

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Consumer Information and Disclosure)	CG Docket No. 09-158
)	
Truth-in-Billing and Billing Format)	CC Docket No. 98-170
)	
IP-Enabled Services)	WC Docket No. 04-36

**COMMENTS OF THE
NATIONAL CABLE & TELECOMMUNICATIONS ASSOCIATION**

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The National Cable & Telecommunications Association (NCTA) hereby submits its comments in response to the *Notice* issued by the Commission in the above-referenced dockets.¹ The Commission’s decision to hire an independent third party contractor to conduct a six-month test of broadband performance is an important first step in gathering accurate broadband speed data as contemplated in the National Broadband Plan (the “Plan”). Cable operators are looking forward to working with the Commission to ensure the success of this test and we encourage the Commission and its chosen contractor, SamKnows, to provide additional information regarding the details of the testing process to ensure that it produces accurate results, and that it forms the basis for scalable, more refined testing going forward.

INTRODUCTION AND SUMMARY

The Plan identified two key steps to providing consumers with additional information regarding the performance of their broadband connections. First, the Plan recommended that the Commission develop technical industry standards and methodologies for measuring broadband

¹ Public Notice, *Comment Sought on Residential Fixed Broadband Services Testing and Measurement Solution*, CG Docket No. 09-158, et al, DA 10-670 (rel. Apr. 20, 2010) (*Notice*).

performance.² Specifically, the Plan recommended that the Commission work with the National Institute for Standards and Technology (NIST), but it also recognized the benefit of receiving input from a coalition of consumer and industry representatives.³

Second, the Plan proposed that the Commission hire a third party to test for and prepare a report on broadband performance.⁴ As described in the *Notice*, the Commission released a Request for Quotation (RFQ) for this project and ultimately contracted with SamKnows to do the work. While neither the SamKnows response to the RFQ nor the contract between the Commission and SamKnows have been made available to the public, the *Notice* provides some of the key details of the proposed testing methodology and seeks comment on the proposal.⁵

NCTA appreciates the Commission's decision to solicit comment on the proposed testing methodology.⁶ Cable operators share the Commission's goal of providing consumers with additional data regarding the speed of their broadband connections and other appropriate network performance data. But as NCTA has explained previously, these matters are not easily addressed. There currently is no standard process for measuring the performance of broadband networks, and existing tools, such as online speed tests, have significant limitations.⁷ To address these concerns, NCTA encouraged the Commission to contract with an independent third-party

² CONNECTING AMERICA: THE NATIONAL BROADBAND PLAN (Plan) at 44-45.

³ *Id.*

⁴ *Id.* at 45.

⁵ *Notice* at 6.

⁶ Representatives of cable broadband ISPs and other ISPs urged the Commission to permit a public comment period prior to finalizing the testing process so that valuable input could be obtained from ISPs and other stakeholders. *See* Letter from Neal Goldberg, Vice President & General Counsel, NCTA, to Joel Gurin, Chief, Consumer & Governmental Affairs Bureau, FCC, GN Docket No. 09-51 at 5 (Mar. 26, 2010) (“NCTA Letter”); Letter from Danielle Coffey, Vice President, Government Affairs, Telecom Industry Ass’n, and Jonathan Banks, Senior Vice President, Law & Policy, U.S. Telecom Ass’n, to Marlene H. Dortch, Secretary, FCC, CG Dkt. No. 09-158; CC Dkt. No. 98-170; WC Dkt. No. 04-36 at 1 (Mar. 29, 2010).

⁷ *See* NCTA Letter at 2-4.

to conduct hardware-based tests similar to those commissioned by Ofcom, the regulator in the United Kingdom.⁸ The Plan appropriately recommended a similar approach and it appears that the Commission has made implementation of that recommendation a high priority.

This third-party testing represents an important first step in developing a standardized broadband measurement regime, although the Commission must take great care to recognize this initial effort for what it is – a proof-of-concept to establish a standardized broadband performance measurement process for all ISPs. The initial test results have the potential to form a solid foundation upon which more refined and useful broadband speed data can ultimately be collected and made publicly available. But, for the test to achieve its goals, we encourage the Commission and SamKnows to be transparent and to provide additional information, addressed below, regarding the details of the testing methodology and how they plan to use the data it will collect in this initial test.

