



# GroupWise Reporting and Monitoring 18 Admin Guide

January 2020

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# Overview

## About GroupWise Reporting and Monitoring

GroupWise Reporting and Monitoring (GWRM) is a reporting and monitoring solution for Micro Focus GroupWise® that provides a Dashboard for quick access to the most critical areas of GroupWise®, a real time monitoring solution, and a System viewer that allows you to see all of the details of your GroupWise components in a single view. GroupWise Reporting and Monitoring produces reports for system analysis, capacity planning, and security auditing.

GWRM monitors system-critical modules and processes in the targeted mail and server environment, sends alerts, compiles statistical reports, and logs activity for informational analysis. GWRM provides a complete and comprehensive status picture and real time monitoring solution for the supported systems.

GWRM works to monitor systems with two different parts: the Agents, and the Control Center.

The Agents gather the information from the different managed systems and sends the pertinent information over encrypted channels to the Control Center. As such, the Agents are best installed, and designed to be installed, on the different monitored systems, to allow secure file access to the pertinent logs and file systems that need to be monitored.

The Control Center aggregates and interprets information from all the monitored systems and presents it in a functional manner to the user, with options to manage the information into meaningful presentations. Because the Control Center combines the data while monitoring the active systems, it is best for the Control Center to be separate from the monitored systems.

## Intended Audience

This manual is intended for IT administrators in their use of GroupWise Reporting and Monitoring or anyone wanting to learn more about GroupWise Reporting and Monitoring. This manual expects you to have an understanding of GroupWise and GWCheck.

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# 1 Understanding GWRM

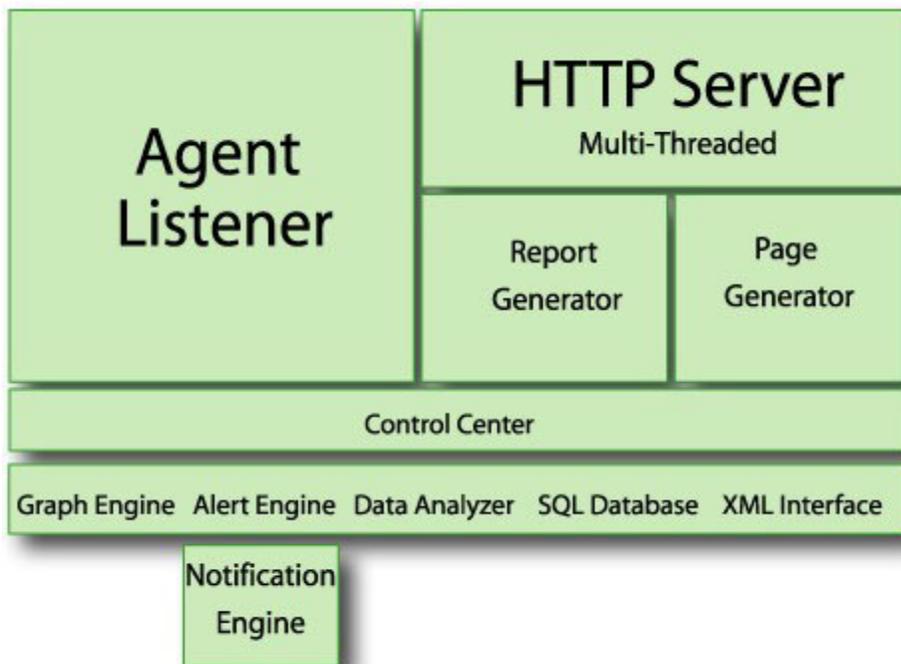
Because each component requires specific instructions for integration, it is recommended that administrators read through this manual before installing the GroupWise Reporting and Monitoring (GWRM) Program to avoid frustration and confusion.

GWRM provides reliable monitoring, analysis, and audit tools for GroupWise systems of any size. GWRM collects information and combines it together in a central location. To collect this information from separate locations of any GroupWise system, GWRM is comprised of two separate programs, the GWRM Agent and the GWRM Control Center.

The GWRM Agent (also referred to as RLAGENT) connects to the supported programs to gather information regularly. The information is then forwarded to the GWRM Control Center. The GWRM Agent reads configuration from the configuration file, (RLAGENT.CONF in Linux or NetWare, RLAGWIN.CONF for Windows), which tells the agent how to connect to the GWRM Control Center, which holds all configuration for the Agent.

The GWRM Control Center (also referred to as RLCENTER) takes the information from one or more GWRM Agents through the Agent Listener and stores it in SQL database files. The RLCENTER also stores graphs and alerts in the same manner. For easy administration access, the RLCENTER contains an embedded HTTP web server. The RLCENTER also contains a report and page generator that work with an alert engine, a notification engine, and graph generators to analyze and organize the data that is collected.

In all GWRM system installations, regardless of how large or small your GroupWise system is, there must be at least one RLAGENT and one RLCENTER. (There are three exceptions: Reveal, Vertigo, and Advansys Archive2Go does not require or use RLAGENT to communicate with RLCENTER. They communicate directly to the Control Center.)



In a typical system, one RLCENTER is installed for a GroupWise system, and every server running a monitored component of the system will have one RLAGENT installed.

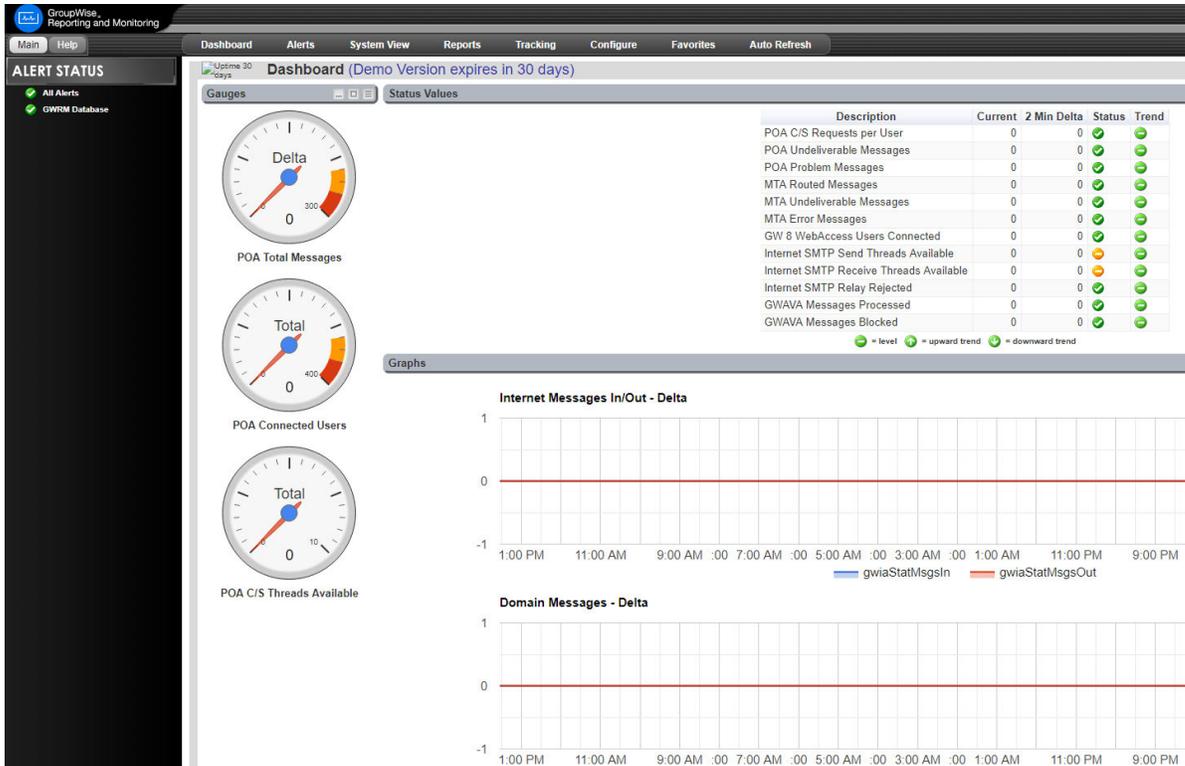
The RLCENTER serves as a central repository for information gathered and for administration. RLAGENT communicates via TCP/IP to RLCENTER to send the collected data. This means that a RLAGENT does not need to be installed on the same machine as an existing RLCENTER. It is recommended to run the Control Center on a dedicated server.

RLAGENT communicates to the monitored system via both TCP/IP and direct file access, depending on the component integration. While, theoretically, administrators can install RLAGENTS on servers separate from the GroupWise agents and collect some of the information needed, administrators would not be able to generate all the desired reports. For all reports, local access is necessary. The Linux Agent in GWRM 4 can be used to gather all data remotely, but requires file access through network mount points. (The option is discouraged, but possible.) In that case, no agent is required on NetWare or Windows.

The RLAGENT automatically tries to connect to each of its configured components every two minutes.

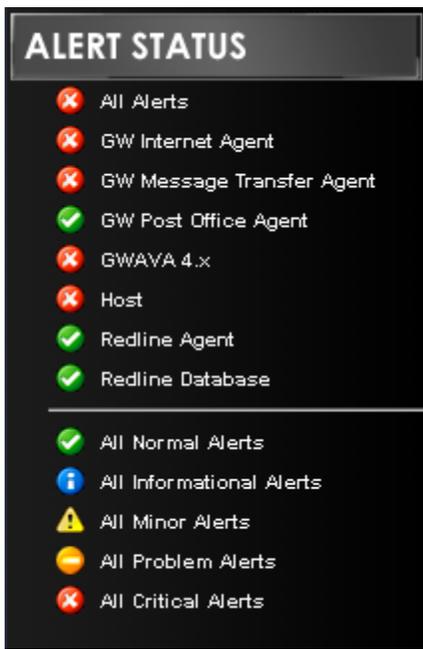
# 2 Control Center

The GWRM Control Center is the information and management interface for GWRM. The Control Center is organized into main sections in drop-down menus along the top and a system object or information tree window on the left. The main window displays information per the selected main section and tab. (Tabs also appear directly under the drop-down menus in specific sections, such as the agent screen.)



Through navigation of the main sections, administrators have access to information about their entire GroupWise system including: alerts, reports, system details (called System View), as well as GWRM configuration screens. There are buttons for configuring the automatic refresh rate for the screen, logging out, and a link to the online manual.

The default page of the GWRM Control Center displays all major alerts, warnings, and system statistics for a quick general system health overview at a glance.



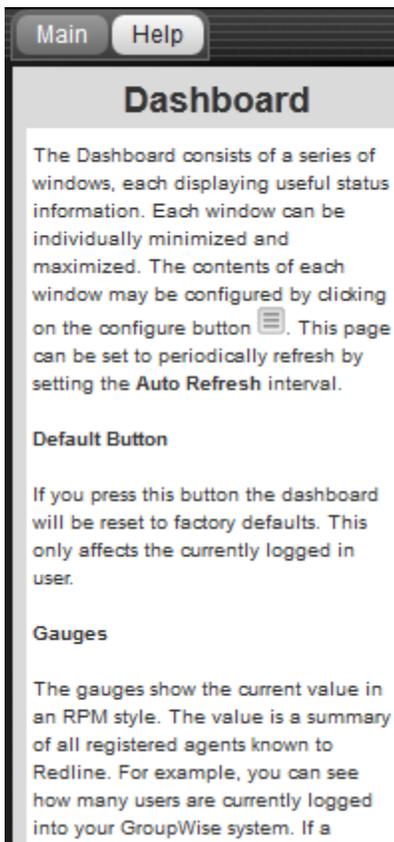
## Dashboard

Dashboard is the default section of the GWRM Control Center. The Dashboard shows a quick overview of the system and a quick health view. There is also a total system health bar just below the tabs, showing a percentage health status.

The main dashboard window contains an alert display on the left side of the window, showing the status of all known agents, both for GroupWise and GWRM systems.

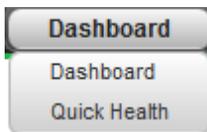
If the graphs, gauges, or status values have been incorrectly configured, selecting the 'Defaults' button will reset the gauges and graphs to their default settings.

The 'Help' tab provides quick access to contextual help for any main section currently displayed. The quick help window opens in the information panel. The Help tab will remain open until the Main tab is again selected.



## Dashboard

This page is called the Dashboard, because it uses gauges and graphs to display vital system information and health status.



The Dashboard tab shows levels of message movement at the GWIA and Domain, open and user thread levels and total system wide messages passing through the Post Office Agent or Agents. By default, the graphs and gauges are updated every 4 minutes.

The Graphs present on the Dashboard, along with all stats, can be configured and changed through GWRM Configuration section.

## Quick Health

The Quick Health Dashboard lists all agents known to GWRM in a very compact format. The format may be stacked alphabetically, or organized under the monitoring GWRM agent, or Host. This page automatically refreshes per the auto-refresh setting.

## **Not Connected**

All agents that are not reporting any data are designated by a colored box: yellow and red. Alerts will result in a red box, and yellow indicates the state is unknown, (likely that the agent is down and hasn't reported.)

## **Connected**

All agents actively sending data are shown with a green, gray, or blue box; gray indicates normal, green indicates a report since last refresh, and blue indicates a program directly reporting to the Control Center (ex. vertigo), but has not reported recently.

If you click on an agent name you will be directed to the agent summary page. If you click on the alert icon, you will be taken to the alert page, with all the details of this agent.

# 3 Alerts

All active alerts are listed on the GWRM alerts page.



GWRM allows you to examine these alerts in detail, giving you a rich understanding of what is taking place in your messaging system. The alerts can be filtered by agent type, severity or any free definable search criteria. A built-in knowledge base explains in more detail what an alert could mean.

The screenshot shows the 'Active Alerts' page in GWRM. At the top, there is a dropdown menu for 'All Users' and a search bar. Below this, there are buttons for 'Solve', 'Assign', 'Remove', and 'Remove All'. The 'Alert Engine' is shown as 'Running'. On the right, there is a '30 Items per Page' selector. The main part of the page is a table with the following columns: Date, Time, Status, Agent, Description, Assigned To, and Action. The table contains 9 rows of alert data, all with a status of 'Down' (indicated by a red 'X' icon).

| Date       | Time     | Status | Agent             | Description                                    | Assigned To | Action         |
|------------|----------|--------|-------------------|------------------------------------------------|-------------|----------------|
| 2011-10-27 | 05:25:00 | Down   | RLAgent-SLES11-32 | redlineAgentState should be == Up, but is Down | -           | [Action icons] |
| 2011-10-27 | 05:25:00 | Down   | RETAIN2           | hostAgentState should be == Up, but is Down    | -           | [Action icons] |
| 2011-10-27 | 05:25:00 | Down   | gwava 5           | gw4v4AgentState should be == Up, but is Down   | -           | [Action icons] |
| 2011-10-27 | 05:25:00 | Down   | po.dom            | poaAgentState should be == Up, but is Down     | -           | [Action icons] |
| 2011-10-27 | 05:25:00 | Down   | dom.GWIA          | gwiaAgentState should be == Up, but is Down    | -           | [Action icons] |
| 2011-10-27 | 05:25:00 | Down   | SLES11-32         | hostAgentState should be == Up, but is Down    | -           | [Action icons] |
| 2011-10-27 | 05:25:00 | Down   | dom               | mtaAgentState should be == Up, but is Down     | -           | [Action icons] |
| 2011-10-27 | 05:34:00 | Down   | RLAgent-RETAIN2   | redlineAgentState should be == Up, but is Down | -           | [Action icons] |
| 2011-11-08 | 08:55:00 | Down   | ricentex32        | hostAgentState should be == Up, but is Down    | -           | [Action icons] |

The following severities are available in GWRM:

- ◆ Normal Alerts
- ◆ Informational Alerts
- ◆ Minor Alerts
- ◆ Problem Alerts
- ◆ Critical Alerts

**Alert Status**  
**Status Icons:**  
 The highest current alert of an agent type is shown here. If you click on a row, you see all alerts of this agent type.

