

CableLabs® INVENTION DISCLOSURE

1. **Invention Title.**

STB Energy Conservation using Presence Detection Techniques

2. **Invention Summary.**

This approach utilizes a number of methods to determine if a viewer is present in a room to control the power state of a set-top box (STB).

3. **Invention Description.**

a. **Describe the invention in detail.**

The industry is currently working toward new and improved STBs that have different modes of operation to use less power when not in use. STBs can go into low power, or even a very low power deep sleep when a user requests that mode, or after a certain period of time when no remote interaction has occurred. However, this is often a very long period of time, such as 4 hours. Additional power savings could be achieved if there was a way to know that viewers have left the room or left the premises in a more timely manner.

In addition, in some very low power modes (e.g. deep sleep), STBs require significant time to recover. Presence detection can provide early warning that a viewer may want to watch TV, and automatically bring a STB out of deep sleep and begin startup before any viewer interaction.

Presence can be determined through integration with any number of devices such as blue tooth devices, motion detectors, “Kinect”-style sensors, integration with a home security/home automation system, or even smart phone location services, such as iPhone “fences”. Integration with multiple devices and sensors will increase the accuracy of presence detection and determination and result in an optimal user experience.

Presence detection integration with STBs is already contemplated for personalizing guides and user interfaces. This proposal could expand on that concept by also using the presence information to realize additional energy savings.

CableLabs® INVENTION DISCLOSURE



Figure 1 – Various sensors and inputs that could be used for presence detection

- b. **Why was the invention developed? What problem(s) does the invention solve? How is it better?** This invention was developed in an effort to improve energy efficiency of next-generation STBs. The problem is that STBs need to remain on at times to get software updates, entitlement updates, and channel lineup information. However, when this is not occurring, the STB can be put into a low power state to conserve energy. This low power state could be controlled more effectively by integrating with presence detection devices.
- c. **Briefly outline the potential commercial value and customers of the invention.** There is significant regulatory pressure on the MVPDs and the CEA to reduce the energy consumption of the MVPD-deployed devices in the home. This invention helps consumers save money, and helps MVPDs meet their commitments to deploy energy-efficient devices.
4. **HOW is your invention different from existing products, processes, systems?** STBs are being designed to move into lower power modes upon user action, or after a long period of inactivity. However, we are not aware of any existing products that integrate presence detection to improve the energy management of a STB.