Assignment - 1
ET2536 - Applied Network Management

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Abstract— **This document presents the procedure for multi router traffic grapher (mrtg) installation and also about its replica tool. This document also includes the correlation between the two tools.**

I.   INTRODUCTION

Multi router traffic grapher (MRTG) is a networking monitor tool which measures and monitors the traffic load on network links. It allows user to see the traffic on network in the graphical form. MRTG uses perl script and SNMP protocol to send requests to devices using two objective identifiers. The c program is used in MRTG to log all the traffic and graphs are generated which are embedded in to the webpages. The MRTG generates HTML webpages with PNG images with the visualization of traffic which can be viewed with a browser. MRTG can also be used to view any SNMP variable value.

In this assignment, we will generate a MRTG replica tool and compare the values of the tool with MRTG tool.

II.   INSTALLATION & CONFIGURATION OF MRTG

The following steps are done to install and configure MRTG on the Ubuntu 14.04 system.

- Sudo apt-get intall mrtg
- Sudo updated && locate mrtg
- Sudo mkdir /etc/mrtg && sudo mv /etc/mrtg.cfg /etc/mrtg
- Sudo cfgmaker –output=/etc/mrtg/mrtg.cfg public@yourrouter'sipadress
- Sudo env LANG=c /usr/bin/mrtg /etc/mrtg/mrtg.cfg
- sudo indexmaker --output /var/www/mrtg/index.html /etc/mrtg/filename.cfg

In your .cfg file include RunAsDaemom:Yes and Interval:5 in global defaults section. In the browser, open   the localhost/mrtg path to view the graphs.

III.   REPLICATION OF MRTG - TOOL

MRTG replica tool was generated in this assignment using SNMP and RRD tool. Initially, all the modules required for this assignment are included in the readme.txt file which is attached with this file in the same folder. A perl script was written to connect to the given database and to create SNMP session in order to find the working interfaces.   Then, for the interfaces which satisfy   certain

conditions as similar MRTG are found and are stored in an array. All the interfaces from that array are calculated with their respective inoctects and outoctects using objective identifiers and are sent to rrd tool to generate the graph. Mysql database is used to store the information of the filtered interfaces. The graphical frontend page   was designed using the HTML and PHP.

IV. COMPARISON BETWEEN MRTG & TOOL

The values obtained using this replica tool are equal to the MRTG tool. Here, there are two figures which show the graphs generated by replica tool and also by the MRTG tool for the device core.npl. Figure 1 shows the graph generated by the replica tool and the Figure2 shows the graph generated by MRTG tool. The values are equal because the tool was designed to work in the way similar to that of MRTG. There was very slight difference in the values because of the network congestion and overhead generated by the code.
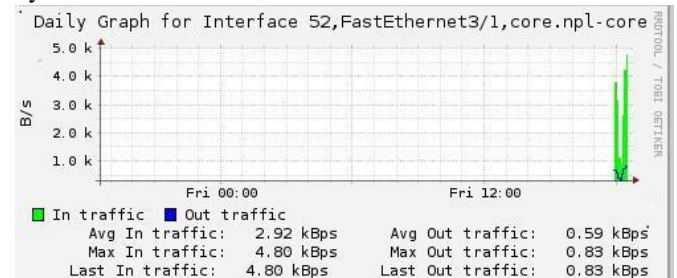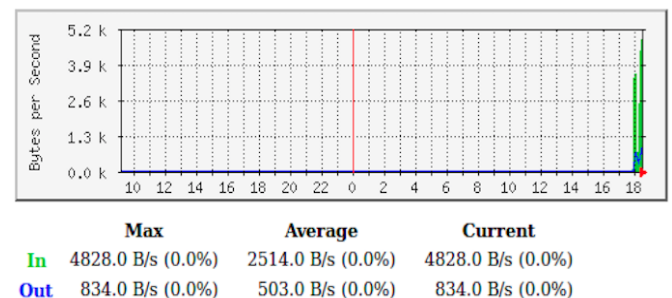

Fig. 1

	Max	Average	Current
In	4828.0 B/s (0.0%)	2514.0 B/s (0.0%)	4828.0 B/s (0.0%)
Out	834.0 B/s (0.0%)	503.0 B/s (0.0%)	834.0 B/s (0.0%)

Fig. 2