Software Foundation\Tomcat 5.5\bin. Skip step 2.)
- 2) Choose configure.
- 3) Go to the Java tab.
- 4) Set the Minimum Memory (always used), Maximum Memory, and Stack Size. (Retain Tomcat is pre-tuned to 1GB for the Server, and 256MB for the worker, and 160K 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.

UPGRADED SYSTEMS

If you upgraded, it is STRONGLY recommended to return any previous memory tuning back to normal for the original Tomcat while using the embedded Tomcat that comes with Retain. If you are not using the standard Tomcat for any other web resource, simply uninstall or completely disable the standard Tomcat installation.

Windows:

The embedded Tomcat installation overwrites the standard Tomcat installation, and any memory tuning you have previously completed no longer is in effect.

Appendix B – Troubleshooting for Common GroupWise Problems

General GroupWise Error troubleshooting can be effectively done by checking the GroupWise documentation. For any error code not found below, download and check the GroupWise documentation. (<http://www.novell.com/documentation/groupwise.html> select your GroupWise version and have a look into the Troubleshooting guide for the Error Messages.)

Or, the GroupWise online documentation is usually found at
www.novell.com/documentation/<groupwiseversion>/
i.e.

<http://www.novell.com/documentation/gw8/>

<http://www.novell.com/documentation/gw7/>

From the troubleshooting menu, select 'Error Messages'

Some common error codes are:

EA04

EA04: The response is too large, SOAP protocol error, or the 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

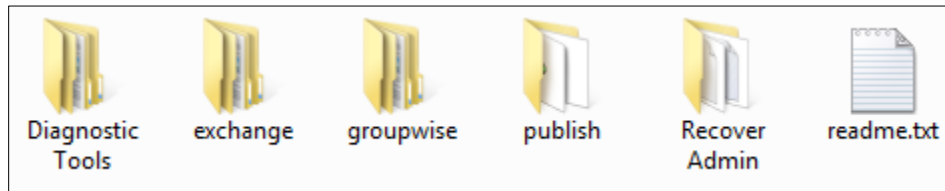
- Limited client license

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.

The tools are grouped into categories, diagnostic and Retain archive tools and platform specific:



GroupWise tools

GroupWise 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 migrations from a single workstation, and not involve the users at all.

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. Refer to the [Error Handling](#) section for important configuration.

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 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 and 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.

The screenshot shows a web-based configuration interface with a tabbed menu at the top: Polling, Logging, Connection (selected), Module specific, Status, and Bootstrap. The 'Server Connection' section is active and contains the following text and form fields:

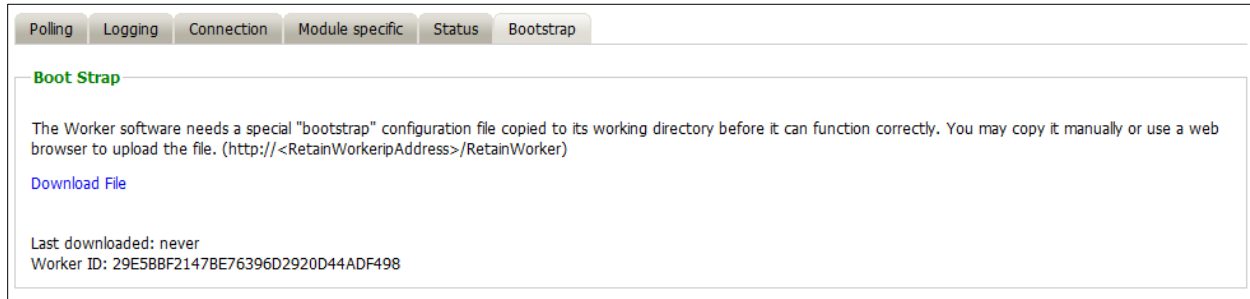
The worker will need to know how to connect to the Server. It is highly recommended that you use a DNS host name for the Host Name. It's important to note that you are specifying the URL from the point of view of the **Worker contacting the Server**, which may or may not match the URL you'd use from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

For administrators using the Reload interface, note the worker password assigned must be the same for each worker that contacts the Reload Server. As part of setting of the Reload Server, you must know this password.

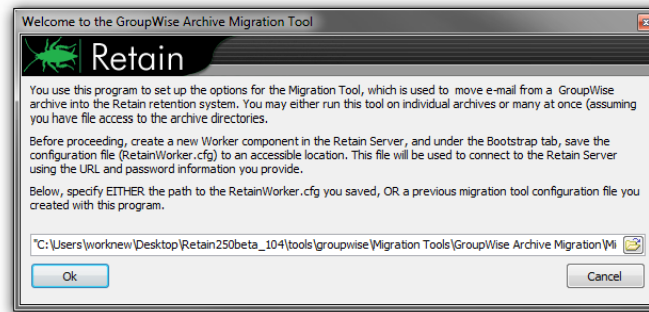
Server Protocol	http
Server Host Name	192.168.1.106
Server Port	80
Server Path	/RetainServer
Worker Password

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 tool configuration utility. A window will open on top of the configuration utility requiring the location to find the bootstrap file you have just saved.



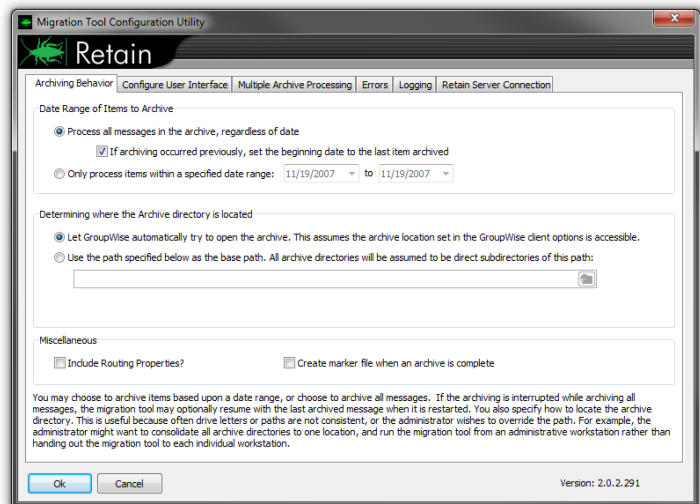
(This window will also accept saved configurations from previous sessions.)

Archiving Behavior

Date Range – limits or specifies specific mail to process based on a date range.

Archive Directory – The location of the archive or archives to be migrated. The default path is assumed unless selected to be specified.

Miscellaneous – contains the options to preserve the routing properties in the archive or to add a marker file when the migration is complete.



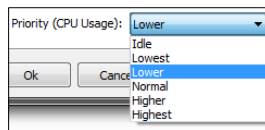
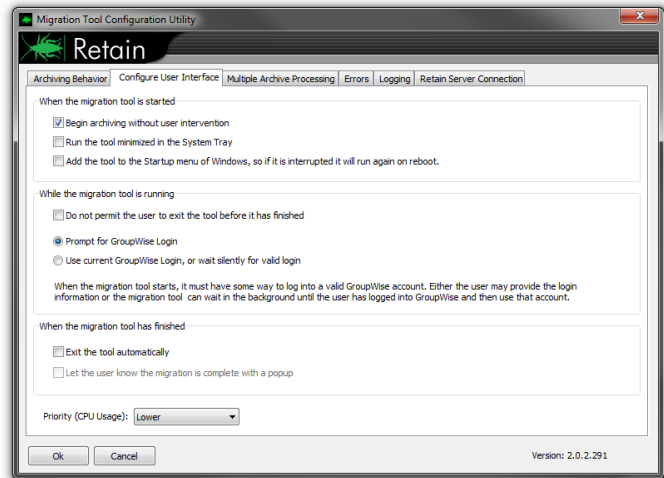
Configure User Interface

When the Migration Tool is Started - Begin without user intervention the archive process immediately begins without any prompts. Run minimized sets the migration utility to run the migration in the background while the workstation completes other work. The tool may also be set to run automatically on system boot, in case something interrupts the archive job.

When Migration Tool is Running - Contains options to prohibit the user exiting the program before the archive migration is complete and GroupWise login settings. The tool must be able to login and gain access to the archives.

When the Migration Tool has Finished – Contains the behavior of the migration utility on completion; automatic exit, notification, or neither.

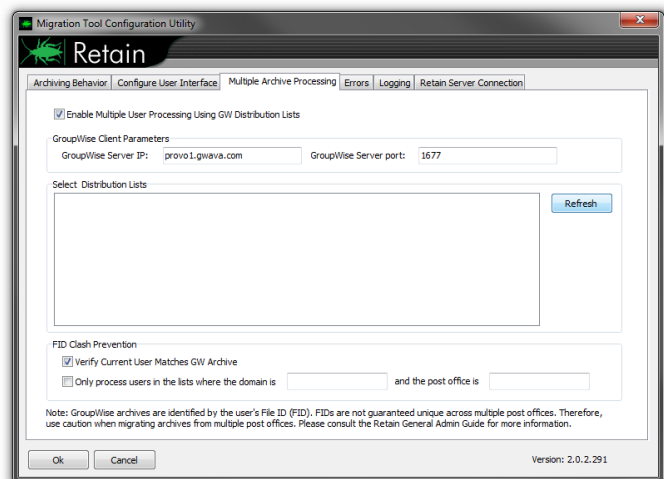
The CPU priority usage is also set here.



Multiple Archive Processing

In order to process more than one user archive the option must be enabled at the top of this page and the users must be verified against the GroupWise system. It is recommended to only process multiple archives from the same post office.

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. If users from multiple Post Offices are to be migrated, employ some kind of FID clash protection by verifying archives or only processing users which can be verified by a specified Domain and Post Office, (specified in DNS:port or IP address:port).



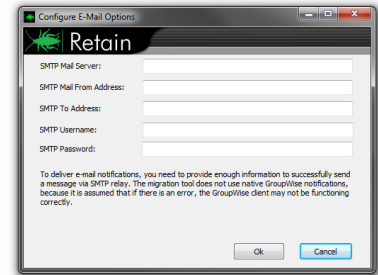
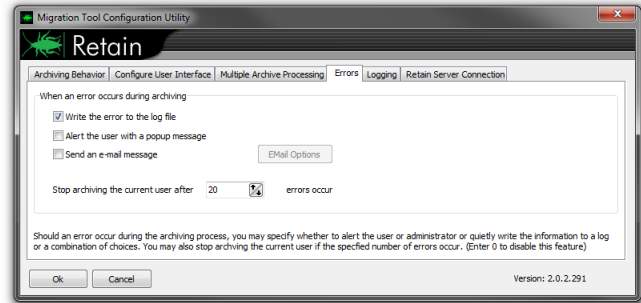
Errors

The error limit and actions taken when an error is encountered are specified on this tab.

Errors may be written to the log file, (specified in the next tab), sent in a pop-up message to the user, or sent as an email to the specified address.

The limit of how many errors may be encountered before the migration utility quits the current user is specified. A setting of '0' sets the limit to infinite. **IMPORTANT! By default, the current user will be skipped after 20 errors by default.**

If an email is desired for each error encountered, email settings must be configured. Select 'Email Options' and input the connection information, source address, destination address, and user login information for the SMTP Mail Server.

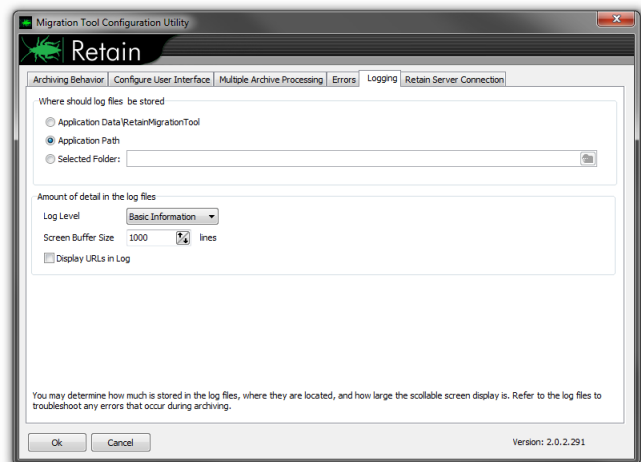


Logging

The location, logging levels, and buffer of the logging screen are all configured on this tab.

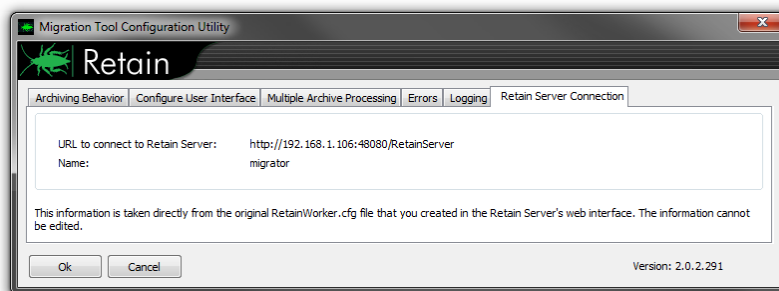
Where Should Log Files be Stored - A specified path, the path to the current location of the application, or a specified path must be selected.

Amount of Detail in the Log Files – The logging level determines how much information is provided in the log files. Unless troubleshooting, log levels of 'normal' and 'errors only' are sufficient. The buffer size for the logging screen determines how much history the running log screen of the migration tool contains.

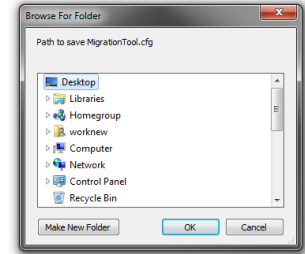


Retain Server Connection

This is an informational page showing the connection settings from the RetainWorker.cfg created in the Retain Server. If this information is incorrect, the Retain Server Connection settings must be modified under the worker configuration in the Retain Server, and a new bootstrap file downloaded for use.



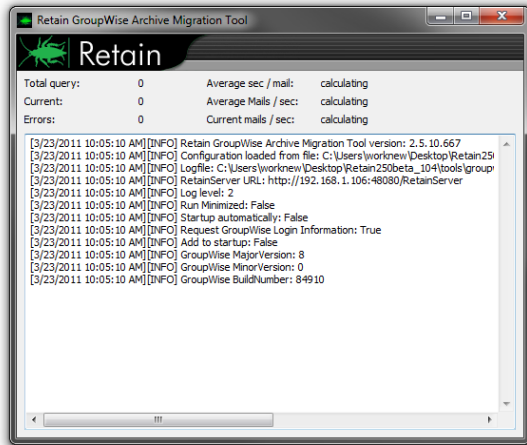
Once the configuration has been setup as desired, click 'Ok' and select the location to save the changes into a 'MigrationTool.cfg' file.



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. It is critically important that the workstation used 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 can be migrated, 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.

The Archive Plug-in

This is a simple C3PO plug-in 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.

