

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

**In the Matter of** )  
)  
**Comments Sought on** ) **GN Docket Nos. 09-47, 09-51, 09-137**  
**Defining “Broadband”** )  
**NBP Public Notice #1** )

**Reply Comments of**  
**Communications Workers of America**

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The Communications Workers of America (CWA) submits these Reply Comments in response to the Commission's Public Notice seeking comment on the definition of "broadband."<sup>1</sup> CWA is the union for the Information Age, representing 700,000 workers in communications, media, airlines, manufacturing and public service.

Most commentators emphasized the importance of setting clear and measurable goals for broadband deployment in the national broadband plan. They noted that while it is important to establish a baseline definition of broadband, it is even more important to establish specific targets for broadband networks so that we can craft policies to get us there, measure progress, and make adjustments as needed. CWA wholeheartedly agrees.

**Broadband Definition.** The Recovery Act directs the Commission to create a national broadband plan that seeks to ensure that every American has access to broadband capability and to establish benchmarks to meet that goal. Therefore, the Commission must determine whether it will maintain or update its current definition of basic broadband as an always-on Internet connection with information transfer rates equal to or greater than 768 kbps in one direction.<sup>2</sup>

At 768 kbps download speed using today's compression technology, people can access basic email, browse simple web sites, and use voice over Internet Protocol telephony. In order to browse more complex web sites, access e-mail with larger size attachments, share medium-size

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<sup>1</sup> Federal Communications Commission, Comment Sought on Defining "Broadband," NBP Public Notice #1, GN Docket Nos. 09-47, 09-51, 09-137, Aug. 20, 2009.

<sup>2</sup> Federal Communications Commission, *In the Matter of Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriberhip Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriberhip*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking., p. 11 fn 66, June 12, 2008 (rel) (*Broadband Data Order*).

files, stream music, and access standard definition video, people need between 1 and 5 mbps downstream.<sup>3</sup>

The Commission recently began requiring broadband providers to report on Form 477 data on upload and download service speed tiers. Broadband providers have developed systems to accommodate these reporting requirements, and the Commission should continue to use these speed tiers for benchmarking purposes. Any change in broadband definition should be consistent with the current Form 477 speed tier reporting requirements.

In light of the speeds required for current-generation broadband capabilities, and consistent with the speed tier reporting requirements on Form 477, the national broadband plan should upgrade the Commission definition of broadband to a “current generation” definition of broadband at 1.5 mbps upload and download service speeds based on actual (not advertised) speed. The Commission should re-evaluate this definition annually in its 706 broadband report.

**Broadband Goals.** The National Broadband Plan should establish broadband goals that are both aggressive and achievable. CWA concurs with the commentators who recommend that the national broadband plan establish immediate benchmarks pegged to the minimum service speeds necessary to transmit high definition video, which is 10 mbps download and 1 mbps upload capacity.<sup>4</sup> Video transmission enables applications in distance learning, telemedicine, public safety, and energy conservation that take advantage of broadband’s transformative

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<sup>3</sup> See Final Report of the California Broadband Task Force, “The State of Connectivity: Building Innovation Through Broadband,” Jan. 2008. In a presentation to an FCC Broadband Workshop, Robert Pepper, Vice President Global Technology Policy at Cisco Systems, identifies 3.75 mbps download and 1 mbps upload and 95 ms latency as minimum requirements for such applications as social networking, LD video streaming, basic video chatting, small file sharing, and standard definition IPTV. See Robert Pepper, International ICT and Broadband Development, FCC Workshop, Aug. 18, 2009, p.17.

<sup>4</sup> The California Broadband Task Force report notes that high definition video downloading requires 5-10 mbps upload and download speed. In his Aug. 18, 2009 FCC Workshop Presentation, Robert Pepper of Cisco Systems reported that high definition video streaming and high definition IPTV requires 11.25 mbps download, 5 mbps upload, and latency of 60 ms. See Comments of Telecommunications Industry Association and Free Press in this proceeding.

capabilities. CWA agrees with the many commentators who advocate higher thresholds over the longer-term, moving the U.S. toward the global standard for advanced nations of 100 mbps in both directions.

**Measure Actual not Advertised Speeds.** The national broadband plan should recommend measurement of broadband capacity based on actual, not advertised, speed. The consumer experience is based on actual speed, not advertised, speed. There can be wide variations between actual and advertised speed. Transmission of medical data, participation in two-way video distance learning, real-time monitoring of energy consumption all is possible only with sufficient actual broadband capacity, not advertised capacity. We do not have an accurate picture of broadband capacity if we benchmark against advertised broadband speeds. We must measure and benchmark actual broadband speeds.

There is a way to do this. In the *Broadband Data Order*, the Commission noted its intent to “establish a voluntary registry that, among other things, will allow broadband service customers to report actual speeds of service received, as a tool to assist us in monitoring the deployment of broadband services.”<sup>5</sup> The national broadband plan should recommend that the Commission move forward expeditiously to implement such a voluntary speed test.

**Internet Speeds in 2009.** Over the past three years, CWA’s Speed Matters campaign has posted a voluntary speed test at speedmatters.org to allow Internet users to see the actual speed of their last-mile Internet connection. Between May 2008 and May 2009, 413,000 people in the United States went to the speedmatters.org website to take the Internet speed test. The average (mean) download speed for the nation was 5.1 mbps and the average upload speed was 1.1 mbps.

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<sup>5</sup> *Broadband Data Order*, para 22.

These speeds are just slightly faster than the 2008 speedmatters.org results of 4.2 mbps download and 873 kbps upload.<sup>6</sup> (see A Report on Internet Speeds in All 50 States, 2009, attached)

The 2009 speedmatters.org survey also reveals that the U.S. continues to lag far behind other countries. The United States ranks 28<sup>th</sup> in the world in average Internet connection speeds. In South Korea, the average download speed is 20.4 mbps, or four times faster than the U.S. The U.S. trails Japan at 15.8 mbps, Sweden at 12.8 mbps, the Netherlands at 11.0 mbps, and 24 other countries that have faster broadband than we do.<sup>7</sup>

The results of the 2009 speedmatters.org survey also show that most Americans are locked into slow Internet, while relatively few have access to truly high-speed two-way connections. Eighteen percent of those who took the speed test recorded download speeds that were slower than 768 kbps, which does not even meet the Commission's threshold for basic broadband. Half (51 percent) of those who took the speed test connected at speeds equal between 768 kbps and 6 mbps, 13 percent between 6 and 10 mbps, 17 percent at 10 to 25 mbps, and two percent at greater than 25 mbps download.<sup>8</sup>

The results of the 2009 Internet speed test underscore the vital importance of setting stretch yet achievable goals and benchmarks for broadband deployment and adoption.

Respectfully Submitted,

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<sup>6</sup> Communications Workers of America, "A Report on Internet Speeds in All 50 States, 2009," p.1 .Available at <http://www.speedmatters.org/content/2009report/>

<sup>7</sup> International data is from speedtest.net, as of Aug. 12, 2009.

<sup>8</sup> CWA, "A Report on Internet Speeds in All 50 States, 2009," page 2.