

**Before the Federal Communications Commission
Washington, D.C. 20554**

In the Matter of Expanding Consumers’)	MB Docket No. 16-42
Video Navigation Choices and Commercial)	
Availability of Navigation Devices Notice)	
Of Proposed Rulemaking)	CS Docket No. 97-80

Comments of Beyond Broadband Technology, LLC

April 21, 2016

To The Commission;

Commissioner Rosenworcel was right.

When this Notice of Proposed Rulemaking on stimulating an MVPD set top box retail market was adopted, the Commissioner noted: “...important questions have been raised about copyright, privacy, diversity—and a whole host of other issues in a marketplace that has been tough for competitive providers to crack...” She voiced concern about the complexity of the NPRM in stressing that “more work needs to be done to streamline this proposal.”

It can easily be streamlined. Beyond Broadband Technology, LLC, (BBT) which hereby submits its comments in this proceeding, has already designed and produced equipment, based primarily on existing open platforms, that accomplishes virtually all of the objectives laid out by the Commission. The box the Commission says it is seeking, in other words, already exists and can be demonstrated. The Commission staff as well

as the primary competing interests regarding this issue, as described in the NPRM, all are aware of the BBT technology, but have steadfastly avoided seeking the details surrounding it because, as we explain below, their true objectives have little to do with the technology, but rather with data marketing, business plans and industrial policy. As even Public Knowledge Chief Gene Kimmelman reportedly acknowledged during a panel at the NAB conference this week, control of data is actually “the dirty little secret” behind the issue of set top boxes. It’s not the technology to design and create competitive set top boxes. That technology already exists. BBT can show it to anyone truly interested in learning about it. More important, given Commissioner Rosenworcel’s comments, implementation of that technology does not require the resolution of the multiple other complex issues she cites.

The BBT patented technology for downloadable security on set top boxes was recognized by the Commission in this docket as far back as 2007. BBT committed, at that time, that it would make licenses to the technology available on an open specification basis. That is still the case today. Since that time advancements in chip technology make the rapid development and retail distribution of a device capable of accomplishing all the principal attributes outlined by the Commission that much easier, and less expensive. The technology is fully secure, meets the security audit standards required by intellectual property owners, is capable of being incorporated into MVPD systems without the need for wholesale replacement of existing set top boxes, and would be licensed by an entity that is not owned or controlled by any of the major MVPD or “Edge” companies. What it would not do is support any contention that the only way

to build and market such a device would be to require the disaggregation of content. It is capable of doing so, should that be a subsequent legal or business supported need, but it is also designed to provide full security for multiple forms of downloadable conditional access, digital rights management, and privacy. The technology should not be the issue in this proceeding. It already exists.

In making yet another full-throated endorsement of the proposed rules, Chairman Wheeler recently was reported as saying that "...the FCC's set-top proposal is needed to stimulate competition in the retail market and would protect both copyright and consumer privacy. Some see shortcomings in the proposal, he reportedly said. "Whether these concerns are more than a smokescreen for their overall opposition to the idea of competitive set-top boxes will be determined by whether there is input about how best to write language to accomplish our goals of protecting copyright and privacy, ... We clearly believe our proposal protects both copyright and privacy, but if it can be made better, we are open for suggestions."

If there is any smoke involved in this proceeding it was intentionally created by the Commission itself to obscure what is really intended; a substantive change in the entire business model of MVPD distribution, something many argue the Commission has no statutory mandate to do unless it can somehow link that fundamental policy shift to the issue of "competitive set-top boxes." It appears to have done so here by intentionally avoiding any expertise or inclusion of information or expert input on existing technologies that can and already do enable the manufacture and sale of competitive

set-top boxes without the need for the major, disruptive sets of requirements that get totally ensnarled in the issues Chairman Wheeler and Commissioner Rosenworcel raised.

Consistent with the Chairman's call, BBT hereby repeats, again, information about technology that has been systematically ignored in this proceeding to date which would enable the retail sale of competitive set top boxes but would also totally protect contracts, copyright, diversity and privacy, or, alternatively, distribute programming "in the clear." The BBT supported technology can do either. This is not hard, There are other technologies used around the world that also already do it. But neither the Commission nor those engaged in the DSTAC debate wanted to hear or deal with those solutions because they interfered with what was actually the objective of this exercise; changing the entire nature of the MVPD service, and creating an entirely new disaggregated video business eco-structure for those most actively promoting this "solution." So long as that is the true, smoke-shrouded objective, honest, expert input seems to be the last thing the Commission seriously wants to entertain. "Transparency," a favorite plea of both the Commission and the advocates of this NPRM, is somewhat irrelevant when those calling for it are also generating so much obfuscating smoke.

