

Meeting with Pakistan HEC Chairman and Executive Director Feb 2006

This an example of how the PingER project has helped a country (Pakistan) in improving its Education and Research Network.

Meeting with Pakistan HEC Chairman and CTO

On February during my 2006 trip to Pakistan Les Cottrell had a face-to-face meeting with [Atta-ur-Rahman](#) Federal Minister/Chairman, Higher Education Commission (HEC) Pakistan and advisor to the Prime Minister of Pakistan on Science and Technology. Together with Atta was [Sohail Naqvi](#) Executive Director, (Ex-Officio Federal Secretary), HEC.

From the left: Sohail Naqvi, Les Cottrell, Atta-ur-Rahman and the vice-Rector of NUST



Over tea and biscuits using his laptop Les presented to Atta and Sohail the results from PingER measurements of networking in Pakistan. The main conclusion I presented was that though the [Pakistan Education and Research Network \(PERN\)](#) (a project of the HEC) was well provisioned with 155 Mbits/sec links between the major cities, the university connections to PERN (the last mile) varied in capacity but were all under 2Mbits/s. Consequently these links were badly congested resulting in large jitter and packet loss that was observed by PingER. Some of these [results were published](#) and presented at a conference in India that Les attended on the way to Pakistan.

During this Pakistani visit, Les also met with the chairman of PERN as well as [Salman Ansari](#) Advisor to the Minister for IT & Telecommunications, Government of Pakistan and presented the same information to them.

As a result of these discussions the next generation network PERN-2 was designed and installed with 1 Gbit/sec links from backbone to the universities. This is now (2011) in place. In addition a replica PingER project was installed with the express purpose of monitoring PERN-2. The main problem that we have now identified in PERN-2 using PingER, is that the power for many universities is unstable, resulting in frequent outages. As a result generators and battery back up systems are being installed at many universities for the network and critical computer services.