User Guide

CereusReporting - Corporate Edition

Version 1.0

- Unicode Support
- DSStats Support
- Reporting Engine Enhancements
- Support Options
- Guides for CactiEZ, Ubuntu 9.10

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1 Introduction

1.1 About CereusReporting

CereusReporting is a plugin designed to enhance the reporting functionality of the Cacti Network Monitoring solution. nmidCreatePDF adds PDF report generation as well as email and report scheduling functionality of Cacti.

CereusReporting comes in 3 different editions: The Free Edition with limited functionality, a Professional Edition with added features and the Corporate Edition with support for DSStats, Scheduling and other features.

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2 Configuration

2.1 Availability Addon Settings

- **Global SLA Threshold**
  The global SLA threshold defines a threshold displayed on each availability chart. The SLA threshold can be overwritten on a per-device basis

- **Availibility Chart Width**
  The width in pixel of the availability chart

- **Availability Chart Height**
  The height in pixel of the availability chart

- **Add availability table to the tree view**
  Displays the availability data as a table beneath the availability chart

- **Max Raw data to store**
  The time in seconds to store the polling data. After this time the availability data will be deleted.

- **Start Tag**
  The start tag will be displayed as a suffix to a Availaiblity Downtime Schedule starting point

- **End Tag**
  The end tag will be displayed as a suffix to a Availaiblity Downtime Schedule end point
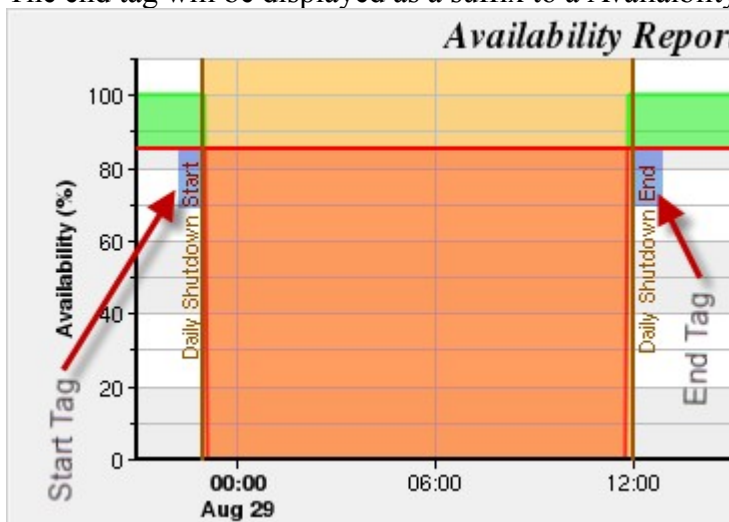
2.2 General CereusReporting Setting

NMID - Create PDF Report - General - CORPORATE Edition - License Expiry Date : never	
Report Title The title of the report. This will only be displayed if the selected tree item is not a header.	Report TItle
Report Subtitle The default sub-title of the report. Eg. 'Provided by your Support Team'	Provided by Network-Outsourcing.de
Report Footer The default footer of the report.	
Print Header/Footer to PDF Enables/Disabled the printing of the Header and Footer. Should be disabled when using a CoverPage/Template.	☑ Print Header/Footer to PDF
Report Logo The company logo you want to be displayed on the PDF report. The default logo is images/default_logo.png. Needs to be a PNG file.	images/urban-software_logo.png
Use 'HOSTNAME(IP)' in host only reports Displays 'Report for host hostname(a.b.c.d)' instead of the default report title	☑ Use 'HOSTNAME(IP)' in host only reports
Graphs link back to cacti A click on a graph in the PDF Report links back to the cacti page for that graph	☑ Graphs link back to cacti
Cacti Host/Server URL The Cacti Host/Server URL to be used in the graph links	http://cacti.network-outsourcing.de
WebService URL for nmidSmokeping graphs only. Url to the webservice: http://path/to/plugins /nmidWebService/webservice.php?wsdl	http://cacti.network-outsourcing.de/cacti/plug
PHP binary path Path to the php binary. To use the default php installation in the system path, just enter 'php' here.	/usr/bin/php
Archive Directory Archive directory for storing the PDF Reports.	archive
GZip binary path Path to the GZip binary. Archived reports will be gziped if this is set.	/bin/gzip
Scheduler being used The poller is fine for small reports, but it is still recommended to use cron or windows scheduling.	Poller ▾
Parallel Threads for Graph Rertieval The number of parallel processes for retrieving/generating the graphs for the PDF report.	2 Threads ▾
Debugging mode Enable/Disable the debug mode for defined/on-demand reports (Enable: Do not delete tmp files).	Enabled ▾
PDF Module to use Choose which PDF Engine you want to use.	FPDF ▾
Font Name Choose which font you want to use.	Arial ▾
Header Font Size Choose which font size you want to have your header in.	10 ▾
Page Size Choose which page format you want to have your PDF reports in.	A4 ▾
Page Orientation Landscape or Portrait	Portrait ▾
Graph Format Choose the number of graphs to put on the page.	Default ▾

