



How Cable Operators Can Address the **SHIFT TOWARDS APP-BASED TELEVISION**



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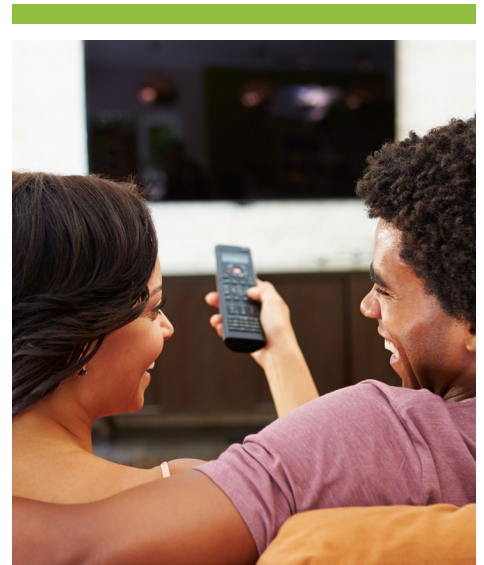
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Traditional pay-TV providers are increasingly facing new competition from innovative technologies in the marketplace

Not only are OTT services and virtual MVPD streaming services capturing new subscribers, including cord cutters and cord nevers, but viewers are also turning to new products to consume their favorite programming by ditching the traditional leased set-top box in favor of app-based devices like Roku, Amazon Fire TV, Apple TV, smart TVs and many more.

To keep up with this trend, cable operators are shifting towards an app-based television model. In April 2016, Comcast began its “ditch the box” model by [signing agreements with Roku and Samsung](#). Other operators are following suit to address the leased set-top box model pain point for customers. DISH has begun shifting away from its revolutionary Hopper [offering to deliver its satellite TV services via Amazon Fire TV](#). Charter, a powerhouse in the Tier 1 space, [launched an app under the name ‘Spectrum’](#) to give its customers flexibility and convenience outside of the main room in the home.

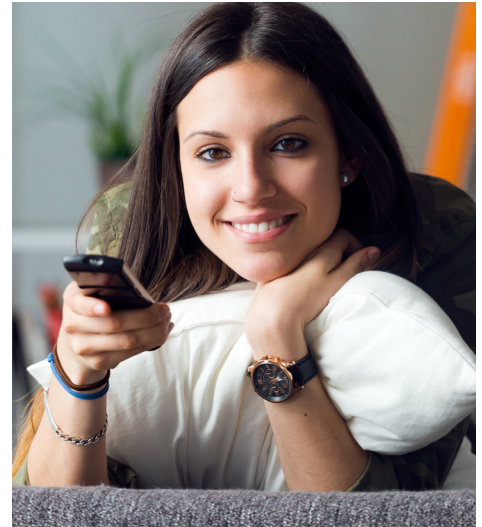
So why are video consumers moving away from a leased set-top box that sits next to the television in the main room? There are a few reasons: cost, convenience, choice, competition, content and innovation. This white paper delves into the dynamic space of app-based television, as well as how cable operators can, and must, begin thinking about adapting in the ever-changing realm of video consumption.



How and why did app-based TV come to fruition?

App-based television in the cable TV market is a relatively new phenomenon, with major players offering compelling reasons to ditch the box. Regardless of quality of service, customers find the near-infinite choices of apps to get to their favorite content compelling enough to watch the buffering and loading screens every once in a while. This ability to choose even transcends content coverage, as video consumers are making the skinny bundle work with “just enough” content, rather than the full complement of local and cable channels. After all, the traditional set-top box provides functionalities that apps simply can’t match, including immediate availability of content through one HDMI input, as well as the absence of buffering and glitches, which are all issues that plague cord cutters using retail streaming platforms like Apple TV.

App-based television provided by cable operators was a major point of contention with the FCC just a year ago. The FCC and major operators were embroiled in a back and forth that could’ve either killed the set-top box or let them continue to innovate, improve and thrive. **Former Chairman Wheeler stated**, “I think that what Comcast just did is proving our point that you can take a third-party device, put set-top box functionality into it, and protect copyright, protect the economic ecosystem, not have to rebuild the network... safely move content to a third-party device.”



