Understanding Report Options

Overview

up.time can generate reports on the status of the servers in your environment, based on criteria that you specify. A report uses data that *up.time* has collected from a system, over a period of time that you specify. You can configure reports to run between certain hours of the day.

Reports are useful when you need to pinpoint the source of a problem within you environment. With a report, you can visually analyze how individual critical resources - such as memory, CPU, and disk resources - are being consumed. You can dynamically generate and view reports, schedule and email reports to other *up.time* users.

This chapter looks at the options that you can set to generate, save, and schedule reports. For more information about the individual reports and how to configure them, see Using Reports.

Generating Reports

You can generate reports either dynamically or in the background. Dynamic reports are reports that *up.time* displays in a new Web browser window. Dynamic reports appear within several seconds or several minutes, depending on the type of report that you are generating and on the information that the report collects.

Background reports are reports that you schedule to be run at specific intervals using the *up.time* report queue. When it is time for a scheduled report to run, *up.time* puts the report into the report queue and determines that status of the report based on the following states:

Pending

The report is in the queue and is waiting to run.
Running

The report is being generated.
Completed

The report has been generated, and has been sent (via email) to the users configured to receive that report.

For information on how to schedule reports, see Scheduling Reports.

> ⓘ   If you do not receive a scheduled report, check the Report Log (see The Report Log) or contact your system administrator.

Report Generation Options

up.time can generate reports in four ways:

Print to Screen

Displays the report in a new window. This is the default option.
PDF to Screen

Converts the report to a PDF document, and displays it in a new window. You can save the PDF document to a local or network drive, or print it.
XML to Screen

Displays the report, as an unformatted XML document, in a new window.
Email Address

Enables you to email the report, as a PDF document attached to an email message, to:

- A specific *up.time* user, for example a system administrator.

Click *User* and then select the name of an *up.time* user to whom you want to send the report from the dropdown list.

- The members of one or more *up.time* user groups.

Click *Group* and then select the name of an *up.time* user group to which you want to send the report from the dropdown list.

- One or more email addresses.

Click the *Email Address* option, and then type the email address of the person to whom you want to send the report in the field. To send the report to multiple recipients, type their email addresses in the field separated by commas or semi-colons. For example:

Reports that are sent by email have a file name that consists of the type of report and the date and time range it covers. For example, a CPU Utilization Ratio report might be named:

ReportCPUUtilizationRatio_2006-01-10_00-00-2006-01-10_14-53.pdf

If you choose to output the report to the screen, a message appears while the report is being generated. When the report has been generated, it is displayed in the report window. If *up.time* cannot connect to a host, the following error message appears in the report window:

An error occurred while running this report. Verify the configuration of up.time and try again.

Saving Reports

If you find that you need to generate reports on a regular or frequent basis, you can save the parameters for the report to the DataStore. A link to the report appears in the *My Portal* panel. Click the link to generate the report. As well, see Report Generation Options for information on how *up.time* outputs reports.

> ⓘ You can also schedule reports to be generated and sent by email at particular intervals. See Scheduling Reports for more information.

To save reports, do the following:

1. In the *Save Report* area of the *Report* subpanel, select one of the following options:
2. HTML
3. PDF
4. XML
5. Email
6. If you selected *Email* in step 1, specify one of the email options.
7. Type a name for the report in the *Save to My Portal As* field.
8. Optionally, type a description for the report in the *Report Description* field.
9. Click *Save Report* .

Saving Reports to the File System

You can save reports to the file system of a server in your environment so others in your organization can view the reports. You can, for example, save a report to a Web server for viewing on your Intranet. The reports are saved as either PDF or HTML files. The system administrator can specify the directory on the server in which reports will be saved by adding the following entry to the file *uptime.conf* :

publishedReportRoot=<directory_name>

Where *<directory_name>* the directory into which *up.time* will write reports - for example, *C:/Program Files/uptime software/uptime/* . The report files are saved to a subdirectory named *GUI/published* . You need permissions to write to the *published* directory.

up.time automatically names each report file. The file name contains the following information:

name of the report, taken from the *My Portal* panel
date on which the report was run
user name of the person who ran the report

The following is an example of a report file name:

Service Outages_2006-01-24_rfripp.pdf

To save reports to a file system, do the following:

1. In the *Save Report* area of the *Report* subpanel, enter a name for the report in the *Save to My Portal As* field.
2. Optionally, enter a description of the report in the *Description* field.
3. Select either *HTML* or *PDF* from the list of options.
4. Click the *Publish Report* option.
5. Click the *Scheduled Report* option, and then select a a date and time for the report to run.
   For more information on scheduling reports, see Scheduling Reports.
6. Click *Save Report* .

