20190828 PingER Team Meeting

Time & date

This meeting: **August 28th 2019 10 pm Pacific time; a day later 10:00 am Pakistan time; 10:30 am India time; 1:00 pm Malaysian & Guangzhou time; 12:00 pm Thailand time; 7:00 am Jordan and 6:00am Turkey.**

Doodle poll invites sent 8/9/2019, see https://doodle.com/poll/9wc4hxwakqk74wkh.

Format

New items and updates are in boldface.

Coordinates of team members:

Mailing list: pinger-my@googlegroups.com for membership see https://groups.google.com.

Attendees

Invitees:

Wajahat Hussain+ (SEECS), Saqib (UAF), Johari? (UNIMAS); Adib? (Turkey), Dr. Charnsak Srisawatsakul (Ubru), Eyad Ayoubi- (Turkey), Baraa Muslmani? (Jordan), Dr. Shadi Jawarneh (Jordan), Bebo White+, Umar Kalim?, Les Cottrell+

- + Responded via Doodle can attend; - Responded, but unable to attend on this date; ? extra email sent asking if attending
- Email addresses (all the following are in pinger-my).
    - cottrell@slac.stanford.edu; wajahat.hussain@seecs.edu.pk; saqibutm@outlook.com; johari.abdullah@gmail.com; adibhabbal@karabuk.edu.tr; charnsak.s@ubru.ac.th; eyadayoubi@gmail.com; b.muslmani@yahoo.com; shadi.jawarneh@yahoo.com; bebo@slac.stanford.edu; umar.kalim@gmail.com; xsaifahmadx@gmail.com
- **The link for the Doodle poll is https://doodle.com/poll/9wc4hxwakqk74wkh**

Actual Attendees

Wajahat and Les. Bebo came down with a bad cold and could not attend.

Others

Administration

Use of Zoom

IMPORTANT NOTE: The meeting is set up to record automatically. By joining the meeting you are agreeing to be recorded (see details)

Hi there,

roger cottrell is inviting you to a scheduled Zoom meeting.

Topic: August PingER meeting
Time: Aug 28, 2019 10:00 PM Pacific Time (US and Canada)

Join from PC, Mac, Linux, iOS or Android: https://stanford.zoom.us/j/372036886

Or iPhone one-tap (US Toll): +18333021536,,372036886# or +16507249799,,372036886#

Or Telephone:
Dial: +1 650 724 9799 (US, Canada, Caribbean Toll) or +1 833 302 1536 (US, Canada, Caribbean Toll Free)

Meeting ID: 372 036 886
International numbers available: https://zoom.us/u/abCOWPniNq

Meeting ID: 372 036 886
SIP: 372036886@zoomcrc.com

How to set up and use Zoom:

To use the software, you would have to download the Zoom client (and installed if prompted). The instructions to do so are listed here: https://zoom.us/download#client_4meeting

The instructions about setting up the software are listed at the URL below. You may want to create an account if you do not have one already. If you are invited to a meeting (i.e., you are not hosting the meeting), you are not required to create an account; you can simply join the meeting using the meeting ID.

Exit plan for PingER

- **The general opinion at the July 2019 meeting was that we move to the Soft stop for PingER**
  - **Continue running monitors, gathering data, archiving and presenting as long as SLAC provides storage (1TB) and pinger.slac.stanford.edu VM**
    - **Give up on monitors after email prompt and no resolution**
    - **Do not add any extra functions**
  - **Keep historical data publicly available as long as SLAC provides storage (1TB) and pinger.slac.stanford.edu VM**

Jordan (Updated 4/25/2019)

- Baraa has just graduated from Princess Sumaya University with a Masters Degree (Major: Enterprise Systems Engineering) and is looking for Universities to continue his education (PhD.)
  - 7/24/2019 Les sent email to Baraa aksing whether and how might Baraa's future affect the MA in Jordan.
  - 7/24/2019 Baraa responded "I will have to check with my system's administrator regarding that, however I will do my best to keep the MA live.". **However, Baraa responded 8/15/2019 "*Since I will be leaving. The new system administrator turned it off.*" Les has disabled it.**