- **Report Title**
  The Report Title will be displayed at the top of each report if no other report name option is available. This option will only be used when using the on-demand reports.

- **Report Subtitle**
  The Report Subtitle will always be added to all reports

- **Report Footer**
  The Reports will always be added to all reports. Can be a copyright information or any other text.

- **Print Header/Footer to PDF**
  If using CSS based report templates, this should be checked off, otherwise adds a default header/footer to the PDF report

- **Report Logo**
  A Logo which can be added to the reports. These can be defined globally here, on a per-tree base or per report

- **Use 'HOSTNAME(IP)' in host only reports**
  This will use a "Report for hostname(ip)" as the report title

- **Graphs link back to cacti**
  Users can click on the graphs in the PDF report to directly go to the specific graph within Cacti.

- **Cacti Host/Server URL**
  The host/Server url to be used within the PDF report. Should be in the format "http://server".

- **WebService URL**
  When using the nmidWebService plugin, provide the URL to it here.

- **PHP binary path**
  The full path to the PHP binary (e.g. /usr/bin/php)

- **Archive Directory**
  The directory where archived reports are to be stored. Needs to be writeable by the webserver and Cacti user.

- **GZip binary path**
  The full path to the gzip binary (e.g. /bin/gzip). If not set, archived reports will not be gziped.

- **Scheduler being used**
  There are two scheduler available. For smaller reports, the poller based scheduler can be used. For large reports it is recommended to use the cron based scheduler.

- **Parallel Threads for Graph Retrieval**
  Graph retrieval is threaded. You can choose the number of concurrent threads being used.

- **Debugging mode**
  When enabling the debugging mode, graphs and other temporary files will not be delted from the tmp directory for troubleshooting purposes.

- **PDF Module to use**
  cereusReporting offers different PDF modules for creating the PDF reports. The bundled FPDF engine creates PDF reports using standard based fast methods, but lacks some additional functionality like Unicode support. The mPDF engine offers more functionality with a slight performance decrease.

- **Font Name**
  The default font to use for the Reports. Will be changed automatically when using unicode based reports

- **Header Font Size**
  The font size of the header

- **Page Size**
  The default page size. These can also be set on a per report setting.

- **Page Orientation**
  The default page orientation. These can also be set on a per report setting.

- **Graph Format**
  The default graph report format. Can be single column (default) or a 2 Graphs, 2 Columns based type.

3 Report Definition

CereusReporting offers the ability to create pre-defined PDF Reports. This chapter will guide you through the process of creating the 3 different types of reports available for CereusReporting.

3.1 Graph Reports

Graph reports can only contain graphs. They are offered within the Corporate edition for easy migration from the free to the corporate edition.

To create a new graph reports follow these steps:

1. On the console tab, click on "Manage Reports" in the NMID menu. You will see the following table:

2. Click on the "Add" link. This will open the "Add Report" page:

- **Report Name**
  The name of the report. This will also be used as the report title in the PDF document

- **Report Description**
  A description of the report. The description will be added to the beginning of the report. It can contain HTML code.

