

20191126 PingER Team Meeting

Time & date

This meeting: 25th November 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 11/4/2019 did not have a consensus, repeated still no consensus 11/15/2019, third time worked for 11/26/2019..

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). The link for the Doodle poll is <https://doodle.com/poll/9wc4hxxwakqk74wkh>
 - cottrell@slac.stanford.edu; wajahat.hussain@seecs.edu.pk; saqibutm@outlook.com; johari.abdullah@gmail.com; adibhabbal@karabuk.edu.tr; charsnak.s@ubru.ac.th; eyadayoubi@gmail.com; b.muslmani@yahoo.com; shadi.jawarneh@yahoo.com; bebo@slac.stanford.edu; umar.kalim@gmail.com; xsafahmadx@gmail.com

Actual Attendees

Bebo, Les

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](#))

Roger Cottrell is inviting you to a scheduled Zoom meeting.

Topic: PingER Collaboration meeting November 2019
Time: Nov 26, 2019 10:00 PM Pacific Time (US and Canada)

Join Zoom Meeting
<https://zoom.us/j/9258476228>

Meeting ID: 925 847 6228

One tap mobile
+14086380968,,9258476228# US (San Jose)
+16465588656,,9258476228# US (New York)

Dial by your location
+1 408 638 0968 US (San Jose)
+1 646 558 8656 US (New York)
Meeting ID: 925 847 6228
Find your local number: <https://zoom.us/u/adbGZAxlqD>

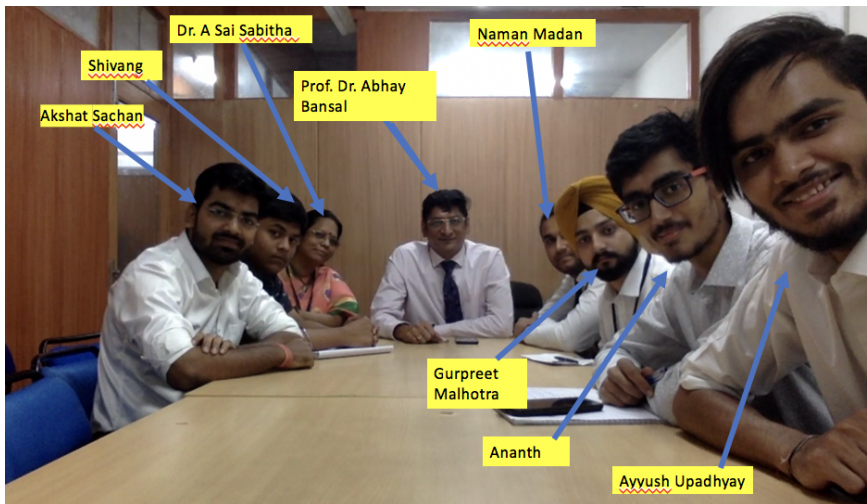
How to set up and use Zoom:

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.
<https://support.zoom.us/hc/en-us/articles/201362033-Getting-Started-on-PC-and-Mac>

Amity

Amity team photo:



- We met with Amity 9/19/2019. The action items are below. Email was sent to Amity 10/10/2019, since there were no updates, no response. Another email was sent 10/18/2019 Bebo has an invitation to be a Keynote Speaker in the 10th International Conference, CONFLUENCE-2020 at Amity on the theme "Cloud Computing, Data Science & Engineering" to be held on 29th– 31th January, 2020. The topics are big data and the cloud. It would be by Skype. We could fit in the big data aspect. Bebo will put them in contact with Les.
 - Amity will annotate the photo captured of the Amity team in the meeting. Done 10/19/2019, see above
 - SLAC also needs to know how to access the Firebase data.
 - Once that is known and the data with lat, long included and we understand the format and how to access it, Les will look at how to incorporate in a backward-compatible fashion into the current PingER. **Amity sent some information 10/19/2019. Les sent a long email 11/15/2019, asking how to understand files, how to get the lat/long and engaging Bebo and Saqib etc.**
 - **Naman replied 11/18/2019 "The link which I shared is the apk file. You need not to extract it. Just download the apk and install on the mobile platform." Bebo, do you need more information, can you try this or follow up with Naman.**
 - **At the meeting Bebo pointed out that he would need assistance / close collaboration from Amity to download, configure, test the code. The current level of cooperation does not appear to be conducive. Maybe Topher could assist. At the meeting Bebo suggested that he would try and install the code at the end of next week (Dec 6th), but will then need help from Topher. Topher will be around then.**
 - Bebo will get hold of some Android phones and once he is given instructions on accessing the native app look at experimenting.
 - **Bebo has 4 phones as of 10/16/2019**
 - Amity will look to see if they know of any targets in Jammu Kashmir.
 - **Answer appears to be no.**
 - Next meeting will be in a month.
 - Amity will set up a google poll to determine the date and time
 - The current time of 20:00 in the US and 08:30 at Amity is appropriate.
 - Amity will set up and notify the team of the meeting by Zoom. If this is a big problem Les can set up the Zoom meeting.
 - **Amity responded 10/18/2019: We will set up a meeting within the next week. No response by 11/15/2019. Amity responded 11/18/2019 delayed due to exams.**
- Amity School of Engineering and Technology (ASET), is organizing CONFLUENCE-2020, 10th International Conference on Cloud Computing, Data Science & Engineering technically Co-Sponsored by IEEE UP SECTION 29-31st January..
 - Bebo and Les are invited speakers (by Skype).
 - Naman Madan is submitting a paper to "Confluence-2020:10th International Conference on Cloud Computing, Data Science & Engineering" titled "Implementation of PingER on Android Mobile Devices Using Firebase".