Viewing Saved Reports

You can quickly view any reports that were generated on the Monitoring Station and saved to the file system. To do so, do the following:

1. On the tool bar, click *Reports* .
2. Click *Published Reports* in the Tree panel.

The *Report Library* window appears. The *Report Library* window lists the reports that were generated on the Monitoring Station in descending order by date.

Using the Search Function

The *Report Library* window includes a search function that enables you to find specific reports.

To use the search function, do the following:

1. In the Published Reports window, click the *Search* button.
   The *Search Options* appear in the window.
2. Select one of the following options from the Search Column dropdown list:
   - Year
   - Month
   - Name
   - Date
   - User
3. Specify the criteria for the search, and then click the Search button to view the results on the *Report Library* page.

Scheduling Reports

If you need to run a report at a particular interval - for example, daily or weekly - you can schedule when the report should be generated. *up.time* generates the report and emails it to a user or group of users.For example, you generate a File System Capacity Growth Report - which charts the amount of disk usage for a system. However, the system for which you are generating the report schedules backups from midnight to 4:00 a.m. Due to the gap caused by the backup, the CPU usage and disk activity statistics are not indicative of the overall system load. You can specify that the report does not cover the periods of time over which the backups occur.

To schedule reports, do the following:

1. In the *Reports* subpanel, select the *Email* option in the *Save Report* section of the subpanel, and then select one of the following options:
    - User
    - Group
    - E-mail Address
2. Type a name for the report in the *Save to My Portal As* field.
3. Optionally, type a description for the report in the *Report Description* field.
4. Click the *Scheduled Reports* checkbox, and then select the time at which to run the report from the dropdown lists.
5. Select one of the following options:
6. Daily
    - Click the *Every* option, and select the number of days from the dropdown list.
    or
    - Click the *Every Weekday* option.
7. Weekly
    - Select a number of weeks from the *Every week(s) on* dropdown list. If, for example, you select *2* from the list, the report will be run every two weeks.
    or
    - Select one or more days of the week on which the report will be run.
8. Monthly
    - Select the *Day* option. From the first dropdown list, select the day (from 1 to 31) on which to run the report. Then, select the month (from 1 to 12) during which to run the report.
    For example, if you select *3* and *7* from the dropdown lists, the report will be run on the third day of every seventh month.
    or
    - Select the second option, then do the following:
        - select first, second, third, fourth, or last from the first dropdown list
        - select a day of the week on which the report will run from the second dropdown list
        - select a number from 1 to 12 from the third dropdown list
        For example, if you select *second* , *Tuesday* , and *9* from the dropdown lists, the report will be run on the second Tuesday of every ninth month. As well, see Report Generation Options for information on how *up.time* outputs reports.

The Report Log

The Report Log tracks the progress and status of scheduled reports, or reports that are running in the background. Using the Report Log, you can quickly determine whether or not reports have been successfully generated. If they have not, then you can use the log to determine why report generation failed.

The *Report Log* subpanel tracks the status of reports in the following sections:

Pending Reports

Reports that are in the report queue, and are waiting to run. This section contains the following information:

- the name of the report
- the description of the report, if available
- whether or not the report is scheduled
- the date and time on which the report will be run

Running Reports

Reports that are being run. This section contains the same information as the *Pending Reports* section.

If the running report is not a scheduled report, *Emailing report in PDF format* appears in the *Report Name* column.
Completed Reports

Reports that have finished running, whether they were successfully generated or not. This section contains the following information:

- the name of the report
- the date and time on which the report run was started
- the date and time on which the report run ended
- the status of the report - for example, *finished*
- a status message - for example, *Email sent* or *Address list is empty*

Viewing Report Logs
To view report logs, do the following:

1. On the *up.time* tool bar, click *Reports* .
2. In the Tree panel, click *Report Log* .

The report log appears in the *Reports* subpanel.