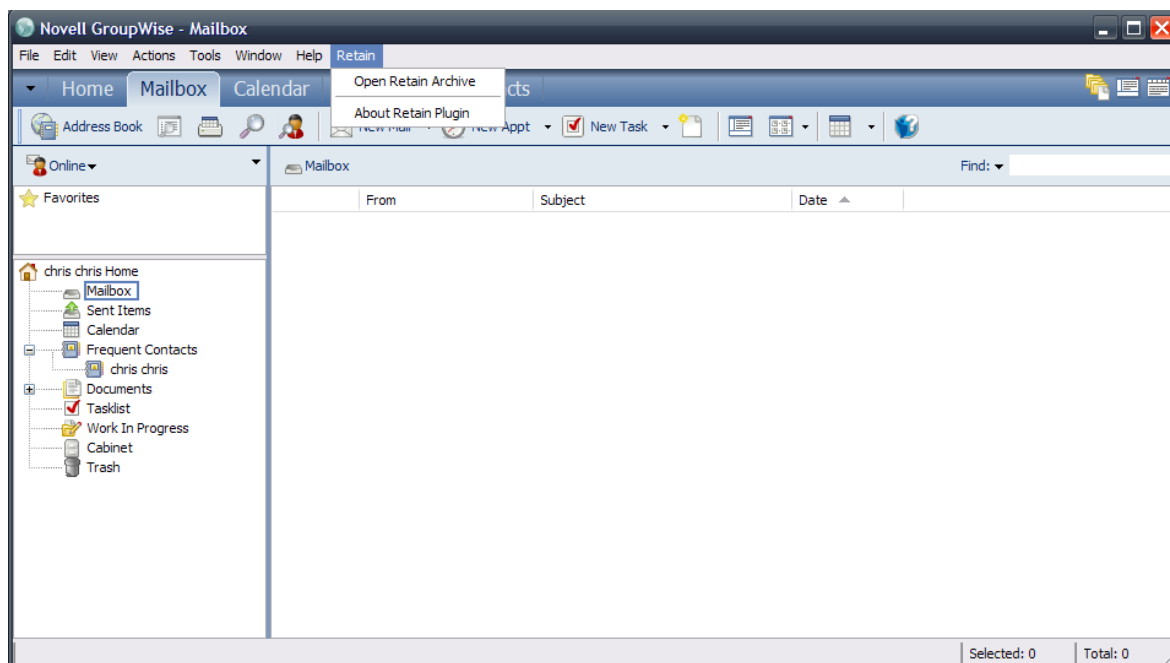


Blob Extraction Tool

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.

Single Sign On

The C3PO Plugin for Win32 provides single sign on functionality. To utilize the single sign on feature, the Win32 GroupWise client must have the Retain plugin installed. The Retain Plugin is located in the downloaded install source. (.../<Retain>/tools/Win32 Client Archive Plugin/Retain Archive Plugin.1.1.0.119.exe) The installer must be run on the machine where Single Sign On will be used. Single Sign On requires Retain Server 1.8x or later. Single Sign On integrates a menu option into the GroupWise Win32 client providing easy access to online archives. The Installation requires the specified address of the Retain Server.



Once selected, the Open Retain Archive option will sign the user into Retain using the GroupWise authentication active in the GroupWise client, providing a transparent login. As such, it is not recommended for use on public workstations.

The program may be run from command line, the options are:

- /url=URL (Provide URL to the Retain Server)
- /hidemenu (Hide standard GroupWise archive)
- /SILENT (Run without user intervention – requires /url argument.)

WebAccess

(Same as Single Sign On above)

Requires:

- GroupWise 8 or later
- (Installer only) Java 1.5
- Windows or Linux

NOTE: If you are running WASP2™ you must update to the latest version of WASP (Version 2.0.5) in order to continue using both WASP and the Single Sign On Retain Module on the same WebAccess server. If an earlier version of WASP is in use, it will be broken with the addition of the incompatible Retain WebAccess Single Sign On plugin.

The WebAccess module .jar file is located in the Retain install sources. After Retain has been downloaded and extracted, the .jar file can be found in the .../Retain180/tools/WebAccess plugin directory.

To install the module, run the .jar java executable file in an X session.

i.e.

On Linux:

```
java -jarRetain_setup_20091005.jar
```

On Windows:

double-click the file.

For NetWare or remote systems SEE THE FOLLOWING LINK:

<http://support2.GWAVA.com/kb/?View=entry&EntryID=1608>

Installing to a remote system **requires** direct file access.

The installer file may be run from a workstation fulfilling the requirements to install on a remote machine. To install remotely, WebAccess source directories must be exported and mounted to the workstation.

i.e.

(For Linux):

/srv/www/tomcat5/base/webapps must be exported and mounted via NFS or a SAMBA share
/var/opt/novell/ must be exported from server and mounted to /var/opt/novell on the workstation.

The final step to install the WebAccess plugin is to create two folders in the Novell folder structure. Retain cannot create folders or set permissions on the host system, but requires the folders to be created in the Novell directory structure to function.

Windows:

Two folders need to be created on the GroupWise server. From where GroupWise was installed, browse to:

...\GroupWise\webaccess\retain\templates\webacc

Create two new folders here:

mobile

simple

Restart Tomcat and the plugin installation is complete.

Linux:

Retain requires two folders to be created, as well as the permissions set to match, on the GroupWise server.

Browse to:

`/var/opt/novell/groupwise/webaccess/retain/templates/webacc`

Create two new folders here: 'mobile' and 'simple'

`mkdir mobile`

`mkdir simple`

Note the file permissions and owner of the 'css' folder, and change the permissions of the two new folders to match.

Restart Tomcat

`rcretain-tomcat restart`

Once Tomcat has been restarted the plugin installation is complete.

Once installed, WebAccess will add a new tab to the User client window called "Retain", which will sign the user into Retain when selected.

For a text-only or shell install on Linux:

1. Copy the "WebAccess plugin" directory (or contents thereof) to the webserver where the WebAccess Application (the Tomcat servlet, not GWINTER) is installed.

2. Flag the .sh files as executable

`chmod +x *.sh`

3. Run desired install:

`./installtext.sh` (For text mode only install)

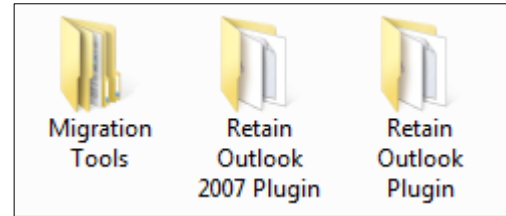
`./installgui.sh` (If running X-windows system and want a graphical install)

(The folders described above must still be created on the GroupWise server.)

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Exchange Tools

The Exchange tools folder contains the tools appropriate for the Exchange mail system: personal archive migration, and single sign on plugins.



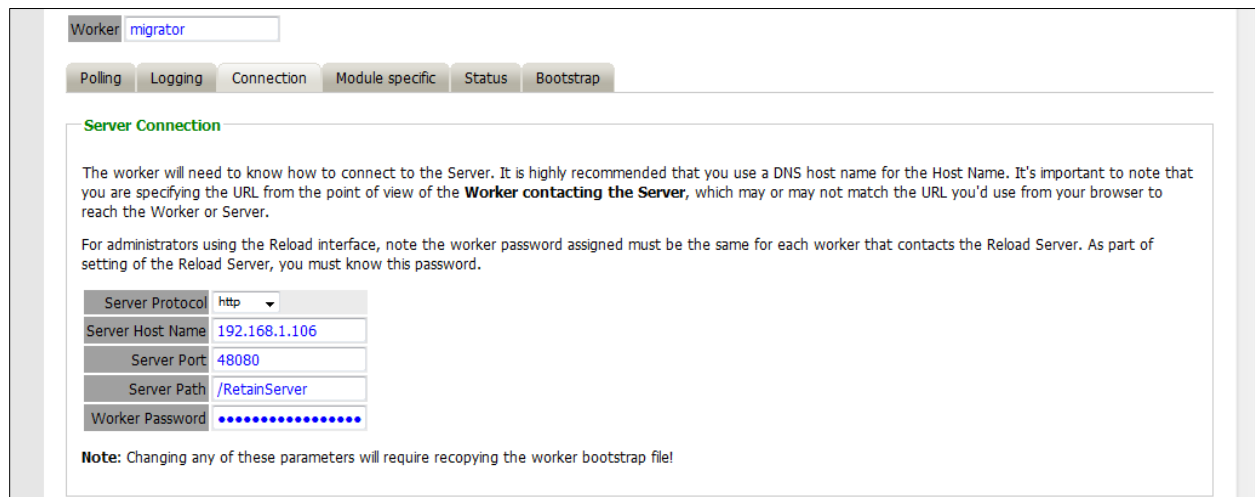
Exchange PST Migrator Migration Tool

The PSTMigrator is a Java utility used to input mail in the PST archives into the Retain system. The PST migrator interfaces with the Retain system through a worker configuration file to contact the Retain server and input the mail found in the PST archive to the Retain system.

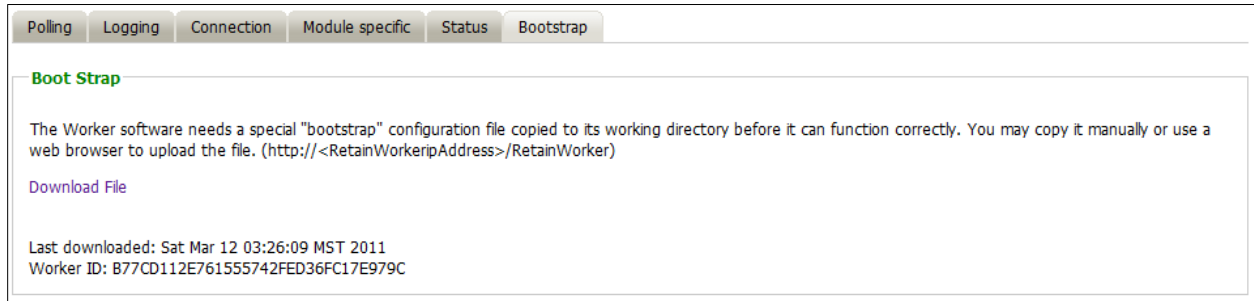
The PSTMigrator should be run on the local workstation where the Outlook PST archive file is located, and requires Java to be locally installed.

The PSTMigrator requires a Worker configuration and bootstrap file to know where and how to communicate with the Retain Server.

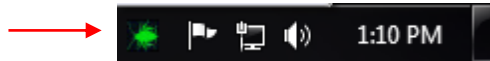
1. In the Retain Server management console, create a new worker, it would be appropriate to name it 'migrator' or 'pst migrator'. A general configuration is all that is required; no specific settings need to be changed from default, except the connection information if it needs to be modified in accordance to the needs of the local network. It is imperative that the PSTMigrator have an open connection to the Retain server. When the settings are correct, save the new worker.

The screenshot shows the 'Worker' management interface. At the top, there's a 'Worker' dropdown menu with 'migrator' selected. Below it are several tabs: 'Polling', 'Logging', 'Connection', 'Module specific', 'Status', and 'Bootstrap'. The 'Connection' tab is active, showing the 'Server Connection' configuration. The configuration includes a text area with instructions: '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. For administrators using the Reload interface, note the worker password assigned must be the same for each worker that contacts the Reload Server. As part of setting of the Reload Server, you must know this password.' Below the text area are five input fields: 'Server Protocol' (http), 'Server Host Name' (192.168.1.106), 'Server Port' (48080), 'Server Path' (/RetainServer), and 'Worker Password' (a series of dots). A 'Note' at the bottom states: 'Changing any of these parameters will require recopying the worker bootstrap file!'.

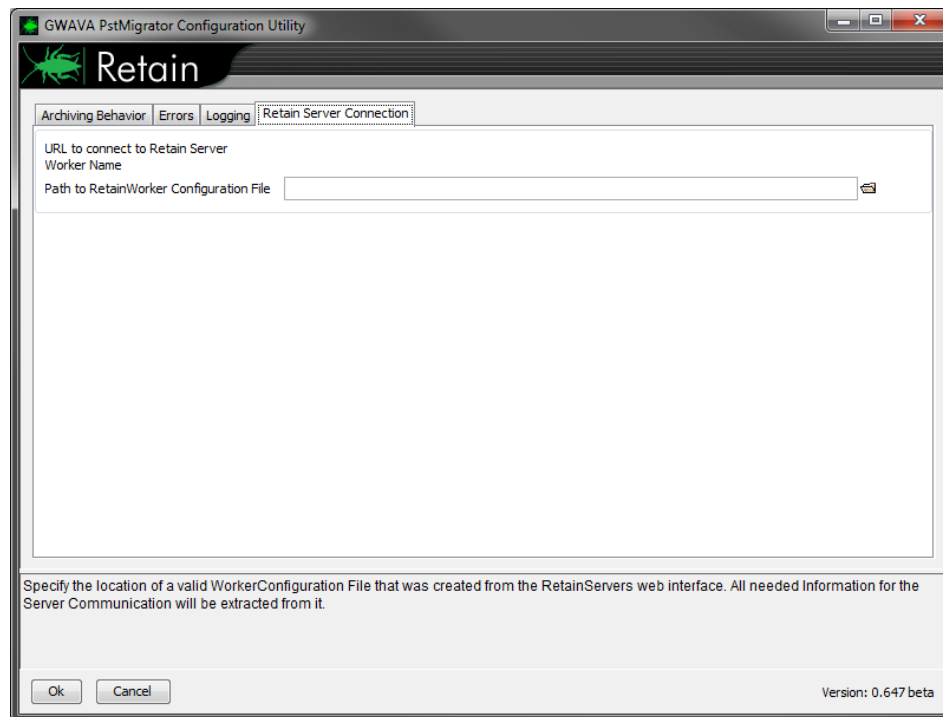
2. Download the bootstrap file.



3. Run the PSTMigrator utility on the Windows workstation containing the pst archive file. If Java is installed, the PSTMigrator.jar file can be run simply by double-clicking on the file. When initially run, the PSTMigrator is placed in the taskbar, and must be selected to be opened.



4. Upload the Worker configuration to the PSTMigrator.
Right click on the PSTMigrator icon in the taskbar, and select 'configuration'.
The initial screen of the migrator is opened to the Retain Server Connection tab, where the bootstrap file is specified.