**Known Agents:**  
 The Alert Status List is expanded automatically as soon as an agent of a particular type is known to the Control Center. If there is no agent of a specific type known, the line doesn't show up at all.

**Status Agenda:**  
 All available severities are listed here. If you click on one of these icons, you will see all alerts with the severity.

**Search Alerts:**  
 All alerts are searchable. Input keywords here, such as the agent name, type, or monitored agent to search for alerts specific to that agent.

## Active Alerts

**Assign Alerts to a specific user**  
**Alert actions**  
**Description**  
**Maximum number of Alerts per page**

Check/Uncheck selected or all alerts

**Severity and notification status**  
**Agent Name**  
**Alert assigned to a user**  
**Actions**

| Date       | Time     | Status | Agent             | Description                                    | Assigned To | Action |
|------------|----------|--------|-------------------|------------------------------------------------|-------------|--------|
| 2011-10-27 | 05:25:00 | ⊗      | RLAgent-SLES11-32 | redlineAgentState should be == Up, but is Down | -           | ⊗ ⊕ ⚙  |
| 2011-10-27 | 05:25:00 | ⊗      | RETAHQ            | hostAgentState should be == Up, but is Down    | -           | ⊗ ⊕ ⚙  |
| 2011-10-27 | 05:25:00 | ⊗      | gwava 5           | gwava4AgentState should be == Up, but is Down  | -           | ⊗ ⊕ ⚙  |
| 2011-10-27 | 05:25:00 | ⊗      | po.dom            | poaAgentState should be == Up, but is Down     | -           | ⊗ ⊕ ⚙  |
| 2011-11-08 | 06:55:00 | ⊗      | rioertan32        | hostAgentState should be == Up, but is Down    | -           | ⊗ ⊕ ⚙  |

## Actions

It is possible to remove alerts and mark alerts as solved.



Alerts may be solved, assigned, and removed as a group by either selecting all, or selecting multiple alerts at a time through using "Shift-select" or holding down the "Control" key while selecting specific alerts. Alerts may also be sorted by any column variable. Clicking on the column titles will sort the reports accordingly.

- ◆ **Solve:** Mark all selected alerts as solved. Solved alerts disappear from the list of active alerts
- ◆ **Assign:** Assigns the selected alerts to the user selected in the dropdown menu.
- ◆ **Remove:** Removes the selected alerts from the database.
- ◆ **Remove All:** This will remove all listed alerts from the database
- ◆ **Alert Engine:** Enable or Disable the alert engine. If the alert engine is not running, no new alerts and notifications will be generated. This can be helpful when working on a problem that may create alerts due to work being done. Such alerts are not necessary and can be annoying to receive.

The last 30 solved alerts can be viewed on the agent's alerts page. To access this page, select System View | GWRM map, <select desired agent>, and select the 'Alerts' tab.

The Date and Time when the alert was solved and the user who solved it are displayed. All open alerts for the selected agent are also displayed, and can be marked as solved or deleted from the database.

- ◆ **Delete Alert:** Alerts may be deleted, and permanently removed from GWRM.
- ◆ **Solve Alert:** You can mark an alert as solved with a single mouse click.
- ◆ **Configure:** If you think that this isn't a valid alert, you can reconfigure your recommendation or threshold from here.
- ◆ **Info:** GWRM has a built-in knowledge base with a lot of information about important values in your GroupWise system. Here you can read what GWRM can tell you.



# 4 System View

GWRM's System View shows all known agents in your GroupWise environment.



On the main Status Overview page, you can see the version, uptime, platform where the agent is running on and a couple of other values. If you click on one of the agents you are taken to that agent's page, where GWRM displays all known settings, status values, graphs, etc. in detail.

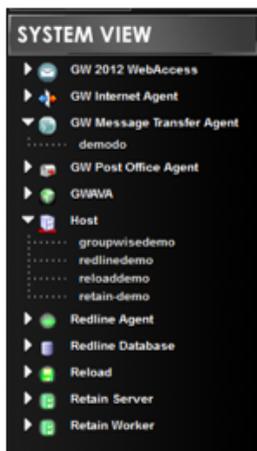
The GWRM Map page allows you to see which agents a GWRM Agent is monitoring, or which server they are on. These views will not be of large benefit if remote monitoring is being used.

The plug icon indicates if an agent is actively reporting data or not. If you mouse over the plug, a small window appears showing when the agent last reported any data. Wherever you see a "plug" icon in GWRM, you can mouse over it, pause a second, and this information is displayed.

Last data received at: 07 Jan 2011 07:43:32

## Menu

The menu contains the System Tree which looks like what you are familiar from GroupWise Administration. All agents of a type can be listed by clicking on the row with the agent type, and you can define your own groups. In the group, only the agents you want will be shown.



**System Tree:** Lists all agents like what is known from ConsoleOne. If you click on an agent, you can see all the details.

**Agent Type Groups:** Shows all agents of a specific type. If you click on the icon, all agents of that type will be listed in the tree. If you click on the "Name" of the agent type, the window on the right side shows the status of the agents of that type only.

**User defined Group:** It is possible to define groups with the agents you want. This can be helpful to group agents of a type or from a physical location.

## How to define a Group

1. Select Agent Groups from the Configure drop-down menu.
2. Specify a Group Name and click "Add"
3. Mark the agents you want in this group and click "+ Selected"



4. Browse back to System View
5. Click on the group in the menu

You can add or remove agents to user defined groups at any time.

## Viewing an Agent

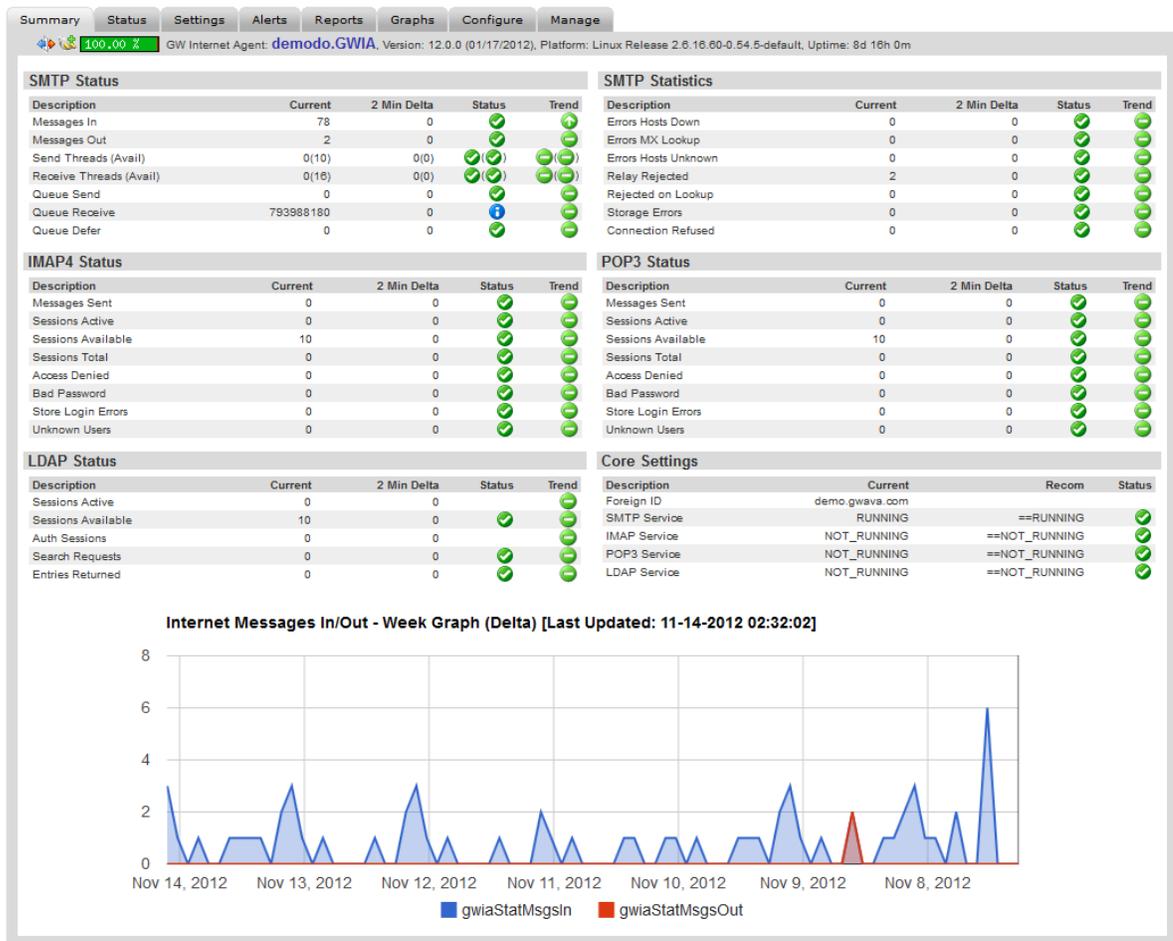
Everywhere where you click on an Agent Name in GWRM you will see the details from the System View. It doesn't matter where you click on the agent name (Dashboard, Alerts List, and System View). Every agent has information on 8 different pages.

- ◆ Summary
- ◆ Status
- ◆ Settings
- ◆ Alerts
- ◆ Reports
- ◆ Graphs
- ◆ Configure
- ◆ Manage

These pages can be accessed from the menu.

## Summary

The Summary page is unique to every agent in GWRM. The summary page is used to display the most important status values and settings for an agent on a single page.



**Status:** The status icons indicate if a threshold or recommendation is defined for the value and if the value is in the defined range or not. The icon depends on the severity of the defined threshold or recommendation.

**Trend:** A trend is indicated if a value is generally going up or down for at least 10 points of measurement, and not simply an indication of a simple change. A single high or low peak is also not enough to force the 'trend' in a direction. Instead, a generally significant and overall movement in one direction is required to cause a 'trend'.

## Status

The status page shows all values which can change during normal operations. Examples are “Users Connected”, “Messages Sent”, “Threads available” etc. GWRM collects these values from many different sources and presents them on a single page.

| Core Status Values         |                                                    |           |        |  |  |  |
|----------------------------|----------------------------------------------------|-----------|--------|--|--|--|
| Description                | Value                                              | Threshold | Status |  |  |  |
| Internet Agent Path        | /grpwise/demodo/wpgate/gwia                        |           |        |  |  |  |
| Work Path                  | /grpwise/demodo/wpgate/gwia/000_pro/gwork          |           |        |  |  |  |
| Log File Path              | /var/log/novell/groupwise/gwia.demodo              |           |        |  |  |  |
| Current Log File           | /var/log/novell/groupwise/gwia.demodo/1114gwia.001 |           |        |  |  |  |
| Previous Log File          | /var/log/novell/groupwise/gwia.demodo/1113gwia.001 |           |        |  |  |  |
| Logfile accessible         | OK                                                 | ==OK      | ✓      |  |  |  |
| Foreign ID                 | demo.gwava.com                                     |           |        |  |  |  |
| Time Zone                  | EST                                                |           |        |  |  |  |
| GMT Offset                 | GMT Offset= -5 hours, 0 minutes                    |           |        |  |  |  |
| LDAP Context               | None specified                                     |           |        |  |  |  |
| LDAP referral URL          | None specified                                     |           |        |  |  |  |
| GroupWise Link             | UP                                                 | ==UP      | ✓      |  |  |  |
| SMTP Connection Info       | 220 demo.gwava.com Ready                           |           |        |  |  |  |
| Agent IP Address           | 192.168.100.102                                    |           |        |  |  |  |
| GW DC (Dictionary) Version | > 5.0                                              | ==> 5.0   | ✓      |  |  |  |

| General Status Values              |         |             |                  |        |       |  |
|------------------------------------|---------|-------------|------------------|--------|-------|--|
| Description                        | Current | 2 Min Delta | Threshold        | Status | Trend |  |
| Bytes Out                          | 4885    | 0           | <=10000000/2 Min | ✓      | →     |  |
| Bytes In                           | 4227441 | 0           | <=10000000/2 Min | ✓      | →     |  |
| Messages Out                       | 2       | 0           | <=80/2 Min       | ✓      | →     |  |
| Messages In                        | 78      | 0           | <=80/2 Min       | ✓      | →     |  |
| Status Messages Out                | 0       | 0           | <=80/2 Min       | ✓      | →     |  |
| Status Messages In                 | 0       | 0           | <=80/2 Min       | ✓      | →     |  |
| Error Messages Out                 | 0       | 0           | <=3/2 Min        | ✓      | →     |  |
| Error Messages In                  | 0       | 0           | <=3/2 Min        | ✓      | →     |  |
| Messages Out (10 Min Delta)        | 0       | 0           | <=80/2 Min       | ✓      | →     |  |
| Messages In (10 Min Delta)         | 0       | 0           | <=80/2 Min       | ✓      | →     |  |
| Status Messages Out (10 Min Delta) | 0       | 0           | <=50/2 Min       | ✓      | →     |  |
| Status Messages In (10 Min Delta)  | 0       | 0           | <=50/2 Min       | ✓      | →     |  |
| Error Messages Out (10 Min Delta)  | 0       | 0           | <=3/2 Min        | ✓      | →     |  |
| Error Messages In (10 Min Delta)   | 0       | 0           | <=3/2 Min        | ✓      | →     |  |
| Threshold Message Size In          | 0       |             | <=100000         | ✓      | →     |  |
| Threshold Message Size Out         | 0       |             | <=100000         | ✓      | →     |  |
| Threshold WPCSOUT Queue            | 0       |             | <=10             | ✓      | →     |  |
| Threshold WPCSIN Queue             | 0       |             | <=10             | ✓      | →     |  |
| Threshold GWHOLD Queue             | 0       |             | <=10             | ✓      | →     |  |
| Threshold GWPROP Queue             | 0       |             | <=5              | ✓      | →     |  |
| WPCSOUT Queue                      | 0       | 0           | <=10/2 Min       | ✓      | →     |  |
| WPCSIN Queue                       | 0       | 0           | <=10/2 Min       | ✓      | →     |  |
| GWHOLD Queue                       | 0       | 0           | <=10/2 Min       | ✓      | →     |  |
| GWPROB Queue                       | 0       | 0           | <=5/2 Min        | ✓      | →     |  |

| SMTP Status Values     |         |             |            |        |       |  |
|------------------------|---------|-------------|------------|--------|-------|--|
| Description            | Current | 2 Min Delta | Threshold  | Status | Trend |  |
| Messages In            | 78      | 0           | <=10/2 Min | ✓      | →     |  |
| Messages Out           | 2       | 0           | <=10/2 Min | ✓      | →     |  |
| Send Threads Available | 10      | 0           | >=2        | ✓      | →     |  |

For some agents like the Post Office, Domain or Internet Agent, the file system is monitored, and the number of files, the size of all files, the oldest, and the largest file are presented.

| File System Status |       |      |                                     |                                     |             |         |        |       |  |
|--------------------|-------|------|-------------------------------------|-------------------------------------|-------------|---------|--------|-------|--|
| Folder             | Files | Size | Oldest                              | Largest                             | 2 Min Delta | Thresh. | Status | Trend |  |
| MSLOCAL            |       |      |                                     |                                     |             |         |        |       |  |
| GWINPROG           |       |      |                                     |                                     |             |         |        |       |  |
| 0                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 1                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 2                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 3                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 4                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=80    | ✓      | →     |  |
| 5                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 6                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 7                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| MIME               |       |      |                                     |                                     |             |         |        |       |  |
| TMP                | 0     | 0 B  | (, 0 B, 12-31-1989 17:00:00)        | (, 0 B, 12-31-1989 17:00:00)        | 0           | <=20    | ✓      | →     |  |
| GWVSCAN            |       |      |                                     |                                     |             |         |        |       |  |
| 0                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 1                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 2                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 3                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 4                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=50    | ✓      | →     |  |
| 5                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 6                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| 7                  | 1     | 0 B  | (xNStore, 0 B, 01-07-2011 13:35:57) | (xNStore, 0 B, 01-07-2011 13:35:57) | 0           | <=20    | ✓      | →     |  |
| MIME               |       |      |                                     |                                     |             |         |        |       |  |
| TMP                | 0     | 0 B  | (, 0 B, 12-31-1989 17:00:00)        | (, 0 B, 12-31-1989 17:00:00)        | 0           | <=20    | ✓      | →     |  |
| wpcsin             |       |      |                                     |                                     |             |         |        |       |  |

You can define thresholds for the number of files, size of the folder, largest and oldest file. By default thresholds are defined to make sure not too many files are in the folder. If a folder is queuing up, usually a problem exists in your GroupWise system.