If there are no reports in the queue, *up.time* displays a message similar to the following ones in the *Pending Reports* and *Running Reports* sections of the *R eport Logs* subpanel:

No reports are pending

No reports are running

Deleting Report Log Entries

Completed reports are stored in a table in the *up.time* DataStore. To free space in the DataStore, or to remove report log entries that you no longer need, you can delete entries in the report log from the *Report Log* subpanel.

To delete entries in the Report Log, do one of the following:

- Click the *Delete* icon beside the entry that you want to delete.
- If you want to delete all entries in the Report Log, click the *Remove Completed Reports* button.

When prompted to confirm whether or not you want to delete the report log entry, click *OK* .
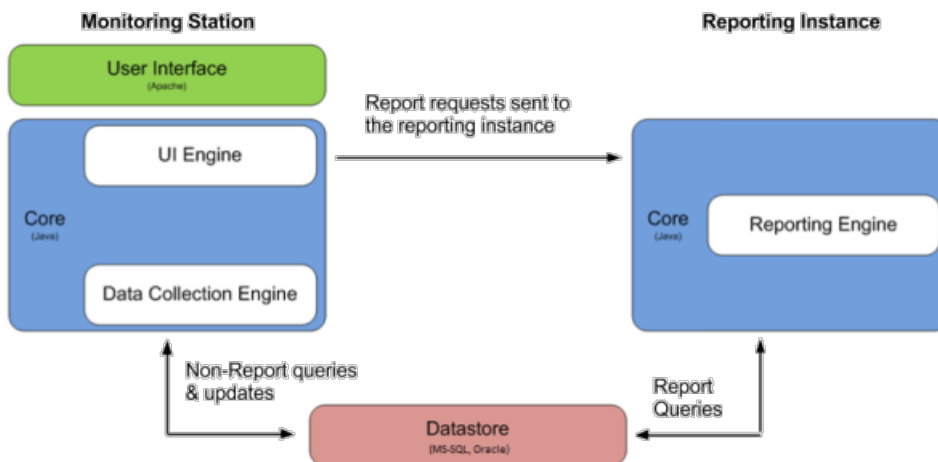
Remote Reporting Instances

A reporting instance is a transparent, license-free, up.time installation that is dedicated to generating and serving reports. If you offload all report-related tasks to a second instance, you can significantly reduce core load on your Monitoring Station.

If you are managing a large up.time deployment, you can consider implementing a reporting instance if many systems are included in your reports. Requirements will vary and depend on several factors, but as a general rule, a reporting instance may be appropriate if you have over 500 systems and regularly run reports with a month or more of data. Contact customer support for help on assessing your environment.

Reporting Instance Architecture

When a deployment includes a reporting instance, the two up.time installations respectively perform the following functions:

- the Monitoring Station handles all monitoring, administration, data archiving and report scheduling tasks
- the reporting instance generates, stores, and distributes reports

In this deployment configuration, the Monitoring Station is still the main point of interaction for all up.time users; no one can log in to the reporting instance Web interface. When the Monitoring Station receives a report generation request or is scheduled to generate one, it seamlessly offloads the request to the reporting instance. Generated reports are stored on the reporting instance, which by default are the following:

- `/GUI/reportcache` for instantly generated reports
- `/GUI/published` for scheduled reports

All report-related configuration settings (whether `reportCacheExpiryDays` in the **up.time Configuration** panel, the **Mail Server** settings on the **Config** tab, or `publishedReportRoot` or `reporting.prefetch.images.threads` in `uptime.conf`) are modified on the Monitoring Station.

