

Comparison of PinGER RTTs from UNIMAS monitors N4 and RASPBERRY

Introduction

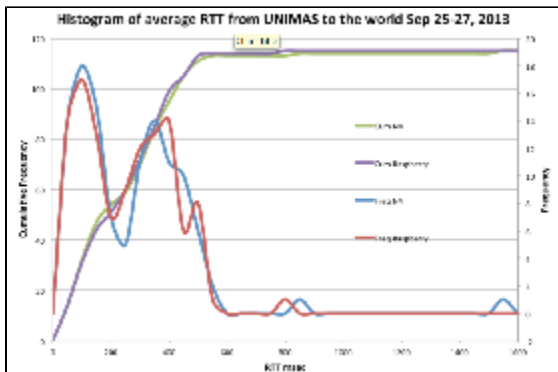
Johari at UNIMAS has installed two monitoring hosts: pinger.unimas.my and pinger2.unimas.my. See [here](#) for hardware specs of two hosts.

Joahri can you add a table or something describing the hosts (OS, CPU etc.) and where they are located (at border, internally behind n routers etc.)

They are both entered as Monitors in the PingER meta database (NODEDETAILS)

Measurements

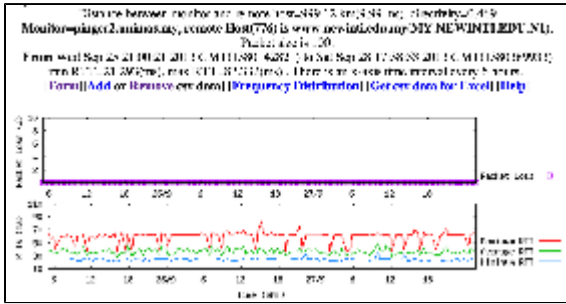
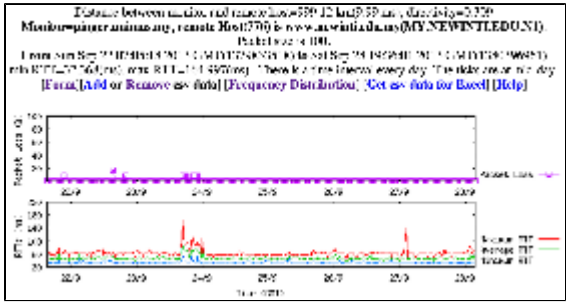
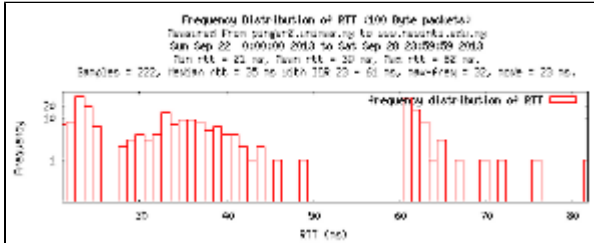
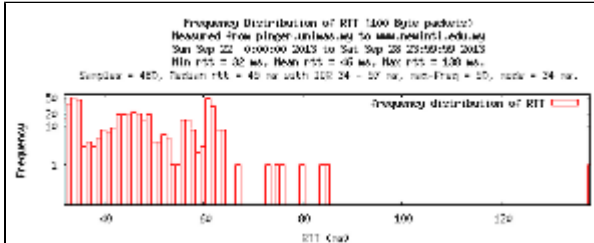
We gathered the RTT measurements for 100 byte pings from each of the two monitoring hosts to the same 116 remote hosts worldwide for September 25-27, 2013 They were imported into a [spreadsheet](#) and histograms of the RTT frequencies were created. At first glimpse there does not appear to be any substantive difference in the histograms for the two monitors. See below:



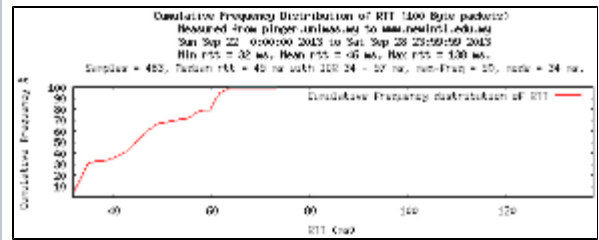
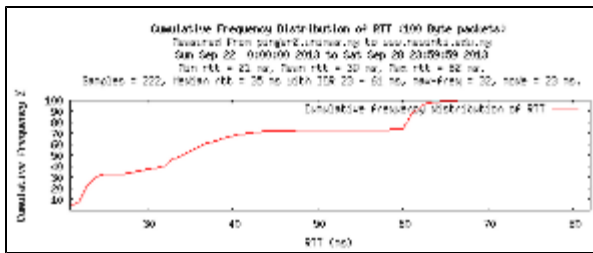
If there is a difference in the measurements made by the two hosts (e.g. due to their position on the network, how busy the host is, or the power of the host), it may be small. Thus it may be more apparent for measurements to a remote host that has a low value of RTT in general. We thus chose to look in more detail at the measurements from UNIMAS to [www.newinti.edu.my](#) (AKA MY.NEWINTI.EDU.N1) that had the lowest values of RTT seen from UNIMAS.

Time in msec.	Minimum RTT	Maximum RTT	Median RTT	IQR	Max frequency	Mode
pinger (N4)	21	82	45	24-57	50	34
pinger2 (RASPBERRY)	32	165	35	23-61	32	23

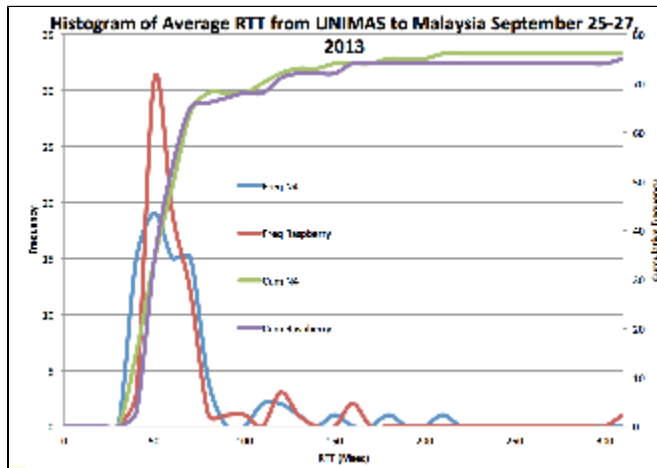
The time series and distributions are shown below:

	www.newinti.edu.my seen from pinger2 (Raspberry)	www.newinti.edu.my seen from pinger(N4)
Loss and RTTs (msec)		
Frequency Distributions		

Cumulative Frequency Distributions



We also used PingER (pingtable.pl) with 100 byte pings to look at the average RTTs from the two UNIMAS monitoring hosts to remote sites in Malaysia. This was downloaded into Excel, a [spreadsheet](#) was created and Excel used to analyze the data and create histograms, see below.



There is more difference in this case, however whether it is statistically significant needs more data and further analysis.

Reliability

After deploying the Raspberry Pi in the Computer Center at UNIMAS, Johari ran into reliability problems due to the power connector coming loose. Duct tape did not fix it since the heat of the Raspberry Pi melted the glue. Johari got a replacement and will configure and try again.