# Settings

The settings page shows configuration settings appropriate to the monitored agent. The recommendation, threshold and status shown here are based on the current GroupWise best practices and defaults. The recommendations and thresholds can be changed to accommodate your installation. See how to configure a threshold or recommendation to change recommended and threshold values.

The screenshot displays the 'Settings' page for a GW Internet Agent. At the top, there are navigation tabs: Summary, Status, Settings (selected), Alerts, Reports, Graphs, Configure, and Manage. Below the tabs, a status bar shows '100.00%' and 'GW Internet Agent: demodo.GWIA, Version: 12.0.0 (01/17/2012), Platform: Linux Release 2.6.16.60-0.54.5-default, Uptime: 8d 16h 5m'.

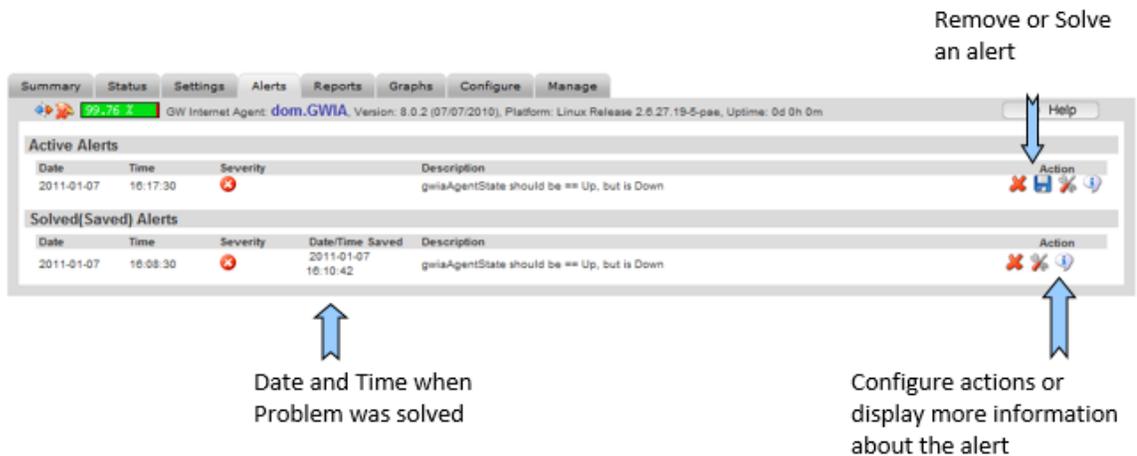
The main content is divided into four sections:

- Core Settings:** A table with columns 'Description', 'Setting', 'Recommended', and 'Status'. It lists various system parameters like Internet Agent Path, Work Path, Log File Path, etc.
- Settings:** Two side-by-side tables. The left one has columns 'Description', 'Current', 'Recom', and 'Status'. The right one has columns 'Description', 'Current', 'Recom', and 'Status'. They list operational parameters like Directory Synchronization, Accounting, and Send/Receive Cycle.
- SMTP Settings:** A table with columns 'Description', 'Current', 'Recom', and 'Status'. It lists email-related parameters like SMTP Service, Use SSL, and SMTP Send Threads.
- Connection Settings:** A table with columns 'Description', 'Current', 'Recom', and 'Status'. It lists network and connection parameters like Ignore GW Internet Addressing, Expand Groups, and Timeout Commands.

GWRM and GWAVA Reload agents can be managed in part from this page. Click the 'OK' button to save any changes made. The Agent Actions allow for a seamless way to update the GWRM Agent software. (See the Online Update section.) Unloading an agent requires the agent to be started again from the server it resides on. Removing an agent unregisters the selected agent from the GWRM Control Center.

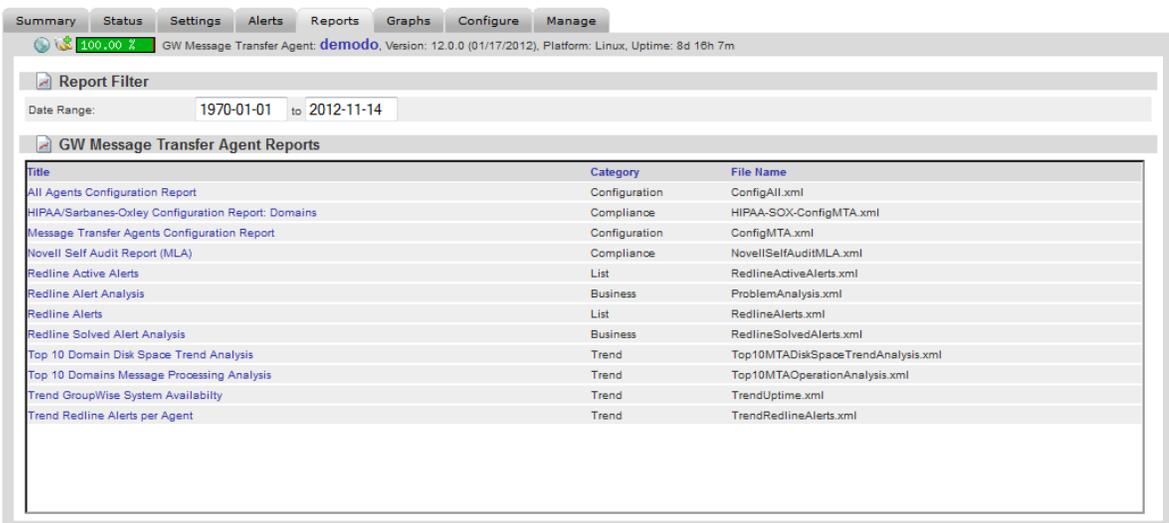
# Alerts

On the agent specific alerts page, all alerts for the agent are listed. All solved alerts, including date and time when the problem was solved, are also listed. You can delete and mark alerts as solved from this page.



## Reports

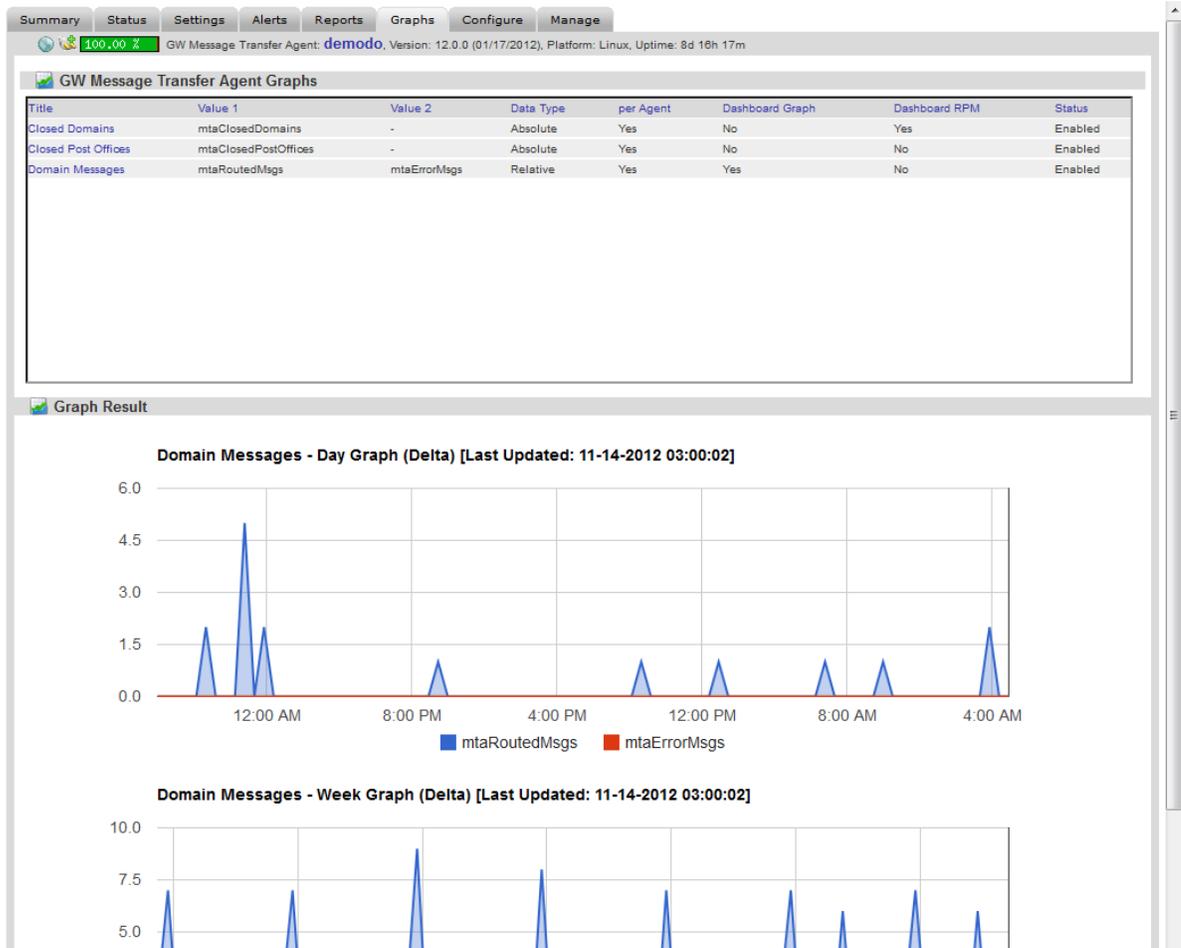
All reports which can be run on the selected agent type may be run from this page. To learn more about report definitions and designing reports, refer to the next chapter.



To run a report listed on this page, select the report name. Selecting a report name will open a new window with the selected report generated in the browser page.

## Graphs

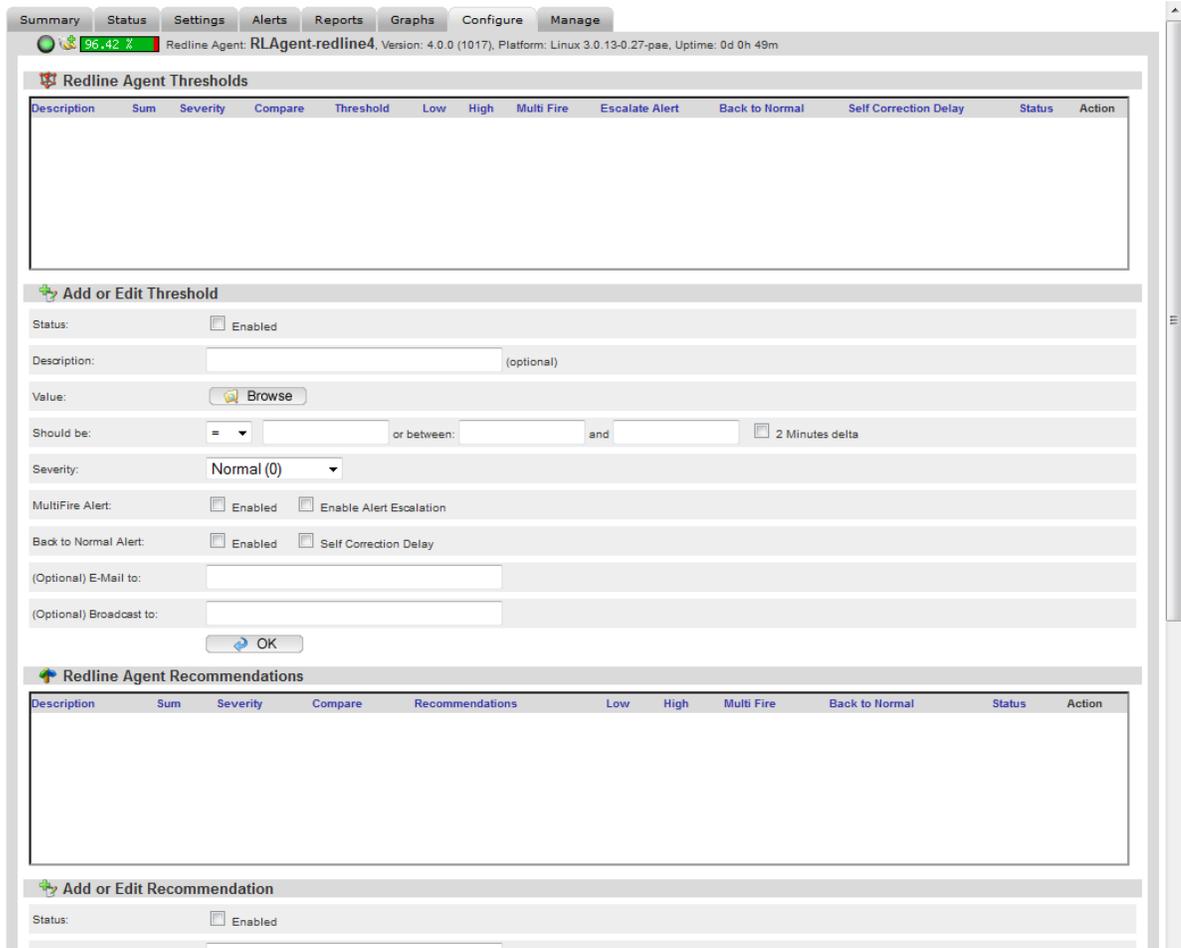
Graphs are a very powerful tool to look at data in a visual way. Graphs show how disk size grows and shrinks, memory is allocated over time, or an abnormal amount of message traffic. All these kinds of graphs can be defined and the agent specific ones can be shown on this page.



