

## Measuring Fixed and Mobile Broadband Network Performance

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(Requested length of talk: 15-20 minutes)

Slides will be made available by June 1, 2013. Draft slides can be made available earlier.

Since the BISmark project (<http://projectbismark.net/>) was launched in 2010, we have deployed programmable routers in over 300 home networks in more than 30 countries around the world. We have also worked in conjunction with SamKnows and the Federal Communications Commission to study broadband speeds across the United States, and we have developed an Android application that measures mobile network performance and is currently running on more than 4,000 mobile handsets in more than 125 countries worldwide (<http://goo.gl/28tx3>). In this talk, I will summarize some of our results studying access link speeds around the world, and how to make certain applications perform faster when access links do not perform as well as they should. The data from our measurement studies is publicly available, and I will describe to network operators how to download and use the measurements that we have gathered over the three years of our project.

I will then describe our ongoing measurement efforts that are specifically of interest to the African network operator community, and appeal to the African network operations community for collaboration on future projects. We are currently working with Research ICT Africa to measure fixed and mobile broadband speeds across countries in Africa. In addition to describing some of our preliminary results from a pilot study in South Africa, I will appeal to the African network operator community to help us improve our measurement infrastructure across Africa. We are working in collaboration with Measurement Lab to deploy measurement servers across Africa, and we are seeking cooperation from African network operators to help us host measurement servers to improve the accuracy of measurements for both fixed and mobile broadband measurements.

### Bio:

Nick Feamster is an associate professor in the College of Computing at Georgia Tech. He received his Ph.D. in Computer science from MIT in 2005, and his S.B. and M.Eng. degrees in Electrical Engineering and Computer Science from MIT in 2000 and 2001, respectively. His research focuses on many aspects of computer networking and networked systems, including the design, measurement, and analysis of network routing protocols, network operations and security, and anonymous communication systems. In December 2008, he received the Presidential Early Career Award for Scientists and Engineers (PECASE) for his contributions to cybersecurity, notably spam filtering. His honors include the Technology Review 35 "Top Young Innovators Under 35" award, a Sloan Research Fellowship, the NSF CAREER award, the IBM Faculty Fellowship, and award papers at SIGCOMM 2006 (network-level behavior of spammers), the NSDI 2005 conference (fault detection in router configuration), Usenix Security 2002 (circumventing web censorship using Infranet), and Usenix Security 2001 (web cookie analysis).