June 29, 2012

Via Electronic Filing
Marlene H. Dortch
Secretary
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

Re: Notice of *Ex Parte*, CG Docket No. 09-158, CC Docket No. 98-170, WC Docket No. 04-36

Dear Ms. Dortch:

On June 28, 2012, the undersigned representatives from Measurement Lab (M-Lab) met with representatives from broadband providers, representatives from other organizations, and the Commission to discuss issues associated with the FCC's 2012 broadband measurement and performance program. The meeting focused on the logistics surrounding the release of the upcoming report, issues with validating speed tiers in the collected data, and language and policy around the characterization of data and the stability of the M-Lab platform.

The meeting opened with a discussion of the first 2012 broadband measurement report that is scheduled to be released in the coming weeks. Mr. Johnston was clear that this year's report would be very similar to last year's, representing the same data with a few unspecified additions.

NCTA representatives asked about access to data prior to the report. Mr. Johnston and Mr. Salter made clear that ISPs who paid SamKnows for access would be able to see their own data, as per the agreement negotiated previously. NCTA representatives questioned whether smaller ISPs, who may not be able to afford the subscription cost, should be given access for free, and expressed the view that there should be some means of access for companies that didn't subscribe. It was determined by Mr. Johnston that this conversation had occurred too late to make any changes, and would need to be broached again during the next measurement cycle.

Ms. Whittaker from M-Lab asked whether the analytic and statistical methodologies applied to the raw data to obtain the published results for the upcoming report would be made public. Mr. Johnston committed that they would and invited the collaborative to clarify and request exactly the methodologies they were seeking and exactly the form they would like them released in. The goal of this request is to ensure that FCC results are replicable.

Ms. Natoli from Time Warner asked for advanced warning of the exact report release date, giving the ISPs time to socialize the idea with upper management and to coordinate PR around the release. Mr. Johnston committed to giving the ISPs and the members of the collaborative advanced warning on publication, although the nature of that coordination was not specified.

The discussion also included a validation of the data, which refers to the process by which ISPs confirm the service tier of given panelists, allowing SamKnows to catalog the data accurately for the published

report. Mr. Young from Verizon questioned whether the data in the portal available to ISP subscribers was already validated. Mr. Salter conceded that validation needs improvement, and that there have been many obvious errors in the validation this time around. Mr. Johnston suggested that this would be something that the ISPs and SamKnows could work on collaboratively for future measurement periods. Mr. Salter concluded the discussion by committing to send an update on the validation process.

Representatives from NCTA then raised the question of the timing of the next measurement period, from which the second 2012 report's data would be gleaned. While August had been discussed previously, Mr Johnston affirmed that the measurement period would be pushed to September, this being the latest date feasible given the end of year holidays.

The group also discussed the possibility of adding ISP-run servers to the existing M-Lab platform. Mr. Johnston described the plan as a means to ensure redundancy -- in the event that an issue was detected with an M-lab server, the ISP-run server could take over collection of data during that time. In this instance the ISP-collected data would be used in the final report, in lieu of M-Lab data. Ms. Whittaker suggested that the ISPs be asked to donate servers to the M-Lab platform, thus achieving the goal of redundancy without compromising the transparency, consistency, and integrity of the measurement study.

Ms. Whittaker went on to stress the importance of the FCC utilizing an independently run infrastructure to ensure credibility of the measurement. Ms. Whittaker also emphasized the necessity of platform consistency in the collection of comparable data. A server instrumented in one way, managed in one way, may very likely have an impact on the collected data that makes it difficult or impossible to compare it with data collected on a server instrumented and managed in a different way. M-Lab ensures both consistency and transparency by adhering to stringent specifications as to how servers are instantiated on its platform, and by managing these servers via the central M-Lab Operations Committee. All of M-Lab's server requirements are publicly documented.

While Ms. Whittaker agreed that redundancy would benefit of all parties, she stressed that this redundancy should be achieved by growing the existing platform, thereby achieving parity among servers and ensuring that the data collected were credible and open. Mr. Johnston stated that he could not impose requirements on ISPs that would necessitate that they donate servers to M-Lab, however he could encourage them in this direction. Ms. Whittaker reiterated her invitation to ISPs in the room to contribute to the M-Lab platform, thereby ensuring transparency, parity, and centralized management.

