Further Reading

Preface

This is very much a work in progress and suggestions/feedback are appreciated. ~~You can use this signup link to get mail about updates or send feedback.~~ Just use the RSS feed since I never did implement the email system.

Classic Essays

These are essays and writings that have endured over the years.

- Beyond Limits. I wrote this in 1996 as a chapter in the ACM book *Beyond Calculation*. In this chapter I explain that Moore's law is about particular market configurations and is not particular to semiconductors. More to the point you lose the power of hypergrowth when you tie it to a singular measure of success.
- Rush Hour 1997. I wrote this in 1989 projecting a future of mobile connectivity. The date of 1997 was meant to be the far future. We're still not quite there.

My writings on ~~Connectivity~~ Opportunity

- The Internet and my 53 Years Online. The Internet isn't just a continuation of telecom but a fundamentally new concept.
- Neutrality to Opportunity. Shifting the conversation from focusing on the network to the larger issue of opportunity.
- Frequently Asked Questions about the Internet as Infrastructure.
- Purpose Vs Discovery. I go into more detail about the counter-intuitive concept of how we get abundance by creating opportunity rather than presuming we are building solutions for well-defined problems.
- From Broadband to Infrastructure. Looking beyond network neutrality.
- Infrastructure for a Connected World. We need a **free-to-use** infrastructure so we aren't limited by rent-seeking intermediaries as we do now.
- 5G and ATSC Vs. The Internet. (See column below)
- Restructuring Consumer Electronics. This was my first column for the IEEE. In it I give a simplified view of how the Internet happened within the context of the pragmatic world of consumer electronics. I go into more of the issues in other columns.
- Internet Native Policies. How the Internet is different from telecommunications and why "best efforts" means we can start with local efforts rather than relying on providers.
- Connectivity Policy. This is the more detailed policy document that explains how the Internet is really about creating solutions which take advantage of the nature of software to redefine the world. I submitted it to the FCC as part of its inquiry on neutrality policy.
- What infrastructure is needed for positively disruptive technology A talk I gave to ISOC in which I explain how the Internet is a departure from traditional telecommunications.
- The Internet: Missing the Light. By assuming connectivity is expensive we find ourselves justify connectivity with heavy duty products and big data rather than enabling the mundane applications that allow us to discover the future.
- Zero Rating. The problem of applying telecommunications policies to the Internet.
- Engineer's Dilemma. This is a work-in-progress and more a place holder until I do a formal version.
- Spectrum as Farmland. Our current policies treat spectrum as if it were a physical thing like farmland. In fact, it is just a construct from the 1920's that limits our ability to communicate.

Talks

- TEDx – The Internet and Abundance. November 2016. I trace my own history of learning about connectivity as a way to understanding how creating our own solutions leads the way to abundance.
- Beyond Neutrality. October 2014. A talk I gave on the themes in this essay. Some might prefer a video.
- Thinking Outside. January 2014. The evolution of digital connectivity and how the Internet is a discontinuity from the traditional of telecommunications.
- A Software-(re)Defined World. June 2015. My talk at ICCE in Taiwan about how the Internet is a byproduct of the way we use software to create our own solutions.
- Keynote ICCE 2015 Taiwan. The Internet and other consequences of software redefining our world.

IEEE/CE Columns

This is a list of the columns I've written for the IEEE Consumer Electronics Societies magazine:

2013

- Refactoring Consumer Electronics. How the Internet is part of a larger trend that challenges the traditional framing of consumer electronics now that value is created in software rather than just hardware. (January 2013)
- (Not) In Control of your Home. The challenges of home control. (April 2013)
- The Internet of Things versus the Access Framing. Putting a border around The Internet prevents us from building connected devices. (July 2013)
- Deconstructing "the Smartphone". Today's smart phones may be more useful as building blocks than as devices in their own right. If only we could make their potential available. (October 2013)