For Graph explanation see the Graphs section.

## Configure

It is possible to define thresholds, recommendations and graphs which will be used for only the selected agent. Sometimes it is necessary to have different thresholds and recommendations for some or just one agent. Configure the thresholds and recommendations here.



Many values are already defined in the 'browse' button. Name the threshold desired and then select the desired value from the 'browse' menu. To select a value, click on the action icon in the right column.

Specify the desired threshold level and click 'OK' to save the new threshold. Remember, a threshold or recommendation will not be active unless it is enabled.

## Manage

While every agent has a manage tab, only GWRM Agents allow configuration. From the manage tab you can configure all agents monitored by the selected GWRM agent or add new agents to be monitored.

The screenshot shows the GWRM interface with the 'Monitored Agents' table and the 'Add or Edit Monitored Agent' form.

| Type   | Description               | Unique ID | Agent Name | Status  | HTTP IP Address | HTTP IP Port | SSL      | Action |
|--------|---------------------------|-----------|------------|---------|-----------------|--------------|----------|--------|
| GWIA   | GW Internet Agent         | 12        | -          | enabled | 192.168.100.102 | 9850         | disabled |        |
| HOST   | Host                      | 5         | -          | enabled | -               | -            | -        |        |
| MTA    | GW Message Transfer Agent | 10        | -          | enabled | 192.168.100.102 | 7180         | disabled |        |
| POA    | GW Post Office Agent      | 11        | -          | enabled | 192.168.100.102 | 7181         | disabled |        |
| WEBAC2 | GW 2012 WebAccess         | 13        | -          | enabled | 192.168.100.102 | 80           | disabled |        |

The 'Add or Edit Monitored Agent' form includes the following fields:

- Agent Type: GW 2012 DocView Agent
- Status:  Enabled
- HTTP Address:
- HTTP Port:
- HTTP Username: admin
- HTTP Password:
- Use SSL:  Yes
- Agent Name:
- Agent Name Suffix:

For details about how to manage all the monitoring features, please refer to the GWRM Installation Guide.

All other agents, (monitored agents), can be removed from the GWRM system from this page once they have first been removed from the GWRM Agent's page. If they have not been removed from the agent's page first, when the agent again reports the data, the removed item will be re-created and replaced.

The screenshot shows the 'Agent Information' section for a specific agent. The 'Registering Redline Agent ID' is 4, and the 'Global Unique ID (GUID)' is 8. The 'Remove Agent' button is visible.

If the displayed agent is a monitored agent, the registering agent's ID value listed on the right side of the page will link directly to the registering agent's page.

## GroupWise Map

The GroupWise Map option under the System View menu displays the monitored system in a top-down map showing how components in the GroupWise system are connected and their hierarchy.

Basic vital statistics for each monitored agent and overall percentage uptime are displayed.

## GWRM Map

The GWRM Map option under the System View menu displays all agents in the system monitored by a GWRM Agent. The monitored agents are displayed beneath their parent GWRM Agent.

Uptime, basic vital statistics for each monitored agent, and overall percentage uptime are displayed. The GWRM Agent Map is a quick and easy tool to visualize and track down outages in a system. Select the 'expand all' button to display the GWRM agents which are being monitored. How the agents are displayed depends on user configuration. Agents may be organized per alphabetical, host, GWRM UI, or agent Grouping

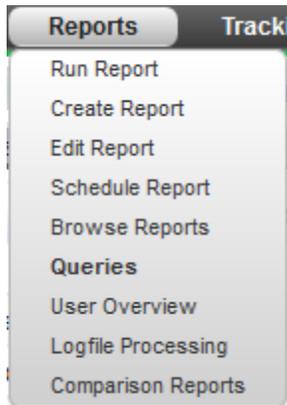
## Agent Status

The Agent Status option under the System View menu displays all the different agents and monitoring agents along with their status. The Agent Status page is intended to create a single display containing the essential information for the entire monitored GWRM system.

Essential statistics for the different agents and servers including free memory, system uptime, percentage of total uptime reported, vital stats, and even stuck monitoring loops for present agents are reported.

# 5 Reports

With reports, you can get a lot of information out of your GroupWise environment. GWRM provides many pre-configured reports spanning every monitored agent in the system. Custom reports tailored to any specific need or organization also can be created. To quickly facilitate access to the information that GWRM gathers, GWRM ships with many predefined reports.



All reports require that the GWRM agents must have file access to monitored agents and systems. The reports require access to files, logs, and additional information stored on the host server for each monitored system. It is best to run a GWRM agent on each server running a monitored agent to provide accurate results.

## Run Reports

The Run Reports page contains all the pre-defined and configured reports which ship with GWRM 4. Though these reports are included with GWRM, any newly defined or user-created and saved reports will be listed here as well. The displayed reports may be filtered by the desired component selected on the left under 'Global Reports'.

Reports here may also be filtered to specific agents or time frames for the reported data. To run a report on a bloated post office, click on GW Post Office Agent in the list on the left panel. Set the beginning date to last week, select the bloated post office agent in the Agent Name list, and then click on the report name to run the report.

## Create Report

Reports can be created and customized to any situation. To create a custom report, first select a table from the left-hand menu. Give the report a title and filename but do not use spaces in the file name. A customized text header should also be added to provide explanation for the report.

Once the title and text header have been entered, then exactly what data is to be displayed along with how it will be displayed must be selected. The chart type, columns to display in the chart, how the data is grouped, and the specific column utilized as the column to track the changes in as well as how the information should be sorted are all required.

The Query Definition section is used to further filter the data. The four criteria locations can either be left blank, or filled-in as desired. The filters may be created with a logical 'and' or 'or' to truly hone the report to only the desired criteria.

Once finished, a custom report cannot be previewed before it is saved. Select the 'Save' button to allow the 'preview' button to spawn a new window and display the results. Do not close the report creation window, as you may return and modify the report, re-save, and re-preview the report until it meets satisfaction. Ensure that it is saved, then schedule or immediately run the report through the Run Report window.

## Edit Report

Existing reports may be edited through the Edit Report page. To edit a report, select an agent to restrict the listed reports to choose from. Simply select the name of the report desired to load it into the editor.

Once loaded, the report then can be edited directly in the HTML Template window. If editing a report that came with GWRM, it is recommended to give it a custom file name as well as template name, to avoid overwriting the original report. Select 'OK' when complete to save the edited report.

## Schedule Reports

The report Scheduler is accessed through the Configure | Report Scheduler drop down menu.

To get a scheduled report run and sent to the desired recipient, the scheduler needs to be configured first.

The Report sender default is the source server for information loaded in the report, but not sent, in the report email. The default setting is 'home', 127.0.0.1, but for the embedded graphs and tables to work, this section MUST be set to the GWRM Control Center's IP address.

To view reports from outside the network, the IP/DNS address must be publicly accessible, and port 6910 needs to be forwarded to the GWRM Control Center server.

The browser cleanup option removes all saved embedded graphs and information from the GWRM server after the specified amount of days. It is not enabled or set by default as saved reports are system specific. For example, if a system has daily reports, it is not recommended to save a full year of reports for the sheer number, yet monthly reports may need to be saved for a year. Select a setting which works best for the system.

After the Scheduler is configured, a regular report job may be created and scheduled. It is possible to schedule a report based on hours, days, weeks and months. If a report supports specifying the agent name or a date range, it is possible to define what date range or specific agent the scheduled report should consider.

- ♦ **Job Name:** A unique name for this scheduled report
- ♦ **Report:** Select the report from one of the predefined list, compliance or business reports.
- ♦ **Start Date/Time:** The time and date when the report runs the very first time
- ♦ **Repeat every:** The interval when the report will be executed.
- ♦ **Data since:** The time-frame which will be used by the database query.
- ♦ **Agent Name:** The agent(s) the report is to be run against. This may be applied to all agents, or select up to ten agents to include in the report.
- ♦ **E-Mail Report to:** GWRM may send a report through email to a desired recipient upon completion.
- ♦ **Public Accessible:** As there may be other users besides the administrator accounts created in GWRM, this will make the report accessible to non-admin accounts.

When the scheduler runs, reports are generated automatically then saved to (GWRM Path)\db\reports directory. For example: opt\beginfinite\GWRM\db\reports.

## Report Browser

The Report Browser lists the current list of scheduled reports which have run. You may also view the various reports that have been generated by clicking on them. Scheduled reports do not need to be emailed to a recipient to be viewed; they may be viewed through the report browser at any time as long as they have been run. If a scheduled report not been run, it will not appear in this list. On initial install, the list will appear very empty. Once reports have been scheduled and run, the saved report data will appear in this dialog window for access and viewing.

To view a scheduled report, select the desired report from the list under the 'Global Reports' section to the far left. Clicking on the action icon next to the desired report date opens the specified report for viewing. Reports purged from the system by the report expiry date in the Configure Schedule report tab will no longer be available or listed.

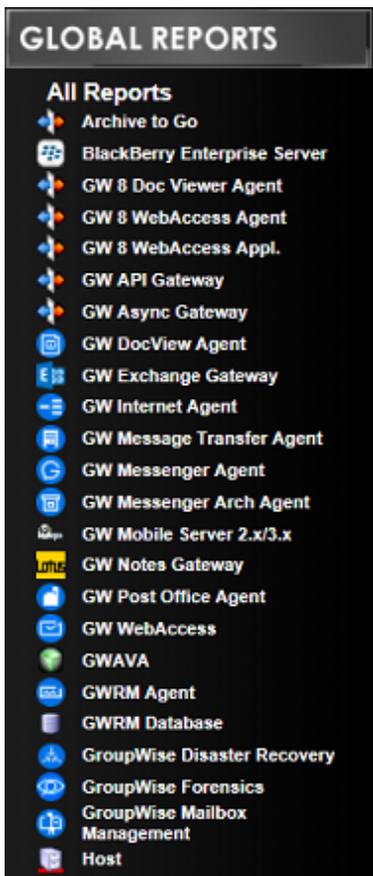
## Query

It is possible to query all database tables directly, or run predefined queries. Queries are mainly used to view data from the GWRM database, but may be utilized to create a list report.

Running the predefined reports is very easy, but you need to understand how the query reports work to build your own reports.

### Query GWRM databases

GWRM stores its data in multiple databases. With the query interface, you can access all database tables without any restriction.

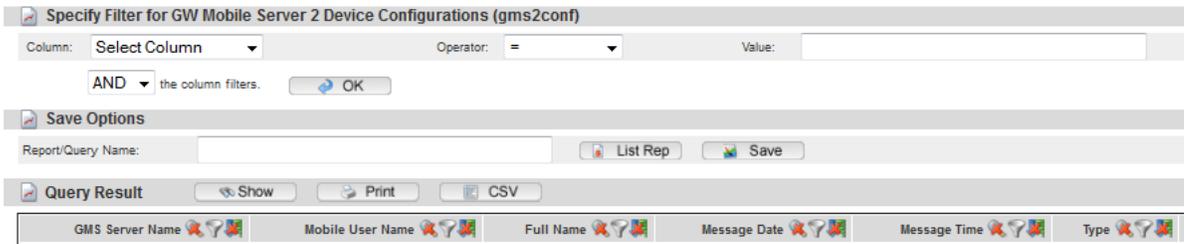


After you've selected a table, the table is loaded and data appears. You can hide columns, sort the data and specify filter on any column desired. Every column has three icons to do this:



- ◆ **Hide Column:** If you hide a column, the icons for the column are still visible on the screen, but the title and the data is not shown any more. If you print or export the report, these columns are not on the report.
- ◆ **Sort Column:** You can sort based on every column you want. If you click the sort button the second time, the sort direction is reversed. A third click disables sorting on this column. If you enable sorting on multiple columns, the order is based on what column was selected first. That way you can sort a table on as many columns as you want.
- ◆ **Filter:** You can specify a filter on every column, not on just one column. As soon as a filter is specified, the filter icon has a small tool on it.

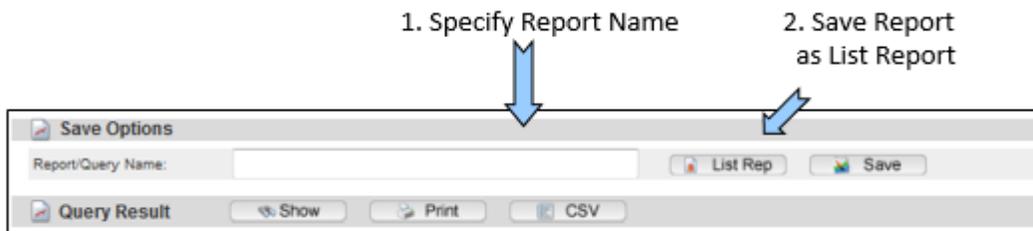
GWRM can utilize AND and OR operations to apply filters and search criteria to simplify the search records.



If you need more or less items on the screen, you can specify the number of rows.



When you are happy with the result, you can print the report or export it as a CSV file which can be imported into OpenOffice or Microsoft Excel. If you need this report on a regular basis, you can save it as a List Report. Specify a Name for this Report and click the “List Report” button.



If you have specified some filters etc. for a query report, browse to another place in GWRM and come back, all filters, sorting, etc. are still present. All defined filters, sorting and hidden columns will be reset every time a new table is selected.

## Edit Queries

Once queries have been created and saved, then queries will display here in the same manner as a report is displayed.

To edit a query, click on the query title. Once loaded, modify the settings as desired.

## Table Indexes

Database table indexes are very important to speed up queries and thus executing the reports is much faster. If you define a filter in a query report and the response after defining the filter is slow, you might need to define a table index on this column.

The SQL Database Configuration page is found under the Configure | Control Center | Database drop down menu.

You can define up to 5 indexes for every table in GWRM. Make sure you define indexes for columns where it makes sense only. Indexes which are not needed will slow down report generation.

## How to define a table index

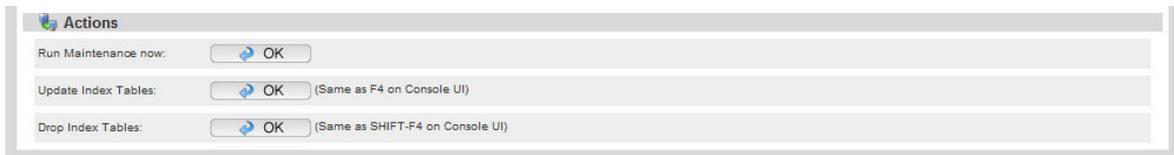
1. Assume you need an index on the column “E-Mail” of the table “Blackberry User”
2. Look for the table “Blackberry User” and click on it
3. Mark the checkbox for “Index 1” and select the column “E-Mail”
4. Click OK

Indexes are not generated immediately after they are defined. Every midnight GWRM is doing a database check which includes the creation of missing table indexes. Indexes which are not defined any more will be removed during the nightly database check as well. If you consider the rlcc.log file you can see when and how long the check runs. During that time, it is not possible to login to the Web UI of GWRM.

```
07-28-2007³00:00:28³Nightly Database Check started.
07-28-2007³00:00:32³Create/Update index tables.
07-28-2007³00:00:33³Create/Update index tables done.
07-28-2007³00:00:33³Delete Redline temp files.
07-28-2007³00:00:33³Delete Redline temp files finished.
07-28-2007³00:00:33³Purge all deleted files...
07-28-2007³00:00:33³Purged 2 items: /mnt/posix/redline/opt/beginfinite/redline/logs
07-28-2007³00:00:33³Purged 0 items: /mnt/posix/redline/opt/beginfinite/redline/imp
07-28-2007³00:01:10³Purged 12642 items: /mnt/posix/redline/opt/beginfinite/redline/db
07-28-2007³00:01:11³Purged 272 items: /mnt/posix/redline/opt/beginfinite/redline/imp/cache
07-28-2007³00:01:11³Purged 1 items: /mnt/posix/redline/opt/beginfinite/redline/imp/acct
07-28-2007³00:01:11³Purged 0 items: /mnt/posix/redline/opt/beginfinite/redline/db/cmd
07-28-2007³00:01:11³Purged 0 items: /mnt/posix/redline/opt/beginfinite/redline/db/graphs
07-28-2007³00:01:11³Purge all deleted files done.
07-28-2007³00:01:11³Nightly Database Check finished.
```

You can force this process if you browse to the “Maintenance” section under *Configure | Control Center | Maintenance*. Locate the ‘Action’ area and click the ‘OK’ button next to the “Update Table Indexes” option.

