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March 2, 2016

Via email only: stbs@energystar.gov

United States Environmental Protection Agency
Attention: Katharine Kaplan
Manager, Energy Star Product Development and Program Administration
Office of Air and Radiation
Washington, D.C. 20460

Re: February 3, 2016 Draft 2 ENERGY STAR Version 5 specification for set-top boxes (STBs)

Dear Ms. Kaplan:

AT&T Services, Inc., on behalf of itself and its affiliates, respectfully submits these comments in response to the U.S. Environmental Protection Agency's ("EPA") February 3, 2016 request for comments on its Draft 2 ENERGY STAR Version 5 ("Draft 2") Specification for set top boxes ("STBs").

A. Introduction

AT&T¹ applauds EPA's efforts to continue harmonizing the ENERGY STAR Version 5 Set-top Box program revisions with the STB Voluntary Agreement² Tier 2 definitions and procedures, as this encourages Signatories to actively consider becoming ENERGY STAR partners as well.

AT&T appreciates how EPA clearly listened carefully to stakeholder comments in response to the Version 5 Draft 1 specification released late last year. Improvements to the dataset, as well as updates to the base and adder levels all reflect a more accurate understanding of the state of the industry today. The dual goals of encouraging wider program participation while driving towards new levels of energy efficiency are better served by this most recent draft.

¹ AT&T's purchase of DIRECTV closed in July 2015, and a new operating entity known as AT&T Entertainment Group has since been established. It includes the company's offerings branded DIRECTV as well as those branded U-Verse.

² The Voluntary Agreement for Ongoing Improvement to the Energy Efficiency of Set-top Boxes ("STB VA"), as amended January 1, 2014, included both AT&T and DIRECTV as Signatories.

By the way, the emphasis that EPA placed in encouraging efficient multi-room architectures, such as our Genie servers and thin clients, has returned some impressive results. As shown in the figure at the top of the next page, the energy required to provide HD and DVR service throughout a three-room household has decreased 80% since a decade ago when the EPA announced its plans to re-launch the ENERGY STAR Set-top Box product program...congratulations!

Our specific comments regarding Draft 2 follow.

80% Decrease in Average Annual Household Electricity Use

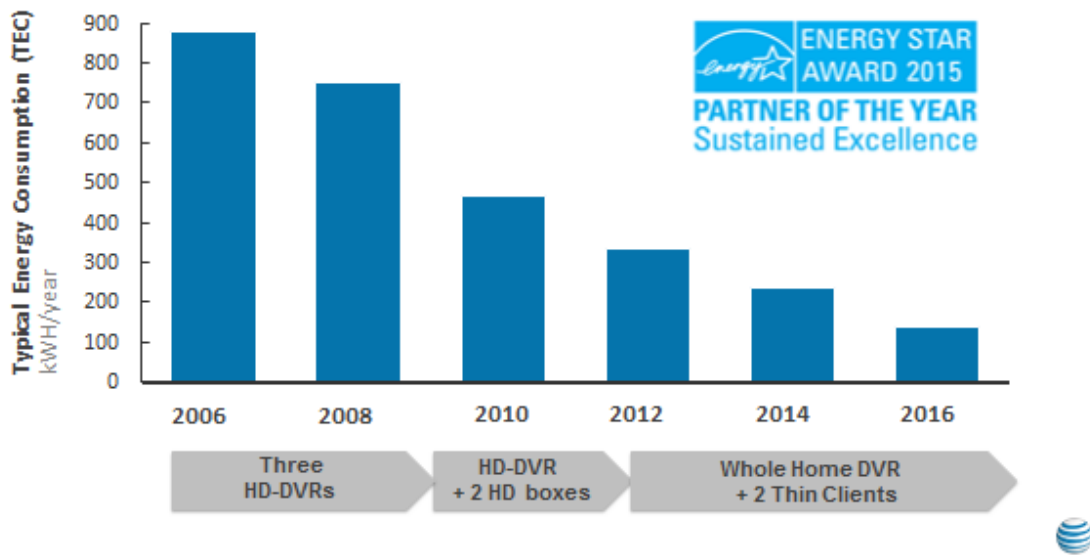


Figure: TEC (kWH/year) to serve a three-room DIRECTV household with HD-DVR service

B. Energy Savings through “Thin Client Capability”

It is important to note that the 80% improvement shown in the figure above has been achieved without employing Deep Sleep capability. Deep Sleep capability, with its long wake-up times and substantially increased hardware costs, remains a challenging and less desirable approach both from a customer experience and a service provider’s viewpoint.