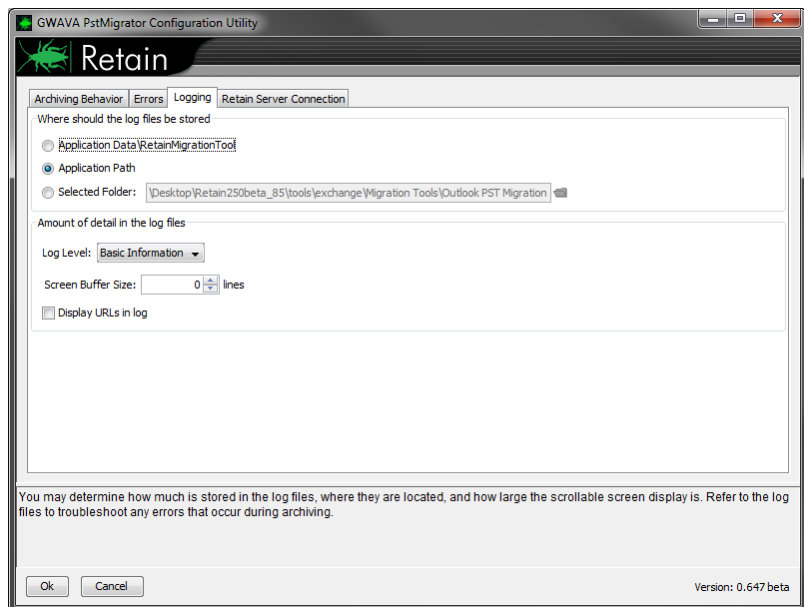
Browse to the location of the worker configuration downloaded in step 2, and select the configuration.

5. Configuration logging, error reporting, and specify the pst archive file.

Logging

Log files will contain as much information as the administrator desires, from a normal or basic level, to diagnostic.

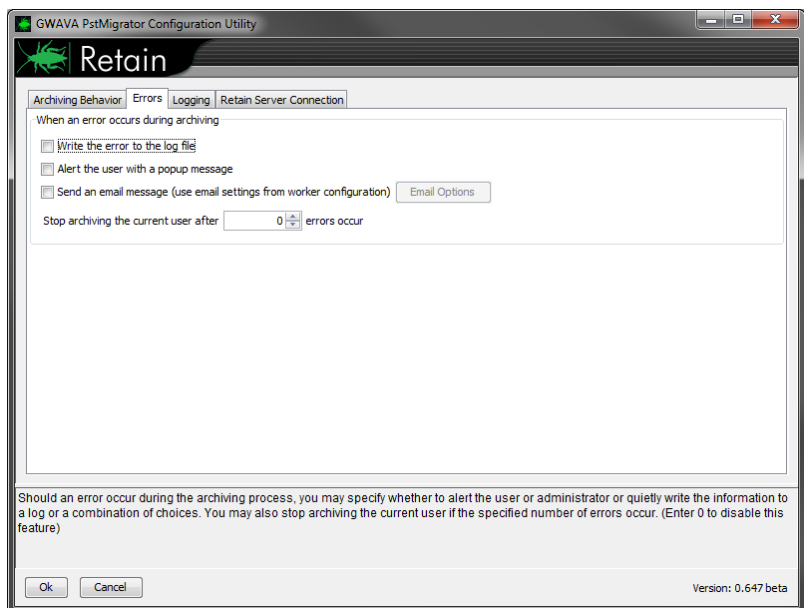
Select the path for the logging files, whether that is a custom file path, application path (stored in the same folder as the application), or with the application data, (in Retain).



Errors

If an error is encountered, what the migrator utility does with that error is determined by the options configured here. The error may be logged, recorded in a popup message, sent in an email notification, or all three options at the same time.

An error limit may also be specified which determines how many errors the migrator can encounter before ceasing the migration job.



Archiving Behavior

The Archiving behavior tab determines what is archived. If the pst archive file has been partially migrated at a previous time, then the PSTMigrator provides the option to only archive the parts which have not been previously archived.

The PSTMigrator also has the option to only migrate mail according to a set data range. The PSTMigrator will work on all archives listed in the Archive File window. To add an archive file to the migration list, select 'add' and browse to and select the desired pst archive file. After selecting the archive file, the migrator will attempt to access to the archive.

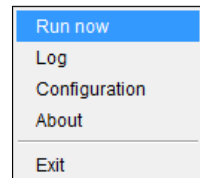
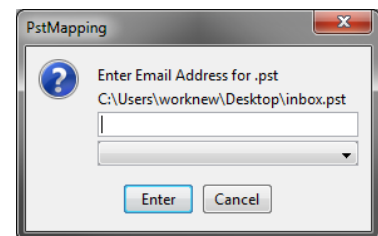
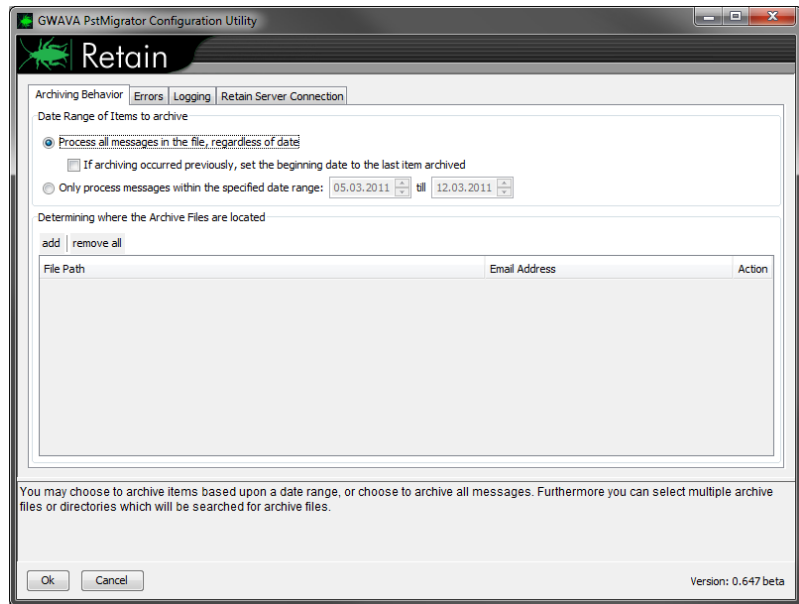
The PSTMigrator may require the email address of the source account in order to achieve access to the archive. Provide the source address.

6. Migrate the pst archive.

Selecting 'Ok' does not initiate the migrator, it only sets the configuration. To start a migration job, right click on the taskbar icon and select 'Run now'.

7. Wait for the migration to finish.

The migrator will run as a background service and complete the entire list of archives. If configuration needs to change between archives, migrate the archives separately with configuration changes in-between.



Single Sign On

Single sign on for Exchange comes in two different versions: one which plugs into the Outlook client, and one that works with WebAccess on the Exchange server. Select the version which fills the appropriate need.

Single sign on creates a new entry in the user interface which opens a new window directly into the user's personal Retain archive. This eliminates the need to log into Retain separately from the User's normal mail client.

Exchange Server WebAccess install

The WebAccess plugin installation is simple; run the installer on all applicable Exchange servers and follow the prompts.

The installer prompts for install location and for the URL of the Retain server.

IIS must be restarted. The installer offers the ability to restart IIS automatically.

Outlook Plugin

(NOTE: Trial versions of Outlook have plugins disabled; the Retain outlook plugin will not work on trial versions. Outlook 2007, 2010, and 2013 are supported)

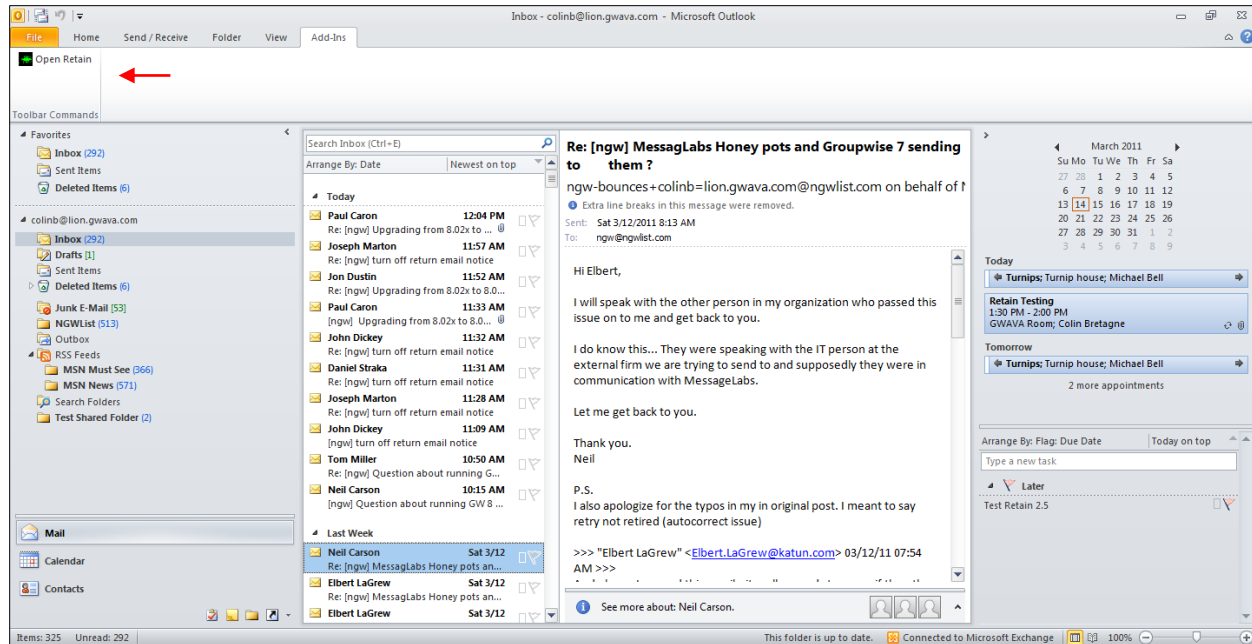
The Outlook plugins are essentially the same thing; Single Sign-on plugins for Retain which allows Outlook users to connect to the Retain archive in simply by connecting to their accounts in the Exchange system. Be sure to install the appropriate one for your system.

The module requires Outlook configured and currently running, authenticated to and part of Active Directory. For the plugin to work correctly, **administrator rights are required during install**.

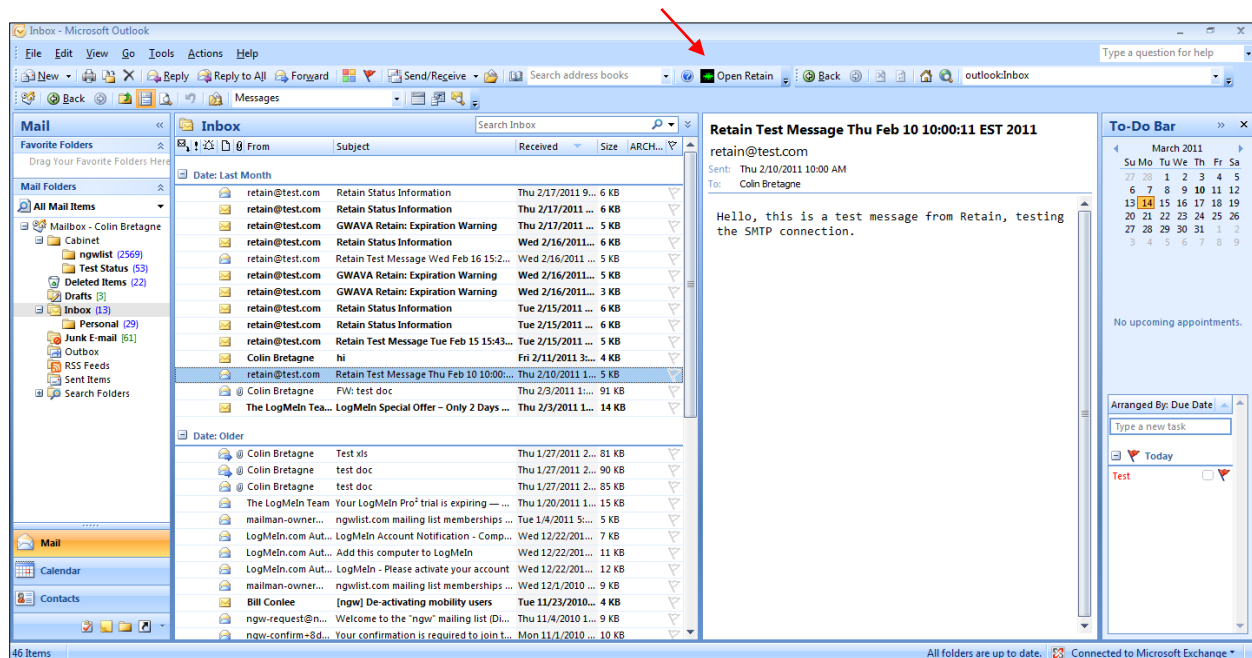
Installation is simple, run the setup.exe installer and follow the prompts. Running the setup.exe installer will download and install all necessary and appropriate files and run the .msi as appropriate. An Internet connection to the target workstation is required to download and install the necessary files, (32-bit or 64-bit as appropriate).

Uninstallation is achieved through the Control Panel | Uninstall or Change a Program utility in Windows.

Accessing the plugin is different in each version of Outlook. The Retain plugin under Outlook 2010 is found under 'Add-ins', where Retain has a toolbar button, 'Open Retain'.



In Outlook 2007, the option adds a toolbar button. To access the archive, select the 'Open Retain' button from the toolbar.



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 – 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 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.

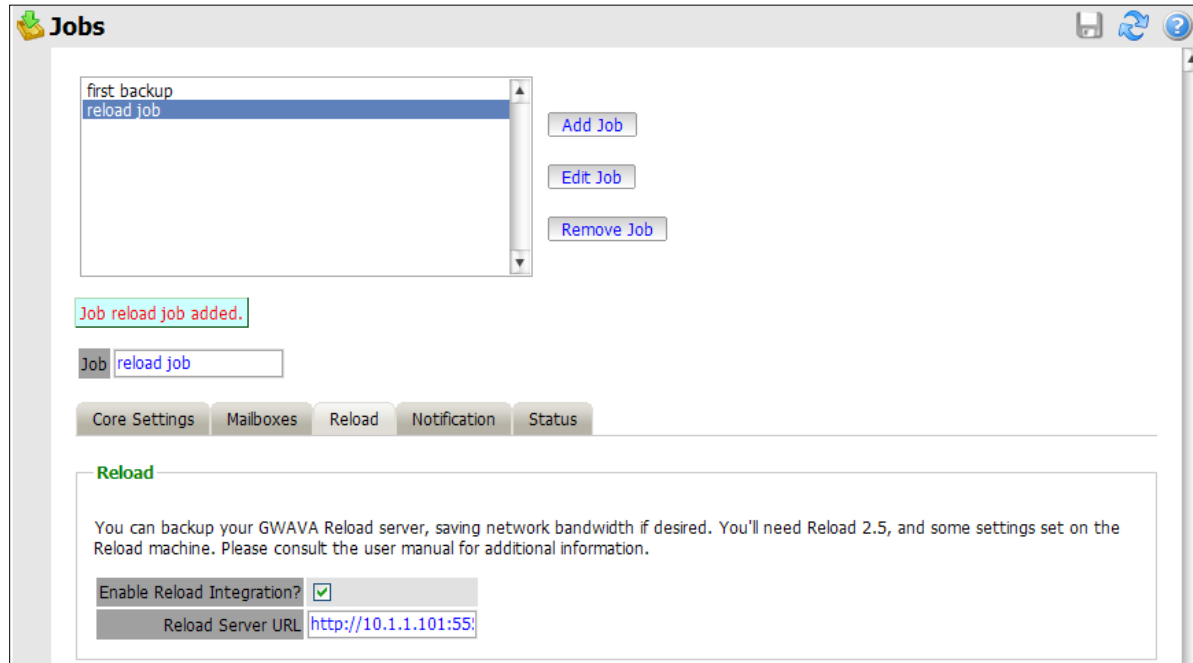
Timing

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

The three tasks to configure Retain to work with reload are to assign the reload password for the worker, assign the running jobs to use the Reload integration, (this setting is found in the Jobs configuration page in the Retain management console), and configure the Profile to use the [Item store flag](#) for duplicate checking.

