

IN THIS WEEK'S ISSUE: When Have You Made It As An Engineer; When We Will Get Real Progress In Security? Please remember to enable the images; the magazine looks a lot better that way!



PACKETPUSHERS

Human Infrastructure Magazine

A Newsletter About a Life in Networking

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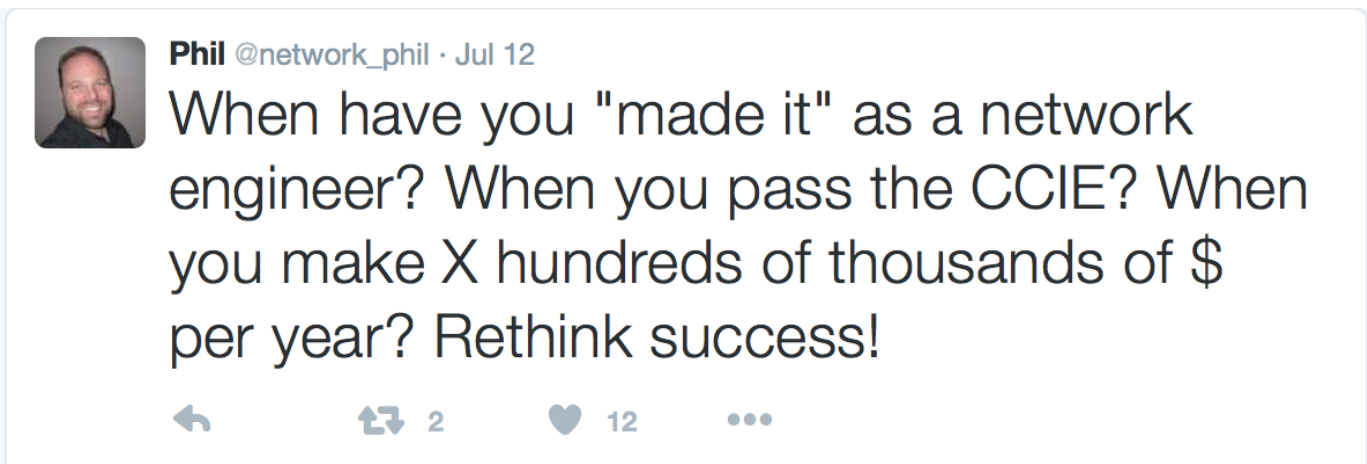
The "asking when" issue.

Thought For The Week:
The only time I'm the smartest person in the room is when I'm alone.

1. When Have You Really Made It As A Network Engineer?

by **Ethan Banks**

I was inspired by [this tweet](#) from my friend [Phil Gervasi](#), who you should follow for network nerdery (and occasional grammar pedantry.)



Success isn't always easy to define, as it means different things to different people at different times in their lives.

From a certain point of view, I believe salary *is* one measure of success. I worked hard, ran strong on the certification treadmill, and changed jobs as often as better compensation came along. Eventually, I was earning six figures. Success!

Another measure of success is the certifications I can list on a resume. I could point to the certs as proof that I'd achieved technical competency. Eventually, that included the CCIE certification. Success!

But in the spirit of Phil's tweet, let's look at other definitions.

I believe a technologist never "makes it" because the speed at which IT changes means it impossible to arrive. In these days of uncertain topologies

and shifting reference models, the best one can hope for is to become really good at a couple of things, and competent at most of the rest. "Always learning and never resting" must be the mantra.

And the constant need to learn isn't a recent development. Twenty years ago when I was banging on a long-throw keyboard making Netware and Windows NT do useful things, I was in a constant state of researching, reading, experimenting, and documenting. Oh, and calling tech support when all else failed.

This is the business of technology. There is no arriving. There is no comfort level. There is no cool confidence where you can relax because you know what there is to know.

Therefore, success as a technologist becomes something other than technical knowledge or earning ability. What, then?

To me, the successful technologist is one who has let go of ego.

The very best technologists have a well-developed sense of what they don't know...and they are okay with that. When someone asks them a question they have no answer for, they say, "I don't know, but I'll find out." There's no bluster or shame in not knowing. The ego has been left aside.

The best technologists are also willing to share what they know. They aren't worried about giving away "secret knowledge" that might help someone else get ahead. They take pleasure in sharing and teaching, not hoarding and accumulating for their own gain.

To me, "making it" means you can learn from others willingly, share your knowledge gladly, and truly become a part of an integrated team.



Come to the SD-WAN Mixer With Packet Pushers and CloudGenix

Monday August 29th at VMworld

This year at VMworld, SD-WAN thought leaders Greg Ferro and Ethan Banks of Packet Pushers, along with the folks from CloudGenix, invite you out for a fun night of complimentary cocktails and cutting-edge technology.

