Another week of being a Human in IT Infrastructure. Are you still alive to talk about it?

View this email in your browser

IN THIS WEEK'S ISSUE: SDN Abuse, Vendors Aren't Consultant, and IoT's Unintended Consequences. 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

Table of Contents
(aka The Project Plan)

Issue Number 41

09/30/2016

The "ranty" issue.

Thought For The Week:
The path of the righteous man is beset on all sides

1. Say SDN Again
by Ethan Banks

I browsed through [this post on /r/networking](#) about "Network Engineers and SDN in 2016." The thread was an odd mix of ideas about what SDN is, what it might be useful for, and whether network engineers need to care.

Marketing has abused the definition of SDN so badly that in 2016, it has no meaning. Yes, we'll cling onto the term in our industry lexicon, but as a basis for a discussion, SDN is a waste of energy.

Let's pretend the OP titled the thread "Network engineers and emerging networking techniques in 2016." That gives us something more to discuss. What's new in the world of networking that engineers and operators might find useful or even career-advancing?

Let's start with what's NOT useful.

1. Marketing babble. Stop listening to your sales reps and marketing people tell you about the glories of SDN. The messaging is mostly crap, and what we try to cut through on the podcast. Instead, have a clear idea of a problem you want to solve, and then look for solutions to solve that problem. Understand what solutions actually do, and ignore what buzzwords they associate themselves with.

2. APIs. By themselves, APIs are of zero value to you. At all. APIs only become useful if they are used to programmatically accomplish something. I don't care if a device has an open, well-documented, wonderful API unless either I'm going to use that interface or there's some software I'm going to use that will.

I'm not against APIs, but let's stop getting excited about them as if they were the thing that mattered. APIs are part of the journey, but not the destination.

3. New tools operated by clueless engineers. I hear repeatedly about how difficult it is to find competent networking staff. A shiny new networking tool has to be run by someone with a clue, or you end up with the classic GIGO problem. Unicorn software doesn't create a great network any more than a chrome-plated wrench builds a great car. Competency of the tool-wielder matters, and that will never change.

Say "SDN" again!

What Is Useful In Emerging Networking In 2016?

1. Point solutions. Networking problems, especially at the edge, tend to be complex. This is why we've seen tools like VMware NSX and Cisco ACI aimed, at least initially, at the data center. Data centers tend to be built as templates — the same thing over and over. There's also lots of bandwidth to go around. From a software engineering perspective, the data center network is relatively low-hanging fruit.

We also end up with point solutions like SD-WAN. Useful? You bet. Good ROI, at least until the telcos sort out their pricing models. Automates QoS, which is sort of a big deal if you know what MQC is and have had to write policies for different types of serial interfaces plus Ethernet with an upstream throttle. Plus pretty graphs, application reporting, and compliance checks. Makes sense. Solves problems a lot of companies have.

Point solutions are bounded problems. That is, they go after specific issues and solve them. They don't boil the ocean.

2. Automation. Configuring the network as a part of a larger, automated application provisioning scheme is useful. However, it's useful when you have a static underlay network, and it's useful when you have an application deployment process that runs in an automated fashion.

Do you work in an environment like that? Most don't, and probably never will. Devops shops are a small subset of specific customers whose products are applications brought rapidly to market. Most enterprises have campus networks they care about. They might have a small-ish data center, but it's slowly morphing into XaaS and colo space hosting a few static apps that can't be outsourced to the cloud.

That means that automation, really, is of value where a network engineer can find it to be of value. It's nice to be able to run a script to gather information or accomplish a simple, low-risk task instead of hammering through a bunch of CLI.

That said, will you lose your job if you don't automate all the things tomorrow? Not for the most part. However, there is a risk of being held back in your IT career if you don't grow, and automation is a fantastic growth area.

Is There More?

Oh, perhaps. I could itemize more point solutions. I could talk about OpenFlow and the centralized control-plane (not management-plane) model's utter failure to impact networking in a long-term helpful way. I could talk about vendor squabbling. I could talk about how open source has become the inmates running the asylum. But at the end of the day, almost none of that matters.

