

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

In the Matter of)	
)	
Development of Nationwide Broadband Data to)	WC Docket No. 07-38
Evaluate Reasonable and Timely Deployment of)	
Advanced Services to All Americans, Improvement)	
of Wireless Broadband Subscribership Data, and)	
Development of Data on Interconnected Voice over)	
Internet Protocol (VoIP) Subscribership)	
)	
Further Notice of Proposed Rulemaking on)	
Voice Lines, Speed, Pricing, Confidentiality & Surveys)	

REPLY COMMENTS OF AT&T INC.

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I. INTRODUCTION AND SUMMARY

AT&T Inc. and its affiliated companies (collectively, AT&T) respectfully submit the following reply comments in order to address an issue raised in the comments jointly filed by Consumers Union, Consumer Federation of America, Free Press and Public Knowledge (collectively, Joint Commenters) regarding information related to the speed of broadband Internet access services.¹ AT&T agrees with the Joint Commenters that consumers should have meaningful and accurate information about the broadband speeds they can expect to receive. In fact, AT&T recently announced it is planning to issue new, improved customer disclosure statements that, among other things, will provide consumers with additional information about the capabilities and limitations of their broadband services.² We also announced that, when we offer broadband services by speed, we will do so in discrete, non-overlapping tiers and, to the extent we find that we are not providing service within the ordered speed tier, we will take action to bring the customer's service within the ordered tier or give the customer an option to move to a different tier. These actions by AT&T demonstrate that consumer interests are being served in the highly competitive broadband marketplace without any need for prescriptive, heavy-handed government regulation.

¹ Comments of Consumers Union, Consumer Federation of America, Free Press and Public Knowledge, WC Docket No. 07-38 (Aug. 1, 2008) (Joint Comments). *See Deployment of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriber Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriber Data*, WC Docket No. 07-38, Report and Order and Further Notice of Proposed Rulemaking, FCC 08-89, ¶ 36 (released June 12, 2008) (*2008 Broadband Data Notice*). AT&T previously explained its concerns with multiple aspects of the Commission's proposals to expand the scope of its broadband data collection, including the proposals to require broadband providers to report data on the "actual" broadband speeds provided to customers and the prices of their broadband services. *See AT&T Comments*, WC Docket No. 07-38 (Aug. 1, 2008) (AT&T Comments). Neither the Joint Commenters nor any other party has provided a significant response to those concerns. In the event such a response is provided in any reply comments being filed today, AT&T may choose to address such a response in a supplemental filing in this docket at a later date.

² *See* Testimony of Robert W. Quinn, Jr., AT&T, FCC Public En Banc Hearing at Carnegie Mellon University on Broadband and the Digital Future at 3 (July 21, 2008) (Quinn Testimony).

We do not agree, however, with the Joint Commenters' proposal to address broadband speed disclosures by requiring broadband providers to report "information necessary to calculate [providers'] upstream and downstream contention ratios."³ Reporting such data on contention ratios would not provide the Commission or consumers any relevant or meaningful information. To the contrary, the data would be inapt, potentially misleading, extremely burdensome to produce, and its disclosure could cause competitive harm and jeopardize network security. Accordingly, AT&T strongly urges the Commission not to adopt the Joint Commenters' flawed contention ratio proposal.

II. DISCUSSION

A. AT&T Generally Agrees with the Joint Commenters that Consumers Should Receive Adequate Information About the Speed of Their Broadband Services.

The Joint Commenters assert that "current industry practice[s]" are inadequate to properly inform consumers about the broadband Internet access speeds they can expect to receive.⁴ They claim that "[p]roviders should do much more to help consumers understand [that advertised maximum] speed[s] will not be attainable at all times or even the majority of the time."⁵

While AT&T has always striven to provide its broadband customers with helpful information about the services they purchase, we generally agree with the Joint Commenters that there is room to improve the efficacy of that information. To that end, AT&T recently announced that it had "initiated a broad examination of our [broadband] customer disclosure policies and decided to make some clarifications and improvements in those policies," which we

³ Joint Comments at 15.

⁴ Joint Comments at 14.