It is not hard to give a clear-English explanation of what is really going on both in this proceeding and the Congressionally mandated DSTAC report that triggered it. On one side are those who actually want to significantly change the MVPD business model. They advocate essentially a "dumb pipe," similar to their advocacy of common carrier

status for broadband communications. But MVPDs, cable and satellite subscription service providers, are not common carriers. They are well established as First Amendment speakers. They create a service including specific programming editorially chosen by them, placed in a specific order, within consciously chosen categories or adjacencies. They have contracts with program suppliers and intellectual property rights holders who have every right to rely on the integrity and construct of that service offering all the way to the viewer. They also create an overall “look and feel” for the service they sell, and many ancillary offerings for their subscribers, including a unique program guide. Thus, the multiple issues Commissioner Rosenworcel alluded arise.

The major MVPDs are constantly looking for new ways to monetize the service they provide, including vast improvements in the capabilities of their program guides, and accumulation and valuation of the data on the uses of that service by their viewers, just as virtually all major “edge providers,” such as Google, Amazon, Apple, Facebook and the like do on the Internet. Business plans are constantly evolving and MVPDs, like other creative service and content providers, are not at all interested in having the government, through any mechanism, restrict or forcibly redirect their businesses, services or content through industrial planning. Thus they essentially oppose any rules that would change the market.

Those who promote the view that MVPDs should merely be considered the “transport” of video programming argue that once transported, even in an intentionally designed service package, that programming can be intercepted and disaggregated for use by

any company that designs a new business plan around the constituent parts of the service. They obviously have a different objective. The two were intentionally pitted against each other by the Commission in the selection of “experts” for the Downloadable Security Technical Advisory Committee (DSTAC). The reason was clear; the Commission does not have the expertise or statutory authority to simply overturn the long history of MVPD regulation and legal precedent establishing that MVPDs are not common carriers, and are First Amendment speakers. But, reasoned the “dumb pipe” advocates, if there was a way to fabricate a “technical” requirement that essentially equated to a “dumb pipe” disaggregation mandate they could accomplish the same business objective. Enter the unsupported claim that such technical requirements are necessary in order to create a competitive market for cable television set top boxes.

Other parties filing in this proceeding will be providing lengthy explanations of what many see as either factual and technical misunderstandings or intentional misinformation that suffuses this NPRM, and attempt to respond to the literally hundreds of questions posed. We are not going to repeat all that. We believe the Commission’s entire process for reaching this highly contentious point was egregiously flawed.

The two principal bedrocks on which the Commission says it is basing its findings, and thus the claimed need for technical requirements for the delivery of “in the clear” programming primed for disaggregation, are both unsupported. First, the oft cited “studies” of the alleged calculated cost to consumers of set top boxes and the claimed percentage increases in pricing have been repudiated by economists and commentators who have noted the simplest of errors: for instance conflating the cost of

totally different classes of equipment, and neglecting equipment costs, installation costs and maintenance costs in the calculations. “Concluding” that the prices being charged by MVPDs for leased set top boxes are excessive and require redress without first determining how much the equipment costs, or differentiating the types and capabilities of the equipment leased, indicates a woeful lack of transparency and expertise. It is going to be very hard for the Commission to argue that it is the “expert agency” with regard to its conclusions when those conclusions are based on such obvious errors and omissions. Asking multiple generalized questions now, in this proceeding, or belatedly seeking data does not cure the problem. A Notice of Inquiry may have ameliorated or even changed the Commission’s “conclusion,” but reaching that conclusion and promoting rules without first establishing facts, prior to reaching conclusions, does not support any claim for regulatory balance or expertise.

The second bedrock of this NPRM is the Downloadable Security Technical Advisory Committee (DSTAC) report. But here, too, there are fundamental shortfalls. The report achieved no consensus, raised far more questions than answers, and the “experts” were specifically chosen to be evenly divided on the underlying policy issue which had little to do with downloadable security technical solutions. That appears to have been intentional. It allows the Commission to highlight “balance” but then choose whatever path it had already decided upon. That the Commission staff already had an established objective of what technical requirements were needed to abet favored marketing and business plans for the policy they were seeking was clear from the instructions given to

the DSTAC Committee members at their first public meeting. The results and the Commission's actions and "conclusions" were preordained.