Bebo

Bebo noted the recent unrest in Iran and asked whether the impact could be seen in the PingER data. Les investigated. The impact is very noticeable see [PingER Iran Internet interrupted November 2019](#).

Bebo wondered if we could detect such impacts automatically. Les pointed out it may be possible. A problem maybe avoiding a large number of false positives. Some work was been done on detecting similar anomalies in TCP throughput data. See for example [Anomalous Event Detection that included the Plateau project](#). This would be an interesting project for a student.

NUST (Updated 7/24/2019)

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 URL was 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. **Progress?**

Wajahat has a new intern. He is going through training for installing PingER. Wajahat hopes he will be ready to start real working in a couple of weeks following last month's meeting. **Progress?**

There is a problem with the nwfpnet host that appears to have started in April 2019. For more detail see [here](#). Email sent to Wajahat 11/7/2019 and again 11/20/2019.

The Pakistan hosts: monitor, maggie2 and vu are not working. There have been several email exchanges between Wajahat and Les, and Wajahat says "These guys are not responding. We are trying to contact them. Already tried multiple times." This applies to vu. Les has turned off the warnings for vu. Sent email requesting up[update on maggie2 and monitor 11/22/2019.

UAF (University of Agriculture, Faisalabad)/GHZU

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:

- Saqib submitted a [concept note](#) in WP6 with Wajahat and Les as co-applicant.
- **It was accepted and Saqib was given the go-ahead to submit a Full Proposal.**
- **With suggestions and an endorsement letter from PERN plus CVs from Wajahat and Les, Saqib put together a full proposal and it was submitted 11/6/2019.**

Thailand, Charnsak 10/15/2019

MA's are down. Charnsak (by email 10/22/2019) said: "They have changed the Networking policy. The pinger may need to wait for 5-6 months for me to go back (from post-doc at University of Vienna) and change things myself." Charnsak is in Vienna for several months. Both the IPv4 and IPv6 MA's were disabled 11/5/2019. Gathering the data from the MA's has been disabled.

UNIMAS

MA is down, email sent asking for update 10/13/2019. **No response by 11/3/2019, MA has been Disabled.**

SLAC (Updated 8/26/2019)

The talk on PingER at the Silicon Valley Samsung HQ 7/17/2019, went well, see link below. We can use this talk for the Internet Archive.

- [Long term Monitoring of the World's Networks](#), Les Cottrell Invited talk at the Samsung HQ in Silicon Valley, Sept 17, 2019
- **A video is available at <https://www.samsung.com/us/ssic/session/monitoring-the-worlds-internet/> .**

Les developed a tool to help in determining where targets are needed and some possibilities etc.

Several breakages in automated scripts (software rusts as the infrastructure improves):

- **The change from cgi-wrap to cgi-bin SLAC URLs caused problems with gathering data from SLAC. Les believes this is fixed.**
- **Utilizing the PingER mon-lib.pl utilities package appeared to cause many daily batch scripts analyzing the data to fail.**
- **When Les turned on the debugging to investigate the discovered that several analysis scripts had stopped working earlier this month-**
- **This is still a work in progress.**
 - **the mon-lib utility package problems have been fixed**
 - **Working on fixing the analysis scripts and re-creating the missing data**
 - **Once they are fixed then need to remove debugging and yet make sure problems are reported.**

