

# 20110223 SLAC SEECS meeting

## Agenda for SEECS/SLAC meeting February 23rd, 2011.

Bold face, topics for coming meeting that we need to address

### Future

- The electronic letters of invitation for Sadia and Amber have been sent. **The hard copies have not arrived yet?** They have the other docs (DS2019 etc.) Current plan is for arrival April 1st.
- Zafar received his DS-2019 on Dec 10 (Fri). Applied for visa on Dec 13 (Mon). Interview date was Jan 3, delayed to Jan 24. Visa accepted now await clearance. **No word from the embassy on the visa.** Hope to start mid march.

### Pakistani case study - Zafar, Anjum

- Pakistani case study is done for the moment. Since I will not be visiting Pakistan in the near future, I have sent an email to Sohail Naqvi of HEC telling him of our case study of Pakistan. Now we need to work with Arshad to decide how to present the results to PERN/HEC. Anjum talked to Arshad. PERN will come to NUST on March 3rd and Zafar/Anjum will make a presentation and show demos of the moving metrics, the pinger map etc. PERN are interested in losses, reachability, and RTT.
- HEC wants the ability to view just the Pakistan results. Want a view of whatever we are recording. They can use the map to see the topology. **Faisal will look at a new user interface with a Pakistan bias. It will be needed for the March 3rd PERN visit.**
- Zafar has started taking and archiving traceroutes between Pakistani monitoring hosts on a daily bases. We need a user interface to select and view these traceroutes. **I have sent some information.**
- The UETTAXILA to NUST report has been updated. Zafar re-started the pings so we can get measurements made when the university is in a stable state. he has given the data to Amber to analyze.
- Sadia has finished MOS for prm.pl. She is now working on adding alpha. She needs the lat/longs, Les will provide information on dbprac.pl and how it gets data such as lat/longs from NODEDETAILS.

<http://www-iepm.slac.stanford.edu/pinger/prmout/MOS-EDU.SLAC.STANFORD.N3-continent-allyearly.csv> Les has renamed n\_prm.pl to prm.pl and tried it out various config files. It works fine.

### ICFA Report

- <https://confluence.slac.stanford.edu/display/IEPM/Internet+performance+seen+by+PingER+and+Mid-East+instability> (Libya)

### PingER

- We are working on getting pinger2.pl working at Sarawak. The pinger.xml page needs to be fixed, they are looking at it.
- PingER archive site: Ghulam and Farhan have created two ERDs. One is a simple design (three tables, normalized to level 1) and another is a complex design (five tables, normalized to level 3, introduces some redundancy). They have created MySQL databases following both ERDs and have done some stress testing. The simple design is faster to insert data into and load data from.
  - Simple design takes 15.4 seconds to write data from 15 files and 12 seconds to read. Complex design takes 18 minutes and 57 seconds to write data from 15 files and 13 seconds to read.
  - Simple design is also space efficient. It takes 27 MB of space as compared to 30 MB taken by complex design for writing data from 15 files.
  - **As suggested by Umar, we should run more analysis before finalizing this. Requested for detailed description on the ERDs in question.**
  - **Some changes suggested by Umar. Ghulam and Farhan will contact Umar and they'll work on the changes:**
    - (1) The node table does not have NODEDETAILS.
    - (2) The data table has both unix epoch and date
    - (3) The analysis/summary table should have ticks, instead it has month, day year etc, which I am not sure about... how would this work? I think its wrong. Instead of four columns there should be just one for the tick.
  - Ghulam and Farhan are modifying scripts to make them database compatible.
  - Les requested to see comparison (space and time complexity) with flat files.
- Faisal is working on a home page for PingER. (Paused)
- PingER Map
  - Add nodename and fullname. (done)
  - Fix Maximum Minimum values on plot stats (done)
  - Add The ability to choose the line thickness (done)
- **Chrome is showing lines in weird manner, use Firefox instead.**
- **Assuming it is easy do not remove a box if one clicks on something else, leave that to be done manually by clicking on the x in the top RH corner**
- **Add auto ranging**
- **The ability to save a color range setting**

### TULIP

- With the move to the new host Faisal had to get a new cookie to allow scriptroute to run scripts on the PlanetLab infrastructure. **Still needs testing.**
- **DESY has been restored to monitoring and a traceroute site. Faisal will add to the TULIP database.**
- **TULIP configured on maggie2. Reflector at SEECS is being used.**
- **Matlab server is being configured by Bilal for test-bed purposes. This will be on a separate machine to replicate the actual environment.**

## IPv6 activities at NUST SEECS, Pakistan

Here is the list of activities we have been doing at the moment:

Training and Awareness:

- We have conducted a workshop and a seminar on IPv6
- Another Seminar is planned in the coming weeks.

Collaborations:

- We have created a tunnel with cybernet (local ISP) for global IPv6 connectivity.
- We have been allocated public IPv6 addresses by PSEB for R & D usage.