BBT's CEO/CTO was nominated to be on that Committee. He is one of the named inventors of one of the only broad-based patents (#8503675, issued 08/06/2013) for a comprehensive design for downloadable security that can be used in conjunction with cable television (or, indeed, any MVPD) set top boxes. It is platform agnostic and can be used with all current video (or data) delivery technologies. The design allows for open specifications, and provides full security for all content and more extensive privacy protections than are available in just about any cable or broadband device today since they do not require a "trusted authority" for the private PPK keys. He is also the operator of small cable television systems (a cohort that was not represented at all on the DSTAC Committee) so one of the principal design objectives was to make sure that downloadable security set top boxes would be inexpensive and deployable by smaller, as well as larger MVPDs and could be competitively manufactured. The BBT technology meets those goals. He was intentionally excluded from DSTAC membership.

As noted, set top boxes meeting virtually all of the capabilities the Commission has enumerated in this NPRM have already been manufactured, based on already adopted standards, and are in use, having passed rigorous security audits required by programmers. Newer, cheaper ones using advanced, inexpensive, simplified chip technology and meeting all the stated objectives of this rulemaking, including security not under the control of any major MVPD can be demonstrated. Downloadable

conditional access and security can be designed, and/or changed, to protect or disaggregate the video/data services delivered depending on business plans or future legal and statutory decisions. Neither the warring members of the DSTAC Committee nor the Commission technical staff sought to see or learn about this existing technology during these proceedings because it interfered with, and potentially negated their predetermined objectives.

For those wanting to avoid any formal Commission action, such as the major MVPDs, demonstrating that technology already exists for true downloadable security set top boxes that can be competitively manufactured and deployed in the retail market was not optimal. They preferred the status quo of essentially a duopoly market. Their objective has always been to prevent any government action on the grounds that it is simply not needed. But they do already have analogous experience in the related and very successful development of open specification and retail manufacture and sale of broadband modems. The government was not involved in that development. BBT's CEO/CTO, it should be noted, was chair of the original industry committee that created those open and very successful standards. He designed technology to repeat that effort in the set top box market, but the major MVPDs remain reluctant.

On the other side, for those wanting to use the set top box technical standards as a Trojan Horse for their real objective of disaggregating content, securing viewer data, and thus creating a business ecosystem for their benefit, it was similarly not optimal to acknowledge that technology existed that created a competitive environment for the

retail sale of set top boxes which did not require disaggregation. The complex and thorny issues surrounding copyright, contracts, diversity and privacy that Commissioner Rosenworcel has rightly pointed to as inherently part of, but not fully addressed, in the current NPRM debate could have been totally avoided. It is important to remember that none of the Advisory Committee members claims expertise in copyright, contracts, marketing, jurisdictional issues or diversity concerns. They were chosen, allegedly, for their technical expertise regarding downloadable security, as the name of the advisory committee states. The Commission cannot point to the deliberations and results in the DSTAC report as evidence of any expertise in those other areas. That this NPRM dismisses the copyright and contract issues raised by the proposed rules without any attempt at substantive analysis certainly supports the proposition that it, too, cannot claim expertise in these areas.

The Committee's MVPD advocates focused on where the market is already going, and the almost overwhelming number of options consumers are being given today, including "apps" and soon "bots" to self-select the programming they want to see. They opposed any "stimulation" of a competitive MVPD set top box market. The parties advocating a new set of pseudo-common carrier rules surrounding the creation of a competitive set top box environment had, as noted above, an equal need to avoid recognition of existing technology that did not require their preferred conclusion. They needed a "finding" that the only way to get a marketable, competitive, open set top box into the new market of MVPD/OTT distribution (a very different market than the old CableCARD model) was to require a "solution" that mandated the ability to disaggregate the

compiled content prior to the purchased MVPD service offering being seen by the consumer. This enables them to re-sell the content and monetize the resultant data in a different package without ever having to negotiate or secure the rights to the individual pieces of the original subscription service.

The BBSolution™ allows for competitive set top box manufacture and distribution that does not require disaggregation. This does not comport with the objectives of either “side”. It certainly can technically accommodate disaggregation, and the distribution of programming “in the clear” if it was to develop in the marketplace or be required by Congressional mandate. But such a separate, discrete mandate would mean the Commission would have to develop any regulations based on specific statutory authority, and garner expertise on marketing, copyright, contracts, privity, privacy and competitive policies and their impact on diversity. Expertise that it currently does not have, did not seek prior to making its “conclusions” in this NPRM, and that the DSTAC membership did not even claim. To reach the “dumb pipe” policy objective, an artificial linkage with “competitive set top boxes” was necessary. Any information that suggested those additional requirements were not needed would have been an inconvenient truth. It was steadfastly avoided by keeping BBT’s clearly qualified expert and others with similar expertise off the Committee, and ignoring repeated public statements and offers at every public session of DSTAC to brief the Committee Members and the Commission on the details of the existing technology. This is not seeking and responding to “expertise,” this is intentional avoidance.