- Report Template
  A report template provides a general design for a report. Look at the "Report Template" chapter for further details

- **Report Cover Logo**
  The Report Cover Logo can be your company logo or any other image you want to include in the header of the report. If you use a report template, this should be set to "images/transparent_logo.png"

- **Report Type**
  The report type can be "Graph Report", "Multi Report" or "DSStats Report"

- **Default Report Timespan**
  The default report timespan is a predefined time span of the report (e.g. display 1 hour graphs).

- **Report Output Format**
  When using the mPDF engine the report output formant can be PDF or HTML. For the FPDF engine the report format can only be PDF.

3.1.1 Adding Graphs to the report

When the report is saved, the report will show up in the drop-down list of the normal Cacti graph tree view page:

Select the report to which graphs should be added. You can then add selected graphs by clicking on the checkbox next to the graph (only default Cacti graphs can be added to a graph report). Clicking on the "Add to Report" button will add the graphs to the report.
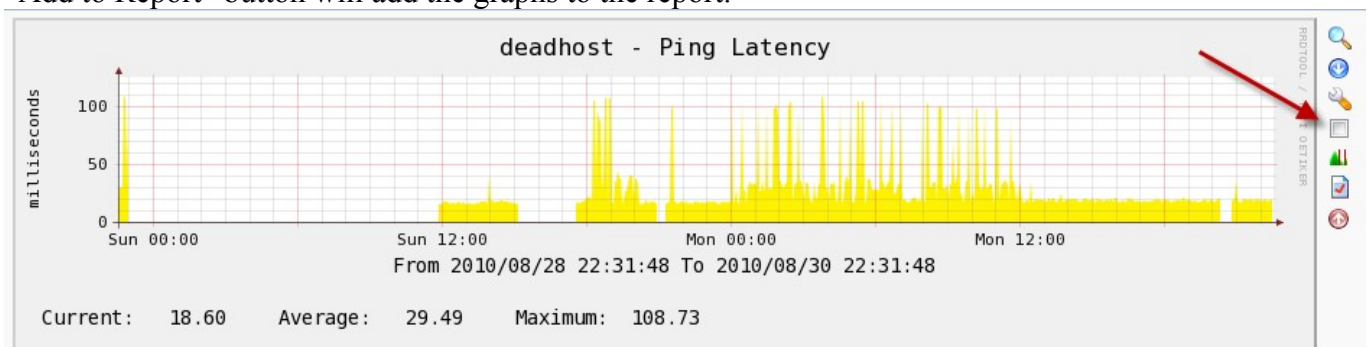
When now going back to the report definition, the table beneath the report definition will show the added graphs:

The order of the graphs can be changed using the arrows in the "Order" column.

3.2 Multi Reports

The multi report type is the most advanced PDF report available only on the CereusReporting Corporate Edition. The multi report type can contain the following data:

- Graph - The cacti graphs
- DSStats Chart - Charts based on the dsstats extension
- Smokeping Charts - Charts based on the nmidSmokeping extension
- Text - Paragraphs containing text
- Title - A Sub-Title explaining what comes next
- Chapter - A Chapter title, including a page break before it
- Availability Chart - The new Availability Chart
- SQLStatement - A Table made up of a custom SQL query of the Cacti database

Each of these items on a multi report can be rearranged.

3.2.1 Adding items to a Multi Report

There are two different ways of adding items to a graph report. The simpliest method is by using the same functionality as available for a graph report. Go to the Cacti graph tree view page, select the graphs you want to add (Cacti graphs, Smokeping graphs and Availaiblity Charts can be added), select the Multi Report from the drop-down box and click the "Add to Report" button.

For any other item, you need to edit the report.

Go to the "Manage Reports" page and click on the multi report where you want to add an item.

Click on the "Add" link of the "Items for this report" table to add a new item.

You can select the item you want to add from the drop-down box. A description of each item is shown to the left of the text box.