Be aware that this can take some time if a new index needs to be created on a large table.



## User Overview

The User Overview displays essential information on any selected user. Detailed use and account statistics can be quickly and easily obtained for any user in the system. However, for the User overview to display any users the GWCheck files must first be obtained. See the GWRM Install Guide section ‘Creating the GWCHECK Events’.

To search for a user, place a user name in the user name box and hit ‘enter’. All users matching the search criteria will be displayed. To display all users on a specific post office, select the post office from the ‘User Overview’ menu on the left.

Select the appropriate user from the search results by selecting the username. Once selected the desired user’s information will propagate in the User Overview window.

| Details for User: Colin Bretagne        |                                                                 |                                       |                        |                                     |                                                                 |                     |                    |
|-----------------------------------------|-----------------------------------------------------------------|---------------------------------------|------------------------|-------------------------------------|-----------------------------------------------------------------|---------------------|--------------------|
| Update Date:                            | 2012-11-20 00:34:23                                             | Current Server Time: 2012-11-20 05:46 |                        |                                     |                                                                 |                     |                    |
| <b>Mailbox Information</b>              |                                                                 | <b>Content Statistics</b>             |                        |                                     |                                                                 |                     |                    |
| Post Office:                            | demopo.demodo                                                   | Total Messages:                       | 1055                   |                                     |                                                                 |                     |                    |
| User ID (fid):                          | Colin (c21)                                                     | Mailbox:                              | 819                    |                                     |                                                                 |                     |                    |
| User DB:                                | usero21.db                                                      | Sent Items:                           | 8                      |                                     |                                                                 |                     |                    |
| User DB Size:                           | 14655488 Bytes                                                  | Trash:                                | 228                    |                                     |                                                                 |                     |                    |
| Last DRN:                               | 8197                                                            | Mail:                                 | 1052                   |                                     |                                                                 |                     |                    |
| Message DB:                             | msg07.db                                                        | Phone:                                | 0                      |                                     |                                                                 |                     |                    |
| Mailbox Size:                           | 54330 KB                                                        | Appointments:                         | 0                      |                                     |                                                                 |                     |                    |
| Mailbox Limit:                          | 0 KB                                                            | Tasks:                                | 0                      |                                     |                                                                 |                     |                    |
| Threshold:                              | 0%                                                              | Notes:                                | 3                      |                                     |                                                                 |                     |                    |
| <b>Most Recent Login</b>                |                                                                 | Document References:                  | 0                      |                                     |                                                                 |                     |                    |
| IP Address:                             |                                                                 | Attachments:                          | 0                      |                                     |                                                                 |                     |                    |
| Date & Time:                            |                                                                 | <b>User License Information</b>       |                        |                                     |                                                                 |                     |                    |
| Platform:                               |                                                                 | License Type:                         | Limited client license |                                     |                                                                 |                     |                    |
| Client Version:                         |                                                                 | Last Active:                          | 11/19/12 04:02         |                                     |                                                                 |                     |                    |
| Last WebAccess Login:                   |                                                                 | Inactive Days:                        | 0                      |                                     |                                                                 |                     |                    |
| <b>Top 5 Internet Messages Received</b> |                                                                 | <b>Last 14 Days</b>                   | <b>Total Bytes</b>     | <b>Top 5 Internet Messages Sent</b> |                                                                 | <b>Last 14 Days</b> | <b>Total Bytes</b> |
| 1.                                      | ngw-request@ngwlist.com                                         | 14                                    | 705408                 | 1.                                  | ngw-bounces+2077e99d1fc931db5aa5abfafcf984cc1e26bd90@ngwlist.co | 1                   | 38904              |
| 2.                                      | ngw-bounces+2077e99d1fc931db5aa5abfafcf984cc1e26bd90@ngwlist.co | 1                                     | 38904                  |                                     |                                                                 |                     |                    |

## Logfile Processing

The Logfile Processing page displays the relevant path and status information of how GWRM is processing log files for the different monitored agents connected to the system. (These numbers reset when the GWRM Control Center is started.)

The only item on this page which is not informational is the Control Center Logfile, which can be downloaded by clicking the OK button.

## Comparison Reports

The GWRM Comparison Report helps evaluate the ongoing return on investment of your existing GroupWise System—as calculated based on information collected by GWRM—against another messaging platform. This report incorporates six key areas of analysis that evaluate the ongoing costs of operating your GroupWise system against the costs of migrating to another platform.

There are three informational categories: General Information, Current System, and Alternative System.

These are broken down into software and hardware costs, personnel and consulting costs, as well as training and other expenses.

This report performs an ROI Cost comparison analysis based upon the costs to maintain the existing system when compared to the migration and maintenance costs of an alternate system. Based on your existing system, an analysis is performed using comparative data from the software manufacturers and third party data. We have provided recommended values in each field where possible. Please feel free to update this information as appropriate. This analysis is in US dollars and calculates the first year only.



# 6 Message Tracking

With GWRM Message Tracking it is possible to track every message that is coming in to GroupWise or leaving GroupWise through a gateway like the Internet Agent. From there you can see through which domain(s) and at the end to which post office and user the message was delivered to or sent from. Status messages are tracked as well.

Before you can use Message tracking, it is necessary to set up accounting for your gateways and import the accounting log files into GWRM.

## Message Tracking Setup

Message tracking works by pulling the audit information from the GWIA and MTA. GWRM detects and pulls these log files automatically, but they must first be generated by GroupWise. After accounting has been setup in the GWIA, the appropriate information must be provided: POA address, SOAP port, Audit account, and password. Message tracking will not function unless the setup is set to enabled.

### How to setup accounting for the GroupWise Internet Agent

1. Select the GWIA where you want to setup accounting
2. Click on the Tab "GroupWise" and the sub tab "Gateway Administrators"
3. Add a user to the GroupWise Admin
4. Check that this user is an accountant for this gateway

After that, GroupWise will send accounting messages to this user. Check how large the attachments of these messages can be. If they are larger than 1MB, for example 6MB, you need to specify the `/soapsizelimit=8192` in your Post Office startup file. Possible entries for `/soapsizelimit` are:

- ◆ 4096
- ◆ 8192
- ◆ 16384
- ◆ 32768
- ◆ 65536

Automatic import of accounting files into GWRM

1. Ensure that accounting import is enabled.
2. Specify the IP address of your Post Office.
3. Specify the SOAP Port of the Post Office.
4. Specify the Username and Password of the User assigned as the Gateway Accountant.

If you want to import all available accounting log files from the specified mailbox, click on the button "Import Now". After a few moments, the log files should be imported.

To have message tracking through the domains and to the Post Office, you need to enable the MTA Message Log files for every MTA in your environment. GWRM will find and read these log files automatically. After that Message Tracking can be used.

## Track a Message

Browse to Message Tracking and specify some filter. If you don't specify any filter, all messages will be listed if you click on OK.

The screenshot shows the 'Message Tracking' application window. At the top, there is a 'Specify Filter' section with four input fields: 'GroupWise User', 'Foreign Address', 'Message Date', and 'Subject'. Each field has a 'Contains' dropdown menu and an asterisk. Below the filters is an 'OK' button. Below the filter section is a 'Search Result' table with columns: 'Direction', 'Message Date', 'Message Time', 'GroupWise User', 'Foreign Address', 'Message Subject', and 'Action'. The table contains 20 rows of data. A blue arrow points to the 'Specify Filter' section with the text 'Specify one or more filter.'. Another blue arrow points to the 'OK' button with the text 'Start search'. A third blue arrow points to the 'Details' button in the first row of the search results with the text 'Search Result'. A fourth blue arrow points to the 'Details' button in the last row of the search results with the text 'More details'.

GWRM lists 50 messages only, so it is important to specify the correct filter or sorting to find the message you are looking for. If you've found the message, you can click on the "Details" button to see through which Domains the messages were routed and which Post Office and User was the destination or source.

| Message Tracking               |              |              |                |                      |                                   |  |
|--------------------------------|--------------|--------------|----------------|----------------------|-----------------------------------|--|
| Message flow through Gateways: |              |              |                |                      |                                   |  |
| Direction                      | Message Date | Message Time | GroupWise User | Foreign Address      | Message Subject                   |  |
| Incoming                       | 2012-11-03   | 5:38:21      | GWAVA          | gwava@demo.gwava.com | GWAVA-SMTP-DEMO (Win32) Report: D |  |

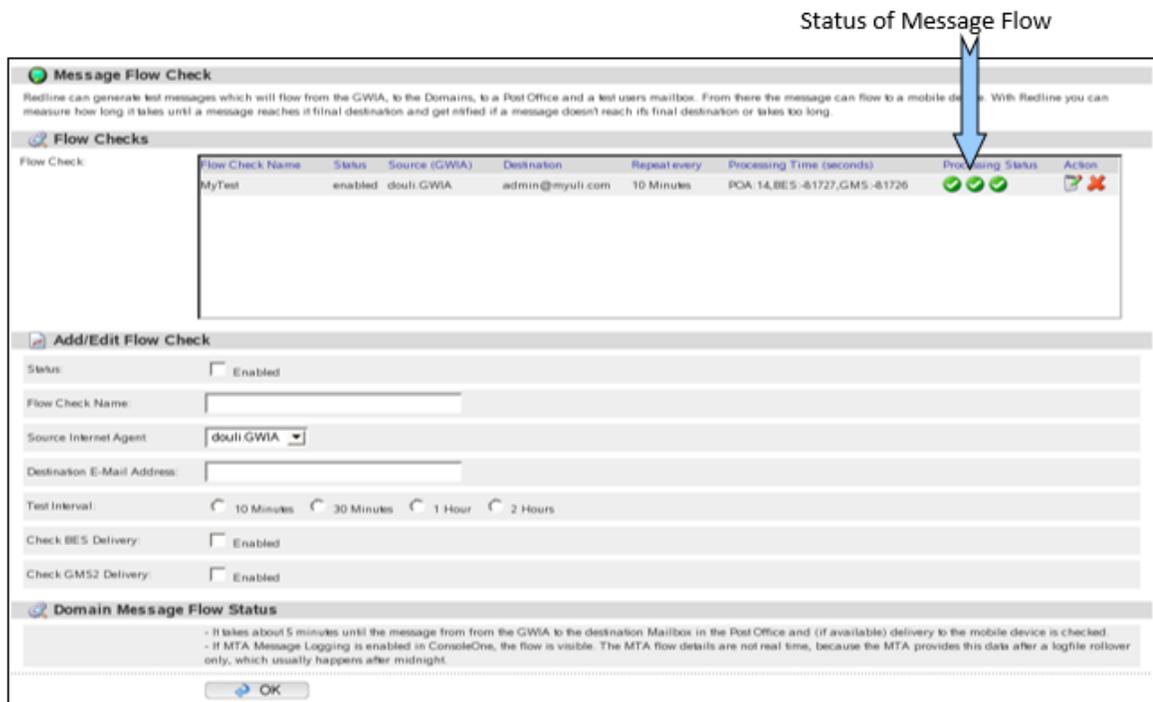
  

| Message flow through Domains: |              |               |                |              |              |              |            |             |               |                  |
|-------------------------------|--------------|---------------|----------------|--------------|--------------|--------------|------------|-------------|---------------|------------------|
| Agent Name                    | Message Date | Time Received | Time Delivered | Message Type | Message Size | Source Agent | Dest Agent | Sender Name | Sender Domain | Total Recipients |
|                               |              |               |                |              |              |              |            |             |               |                  |

## Message Flow Check

GWRM monitors message flow by creating a test message and sending it through the system via a relay. The test message never is external to the system. GWRM monitors the time that the Message is accepted by the GWIA, by monitoring the GWIA log file, and then checks the time that the message makes it through the POA, by monitoring the POA log file. Through comparison of these two times, GWRM will know if the message takes more than the allotted time, (default is 20 seconds), to move through the system, and will generate an alert if the system is slow or

unresponsive. The allotted time for this test is specified in the Post Office Threshold called Message Flow Processing Time. This test is performed per the interval specified. From the Post Office, the message can flow to a BlackBerry device, with the help of the Blackberry Enterprise Server, or to another mobile device through a GroupWise Mobile Server.



## How to set up message flow check

1. Specify a Name for the flow check.
2. Select the Internet Agent where the message starts.
3. Specify a username who will receive the message.
4. Specify the interval how often a message will be sent.
5. Check if delivery to a mobile device should be checked.
6. Create a rule in the destination mailbox, that incoming messages will be deleted automatically.

If a message couldn't be delivered in 30 seconds, an alert is generated. The time until a message needs to be delivered can be configured based on a threshold called "Message Flow processing time". This threshold exists for the Post Office agents and the GroupWise Mobile Server as well. Threshold settings are found under the Configure | Thresholds dropdown menu, with specific modules on the left-hand side.

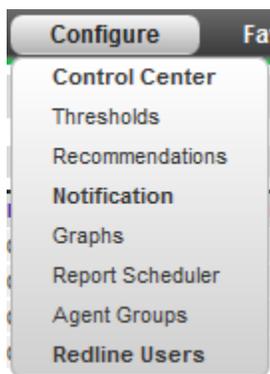


# 7 Configure

The Configure menu provides base configuration for the entire GWRM system. (Configuration of individual agents, graphs, and sections are found in the individual agents configure tab.) The different tabs listed under configuration deal with system-wide control and general information.

## Control Center

The Control Center submenu contains configuration for the GWRM Control Center, connection, database, maintenance, updating, licensing are contained here.



## TCP/IP

The IP address which the GWRM Control Center is bound to, what port it listens on, and how many listening threads is controlled through this page, for agent and web interface connections.

By default, the address settings are all 0.0.0.0. If multiple addresses and interfaces are present on the host server and a single address is desired, or perhaps a different port, this is where it is specified. After any changes have been made, clicking 'OK' saves changed settings. The E-mail alert server is utilized if GWRM is to email reports to a recipient. The server must have all the required information to function. See the help section for more detail.