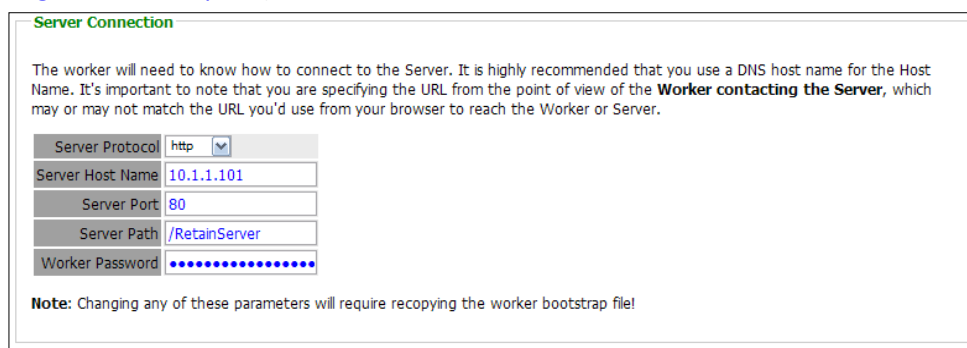
Enter the management console, and select Jobs from the Data Collection menu.



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.

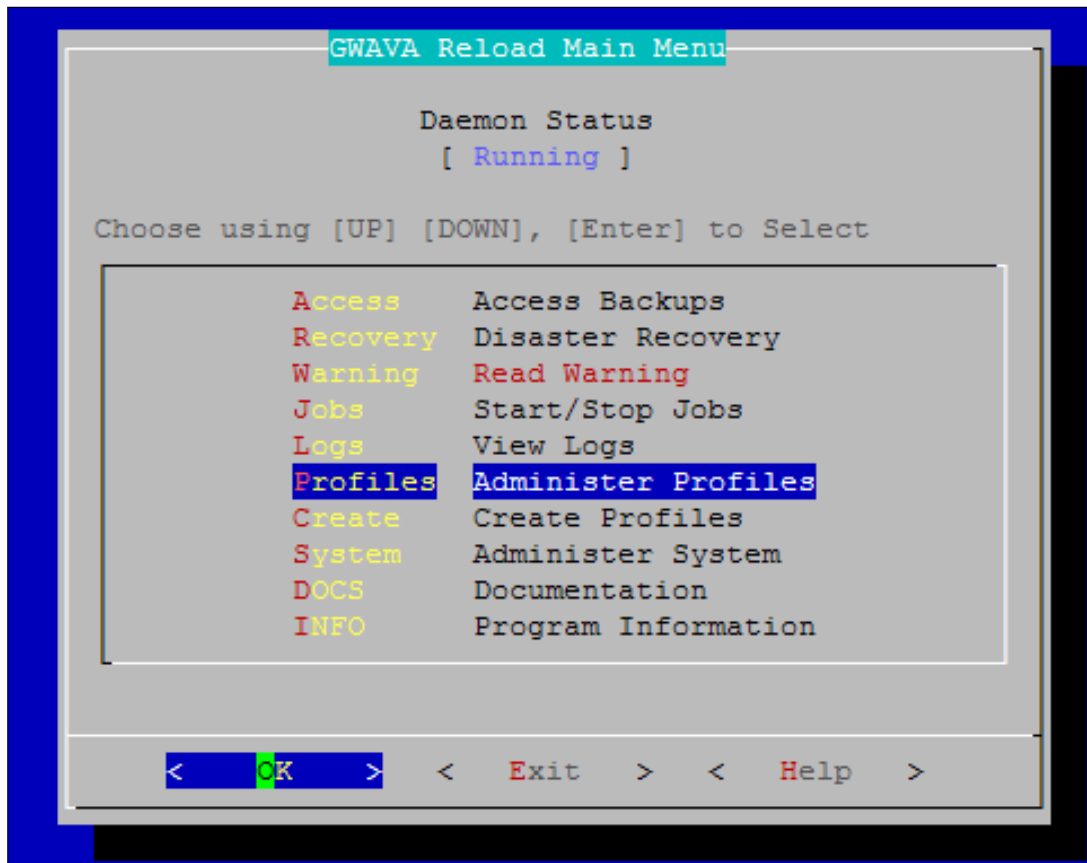
First, Reload must be set up so that the backups are available. There is a special feature in Reload for this. It calls up a post office agent that stays up all the time and it only goes down long enough to change to the most recent backup. So it will always be there with very small interruptions as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

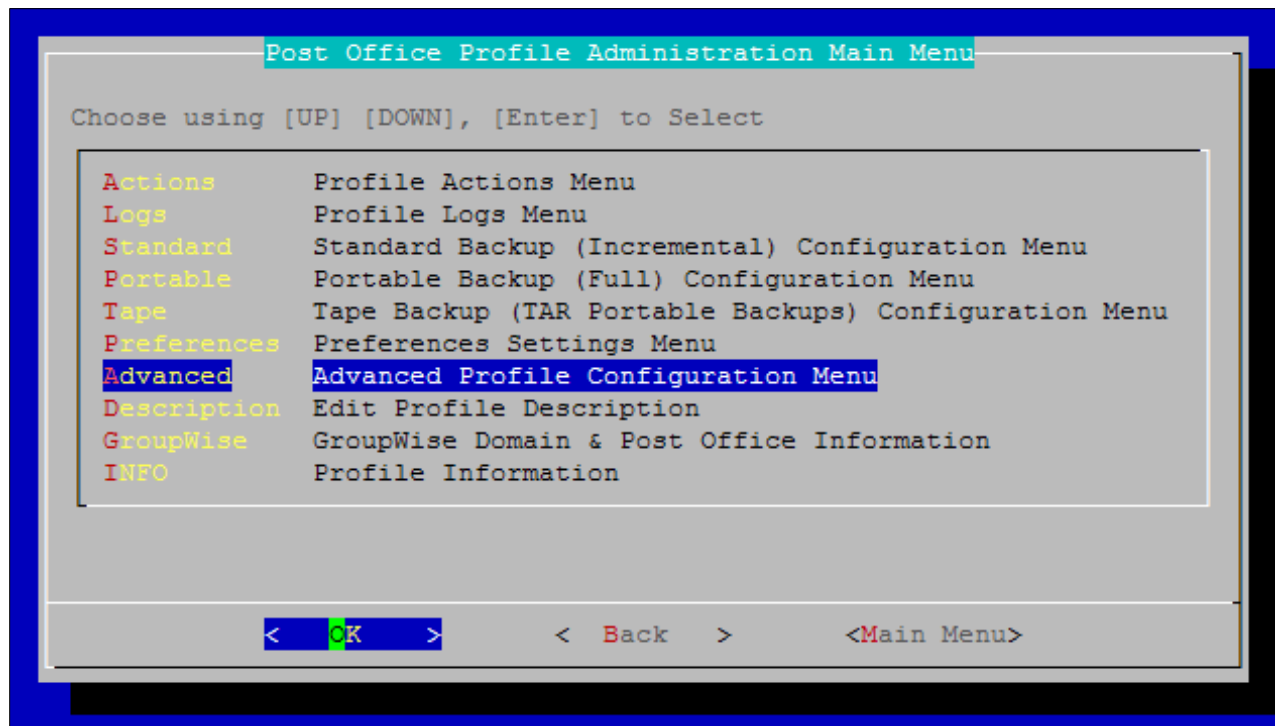
- 1) Start up Reload's Administration menu.



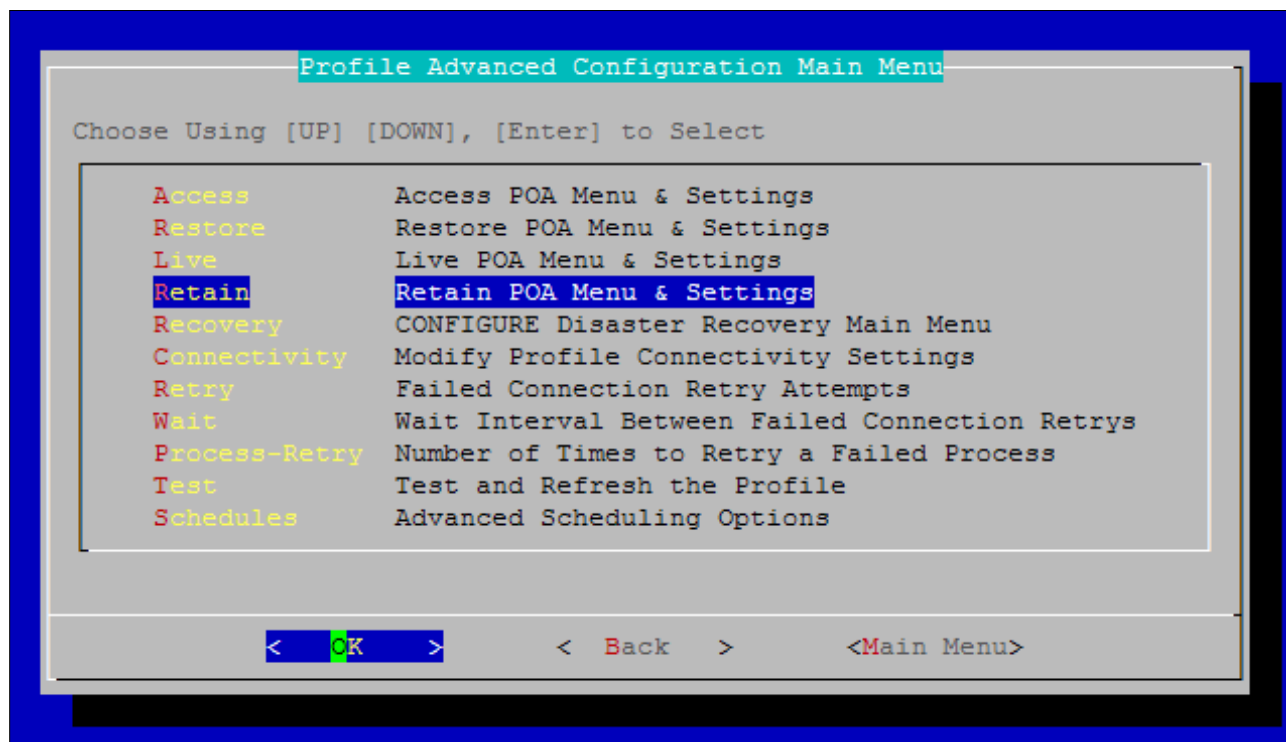
- 2) From the main menu, choose Profiles – Administer Profiles.