Click "Save" to add the item to the report.

> Please note for the mPDF Reporting Engine:
>
> You need to add at least one Chapter item before you can add the Title item. If you fail to do so, the resulting PDF file will crash Adobe Reader when clicking on the Bookmarks
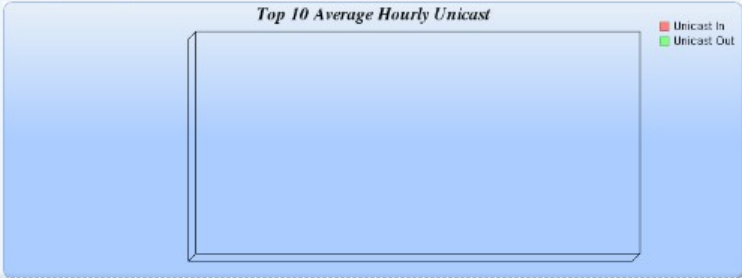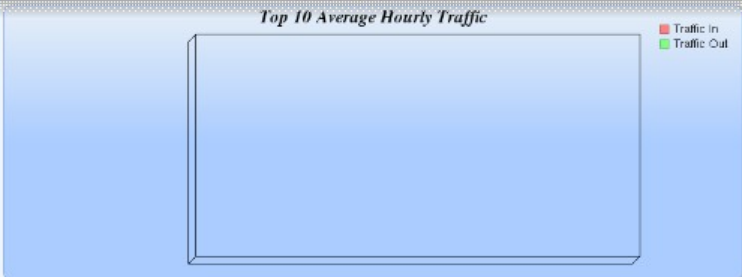
3.3 DSStats Reports

DSStats reports can only contain the special DSStats type of graphs. These graphs are generated by separate php files displaying some statistics provided by the DSStats plugin.

3.3.1 Adding items to a DSStats report

To add a DSStats item to the report, click on the "Add" link of the table below the report. A new page will be shown with thumbnails of the DSStats report graph. Click on the "Add to Report" link to the left of the graph to add the item to the DSStats report.

Once you are done, click on the "Go back to report" link at the bottom of the page.

4 Report Templates

Report templates are a combination of special PDF template files, logo images and CSS style definitions. The PDF template files can be created with any application, but need to be stored as PDF files and follow a specific naming standard.

4.1 Creating a PDF template file

The PDF template is a one or two page PDF document that can be created by using any application like Word, OpenOffice Writer or TextMaker. A two page document template starts with the main page as the main cover for the report. The second page will be repeated until the end of the generated report.

The PDF document can contain text, graphs, images (e.g. Logos or Background images) or anything else that you want to be part of the final report.

4.1.1 Naming conventions

The pdf template file needs to comply with the following naming conventions:

```
DIN A4 - Landscape : name-L-A4.pdf
DIN A4 - Portrait  : name-P-A4.pdf
DIN A3 - Landscape : name-L-A3.pdf
DIN A3 - Portrait  : name-P-A3.pdf
DIN A2 - Landscape : name-L-A2.pdf
DIN A2 - Portrait  : name-P-A2.pdf
Letter - Landscape : name-L-Letter.pdf
Letter - Portrait  : name-P-Letter.pdf

where "name" is the name of the PDF template to use.
```