## Analyzer

Part of the core of the GWRM system is the analyzer. The analyzer settings control the module of GWRM which analyzes and interprets the incoming data from registered agents. Changing settings here modifies how notifications and alerts through the system are defined and triggered. For instance, if a lower trend setting is desired to notice smaller bumps and dips in traffic, activity, or inactivity.

Select the 'help' informational button for individual breakout and explanation of different settings. Default settings are shown.

## Database

Access to information about, and cleaning and re-indexing of the GWRM database is provided here. In certain large environments, the GWRM database may become slow or bogged down when used to generate reports. If a report is taking an inordinately long time in generation, it may be necessary to clean and index the database tables sourced in the report. This does become critical in large systems.

Different tables are listed, and may be sorted simply by clicking on the headings. Sorting the databases by heading may be done in ascending or descending order simply by clicking on the heading name a second time. Once the desired table has been located, it may be selected for cleaning and indexing by clicking on the description column.

Once selected, a table's information is loaded into the cleanup and indexing section; where default cleaning options are propagated.

## Maintenance

The Maintenance page grants access to the basic cleaning and up-keep operations that maintain the speed and usability of the GWRM system and interface. Maintenance runs nightly, and should not need to be triggered manually unless the GWRM Control Center was not running at the specified maintenance time.

Most of these settings do not need to be modified from default, but can be adjusted to suit the needs of every system.

Nightly maintenance jobs include: generating table indexes and, cleaning the database files and index tables, deleting temporary files, and purging folders. These steps are usually enough to keep GWRM from becoming bloated or bogged-down in all but the largest system implementations. If more than usual maintenance is needed, maintenance can be triggered immediately from this page.

Nightly maintenance may be configured to exclude or include specific parts of the default procedures. To enable or disable the procedures, place or remove a check in the appropriate 'Enabled' checkbox for the desired procedure.

The maintenance start time is set in a 24-hour clock, and is a time-sensitive event that does not queue. If the GWRM Control Center is not running at the specified maintenance time, the maintenance job will not be run until the next maintenance cycle. If the default time of '0' is not an appropriate time to have the maintenance cycle run, select an appropriate time when system load is low and no reports or other system maintenance which might interfere is scheduled.

Changed settings must be saved before maintenance is manually triggered. Click the 'OK' button above the Actions menu to save changes before triggering manual maintenance or browsing away from the page, or the changes will not be implemented.

If the host server needs to be shut down during the set maintenance time, manually triggering a maintenance cycle will become necessary, especially if the shutdown is routine.

The Actions menu allows for the manual triggering of a maintenance job, as well as specific maintenance jobs not regularly scheduled. GWRM can become bogged with information in the database which is no longer current, or pertinent information to the system. Dropping indexes and updating indexes will clean out the system and allow GWRM to pull all new information. However;

these actions will not be beneficial if the information removed from the system will simply be repopulated back in by monitored agents. This should ONLY be used under the advisement of Support, and if the system becomes bloated or the DB becomes stuck.

## Advanced

The Advanced page contains a database vacuum, which can be set to clean through the database on a recurring schedule, as well as automatic restarting and log level settings.

The Advanced page contains a database vacuum, which can be set to clean through the database on a recurring schedule, as well as automatic restarting and log level settings.

By default, there is no need to utilize the database vacuum unless the GWRM system is monitoring a large system, or you are instructed to activate the database vacuum by Support.

Automatic restart of the Control Center should not be used unless in coordination with Support as part of troubleshooting measure. Restart of the Control Center is helpful if the configuration has changed and a re-load of the Control Center is desired. Unloading the Control Center will shut down GWRM.

The Log Level determines the amount of information in the log file. Acceptable settings are 0 - 6.

(Additional levels are available to Support, but should not be attempted without instruction from support.)

Default is '2', and all practical use in a production environment are the settings: 0, 2, 6. A setting of '6' is for debugging purposes, '2' is for normal work, and '0' is minimal logging. Selecting 'OK' saves changes or begins the indicated action.

## License

The GWRM registration name, code, and license files are controlled and listed here. The Registration name and code are used for verification and as a data encryption key for communication between GWRM Agents and the Control Center. The registration name and code must be manually specified in the configuration file for each GWRM Agent. Changing the registration information would prohibit any agent from connecting to the Control Center until each agent's configuration file had been modified to reflect the new information.

The registration information does not need to be anything in particular and is not connected to the license file; it may be anything desired. Though the registration code is recommended to be a mixture of numbers and letters, for security reasons.

Installed licenses are listed along with their expiration date and type. Licenses may be added or removed from this location.

To obtain a license contact the GWAVA sales representative in your area, or visit <https://licenses.gwava.com/> to use a Validation key and claim a license for your system and find contact information for sales representatives in your area.

## Online Update

The Online Update system connects to either the GWAVA download server or a specified server and checks for updated software. The current version the system is running and the available versions for download and update are listed. New updates are listed in black while downloaded updates are grayed out.

Before packages can be installed, they must be downloaded from the download server. The default download server points to the official GWAVA download server, and will carry the appropriate available version. If a separate server is required or desired for download, it may be specified in the 'Server Location' option. After specifying the new download server, click 'Refresh' to check for available versions. Clicking the 'Default' button will return the download server to the GWAVA default.

The Control Center must always be updated first. Select the appropriate, desired, or globally select the packages for download from the top, packages available, section, then select 'OK' to have the system automatically connect and download the specified version. After the packages have been downloaded to the Control Center, they are then available to be installed by the system. Select, either globally or separately, the desired systems to update, and then click on the 'Update Now' button to update the specified modules. Any update to the Control Center requires the Control Center to restart. After clicking the 'Apply' button, allow sufficient time for the system to restart before attempting to login.

For Agents, the update is a little different, as the agents must connect to the Control Center and copy the appropriate binary package for each platform. Agents do not maintain constant contact with the Control Center, and as such, the update may not be immediate. The default contact cycle for the Agents is every 2 minutes, and as such, several minutes may pass before the system is updated. Agents copy the new binary down, install it, and then restart and reconnect with the Control Center.

The update history information icon will provide further details about the updates applied.

## User Configuration

The User Configuration page allows administrators to add extra accounts to the GWRM system. Basic information is required along with contact information for reports and notifications. Each user can set their own start page, manage their password, set their refresh interval, and manage their favorites. Users granted administrator rights in this dialog will have rights to modify and view everything in the GWRM system.

## User Log

The User Log is a listing of the top 500 actions of any selected user in the system. User selection is accomplished through clicking on one of the users listed in the left-hand menu. Once selected, the user log will be displayed.

**User Log**

These are the 500 most recent entries in the Redline User audit log.

| Date       | Time     | User  | IP Address    | Event   |
|------------|----------|-------|---------------|---------|
| 2012-11-19 | 13:50:11 | guest | 216.83.139.1  | Timeout |
| 2012-11-19 | 13:31:56 | guest | 216.83.139.1  | Login   |
| 2012-11-19 | 12:19:00 | guest | 216.83.139.1  | Timeout |
| 2012-11-19 | 12:15:59 | guest | 74.191.71.16  | Timeout |
| 2012-11-19 | 11:57:36 | guest | 74.191.71.16  | Login   |
| 2012-11-19 | 11:47:08 | guest | 216.83.139.1  | Login   |
| 2012-11-19 | 11:36:17 | guest | 74.191.71.16  | Timeout |
| 2012-11-19 | 11:36:17 | guest | 216.83.139.1  | Timeout |
| 2012-11-19 | 11:24:03 | guest | 74.191.71.16  | Login   |
| 2012-11-19 | 11:06:10 | guest | 77.115.31.146 | Timeout |
| 2012-11-19 | 10:57:02 | guest | 74.191.71.16  | Timeout |
| 2012-11-19 | 10:53:45 | guest | 77.115.31.146 | Login   |
| 2012-11-19 | 10:47:47 | guest | 216.83.139.1  | Login   |
| 2012-11-19 | 10:41:59 | guest | 74.191.71.16  | Login   |
| 2012-11-19 | 10:06:50 | guest | 74.191.71.16  | Timeout |

## User Favorites

It is through the user favorites page that the user can specify their favorites list, adding and removing pages.

**Favorites**

✚ Favorites

| Name         | URL                            | Action |
|--------------|--------------------------------|--------|
| Agent Status | /modules/global_status.html    | ✖      |
| Dashboard    | /modules/dashboard_global.html | ✖      |

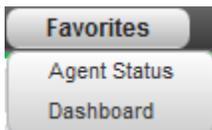
✚ Add or Edit Favorite

Favorite Name:

Favorite URL:

## Favorites

The Favorites menu provides quick links to access the most frequently visited pages in the system. It is provided as a convenience. GWRM maintains a separate favorites page for each individual user. To add to the menu, users should go to the *Configure | GWRM Users | Favorites* page. Each user can manage their favorites page.



## Auto Refresh

GWRM can automatically refresh the Dashboard, or main page, for status and general update of system information on the selected interval. This allows the Dashboard to be left up on the desktop and maintain updated information on the system statistics and trends. As each agent updates every 2 minutes by default, the '2 minutes' option makes the most sense, yet agents may be set for higher refresh rates.



# 8 Application

How to configure Agents and specific settings

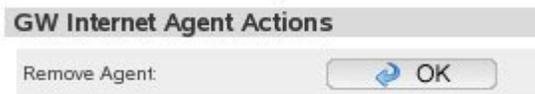
How to configure a new threshold or recommendation

1. We want to make sure that for all Internet Agents, the number of items in the GWHOLD queue doesn't exceed more than 30 items.
2. Click on the "Configure" drop down menu and select 'Thresholds'.
3. From the left-hand menu, select the GroupWise Internet Agent.
4. Select the value "GWHOLD Queue".
5. Click the status enabled checkbox
6. Specify the threshold "Should be" "<=" "30".
7. Set the severity to Minor
8. We want the alert to solve itself as soon as the hold queue has less or equal 30 items. Check "Back to Normal Alert".
9. Click OK to save the new threshold.

Recommendations are defined in the exact same way as thresholds, and located on the Recommendations page, below the threshold configuration area.

## Removing Agents

Sometimes it is necessary to remove an agent from GWRM. At the bottom of the manage page for each agent is a button which will remove that agent from the list of active monitored components.



The agent will no longer show up on Dashboard, Alerts List or System View, however, all data about this agent will stay in the database for reporting. It is important to keep this data for tools like Message Tracking, message analysis reports, etc.

# Configure graphs

The *Configure / Graph* page contains configuration for graphs on the different agents in the system. Individual graphing has several different options for each agent, and each graph type has its corresponding configuration listed with each specific agent. To select a new agent, locate it in the left-hand menu window.

Every value that GWRM monitors can be used to generate graphs. Configuring graphs can be done in two places: Configuration, for global settings, and in the System View for separate, individual agents. If you define a graph in the Configuration area and not in the System View on the agent, you can generate graphs for every agent by configuring one graph setting. The disadvantage is that all the graphs are stored on the disk drive. If the system has many agents, global graph creation can create a lot of files.

Elements that can be customized in graphs include:

- ◆ Status: Enabled/Disabled
- ◆ Title: A human readable name for the graph
- ◆ Value 1: Any value that GWRM can monitor
- ◆ Value 2: Any value that GWRM can monitor
- ◆ Timescale; Day, Week, Month, Year
- ◆ Type: Relative or Absolute
- ◆ Direction: Current value is on the left or right side.
- ◆ Range: Per Agent, System Wide, Dashboard RPM.
- ◆ Specials: Average, Peak High, Peak Low, Total.

## Status

Instead of removing a graph configuration it is possible to disable a graph. That way you can enable the graph later.

## Title

The title is a human readable description which will show up as the title in the charts. This can be any text you want.

## Value 1/Value 2

You can browse for all available values. The window lists all values including description, value name defined by GroupWise and value type. The available values are defined with the GWRM schema files.

## Timeframe

Graphs can be generated for different timeframes. For every timeframe, a separate image will be generated. Available timeframes are:

- ◆ Last day

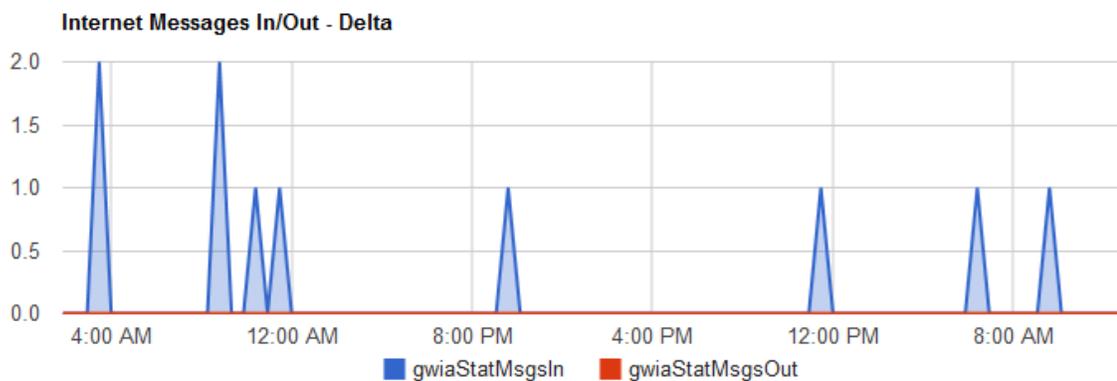
- ◆ Last week
- ◆ Last month (Last 4 weeks)
- ◆ Last year

## Type (Relative and Absolute)

Relative values are used for counters that rise while absolute values are used for values which show a current state (for example users connected). Relative values can be used to draw charts with counting values, like the total number of messages processed. Relative values draw the difference between the values. Think about Messages Received from the Internet. GWRM reads this value every 2 minutes, and it could look like this: 120, 150, 180, 200, and 220. If you would draw the chart with absolute values, it would just go from the bottom left to the top right corner. A relative graph draws a line which shows that in 2 minute intervals 30, 30, 20, 20 messages have been received, which is more useful.

## Direction

The current value in a graph can be discovered due to the time stamps along the bottom, and should indicate the displayed time.



## Range

The range of collected data can be set for each graph.

- ◆ Per agent – A separate graph is generated for every agent.
- ◆ System Wide - Adds all values of the agent types into one graph, and this graph will be selectable on the Dashboard.
- ◆ Dashboard RPM – If selected the summary of the value of all agents of the same type will be drawn in a RPM graph which can be selected on the dashboard.

Other selectable characteristics include Average, Peak High, Peak Low and Total.

## How to create a new graph with two values

Assume we need a Dashboard graph with the MTA values “Routed Messages” and “Error Messages”.

1. Click Configure / Graphs / GW MTA.
2. Check the Status Enabled checkbox.
3. Give the new graph a name, for example: Domain Messages.
4. Click on the “Browse” button for the first value and click on the column title “Description” to sort the table based on that column.
5. Click on the icon for “Routed Messages”.
6. Close the Window with all the available values.
7. Click on the “Browse” button for the second value and click on the column title “Description” to sort the table based on that column.
8. Click on the icon for “Error Messages”.
9. Check the checkbox for the timeframe “Day”, “Week”, and “Month”.
10. Select Type “relative”, because the values count messages.
11. Select Direction “Current value on the left side”.
12. Check the checkbox for “per Agent” in order to have a graph available in the System View.
13. Check all checkboxes for the 4 special values.
14. Click “OK” to save the settings.
15. Go to the System View and select a Domain.
16. Go to the “Graphs” tab and select the new graph.