Umar

Motion charts at <https://www-iepm.slac.stanford.edu/pinger/pinger-metrics-motion-chart.html> was failing it no longer displayed the contents of the charts. Umar looked at the problem and suggested a solution. Les applied solution but did not fix in Chrome or Firefox. See [PingER Metrics Motion Chart#October2019](#) for details. **Les finally discovered and fixed a few problems with prm.pl, create-motion-charts-page.pl, create-motion-charts-pages.pl. It is now working again but requires enabling Flash. Discussed with Umar, it would be possible to make the web page not use Flash, but it could be non-trivial. An alternative might be to use a similar tool called Explorer (see <https://www-iepm.slac.stanford.edu/pinger/explorer.html>). The web is very valuable for identifying anomalous behavior which may require filtering the data.**

Unfortunately Umar has not had any cycles to look into IPv6 vs IPv4 study. I suspect we should give up on this.

State of MA's.

Host	State	last seen	Status
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pinger.nchc.org.tw	Intermittent problems starting 11/9/2019, it is not pingable starting 11/12/2019.		
pinger.vu.edu.pk	Unable to gather data since 29th August, 2019. The host is pingable. Emailed Wajahat 11/3/2019. Wajahat responded 11/11/2019 "Anything improved?". Les responded they are still not working with more details and suggesting we focus on vu. 11/20/2019 Les asks if there is an update? Wajahat responded 11/20/2019 "These guys are not responding. We are trying to contact them. Already tried multiple times." This just applies to vu. Wajahat recommends we keep trying to gather data. I have turned off the warnings.	8/28/2019	
monitor.seecs.edu.pk	No data since 10/29/2019, host is pingable email to Wajahat 11/7/2019, see vu for follow up.	10/27/2019	
maggie2.seecs.edu.pk	No data since 11/4/2019, host is pingable email to Wajahat 11/2/2019, 11/20/2019. See vu for follow up.		
pinger.nwfpuet.edu.pk	Something amiss since April 2019 when it dropped from monitoring over 150 targets down to 4. There is nothing in <BeaconsList>, all the hosts it attempts to monitor are in the locally manually maintained <NodeList>. Does not ping by name. Email sent 11/7/2019, and again 11/20/2019.		
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. Email 10/13/2019 to Adib and Sohail, will disable if no update by end October 2019. Suhaidi responded "Hi Les, will address this and get back to you soon. ". 11/3/2019 Still no data gathered, Disabled gathering and notified Sohail and Abid.	5/2/2019	Disabled
pinger.unimas.my	This has been unavailable for 6 months. Disabled as of end October since no response to emails. Notified Johari 11/3/2019.	5/20/2019	Disabled
pingeramity.in	Continues to be unstable. Email 8/29/2019. Turned off email warnings 11/20/2019.		
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. Email 10/13/2019. Charnsak responded he plans to look at it. Charnsak responded 10/22/2019 "They have changed the Networking policy. The pinger may need to wait for 5-6 months for me to go back (from post-doc at University of Vienna) and change things myself." Host disabled 11/3/2019	9/29/2019	Disabled
pinger.cs.ubru.ac.th	Down starting 8/19/2019, unable to ping from SLAC. Email 8/28/2019. Email 10/13/2019, Charnsak responded he plans to look at it. Charnsak responded 10/22/2019 "They have changed the Networking policy. The pinger may need to wait for 5-6 months for me to go back (from post-doc at University of Vienna) and change things myself." Host disabled 11/3/2019	8/19/2019	Disabled

Next Meeting

Next meeting: There will be a Doodle poll, for December or January 2020 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

Bebo Moved here 11/20/2019

Is wondering about a meeting of PingER collaborators with possible funding from the Internet Archive or possibly others. Also possibly seeking other sources of funding for PingER activities.

It is time to re-raise and discuss the talk for the Internet Archive, and what we might expect from them and how much effort it is to prepare, document and make the data available to the Archive. So far:

- 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.

We agreed to put together a disk with a snapshot of the appropriate archive files containing analyzed data back to 1998 plus some documentation and then approach them about archiving the data, and a possible talk showing how the data can be used, e.g. comparison with economic indices, identifying on the network on events such as earthquake, societal unrest, cutting of cables etc. First part of the talk based on the presentation at Samsung. Depending on level of interest and support, we could offer to update the data.

- 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 there might be interest in collaborating from 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.
 - IA suggested September, given the China meeting, this was missed.

Adib (Updated 7/22/2019) Moved here 11/7/2019.

- 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.

Exit plan for PingER moved here 10/10/2019

- 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

Turkey (No update 7/23/2019), moved here 10/10/2019

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.**

Jordan moved here 10 Oct 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 asking 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.**

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.