4.2 Creating a logo image

Ideally the Logo should be part of the template file. In case you are not using a template, you can supply a logo with the following data:

```
File Format: PNG or JPEG
File Size: 800x200 ( width x height )
```
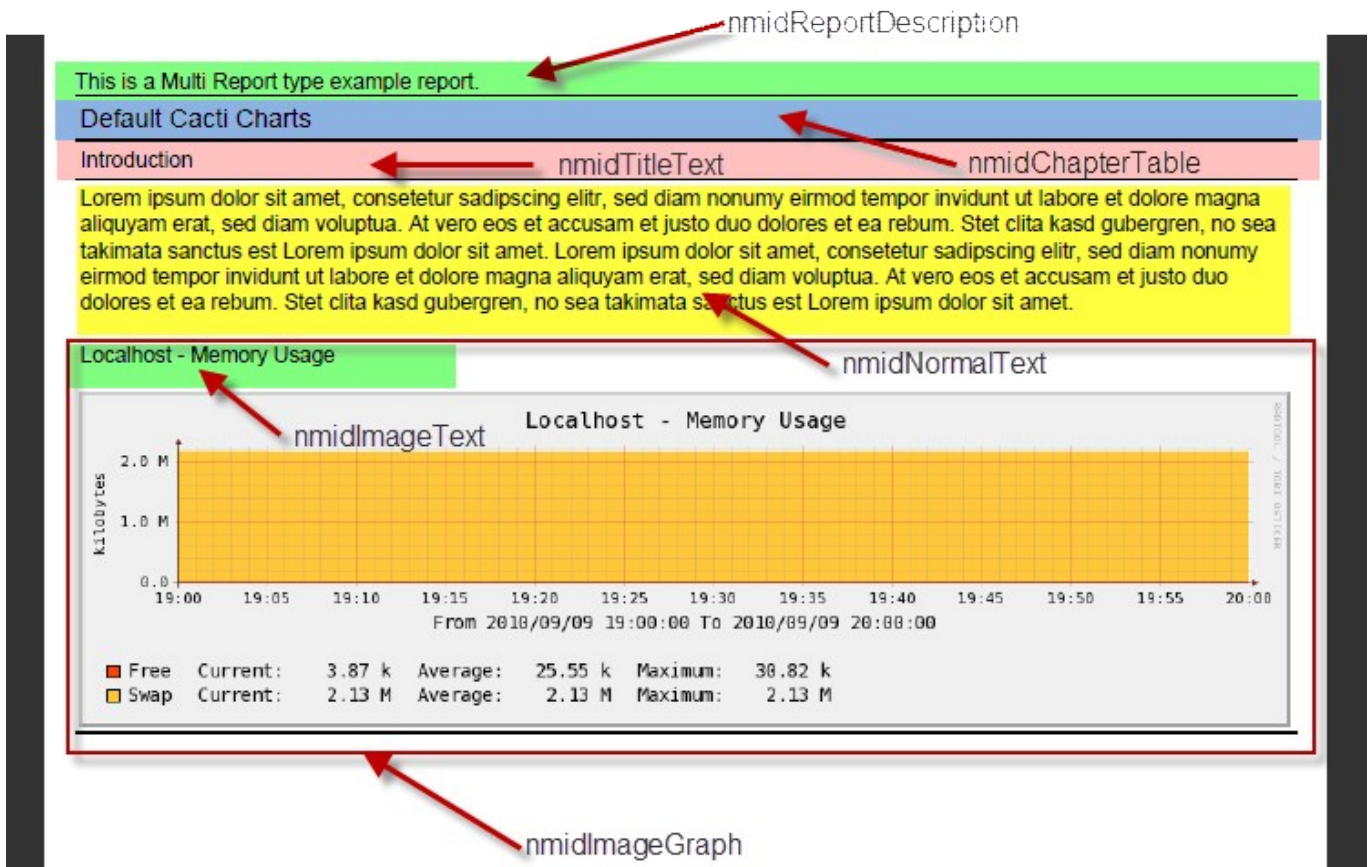
4.3 Creating the CSS file