A parallel opportunity to further reduce energy usage exists, which AT&T and other ENERGY STAR partners, Samsung, Sony & LG, have been promoting through their participation in the RVU Alliance (www.rvualliance.org). Indeed, EPA ENERGY STAR has also recognized this technology, “Thin Client Capability,” in its most recent Television product program update:

The ability of the TV to receive, decrypt, and display encrypted content provided by a Multichannel Video Programming Distributor (MVPD) over the Local Area Network via a

*server device co-located on the customer premises without the need for a client device at the TV.*³

In introducing the Television 7.0 specification, ENERGY STAR noted that the revision “offers partners the ability to highlight thin client capability that allows for integrated set-top box functionality.”⁴ Products that have thin client Capability are required to:

- i. Report the presence of Thin Client Capability and supporting information including, but not limited to, interoperability protocols, decryption, and decoding functions for display on the ENERGY STAR certified products list; and*
- ii. Inform the consumer in the user manual and/or on-screen prompt that the TV may be capable of operating without a set-top box from an MVPD.*

The Set-top Box V5.0 specification should similarly encourage this capability in both server and client devices, mirroring the efforts of the TV V7.0 program, and helping address the “chicken and egg” problem that so often plagues new technology introductions. After all, the elimination of devices is the preferred outcome, especially for devices as efficient as thin clients, where simply reducing their energy use results in ever-diminishing returns. AT&T welcomes the opportunity to discuss possible incentives for this with you.

C. Deep Sleep requirement for Thin Clients

At the February 23 webinar (slide 14), EPA described how stakeholders “expressed concerns in the time needed to implement Deep Sleep (≤ 1 W) in Thin Clients” and proposed an effective date of January 1, 2018 for when the thin client base level should drop from 30 to 7 kWh/yr. While AT&T appreciates this suggestion, we recommend that an effective date of January 1, 2019 would be more appropriate.

In response to the Draft 1 proposal, stakeholders were consistent in describing the challenges in developing hardware designs that would support a deep sleep mode and suggesting that EPA postpone any mandatory requirement for Deep Sleep in thin clients until the next, “Version 6,” program revision. The next revision would likely be effective around Jan 1, 2019. However, with the understanding that circumstances might result in a longer than 2 year cycle for the next revision (for example, Version 4.1 became effective more than 3 years after Version 3 launched), requiring a fixed effective date of January 1, 2019 in the Version 5.0 revision represents a fair compromise.

³ ENERGY STAR Program Requirements Product Specification for Televisions, Version 7.0, paragraphs 1.C.1 and 3.2.6.

⁴ Cover memo for Television version 7.0, from Verena Radulovic, ENERGY STAR Consumer Electronics Product Manager, dated December 30, 2014 (available at <https://www.energystar.gov/sites/default/files/Final%20Version%207%2000%20Televisions%20Cover%20Memo.pdf>)

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D. Client Only Incentive

In Draft 1, EPA asked if the Client-Only incentive is necessary, having received “feedback that Multi-room STBs already decrease energy consumption when transmitting content to clients rather than the display.” In its Draft 1 comments, AT&T encouraged EPA to leave this incentive in place for Version 5, as it encourages implementations that reduce energy consumption in this common use case (e.g. watching TV in a bedroom while not watching TV in the living room).

EPA has chosen to reiterate this question in Draft 2. Having further reflected on this issue, AT&T would not object to the elimination of the Client-Only incentive with Version 5.0. There are a number of reasons for this in addition to the fact that, as EPA has noted, this incentive hasn’t proved necessary. First, with this incentive the specification complexity is significantly increased, requiring additional testing and calculations. Also, this incentive causes potential confusion as the measured TEC that is published for a product employing this incentive appears lower than for another similar product not using it. This makes apples-to-apples comparisons with these other similar products challenging for consumers. Finally, the trend towards Displayless Video Gateways will likely make this incentive moot in a few years.

E. Conclusion.

AT&T shares EPA’s goal of ensuring the ENERGY STAR label represents the “best of the best,” as described during the Webinar. By addressing these key concerns and those raised by other stakeholders, EPA will help Partners meet this goal while simultaneously maintaining, and perhaps even increasing, STB program participation.

Sincerely,

/s/ Jeffrey H. Dygert
Jeffrey H. Dygert