It is possible to configure a graph for this agent only, if you define the graph on the agent’s configuration page.

GW Message Transfer Agent

## GW Message Transfer Agent Graph Configuration

Help

### GW Message Transfer Agent Graphs

| Title               | Value 1              | Value 2      | Data Type | Current Value | per Agent | Dashboard Graph | Dashboard RPM | Status  | Action |
|---------------------|----------------------|--------------|-----------|---------------|-----------|-----------------|---------------|---------|--------|
| Closed Domains      | mtaClosedDomains     | -            | Absolute  | left          | Yes       | No              | Yes           | Enabled |        |
| Closed Post Offices | mtaClosedPostOffices | -            | Absolute  | left          | Yes       | No              | No            | Enabled |        |
| Domain Messages     | mtaRoutedMsgs        | mtaErrorMsgs | Relative  | left          | Yes       | Yes             | No            | Enabled |        |

### Add or Edit Graph

Status:  Enabled

Title:

Value 1:

Value 2:

Timeframe:  Day  Week  Month  Year

Type:  Relative  Absolute

Direction: Current Value is on  left  right side of the graph.

Cut Peaks:  Enabled

Range:  Per Agent  System Wide  Dashboard RPM

Specials:  Average  Peak High  Peak Low  Total

## Report Generation and Custom Reports

### Modifying Reports

Browse to the *Reports / Edit Report* page from the dropdown menu.

To edit a report, you need to first select it. Find the desired report agent type from the left-hand menu and then browse through the reports listed for that agent and select the desired report by clicking on the name.

For our purposes, we will be creating a new report on the top 100 messages over 5 MB. From a very similar report: top 50 messages over 500Kb. This report is generated at the Post Office level.



| Edit Report        |                                                    |
|--------------------|----------------------------------------------------|
| Template Filename: | PostOfficeTop50MsgsGreater5MB-new.xml              |
| Category:          | List Reports                                       |
| Title:             | Post Office Top 50 Messages Larger Than 5000 Bytes |
| API Module:        | (Optional)                                         |

**NOTE:** BEFORE YOU EDIT OR SAVE CHANGES IN THIS REPORT, YOU MUST CHANGE TEMPLATE FILE NAME, OR YOU WILL OVERWRITE OR CORRUPT THE EXISTING REPORT.

It is also a good practice to change the report title to match your new template name to simplify finding the report, and to have a correct title to your generated report. This is not required, and may be anything you wish.

Locate the SQL query in the report field. This usually starts with "ccscript dbquery". Edit the SQL query to provide the desired effect.

Query on Table: **Post Office Messages**  
 Post Office Agents: **\$repcountPOA\$**  
 Date Range: **\$repstartdate\$ to \$rependdate\$**  
 Created by: **\$repusername\$**

---

This Report is a list of the 50 largest messages send in your GroupWise Post Offices.

| Sender                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Recipient | Size (Bytes) |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------|
| <pre>&lt;?ccscript dbquery("SELECT MsgSender,MsgRecipient,MsgSize FROM msgspoa WHERE MsgDate&gt;='\$repstartdate\$' AND MsgDate&lt;='\$rependdate\$' AND \$repagentfilter\$ AND MsgSize&gt;'500000' AND MsgSender&lt;&gt;'unknown' ORDER BY MsgSize DESC LIMIT 100", "poamsgs.db", "&lt;tr bgcolor=\$RowColor\$&lt;td align="right"&gt;&lt;font face="Arial, Helvetica, sans-serif" font size="-2"&gt;,"&lt;/font&gt;&lt;/td&gt;&lt;td &lt;/td&gt;&lt;td align="right"&gt;&lt;font face="Arial, Helvetica, sans-serif" font size="-2"&gt;,"&lt;/font&gt;&lt;/td&gt;&lt;/tr&gt;","#EEEEEE", "#FFFFFF"); ?&gt;</pre> |           |              |

For this report change, we only want to change the message size parameter.

Query on Table: **Post Office Messages**  
Post Office Agents: **\$repcountPOA\$**  
Date Range: **\$repstartdate\$ to \$rependdate\$**  
Created by: **\$repusername\$**

This Report is a list of the 50 largest messages send in your GroupWise Post Offices.

| Sender | Recipient | Size (Bytes) |
|--------|-----------|--------------|
|--------|-----------|--------------|

```
<?ccscript dbquery("SELECT MsgSender,MsgRecipient,MsgSize FROM msgspoa WHERE MsgDate>='$repstartdate$' AND MsgDate<='$rependdate$' AND $repagentfilter$ AND MsgSize>'500000' AND MsgSender<>'unknown' ORDER BY MsgSize DESC LIMIT 100", "poamsgs.db", "<tr bgcolor=$RowColor$<td align="right"><font face="Arial, Helvetica, sans-serif" font size="-2">,"</font></td><td align="right"><font face="Arial, Helvetica, sans-serif" font size="-2">,"</font></td></tr>," "#EEEEEE", "#FFFFFF"); ?>
```

The size limit is listed in bytes, (500000 = 500KB). We wish to generate a report that shows messages over 5MB. Edit accordingly.

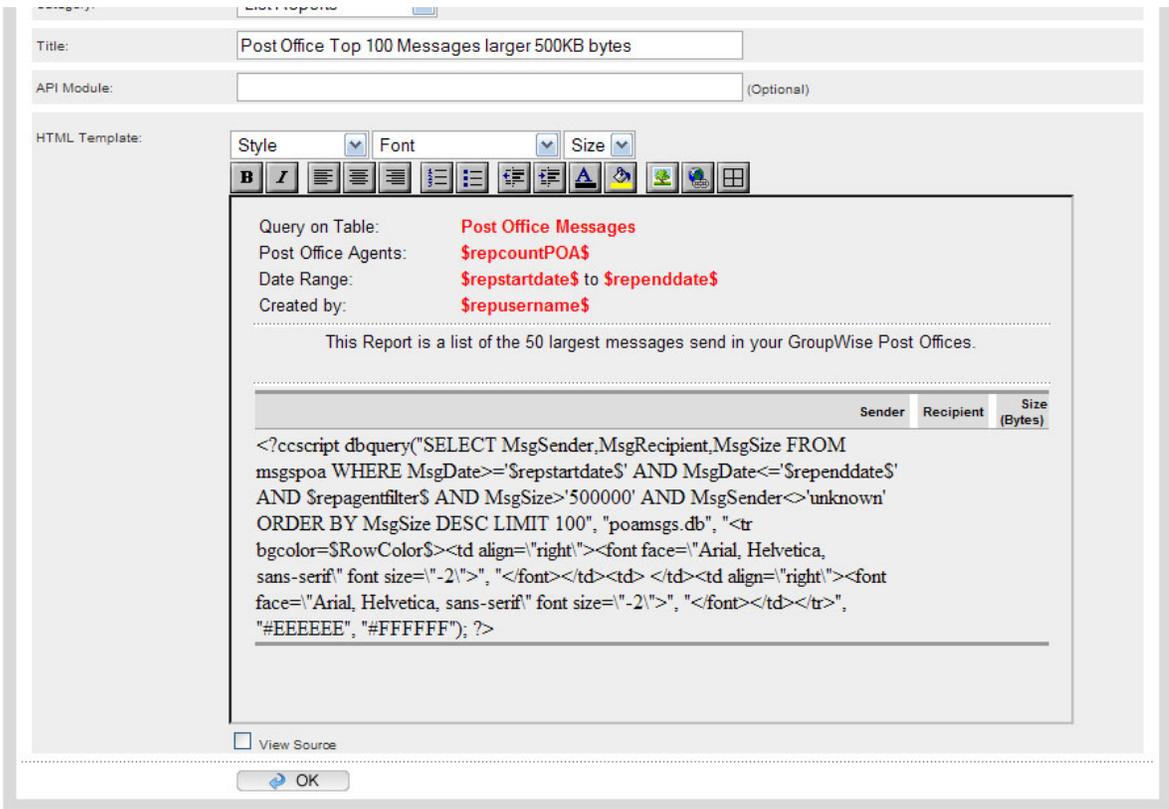
Query on Table: **Post Office Messages**  
Post Office Agents: **\$repcountPOA\$**  
Date Range: **\$repstartdate\$ to \$rependdate\$**  
Created by: **\$repusername\$**

This Report is a list of the 50 largest messages send in your GroupWise Post Offices.

| Sender | Recipient | Size (Bytes) |
|--------|-----------|--------------|
|--------|-----------|--------------|

```
<?ccscript dbquery("SELECT MsgSender,MsgRecipient,MsgSize FROM msgspoa WHERE MsgDate>='$repstartdate$' AND MsgDate<='$rependdate$' AND $repagentfilter$ AND MsgSize>'5000120' AND MsgSender<>'unknown' ORDER BY MsgSize DESC LIMIT 100", "poamsgs.db", "<tr bgcolor=$RowColor$<td align="right"><font face="Arial, Helvetica, sans-serif" font size="-2">,"</font></td><td align="right"><font face="Arial, Helvetica, sans-serif" font size="-2">,"</font></td></tr>," "#EEEEEE", "#FFFFFF"); ?>
```

To save the change and list the report, click the OK button at the bottom of the screen.



Your new report is saved and will be listed with the rest of the reports.

To Run your new report, go to *Reports | Run Report*.

Locate your new report from the report list. The list is alphabetical, per the report title. If you did not change or specify a new title name but did change the template filename, then there will be two listed.

|                                                    |      |                      |                                       |   |
|----------------------------------------------------|------|----------------------|---------------------------------------|---|
| Post Office Top 20 Senders by Message Size         | List | GW Post Office Agent | PostOfficeTop20SenderSize.xml         | ✘ |
| Post Office Top 50 Messages Larger Than 5000 Bytes | List | GW Post Office Agent | PostOfficeTop50MsgsGreater5000.xml    | ✘ |
| Post Office Top 50 Messages Larger Than 5000 Bytes | List | GW Post Office Agent | PostOfficeTop50MsgsGreater5MB-new.xml | ✘ |
| Post Office Top 50 Recipients by Message Count     | List | GW Post Office Agent | PostOfficeTop50RecipientsCount.xml    | ✘ |

Select and run the report by clicking on the report name to complete operation. Make sure you select the report that was modified instead of the original.

## Query Creation

Select the Create Query page from the *Reports | Query* menu.

Select the table you wish to run a query on from the Tables menu on the left. This loads the different tables for any selected object. The results will be displayed in the Query Result window.

The Specify Filter option near the top will filter the results to what is desired. Use the same format for the filters as is displayed in the results window. For example, a date should be entered as 2012-11-02, as is displayed in the results window. Multiple filters may be used in conjunction with either the 'AND' or 'OR' operators.

---

**NOTE:** The filter parameter is CASE SENSITIVE and DOES NOT allow wildcards. To effectively specify a working filter, you need to be able to see the query results, so you can specify a filter exactly as the result is seen by GWRM. A typo will cause the filter to exclude all results.

---

The filter becomes active when you select the OK button and the query results are loaded.

There may be several filters active at the same time. As a new filter is added, an additional empty row will be automatically added to the interface.

To remove these filters, open the 'Column' drop down menu and return it to the 'Select Column' option. Repeat for as many filters you wish to remove, in the order you wish to remove them.

To save your query results as a module, specify a Report or a Module name, and select the *List Rep* button. (If you select the 'Save' button, your query will be saved. The List Rep button simply saves the query as a full report which can be run later.)



Queries saved as list reports can be accessed, run, or modified just as the other reports.

To run your custom report, select the report name from the list. The report will be generated and displayed.

## Manual Log file Import

Many reports in GWRM are based on data in the GWRM database. Usually GWRM is installed in existing GroupWise environments where lots of old log files exist. It is possible to import these log files into the GWRM database. On the Server where the Control Center is running the folders:

```
/opt/beginfinite/GWRM/imp  
/opt/beginfinite/GWRM/imp/acct
```

...are checked every minute if there are files that can be imported. Some log files have enough data to detect to which agent they belong to, some don't. The following table shows what is necessary to import the different log files.

API Gateway log files -> Copy the file into the imp folder  
Blackberry Enterprise log files -> Copy the file into the imp folder  
Gateway accounting log files -> Copy the file into the imp/acct folder  
GWAVA 3 log files -> Copy the file into the imp folder  
GW Mobile Server 1 log files -> Rename the file to SERVERNAME\_logfilename  
and copy it into the imp folder  
GWIA log files -> Copy the file into the imp folder  
MTA log files -> Copy the file into the imp folder  
MTA Message log files -> Rename the file to DOMAINNAME\_logfilename and copy  
it into the imp folder  
Post Office log files -> Copy the file into the imp folder  
Post Office GWCheck log files -> Copy the file into the imp folder  
WebAccess log files -> Copy the file into the imp folder



# A Appendix A

- ◆ “Host Platform Agent” on page 59
- ◆ “POSIX, and UNC Paths” on page 60
- ◆ “Report Generation table” on page 61

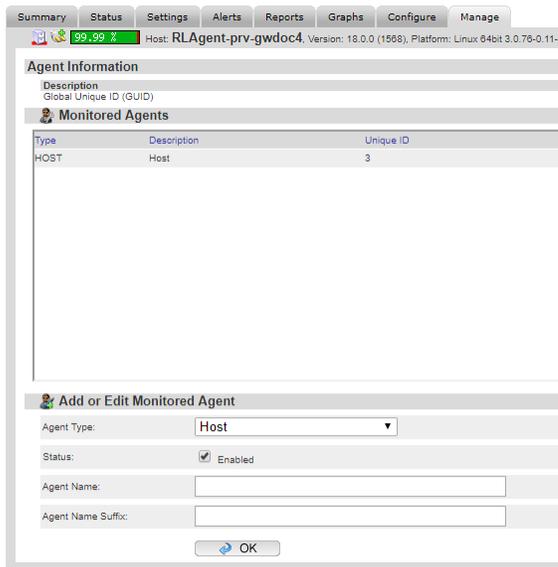
## Host Platform Agent

The Host monitoring agent is added automatically on install, though if the monitored agent is ever removed from the GWRM system it can be re-added without hassle.

ONLY add the host if it is missing, or has been removed from the system.

Every host platform (Linux, and Windows) is important for running applications on top of it. If something is not correct with the host, the application usually can't perform as it potentially would.

CPU speed, disk space, available memory, etc. are all important parameters. Every host where a GWRM agent is running on can be monitored. To enable host monitoring, you only need to enable this through the Control Center web interface:



After 2-3 minutes, a message should appear on the GWRM Agent that the Host has been registered to the Control Center and shows up in the Control Center.

# POSIX, and UNC Paths

There are four common file path formats that GWRM uses.

- ◆ UNC (Universal Naming Convention) is used commonly on Windows. An Example of UNC is \\servername\volumename\path
- ◆ Mapped Drive format is used exclusively on Windows. An example is driveletter:\path1\path2
- ◆ POSIX is used on Linux. A POSIX example is /path1/path2

Although GWRM gathers most its information via HTTP (and thus is file system independent), there are several circumstances when file paths must be specified (and hence the specific format used is important):

- ◆ The RLAGENT and RLCENTER configuration files specify directory paths for internal GWRM directories such as the Database or Reports locations.
- ◆ The RLAGENT file may contain PATH specifications for integrated components such as BES, and the API Gateway that do not have HTTP servers.
- ◆ Behind the scenes, GWRM gathers log file information from many agents. These log files must be in an accessible location.