THE TRADITIONAL SET-TOP BOX PROVIDES FUNCTIONALITIES THAT APPS SIMPLY CAN'T MATCH, including **IMMEDIATE AVAILABILITY OF CONTENT** through one HDMI input, as well as the **ABSENCE OF BUFFERING AND GLITCHES**, which are all issues that plague cord cutters using retail streaming platforms like Apple TV.

The FCC's proposal to "ditch the box" eventually got shut down with the transition to a new administration; however, both sides had good points on innovation that needs to take place within the traditional pay-TV industry in order to sustain and retain subscriber growth even with the rise of streaming and alternative methods to watch television.

A large focus of the shift in viewing preference comes from millennials. This younger generation likes to watch TV not only in the living room, but also from any connected device such as smart phones, tablets, computers and IP-connected televisions. But, this consumer base also wants the ability to watch TV shows at a price point that is reasonable to them, and operators are under the pressure of "the bundle" to maintain high subscription rates. Cable operators lack tools to stem the loss of video subscribers, as well as ward off young people from using shared log-ins and passwords of family members and friends.

And while password sharing is a concern, including young people migrating to streaming subscriptions, it is important to note that this age group demographic has not cut the cord altogether. [A May 2017 Fluent LLC Report](#) showed that 57 percent of millennials have a cable service in their home. How can operators increase this number? By offering a low-cost, robust and aggregated service.

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Parity: Video product

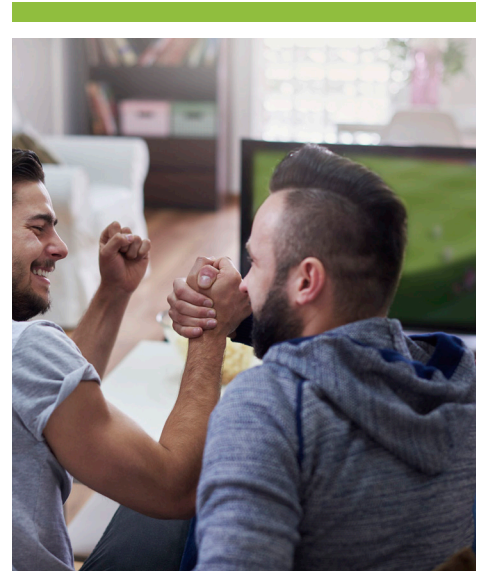
The app-based television model is not without its downfalls, as mentioned previously. Not only are consumers at risk with streaming issues and errors due to relying on an open Internet connection to consume TV, but they are also at the mercy of whatever streaming device they choose. Streaming device challenges include: inconsistent coverage of third-party apps, no universal search across applications, Wi-Fi interference, annual device obsolescence, large holes in programming and service disruption.

The best solution that operators can offer to the consumer is a device with the innovation and features that customers crave, with a video package price that makes sense. That means that mid-sized operators must couple OTT services, including the likes of Netflix, Hulu and Amazon, with a streamlined linear service.

Access to a robust linear TV line-up through apps is lacking in many communities. For example, [Hulu Live TV launched in beta](#) across Apple TV, Xbox One, Chromecast, iOS and Android mobile. Viewers, especially the millennial generation, like the choice and breadth of content. However, the likes of virtual MVPDs, like Hulu Live, are emerging into an already crowded marketplace. With the introduction of Sling TV, DirecTV Now, YouTube and individual network apps, these consumers have to keep up with a very fragmented market.

[Broadcasting & Cable](#) reports that Q4 2016 statistics show that less than 1 percent of all pay-TV subscribers are cutting the cord for the following reasons:

- **Money:** When you pay for Internet and a streaming service separately, consumers are likely not to save much money. Double-play (packaging Internet and TV) provides savings for the consumer. Removing TV and keeping Internet,



which is necessary for streaming OTT and/or virtual MVPDs, makes the cost of Internet rise astronomically. OTT services and virtual MVPDs require Internet with high connection speed that is reliable throughout the entire home. So, add that inflated price for top-notch Internet with so-called “skinny bundles” that charge extra for add-ons that are largely popular, the customer may end up paying more than sticking with their service provider for video.