The topic of the disclaimer language drafted by Mr. Young at Verizon and NCTA representatives, and to characterize the public release of the full March data set was discussed as well. Ms. Whittaker cited the preliminary analysis and comments from Steve Bauer at MIT (attached), whose work with the data showed that the impact appears to have affected only a fraction of the data, and may not have had a strong impact on the data overall. It is this analysis that M-Lab in previous filings has urged the Commission to allow time for M-Lab analyze the data before rushing to judgment. In light of the preliminary results of the analysis, Ms. Whittaker again expressed disappointment at the rush to characterize the event in March, and the vague and condemnatory language used in the original disclaimer (attached). Ms. Whittaker suggested revised disclaimer language, sent to Mr. Johnston prior to the meeting (attached). This revised language would focus on the technical facts of the affected data, and would specifically clarify the actual impact for those interested in accessing the data for research and analysis. Mr. Feld from Public Knowledge weighed in, admitting that there were concerns from academia, and pushing for more

review and discussion of the analysis and the language. After heated debate, Ms. Whittaker stressed the responsibility of the Commission to provide accurate reporting, and to accurately represent all data.

Ms. Whittaker went on the emphasize that it should be made clear that the FCC's decision to exclude the March data from the report may have been expedient, but especially in light of Mr. Bauer's findings the Commission and the collaborative needed to be careful in allowing this expedient decision to imply that all of the March data was indeed unusable. Again, Ms. Whittaker emphasized the fact that this decision was made without open, academic analysis of the actual impact of events in March.

Representatives from NCTA suggested that the issue was one of timing, and that if the data release could be postponed until all parties had agreed on disclaimer language, that may work for everyone. Ms. Whittaker responded that it was necessary that the data release accompany the report, as per the M-Lab policies and in line with the FCC's own commitment to openness and transparency. She went on to stress that agreement of all parties on the language shouldn't be the goal, so much as the language's agreement with the facts as derived from open analysis of any impact. Mr. Johnston again suggested releasing the report without the raw data, waiting for a review of Mr. Bauer's final analysis. Ms. Whittaker reiterated that the release of raw data should accompany the release of the report, and if anything the disclaimer language should include the fact that analysis was in progress.

Ms. Natoli from Time Warner expressed her view that while the impact on the March data may turn out to be statistically insignificant, release of the data could still be used to compare ISPs, thus casting one or another in a bad light, assuming there are some ISPs who were more impacted than others. Ms. Whittaker answered that any scientifically sound disclaimer would be sure to indicate what was and was not to be considered statistically significant, and fit for a given use, but that the analysis and not the fear of an unflattering comparison should guide the language characterizing the data.

Mr. Johnston closed the topic by stating that Ms. Whittaker and M-Lab should work with the Verizon and NCTA representatives to draft disclaimer language that could be agreed on by everyone. Mr. Young pushed for the following choice: delay open release of the data until disclaimer language could be agreed on by all parties, or publish the data upon release of a report, per the FCC's openness policies, and move ahead with the disclaimer language drafted by the ISPs. Ms. Whittaker again stressed that the disclaimer should follow the template sent to Mr. Johnston before the meeting, and that the analysis done by Mr. Bauer should instruct this language. An agreement on this topic was not reached.

Mr. Young from Verizon then requested confirmation that when released the raw March data would be set aside by the FCC and presented separately from the other released data. Mr. Johnston confirmed this.

The meeting then turned to the topic of issues reported by SamKnows during April. These issues had been mischaracterized as a problem with the M-Lab platform. Ms. Whittaker was clear about this, explaining that these April issues were a problem with the upstream ISP provider, Level 3, and had nothing to do with the M-Lab hardware or software, but reflected a network issue within the control of Level 3, who was providing connectivity to the M-lab site. Mr. Crawford from SamKnows, who had been involved in debugging this issue, agreed, and confirmed that this had been his understanding since the issue was identified.

Ms. Whittaker expressed disappointment that the March issue, which in light of academic analysis appeared to be very minor, and the April issue, which had nothing to do with M-Lab, had been used to wrongly characterize M-Lab's platform as unstable, and this characterization has in turn been used as the basis for a plan to move away from an open, centrally managed platform, to a closed and unaccountable model in which ISPs manage "redundant" servers -- the plan discussed earlier in the meeting.

Ms. Whittaker then went on to suggest that the data that excluded from the April study should also have a disclaimer, identifying the type of network issue that occurred, how this impacted the data, and the remedies applied by Level 3 to fix the situation. Ms. Whittaker offered to work with the M-Lab Operations team who had been in contact with the Level 3 to fix this issue to draft appropriate language.

