CENTER FOR
DIGITAL
DEMOCRACY

***Before the***
FEDERAL COMMUNICATIONS COMMISSION
**Washington, DC 20554**

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| In the Matter of | ) | |
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| Expanding Consumers' Video Navigation Choices | ) | MB Docket No. 16-42 |
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| Commercial Availability of Navigation Devices | ) | CS Docket No. 97-80 |
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**COMMENTS OF CENTER FOR DIGITAL DEMOCRACY**

**April 21, 2016**

The Center for Digital Democracy (CDD), which works to empower and protect consumers in the digital marketplace, endorses the Federal Communications Commission's (FCC) important proposal to provide both choice and competition in the provision of navigational devices for video and related content. CDD strongly believes that the FCC should proceed with its plan to allow third parties to build and sell navigational devices. We support giving these developers/providers access to the information proposed in the NPRM, including Service Discovery, Entitlement, and Content Delivery data. For decades, a handful of powerful cable—and now also telephone—companies have held a monopoly over the design, availability, and use of set-top boxes. This has resulted in greater costs to subscribers, including an especially unfair burden on low- or limited-income consumers. The set-top stranglehold has impaired competition and programming diversity, and has undermined consumer privacy.

Navigational devices, regardless of whether they are provided by incumbents or third parties, require robust, new consumer safeguards. Contemporary commercial digital data practices have significantly outstripped—if not made irrelevant—the current FCC legal safeguards governing consumer privacy and set-top boxes. Information gathered by cable and telephone industry navigational devices is being put to use in far-reaching ways today. The collection, analysis, and use of consumer data for profiling, tracking, and targeting are at the core of today's video business—whether delivered by multichannel providers, programming networks, or online

(including over-the-top, [OTT]) services. Video delivery companies have embraced various forms of "programmatic advertising" and use "Big Data" processing technologies to continuously gather and integrate consumer information from multiple sources, including set-top/navigational devices. The navigational device is now the latest "screen" to be incorporated into the cross-platform consumer-data collection system, with its information used to target subscribers and other household members with marketing delivered across all of the screens consumers use. Navigational device data are also being used to track subscribers when they shop and work outside the home, illustrating how such data are being merged with information coming from data brokers and data-targeting companies.[1]

The FCC must ensure that there are robust consumer safeguards for all navigational devices to prevent data-driven marketing from harming vulnerable consumers or discriminating against certain groups. For example, children require specific safeguards to ensure they do not become victims of unfair and deceptive practices, including from the delivery of data-driven advertising via navigational equipment. Vulnerable consumers, including low-income and seniors, face risks through targeted set-top marketing for financial and health products. The use of racial and ethnic data, as part of navigational device profiles, requires a thoughtful review and appropriate safeguards. Consumer, privacy, and other nonprofit representatives, as well as scholars and other experts, should be part of any standards process for navigational devices. These independent consumer experts must play a key role developing a new baseline of safeguards for all set-top boxes.

The forthcoming FCC NPRM addressing ISP privacy should also ensure that there are the appropriate safeguards in place empowering consumers to control their data effectively, including navigational device information tied to broadband use.[2]

## The New Navigational Device/Set-top Consumer Data and Targeting Landscape

CDD has already placed in this docket its March 2016 report on ISP and related "Big Data" advertising and marketing practices, a number of which involve set-top box

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[1] See, for example, "Comcast Develops Advanced Advertising Platform to Handle Real Time Big Data," Datanami, 15 Sept. 2014, http://www.datanami.com/2014/09/15/comcast-develops-advanced-advertising-platform-handle-real-time-big-data/; Lesia

[2] Universal IDs and other kinds of identifiers that link all of a person's devices and communications use so they can be identified and targeted across the offline and online landscape is a fundamental feature of the digital media environment. See, for example, Oracle, "Connect with an Individual Customer Across All Channels & Devices," https://www.oracle.com/marketingcloud/products/data-management-platform/id-graph.html; Michael Walton, "What Is Connected Recognition, Anyway?" Merkle Blog, 24 Nov. 2014, http://www.merkleinc.com/blog/marketing-technology/what-connected-recognition-anyway#.VxUubj_-Bz8.