Creating and Configuring a Reporting Instance

Before installing the reporting instance, ensure the following:

- the existing Monitoring Station is running and collecting data
- the host that the reporting instance will be installed meets the minimum Monitoring Station requirements
- the version of up.time that will be installed on the reporting instance is the same as the Monitoring Station (note that the two hosts' operating systems can be different)

Installing and Configuring up.time as a Reporting Instance

To set up a second up.time instance as a reporting instance, do the following:

Install and configure the reporting instance:

1. Install up.time on the new host.
   Refer to directions for your target platform in Installing the Monitoring Station; you can ignore the Post-Installation Tasks section.
2. Begin editing the reporting instance's `uptime.conf` file, which is found at the root of the up.time installation.
3. Add the following line:
   `reportingInstance=true`
   Enabling this parameter effectively disables all non-reporting functions for this up.time instance. Its report-related options, including the SMTP settings to distribute reports, is set on the Monitoring Station.
4. Reduce the connection pool size:
   `connectionPoolMaximum=50`
5. Configure the database settings so that the reporting instance connects to the same database your Monitoring Station is using:

MySQL

```
dbDriver=com.mysql.jdbc.Driver
dbType=mysql
dbHostname=reportingInstanceHostname
dbPort=3308
dbName=uptime
dbUsername=uptime
dbPassword=uptime
dbJdbcProperties=
```

SQL Server

```
dbDriver=net.sourceforge.jtds.jdbc.Driver
dbType=mssql
dbHostname=10.1.1.124
dbPort=1433
dbName=uptime
dbUsername=uptime
dbPassword=password
```

Oracle

```
dbDriver=oracle.jdbc.OracleDriver
dbType=oracle
dbHostname=oraserv
dbPort=1521
dbName=uptime
dbUsername=uptime
dbPassword=password
```

Ensure the other database platform's configuration lines have been commented out with the `#` character.

Ensure database access from the reporting instance:

Adding a reporting instance requires you to change your database to allow a user to connect to it from an external host. The following steps are for the MySQL database bundled with the Monitoring Station. If you are using Oracle or SQL Server as the DataStore, contact your database administrator to ensure that database can be accessed from the reporting instance.

1. At the command line on the Monitoring Station, go to the `<uptime>/mysql/bin` directory.
2. Connect to the up.time DataStore as the root user by executing the following:
   `mysql -uroot -puptimerocks`
3. Once connected to the database, run the following statement:
   `grant all privileges on uptime.* to "uptime"@"%" identified by "uptime";`
   This allows the uptime user to connect to the database from any external host. For additional security, you can replace the `%` with the actual hostname or IP address of the reporting instance.
4. Run the following statement:
   `flush privileges;`

Increase the MySQL connection pool size:

If you are using the bundled MySQL database, increase the size of the connection pool, since each up.time instance attempts to open 100 database connections, and the MySQL default is 151.

1. Open the `<uptime>/mysql/my.ini` file in an editor.
2. Change the `max_connections` value to 201 from its default value of 151.
3. Save your changes, then restart the uptime DataStore service to use this modified setting.

Link the Monitoring Station with the reporting instance:

You will need to configure the Monitoring Station to communicate with (and send reports to) the reporting instance, as well as link the reporting instance's content back to the Monitoring Station so your users can access its generated reports.

1. Log in to the Monitoring Station Web interface.
2. Click the **Config** tab and click **Remote Reporting**.
3. Click Edit Configuration and do the following:
    - Select the **Reporting Instance Enabled** checkbox.
    - Enter the hostname of the Remote Reporting Server.
    - If you have modified the `commandPort` default from `9996` in the reporting instance's `uptime.conf` file, update the default **Remote Reporting Server Port** here.
4. Click **Test Configuration** to ensure you have entered the correct hostname and port information.
5. Click **Save**.
6. In the tree panel, click **up.time Configuration**.
7. Enter the following lines to add a custom tab to My Portal that points to the published reports folder on the reporting instance:

```
myportal.custom.tab2.enabled=true
myportal.custom.tab2.name=Published Reports
myportal.custom.tab2.URL=http://reportingInstanceHostname:9999/published/
```

Change the tab number to the next available number if you already have created any.

> ⓘ As an alternative, you can also make the reporting instance's `/GUI/published` directory a mount point for greater flexibility.

8. Click **Update**

Verifying the Monitoring Station Can Communicate with the Reporting Instance

After you have set up the Monitoring Station and the reporting instance, verify the two up.time instances can communicate with each other:

1. Log in to the up.time Monitoring Station web interface.
2. Click **Config** on the toolbar.
3. Click **Remote Reporting**.
4. Click **Test Configuration**.
   A connection-test message will appear, reporting a successful or failed connection.