⁵ Joint Comments at 15.

intend to disseminate in Fall 2008.⁶ AT&T's revised customer disclosures will be based on three core principles: (1) we support our customers' right to free expression; (2) we will give our customers clear information about the capabilities of the services we provide and clear notice of any meaningful limitations on those services; and (3) when we provide broadband service based on speed, we will do so in discrete, non-overlapping tiers that are disclosed to customers.⁷

These latter two principles are particularly relevant to addressing the concerns expressed by the Joint Commenters. Specifically, with respect to service capabilities and limitations, AT&T stated that it "will clearly describe the service it provides and the factors that can affect the performance of that service, including the possible impact of other users on shared components of the service and the fact that multiple networks must often cooperate to connect customers to the websites, applications and services that they seek to use."⁸ Concerning speed tiers, AT&T explained that when it "offers service at a given speed, we are referring to the speed capability we provide to a customer's home, rather than the speed at which the customer's computer exchanges packets with other Internet end points."⁹ To ensure customers understand this distinction, "AT&T will explain the difference between the throughput speed customers may experience at their computers and the speed capability that AT&T provides to customers on its network."¹⁰ "When AT&T provides broadband service by speed, it will do so in discrete, non-overlapping tiers."¹¹ Further, "[w]e will strive to provide service within the speed tier purchased by the customer and if we find that we are not providing service within the ordered speed tier,

⁶ Quinn Testimony at 3.

⁷ Quinn Testimony at 3.

⁸ Quinn Testimony at 4.

⁹ Quinn Testimony at 6.

¹⁰ Quinn Testimony at 6-7.

¹¹ Quinn Testimony at 7.

AT&T will take action either to bring the customer's service within the ordered tier or give the customer an option to move to a different tier.”¹²

With these and other improvements to our broadband customer disclosures, AT&T believes that consumers will be better informed about the nature of our services and, accordingly, will be better able to make educated choices about which services in the highly competitive broadband marketplace best meet their needs. Indeed, even the Joint Commenters acknowledged AT&T’s planned improvements and suggested that the Commission assist consumers in obtaining more information about their Internet services by “encouraging” other broadband providers to take similar steps.¹³ In this regard, we agree with the Joint Commenters that the Commission can best serve consumer interests by encouraging market-based initiatives to improve broadband customer disclosures, rather than by imposing heavy-handed, one-size-fits-all disclosure mandates on broadband providers.

B. The Commission Should Not Require Broadband Providers to Report “Contention Ratios.”

On the issue of collecting broadband data related to connection speeds, the Joint Commenters openly admit that the Commission’s proposal to require broadband providers to report the “actual” speeds of end user broadband connections (as opposed to the maximum authorized speed required under current reporting requirements) is fraught with “inherent difficulties” and would produce data that is “incredibly subjective.”¹⁴ So instead of backing the Commission’s proposal, the Joint Commenters urge the Commission to obtain “relevant information on the level of service consumers receive” by compelling broadband providers to

¹² Quinn Testimony at 7.

¹³ Joint Comments at 14-15.

¹⁴ Joint Comments at 14. *See also* AT&T Comments at 3-6.

report “information necessary to calculate the upstream and downstream contention ratios,” which they describe as “simply the number of broadband subscribers divided by the amount of bandwidth devoted to broadband.”¹⁵ This information, the Joint Commenters claim, will give the Commission “a clear understanding of the minimum amount of bandwidth being provided to each subscriber.”¹⁶

There is nothing “simple” or “clear” about the Joint Commenters request. To the contrary, the contention ratio reporting requirement they propose would impose significant burdens on providers and would only produce confusing and misleading data that offers little, if any, insight into the real-world broadband speeds that consumers experience. Accordingly, the Joint Commenter’s proposal runs directly counter to the Commission stated goal of “distill[ing] our [data gathering] down to that information which is most essential” to tracking broadband deployment and focusing as much as possible on “easily-quantifiable and readily-available” data sources.¹⁷

First, a “contention ratio” provides a numerical value to represent the number of subscribers whose broadband service has been designed to traverse a particular shared segment of a broadband network (*e.g.*, 20 subscribers assigned to use the link between point A and point

¹⁵ Joint Comments at 15 n.38.

¹⁶ Joint Comments at 15.

¹⁷ *Local Competition and Broadband Reporting*, CC Docket No. 99-301, Report and Order, FCC 00-114, ¶ 6 (released March 30, 2000) (*2000 Broadband Data Order*). See also *Local Competition and Broadband Reporting*, WC Docket No. 04-141, Report and Order, FCC 04-266, ¶ 1 (released Nov. 12, 2004) (*2004 Broadband Data Order*); *Deployment of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscriber Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscriber Data*, WC Docket No. 07-38, Notice of Proposed Rulemaking, FCC 07-17, ¶ 2 (released April 16, 2007) (*2007 Broadband Data Notice*).

