

## 2. Panel Construction

**This section describes the background to the study and methods employed to design the target panel, select volunteers for participation, and manage the panel to maintain statistical and operational goals of the program.**

The basic objective of the study was to measure broadband service performance in the United States as delivered by an ISP to the home of a consumer. We recognize that many factors contribute to end-to-end broadband performance, of which only some are under the control of the consumer's ISP. Although there are several ways to measure broadband performance, the methodology outlined here is focused on the measurement of broadband performance within the scope of an ISP's network, and specifically focuses on measuring performance from the consumer Internet access point, or consumer gateway, to a close major Internet gateway point. The design of the methodology allows it to be integrated with other technical measurement approaches that, in the future, could focus on other aspects of broadband performance.

### A. Use of an All Volunteer Panel

In 2008, SamKnows<sup>1</sup> conducted a test of residential broadband speed and performance in the United Kingdom<sup>2</sup> and during the course of that test determined that attrition rates for such a test were lower when an all-volunteer panel was used, rather than attempting to maintain a panel through an incentive scheme of monthly payments. Consequently, in designing the methodology for this broadband performance study, we relied entirely on volunteer consumer broadband subscribers. The volunteers were selected from a large pool of prospective participants according to a plan designed to generate a representative sample of desired consumer demographics, including geographical location, ISP, and speed tier. As an incentive for participation, volunteers were given access to a personal reporting suite which allowed them to monitor the performance of their broadband service. They were also provided with a wireless router, referred to in the study as a "Whitebox," that ran custom SamKnows software.<sup>3</sup>

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<sup>1</sup> SamKnows is a company that specializes in broadband availability measurement and was retained under contract by the FCC to assist in this study. See <http://www.samknows.com/broadband/index.php>.

<sup>2</sup> See [http://www.samknows.com/broadband/pm/PM\\_Summer\\_08.pdf](http://www.samknows.com/broadband/pm/PM_Summer_08.pdf) (last accessed June 26, 2011).

<sup>3</sup> Although the raw bulk data being released in conjunction with this report cover the period from February through June 2011, the Whiteboxes remain in consumer homes and continue to run the tests described below. Participants may remain in the trial as long as it continues, and may retain their Whitebox when they end their participation.