



Federal Communications Commission
Washington, D.C. 20554

January 7, 2015

VIA ECFS ELECTRONIC DELIVERY

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street SW
Washington, DC 20554

Re: Measuring Broadband American Program (Fixed Collaborative), GN Docket No. 12-264

Dear Ms. Dortch:

Representatives of broadband providers, public interest groups, companies, and other organizations met together in person and via teleconference/WebEx with the FCC on Wednesday, Dec. 10 at 1:30 PM¹. The aim of this meeting was to apprise the collaborative about the dates that were chosen by the FCC as the validation period to be used for the 2015 MBA report. Mr. Walter Johnston, Chief, EMCD/OET, reminded the representatives that at the last collaborative meeting (on Oct. 8, 2014), a decision had been made to extend the validation data observation period, normally chosen as September 1-30, into the month of October to ensure sufficient data for the report was collected. This was necessitated by the fact that there had been unusual network congestion over the last two weeks of September which was believed to result from the Apple iOS 8 software release. The impact of this congestion was spread unevenly across the network, adversely affecting some carriers' performance results for the Measure Broadband America program. The collaborative had been informed that a one-month validation period would be chosen from within the time frame of September 1 to October 22. After observing the

¹ A list of attendees and presentation materials are attached to this filing in GN Docket No. 12-264.

data, the FCC announced its decision to use the following dates as the validation period: September 1-16 and September 27-October 11. The broadband measurement data downloaded during this validation period will be used as the basis for the fixed broadband performance statistics in the 2015 MBA report. Mr. Johnston reiterated that this action is consistent with the FCC policy of extending measurement periods in case of any errors that may have been noticed during the validation month. In particular, the policy states that if, during the validation period, there is unusual network congestion that adversely affects any carrier's broadband performance results for no more than 5 days, those specific dates would be removed from the measurement month resulting in a so-called "short month". For the case where the anomaly persists for longer than 5 days (as it did during the last week of September), the anomalous period would be removed from the validation period and testing would continue into the following month in order to achieve a full 1 month validation period. It should be noted that this validation period need not be contiguous. Mr. Johnston noted that while this policy has been recorded in previous meetings, the FCC plans to add a note to the 2015 report² as well as within the FCC MBA website clearly stating the agreed to policy.

Following Mr. Johnston's introduction, Mr. Alex Salter, CEO of SamKnows, provided a slideshow that highlighted the key developments currently in progress in the Measure Broadband America project³. Mr. Salter explained that SamKnows, having completed all the necessary validated broadband measurements, as well as receiving both the pre- and post- validations from all the ISPs, is currently reviewing the data and preparing it for final processing. The final statistical processing will be completed by the end of December and the charts it produces will be used for the 2015 MBA report.

Mr. Salter next discussed ongoing testing of new performance measures targeted at video services. He pointed out that the MBA measurements had noted network degradation in the month of March at specific interconnection locations within the USA, which was later identified as being due to the video traffic. Video services currently account for more than 40% of the bandwidth used in broadband networks during peak periods. As a consequence of this, SamKnows and FCC have been closely working with key video distributors such as YouTube and Netflix to determine a way to characterize video service performance across the carrier network. It should be noted that the method used measures the rate that YouTube and Netflix videos can be reliably streamed (i.e., without stalling). Both the tests are running in pilot mode on a subset of deployed whiteboxes (120 for YouTube and 75 for Netflix). All methodologies will be discussed with the collaborative before making the results of these tests available on the FCC dashboard. The FCC and SamKnows are also currently in talks with Hulu to add them to the list of video providers that would be tested. The FCC hopes to deploy the tests to the whole MBA panel by early 2015. Some of the carriers expressed their interest in being engaged more closely with these deployment plans. SamKnows has written a White Paper outlining its broadband video performance measurement methodology which it will circulate with the

² It should be noted that when, under this policy, anomalous data has been removed from the dataset constituting the report, this fact has been noted as part of the report.

³ A list of attendees and presentation materials are attached to this filing in GN Docket No. 12-264.

collaborative as soon as disclosure agreements with Netflix and YouTube are signed. Mr. Johnston reiterated that the FCC would like to be closely engaged with the carriers on these video performance measurement metrics and would welcome any suggestions that they may like to put forward.

Mr. Salter also announced that the State of Hawaii had recently become engaged with the MBA program. Mr. Todd Ogasawara, Hawaii State Government, speaking on the teleconference bridge, confirmed the fact that SamKnows had sent him around 100 whiteboxes for this purpose. Recruitment for participants is underway and the goal will be to measure broadband performance in the islands of Hawaii, Maui, Kauai and Oahu. The ISPs will include Oceanic TWC and Hawaii Telecom. Mr. Johnston noted that this effort was led by the State of Hawaii and that we were providing support of their efforts. This effort would result in a report to be issued by the State.

In addition to its regular Measure Broadband America work, SamKnows and the FCC have been working closely with research organizations in the area of network measurements. One instance of this type of collaboration, first introduced to the collaborative in 2013, is the project entitled “Where’s the Fault (WtF)”, in which the FCC teamed with Professor Nick Feamster (Georgia Tech) and his student, Dr. Srikanth Srinivasan. The WtF software was deployed on about 3500 Netgear routers for about 26 hours in early November. Due to reboots that took place in about 35% of the devices, the software was disabled. However, over 100,000 data points were collected within the duration that the software ran and the Georgia Tech team is currently analyzing this data. A question was asked about whether these results would be included in the 2015 MBA report. Mr. Johnston explained that this work was categorized as “Special Studies”, i.e., a separate research work, and is not part of the MBA performance analysis. The WtF work may form the basis for research publications.

Another area of cooperation between research organizations and the FCC’s MBA project is with the: Center for Applied Internet Data Analysis (CAIDA). It was mentioned that we had begun an effort to assist CAIDA by providing it with latency measurements and geolocation data to calibrate its geolocation algorithms. It is anticipated that the calibration will assist CAIDA in multiple projects that utilize geolocation. The aim of this work is to help CAIDA in its analysis of congestion in broadband networks. This is work in progress and the FCC plans to provide updates on a regular basis.

A question was asked whether there were any plans for work on IPv6 to which Mr. Johnston responded by pointing out that the FCC had talked with a number of research organizations, including NIST about ways to benchmark IPv6 services. There seems to be general agreement that the current metrics can be improved upon. However, there were no clear suggestions on what the new metrics should be. Mr. Johnston encouraged the collaborative to communicate any suggestions they may have about what metrics need to be added.

Mr. Johnston concluded by thanking all the members for their participation and mentioned that the FCC plans to meet regularly to apprise the collaborative of their ongoing efforts.

Sincerely,

/s/ Rajender Razdan

Rajender Razdan, Electronics Engineer
Electromagnetic Compatibility Division/OET
Federal Communications Commission