B yields a 20:1 contention ratio for the bandwidth available on that segment).¹⁸ But that numerical value provides no meaningful information about the real-world broadband speeds those subscribers will experience. As AT&T and numerous other commenters previously explained, the information transfer speed a subscriber experiences is a function of myriad factors, many of which are beyond the broadband service provider's control, such as the quality of the wiring at the consumer's premises, the computer and networking equipment used by the consumer, the software and applications currently being run by the consumer, general Internet congestion and the responsiveness of the particular servers and networks the customer seeks to access, as well as many technology-specific factors, including how many other subscribers are actually using the same shared facilities at the same time (*e.g.*, cable modem), the consumer's distance from the provider's facilities (*e.g.*, DSL), atmospheric conditions (*e.g.*, satellite) and the capabilities of subscriber-purchased devices (*e.g.*, wireless devices).¹⁹ In fact, the Commission itself acknowledged in the *2008 Broadband Data Notice* that the "record indicates that factors beyond the control of service providers may compromise the ability of service providers to report actual speeds experienced by consumers."²⁰

Given these myriad factors that directly influence broadband speeds, the contention ratio for a discrete segment of a broadband network over which a given subscriber's Internet traffic is carried provides no meaningful information about the actual information transfer speed experienced by that subscriber. Indeed, a relatively high contention ratio on a particular broadband network segment does not mean that subscribers will necessarily experience reduced

¹⁸ When the network segment at issue is dedicated to a particular customer (*e.g.*, the "last mile" in a DSL network) rather than shared among multiple customers, the contention ratio for that segment would be 1:1.

¹⁹ See AT&T Comments at 3-6.

²⁰ *2008 Broadband Data Notice* ¶ 36.

speeds. Nor does a relatively low contention ratio on a given broadband network segment mean that subscribers will necessarily experience maximum authorized speeds. For example, a broadband link operating with a given amount of bandwidth and a relatively high contention ratio (e.g., 100:1) that serves a group of subscribers who consume moderate amounts of bandwidth on an intermittent basis (e.g., residents of a senior citizen community sending email and browsing the web) may offer those subscribers higher information transfer speeds than another broadband link with the same amount of bandwidth but a much lower contention ratio (e.g., 10:1) that serves a group of subscribers who constantly consume large amounts of bandwidth (e.g., residents of a college dormitory using P2P applications and streaming video). Thus, the Joint Comments' contention ratio proposal would provide little (if any) value to the Commission or consumers.

Second, even if a contention ratio offered some meaningful information that would advance Commission or consumer interests in this proceeding (and it does not), there is no single “contention ratio” that applies to a broadband network or a broadband subscriber. Rather, as explained above, a contention ratio is unique to the particular segment of the broadband network under observation. Internet traffic sent to or from a given broadband subscriber may, simplistically speaking, traverse a “last mile” segment with a specific contention ratio, a “middle mile” (or backhaul) segment with a different contention ratio, and a backbone segment with yet another contention ratio.²¹ In addition, because of the dynamic nature of Internet routing, individual packets sent to or from a particular customer may traverse different “middle mile” and “backbone” segments depending on how the customer's broadband provider chooses to route

²¹ The three general network segments described here (“last mile,” “middle mile” and “backbone”) are merely generalizations. Individual broadband networks may have many more segments for which an individual contention ratio could theoretically be calculated.

traffic across its network at different points in time. And, of course, the distance and scope of all of these segments may vary significantly among broadband providers using different technology platforms (e.g., cable, DSL, FTTH, mobile wireless, fixed wireless, BPL, satellite), among providers using the same technology platforms but serving regions with different population densities (e.g., urban, suburban, rural), and even among areas of similar density in a single broadband provider's network (e.g., two urban areas in different states).

Moreover, unlike fixed networks, where the maximum number of end users who may potentially seek to access the network at any given time is known in advance, the number of mobile wireless broadband customers who may simultaneously try to access a given cell site is unknown and can fluctuate significantly based on factors beyond the network operator's control (e.g., heavy usage following natural or man-made disasters). Further, many such mobile wireless networks are designed so that the spectrum (i.e., bandwidth) available in any given cell site may be shared between broadband and voice services, with the provider dynamically allocating that spectrum to each service on a real-time basis in response to changing traffic loads. Thus, calculating both contention ratios and the amount of bandwidth subject to contention raises additional complications in the mobile wireless context.