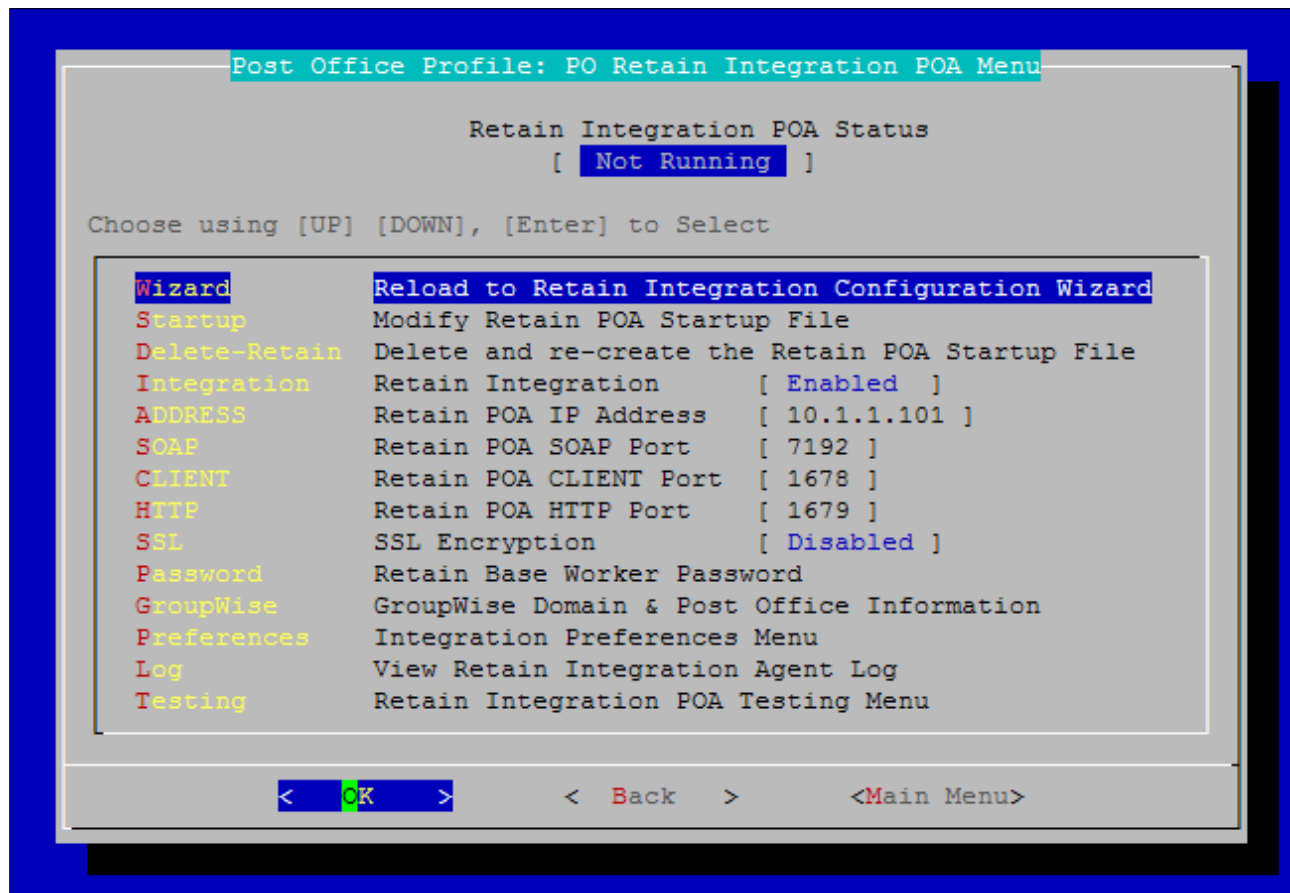


- 3) Choose Advanced Profile Configuration Menu



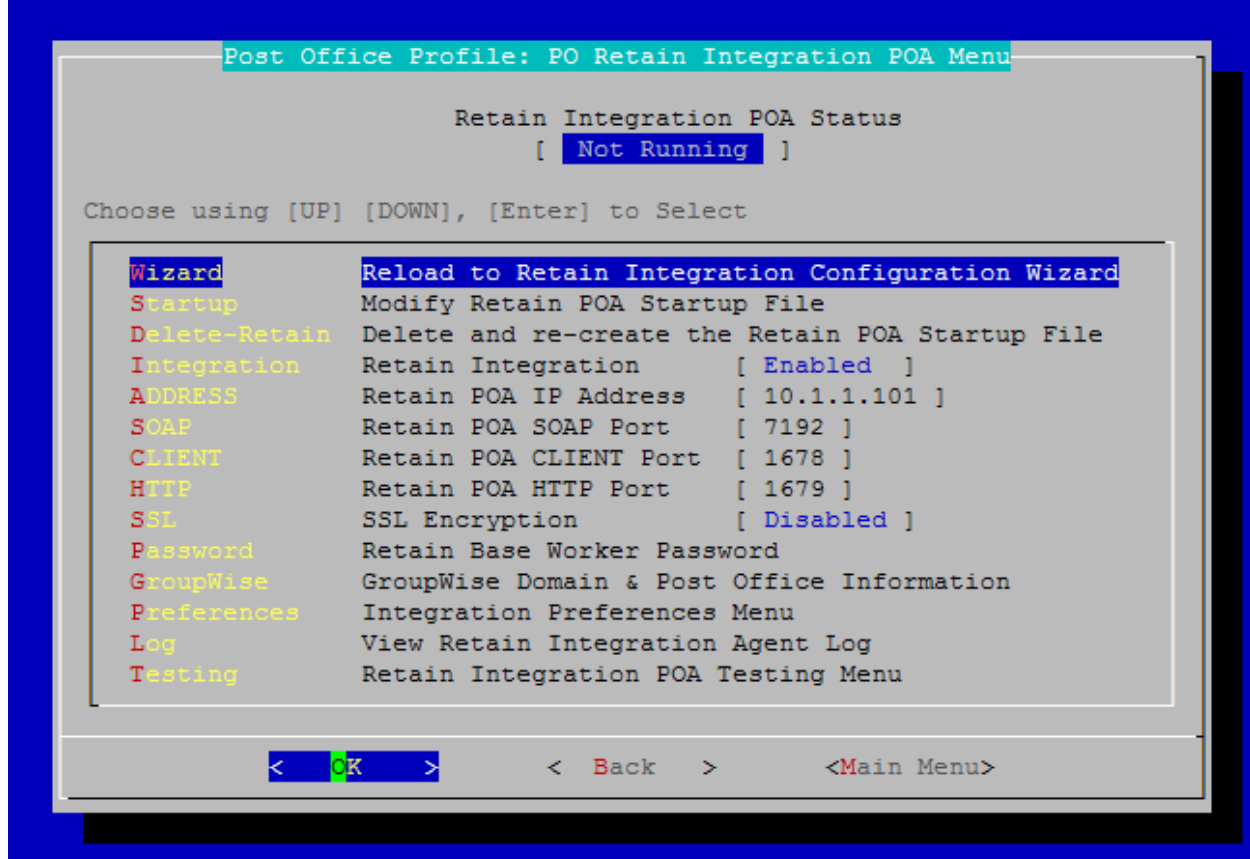
4) Choose Retain POA Menu & Settings





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.

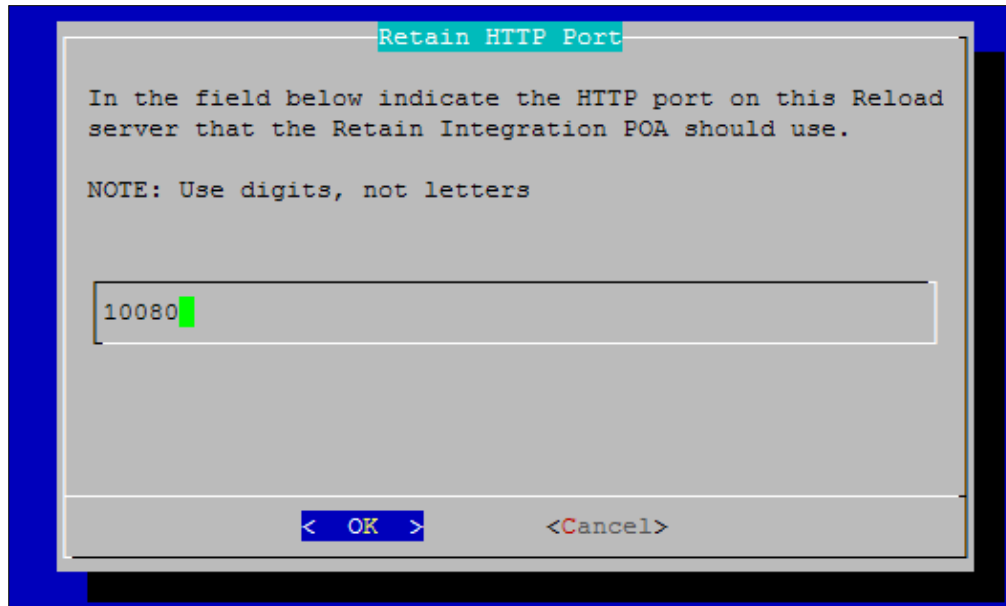
1234

< 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 dialog boxes. The top dialog box is titled "Retain POA SOAP Port" and 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 buttons labeled "< OK >" and "<Cancel>". The bottom dialog box is titled "Retain POA CLIENT Port" and 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 buttons labeled "< 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.

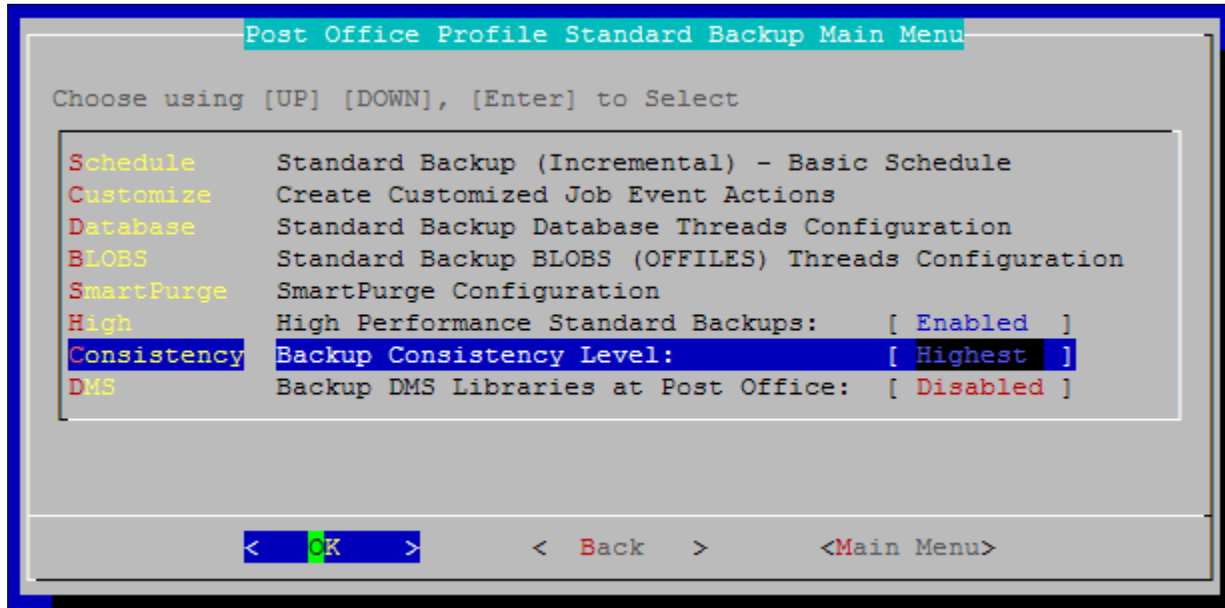
☐ Retention Flag ☐ Purge Flag ☒ Item Store Flag

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.

Appendix E – Migrating Retain to a new Server or Platform

Migrating Retain between different platforms is possible, though time consuming. Retain can also be migrated between 32-bit and 64-bit systems. Migrating or moving the Retain Server can be complicated, because the different Retain components that connect to the Retain server by IP address, file paths mapped in the system, and the unique server identification which allows access to the data storage are all tied to the original Retain Server. The important variables for the Retain Server are found in the ASConfig.cfg file. The connecting components will need new bootstrap files. In a migration, all these variables must either be corrected, or copied to the new system for the migration to be a success.

There are **no guarantees** when migrating a server. **BE SURE TO CREATE A FULL BACKUP WHEREVER POSSIBLE BEFORE STARTING THE PROCEDURE.** **SQL databases and data storage systems are not supported or administered by GWAVA Inc., and are the responsibility of the local system administrator and the customer.**

Regardless of the source and destination platform, the main steps will be the same. The steps for migrating a Retain Server are:

1. Create a backup of the server, data store, and database.
2. IF the SQL database is housed on the source Retain Server, copy or migrate the SQL database to its final destination in accordance with recommended practices for the respective SQL system. Setup the SQL server and get it running on the destination machine.
3. Download and install Retain. After Retain has been installed, shutdown Tomcat.
4. Copy the data store to the new destination. The data store consists of more than just the storage directory. The data store contains the configuration database, indexes, backups, license, and the archive, (if not on a SAN). If migrating to Linux, the ownership and execute rights to the data store **MUST** be changed. If ownership execute rights are not set correctly, the Retain Server will not function correctly, and will generate inexplicable errors. Commands are:

```
chown -R tomcat:www <storage_directory>
chmod -R u+rx <storage_directory>/*
```
5. Open the ASConfig.cfg file from the old server with the text editor of choice. (Text editor must be able to view .xml files.) The following file paths which were mapped for the original server must be corrected for the new server:

```
<serverID>unique_server_ID</serverID>
```

It is **ESSENTIAL** that the ServerID setting be identical to the original server ID, or the migration will fail.

```
<basePath>/retain</basePath>
<archivePath>/retain/storage</archivePath>
<xmlPath>/retain/xml</xmlPath>
<indexPath>/retain/index</indexPath>
<backupPath>/retain/backup</backupPath>
<licensePath>/retain/license</licensePath>
<EBDBPath>/retain/ebdb</EBDBPath>
```

ie. If migrating from Windows to Linux, the `<basePath>` would need to be changed from:
`<basePath>C:\retain</basePath>` to `<basePath>/retain</basePath>`

6. When the ASConfig.cfg file has been modified correctly, copy the modified file into the destination server. `../RetainServer/WEB-INF/cfg`
Once the file has been copied into the new server, start Tomcat.
7. Verify that the RetainServer is working. If it is not working, view errors and double-check the settings in the ASConfig.cfg file.
8. IF the final destination server has a different IP address than the original RetainServer had, all workers and stubbing servers must be reconfigured by re-uploading new bootstrap files for each one. If this step is not completed, the workers and stubbing server will not have contact with the Retain Server, and will not be able to function. See [‘correcting the bootstrap’](#) in the worker section.

The process should be done with extreme care and attention to detail, if not under the supervision and by the guidance of Retain Support. Completing ALL steps for your system is extremely important. If there is a problem call support and/or revert to the backup made in step one. Correctly following these steps will result in a fully functioning system on a new platform.

Appendix F – Switching the Indexing Engine

Switching between indexing engines is possible, though frequent changing is not recommended as it is a time consuming process. This guide assumes that the system will be switched from Lucene to the more robust Exalead indexing engine, though the process is nearly identical for the switch back to Lucene, it simply requires selecting 'lucene' instead of 'exalead' when the options are provided, as the positions of Lucene and Exalead are reversed when switching from Exalead to Lucene.

Switching the indexer to Exalead

The Exalead indexing engine is not required, and the system can be switched from Lucene to Exalead at any time. However, the index engines are not compatible with each other and have no way to export the indexes between them, causing a need to re-index the entire mail archive each time the index engine is changed to ensure full coverage. Re-indexing the archive will take substantial amounts of time, and switching the indexing engine should only be run during a 'quiet time' when there are no jobs scheduled to run.

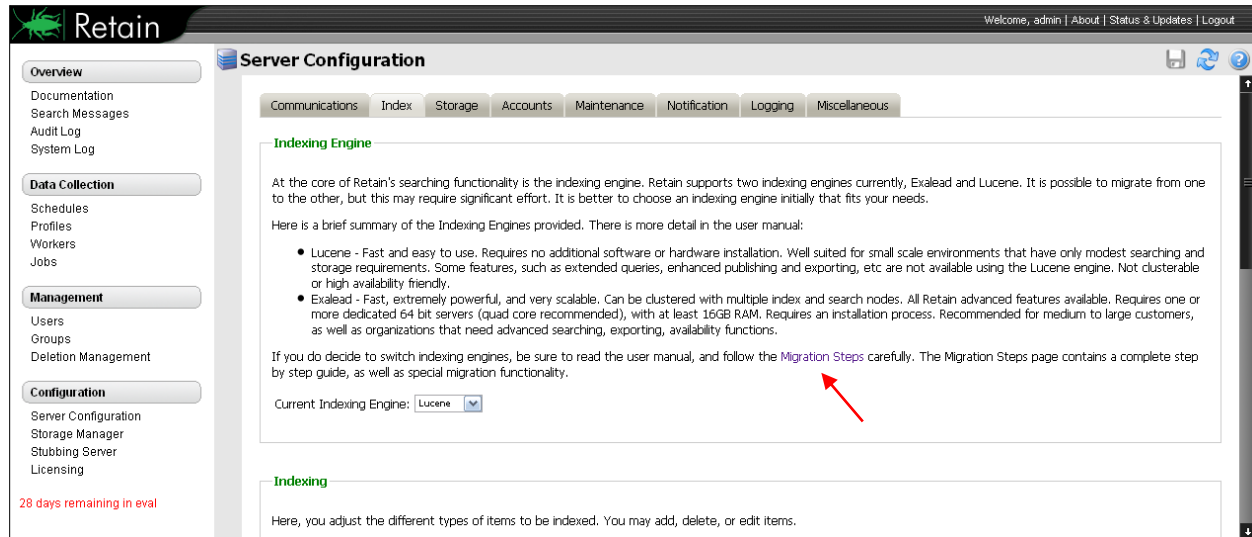
Exalead allows much more flexibility and options in searching and scaling. However, Exalead does require a separate physical machine with robust hardware. For a full list of Exalead requirements and install instructions, see the Exalead Install document. Switching to the Exalead indexing engine will cause some server downtime.