Turkey (No update 7/23/2019)

Eyad emailed: *"I have gathered some information about how to have a public IP address and it seems it is not complicated, just a subscription with the ISP, I will discuss in the next meeting".* Sent email requesting update 5/26/2019. 5/27/2019 Eyad responded no progress yet. ***Another email sent 8/25/2019, Eyad responded 8/25/2019: " I am looking for a PhD position, In Turkey I tried my best to have a public IP but still have no results, I will keep trying and give you updates/"***

We also received an unsolicited email: *" We are employing PingER in Hasan Kalyoncu University, in Turkey, for the purpose of conducting researches on the Internet performance in Turkey."*
We are unable to gather data since it is a private IP address (10.15.2.146). **Sent email 7/3/2019 asking for update. Sent a repeat email 7/24/2019 suggesting testing if they have a public IP address and the web server is accessible. Sent another email explaining private vs public IP address 8/9/2019. No response. Will give up.**

Amity (Updated 7/24/2019)

Amity team photo:

- **Bebo contacted Amity to discuss futures, also see the recent history at the bottom under Old Information. Also the MA is very unreliable.**
- **Amity responded 7/31/2019: with:**
  - **A document containing brief information about work completed (for both android and data analysis team).**
  - **Confluence papers are online and the details are in PingerAmityStatus_pdf**
  - **The Resume of our current team members is also submitted .**
  - **We will fix a date around the first week of August. We will confirm the same soon.**
- **Following discussions with Bebo after the meeting, we agreed to let Amity take the leading role and will wait to hear from them.**
- **Les also contacted Amity to see if they can provide any input for target sites in Jammu Kashmir so we can monitor them and look for any correlations in Internet performance following the revocation of JK's special status by India. See Jammu Kashmir 2019.**

Adib (Updated 7/22/2019)

- **Adib submitted to "Socio-economic Development Indices and Their Reflection on Internet Performance in ASEAN Countries" to Journal : Engineering Science and Technology, an International Journal. They have requested a re-submission since it is over the limit of 10 pages. Adib re-submitted 7/22/2019.**
  - ○ **8/26/2019 status of this submission has changed to Revision Requested.**

NUST (Updated 7/24/2019)

Wajahat mentioned a possibility of proposing a project for https://isif.asia/grants/,where it says "These grants will support research focused on the availability, reliability, and security of the Internet, with a particular focus on operational stability and security. The research outcomes should aim to expand access to knowledge, expand coverage for research applications and maximize the benefit to the community. Three small grants of USD 20,000 USD will be allocated, for a total of USD 60,000 in funding."

- Les put together a possible project based on providing a better understanding of routes between Internet hosts. The early draft document is at: https://confluence.slac.stanford.edu/display/IEPM/Visual+Traceroute+and+Archiving. This might be the basis for a proposal that Wajahat would lead.
- Wajahat reported at the meeting (7/23/2019) that he had submitted a proposal.
- However, there was a section on a Business Plan, and Wajahat did not know how to respond to this and left it empty.
- **Didn't go through due to lack of details.**

There appears to be no response from NUST concerning the letter about PingER that Les sent them.

IPv6 host at NUST:

Wajahat has requested Hasan to install PingER on an IPv6 host at NUST, Saqib has contacted Hasan to tell him where to find and upload the code. There is not a host name for the MA yet. Hopefully, this will be available by next month's meeting.

- **7/24/2019 Les emailed Wajahat with a request for an update.**
- **At the meeting Wajahat had asked the student to contact Saqib and get the information on energizing IPv6. Saqib provided the information, but the student could not access the URL (apparently the URILwas down). Wajahat was on leave and when he returned the internship had expired, so Wajahat is unsure what happened. Wajahat will start a new student next week and will set him on the IPv6 project.**

Wajahat has 2 students, he will propose some PingER related projects to them. He says students do not appear to have much interest in Internet monitoring and getting funding is a major issue.