For all of these reasons, identifying the network segments for which broadband providers must produce a contention ratio and defining how that ratio should be calculated, let alone making meaningful comparisons of contention ratios among different technologies or providers, would be a daunting if not impossible task. The Joint Commenters meager effort to address these numerous complexities is, at best, woefully inadequate.²²

²² Joint Comments at 16-19.

Third, the Joint Commenters also fail to address the burdens that their contention ratio proposal would impose on the more than 1300 broadband providers operating in the U.S. today.²³ To report the information the Joint Commenters propose, providers would presumably need to examine every link in their networks that is subject to the contention ratio reporting requirement, determine the bandwidth available on the link, and figure out how many subscribers are assigned to use that link. To the extent it is even possible to gather this information (see mobile wireless broadband discussion above), providers would have to spend an enormous amount of time, money and effort to inventory each of the hundreds, thousands or perhaps millions upon millions of links in their networks, the number of subscribers assigned to use those individual links and the bandwidth available on the links. And, consistent with the Commission’s existing semi-annual broadband data reporting requirements, providers would presumably have to re-inventory those facilities, subscribers and bandwidth every six months.

Considering that, as discussed, the data produced from this massively burdensome effort would have no meaningful relationship to the real-world speeds experienced by consumers, the entire effort would be a colossal waste of resources that could otherwise have been devoted to deploying broadband service to consumers. Accordingly, the Joint Commenters’ contention ratio proposal not only fails to meet the Commission’s own broadband data collection criteria (“essential” information from “easily-quantifiable and readily-available” sources), but it also raises serious concerns under the Paperwork Reduction Act and the Regulatory Flexibility Act.²⁴

²³ High-Speed Services for Internet Access: Status as of June 30, 2007, Wireline Competition Bureau, FCC, at Table 7 (March 2008).

²⁴ See 5 U.S.C. § 603(c) (requiring agencies to seek comment on alternatives that “accomplish the stated objectives of applicable statutes and which minimize any significant impact of the proposed rule on small entities”); 5 U.S.C. § 604(b) (requiring agencies to describe “the steps the agency has taken to minimize the significant economic impact on small entities consistent with the stated objectives of applicable statutes, including a statement of the factual, policy, and legal reasons for selecting the alternative adopted in the final rule and why each one of the other significant alternatives to the rule considered by the agency

Fourth, many providers would presumably consider information about the contention ratios of the individual segments in their broadband networks to be proprietary and confidential and would not normally disclose that information to the public. Indeed, while contention ratio data may not be meaningful to the Commission or consumers for the reasons discussed above, it could prove valuable to competitors in the broadband marketplace who would gain an unfair competitive advantage from knowing the engineering assumptions underlying the design and construction of their rivals' broadband networks.

Such information may be of even greater interest to parties with far more malicious intentions. Hackers, terrorists, or other malfeasors planning to disrupt a broadband provider's network (e.g., by targeting large volumes of traffic at specific portions of the network in order to create congestion) may be substantially aided in those efforts if, as the Joint Commenters demand, the Commission were to collect and publicly disclose data about the contention ratios, and all information used to calculate those ratios, for every broadband provider in the U.S.²⁵ Thus, the Joint Commenters contention ratio proposal is not only competitively harmful but also poses a substantial threat to network security.

which affect the impact on small entities was rejected"); 5 U.S.C. § 3506(c)(3) (requiring agencies to certify that a data collection is "necessary for the proper performance of the functions of the agency, including that the information has practical utility," "is not unnecessarily duplicative of information otherwise reasonably accessible to the agency" and reduces "the burden on persons who shall provide information to or for the agency"); 5 C.F.R. § 1320(5)(d) (requiring agencies to take "every reasonable step to ensure that the proposed collection of information . . . is the least burdensome necessary for the proper performance of the agency's functions," "is not duplicative of information otherwise accessible to the agency," and "has practical utility"). *See also* Notice of Office of Management and Budget Action, OMB Control Number 3060-0568 (July 9, 2008) (rejecting FCC information collection under cable leased access rules because of failures to justify the need for data and to minimize burdens on respondents).

²⁵ Joint Comments at 19.

III. CONCLUSION

For all of the foregoing reasons, the Commission should reject the Join Commenters' ill-conceived contention ratio proposal.

Respectfully Submitted,

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