

# 20130724 SLAC SEECS and UNIMAS Meeting

## Time & date

Wednesday July 24 2013 8:00pm Pacific Standard Time, Thursday July 25 2013 8:00am Pakistan time, Thursday July 25 2013 11:00am Malaysian time.

## Attendees

Invitees: Anjum\*, Kashif-, Raja, Johari\*, Nara, Abdullah, Badrul, Hanan, Fidah, Saqib, Les\*, Renan\*, Bebo\*

\* Confirmed attendance

- Responded but Unable to attend

Actual attendees: Anjum, Raja, Johari, Badrul, Renan, Bebo, Les

## UM Workshop (see <http://pinger.unimas.my/pinger/workshop.php>)

- Can we add a list of attendees, their institute and email address? Johari has the list from UM with names and phone numbers, but there are no email addresses. Johari will work on getting these by contacting the individuals. Also he will get their country of origin.
- Follow up
  - Working with Bangladesh to set up a monitoring site at Jahangirnagar University Dhakar. Letter of invitation has been sent. Les will request an update from Bangladesh.
  - Les is working with Adib to get monitoring host at UUM.
  - Adib also interested in porting PingER to support IPv6.
    - Anjum reported that SEECS started on this. They were thinking of using the IPv6 address, then using it to get the IPv4 address and rewriting the ping measurement with the IPv4 address, then everything in the analysis stays as it was. An alternative might be to get rid of the IP addresses altogether. Anjum will reach out to Adib.
  - Hossein Javedani of UTM is interested in anomalous event detection with PingER data. Information on this is available at <https://confluence.ce.slac.stanford.edu/display/IEPM/Event+Detection>. We have sent him a couple of papers and how to access the PingER data. Hossein and Badrul have been put in contact.

## Administration

- We do not have a Skype nickname for Rafidah Md Noor <fidah@um.edu.my>. He has not attended calls recently. Do we need to get a Skype nickname for him?
- We will add Adib of UUM to the contacts (Johari) and the pinger-my mailing list. Les will send an invitation, and request information to add to <http://pinger.unimas.my/pinger/contact.php>. Badrul can add him to the pinger-my email list
- Badrul will look into inviting RidZuan to join the PingER project team. Badrul will need to send the details to Johar to update <http://pinger.unimas.my/pinger/contact.php> (<http://pinger.unimas.my/pinger/contact.php>\*)
- Do we need to add anyone else to the weekly meetings, e.g. Hossein Javedani of UTM (or maybe Saqib or Hanan can cover for him), Ridzuan Bin Daud (or maybe Abdullah or Badrul can cover for him).

## Funding/Proposals

Johari is looking for a Research Assistant for his research grant.

Badrul has received the grant from his proposal. It amounts to 46K RM. It will pay travel for Johari and Adib plus a Malaysian research assistant at UM.

## UNIMAS

Johari needs a public DNS for his Raspberry Pie. Anjum suggested Johari move the Raspberry Pie to the data center based on SEECS experiences with Load Balancers. This may also assist with the traceroute problem and make it easier to get a public DNS.

The unit has an 8GByte SDK card. Johari plans to clean out older cached measured data at regular intervals. The actual intervals will be based on the fill rate.

Johari is having problems creating an ISO image to simplify distribution. Anjum suggested using DD copy to make the image instead.

## UTM

Saqib is starting to look at Pingtable.pl anomalies as a start in a case study for Malaysia and S.E Asia. In particular hosts which are unreliable, hosts with large (>1) values of Directivity, host with large RTTs, hosts with large unreachability or losses etc. Saqib has been busy with thesis so no progress, will be available June 12th on. Les had some questions on the locations of some sites that have impossible values of Directivity. One has been Disabled, any word on Allianze? What about QIUP? Saqib will investigate. Update. Saqib was not at the previous meeting so there was no update. There was no representative for UTM at this meeting either.

Hossein Javedani of UTM was interested in anomaly detection in PingER data. We have sent him a couple of papers and how to access the PingER data. Any update - Hanan, Saqib?

## UM

Badrul sent a paper to Saqib yesterday on event correlation. They plan to have a draft out in the next 2-3 weeks..

Abdullah and Badrul met to discuss looking at data mining PingER data for PhD studies.

