

# TV is Over – Long Live Content

Column: Bits Versus Electrons

## After TV: The Age of “Content”

Bob Frankston

### PREFACE

**N**ORMALLY, I WRITE columns about projects that have reached a goal or about long-term principles. This one is different in that I’m writing about an inflection point as it is happening.

COVID-19 is a factor that is accelerating the pace of change by forcing us to embrace technology for essential services such as healthcare and education. Broadband Everywhere is the public face of the accelerating transition to universal connectivity.

Even though there are still many traditional cable users—probably the majority of people—the time has come to think in terms of the coming post-television landscape. One in which the elements of presentation and content delivery have been decoupled.

### TV HAS BEEN DECONSTRUCTED

When I saw there was a new Set Top Box (STB) from Xfinity (the “cable” division of Comcast) that worked over the Internet rather than requiring a coaxial cable, I immediately ordered it. The price was right, \$0/month.

Digital Object Identifier 10.1109/MCE.2020.3021219  
Date of publication 7 September 2020; date of current version 4 December 2020.

Before I relate my experience, let me get to the spoiler alert: The age of cable is effectively over. The cord has been cut. Suddenly what I wrote in 2015 is.<sup>1</sup> We can think about connectivity policy (AKA, Broadband Everywhere) totally apart from particular services such as streaming video. The story of using connectivity is about far more than video. Microsoft has made Office a subscription, and Apple is trying to extract a rent from those using its platforms.

The use of the term Set-Top Box is part of what hides this fundamental transformation. The term Set-Top Box dates back to the early days of cable TV when TVs were large, and you had place a cable decoder box on top of the TV. Today it’s just a legacy term like saying you dial a phone to place a call.

This is why I was so surprised when I got my Flex TV Box from Xfinity. I expected it to be just like their standard STB except that it would run over the Internet. When it arrived, I eagerly connected it, and ... it took a while to get it working, and I had to download an update. It felt like it was rushed out a bit prematurely but, no matter, the software could be updated after the product shipped in our connected world.

I have both Verizon (FiOS) and Xfinity (Comcast) as Internet providers in order to try out services and devices. When I first encountered

January/February 2021

Published by the IEEE Consumer Technology Society

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## TV has been deconstructed

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Internet rather than requiring a coaxial cable, I immediately ordered it. The price was right, \$0/month.

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I have both Verizon (FiOS) and Xfinity (Comcast) as Internet providers in order to try out services and devices. When I first encountered problems with Flex, I switched it to use my FiOS Wi-Fi connection rather than the Xfinity, and it made no difference. Or almost none – Hulu uses the IP address to keep you from using its service in more than one location, and it complained when it saw me using my Xfinity connection rather than the FiOS connection I use with my Roku.

It is unclear why the Flex TV box exists. Xfinity Internet-only subscribers get Peacock Premium as a benefit, so the Flex offers no additional capabilities beyond having some of Comcast’s X1 experience built-in. Additional boxes cost \$5/month each as compared with Roku, Fire, and others that I can purchase and own.

Shortly after I got the Flex TV Box, I saw a mention of a Verizon box. What made it interesting is that it is sold by Verizon Wireless, not FiOS, even though I could find it through the FiOS site, which then directed me to VZW. (Very confusing but that’s another story).

As an aside, I'm able to experiment with all these boxes using my HDMI switch.



The box arrived the next day, and it turned out to be a very generic AndroidTV box just like my 小米 (Xiaomi) Mi box. There isn't even any mention of FiOS. So why is Verizon Wireless selling a generic AndroidTV? Perhaps because it's supposed to be part of the larger 5G agenda even though the box itself has nothing to do with 5G. It just uses generic connectivity via Wi-Fi or Ethernet.

I've also been experimenting with DirectTV Now, which has been rebranded AT&T Now. I wanted to try the AT&T box but gave up. The description said it, too, was a generic AndroidTV. But the AT&T marketing and support people were so confused about their offerings that I just dropped my experiment with AT&T because all it was, in the end, was another licensing service at a high price.

I was surprised to see that the AndroidTV boxes lacked a browser. Yet when I looked on Amazon, I found ones starting at only \$30 running Android 10. They are part of an open-source effort and aren't ready for prime time, but they do demonstrate that adding a browser is feasible at a low cost.

The smart TVs have their STBs built-in, but I see them becoming less of a factor as inexpensive boxes can evolve faster and can connect using the HDMI interface.

This isn't just about television. I just retired my 40-year-old digital clock radio in favor of Alexa and Google Hub, which, unlike the classic radio, can "tune" into radio "stations" around the world. Again, the very words we use make it seem as if nothing has changed when everything has. Maybe that's why I was surprised to discover that the change I was anticipating has already happened.

In the meantime, I have to deal with the explosion of controllers as we work our way through this transition.



## Disentangling and Refactoring

I titled my first column, "Refactoring Consumer Electronics.ii" The reason there are so many references to my other writings is that there is an arc to these columns as we move from hardware-based CE (Consumer Electronics) to a software-based CT (Consumer Technology).

Industries are defined by their constraints. Today's broadcast industries – television and radio – are defined by a technology with one source that radiates a signal that can be picked up by many receivers. The signals themselves were kept distinct by allocating each one a frequency band or channel.

