Assignment I

INSTALLATION AND CONFIGURATION OF MRTG

I. Introduction

MRTG is a monitoring tool which is used to monitor load of traffic in network links. It uses the SNMP capability in networks router.[**?**][1].

Keywords — MRTG,SNMP.

II. Procedure for Installation

A. Installation of MRTG

1) MRTG must be installed from the terminal using the command sudo apt-get install mrtg
2) The configuration file is located in /etc/mrtg

B. Configurations to make

1) MRTG creates configuration file using cfgmaker. The command is sudo cfgmaker -output=/etc/mrtg/mrtg.cfg communityname@SNMP IP:PORT

C. Edit the MRTG cfg file

1) Open /etc/mrtg/mrtg.cfg
   i) Under Global Configuration Options uncomment the following lines
      WorkDir: /var/www/mrtg
      Options[]:growright, bits
   ii) Add the following lines
      RunAsDaemon: Yes (for running as daemon)
      Interval: s5 (Interval for which the SNMP device is polled
2) To display graphs in webpages
   sudo mkdir /var/www/mrtg
   sudo indexmaker output=/var/www/mrtg/index.html /etc/mrtg.cfg
3) Configuring webserver open the /etc/apache2/apache.conf file and add the following lines
   Alias /mrtg "/var/www/mrtg"
   <Directory "/var/www/mrtg/">
   Options None
   Allowoverride None
   Require all granted
   </Directory>
4) Restart the apache server using the command sudo service apache2 restart
5) To view graphs from the browser http://your-server-address/mrtg
6) If the message Reliably determinethe servers fully qualified domain name is displayed add Servername localhost:80 to /etc/apache2/apache.conf
7) Set environmental variable by using the command sudo env LANG=C /usr/bin/mrtg /etc/mrtg/mrtg.cfg logging /var/log/mrtg.log

III. Comparison

The tool designed in the second part of this assignment is to monitor the birate of the devices in network. From the tool, devices can be added or removed. Bitrate is monitored using RRDtool[2].In this tool, SNMP requests with specific OIDs are sent to the devices and bitrate is retrieved. The retrieved results are given as an input to RRDtool where RRD file is created with different data sources and graphs are generated. Thus, Bitrate is monitored in the form of graphs.

In first part of the assignment, Multi Router Traffic Grapher (MRTG) is used. In this tool, no external SNMP package is required since it uses Perl and SNMP[1] for the retrieval of data. Since both the tools are using the same methods for the retrieval there is not much difference in the results obtained. Both the tools are tested on the same devices for better observation of results. The MRTG tool gives an output in complete whole numbers and neglecting the decimals whereas RRDtool gives the accurate result including the decimal part of the values obtained. Using, RRDtool multiple interfaces and multiple devices can be monitored at once by adding number of datasources and storing values in them.

References

[1] Simple Network Management Protocol, Wikipedia, the free encyclopedia. 02-Oct-2014
[2] RRDtool - The Time Series Database, RRDtool. [Online]. Available: http://www.rrdtool.org/. [Accessed: 19-Nov-2014].