Before you begin the migration to Exalead for the indexing engine, you must first have Exalead installed and working. Log into the Retain Server management console as Administrator, and ensure that:

- The Retain System has been backed-up.
- Exalead server has been Installed, setup, and is accessible .
- No deletion manager jobs should be running, or set to run.
- Indexer status is set to '0'. On Retain Server status page, the "Total emails in memory queue awaiting indexing" should show '0'. If this is not set to '0', and no job is running, contact support before performing the index engine migration.

From this point on, actual changes will be made in your Retain Server system. To change the index engine, perform the following steps

1. As admin, log into the Retain Server management console and browse to the **Configuration | Server Configuration** page and select the **Index** tab and click on the 'Migration Steps' link to spawn the migration steps window.



Retain Welcome, admin | About | Status & Updates | Logout

Server Configuration

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

Indexing Engine

At the core of Retain's searching functionality is the indexing engine. Retain supports two indexing engines currently, Exalead and Lucene. It is possible to migrate from one to the other, but this may require significant effort. It is better to choose an indexing engine initially that fits your needs.

Here is a brief summary of the Indexing Engines provided. There is more detail in the user manual:

- Lucene - Fast and easy to use. Requires no additional software or hardware installation. Well suited for small scale environments that have only modest searching and storage requirements. Some features, such as extended queries, enhanced publishing and exporting, etc are not available using the Lucene engine. Not clusterable or high availability friendly.
- Exalead - Fast, extremely powerful, and very scalable. Can be clustered with multiple index and search nodes. All Retain advanced features available. Requires one or more dedicated 64 bit servers (quad core recommended), with at least 16GB RAM. Requires an installation process. Recommended for medium to large customers, as well as organizations that need advanced searching, exporting, availability functions.

If you do decide to switch indexing engines, be sure to read the user manual, and follow the [Migration Steps](#) carefully. The Migration Steps page contains a complete step by step guide, as well as special migration functionality.

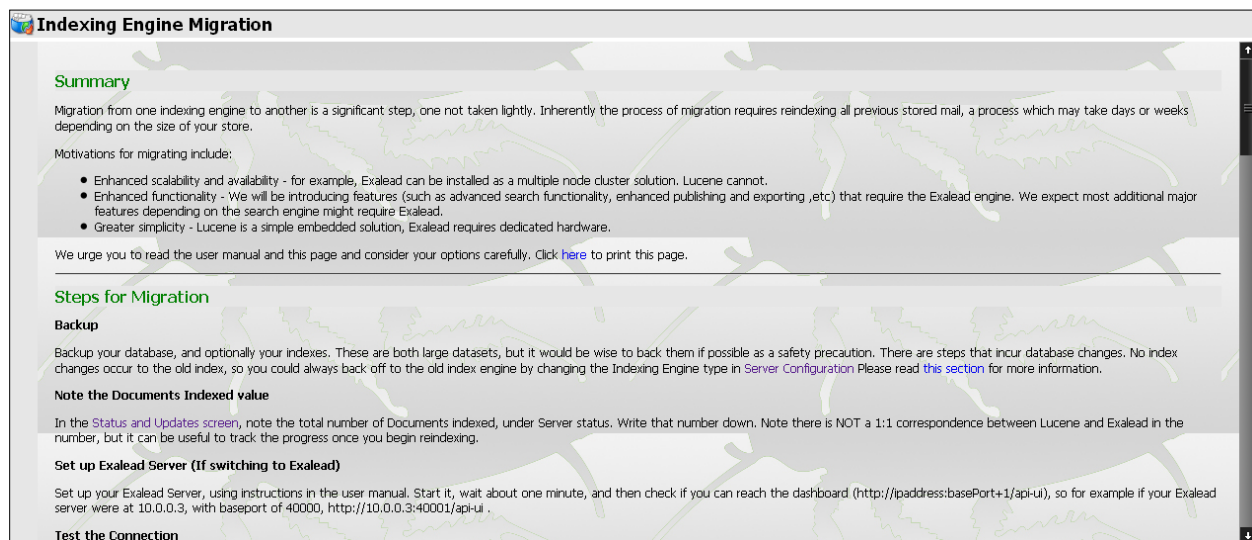
Current Indexing Engine:

Indexing

Here, you adjust the different types of items to be indexed. You may add, delete, or edit items.

28 days remaining in eval

Open the migration link in a new window or tab.



Indexing Engine Migration

Summary

Migration from one indexing engine to another is a significant step, one not taken lightly. Inherently the process of migration requires reindexing all previous stored mail, a process which may take days or weeks depending on the size of your store.

Motivations for migrating include:

- Enhanced scalability and availability - for example, Exalead can be installed as a multiple node cluster solution. Lucene cannot.
- Enhanced functionality - We will be introducing features (such as advanced search functionality, enhanced publishing and exporting, etc) that require the Exalead engine. We expect most additional major features depending on the search engine might require Exalead.
- Greater simplicity - Lucene is a simple embedded solution, Exalead requires dedicated hardware.

We urge you to read the user manual and this page and consider your options carefully. Click [here](#) to print this page.

Steps for Migration

Backup

Backup your database, and optionally your indexes. These are both large datasets, but it would be wise to back them if possible as a safety precaution. There are steps that incur database changes. No index changes occur to the old index, so you could always back off to the old index engine by changing the Indexing Engine type in [Server Configuration](#). Please read [this section](#) for more information.

Note the Documents Indexed value

In the [Status and Updates](#) screen, note the total number of Documents indexed, under Server status. Write that number down. Note there is NOT a 1:1 correspondence between Lucene and Exalead in the number, but it can be useful to track the progress once you begin reindexing.

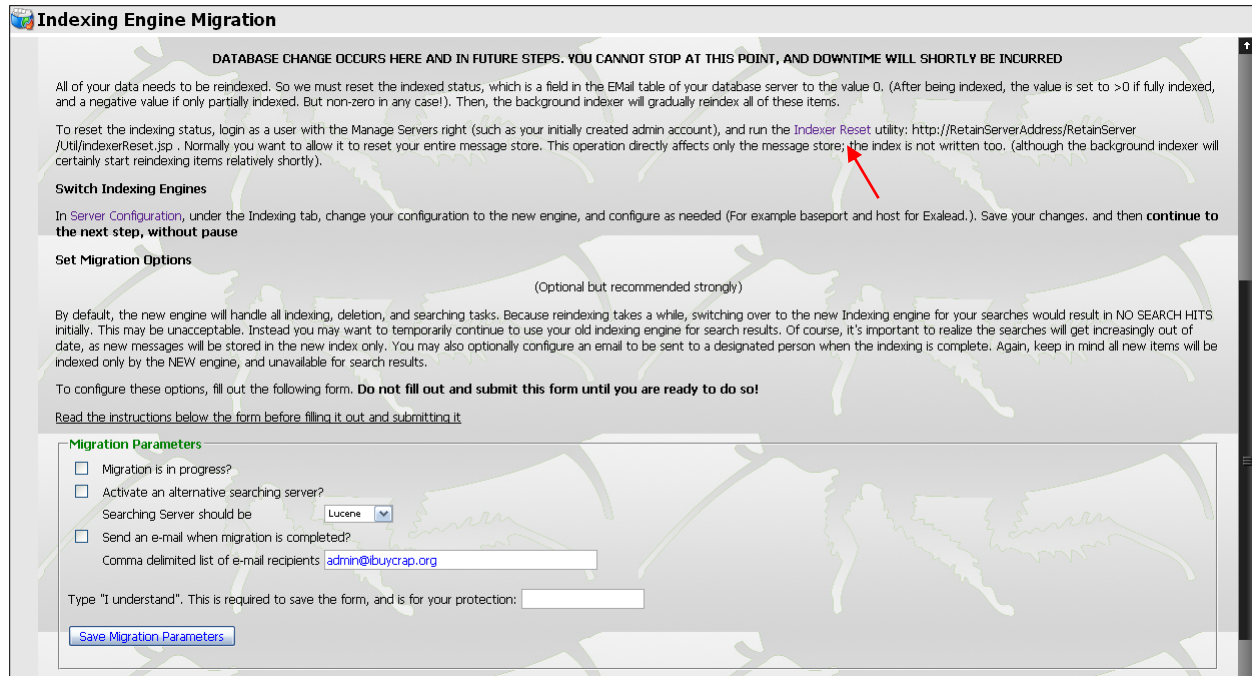
Set up Exalead Server (If switching to Exalead)

Set up your Exalead Server, using instructions in the user manual. Start it, wait about one minute, and then check if you can reach the dashboard (<http://ipaddress:basePort+1/api-ui>), so for example if your Exalead server were at 10.0.0.3, with baseport of 40000, <http://10.0.0.3:40001/api-ui>.

Test the Connection

This window has links and information on the migration as well as the migration settings further down the page. LEAVE THIS PAGE OPEN.

2. Scroll down the page to the link to the Indexer Reset page.



Indexing Engine Migration

DATABASE CHANGE OCCURS HERE AND IN FUTURE STEPS. YOU CANNOT STOP AT THIS POINT, AND DOWNTIME WILL SHORTLY BE INCURRED

All of your data needs to be reindexed. So we must reset the indexed status, which is a field in the EMail table of your database server to the value 0. (After being indexed, the value is set to >0 if fully indexed, and a negative value if only partially indexed. But non-zero in any case!). Then, the background indexer will gradually reindex all of these items.

To reset the indexing status, login as a user with the Manage Servers right (such as your initially created admin account), and run the **Indexer Reset** utility: <http://RetainServerAddress/RetainServer/Util/indexerReset.jsp>. Normally you want to allow it to reset your entire message store. This operation directly affects only the message store; the index is not written too. (although the background indexer will certainly start reindexing items relatively shortly).

Switch Indexing Engines

In **Server Configuration**, under the Indexing tab, change your configuration to the new engine, and configure as needed (For example baseport and host for Exalead.). Save your changes, and then **continue to the next step, without pause**

Set Migration Options

(Optional but recommended strongly)

By default, the new engine will handle all indexing, deletion, and searching tasks. Because reindexing takes a while, switching over to the new Indexing engine for your searches would result in NO SEARCH HITS initially. This may be unacceptable. Instead you may want to temporarily continue to use your old indexing engine for search results. Of course, it's important to realize the searches will get increasingly out of date, as new messages will be stored in the new index only. You may also optionally configure an email to be sent to a designated person when the indexing is complete. Again, keep in mind all new items will be indexed only by the NEW engine, and unavailable for search results.

To configure these options, fill out the following form. **Do not fill out and submit this form until you are ready to do so!**

Read the instructions below the form before filling it out and submitting it

Migration Parameters

☐ Migration is in progress?

☐ Activate an alternative searching server?

Searching Server should be

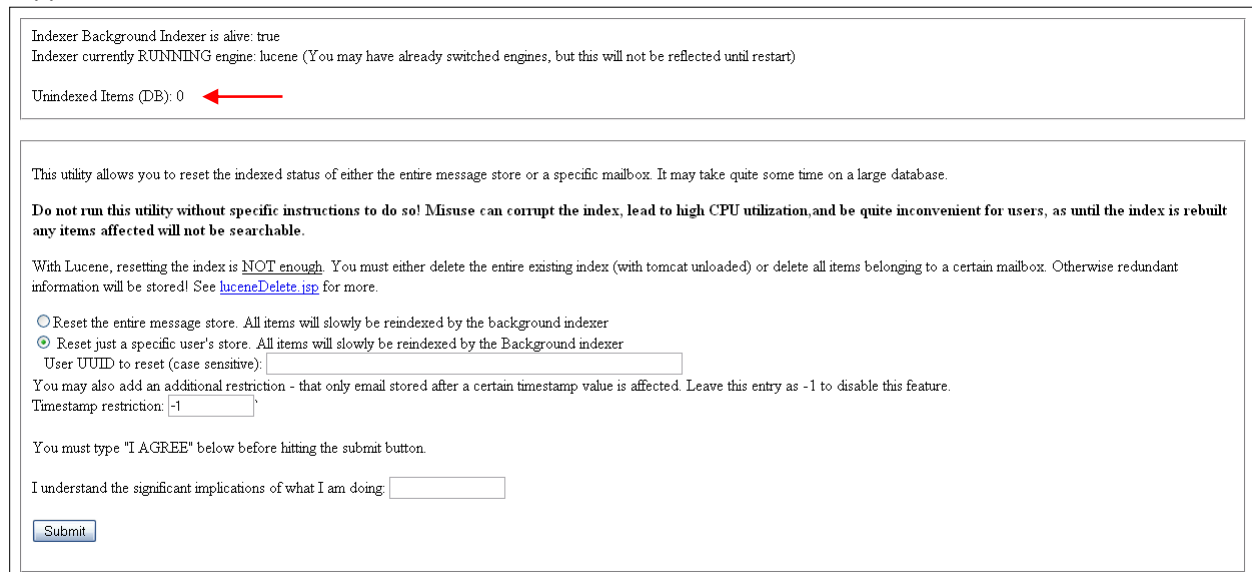
☐ Send an e-mail when migration is completed?

Comma delimited list of e-mail recipients:

Type "I understand". This is required to save the form, and is for your protection:

Open the link in a new page or tab. <http://RetainServerAddress/RetainServer/Util/indexerReset.jsp>

By default, the Indexer Reset page should look like the picture below. (Pay attention to the Unindexed Items (DB): number. It should read '0'. If it does not, do not proceed unless under the instruction of support.



Indexer Background Indexer is alive: true
Indexer currently RUNNING engine: lucene (You may have already switched engines, but this will not be reflected until restart)

Unindexed Items (DB): 0

This utility allows you to reset the indexed status of either the entire message store or a specific mailbox. It may take quite some time on a large database.

Do not run this utility without specific instructions to do so! Misuse can corrupt the index, lead to high CPU utilization, and be quite inconvenient for users, as until the index is rebuilt any items affected will not be searchable.

With Lucene, resetting the index is NOT enough. You must either delete the entire existing index (with tomcat unloaded) or delete all items belonging to a certain mailbox. Otherwise redundant information will be stored! See [luceneDelete.jsp](#) for more.

☐ Reset the entire message store. All items will slowly be reindexed by the background indexer

☒ Reset just a specific user's store. All items will slowly be reindexed by the Background indexer

User UUID to reset (case sensitive):

You may also add an additional restriction - that only email stored after a certain timestamp value is affected. Leave this entry as -1 to disable this feature.

Timestamp restriction:

You must type "I AGREE" below before hitting the submit button.

I understand the significant implications of what I am doing:

The next few steps need to be performed with little time delay between them. No more than a couple minutes. If not switched soon, the indexer reset switch will cause Lucene to re-index, instead of causing Exalead to index the message store, resulting in empty search results when switched to Exalead and slow responses due to Lucene re-indexing the message store. Read through the next steps and decide settings before proceeding. These steps must be completed in the order specified.

- From the Indexer Reset page, Select **Reset entire message store**. Type **"I AGREE"** in the dialog after reading the warnings. Select **Submit**.