I. THE CABLE INDUSTRY SUPPORTS THE COMMISSION’S EFFORTS TO DEVELOP A STANDARD APPROACH TO MEASURING BROADBAND PERFORMANCE

A. Hardware-Based Testing Has Significant Advantages Over Online Speed Tests

The National Broadband Plan includes an analysis of the importance of transparency in the retail broadband market. The Plan raises questions about the information available to retail consumers regarding the “actual speed and performance of the service they purchase” but correctly acknowledges that attempts to measure such performance raise a variety of “difficult issues.”⁹ Relying only on a “comScore database” that is “on file with the FCC,”¹⁰ but that has

⁸ *Id.* at 5.

⁹ Plan at 44, 45.

¹⁰ *Id.* at 66, n.54; *id.* at 66, n.34.

not been made publicly available, subjected to peer review, or even had its general methodology or test procedures publicly disclosed, the Plan concluded that “actual performance experienced by consumers often is much less than the advertised peak speed.”¹¹

NCTA shares the goal of providing consumers with additional information regarding their broadband connections. But as we have explained previously, NCTA has serious concerns with portions of the analysis that led the Broadband Plan team to conclude that there was a significant gap between actual and advertised speeds.¹² As we have explained, the comScore data cited in the Plan suffers from a variety of significant shortcomings and should not have served as the basis for concluding that there is such a significant gap between maximum speeds and “actual” speeds, at least insofar as that portion of consumers’ on-line speed experience that is under the broadband ISP’s control.¹³ NCTA also explained that the Commission’s recent experience with its own online speed tests confirms that such on-line tests should not be viewed as conclusive tools to provide reliable measurement of broadband ISP service offerings.¹⁴ While we appreciate the Commission’s desire to collect additional data in this space, the Commission must ensure that the data it uses to formulate its policies or to educate consumers is held to the most rigorous standards.¹⁵

Recognizing the limitations of the online speed test data on which the Plan’s analysis was based, NCTA encouraged the Commission to pursue alternative approaches to measuring

¹¹ *Id.* at 21, 46.

¹² NCTA Letter at 2-4.

¹³ *See comScore ISP Speed Test Accuracy*, Peter Sevcik, Principal, NetForecast, Inc. (March 2010) (NetForecast Report) (attached to NCTA Letter).

¹⁴ NCTA Letter at 4.

¹⁵ *See Implementation of Guidelines for Ensuring and Maximizing Quality, Objectivity, Utility, and Integrity of Information Pursuant to Section 515 of Public Law No. 105-554*, Information Quality Guidelines, 17 FCC Rcd 19890, 19896 (2002) (“data should have full, unbiased, reliable, accurate, transparent documentation”).

broadband performance.¹⁶ In particular, we encouraged the Commission to look at the work performed by SamKnows for Ofcom in the UK,¹⁷ and explained how that type of hardware-based, third-party testing can be more rigorous, more open, and more collaborative than online speed tests, providing potentially more useful results. Moreover, if properly conducted, these types of tests have the potential to provide more accurate measures of the performance of the broadband provider by eliminating many of the variables present in an online speed test over which a broadband ISP has no control. NCTA applauds the Commission for recognizing the potential benefits of this type of testing regime and for pursuing the testing process described in the *Notice* as a first critical step in the process.

B. The Commission Should View the SamKnows Test as a “Proof of Concept” Rather than a Definitive Measure of ISP Performance

As the Plan acknowledged, developing a regime that will accurately and uniformly measure performance on all different types of broadband networks raises a variety of “difficult issues.”¹⁸ This third-party test should provide the Commission with initial information that will be helpful in addressing the many questions that must be answered in developing a sustainable and scalable measurement regime. For example, a threshold question for any long-term measurement regime is who should be responsible for testing – ISPs, a third party, or a combination of the two? Which approach would be the most cost effective? Which would produce the most accurate results? The SamKnows test, which will be administered by a third

¹⁶ NCTA Letter at 5-6.

¹⁷ *Id.* at 5.

¹⁸ Plan at 44, 45.

party but seemingly anticipates assistance from ISPs,¹⁹ will provide useful experience that should inform the Commission's resolution of those questions.

