

Title VI in an IP Video World

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The Evolution of Video Delivery

- **Over The Air (OTA) Broadcast**
- **Multichannel Video Program Distributors**
 - Community Antenna Television → Cable TV
 - Direct Broadcast Satellite
 - Telco TV
- **Video Over The Top of the Internet (OTT video)**

Enduring Policy Values in Broadcasting

● **OTA Broadcast Values**

- Public Trustee Doctrine
 - Broadcaster holds license in trust for publicly owned airwaves
- Localism
 - Responsive to local news and public affairs
- Diversity of Voices
 - Limits on common station ownership
- Content regulation
 - Limitations on “indecenty”
 - “Fairness Doctrine” (extinct)
 - Children’s programming
- Support for Emergency communications
 - Emergency Alert System (EAS)
- Accommodation of persons with disabilities
 - Closed captioning

Policy Issues for MVPDs

- **Rights and obligation to retransmit OTA broadcast**
 - Compulsory copyright
 - Must-carry and retransmission consent
 - Non-duplication rules
- **Public, Educational and Governmental Programming**
- **Limitation of cable's monopoly power**
 - Limits on total audience for a single operator
 - Limits on how much of cable capacity for affiliated content
 - Must make affiliated programming available to other MVPDs on a non-discriminatory basis
- **Must support**
 - Closed captioning
 - Emergency messaging
- **Reduced content-based regulation**

The Rise of Internet Video

- **1995 Real Networks first to stream video**
 - Few had broadband adequate for video streaming
- **2005 YouTube founded**
 - 15 million households with at least 2.5Mbps downstream
- **2007 Netflix begins SVOD service**
 - By 2016 Netflix accounts for 30% of peak hour Internet traffic
- **2009 MVPDs begin introducing TV Everywhere**
- **2010 4G mobile provides adequate speed/capacity for video to smartphones and tablets**
- **2015 SlingTV launches as first “virtual” MVPD**
- **2017 video accounts for 75% of all Internet traffic**

Internet (OTT) video

- **U.S. FCC identifies four types of Internet Video**
 - Subscription linear
 - “Virtual” MVPD (vMVPD)
 - SlingTV, DirecTV Now, Hulu Live, Sony Vue
 - Subscription Video on Demand (SVOD)
 - Netflix, Hulu Plus, Amazon Prime Instant Video
 - Transactional Video on Demand
 - Apple iTunes Store, Google Play, Vudu
 - Advertising supported streaming and on-demand
 - YouTube, FilmOn, Facebook Live

Carnegie Mellon **Policy Questions Around OTT Video**

- **Should vMVPDs or SVOD be treated for regulatory purposes the same as facilities-based MVPDs?**
 - Compulsory license
 - Must-carry
- **Non-discriminatory access to Content**
- **What other video rules should apply to OTT video?**
 - Closed captioning
 - Emergency alerts
 - Commercial loudness
- **What is the impact of vMVPDs on broadcast localism?**

Carnegie Mellon 21st Century Communications and Video Accessibility Act

- **2010 law focused on persons with disabilities**
- **Required that any Internet video program that had been broadcast or carried on an MVPD with closed captioning must have closed captioning on the Internet**
 - **Affects vMVPDs, SVOD and transactional video providers**
 - **Would not apply to YouTube and other Internet-only video**
- **Live Internet broadcasts that are stored for later access on demand must be closed captioned within 12 hours**
- **Directs FCC to examine requiring “audio description” soundtrack for the blind for both MVPDs and OTT video**

OTT Video and Content Creation

- **Original content helped drive early demand for cable**
 - Required in 1966 by the FCC, later overturned by the Courts
- **By 1992 50% of cable content owned in part by cable operators**
- **1992 Cable Act required operators to make affiliated content available to DBS and telco TV distributors**

- **In 2012 Netflix begins offering original content to drive adoption**
 - House of Cards, Orange is the New Black
- **In 2017 Netflix will spend \$6 billion on content creation**
 - Second only to ESPN
- **If Netflix categorized as an MVPD it would have to make exclusive affiliated content available to other MVPDs**

OTT Video and Localism

- **Internet video is potentially available nationwide**
- **Networks could use a single video stream to serve all locales → death of localism**
- **In fact, vMVPDs are streaming local affiliate in each city**
 - DirecTV Now, CBS All Access, etc.
 - → vMVPD service not available in a DMA until negotiations complete with each affiliate.
 - Goefencing to deliver appropriate affiliate or nothing
- **However, in June 2017, Fox began streaming a national feed in cities where negotiations with an affiliate had not concluded**
 - Could presage declining strength for local broadcasters

The Rise of Targeted Advertising

- **Cable introduces 2-way capabilities, digital encoding, and VOD to compete with DBS**
 - Requires set-top box to demultiplex digital video
- **2-way allows set-top box to report what channel customer is watching at any time.**
 - For first time cable operator has detailed knowledge of household viewing habits
- **VOD capability allows sending unique content to a household**
- **→ Capability to send a unique ad to individual households interspersed with broadcast video stream**

Targeting and Internet Video

- **OTT Video is delivered as a unicast stream to individual receivers**
 - Smart TVs, gateway devices, laptops, tablets, mobile devices
- **User authentication typically required**
 - Identifies user across devices
- **OTT video providers have detailed knowledge of viewing habits by customer**

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The Targeted Advertising Advantage

- **Because targeted ads are more effective, advertisers will pay from 2-10 times per impression**
- **vMVPDs see ability to target ads as key revenue differentiator to compensate higher costs of Internet delivery**
- **But, MVPDs are also moving to addressable advertising, thus reducing the vMPVD advantage**