capabilities.[3] The growth of data collection for advertising and marketing is dramatically transforming the video business, placing consumer privacy at greater risk. Cable and phone providers are engaged in the identification of subscribers and consumers across devices and location. The industry's claims that all these data are anonymous, use only "aggregate information," and are gathered in a privacy-complaint manner do not stand up to scrutiny, as the following examples make clear:

- AT&T's AdWorks, which says it has "the industry's foremost targeting platform," enables marketers to "reach your audience everywhere they watch on every screen." AT&T has integrated its TV Blueprint targeting system with the "addressable" individual household ad-targeting capabilities it acquired from DirecTV when it took control of that company last year. TV Blueprint "uses advanced data, science, and technology to deliver data-optimized media plans aimed to reach your target audience at scale … . [It] gives advertisers working with AT&T the ability to reach people based on factors like device, operating system, whether they are heavy data users, or the status of their carrier contract," using "sophisticated second-by-second set top box data" and other information . " Every addressable TV campaign, it says, "is fueled by proprietary insights…yielding invaluable information about an advertiser's true target."[4]

- Cablevision is "pulling second-by-second tune-in and viewership data and advertisers are able to append tune-in data to first-or third-party data." This information is integrated with data provided by advertisers (so-called first-party data) along with third-party data from data brokers such as Acxiom and Experian. Cablevision's CEO explained that the company's use of set-top and other data helps it bring the capabilities of Internet advertising to its cable targeting: "We have census level data … in our footprint of seven million set-top boxes and we record every single channel tune-in in real-time, 24/7 … . So it's not just 365 People Meters that Nielsen has in our footprint. It's every single home, and every single set-top and every single channel. You come to us and say you want to target a particular customer that has these behavioral trends or these types of income … . [and] we can put together in real-time a customized media schedule."[5]

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[3] Center for Digital Democracy, "Big Data is Watching: Growing Digital Data Surveillance of Consumers by ISPs and Other Leading Video Providers," 23 Mar. 2016, https://www.democraticmedia.org/article/big-data-watching-growing-digital-data-surveillance-consumers-isps-and-other-leading-video; federal Communications Commission, "Filing by Center for Digital Democracy in 97-80 on 04/12/2016 Proceeding No. 97-80," http://apps.fcc.gov/ecfs/comment/view?id=60001536229.

[4] Center for Digital Democracy, "Big Data is Watching."

[5] Center for Digital Democracy, "Big Data is Watching."

- Comcast's NBC division's suite of new data-driven advertising products uses "set-top viewing data" from several sources, including Comcast's addressable set-top boxes.[6]

- Dish's 8 million addressable TV households are "exposed to digital buyers" via a "household identifier" that is part of the set-top box. Based on the subscriber data received, "events [are] fired" that place the targeted content on the consumer's device. Illustrating how set-top box data are now "integrated into a cross-device targeting apparatus that is amplified through partnerships with databrokers, Dish's ONPOINT" ad product combines its data with information from such companies as Acxiom, Experian, Polk, and others.[7]

Set-top box and related video technologies already provide cable, satellite, and telephone companies the ability to gather and use consumer data for ad-related targeting in far-reaching ways, such as the capacity to measure "viewer interaction with TV content, advertising and advanced services."[8] Over-the-top and other devices delivering digital video also illustrate new ways data are being gathered and used for consumer targeting.[9]

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[6] Center for Digital Democracy, "Big Data is Watching."

[7] Kelly Liyakasa, "Comcast Eyes More Advanced Ad Targeting As Q4 Brings Video, Cable Subscription Growth," AdExchanger, 3 Feb. 2016, http://adexchanger.com/investment/comcast-eyes-advanced-ad-targeting-q4-brings-video-cable-subscription-growth/; AdExchanger, "#PROGIO: 'A Case for Programmatic TV'—Aaron Radin, NBCUniversal," YouTube, 14 Apr. 2016, https://www.youtube.com/watch?v=a1iE1KzRFQA; Center for Digital Democracy, "Big Data is Watching."