- MD NOR RIDZUAN BIN DAUD of UM is interested in analytics with Big Data for PingER. Renan has sent documentation and is in contact with Md. Md plans to look at analytics of clustering correlation in PingER data. he will get the data from pingtable.pl. he will try a small amount of data first and extend to more data later. See <https://confluence.slac.stanford.edu/display/IEPM/PingER+Big+Data+Analytics+proposal>

## NUST

Raja has been notified his visa is approved, he will need a new DS-2019 and re-affirmation of funding from SEECS. These are in progress. He is planning to be at SLAC in August

TULIP - Raja

Raja has modified the geolocation technique by adding lower alpha constraint which is used to determine the distance from the landmark within which the target cannot exist. Its like drawing a doughnut using fixed inner alpha and RTT dependent outer alpha. It shows improvement in case of North America (in 2 test cases error reduced from 350Km to around 200Km). He is now trying it for Europe.

He has provided results for 3 targets in each of Europe, N. America and S. Asia and compared errors with a Fixed Alpha (FA), with donuts with Alpha = 1 to define out donut radius and regional alpha to define inner donut radius.

We have contacted perfSONAR to see if we can get more landmarks together with their lat/longs. We await their response.

## PingER at SLAC

Renan is working on providing standardized semantic (using Linked Open Data principles) access to PingER analyzed data for various time slices and metrics. There is documentation at: <https://confluence.slac.stanford.edu/display/IEPM/PingER+Linked+Open+Data+for+Semantic+web+access+to+analyzed+data>.

- Renan is currently working on optimizing and measuring timing for converting the data to RDF format. Once we have this then we will add to the crontab so the data is updated daily. Renan needs to set up a confluence wiki site. There appears to be interest at UM.
- He has data for allyearly, allmonthly for TCP throughput and allyearly and allmonthly for packet loss. We have some jobs in crontab. Renan is working on getting 8 other metrics for allyearly, allmonthly and 365 days. He plans to have allyearly and allmonthly for all 10 metrics by the coming week.
- We are also working on making the data available publicly.

## Old Items

The Next step in funding is to go for bigger research funding, such as LRGS or eScience. Such proposals must lead to publications in high quality journals. They will need an infrastructure such as the one we are building. We can use the upcoming workshop (1 specific session) to brainstorm and come up with such proposal. We need to do some groundwork before that as well. Johari will take the lead in putting together 1/2 page descriptions of the potential research projects.

1. Need to identify a few key areas of research related to PingER Malaysia Initiative and this can be shared/publicized through the website. These might include using the infrastructure and data for: anomaly detection; correlation of performance across multiple routes; and for GeoLocation. Future projects as listed in Confluence here <https://confluence.slac.stanford.edu/display/IEPM/Future+Projects> can also be a good start and also Bebo's suggestion.
2. Need to synchronize and share research proposals so as not to duplicate research works. how to share? Maybe not through the website, or maybe can create a member only section of the website to share sensitive data such as research proposal?

Anjum mentioned a paper on [Evaluation of IP Geolocation Algorithms on PingER and PlanetLab Infrastructures](#), by Fida Gilani et. al. submitted to IEEE INFOCOM 2011. This could be updated with new data and maybe submitted to a different venue. Anjum forwarded a copy of the paper to Johari, Abdullah and Hanan with copies to the team. The idea is to see whether there is interest at UTM, UM or UNIMAS.

Anjum suggested Saqib, Badrul and Johari put together a paper on user experiences with using the Internet in Malaysia as seen from Malaysian universities. In particular round trip time, losses, jitter, reliability, routing/peering, in particular anomalies, and the impact on VoIP, throughput etc. It would be good to engage someone from MYREN.

Badrul has been looking at anomalies in ping measurements. Les sent some pointers to previous work on anomaly detection in time series. There should be a presentation at the workshop on the plans and progress. There is no progress, the student is on vacation, expected to return August.

## Potential projects

[See list of Projects](#)

## Future meeting - Les

Next meeting Wednesday 14 August 2013 8:00pm Pacific Daylight Time, Thursday 15 August 2013 8:00am Pakistan time, Thursday 15 August 2013 11:00 am Malaysian time.

## Coordinates of team members:

See: <http://pinger.unimas.my/pinger/contact.php>