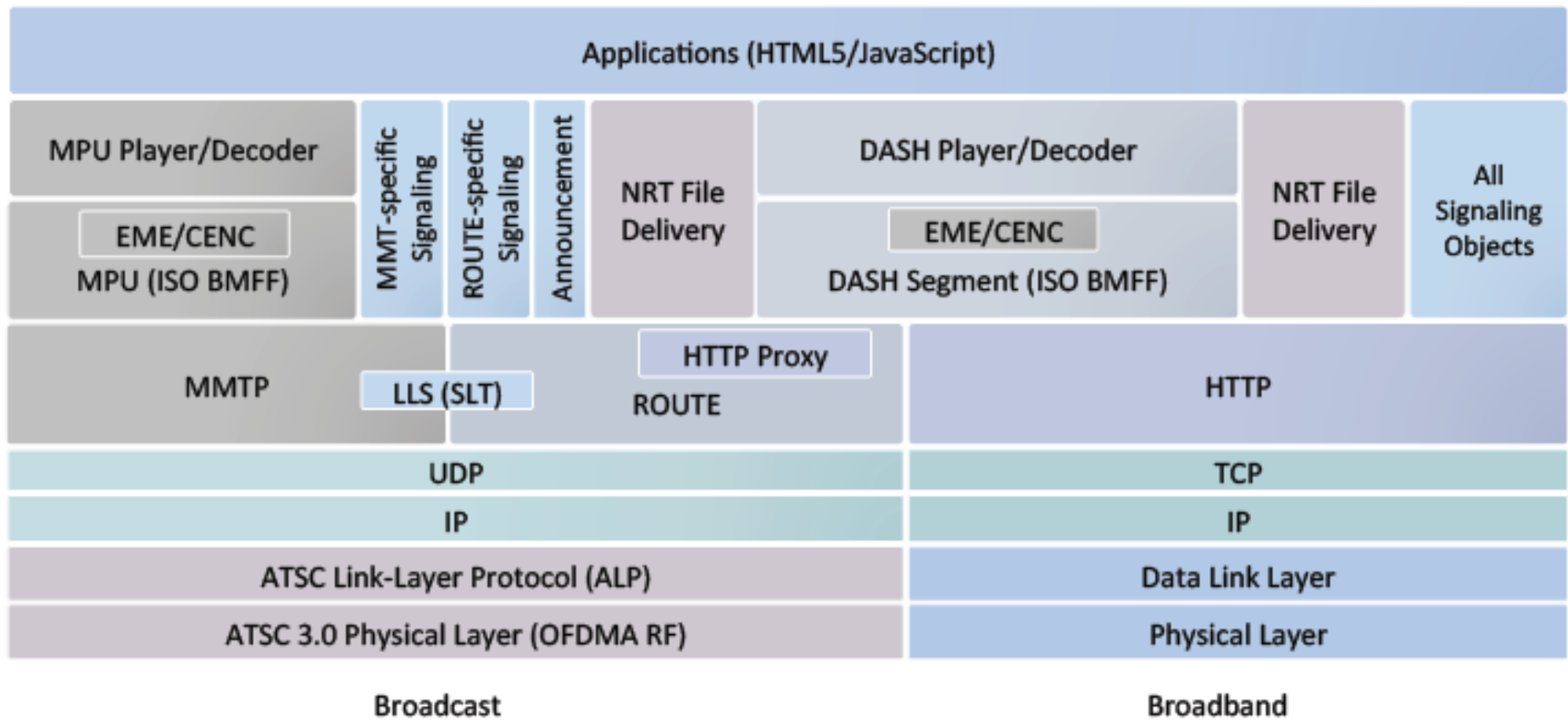
Privacy and Addressable Ads

- **U.S. law specifically limits what MVPDs can do with customer proprietary network information**
 - *“(1) Except as provided in paragraph (2), a cable operator shall not use the cable system to collect personally identifiable information concerning any subscriber without the prior written or electronic consent of the subscriber concerned.”*
- **Several U.S. public interest groups have petitioned the FCC to enforce this law against MVPD collection of detailed viewing records.**
 - 18 months later still no response from FCC
- **MVPDs claim that they operate their own advertising targeting service, and thus the information is not disclosed outside the company.**

OTT Video and Ad Privacy

- **No US law limits what an Internet website (edge provider) can collect or what it can do with the information**
 - Some sector specific legislation
 - COPPA limits data collection on children
- **General laws prevent “unfair and deceptive practices”**
- **As long as edge providers act consistently with any posted privacy policy they have a safe harbor**
 - No one reads privacy policies
- **Thus OTT video providers are free to use personal viewing information and to sell it to third parties, as long as they disclose this fact.**

OTA Moves to IP Video: ATSC 3.0 Protocol Stack



The OTT Video Future

- **Content creators moving into OTT distribution and vice versa**
 - Amazon, Netflix, Apple invest in content creation
 - CBS, HBO, Disney invest in OTT distribution
- **Reduced market power for content aggregators**
 - Cable had market power when it was the only MVPD
 - vMVPDs do not control costly-to-replicate bottleneck access facilities and thus the content aggregator market is more competitive
- **Future is large content owners responsible for own OTT distribution**
 - Consumers must sign up with multiple content owners to acquire all content
- **Demise of localism**

Carnegie Mellon How Should Video Be Treated in a New Communications Act?

- **Must Carry and Retransmission Consent?**
 - Will we still have OTA broadcasters?
 - Future of localism
- **Will there be bottleneck video aggregators?**
 - If not, no need for horizontal and vertical limits
- **Should we be concerned that consumers must subscribe to many OTT distributors to get all content**
 - Will the future be like magazine or newspaper subscription?
- **Closed captioning and support for those with disabilities?**
- **OTT obligations for emergency communications**
- **Privacy and targeted advertising**