Implementation:

- We are currently working for participation in world IPv6 day.
- Some of the services that we are currently working on are Webserver, DNS and local connectivity of IPv6 for SEECS users.
- We are short of dedicated hardware for this part and for this our proposal is under review. We hope to have full range of hardware covered once it is approved.

Research:

- We have a team of 3-4 people working on Transition Mechanisms
- Open source implementation of these mechanisms
- Mobility Extensions
- LISP for IPv6
- Hands on implementation on NS2, GNS3

## PerfSONAR

Problems were fixed. NTP servers were causing considerable clock delay. Added close-by Stratum 1 NTP servers to solve the problem. Nodes were updated to PerfSONAR version 3.2 (Fedora distro). Nodes however are offline since they were disrupting normal traffic. We are waiting for 10 Mbps dedicated connection to switch the nodes back on. - **Update**

1. Faisal is working with Yee.## Porting backend from perl to python and django.## Moving XML responses to json arrays (parsing)## A Datagrid module to display tests from all the result set hosts for a selected## Ability for datagrid module to share data and calls with map.
2. Documentation available here <https://confluence.slac.stanford.edu/display/IEPM/Google+Maps+for+PerfSONAR>
3. Zafar deployed PerfSONAR at SEECS. It was working and gathering data. However the Network Operations Center at SEECS had to shut it down since it was flooding the network and disrupting normal traffic (education/research). Sent an application to HQ NUST to approve 10 Mbps bandwidth link. The proposal was rejected. Now waiting to utilize 2 Mbps from a 10 Mbps research network link. PERN will deploy perfSONAR at HEC/Quetta. Someone is working on this. The university is close by HEC/Quetta. Hope in 4 weeks to have PingER monitoring node in 4 universities i the Quetta region. More of a research project than a deployment project.

## Possible projects

See [<https://confluence.slac.stanford.edu/display/IEPM/Future+Projects>]. Zafar will talk to the students about these projects.

1. Extend the NODEDETAILS data base to allow entry support for whether the host is currently pingable.
2. Extend Checkdata to provide emails automatically, see [<https://confluence.slac.stanford.edu/display/IEPM/Extend+checkdata+to+make+it+more+useful>]. Many of the ideas in the script node-contacts.pl are a step in this direction.
3. Improve the PingER2 installation procedures to make it more robust. This might be something for the person(s) in Pakistan who are responsible for installing PingER2 at the Pakistani monitoring sites. They probably have found where the failures occurs. Also look at the FAQ, and ping\_data.pl which has been improved to assist in debugging, could it be further improved (e.g. provide access to the httpd.conf file so one can see if it properly configured)? There are 2 students working on the PingER archive. "Is this something they could work on?"
4. [Fix PingER archiving/analysis package to be IPv6 conformant|IEPM:Make PingER IPV6 compliant]. Will build a proposal for an IPv6 testbed. They will try various transition techniques. A proposal has been prepared and that has been submitted to PTA. Adnan is a co PI. It is being evaluated today. A small testbed has been established in SEECS and the plan to shift some of the network to IPv6. Bilal is part of 3 students involved with PingER and they will be involved with IPv6. They are porting the PingER archive site site to using a database. They have redeveloped the archive site using Umar's documentation. They have set up a small test archive site. They have gathering, archiving, analysis. They will design a new database. They will also try a port of PingER to IPv6.
5. Look at RRD event detection based on thresholds and how to extend, maybe adding plateau algorithm. Umar's algorithm did not work in a predictable manner.
6. Provide near realtime plots of current pinger data using getdata\_all.pl/wget. It will work as a CGI script with a form to select the host, the ping size, and the time frame to plot. It will use wget or getdata\_all.pl to get the relevant data and possibly RRD/smokeying to display the data. **Adnan thinks one of the students working on the archive site may take this on**

## Paper - Umar, Fida, Zafar

1. SVN for paper, Umar has set it up and it is working. Umar will send out the accounts. Not critical at the moment.
2. Umar will take as the main/first author of the paper. Ali Khayam has put together an introduction identifying the main points. Umar will send in the first draft and put together with feedback from Ali. Umar hopes to be done by Mid December. Umar is currently overwhelmed. Zero progress 11/10/2011. Umar has to submit a camera ready copy in the next couple of days.
3. Adnan is also interested in working on the paper and will talk to Umar.
4. Umar sent draft to Adnan. Umar will be in Pakistan later this month and will get together with Adnan. Fida will be available after December 16th.
5. Fida will send review comment to Adnan

6. Meeting between Adnan, Umar, Ali Khayam did not come to pass due to Adnan being sick. It is believed we need a re-write, the technical details are OK. Adnan will get to more rigorously.

## **AOB**

### **Future meeting time - Les**

The next meeting in **Wednesday March 2nd 2011** for people in US and **Thursday March 3rd** for people in Pakistan.