The recent move to revoke the special status of Jammu Kashmir may result in impacts on the Internet performance, so we are looking for PingER target in JK.

UAF (University of Agriculture, Faisalabad)/GHZU (Updated 8/24/2019)

Saqib is undergoing his Mid Term Probationary Review at the University. 8/26/2019 Saqib says "It is in process."

Saqib plans to continue work on PingER monitoring for remote areas, in particular in Pakistan. He will use Android PingERs. This may partially tie into the Amity project.

He will also continue his work on Blockchain and plans to attend a Blockchain workshop in Guangzhou.

The 4th Call for Proposals for The Asi@Connect Project are now open. Saqib will submit a concept note in WP6 with Wajahat and Les as co-applicant.

- **8/25/2019: Emailed Saqib with a request for an update. Saqib replied hopefully in September.**

Les succeded in renewing Saqib's account at SLAC.

Thailand, Charnsak (No update 7/23/2019)

UNIMAS

MA is down, email sent asking for update 8/25/2018.

SLAC (Updated 8/26/2019)

Les has arranged to give an invited talk on PingER and monitoring the Internet at the Silicon Valley Samsung HQ 7/17/2019.

Les will be in Beijing China from September 2nd thru 10th, giving an invited 20 minute talk entitled "First international computer network connection between China and US". at the Symposium on 30 years of BES Physics to be held at the Institute of High Energy Physics, Beijing, P. R. China, from September 5 to 6, 2019. The web page for the symposium is   https://indico.ihep.ac.cn/event/9761/.

Les and Bebo visited the Internet Archive (IA, see https://archive.org/) and initiated a discussion on archiving PingER data (i.e. a mirror for SLAC) at the IA and also giving a talk on PingER at the IA.

- **The IA responded with information on using an IA Python library to archive the data at the IA. Les responded with interest but lack of resources until mid-September at the earliest. Also maybe after giving a talk at IA (see below) there might be interest in collaborating form some of the attendees.**

- **The IA also responded pointing to a form to fill out for a request to give a talk at the IA.**
  - **Les filled out the form.**
  - **Les sent an email to the IA to make sure they had received the form and asking if anything else is required.**

Looked at ping access (via Avg-RTT, Min-RTT and loss) to up to 10 Hong Kong hosts (mainly Universities) in last 120 days. Unable to see any direct correlation between days of civil demonstrations and ping metrics.

Trying to find some Kashmir hosts. Have 2 potentials. Will share the information with Wajahat and Amity. See Jammu Kashmir 2019.

All hosts in Djibouti stopped responding, found another host via Wikipedia.

State of MAs.

Host	State	last seen	Status
212.118.12.186	This is an MA at Telephonic in Amman Jordan. Sent email 8/9/2019.	8/6/2019	Disabled
pinger.sprace.org.br	Not pingable, emails sent 7/25/2019, 8/8/2019. One of the contacts is no longer at that email address, not sure about the other. No response by 8/25/2019.	7/16/2019	Disabled 8/29/2019
pinger.uum.edu.my	Unable to gather data since 2nd May 2019. Host is pingable. Sent email 5/5/2019 to Adib, he will contact Dr. Suhaidi. Sent reminder 5/14/2019, Adib has contacted Dr Suhaidi who will get someone to help. Still down 6/2/2019, sent another reminder to Adib. Adib nudged Sohail. 6/19/2019 emailed Adib. 6/26/2019 Adib responded "*Prof. Suhaidi has promised to follow up, but he was fully occupied / outstation early this month.Kindly give our friends some time ^_*". Sent reminder email 8/25/2019.*	5/2/2019	
pinger.unimas.my	Unable to gather data, does not ping. Email sent 5/24/2019. Johari responded that he will look at it. Sent reminder 6/2/2019 & 6/19/2019. Johari responded 6/19/2019: I*ssue started when UNIMAS started join domain policy which requires all PC connected to the LAN network to join the domain. Easily done for Windows based PC but we are having problem to configure the Linux server to do so. Still trying to find solution to this.* Sent email to Johari 8/25/2019 asking for update.	5/20/2019	
pinger amity.in	Continues to be unstable. Email 8/29/2019.		
pinger6.cs.ubru.ac.th	Stopped being pingable 2/25/2019. Thus by default, the gathering failed. Emailed Charnsak 3/4/2019, 3/15/2019. Down again 4/23/2019, restored 4/27/2019. Down again 6/6/2019. It is pingable. Sent email 7/5/2019. No response. Sent another email 7/24/2019 it was not pingable. Fixed 8/15/2019, then down again 8/24/2019, it is pingable from SLAC. Unable to ping from http://pinger6.cs.ubru.ac.th/cgi-bin/traceroute.pl?function=ping&target=www.slac.stanford.edu&options=-i%200.2. Email 8/28/2019.	2/25/2019	.
pinger.cs.ubru.ac.th	Down starting 8/19/2019, unable to ping from SLAC. Email 8/28/2019.		