Join us at the MGM Grand Centrifuge Lounge, where we'll be showing attendees what a real SD-WAN application defined branch looks like.

[Reserve](#) your spot now for free food and drinks, as well as t-shirts and giveaways.

CloudGenix | Packet Pushers SDWAN Mixer at VMworld
Monday August 29th
6 – 8 PM
MGM Grand Centrifuge Lounge



2. When Will We Get Better Security? When People Start To Die

by Drew Conry-Murray

A new organization that advocates for secure software debuted earlier this month at the Black Hat security conference. The [Cyber Independent Testing Laboratory](#) (CITL) is a non-profit that bills itself as a sort of Consumer Reports for the security of software.

The goal of the organization, which was founded by well-known researchers Peiter and Sarah Zatko, is to develop and share “an independent comparative measure of the risk of ownership of computer software and systems.”

The company will research and test the security of business and consumer products, and provide a rating system to help identify more and less secure software.

I think the CITL is a great idea; an independent, consumer-focused organization that can rank and rate products based on risk gives buyers very useful information. And it's possible that poor rankings might compel product developers to do better.

Unfortunately, I don't think CITL will have a pronounced effect on security. Here's why:

First, security (or more accurately, risk management) is complicated. We like to talk about security as if it's binary (secure or insecure), but it's actually fluid. An organization's degree of risk rises and falls based on any number of interlinked variables: software quality, device configurations, system connections, IT budgets, asset values, user behaviors, etc., etc., etc.

While CITL tackles one important aspect of managing risk, there are a thousand other ways for things to go wrong. This isn't a criticism of CITL; it's just the nature of complex systems.

Second, most people just don't give a shit. This doesn't mean people are necessarily lazy or ignorant or malicious. It just means they want to get stuff done with as little friction and cost as possible. That goes for product developers (*ahem*, IoT) just as much as consumers.

Death and Taxes. But Mostly Death

So what will make a difference? Dead people. Once computing becomes connected enough to the physical world that insecure software leads to deaths, we'll start to see real progress.

If a thief breaks into Target's credit card transaction system and steals my credit card, a bank eats the fraudulent transactions and issues me a new card. And I'm back to shopping at Target next week.

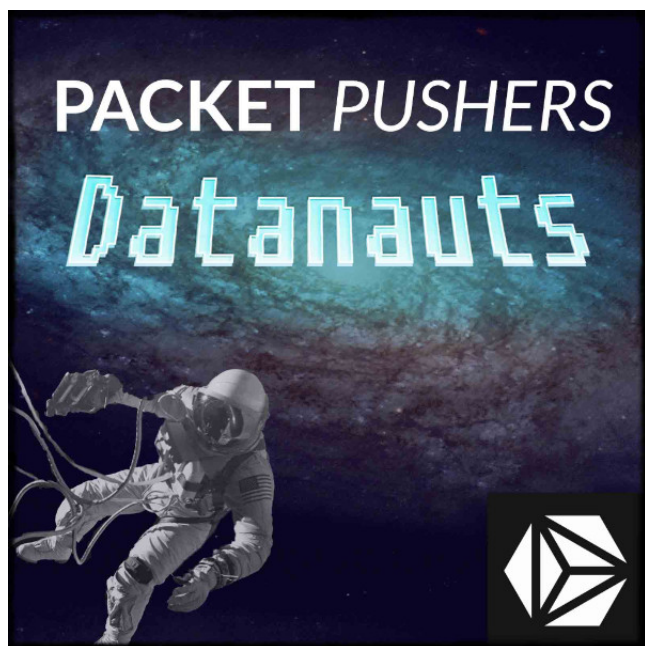
But if a hacker screws up the software in a self-driving Ford, and I see a family of four consumed in fiery wreck on the nightly news, the next time I'm shopping for a car it's not gonna be a Ford.



I realize death is extreme, but look at all the other security tools and requirements we've got in place: HIPAA and breach notification legislation, industry compliance initiatives like PCI, bug bounties, vulnerability databases, and a multi-billion dollar security industry.

And yet, here we are with the latest round of breaches, including [giant hotel chains](#) and [the NSA](#).

Until we are in literal fear of our lives, and thus refuse to purchase the item that frightens us, the pressures and incentives to improve risk management across all the interdependent variables just won't be there.



Join the [Datanauts](#) on their mission to bust silos and explore the latest developments in cloud, convergence, data centers, and more.

The Network Break



[Network Break](#) is a weekly podcast that delivers news & analysis on the networking industry in a fun, fast-paced style.

Internets Of Interest

A collection of pre-loved links that might interest you. "Pre-loved" because I liked them enough to put into this newsletter. It's not *true* love.