The SamKnows test also will provide important information on the mechanics of the testing process, such as the appropriate locations for network test servers, what type of test files should be sent, and how frequently those test files should be sent. As experience with online speed tests demonstrates, all of these factors can significantly affect the accuracy of the testing process. The SamKnows test also will reveal whether testing on this scale will produce any unanticipated effects on the operation of the network or on consumers' use of their broadband service during testing. To the extent such effects are observed, the Commission can use those observations to consider modifications in any future measurement efforts.

Another critical area for the Commission to consider in this proceeding is how it intends to distribute and analyze the data it collects. The tests will produce a substantial amount of data. How much, at what points in time, and in what manner should that data be disclosed to panelists? To regulators? To the research community? To ISPs? To the public? SamKnows and the Commission necessarily will have to decide all of these important questions in the context of this six-month test, but the Commission also should be open to reviewing the consequences of those initial decisions and making adjustments as needed to ensure no unintentional misrepresentations or misleading perceptions are created as a result of test data that might be released.

The Commission also will need to consider whether the initial testing approach is scalable, a factor that is particularly important to achieve the Plan's goals in this area. That is, can the process that SamKnows uses to measure the performance of the top 20 ISPs also be used to develop accurate results for the hundreds of other ISPs providing service? Do the same

¹⁹ See Notice at 2, 4.

practices that work for large ISPs also work for small providers or will it be too difficult to develop a valid sample size for small companies?

While the initial SamKnows testing regime will help the Commission develop a record upon which it can start to answer all of these questions, the Commission must be careful to avoid reading more significance into the results than is warranted by the test. The initial SamKnows test should be viewed as a pilot project rather than a definitive measure of ISP performance. In discussing both the process itself and the results of that process, the Commission must take care to explain the limited nature of this first test and avoid extrapolating too broadly from the results. Moreover, as NCTA has advocated previously, for the information on the performance of broadband providers to be meaningful to consumers, the Commission also must educate consumers about the variety of other factors, many of which are beyond the control of the broadband ISP, that affect the performance of their broadband connection.²⁰ NCTA looks forward to working collaboratively with the Commission to develop this critically important consumer education material.

II. ADDITIONAL INFORMATION REGARDING THE TESTING METHODOLOGY SHOULD BE DISCLOSED BEFORE TESTING BEGINS

The *Notice* provides some useful information regarding the SamKnows test, but it leaves many questions unanswered. To ensure that the testing process proceeds smoothly and produces accurate results, we encourage the Commission and SamKnows to provide additional information regarding certain details of the testing process, including the following:

ISP Involvement. Based on the description in the *Notice*, it appears that the Commission and SamKnows have recognized that an effective regime for measuring broadband performance must include some participation by ISPs. Given the variety of issues on which there may be a

²⁰ NCTA Letter at 4-5.

need for coordination between SamKnows and the ISPs that are subject to testing (*e.g.*, recruitment of panelists, verification of service tiers, location of test servers), the Commission may want to consider establishing a technical committee consisting of ISP representatives that would serve as a point of contact for SamKnows during the course of the test.

Service Tiers. An important element of any broadband measurement regime is comparing a subscriber's actual performance data with the advertised performance of the tier of service they have purchased. As NCTA has explained previously, online speed test data generally does not provide a reliable basis for measuring any gap between "actual" and advertised speeds because the test site does not have information on the tier of service that a customer has purchased.²¹ The comScore data relied on in the Plan made assumptions about a customer's tier of service based on that customer's test results, but NCTA demonstrated that there are significant deficiencies with the accuracy of that process.²² The SamKnows test provides an opportunity for the Commission to develop an improved method of verifying the tier of service a customer is purchasing, *e.g.*, by asking the ISP directly, and there are ways this can be done while still ensuring that the panel remains a "blind" one. The Commission and SamKnows should provide more information on how they anticipate addressing this crucial issue.

Network Test Servers. A key issue that is uncertain from the description in the *Notice* is precisely where, within a network and in which network, the test servers will be located and who will administer these servers. The *Notice* suggests that SamKnows will use infrastructure from M-Lab, but no detail is provided.²³ We note that the M-Lab infrastructure is used for one of the

²¹ NCTA Letter at 2-4.