- **Ease of Use:** A unified platform with simple search functionalities is crucial in the new age of TV viewing. Stand alone streaming options offer cumbersome navigation for the consumer. User experiences vary across all pay-TV services, both on traditional and new streaming services. However, cable providers notably need to innovate on an inferior interface toward a far less complex experience than going from app to app or finding episodes in alternative services.
- **Live channels:** programming is a public issue with many virtual MVPDs. Virtually every streaming service has content holes due to programming rights and pricing. Broadcast channels can be a huge issue, meaning customers miss big events, including sports, which is a major pitfall for many communities.

There are many issues with ditching cable, as cable offers the content, features, functionalities, reliability and pricing that cannot be matched by alternative services. That leaves the question: how can cable operators both convey this to the consumer and offer a subscription service that the competition can't beat?

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A hybrid solution: Evolution Digital's unparalleled aggregation of apps with a traditional cable line-up

Evolution Digital enables operators to embrace app-based TV, as well as act as the content aggregator of choice by combining traditional linear TV services, traditional Video on Demand, network DVR and OTT services such as Netflix, Hulu and Amazon. Cable operators must embrace the concept of “bring your own device” as complementary devices that aggregate content, as well as offer a compelling operator-branded user interface and seamless user experience across all content. Offering a combination of traditional video services with compelling OTT apps in a unified, modern experience enables operators to compete for and win over video subscribers looking for choice.

This is where Evolution Digital steps in. eBOX® IP Hybrid Set-Top Box, powered by TiVo®, delivers a line-up of QAM and/or IP linear content over a secured connection, ensuring your favorite programming, live events and recorded shows are uninterrupted by Internet faults or bad connections. eBOX offers the content that consumers want on a single, unified platform that is controlled through one TV input, one remote and one user interface.

Operators are able to choose between eBOX with Evolution Digital's eGUIDE™ user interface, a newly-designed interactive guide that mimics TiVo's classic i-Guide solution. eBOX, powered by TiVo, features universal search across all content, including Netflix and Hulu, as well as search and recommendation features, making browsing easier than ever before.

eBOX has full capability to host Evolution Digital's eVUE-TV® platform, an IP video solution that delivers live linear television, network DVR, Pay-Per-View, Transactional Video on Demand and Video on Demand.