[8] See, for example, Cisco, "Service Provider Video Solutions," http://www.cisco.com/c/en/us/solutions/service-provider/service-provider-video-solutions/index.html#~Suites; Cisco, "Sky Customer Case Study," 18 June 2014, http://www.cisco.com/c/en/us/solutions/collateral/service-provider/videoscape/case-study-c36-731847.html.

[9] See, for example, Comcast's VisibleWorld and AudienceXpress: Visible World, "Platforms & Products," http://www.visibleworld.com/platforms-products/; AudienceXpress, "Data," http://www.audiencexpress.com/data/. See also the capabilities of Simulmedia, whose "VAMOS platform ingests disparate data sources and runs scientific algorithms based on that data to predict future TV viewing behavior. Simulmedia's data come from various set-top-box providers representing about 50 million Americans' second-by-second viewing behavior. This viewing data is fused with other demographic, psychographic, behavioral, and purchase data, and then used to optimize TV inventory and place ads that will reach the most receptive audiences who are most likely to drive an advertiser's business outcomes. Simulmedia's data powers our actual business, which is executing audience-targeted TV ad campaigns at national scale, and guaranteeing superior business outcomes from our schedule compared to all other concurrent TV media." Simulmedia, "What Are Data Companies Contributing to the TV Market?" Media Village, 11 Sept. 2015,

***Cable, satellite and telephone multichannel video providers have made alliances and partnerships with data brokers to enhance set-top box data for consumer targeting*:** Set-top data are "matched" to other databases, as the Coalition for Innovative Media Measurement has reported, giving rise to relationships used to enhance and augment subscriber information.[10] For example, Acxiom (including its LiveRamp data onboarding division) works with Cabelvision, Verizon, Charter, Comcast, and Dish. Time Warner Cable and Verizon use data-marketing resources from the Adobe Marketing Cloud and Oracle Marketing Cloud, respectively. Cable and telephone companies also have acquired, developed, or allied with companies that provide powerful data-analytic capabilities used to target consumers (increasingly, in real time). Verizon acquired AOL to gain access to its "data management platform" (called ONE). Comcast has its own "advanced advertising system," involving real-time data" and a "cloud delivery system."[11]

***Set-top box data are being used to target consumers outside the home****:* Set-top box data are now integrated into individual profiles so consumers can be targeted via local geo-location technologies, including when they are in retail, quick-service restaurant, and other "real-world" places. This navigational information is being used to bring a "level of precision [identifying] if a consumer actually went to a physical location," based on the collection of data while they viewed TV.[12] AT&T AdWorks has developed a "cross-screen system to match users' mobile, online and television devices together based on identifiers and systems" that the company has "access to." It has also developed a "location-based product line capable of using device and cell phone tower base data to determine what locations users listed." It can take the mobile devices' location data and match it "with the billing address of our addressable TV customers" (which can then deliver "ads to the mobile device associated").[13]

***New forms of measurement using set-top box data, including for targeting, that incorporate purchasing and other information, raise privacy and consumer-***

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http://www.simulmedia.com/news/2015/09/11/what-are-data-companies-contributing-tv-market/.

[10] See Myles Glenn Megdal, "Best Practices in Matching Databases to Set-Top Box Data." , Coalition for Innovative Media Measurement, June 2011, http://cimmusorg.startlogic.com/wp-content/uploads/2012/08/RPD_DBM.WP.pdf. See also Coalition for Innovative Media Measurement, "Cross-Platform Measurement," http://cimm-us.org/initiatives-2/cross-platform-measurement/.

[11] Center for Digital Democracy, "Big Data is Watching."

[12] "NinthDecimal and TiVo Research Partner to Measure Impact of TV Ad Spend on Consumer Real-World Behavior," 15 Oct. 2015, http://www.ninthdecimal.com/ninthdecimal-and-tivo-research-partner-to-measure-impact-of-tv-ad-spend-on-consumer-real-world-behavior/.

[13] Center for Digital Democracy, "Big Data is Watching."