For radio, especially when entertainment largely shifted to television, it became a business of advertiser-sponsored music, news, talk, sports, foreign language, and religion.

Television required over-the-air capacity (broad bands), thus limited the number of channels available. The advent of sharing antennas for Community Antenna (or Access) Television (CATV) provided more capacity on the dedicated cables used for redistribution and added the ability for a subscription model with the cable owner acting as a gatekeeper.

Even today, some of the STB makers are trying to get subscription revenues that the cable owners enjoyed, but AndroidTV and browser-based options provide ways to reach users without paying a platform fee.

We're now at an inflection point in which we are increasingly able to assume connectivity and a refactoring of the industry into the facilities we use to provide connectivity and the businesses that make use of connectivity.

We are no longer confined to channels. The term "content," which was once pejorative, seems appropriate for an industry in which the video offerings are products sold from a catalog.

Alas, for some people, this trend is discomfoting because there is simply too much choice. The television grid lets one choose among a limited number of options, but today almost everything is available, and it's easy to understand why some want freedom from choice. For those people better to let Spotify or, now, Netflix Shuffle Play choose for you. Perhaps Curator of Content will become a new job function, and you'll hire your Personal Curator?

## The new business

In this column, I can only hint at the changes that are already occurring and the larger trends that are hidden beyond the façade of business-as-usual as we bring forward old business models and services. One humorous

neologism is the use of “live TV” to mean a service that lacks the ability to go back or move ahead in the video stream. This is confusing since actually live broadcasts (as with sports) often do have an ability to look back. Another reminder of how language makes it difficult to talk about and understand transitions.

Just as, to many, radio is music, the use of the terms like “cable” and “broadband” carry semantic baggage. How do I talk about the physical cable when the word typically means “content bundle?”

The August 17<sup>th</sup>, 2020 New York Times ran an article “The Week Old Hollywood Finally, Actually Died<sup>iii</sup>” telling how Hollywood is starting to act more like Netflix and less like Broadway. And August 29<sup>th</sup> edition reports<sup>iv</sup> that the paper is eliminating the printed TV grid.

And, as I write this, the IEEE Consumer Electronics Society has become the Consumer Technology Society because value is now created using generic software and generic connectivity. The other big change in Consumer Technology is the shift from devices to services. This is another facet of the larger transition as we start to assume connectivity, and that is a topic in its own right.

Today’s devices and platforms have their own history with the idea of logging into a service going back over half a century to shared computer systems (Time-Sharing – the original cloud computing). Today you have to log in to your phone. This model isn’t quite right for shared devices such as the video entertainment platform (OK, OK, I’ll call it television, but let’s not forget how different it is from the classic idea of what a television is). This is why I created a separate identity for the devices I use for entertainment and for home control. It’s a work-around.

The issues are more evident when you look at all the content services and either need an account for each one (which is then stored on each device) or need to provide credentials from an existing provider (AKA, cable subscription). The platform operators are attempting to get into this game by having you acquire a license through Roku or Amazon. The problem with this approach is that they are silos that don’t allow you to use the subscriptions across silos.

The current devices are still centered on the classic handheld remote control. Most controls have a limited number of buttons making simple operations like positioning in at a particular time or entering text very awkward at best. The devices typically lack an effective API. For

<sup>i</sup> <https://rmf.vc/IEEEDeconstructingTV>

<sup>ii</sup> <https://rmf.vc/IEEERefactoringCE>

example, the API for Roku is based on the keyboard interface with little ability to tap into the full power of searching.

Being limited to fast forward and reverse is annoying when no longer bound by the limitations of linear tape. This more reason why I look towards the web-based interface as being richer and friendlier. I can move a slider on the browser-based YouTube to go directly to where I want rather than have to futz in fast forward and reverse. The touch interface on the smartphone also allows for direct positioning.

The topic of the smartphone and the many ways to view and interact is a topic in its own right.

Today video presentation is part of a larger ecosystem. It is part of the larger context of home control. While we can use Alexa (and similar services) to control what we want to watch, we need open APIs so early adopters can try out new ideas before they are mainstream.

Otherwise, we’re locked into the limitations of “use cases” rather than open to innovation. That was the problem with IEEE-1394 (AKA Firewire) and HDMI protocols. They were highly coupled to and thus limited by their initial use cases.

## Rethinking Everything

We’re in transition from businesses that are based on the accidental limitations of the technology to a world in which we can assume generic connectivity. This is especially challenging for the IEEE, whose business model is geared around slow-moving standards with efforts like ATSC3 and 5G continuing even as the world is moving beyond them.

This is why I was caught by surprise in seeing that the age of television is effectively over. This may not be obvious yet because we still look at the industry and devices through the familiar façade of a television with a channel tuner. Yet we can video conference around the world at no cost, yet if we have, we still pay for phone calls, AKA, conversations with the video turned off.

Come January 2021, I will have to imagine myself walking around CES as I usually do, trying to look beyond the glitz to understand the longer-term trends that are visible in plain sight yet invisible if we look at it only through the lens of the past.

<sup>iii</sup> <https://www.nytimes.com/2020/08/16/business/media/hollywood-studios-firings-streaming.html>

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iv <https://www.nytimes.com/2020/08/28/insider/TV-listings-ending.html>