Following this Mr. Johnston affirmed that the Commission would not contemplate conducting the program without M-Lab. Ms. Whittaker again stressed that pooling disparate sources of data, some from an openly managed, consistently deployed platform, and some from closed ISP-run servers, would effectively undermine the value M-Lab provides, which is a guarantee of transparency. Ms. Whittaker was clear that this would undermine the FCC's commitment to transparent, open, and credible measurement.

The meeting concluded with a request from NCTA representatives that the report exclude results from panelists where it was determined that while the consumer could receive a higher speed, outdated hardware or software was preventing this. Mr. Johnston pushed back, expressing the Commission's view that this was a policy issue, associated with the provider's network and each providers' communication with their subscribers. Mr. Salter added that SamKnows' was committed to measuring end user experience, and that this was a part of that. NCTA suggesting that at least some consumer education language within the report could alert people to this possibility. Mr. Johnston agreed.

Sincerely,

Thomas Gideon
Senior Staff Technologist
New America Foundation's Open Technology Institute

Meredith Whittaker
Program Manager, Google Research
Google Inc.

CC: Walter Johnston, James Miller

Memo: Comments on the March 2012 analysis and data disclosure disclaimer
From: Steve Bauer (bauer@mit.edu)
Date: June 28, 2012

I was granted access to data provided by SamKnows for March 2012. This access is covered by an NDA, and my analysis of the data is preliminary. Therefore my remarks in this memo, which any recipient is free to share, will be brief and subject to later revision as my analysis proceeds. At this stage, I want to inject some comments to the current discussion and public characterization of this data.

1. I commend Samknows and M-Lab for the processes they have in place for detecting potentially anomalous results. I would especially like to highlight SamKnows' quick response and close coordination with M-Lab around these issues.

2. It is clear from the data that some fraction of the test results were impacted by factors associated with the server side test infrastructure. It is also clear that these factors did not impact all data. A small subset of panelists were impacted, and among this impacted subset, it appears that subset of tests run from each unit were affected. Among the impacted tests, anomalous results are apparent for a fraction of the individual test runs. The impacted data and the non-impacted data may fall into distinct and easily recognizable categories.

3. The existing disclaimer draft for the March 2012 data is overly broad and premature. It does not provide sufficient or good guidance to anyone that might be interested in using the data.

4. I anticipate one result of this analysis and incident report will be be a proposal for updated and accurate disclosure language that clearly identifies responsible and irresponsible use of March data. This language must be technical, and must be accompanied by openly documented methodologies that support the claims made.

5. From my conversations with the M-Lab operations team, they recognize the high standard of responsibility they bear for operating a highly reliable server and network infrastructure. My experience in this field give me an appreciation of the complexities of operating a large-scale infrastructure (be it a server infrastructure or an ISP network). I believe that the M-Lab platform is a reliable and well-managed. While aiming for 100% stability is always the goal, it is nearly impossible to achieve. What distinguishes a credible and well-run program from its opposite is a commitment to openness and disclosure when issues do inevitably occur.

6. I commend the Measurement Lab team for their current effort to produce a thorough, transparent, and carefully documented report on the causes, impact, and subsequently adopted operational practices.

7. I view it as vital that both this M-lab incident report and all the corresponding data be publicly released. This transparency is important to the process writ large, as well as the individual interests of every stakeholder including ISPs.

As always, I welcome anyone that is interested in this topic to contact me.

Sincerely,
Steven Bauer
MIT

ISP-drafted disclaimer text

June 6, 2012 Collaborative Meeting
IMPORTANT NOTICE: During the course of testing, the FCC and Sam Knows identified performance issues with the shared Measurement Lab test servers in New York and Los Angeles. These issues distorted test results for a significant number of panelists across various ISPs participating in the study, and in multiple states. The performance issues affected data collected between XX/XX/XXXX and XX/XX/XXXX ("the March 2012 Data"). It is also possible that a similar issue could have affected other servers. Accordingly, although data from that time period is being released publicly consistent with our open data policy, the FCC has determined that the data collected during this time period is or may be unreliable and flawed. Thus the FCC will not use data in this period as a comparative basis of performance for ISPs in the 2012 First Report. The FCC considers this data to be unreliable and inappropriate for comparing performance across panelists, ISPs or time periods.

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