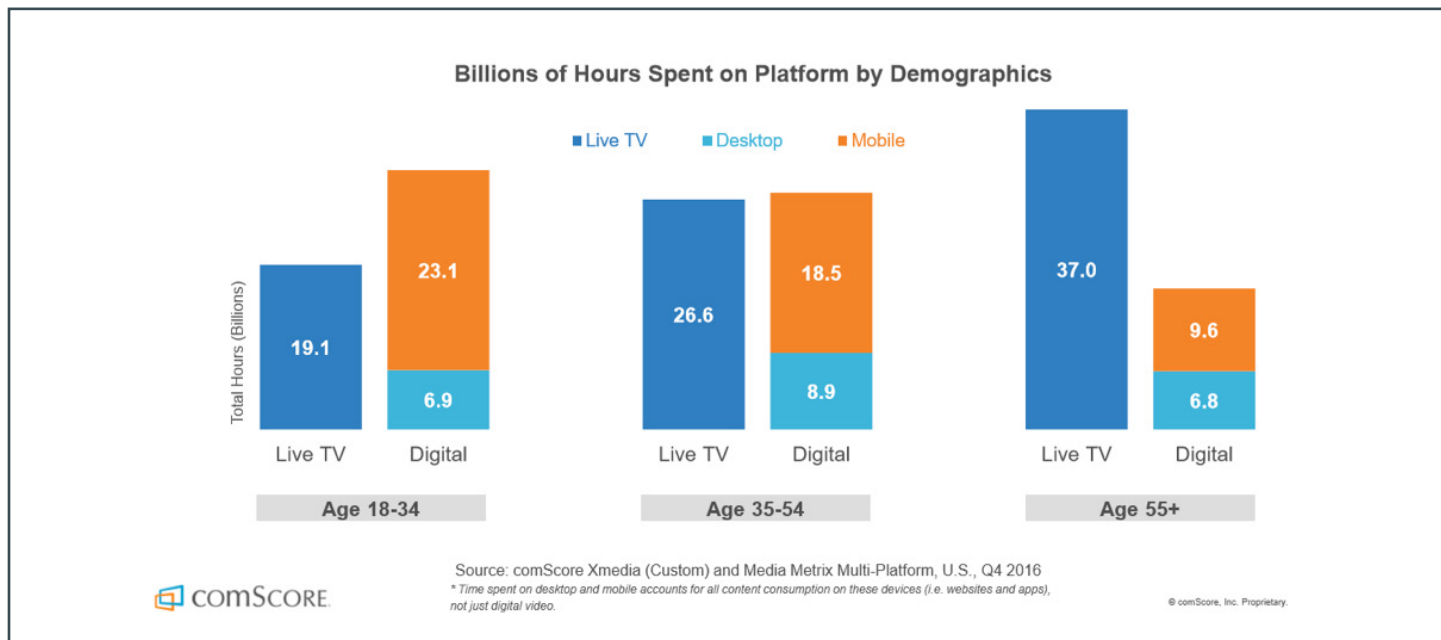


In addition to the eVUE-TV platform availability on eBOX or other TiVo devices, eVUE-TV enables operators to deliver traditional video services as an application to mobile and streaming devices like Android TV, Apple TV, Amazon Fire TV, gaming consoles and smart TVs.

Evolution Digital's eBOX and eVUE-TV applications enable operators to deliver traditional TV and app-based TV to consumers on HDMI 1. Operators can combine these tools with creative programming packaging like broadcast-only bundles or basic tier bundles on IP to lure back cord cutters with products that are superior to today's virtual MVPD offerings. The table below depicts how products delivered by eVUE-TV compare to today's live streaming offerings:

FEATURE	VIRTUAL MVPD	eVUE-TV (APPS) + eBOX
Live Linear Content	Offering varies by market. Very few markets with full broadcast or basic offering.	Full line-ups available on QAM to eBOX (economical) and on IP via eVUE-TV to apps on mobile and streaming devices.
Video on Demand	Sophisticated binge watching features, but content is spread across many applications.	Sophisticated binge watching features. Catalogs are unified through universal search and browse, which is seamless to the consumer.
Transactional VOD	Not directly offered. Available through separate apps.	Traditional revenue capture.
nDVR Recording Services	Available, but features vary across apps.	Available and can be scaled up and back for a variety of product offerings.
Pricing	Many relationships and monthly fees, which usually adds up to more than a traditional cable bill for less features and content.	One relationship, so video can be bundled with high speed data and other great MSO products such as security, IoT and more.

Evolution Digital recognizes that consumers like to watch their content from anywhere. This includes both mobile and in the living room. [A recent study conducted by ComScore](#) shows that while video consumption on the main TV is decreasing, it still makes up for a large percentage of video consumption. The graph below demonstrates hours spent consuming video on a traditional television versus streaming (desktop and mobile) by age demographic.



Per this data, a large demographic and consumer group still watches TV on a traditional device, especially the older demographic. So, cable operators must find new, cost-effective ways to deliver their content to mobile devices, but prioritize innovation for living room viewing to keep a huge revenue base happy and stable.

Additionally, ComScore reports that for every hour of OTT consumption, such as Netflix or Hulu, per household, the household watched five hours and 28 minutes of live TV. That is a major statistic and basis to which cable operators should recognize and bet on—live TV is here to stay. OTT content does not and cannot match up to the content available with cable providers, so operators must use this to their advantage when capturing and retaining audiences.

Conclusion: Innovate and surpass competitors with Evolution Digital's solutions

With eBOX, operators can offer live TV aggregated with OTT services, providing the ultimate viewing experience in which consumers don't have to fuss with multiple remotes, inputs, buffering screens and high costs. It delivers live channels over a reliable and stable QAM connection with IP video functionality to get the best content and service through this hybrid set-top box.

Operators can enhance their IP video experience with a fully managed end-to-end service with eVUE-TV on eBOX and streaming devices. By delivering traditional QAM content, IP linear TV, Video on Demand, Pay-Per-View, OTT, network DVR and TV Everywhere services, Evolution Digital is the cable operator's one stop shop for providing an unmatched entertainment experience to the consumer. With an affordable box and cost-effective, managed back office, Evolution Digital solves the app-based television paradigm by addressing and combating the challenges with new, innovative solutions.



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For more information on Evolution Digital's eBOX and eVUE-TV, visit **evolutiondigital.com**.