The CSS file describes where the different parts of the report will be placed at. The PDF document has the following layout
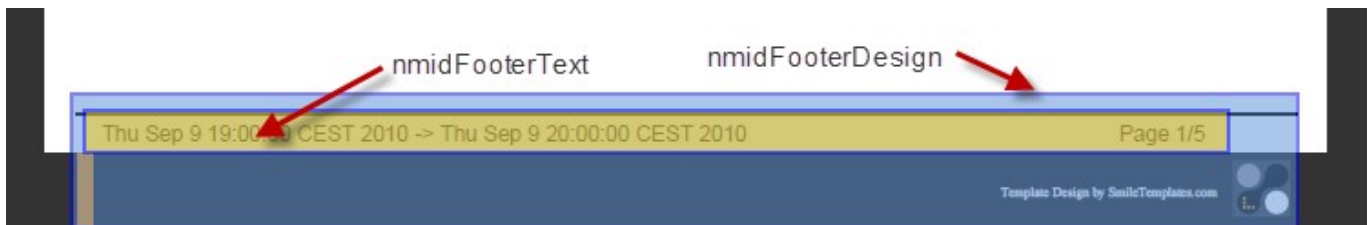
4.3.1 Header
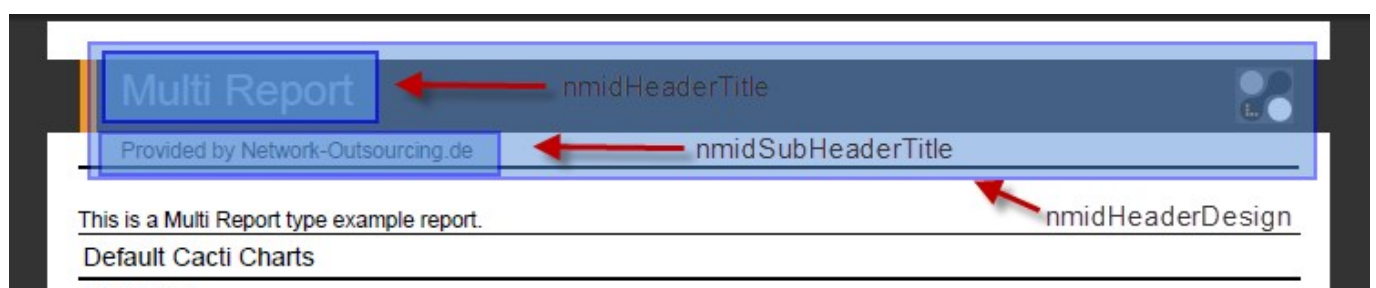
4.3.2 Content

4.3.3 Footer

4.3.4 CSS File naming convention

The CSS template file needs to comply with the following naming conventions:

```
Generic template   : name.pdf.css
DIN A4 - Portrait  : name-P-A4.pdf.css
DIN A3 - Landscape : name-L-A3.pdf.css
DIN A3 - Portrait  : name-P-A3.pdf.css
DIN A2 - Landscape : name-L-A2.pdf.css
DIN A2 - Portrait  : name-P-A2.pdf.css
Letter - Landscape : name-L-Letter.pdf.css
Letter - Portrait  : name-P-Letter.pdf.css

where "name" is the name of the PDF template to use.
```

4.4 Adding a report template to a report

Let us assume you created the following files for a DIN A4, Portrait report template:

```
nmidCreatePDF.pdf.css
nmidCreatePDF-P-A4.pdf
```

The following settings need to be entered to the report definition page:

Report Template The PDF Template to use for this report. Uses default if left empty.	templates/nmidCreatePDF.pdf
Report Cover Logo The CoverLogo of this report. Uses default if left empty.	images/transparent_logo.png
Report Type Select if this is a normal report, a graph report or a special DSSTATs report.	Multi Report
Default Report Timespan The default report timespane of this report.	On Demand ▼
Report Page Size The default report timespane of this report.	A4 ▼
Report Page Orientation The default report timespane of this report.	Portrait ▼

Although the file "templates/nmidCreatePDF.pdf" does not exist, it is used as the basis to automatically choose the correct pdf and css template file based on the "Report Page Size" and "Report Page Orientation" definition.

5 Report Backup/Restore

CereusReporting has the ability to backup and restore report definitions. To use the backup and restore functionality, go to "NMID" -> "Backup / Restore". You will see a screen showing all your defined reports:

5.1 Report Backup

In order to backup a report, simply select it using the checkbox to the right of it and click the "Go" button. A XML based backup file will be placed in the "backup" folder of the CereusReporting plugin directory.