***protection concerns:*** Measurement is increasingly built into the delivery of programming. The data gathered and analyzed are used for more than just ranking programs and identifying broad demographics. Such data have become integral to how advertising campaigns are conducted, which can be changed "in-flight," as the industry describes it (and increasingly in real-time), based on the reactions of the individual or other target (and be changed according to what device they may be using at the moment, for so called sequential advertising).[14]

TIVO's Media TRAnalytis, for example, "collects immense banks of data: second-by-second tuning data from set-top boxes, household purchase data, and household demographic data" and works with an array of leading data brokers and other target-marketing companies. Now partnering with the powerful Oracle Marketing Cloud data-targeting service, TIVO explained that "this integration will give advertisers the ability to extend their TV media campaigns to reach viewers on their computers, cell phones, and other digital devices."[15] Oracle's Datalogix, which integrates media behavior data across devices along with consumer purchasing information, combines set-top data to online "cookies" so advertisers can "seamlessly align their TV and digital media plans."[16] Nielsen Catalina Solutions "links advertising with retail sales by integrating data" from Nielsen with "cable set-top box homes with shopper data from over 70 million households." Its Advantics on Demand uses set-top data to enable highly personalized targeting, including for products and services that may warrant consumer safeguards, such as those for

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[14] Center for Digital Democracy, "Big Data is Watching."

[15] TiVo Research, "Better Data. Better Results," http://www.tivoresearch.com/. As *AdWeek* explained, "Tivo Research can analyze viewership on a massive scale. Its second-by-second viewership data comes from more than 2.3 million households that have TiVo or other cable boxes in more than 190 U.S. DMAs, weighted to the U.S. population. All of its products and services are built on this large single-source panel. As a result, it can ensure effective and efficient targeting, working with advertisers to find an audience and evaluating how messages resonate, increasing relevant reach and eliminating waste." "TiVo Research: Diving Deep Into TV Viewing Data for Better Media Buys," AdWeek Audience Targeting Guide, 29 Nov. 2015, http://www.adweek.com/sa-article/tivo-research-diving-deep-tv-viewing-data-better-media-buys-168348. See also Jon Lafayette, "TiVo Research Makes Data Deal With Oracle," *Broadcasting & Cable,* 21 Jan. 2016, http://www.broadcastingcable.com/news/currency/tivo-research-makes-data-deal-oracle/147151; Quantcast, "Audience Grid—Data Partner Profile: TiVo," https://www.quantcast.com/audience-grid/data-partner/tivo-audience-data/; "SIMULMEDIA AND FOURTHWALL MEDIA EXPAND DATA PARTNERSHIP," 22 Jan. 2014, http://www.fourthwallmedia.tv/press/simulmedia-and-fourthwall-media-expand-data-partnership.

[16] Datalogix, "Over 1,800 Segments at Your Fingertips," https://www.datalogix.com/audiences/online/syndicated-segments/; "Datalogix and TiVo Announce the Launch of DLX TV Powered by TRA," Reuters, 2 Aug. 2012, http://www.reuters.com/article/idUS193420+02-Aug-2012+BW20120802.

drugs, "adult beverages," and snack-food products.[17] Recent mergers and acquisitions in the measurement industry, such as comScore/Rentrak, illustrate the important role that set-top box data play in identifying and tracking individuals across their devices and experiences.[18]

New ways to use Big Data analytics to process set-top data, which then can be used for "micro-segmentation," provide multichannel video operators with greater ability to monitor and take advantage of a consumer's behavior.[19]

***Navigational data using information that may be sensitive, including the use of race and ethnicity, income levels, as well as data related to children, require new safeguards:*** The inclusion of racial data as part of set-top/navigational targeting is an issue that should be addressed. Subscribers and other consumers should have control over how such data can be gathered and used. For example, Cablevision's "Total Audience Targeting Application" (TAPP) combines a range of data from various sources and allows marketers to target by "ethnic group." Among the categories available are "African American, Caribbean/Non-Hispanic, Central Asian, and Eastern Europe," which can be combined with data involving individuals' education ("less than High School, High School, some college," etc.); whether they rent or own a home; their income, sex, occupation, and more. The use of racial and ethnic data, when combined with other information, can be used for discriminatory practices. Thus special safeguards are warranted.[20]