On Linux and Windows systems, the rules are straightforward:

- ◆ For Linux boxes, all paths must be POSIX format. UNC, or mapped drive will not function. When first installed, all your paths will be in POSIX, and you must keep them that way.
- ◆ For Windows, you may use either mapped drive or UNC format. POSIX paths will not function correctly. When first installed, all your paths will be in mapped drive format, and you may alter them between mapped drive and UNC as desired.

If GWRM is installed in its default location, and all of the component agents are on the SYS volume, all should work perfectly. Otherwise:

- ◆ Regarding issue 1, if you need to change these paths (and in normal operation, even when moving GWRM to another volume, this is not needed), POSIX format is required. See below for the POSIX path discussion
- ◆ Regarding issue 2: POSIX, and UNC paths are all accepted in the PATH section. Hence, it is recommended that you use UNC paths, and avoid the POSIX path issues described below
- ◆ Regarding issue 3: GWRM will automatically deal with NetWare Log File paths read from the HTTP server and convert them to POSIX format internally, creating mount points as needed (under sys:\mnt\posix\volumename). So, no extra configuration is normally needed. If you really want to understand more about mount points, read on.

## POSIX Path Conversion

Consider a standard NetWare server, named MJBSEVER, with 2 volumes, SYS and DATA1. Now let's take the example of GroupWise being installed on this server, first on the SYS volume and then the DATA1 volume. For simplicity, we'll assume the GroupWise agents are all installed under a directory right off the root of the volume named GRPWISE.

Start with the GRPWISE directory on SYS, the NetWare path is volume:\path, so in this case it is the straightforward SYS:\GRPWISE. POSIX format is /path1/path2. In this case, it is simply /grpwise. The only change is to eliminate the volume name and changed to forward slashes.

Other examples of path conversions on SYS would be SYS:\system vs. /system, or SYS:\novell\webacc vs. /novell/webacc. It may be clear that an issue will arise shortly: namely that POSIX paths don't include volume names.

Let us move the GroupWise system to the volume DATA1

The NetWare path will still be straightforward. It will be DATA1:\grpwise. But what is the POSIX path? The way that Novell solved this problem was to allow users and programs to provide a "mapping" between POSIX paths and NetWare volumes. More specifically, there is a file (which doesn't exist by default) in SYS:\ETC called PATHTAB which contains entries such as: POSIXPath<space>NetwarePath

You may specify as many as you wish, using any text editor you please. So the first thing an administrator might do is create an entry like this: /mygw<space>DATA:\

One might then expect that I could use /mygw/grpwise to refer in POSIX format to DATA1:\grpwise. Similarly, if another directory was off the root of DATA1 called EXAMPLE. I could refer to in NetWare format as DATA1:\example and in POSIX as /mygw/example

There is one complication, that isn't so obvious: NetWare is really using a "mount point" to represent the NetWare volume. The "mount point" must always exist on SYS, and can be more or less arbitrarily named (but shouldn't collide with other directories on SYS)

This is a roundabout way of saying that whatever POSIX path specified in PATHTAB must have a corresponding directory structure on SYS. Let's take another step-by-step example.

- ◆ Create a POSIX path, and I have a directory named ANOTHEREXAMPLE off my GOOGLE volume. The NetWare path would be GOOGLE:\ANOTHEREXAMPLE
- ◆ Open SYS:\etc\pathtab, and add a mount point. Remember that I can name it how I want. In this case I'm going to decide that I want a POSIX path of /mnt/myothervol/anotherexample in the end.
- ◆ Add: /mnt/myothervol<space>GOOGLE:\
- ◆ I'll save PATHTAB, and then I will create off SYS the following: SYS:\mnt, SYS:\mnt\othervol. Their contents do not matter. A POSIX compliant program should now be able to use /mnt/myothervol/example and be redirected to GOOGLE:\anotherexample.

## How is this relevant to GWRM?

- ◆ If you must change the internal configuration paths of GWRM, they must be valid POSIX paths, constructed as above. If you have integrations that use the PATH entry in RLAGENT.CONF, and for some reason WANT to use POSIX, you can, but you must follow these guidelines.
- ◆ GWRM handles the issue of log files transparently. All it does is create mount points named sys:\mnt\posix\volume name and create a PATHTAB entry for you. This is done behind the scenes, so normally you don't need to worry about it.

## Report Generation table

GWRM Reports are generated from information that the Agents gather from your different system components. This information can be stored inside GWRM databases found at ../GWRM/db, and referenced by GWRM reports found at ../GWRM/conf/reports. To aid in custom report generation, the information sources are detailed below with their companion reports and files.

| <b>Report Name</b>                                      | <b>Report File Name</b>       | <b>File or Database</b>     | <b>Information source</b>                                 |
|---------------------------------------------------------|-------------------------------|-----------------------------|-----------------------------------------------------------|
| GroupWise / Exchange Comparison                         | CompareExchange.xml           | -                           | GWRM Internal                                             |
| Configuration Report: All Agents                        | ConfigAll.xml                 | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: Guinevere                         | ConfigGUIN.xml                | reports_object_content.html | Guinevers settings.ini                                    |
| Configuration Report: GWAVA 4                           | ConfigGW4V4.xml               | reports_object_content.html | HTTP/XML data                                             |
| Configuration Report: GWAVA 3                           | ConfigGWAVA.xml               | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: Internet Agents                   | ConfigGWIA.xml                | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: Domains                           | ConfigMTA.xml                 | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: Messenger Archive Agents          | ConfigNMAA.xml                | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: Messenger Agents                  | ConfigNMMA.xml                | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: Post Offices                      | ConfigPOA.xml                 | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| Configuration Report: WebAccess                         | ConfigWEBACC.xml              | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles... |
| GW Mobile Server Connection Analysis                    | GMSConnectionAnalysis.xml     | gwmobile.db                 | HTTP/XML data                                             |
| GW Mobile Server most active User                       | GMSMostActiveUser.xml         | gwmob2ca.db<br>gwmob2m.db   | HTTP/XML data                                             |
| Top 50 GMS User Activity                                | GMSUserActivity.xml           | gwmobile.db                 | HTTP/XML data                                             |
| GWAVA 4 Message Processing Analysis                     | GW4V4OperationAnalysis.xml    | gwava4.db                   | HTTP/XML data                                             |
| System Wide Current User List                           | GWCurrFullUserList.xml        | global.db                   | GWCheck files                                             |
| System Wide Current User List                           | GWFullUserList.xml            | global.db                   | GWCheck files                                             |
| Internet Agent/Gateway Data Transfer during last 4 days | GWIAData.xml                  | gwiamsgs.db                 | GWIA Logfiles and History tables                          |
| Internet Agent Message Summary                          | GWIAMessageSummary.xml        | gwiamsgs.db                 | GWIA Logfiles                                             |
| Internet Top 100 Recipients by Message Count            | GWIATop100RecipientsCount.xml | acct.db                     | GWIA Logfiles                                             |

| Report Name                                                         | Report File Name                     | File or Database            | Information source                                                  |
|---------------------------------------------------------------------|--------------------------------------|-----------------------------|---------------------------------------------------------------------|
| Internet Top 100 Recipients by Message Count                        | GWIA Top100Sender Count.xml          | acct.db                     | GWIA Logfiles                                                       |
| Internet Top 20 Recipient Domains by Message Count                  | GWIA Top20Recipient DomainsCount.xml | gwiamsgs.db                 | GWIA Logfiles                                                       |
| Internet Top 20 Recipient Domains by Message Volume                 | GWIA Top20Recipient DomainsSize.xml  | gwiamsgs.db                 | GWIA Logfiles                                                       |
| Internet Top 20 Recipient Domains by Message Volume                 | GWIA Top20RecipientsCount.xml        | acct.db                     | GWIA Logfiles                                                       |
| Internet Top 20 Recipients by Message Volume                        | GWIA Top20RecipientsSize.xml         | acct.db                     | GWIA Logfiles                                                       |
| Internet Top 20 Sender by Message Volume                            | GWIA Top20SenderCount.xml            | acct.db                     | GWIA Logfiles                                                       |
| Internet Top 20 Sender Domains by Message Count                     | GWIA Top20SenderDomainsCount.xml     | gwiamsgs.db                 | GWIA Logfiles                                                       |
| Internet Top 20 Sender Domains by Message Volume                    | GWIA Top20SenderDomainsSize.xml      | gwiamsgs.db                 | GWIA Logfiles                                                       |
| Internet Top 20 Sender by Message Volume                            | GWIA Top20SenderSize.xml             | acct.db                     | GWIA Logfiles                                                       |
| Internet Agent/Gateway Messages count per User                      | GWIAUser.xml                         | acct.db                     | GWIA Logfiles                                                       |
| HIPAA/Sarbanes-Oxley Account Audit                                  | HIPAA-SOX-AccountAudit.xml           | global.db                   | GWCheck files                                                       |
| HIPAA/Sarbanes-Oxley Configuration Report: Guinevere                | HIPAA-SOX-ConfigGUIN.xml             | reports_object_content.html | Guinevers settings.ini                                              |
| HIPAA/Sarbanes-Oxley Configuration Report: GWAVA 4                  | HIPAA-SOX-ConfigGW4V4.xml            | reports_object_content.html | HTTP/XML data,                                                      |
| HIPAA/Sarbanes-Oxley Configuration Report: GWAVA 3                  | HIPAA-SOX-ConfigGWAVA.xml            | reports_object_content.html | Various Sources, Config files, HTTP/XML data, logfiles...           |
| HIPAA/Sarbanes-Oxley Configuration Report: Internet Agents          | HIPAA-SOX-ConfigGWIA.xml             | reports_object_content.html | Various Sources, Config files, DC files, HTTP/XML data, logfiles... |
| HIPAA/Sarbanes-Oxley Configuration Report: Domains                  | HIPAA-SOX-ConfigMTA.xml              | reports_object_content.html | Various Sources, Config files, DC files, HTTP/XML data, logfiles... |
| HIPAA/Sarbanes-Oxley Configuration Report: Messenger Archive Agents | HIPAA-SOX-ConfigNMAA.xml             | reports_object_content.html | Various Sources, Config files, DC files, HTTP/XML data, logfiles... |
| HIPAA/Sarbanes-Oxley Configuration Report: Messenger Agent          | HIPAA-SOX-ConfigNMMA.xml             | reports_object_content.html | Various Sources, Config files, DC files, HTTP/XML data, logfiles... |

| Report Name                                             | Report File Name                       | File or Database            | Information source                                                  |
|---------------------------------------------------------|----------------------------------------|-----------------------------|---------------------------------------------------------------------|
| HIPAA/Sarbanes-Oxley Configuration Report: Post Offices | HIPAA-SOX-ConfigPOA.xml                | reports_object_content.html | Various Sources, Config files, DC files, HTTP/XML data, logfiles... |
| HIPAA/Sarbanes-Oxley Configuration Report: WebAccess    | HIPAA-SOX-ConfigWEBACC.xml             | reports_object_content.html | Various Sources, Config files, DC files, HTTP/XML data, logfiles... |
| Mailbox Activity Check                                  | MailboxActivityCheck.xml               | global.db                   |                                                                     |
| Novell Self Audit Report (CLA)                          | NovellSelfAuditMLA.xml                 | global.db                   | GWCheck logfiles                                                    |
| Post Office Error Message Analysis                      | PostOfficeErrorMessageAnalysis.xml     | alerts.db                   | Post Office Logfiles                                                |
| Post Office Message Overview                            | PostOfficeMessageSummary.xml           | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Operation Analysis                          | PostOfficeOperationalAnalysis.xml      | poa.db                      | Post Office Logfiles, data in History tables and recalculated       |
| Post Office Size Analysis                               | PostOfficeSize.xml                     | poa.db global.db            | GWRM Internal                                                       |
| Post Office Top 20 Recipients by Message Count          | PostOfficeTop20RecipientsCount.xml     | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Top 20 Recipients by Message Volume         | PostOfficeTop20RecipientsSize.xml      | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Top 20 Sender by Message Count              | PostOfficeTop20SenderCount.xml         | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Top 20 Sender by Message Volume             | PostOfficeTop20SenderSize.xml          | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Top 50 Messages larger 5000 bytes           | PostOfficeTop50MessagesGreater5000.xml | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Top 50 Recipients by Message Count          | PostOfficeTop50RecipientsCount.xml     | poamsgs.db                  | Post Office Logfiles                                                |
| Post Office Top 50 Sender by Message Count              | PostOfficeTop50SenderCount.xml         | poamsgs.db                  | Post Office Logfiles                                                |
| Problem Analysis                                        | ProblemAnalysis.xml                    | alerts.db                   | Alerts fired in GWRM                                                |
| GWRM Table Query Report                                 | QueryDBTable.xml                       | -                           | This is just a help file for the Query Reports                      |
| GWRM Query Report                                       | QueryReport.xml                        | -                           | This is just a help file for the Query Reports                      |

| <b>Report Name</b>                         | <b>Report File Name</b>            | <b>File or Database</b>  | <b>Information source</b>                                     |
|--------------------------------------------|------------------------------------|--------------------------|---------------------------------------------------------------|
| Reveal Usage Analysis                      | RevealUsageAnalysis.xml            | reveal.db                | Reveal database populated with data send directly from Reveal |
| Top 10 Domain Disk Space Trend Analysis    | Top10MTADiskSpaceTrendAnalysis.xml | mta.db                   | GWRM internal                                                 |
| Top 10 Domain Message Processing Analysis  | Top10MTAOperationAnalysis.xml      | mta.db                   |                                                               |
| Top 10 Largest Post Office Database        | Top10POADatabaseSizeAnalysis.xml   | poa.db                   | GWRM internal                                                 |
| Top 20 Largest Mailboxes                   | Top20MailboxSize.xml               | global.db                | GWIA Logfiles                                                 |
| Top 50 Largest Mailboxes                   | Top50MailboxSize.xml               | global.db                | GWIA Logfiles                                                 |
| Trend Mobile Server Data Transfer/Duration | TrendGMSMsg.xml                    | gwmobile.db              | GWIA Logfiles, POA Logfiles, GMS2 Logfiles                    |
| Trend Internet Messages                    | TrendGWIAMsgs.xml                  | gwiamsgs.db              | GWIA logfiles and History tables                              |
| Trend Messages / Mailbox Size per User     | TrendMBSizeHistory.xml             | global.db<br>gwustats.db | GWCheck and History tables                                    |
| Trend Post Office Logins/Usage             | TrendPOALogins.xml                 | poalogin.db              | Post Office logfiles                                          |
| Trend System Uptime                        | TrendUptime.xml                    | global.db                | GWRM internal                                                 |
| User Mailbox Analysis                      | UserMailboxAnalysis.xml            | global.db                |                                                               |
| GroupWise 7.0.2/6.5.6 Vulnerability Check  | Vulnerability702VersionCheck.xml   | -                        | POA HTTP/XML interface                                        |
| WebAccess User Login Analysis              | WebAccUserLoginAnalysis.xml        | webacc.db                | WebAccess logfiles                                            |