Umar compare ICMP and TCP Ping

Umar is looking at the scamper project from CAIDA, see https://www.caida.org/tools/measurement/scamper/. Les will put Umar in contact with the scamper folks (email sent 4/28/2019)

Unfortunately, for the IPv4 vs IPv6 comparison, there is insufficient data (i.e. only about targets)

Next Meeting

Next meeting: There will be a Doodle poll, for September at 10 pm Pacific time; a day later 10:00 am Pakistan time; 10:30 am India time; 1:00 pm Malaysian & Guangzhou time; 2:00 pm Thailand time; 7:00 am Jordan time. 6:00am Turkey time.

Old information

UAF moved here 8/25/2019

The 4th Call for Proposals for The Asi@Connect Project are now open. Saqib will submit a concept note in WP6 with Wajahat and Les as co-applicants

- **From Les: WP6 mentions Pakistan, however, the examples are a bit of a stretch for PingER. Possibly deploying PingER MAs based on the Android in remote regions (NWFP, Gilgit, Balochistan, etc.) The difficulty will be getting collaborators in the remote regions, also probably a lot of travel to shake hands, give encouragement, assist, troubleshoot, etc. A challenge will be convincing the collaborators that they are getting something useful out of this. Maybe need to extend PingER to add some easy to use tools. Another possibility is reviving the PingER MAs in Pakistan. Again, as Wajahat indicates, it is finding collaborators willing to install and manage the MAs. Some development may be needed to make the installation easier and maybe add remote management. Again an issue may be what do the collaborators stand to gain, and the longer-term continuation of the collaboration as people move on.**
  WP4 talks about PerfSONAR which is monitoring. Providing training on PingER, the reverse traceroute servers might have some traction.

For both of these if one could install a mesh of MAs in Pakistan, including the reverse traceroute/ping servers (which are trivial to install on a web server, take minimal maintenance, and are much simpler than an MA) then one could address the problem of locating the lat/long of routers by trilateration of ping response time. Note though getting the lat longs of end hosts is fairly well addressed, routers are usually identified as being located to the owner (e.g. all ESnet's routers on the US and Europe are defined as being located at Berkeley California (the HQ of ESnet)

Turkey moved here 8/9/2019
We also received an unsolicited email:
" We are employing PingER in Hasan Kalyoncu University, in Turkey, for the purpose of conducting researches on the Internet performance in Turkey. Actually, we have collected data in our node, so we would like our collected data to be retrieved by the archival site at SLAC. Below are the details information on our monitoring node.