²² *Id.* at 3.

²³ *Notice* at 4.

two online speed tests that the Commission has made available on its web site. Given the reported problems with those tests,²⁴ there is some concern that the use of the M-Lab infrastructure could affect the validity of the results of the SamKnows test. To the extent the Commission and SamKnows are working to conduct an accurate, independent testing process, they should consider using test equipment that is administered by SamKnows and which is dedicated to this particular test even if the M-Lab server locations are ultimately used for placing SamKnows test servers.

Testing Details. The *Notice* identifies the types of tests that will be performed, but provides little detail on how exactly they will be performed. For example, SamKnows proposes to test the “[d]ownloading of a TV show or movie from a legal [peer-to-peer] (P2P) website.”²⁵ It would be helpful to have more detail on how this test would work in practice. Beyond the specifics of the individual tests that are identified, there is an overarching question of whether any tests will be performed while the subscriber’s home network is actively engaged or whether tests only will be run if the home network is otherwise not in use. For example, while we believe the SamKnows tests will not run unless the connection is idle, that is not necessarily a zero-byte threshold. The setting of the threshold is important because it could affect the reported upload or download speed under any of these tests.

Data Validation and Reporting. The *Notice* is somewhat vague on the details of how SamKnows will collect, compile, validate, and report the data from the test. For example, what steps will be taken to validate the data, as the tests are in the early stages of production (shortly

²⁴ See David Lazarus, *How fast is your broadband? Even the feds can't be sure*, Los Angeles Times (Mar. 19, 2010), available at <http://www.latimes.com/business/la-fi-lazarus19-2010mar19,0,6447947,full.column>; *Consumer Broadband Test Update*, posted by Jordan Usdan, Attorney Advisor, Broadband Task Force (posted Mar. 17, 2010), available at <http://blog.broadband.gov/?entryId=292153>.

²⁵ *Notice* at 3.

after being setup), as well as before it is released to the Commission or to the public, *e.g.*, will it investigate anomalous results to ensure testing equipment was working properly, and if so, will ISPs be involved in that validation process? The *Notice* suggests that there will be some form of “real time” reporting to the panelists but does not explain what data will be reported and how that reporting will take place.²⁶ Similarly, it states that “overall streaming performance” will be reported but provides no explanation of how that would be measured.²⁷

In addition to these issues regarding the mechanics of the data collection process, there are separate questions regarding the format that the Commission will use in reporting the data to the public at the end of the test. Will there be single nationwide figure reported for each company that is tested, as was the case in SamKnows’ testing in the UK, or will the Commission attempt to provide data on a more granular basis, *e.g.*, reporting by tier or by region? How will the Commission and SamKnows ensure that any reported results are based on samples that are large enough to produce statistically valid results?

Prior to initiating this test, the Commission must make clear how it intends to utilize the data it will collect from this proof-of-concept exercise. Specifically, the Commission should fully detail its intentions here and ensure that those intentions are consistent with the level of testing being undertaken. Such a disclosure is critical if the agency intends to go forward in a transparent and collaborative manner. Importantly, efforts to extrapolate data to reach conclusions that are unsupported by the methodology of the testing will serve to undermine the whole process going forward.

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²⁶ *Notice* at 5-6.

²⁷ *Id.* at 6.

These are critical questions that affect the validity of the testing process and the accuracy of the data it produces, and NCTA members would be happy to work with the Commission and SamKnows to provide answers that can make this first hard-wire-based performance test as meaningful as possible. Providing additional information on these critical details of the testing process will enable all parties to have greater confidence in the results of the testing process. In addition, providing more information regarding the testing process will increase the ability of parties to assess which aspects of the SamKnows test were successful and which might require modification before the Commission establishes a more permanent measurement regime.

CONCLUSION

NCTA strongly supports the Commission's decision to move forward with an independent, hardware-based speed test. The six-month SamKnows test that the Commission is about to undertake is not a definitive test of ISP performance, but it will provide important data that the Commission can use as it begins the process of developing a sustainable broadband measurement regime. Cable operators appreciate the opportunity to comment on the testing methodology and we look forward to working with the Commission and SamKnows on this important test.

Respectfully submitted,

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