Indexer Background Indexer is alive: true
Indexer currently RUNNING engine: lucene (You may have already switched engines, but this will not be reflected until restart)

Unindexed Items (DB): 0

This utility allows you to reset the indexed status of either the entire message store or a specific mailbox. It may take quite some time on a large database.

Do not run this utility without specific instructions to do so! Misuse can corrupt the index, lead to high CPU utilization, and be quite inconvenient for users, as until the index is rebuilt any items affected will not be searchable.

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☒ Reset the entire message store. All items will slowly be reindexed by the background indexer
☐ Reset just a specific user's store. All items will slowly be reindexed by the Background indexer
User UUID to reset (case sensitive):

You may also add an additional restriction - that only email stored after a certain timestamp value is affected. Leave this entry as -1 to disable this feature.
Timestamp restriction:

You must type "I AGREE" below before hitting the submit button.

I understand the significant implications of what I am doing:

Proceed **without delay** to the next steps

- THIS STEP MUST BE DONE QUICKLY AFTER RESETTING THE INDEX. Go the server configuration in the Retain Server admin page, and switch indexer engine to 'exalead'.

Welcome, admin | About | Status & Updates | Logout

Server Configuration

Communications Index Storage Accounts Maintenance Notification Logging Miscellaneous

Indexing Engine

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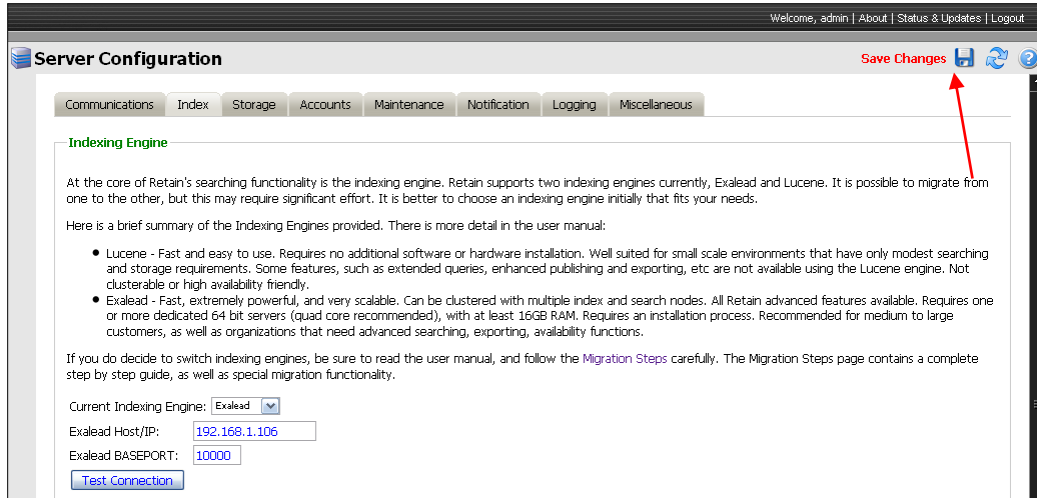
Here is a brief summary of the Indexing Engines provided. There is more detail in the user manual:

- Lucene - Fast and easy to use. Requires no additional software or hardware installation. Well suited for small scale environments that have only modest searching and storage requirements. Some features, such as extended queries, enhanced publishing and exporting, etc are not available using the Lucene engine. Not clusterable or high availability friendly.
- Exalead - Fast, extremely powerful, and very scalable. Can be clustered with multiple index and search nodes. All Retain advanced features available. Requires one or more dedicated 64 bit servers (quad core recommended), with at least 16GB RAM. Requires an installation process. Recommended for medium to large customers, as well as organizations that need advanced searching, exporting, availability functions.

If you do decide to switch indexing engines, be sure to read the user manual, and follow the [Migration Steps](#) carefully. The Migration Steps page contains a complete step by step guide, as well as special migration functionality.

Current Indexing Engine:

After selecting Exalead as the indexing engine, input the connection information (IP address and base port, the default base port is 10000).



After all changes have been made, select the **Save Changes** button.

5. Go to the **Migration Steps** page and Select, migration in progress, and select to **Send an e-mail when migration is completed**. Specify a destination address.



6. Activate an alternative searching server if desired.

While Exalead is indexing the archive, there will be no mail in the index to be searched through. Depending on how much mail is in the archive, the indexing operation may take a very long time. To have the searching features of Retain available while the archive is processed, specify a separate searching server. In this case, it would be Lucene. The only downside to this operation is that any new mail added to the system during the indexing operation will not be added to the Lucene index, and will not be available to search until Exalead has finished and the search engine has been changed to Exalead.

7. After the settings are correct, type **"I understand"** and select **Save Migration Parameters**.

8. Restart Tomcat on the Retain Server system. When Tomcat starts back up, the settings will be cemented and the archive will be re-indexed into Exalead.

During the indexing process of Exalead, the statistics of the Retain Server Status and update page should rapidly increase. It is one way to monitor the progress of the migration. (The screen shot shown is before the migration is started.)

System Status

Jobs Workers **Server** Updates

Server

Index Migration in Progress	false
SQL Server	OK
Server	RetainServer (FXROPPHOTTTI)
Stored EMails	0
Engine	standard
Server started at:	10-Mar-2010 14:00:11
Archived since server started (total/dupes/new)	0 / 0 / 0
Server errors	0

Installation time	08-Mar-2010 15:10:53
Enable Address Book Caching	Yes
Last Address Book Cache	08-Mar-2010 15:13:43
Enable Index Optimization	Yes
Last Index Optimization	Never

Total documents ever indexed	19897
Total emails in memory queue awaiting indexing	0
Total documents indexed so far since uptime	0
Total emails indexed so far since uptime	0
Total emails with indexing errors since uptime	0
Total emails with items skipped (*) since uptime	0
Last item indexed at	Never

9. When the migration complete email arrives, return to the Migration Steps page and unselect the **Migration is in progress** setting, type **I understand**, and **Save Migration Parameters**.

Migration Parameters

☐ Migration is in progress?

☐ Activate an alternative searching server?

Searching Server should be: Lucene

☒ Send an e-mail when migration is completed?

Comma delimited list of e-mail recipients: admin@yourdomain.com

Type "I understand". This is required to save the form, and is for your protection: I understand

[Save Migration Parameters](#)

Even though Lucene has been unselected, it will still exist with all the indexes until removed. Again, Re-indexing may take a long time depending on the hardware of the Exalead system, the size of the archive, and the speed of the connecting network. Allow for plenty of time for the indexing to be performed. Time may range from several days to several weeks for extremely large systems. Once it has been determined that Lucene is no longer wanted or needed as a backup for the system, to save system disk space, the Lucene index should be removed from the system. This is not a necessary step, though it does free up system disk space that currently holds duplicate data that now resides in the more robust Exalead system.

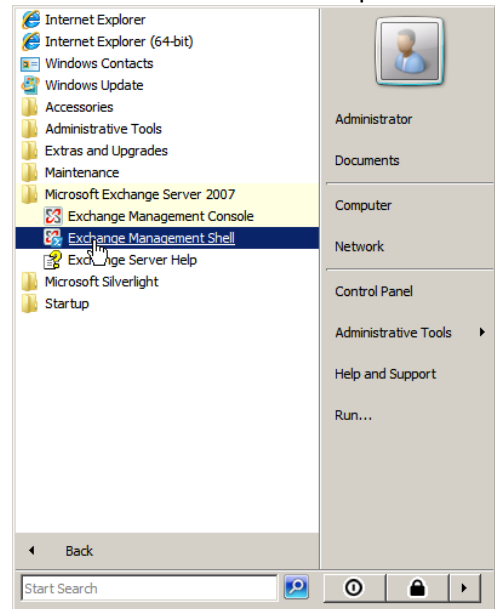
To remove the Lucene Indexes, login as admin to the Retain Server, open a new window or tab, and browse to http://Retain_Server_Address/RetainServer/Util/luceneDelete.jsp to remove the users one by one according to UUID. The lucene delete page is also linked from the **Indexer Reset** page. To manually delete the Lucene indexes, remove the contents of the <storage area>/index directory. There should also be a copy of the index directory in the backup folder of the storage area. This measure is not required and

Appendix G – Exchange Permissions required for Retain

Exchange settings

To connect with exchange, Retain needs a user with appropriate rights. This can be accomplished by using an existing user, or by creating a new one. It is recommended to create a new user for Retain archiving. If creating a new user, ensure that the user is an active user account and that the password does not change to ensure Retain will be able to access mail without changing settings. This user is sometimes called a ‘service account’. Retain calls this user the ‘global catalog user’.

The user created or used for Retain must be a “mailbox-enabled user” with read access to see all other users, groups, resources, and Exchange Servers in the Exchange Forest. The user will be utilized by both the Retain Server and Worker for LDAP lookups in Active Directory. The Retain user also must have Exchange impersonation rights to every mailbox user on every server in the organization to be archived. The Retain user **MUST NOT** be a member of any Exchange Administrator group, as Exchange denies impersonation rights for all administrator accounts.



Additional permissions need to be added to the user created for Retain. The quickest way to add these rights is through the Exchange Management Shell. After creating the new user in Active Directory, open the Exchange Management Shell.

Grant Impersonation Permissions to the Retain user.

The commands required are different depending on the version of the Exchange Server. Exchange 2010, and 2013 require only one command per Exchange system to be issued, whereas Exchange 2007 requires the commands to be run on every Exchange server in the Exchange system to grant required permissions. If the Exchange system contains mixed 2007, 2010, and 2013 servers, the different commands must be completed on one server of each type.

Exchange 2010 and 2013 command:

For Exchange 2010 and 2013, the only command necessary for impersonation permissions is:

```
New-ManagementRoleAssignment -name ImpersonationAssignmentName
-Role ApplicationImpersonation -User ServiceAccount
```

Where the ‘Name’ is a name chosen by the administrator and the ‘ServiceAccount’ is the name of the Retain user.

For Example:

```
New-ManagementRoleAssignment -Name impersonation-retain
-Role ApplicationImpersonation -UserRetain
```

If additional Exchange servers are added to the system after running this command to grant rights to the ‘retain’ user, the command must be run again to grant rights to the new server.

Exchange 2007 commands:

(‘Retain’ is the name of the Retain user, or Service Account below)

```
Get-ClientAccessServer | Add-AdPermission -UserRetain  
-ExtendedRights ms-Exch-EPI-Impersonation
```

```
Get-MailboxDatabase | Add-AdPermission -UserRetain  
-ExtendedRights ms-Exch-EPI-May-Impersonate
```

```
Get-MailboxServer | Add-ADPermission -userRetain -ExtendedRights  
Send-As, Receive-As, ms-Exch-Store-Admin
```

Room and Equipment Resources

To archive Room and Equipment Resources, or to restore them, the Retain user, or Service Account, must also have delegation rights. These commands must be issued manually for each Room and Equipment or resource mailbox on every relevant server. This is required for both 2010 and 2007.

These commands must be issued:

(‘Retain’ is used here as the name of the Service Account, or Retain user, and the ‘Mailbox Database’ should be changed to the appropriate name.)

(NOTE: every time a new Room and Equipment or resource mailbox is added, the first command must be re-run.)

Exchange 2010 and 2013 commands:

```
Get-Mailbox -ResultSize Unlimited -Database "Mailbox Database"  
| Add-MailboxPermission -User "Retain" -AccessRights FullAccess
```

```
Add-ADPermission -Identity "Mailbox Database" -User "Retain"  
-ExtendedRights Receive-As
```

```
Add-ADPermission -Identity "Mailbox Database" -User "Retain"  
-ExtendedRights Send-As
```

Exchange 2007 commands:

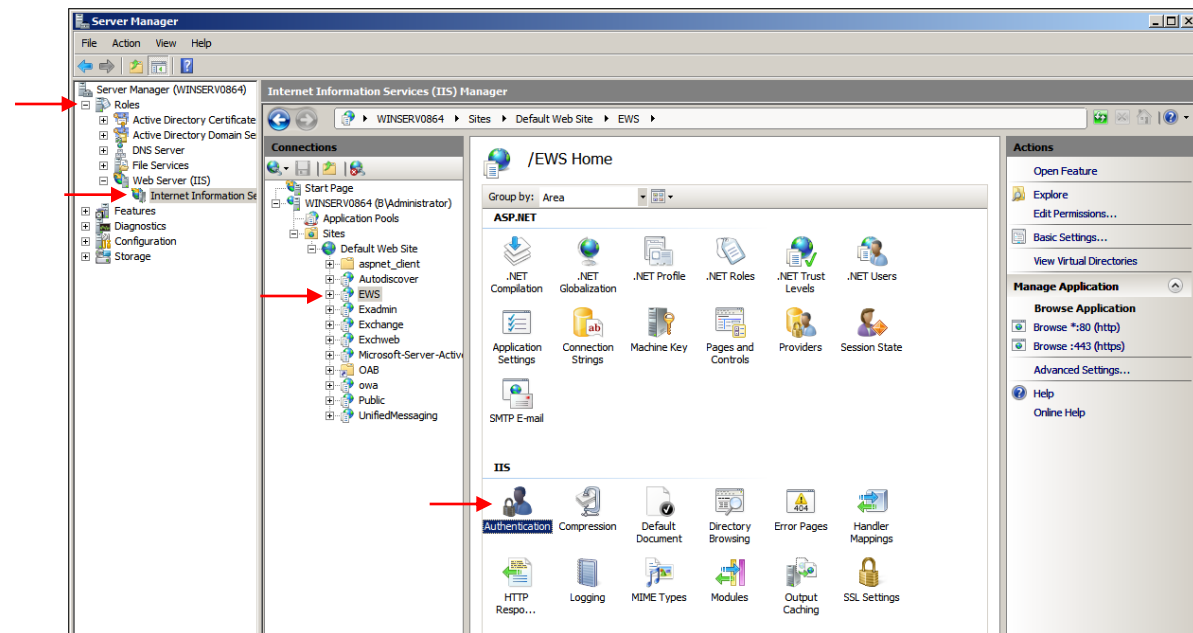
```
Get-MailboxDatabase | ForEach-Object {Get-Mailbox -ResultSize  
Unlimited -Database $_.DistinguishedName | Add-MailboxPermission  
-UserRetain -AccessRights FullAccess}
```

```
Get-MailboxDatabase | ForEach-Object {Add-ADPermission -Identity  
$_.DistinguishedName -UserRetain -ExtendedRights  
Receive-As, Send-As}
```

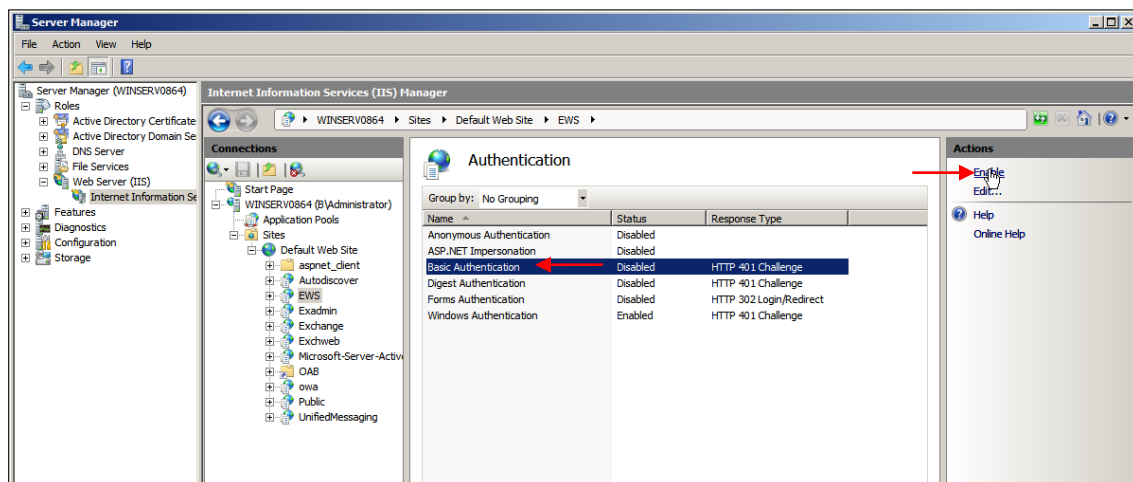
Authentication Methods

Retain requires Basic Authentication to be enabled on EACH CAS Exchange server in the system. Open “Server Manager” on Exchange server.