- *DNS: pinger.hku*
- *Public IP: 10.15.2.146*
- *Node Coordinates*
- *Latitude: 37.014764 Longitude: 37.205743*
- *Node Location: ahinbey Mahallesi, Havaliman Yolu 8.Km, 27000   ahinbey/Gaziantep*
- *Contact Person:*
- *Name: Mohammed Madi*
- *Designation: Assistant Professor in Computer Engineering Department*
- *Contact Number: 00905537717593*
- *Email address: mohammed.madi@hku.edu.tr*

Thank you in advance, looking forward to hearing from you"
Unfortunately, this appears to be a private IP address so is not accessible. Les sent an email 4/19/2019 to Mohammed. Mohammed provided a public IP address (95.0.84.5), however, it is not pingable and the URL does not respond. Sent another email 4/24/2019, 4/28/2019, 5/7/2019, 5/26/2019.
Also sent email to Adib (who is in Turkey) and Eyad in case they know the person or site. Adib responded 4/20/2019: "*Yes, I know Mohammed, he graduated from UUM (Malaysia), and we worked together at the same department. He is a good researcher. I think, he can contribute to PingER project."*
Mohammed responded 5/28/2019: *"Dear Les*
I am working on it. but currently I am busy with final examinations and project presentations, submitting the results.
I will be free next week and will fully concentrate on that issue and settle it.
thank you so much for your concern and I am sorry for being late in response."
Sent email 7/3/2019 asking for update. Sent a repeat email 7/24/2019 suggesting testing if they have a public IP address and the web server is accessible. Sent another request for update 8/9/2019.

Amity moved here 7/24/2019

Android progress:

- Instructions from Aayush to load the application are at ePingER Functional prototype (for Androids only)
    - They sent a new copy of the app 4/6/2019, see ePingER Functional prototype
        - The information has been passed to Topher, who plans to install on an Android. The ball is now in our court
        - There is a discussion between Les and Aayush on how to format the raw data records, in particular with respect to the lat/long. Sent a reminder 4/18/2019.
        - We (SLAC) an email to Aayush asking how we gather the raw data from the cloud. Sent reminder 4/18/2019.
            - Aayish responded 4/18/2019:
            Yes, we have modified the app to write the semi-colon to the file as a separator.
            However, at this point we suggest you to not make any changes to the pinger project yet.

            Let us see and run in this parallel to what is already setup at Amity MA. This will allow us to compare the quality of results by both the systems – one at present which does not utilize the app, and the new one which requires an app for data collection.
            We send the data from the app to the firebase cloud service as JSON objects via a REST API.
            On the cloud-server side, we intend to build a compute-service that automatically converts the json data to a txt format, for consumption by data researcher team at amity (because they are already used to running analysis on the txt files; but seem to be open to working with JSON data as well). [For the SLAC gatherer we would at least initially prefer the data to be retrieved/available in txt form. This way the changes to the gatherer are minimized and more consistent with current practice.]

            So once the team finds that the results are significant enough, then we can formally propose to include lat/long data in the Pinger gathering, archiving and analysis.
            For now, it would be best that we do not disturb the current Amity MA, and that the android project runs parallel to this."

- Topher is back, Bebo is contacting him. Bebo's thoughts were that:PingER will need a fixed name for each Android MA. Since the Android may be mobile the IP address may be dynamic. There is a DNS name to dynamic IP address service that may be useful. Maybe there is another unique fixed identifier in an Android that could be used such as a serial number or SIM ID.
    - If the Amity app is robust (i.e. it does not noticeably impact the other services, power, networking, security etc) make it part of the standard Rainforest installation;
    - Topher's package knows the GPS location, so it should be available to PingER for recording.

NUST moved here 7/24/2019
Wajahat suggested a letter to the higher-ups at NUST about PingER would assist. Les worked with Wajahat to craft such a letter. It was sent to Wajahat by email 4/3/2019. It was sent by paper mail 4/4/2019 to Principal SEECS.

- Wajahat said the letter has been received and a written response is being drafted. **Is there an update?**
- They (NUST) would also be interested in other collaborations with SLAC
    - Since Les is no longer an employee of SLAC but rather an emeritus this may complicate things.

- A possibility might be in high-speed data transfer. It would need a champion from NUST, and a plan and funding to provide access to 100Gbps

Wajahat said that contacts at some sites are not very interested in PingER and wonder why there are so many pings. Thus he believes we need new sites representing the regions of Pakistan that have willing collaborators. Thus we should give up on sites such as CAE and ISRA that have not had any data to gather for a year or so. Les has since disabled these sites.