By [Drew Conry-Murray](#)

Why private clouds will suffer a long, slow death

Bernard Golden [advances some interesting arguments](#) for why private clouds will become more and more irrelevant as public cloud offerings advance. He emphasizes three key advantages for public clouds: the ability to provide innovative new services on top of existing resources; the ability to scale; and the network effect, in which improvements for one public cloud customer become available to everyone.

As for the big problem he sees with private clouds, here's the money quote:

"The core problem for private cloud is that the providers are focused on delivering what solves their problem — pushing more hardware. This blinds them to the importance of top of stack services and causes them to spend endless energy on tweaking the infrastructure software to incorporate their latest switch. Or server. Or storage array. This is textbook Clayton Christensen material — and we all know how that story turns out."

Greg Ferro has [strong feelings about public vs. private cloud](#), so I expect we'll get into this debate in an upcoming Network Break.

Exploring The Lost Grandeur Of New York City's Verizon Building


The New Yorker has [posted a slideshow](#) from inside the Verizon Building in Manhattan that houses fiber optic cables for digital voice and data, as well as a diminishing amount of copper wiring for plain-old telephone service. I'm always intrigued by visual reminders of the complex and palpable infrastructure that makes our seemingly ephemeral communications possible--and just how far we've come from the telephone age.

We don't understand AI because we don't understand intelligence

Depending on which prognosticator you believe, artificial intelligence is either going to usher in a new age of prosperity and peace, or lead to our enslavement or destruction by smart machines (once they get around to asking themselves why they're working for us).

But a [thoughtful article at Engadget](#) takes a step back to question what we actually mean by "intelligence."

"I agree that technology will continue to advance in unprecedented, accelerated ways; we're seeing this happen right now, and there's no reason to believe we are anywhere near a computational plateau. However, it is a huge leap from advanced technology to the artificial creation of consciousness. Essentially, the most extreme promises of AI are based on a flawed premise: that we understand human intelligence and consciousness."





WEEKLY SHOW

Where Too Much Networking
Would **NEVER** Be Enough

[The Weekly Show channel](#) is our one-hour deep dive on networking technology.



Priority Queue

Where Too Much Networking
Would **NEVER** Be Enough

[Priority Queue](#) tackles niche and nerdy tech topics and cutting-edge research projects.

Recent Articles

The last five articles published on [EtherealMind](#) and [Packet Pushers](#)

[EtherealMind.com Latest](#)

[Logical Razors Can Take on Corporate Babble](#)

[Canned Response to BGP Networking Questions – Reddit](#)

[IETF RFC 8374 BGPsec Design Choices and Summary of Supporting Discussions](#)

[Net Neutrality Hasn't Ended, We Don't Know When](#)

[Next Market Transition ? Cheaper Buying, Less Selling](#)

PacketPushers.net - The Last Five

[Network Break 182: BGP Hijacked For Cryptocurrency Heist; Juniper, Big Switch Unveil New Products](#)

[Show 387: AWS Networking – A View From The Inside](#)

[PQ 147: Connecting Security And GDPR Compliance \(Sponsored\)](#)

[Datanauts 131: Masters And Mentorship](#)

[Network Break 181: Russia Accused Of Infrastructure Attacks; US Targets ZTE](#)



Watch This!

Where we collect some videos that make us reflect, think about our inner lives, or just entertain us.





A cat takes a very strange adventure among creepy puppets, with the musical accompaniment of Mastodon.



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Can't get enough newsletters? Check out [Link Propagation](#), our newest publication. We send you a free weekly digest with tech news, interesting blogs, and industry announcements, all curated by the Packet Pushers. It's an easy

way to keep up and stay informed. Subscribe at packetpushers.net/link-propagation.

Quick Survey: Home Lab Costs

How much of your own money have you spent on home lab equipment and software?

- [A. Between \\$1 and \\$500](#)
- [B. Between \\$500 and \\$1,000](#)
- [C. Between \\$1,000 and \\$2,000](#)
- [D. Between \\$2,000 and \\$3,000](#)
- [E. More than \\$3,000](#)
- [F. I don't have a home lab](#)

Did We Miss Something?

Got an link or an article to share? Email it to humaninfrastructure@packetpushers.net

The End Bit

Sponsorship and Advertising - Send an email to humaninfrastructure@packetpushers.net for more information. You could reach 5,013 people.

Human Infrastructure is bi-weekly newsletter with view, perspectives, and opinions. It is edited and

published by Greg Ferro and Drew Conry-Murray from PacketPushers.net. If you'd like to contribute, email Drew at drew.conrymurray@packetpushers.net.

We don't give away your email address or personal details because that would suck.

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