1. In left pane, expand “Roles”, expand “Web Server (IIS)”, select “Internet Information Services (IIS) Manager”.
2. A new “Connections” pane opens, expand your Exchange server object, expand “Sites”, expand “Default Web Site (Multiple Protocols)”, select “EWS”.



3. Under heading “IIS”, open “Authentication” icon



4. Select “Basic Authentication”, click “Enable” in right pane.

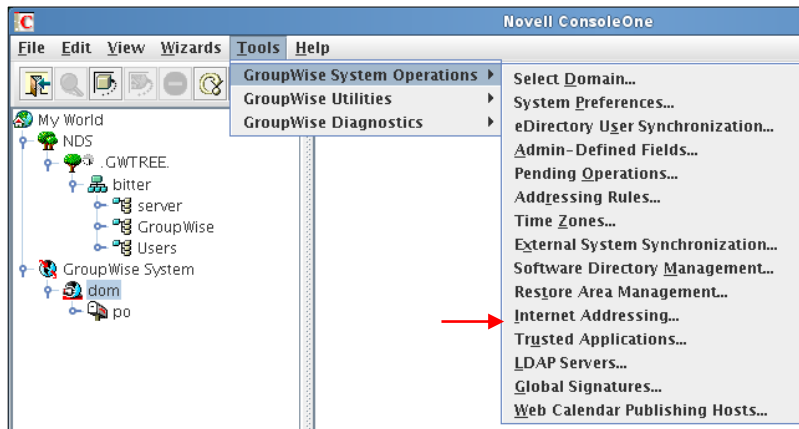
You can now close “Server Manager”.

Appendix H: Trusted Application Key Creation

There are two ways to create a Trusted Application key: through ConsoleOne in GroupWise 8, or via utilizing a Trusted Application key generator on a connected and authenticated win32 workstation.

Trusted Application Key creation through Console One for GroupWise 8

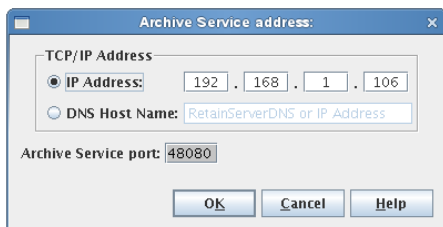
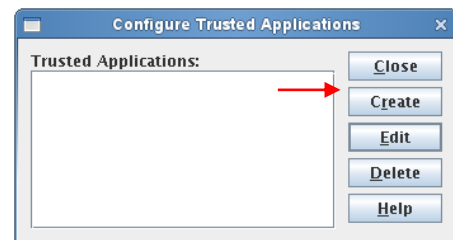
ConsoleOne with GroupWise 8 supports the native creation of a Trusted Application Key. To create a trusted application key for Retain, select the GroupWise system from the system tree and select **GroupWise System Operations | Trusted Applications...** from the 'Tools' menu.



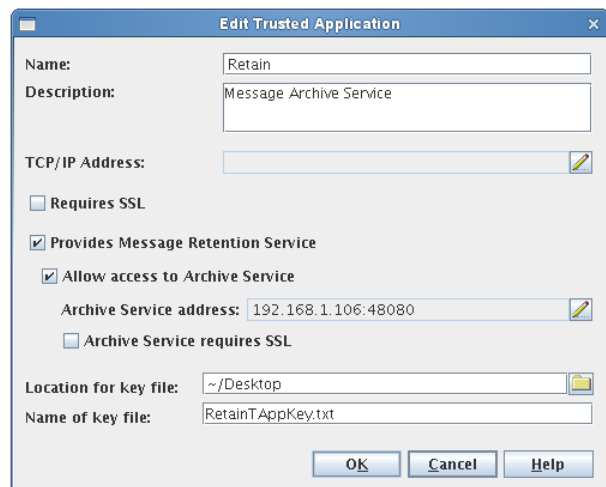
The Configure Trusted Application window will open, displaying any and all trusted applications currently listed in the system.

From the Configure Trusted Applications window, select 'Create'.

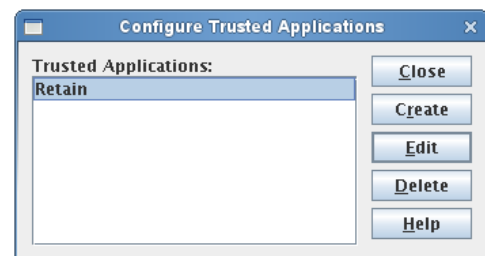
Enter the Name and description of the Trusted Application, in this case, 'Retain'. The name and description may be anything desired. Check the 'Provides Message Retention Service' and 'Archive Service Address' and provide the IP address or DNS name to the Retain server and the port: 48080



The location for



the key file and name may be anything desired, but the key file is saved in plain text, so add the .txt extension or open with an editor. The key may be copied and pasted into the Retain interface, or entered manually. The key file may be saved for records or discarded. The new Trusted Application Key is active and now appears to be edited, removed, or removed and re-created.



GroupWise Trusted Application Key generator

IMPORTANT Information about the Trusted Application Key generator:

- The Trusted Application Key generator must be run from a win32 or compatible system.
- **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 and GroupWise clients installed.
- You must be logged in as the ADMINISTRATOR of the PRIMARY DOMAIN.
- The Trusted App Generator requires access to the domain database; in Linux this requires a SAMBA share or equivalent.

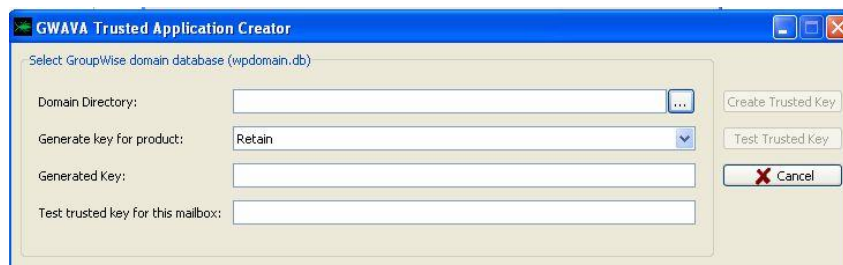
Note: The Trusted Application Key takes a few moments to propagate through the GroupWise system and therefore it may not be ready for testing or use immediately after you've generated it.

From the GroupWise Module page, select the link to download the Trusted Application Key generator, and select 'run', or run a previously downloaded and saved copy.

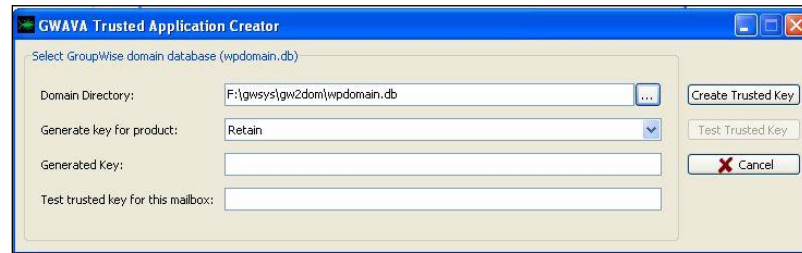
- 1) Click RUN to download and run the Trusted Application Key generator.



- 2) Follow the wizard. Click Next.



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

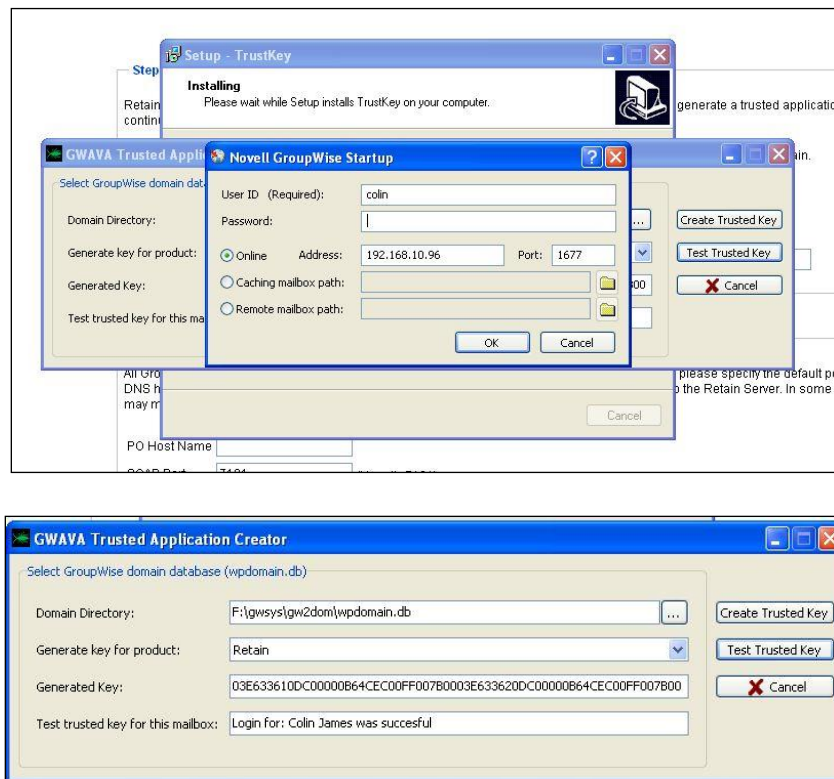


- 4) Once you have found your domain, click “Create Trusted Key”.



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.

- 5) 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.



- 6) 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.

Appendix I Mobile Registration Email variables

The Retain [registration email](#) template,

(...\RetainServer\WEB-INF\classes\config\mobile\registeruser.html), has many variables which allow for a customization of the registration email. There are a few variables which must remain unchanged, but the rest may be removed or modified, as desired, to adapt the email to any organization.

This is a quick description of the different variables, and which can be modified. They are distinguished by double brackets "[[" and "]]". The Retain Server code that sends out the email sets these variables with the product specific and user specific information.

Typically, only #1 will want to be changed – for use in mobile device management software. If an admin wishes to make the registration email to look like it is coming from their company, they should modify #'s 1-2, 6-9. However, variables 6-9 may be simply removed if the admin doesn't want users to know what they are using.

1. your install location – This is typically the main variable to change. This variable is not included by default in the email to allow admins to utilize mobile device management software to push the Retain app to devices. It may be included in the email and filled in with the app's location so it can be manually downloaded to devices.
2. product – This is automatically filled out with the Retain product name. Admins may set this to be the company name. This variable is used in the subject and the body of the email message.
3. retainheader – This is automatically filled with the Retain product logo. Admins may set this to any branding or company image file. This must be an image file.
4. name – Each user's individual username will be input here. This should not be changed.
5. gwavaURL – Automatically filled-in with a link to the GWAVA website.
6. gwavaURLLabel – This determines text displayed for the gwavaURL link.
7. productNameURL – This is automatically filled-in with a link to the product website.
8. productNameLabel – This determines text displayed for the productNameURL link.

The registration code and information in that variable **MUST NOT CHANGE**. This information is generated by the device management page when the device is added.

The following variables **MUST NOT CHANGE**.

DO NOT MODIFY THE FOLLOWING:

enrollmentCode: This is generated when the device is created on the device management page.
tenantid: This is static number for retain. Displayed on the mobile page from Module Configuration.
email: This is from the Device Management page.
name: This is from the Device Management page.
endpoint: This is the address of the Retain Server
rouerURL: This is pulled from the mobile page of Module Configuration.
activateHREF: This is an identification string, a link specific to the user and installation.

Appendix J Secureline Server Configuration

Retain requires the CellTrust Secureline server to create log files for the worker to access, digest, and send to the Retain Server for storage. To configure the Secureline server to create these files requires the scheduled run of a Gwava Report script, a tool provided by CellTrust.

The script may be scheduled through the quartz scheduler.

To configure the quartz scheduler to run the GwavaReport script, navigate to the /opt/PM/bin directory and run the start_sched_client.sh script, then follow the desired prompts.

For example:

```
[root@dev041201v bin]# ./start_sched_client.sh
```

```
Hi, welcome to PrimeMessage Scheduler configuration utility
You will be prompted to enter different values. Every time you finish to
enter something - just hit "Enter". You can quit any time - just enter single
'q' character in the beginning of the line.
GOOOOD LUCK!
```

```
Select operation ( 1 - add job; 2 - remove job; 3 - pause job; 4 - resume
job; 5 - current jobs):
1
```

```
Enter job name:
```

```
GwavaReport
```

```
Enter job class name ( omit ".class" part ):
```

```
GwavaReportJob
```

```
Please select Trigger type( 1 - Simple, 2 - Cron):
```

At this point, select whether you want to use a Cron configuration for the triggers or a simple type – this is an example using the simple type:

```
Please select Trigger type( 1 - Simple, 2 - Cron):
```

```
1
```

```
Enter delay ( in seconds ) before first execution:
```

```
30
```

```
Enter number of executions ( 0 for indefinite ):
```

```
2
```

```
Enter interval between executions ( in seconds ):
```

```
30
```

```
Enter job additional params ( String or int only)
```

```
When finished, enter empty line for attribute name
```

```
Enter attribute name:
```

The GwavaReport has no quartz attributes, so hit enter, then ctrl-c to exit the script

Schedule the report to run as often as desired according to traffic and desired archival.

Once the report tool has run, it will place the necessary log file in the /opt/PM/scheduler/external directory. The files here are required by the Retain Worker. The Retain Worker required direct file access to these files. Whether by export or by local access, configure the CellTrust Secureline module with the location of these files, the file location must be from the worker's point of view.