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[17] "Nielsen Catalina Solutions Agreement with FourthWall Media Helps Create the Largest TV "Watch & Buy" Single Source Panel for Consumer Packaged Goods Marketers," 18 Aug. 2014, http://www.ncsolutions.com/ncs_press/nielsen-catalina-solutions-agreement-fourthwall-media-helps-create-largest-tv-watch-buy-single-source-panel-consumer-packaged-goods-marketers/; "YuMe Selects Nielsen Catalina Solutions to Marry Consumer Packaged Goods Purchase Data with 100% In-Stream, Multi-Screen Video Platform," 18 July 2014, http://www.yume.com/news/press-releases/yume-selects-nielsen-catalina-solutions-marry-consumer-packaged-goods-purchase; "Nielsen Catalina Solutions Enhances Buyergraphic Dataset with Deeper Retailer Pool," Business Wire, 28 Oct. 2015, http://www.businesswire.com/news/home/20151028005161/en/Nielsen-Catalina-Solutions-Enhances-Buyergraphic-Dataset-Deeper; Nielsen Catalina, "'I Buy, Therefore I… Will Buy More'—AdVantics On Demand," http://www.ncsolutions.com/television/advantics-on-demand/; Nielsen Catalina, "What We've Done For CPG, We Now Do For Pharma," http://www.ncsolutions.com/television/; Nielsen Catalina, "Latest Case Studies," http://www.ncsolutions.com/case-studies/.

[18] "comScore and Rentrak Complete Merger, Creating the New Model for a Dynamic Cross-Platform World," 1 Feb. 2016, https://www.comscore.com/Insights/Press-Releases/2016/2/comScore-and-Rentrak-Complete-Merger-Creating-the-New-Model-for-a-Dynamic-CrossPlatform-World.

[19] See Infosys, "Audience Measurement Using Set-Top Box Data," 2015, https://www.infosys.com/data-analytics/insights/Documents/set-top-box-data.pdf.

[20] See for example the case study from Comcast-owned AudienceXpress targeting low income consumers for loans using data-driven video targeting. AudienceXpress, "Case

There are concerns about children and teens as well. The TV and digital media industries are already working to develop ways to measure children's cross-device use, to help advertisers more effectively target them in today's multi-device marketplace. Data gathered by navigational devices can be used to create a never-ending ad-filled experience for youth, including younger children who are developmentally incapable of distinguishing between editorial content and marketing. Set-top data are used to identify when children are in the household, so they can be targeted. Navigational device use must be accompanied by more robust safeguards for children and youth.[21]

## Conclusion

The FCC must ensure that strong privacy and consumer protections are at the foundation of all navigational devices. It should enact safeguards in its forthcoming NPRM on ISP privacy that provides for consumer protections that are in line with the realities of today's use of consumer data, including those from set-top boxes. The commission should ensure that navigational devices operate in a manner that protects children and vulnerable consumers. We are also concerned that navigational device companies—from current to new entrants—will lure consumers into allowing all their data to be gathered in exchange for free or lower-cost boxes. Such a scheme—which would likely appeal to the country's most economically vulnerable consumers—raises serious privacy and consumer concerns on its own.[22]

The commission should regularly review, through a public proceeding, the data-collection and targeting practices of all navigational devices. It should proactively act to protect consumers, including children and vulnerable groups, if it identifies marketplace behavior that places consumers at risk.

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Study," http://www.audiencexpress.com/library/uploads/2015/12/Case-Study-Finding-Low-Income-Renters-on-TV.pdf.

[21] Charlene Weisler, "CIMM Gears Up For Challenge Of Measuring Kids And Teens," Media Post Media Daily News, 22 Feb. 2015, http://www.mediapost.com/publications/article/244238/cimm-gears-up-for-challenge-of-measuring-kids-and.html; Michael McCarthy, "The Challenge of Set-top Box Data in Programmatic TV," clypd Blog, 27 Aug. 2014, http://clypd.com/the-challenge-of-set-top-box-data-in-programmatic-tv/.

[22] "Can Advertising Solve The Battle Of The Set-Top Cable Box?" AdExchanger, 7 Mar. 2016, http://adexchanger.com/tv-and-video/can-advertising-solve-the-battle-of-the-set-top-cable-box/.