We have attached (Attachment 1) the statement submitted by BBT at the conclusion of the DSTAC meetings. Interestingly, it did not get included in the report nor were any of BBT's prior technical briefings, the technology itself or the materials submitted to Commission staff even mentioned in the consideration of this NPRM. The claim of Commission expertise to conclude that a disaggregation approach is the only way to achieve the objective of the competitive manufacture and retail sale of MVPD set top boxes, with all the difficulties Commissioner Rosenworcel has pointed to, is simply not supportable on this record. A set top box technology exists today that meets the fundamental objectives the Commission has laid out, and can be demonstrated.

The Chairman has asked for suggestions and language to make his proposal better. The suggestion BBT offers is a simple one; seek and incorporate the expertise on secure, downloadable set top box technology that has been systematically avoided in the creation of this record and the Commission's conclusions in this NPRM before going any further. Efforts at resolving the complex issues of copyright, contract, privacy, enforceability, privacy and diversity can in the main be eliminated from the proceeding altogether if a serious, honest effort is made to do so. The language need not be improved or rewritten. The myriad difficulties would not have to be addressed, because they wouldn't be issues in the first place.

It is far too late in this game...and that is what we unfortunately believe it has become, to start submitting detailed technical and legal arguments from BBT. We have tried, repeatedly. We do not have the legal and lobbying resources of a Google, Public

Knowledge, TiVo or Comcast. We do not propose to manufacture anything. We have a patented technology available with an open specification that has been tested and proved and can easily be utilized and inexpensively integrated into the MVPD (as well as the broadband/Internet/IoT/healthcare/automotive/power-grid, etc.) infrastructure that would provide a high level of true downloadable security while leaving in place individual control over digital rights management, conditional access, multiple user-selected encryption and the like. It is platform agnostic, operates on both one and two-way systems, and does not require a PPK “trusted authority” thus eliminating one of the major vulnerabilities of current data security designs. Incorporation into pre-existing open platform set top boxes has already been accomplished. Simple licensing would enable the competitive manufacture and retail sale of MVPD set top boxes with minimal requirements and costs imposed on MVPDs. But it would appear that despite the prior briefings of Commission staff, members of the Chairman’s Office, parties on both sides and submitted technical White Papers already filed with the Commission, the powers that be do not want to hear or know how they could accommodate Commissioner Rosenworcel’s honest and reasonable call for “streamlined” solutions.

Simplistic responses to the complex issues she raises cannot suffice. The statement, for instance, that the delivery of the individual programs and included advertising from MVPDs will be protected, and unaffected, is a non-sequitur. Its implication that there are thus no copyright or enforcement and privity of contract issues, without acknowledging that those contracts and copyright owner considerations and obligations also include the venue, placement, timing, association and manner of delivery of other programming

offered in the MVPD's unified, uniquely compiled subscription service package is totally disingenuous. To use the Chairman's own characterization, that is the epitome of a smokescreen. It is time to clear the air.

Other technologies that can actually accomplish the goal of retail sale of competitive set top boxes in the MVPD market exist, not just the BBT approach.. We assume, with all of the Commission's claimed expertise, it is familiar with the international open DVB-C standard, and Simulcrypt, both of which are used throughout the world, but strangely barely mentioned by the FCC. Ultimately, the simple and relatively inexpensive requirement that cable operators employ Simulcrypt at their headends, or via satellite transport would, in the future, allow an authorized or certified technology such as BBT's to work in virtually all MVPD environments. Interim transition designs would be necessary, however, and have already been developed that would protect the existing base of set top boxes today. It would also not require, or impede subsequent decisions, based on factual inquiry and solid jurisdictional ground, surrounding issues such as disaggregation (obviously seen as a primary one in this proceeding, yet a word that was never even included in the body of the NPRM) copyright, First Amendment, privacy, privity of contract, enforcement, diversity and many others. They were repeatedly raised by commentators throughout this proceeding to date as well as in a 300+ page dissertation in the DSTAC report itself. They were clearly not resolved in this NPRM proposal as can be seen from all the questions the Commission itself was forced to ask surrounding them, and the many additional questions that can be raised.

