Probe Based Operations

Veera Venkata Santosh S G Grandhi

Department of Communications, School of Computing
Blekinge Institute of Technology
37179, Karlskrona, Sweden
Email: vegr15@student.bth.se

Abstract

This document is an individual report which describes how to install and configure Multi Router Traffic Grapher (MRTG). It also describes the comparison between MRTG and the tool developed as a task for the assignment-1 for the course Applied Network Management.

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1. Assignment Part-1

Installation of MRTG can be done using repositories. Open terminal and type the following command "sudo apt-get install mrtg".This installs MRTG and several configuration tools which come with it. You can install (PHP, MySQL and Apache web server) from one package using command "sudo apt-get install lamp-server".To configure MRTG for database of devices follow the instructions as follows.

- sudo apt-get install mrtg
- sudo mkdir /etc/mrtg && sudo mv /etc/mrtg.cfg /etc/mrtg
- sudo cfgmaker output=/etc/mrtg/filename.cfg public@IPaddress-device
- sudo indexmaker –output /var/www/mrtg/index.html /etc/mrtg/filename.cfg
- sudo env LANG=C /etc/mrtg/filename.cfg /usr/bin/mrtg

In your .cfg file include RunAsDaemom:Yes and Interval:5 in global defaults section. Now, view in the browser with the URL as localhost/mrtg/. Make sure that WorkDir: /var/www/html/mrtg (under Debian) is uncommented.

2. Assigment Part-2

Use of rrdtool for bitrate measurement on all interface of network devices. These devices are also monitored in parallel using MRTG. Comparing the results thus obtained using MRTG and the RRDTOOL is the theme of this report.

Although the graphs are produced for every interface, for every device, only one interface is compared in this report. All the other interface graphs reflected the same.

3. Visual Comparison of Results

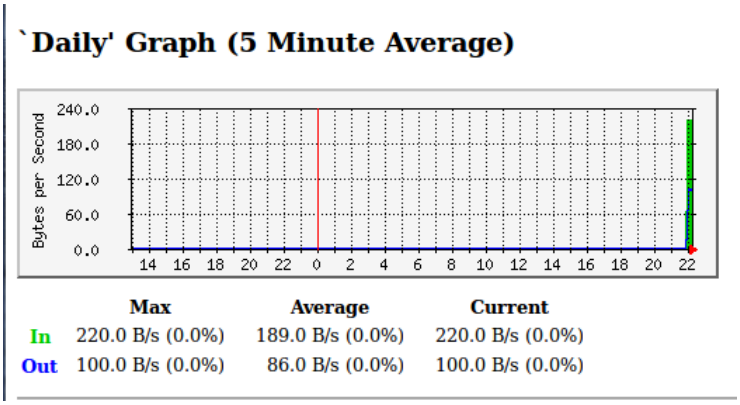

Figure 1: MRTG graph

This section displays the obtained results using MRTG and RRDTOOL. MRTG gives four graphs with daily, weekly, monthly and yearly resolution. Assignment 2 used RRD tool which also gives all the four graphs with same resolution which helps in ease of comparison with MRTG results. But in this report only daily resolution graphs of MRTG and RRDTOOL are com- pared. The above figure is the daily resolution graph obtained from MRTG for monitoring bitrate on a device interface. The same device interface is also monitored with snmp and RRD(Round Robin Database) is used to store and display daily graph this is shown in the figure below. Both MRTG and Assignment part 1 are performed parallel so the results can be compared.

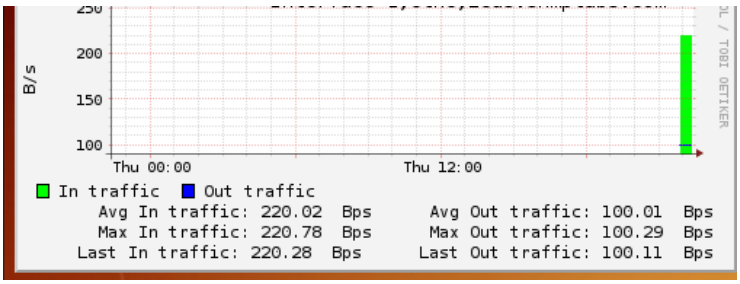

Figure 2: RRD graph

MRTG tool graphs from left to right while RRD tool graphs from right to

left as time passes. Although the above two graphs are obtained by monitoring in parallel they are not started at same time instant.

By Viewing the above figures both MRTG and RRD tool graphs are quite similar (not taking the graphs spatial orientation into consideration). Coming to the statistics entries thus obtained by MRTG and RRD , all entries Average,Max,Current almost identical. the slightest variations in these statistics are probably because of RRD adjusted to fitting poll interval and also the non ideality in experimentation(couldnt start MRTG and RRD at same time). Comparing the tools usability MRTG offers configuration file which user can edit based on his needs. Where as RRDtool doesnt use that but offers more flexibility in terms of options it provides. The usability comparison can be thought as GUI(MRTG) and CLI(RRDTOOL).

4. Appendix

MRTG - Multi Router Traffic Grapher CLI - Command Line Interface
RRD - Round Robin Database GUI - Graphical User Interface