



**Extended Statement From Beyond Broadband Technology, LLC, regarding nominations to the FCC's Downloadable Security Technical Advisory Committee DSTAC**

**Washington, D.C., January 20, 2015** – Beyond Broadband Technology (BBT) is asking the Federal Communications Commission for assistance in assuring that the Downloadable Security Technical Advisory Committee (DSTAC), now being formed by the Commission to explore new and more effective ways of establishing “downloadable security” in cable television set-top boxes and all other distribution platforms, has the appropriate level of expertise to truly explore all the alternatives currently available.

In a disturbing development that could reflect on the entire effort's mandate to comply with federal guidance on the creation and reliance on outside advisory committees, two critical perspectives on the technical design and nature of any downloadable security mandate have specifically been left off of the nascent working group.

As is now very clear from the concerns loudly voiced by the Obama Administration and Congress because of constant recent cybersecurity lapses, data security and encryption have become a paramount concern. This applies to cable television set-top boxes because video and data transport technology is now migrating to delivery on multiple platforms, including the entire broadband infrastructure. Congress, in H.R. 5728, 47 U.S.C. 549, tasked the FCC with the mission “...to identify, report and recommend performance objectives, technical capabilities, and technical standards of a not unduly burdensome, uniform and technology-and-platform neutral software-based downloadable security system.”

Very few such technically secure, platform neutral transmission ecosystems exist for cable, satellite or broadband today. The European technical approach, relying on “simulcrypt” technology, is not compatible with the large multi-million box majority of equipment currently deployed in operating cable systems in the United States. A well-publicized downloadable security effort cited by the Commission, PolyCipher -- headed

by Comcast, Time Warner Cable, Cox, and supported by Motorola (now Arris) and Cisco designs -- failed to materialize, as have others. There have been two newer efforts, also fully known to the Commission: one by BBT has been implemented and is now in limited use in the field. The other, a "WorldBox," has been spearheaded by Charter Communications, which has now announced, at the 2015 CES Show, that it is scheduled for implementation in Spring 2015 in cooperation with Cisco. These are complete downloadable security ecosystems, not simply "DCAS" or downloadable conditional access systems. The difference being that whatever is being downloaded must, itself, be securely transmitted before it can, in turn, act as the security, encryption and conditional access for the data itself. Such full security should now be considered a minimum requirement for cable, satellite and the Internet/broadband, in general.

The fundamental difference between the two FCC-recognized downloadable security designs is that one, characterized by Charter's, relies on well-established public/private key technology, which requires a repository for the "private" secure keys by a "trusted authority." BBT's newly patented approach uses symmetrical key technology that does not require any trusted authority. This may be critical to cross-industry acceptance. Users, be they cable programmers, data providers or the government itself, control their own encryption and security. They need not "trust" any intermediary party to protect their data. There is no entity holding "private keys" that can be stolen. The design can also be implemented in both one-way, such as satellite, and two-way environments, one of the "platform neutral" objectives of the Congressional mandate.

Another one of the key conditions Congress included in the study mandate was that any system be "...not unduly burdensome." Yet no cable engineer currently involved in operating small system technology or intimately familiar with the related economic burdens is slated to be on the DSTAC. Small systems are simply not represented. Some industry vendor technical representatives have small system clients, and they are already publicly promoting their membership on the task force to those clients. But focus and advocacy by them will inevitably lean toward their large, dominant customers. That is to be expected. However, small system operators, too, need specific, practical and knowledgeable representation.

As important, apparently no engineer with actual hands-on knowledge and technical expertise regarding the "no-trusted-authority" symmetrical key approach has been invited to participate on the working group. This leads to a curious situation where the Commission will be relying on technical advice and other proprietary expertise for proposed standards to construct cable television system set-top boxes while specifically excluding one of the only two technologies it has already recognized as being "downloadable security for cable television set-top boxes!" It is hard to understand how this exclusion makes sense, especially because the BBT nominee, Bill Bauer, is both a

fully qualified engineer, and a patent holder and inventor of the only downloadable “no-trusted-authority” security design for cable set-top boxes. He is also a well-known small cable system operator and advocate. The original BBT set top box was designed specifically to address the downloadable security challenges of both technology and cost for systems of all sizes. It was also designed to be platform agnostic, offered with open specifications, and cross-industry acceptable because it does not require any “trusted authority.” Why totally exclude this expertise from the working group? It serves no legitimate interest in, for instance, “keeping the group small” if by doing so the advice ultimately provided to the Commission and to Congress is emasculated by intentionally excluding the consideration of competitive alternatives.

*Note; This “extended comment” amplifies on a letter sent to Chairman Tom Wheeler of the FCC and all other Commissioners regarding information on the make-up of the Downloadable Security Technical Advisory Committee. While no formal list of participants on the committee was released at the time of this letter, it is based on information specifically provided to BBT regarding the issues raised by Commission staff.*

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