The Commission has yet to seriously attempt to seek out, or even inquire whether there are alternatives that would respond to the issues Commissioner Rosenworcel and many others have pointed to. There are. The alternative could obviate many of the thorny and legitimate issues raised, and certainly “streamline” the effort to stimulate a true MVPD retail set top box environment. This is no longer a question simply of the Commission’s expertise and conclusions. It is a question of its integrity.

Respectfully submitted,

For Beyond Broadband Technology, LLC

/s/ **William D. Bauer**

Chief Executive Officer/Chief Technical Officer

/s/ **Stephen R. Effros**

Of Counsel, Director, Strategic Planning and Communications

Please refer all inquiries to;

Stephen R. Effros
Beyond Broadband Technology, LLC
PO Box 8
Clifton, VA 20124
info@bbtsolution.com
703-631-2099

Attachment 1

Beyond Broadband Technology, LLC (BBT)
Statement
on the submission of the
Downloadable Security Technical Advisory Committee (DSTAC)
Report to the FCC

As one of the very few companies with direct knowledge and technical expertise in the area of downloadable security for set top boxes, BBT has closely followed the deliberations leading up to today's submission of the DSTAC report to the FCC. While we agree with most of the characterizations and conclusions of many of the DSTAC participants we cannot fully agree with those who suggest that the Committee comprehensively reviewed the issue of downloadable security and thereby complied with the Congressional mandate establishing this committee "...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..." The DSTAC report does something entirely different.

The Committee is to be congratulated for its hard and swift work. It did comply with the additional guidance put forth by the FCC staff, "...to make recommendations concerning both...an approach under which MVPDs would maintain control of the user interface and an approach that would allow consumer electronics manufacturers to build devices with competitive interfaces." This guidance was issued after it became immediately obvious that the selected committee members had fundamental differences, as the staff guidance points out, on the underlying scope of the inquiry. That additional guidance allowed the committee members to articulate their policy differences regarding the nature of business plans, service definitions, intellectual property and contract difficulties and the like, all of which were exhaustively explored in the DSTAC deliberations. What was left out, however, was a true exploration of any simple technical resolution to the search for a "...not unduly burdensome, uniform, and technology and platform-neutral software-based downloadable security system." Those are the clear and unambiguous words of the Congressional mandate.

The hundreds of pages of work encompassing this report are an impressive testament to how difficult any effort would be to resolve the policy and legal differences explored. However, as has been noted, the proposed technical details of an "AllVid" approach do not even exist as yet, and clearly cannot be defined in the form of any suggested standards. The alternative IP distribution "App" approach is already well under way in the IP delivery consumer marketplace and is clearly successful and rapidly expanding without the need for any government specifications, mandates or intervention.

The make-up of the Committee foretold the outcome of the report; little if any consensus on fundamental policy issues, let alone consensus on technical recommendations. Notably, the report dismisses several of the key Congressional mandates: that any recommendations be “platform neutral,” and “non-burdensome.” Those objectives were abandoned early in the process in favor of only considering IP platform delivery, which will not become ubiquitous for many years, if ever, and the alternative “AllVid” approach, which cannot be seriously characterized by even its most ardent advocates as “non-burdensome.”

The resulting report of DSTAC should be viewed for what it is; an excellent multi-hundred page exploration, with no consensus, of the literally hundreds of issues that would surround a policy and legal debate about a mandated consumer device, or standards surrounding an effort to create a unitary industrial design for delivery of video and data in the United States. There is no conclusion, or even expertise to debate the many aspects of that effort within the DSTAC group assembled.

There is, however, technology already in existence that is “platform neutral,” “non-burdensome,” and directly addresses the multiple *downloadable security* issues that were never significantly addressed in the open meetings of DSTAC. Understandably, given the preordained direction of the DSTAC deliberations, experts having knowledge and holding patents directly related to actual downloadable security technology were not invited to participate on the committee nor were they consulted, because the Committee was engaged in an entirely separable policy debate.

Again, we must take exception to the suggestion that DSTAC seriously looked at technical solutions for a platform agnostic downloadable security solution that could have avoided almost all of the policy and legal issues that have overwhelmed DSTAC.

Respectfully Submitted

William D. Bauer,
CEO/CTO
Beyond Broadband Technology, LLC (BBT)

8/28/15
info@bbtsolution.com

**PRESENTED AND SUBMITTED FOR INCLUSION IN THE FINAL REPORT OF THE
PROCEEDINGS OF THE DOWNLOADABLE SECURITY TECHNICAL ADVISORY
COMMITTEE**