5.2 Report Import/Restore

A report can be restored by simply selecting it from the list of available backup files and clicking on the "Go" button:

A restored report will always be created as a new report (Same name, but a different report id), so the old/existing report definition will not be overwritten by a restore.

```
Please note:

Backup files do contain the unique ids of the containing graphs. Graphs not existing any more are still
restored and need to be manually removed from the report after the restore.
```

6 Report Scheduling

Reports can be scheduled for a one-time creation or on a regular basis.

6.1 Defining a report schedule

In order to define a report schedule for a selected host, go to "NMID" -> "Manage Report Schedule". On the "Report Schedules" table, click on the "Add" link to the top-right.

The above example schedules our "Multi Report" report on a daily basis. Daily reports will always be send out at 00:00. The "Report Schedule" defines the first starting time of the report. E.g. a report schedule can be defined near a moths end, but the Report Schedule is set to the first day of the next months. Daily reports will the be send out no sooner than the beginning of the next month.

The timeframe of the graphs is defined in the Report Definition as the "Default Report Timeframe".

So it is possible to create a daily report, which will contain only the last hour of data.

```
Please note:

For scheduled reports, the "Default Report Timeframe" should never be set to "On Demand". It is
recommended to use the same time frame as the "Recurring frequence". E.g. for "daily" set the timefram of
the report to "1 Day".
```

7 Availability Charts

Availability charts display the hosts/device status information in a graphical way. Cacti does store the number of successful and unsuccessful polls as a total value. The availability charts addon stores the data in a way that it can be presented as a time-based chart.
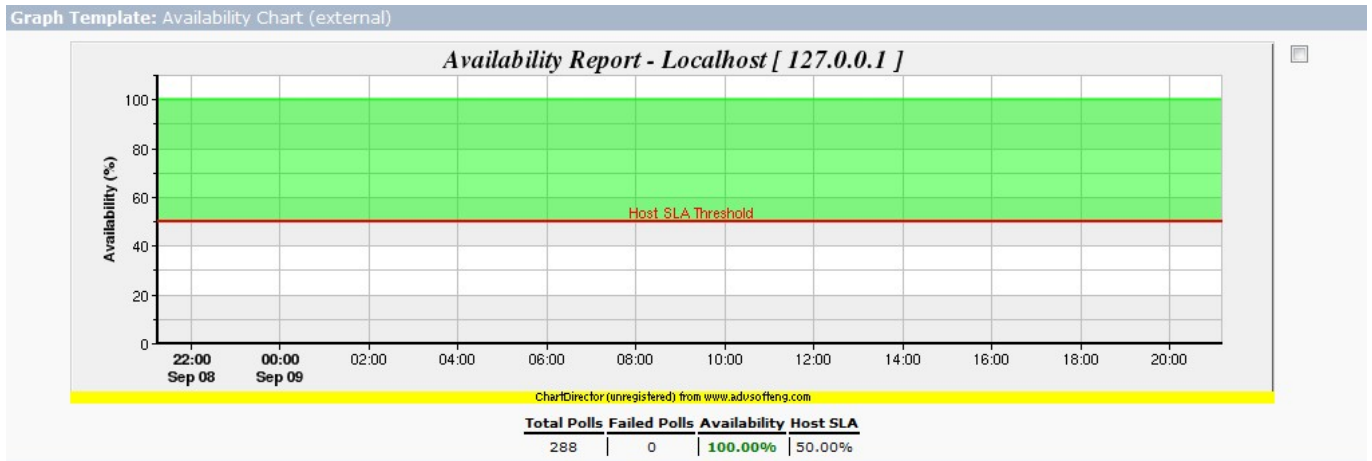
7.1 Availability Downtime Schedule

Hosts can be scheduled for downtime by using the "Availability Downtime Schedule" functionality. To go there, click on "Availability" under the "NMID" menu.

You can add a downtime by clicking on the "Add" link.

You can select the Device, an availabilty type (planned, emergency, other) and some detailed description.

The Short Description will be displayed in the graph with the "Start Tag" and "End Tag" appended to it.

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