2014

- Life (yet to be) Scripted. The automation meme assumes machines will do what we want them to do not what we tell them to do. (January 2014)
- HTML5 is become the new compute engine allowing us to start to take advantage of the capabilities in the devices around us. It's not just about the web. (April 2014)
- (Not) Getting the Message Across. Why we need simple packet connectivity rather than smarter intermediaries. (July 2014)
- Connected Things. Understanding the so-called Internet of Things. (October 2014)

2015

- Putting it all Together? Real life lessons in putting together those (potentially) connected things. (January 2015)
- Deconstructing TV. (http://rmf.vc/IEEEDeconstructingTV) The business "Television" as we know it is very much tied to the accidental properties of 1930's vintage technology. We need to rethink very part of the technology and the industry. (April 2015)
- API First. The importance of having programmatic interfaces rather than just focusing on the user interface. (July 2015)
- The Internet is about Relationships. Rather than thinking in terms of wires need to think about the end points of relationships. (October 2015)

2016

- A Hacker's Vacation. A relatively light piece about what I learned renting a Tesla and using technology as I traveled. (January 2016)
- 80/20 Consumer Electronics I learn by doing and creating my own solutions. This gives me a chance to experience the future and see beyond the present. Join me in exploring the possibilities. (April 2016)
- The Stories of Software. We tend to think of programming as an exact engineering practice. A better way to think about software is that it's a way we write stories that can take on lives of their own. (July 2016)
- Mobile-Edge Computing Versus the Internet? When we frame local computing as being at the edge of a network we lose the big ideas of connectivity by framing the Internet in terms of telecommunications. (October 2016)

2017

- Site Insites. This past summer I decided my website need to be refreshed. Rewriting the site from scratch in JavaScript (actually TypeScript) gave me a chance look beyond the façade of the web and better understand how the Web works.
- 5G and the Internet: The Internet Versus Telecom. (https://rmf.vc/IEEE5GATSC) 5G is positioned as the next generation of wireless telecommunications. The approach of solving problems in the net providers a useful contrast for understanding the Internet's approach of solving problems outside of networks.
- Whither Consumer Electronics. What is the future of consumer electronics as we shift from creating purpose-built devices in software to generic hardware platforms defined by software?

2018

- Assembly Required. We used to connect devices using belts and pullies. Today those connections are done in software.
- Got API? If your home control product doesn't have an open API, then it's a niche product and not part of the future of connected devices.
- Broadband to Infrastructure. Based on my earlier article in Broadband Breakfast.
- From Net Neutrality to Seizing Opportunity. We should be creating opportunity not just enumerated services.

2019

- From Hi-Fi to CLI. The classic command line is returning to prominence because allows for scripting and a stable interface. It's no longer a relic of the past but rather a path to the future.
- Seeing the Light - Properties of 400-800 Terahertz Radios. The Blue LED and software have allowed us to see light in, well, a new light. As a way to paint surfaces and create moods and so much more.
- Found Objects. How I use software to repurpose existing object as IoT.
- As A Service. The problem with depend on the cloud and with depending upon intelligence in networks as with 5G.

Note that the columns are also reachable as **`https://rmf.vc/IEEECEyyyymm`**. Where the months are 01, 04, 07, 10 as per the current publishing cycle through 2017. The cycle changed to bimonthly[i] (every two months) in 2018 – 01, 03, 05, 07, 09, 11

Legacy Works

These aren't necessarily classics but do reflect my thinking and writing from days of yore.

- Operating systems: A relic of the past. A paper I presented at a workshop on operating systems in 1995 rethinking classic concept of an operating system (such as Windows or Unix)

Facebook Posts

Facebook posts. These are mostly mulls and works-in-progress.

Additional Readings

To understand the design point of the Internet you can read the End-to-End Arguments in System Design paper. For those who won't past the title the term "end to end" is used in the sense of only depending the end points and not anything between.

Railroaded by Richard White. The comparisons between the history of railroad regulation and Telecommunications are striking.

It's also interesting to read about the history of turnpikes and how we moved from toll roads to public highways in the early 20th century.

[i] http://www.getitwriteonline.com/archive/051401bisemi.htm