What really matters are the specific emerging networking tools that are genuinely useful to you, because they make day-to-day life better. Underneath all the tools, the network is still mostly Ethernet and IP. There's still a distributed routing protocol. There are still L2 broadcast domains. On these building blocks your network rises — or if badly designed — falls.

No emerging network technology (say SDN one more time) has changed the basics.

Sponsor: Viptela

The Packet Pushers: Live In NYC!

Meet the Packet Pushers in person in New York City on Monday, October 24th at a live event sponsored by Viptela. Find out how SD-WAN enables cloud transformation when Greg Ferro and Ethan Banks interview three network architects about their deployment experiences in a live podcast recording.

You can also connect with peers, meet Viptela customers and executives, and enjoy food and drink courtesy of Viptela. Join us for an exciting night at the Loft Flatiron, 6:30 pm, on October 24th. Register here to reserve your spot.

Location & Time:
The Loft Flatiron
4th Floor, 20 W 23rd St, New York, NY 10010
6:30 PM

2. Your Vendor Isn't A Consultant
by Greg Ferro

Vendors are suppliers. Their purpose is to sell you a product or a service. In technology, the process is more complex than buying a car or milk at the supermarket, but the business goals remain the same.

Free Advice Isn't Free

Asking a supplier for free consulting is bad for your business. The supplier is always going to recommend that spending more money on its products is the best outcome. That's the path to its success (not yours). The vendor doesn't care about your bottom line now or in three years. The vendor cares about this quarter's revenue.

Vendor sales teams want to extract as much revenue from your employer as possible. Your responsibility is to prevent that or ensure the money is well spent. The incompetency it takes to believe you are getting free consulting is staggering. For example, Enterprise IT companies regularly report that 20-35% of their quarterly spend/cost is sales-related.

Sales isn't free. It's built into the price of goods.

Less People, Less Expertise

Vendors have been advising customers to reduce head count on the premise that the new generation of product requires less effort, improves operations, and reduces costs. IT managers have bought into this fallacy because reducing head count looks good.

"*It's not a lie if you believe it*." - George Costanza

Metaphor: You buy a 16-wheel truck to replace your 8-wheel truck. It's more efficient, uses less fuel, and is on the road for longer. But do you need fewer people to maintain, operate, and load the truck? What about sales to fill the truck with goods? Does your accounting reduce or increase?

Bigger and newer technology requires the same operational focus to extract value. Efficiencies gained in one area are offset by costs somewhere else.

I doubt your IT leadership actually understands this. They are really busy building pivot tables in Excel.

The Right Product Or Solution

Vendors are often well-intentioned, but here is the reality: they MUST make money. Even if the product isn't right for you and they should pull out of the deal, they won't. They want that money.

As an incentive, sales people are taught to sell what they have. It doesn't matter if it's the right solution, the DEAL MUST BE DONE.

Hiding

Selling technology is complex. Now, let's not ignore the fact that customers may need to be "educated" to see value in the product that is on offer. Complex technology doesn't sell itself like a bottle of milk: "Oh, hai, I need some more."

There is a purpose for sales teams to explain their products and how companies can help you to improve your business, often in ways that are not obvious to you. That's valuable.

But it's easy to mistake this advice, however well intended, as helpful and useful. They understand their products and technologies and why they built them, but they don't understand what you and your company need. That's your job.

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

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

3. IoT's Downsides: Security, Surveillance & Distractions
by Drew Conry-Murray

IoT, in which networked sensors connect once-isolated devices and machines, is being touted as a transformative technology that will drive unprecedented levels of efficiency and productivity, create entire new industries, and reshape our lives.

And if even a tenth of the media hype around the technology comes to fruition, IoT is also going to have any number of unintended consequences for security, personal surveillance, and work distractions.

Security

A major concern with IoT, particularly consumer-oriented products, is that device manufacturers aren't all that concerned with writing secure software or implementing common-sense controls.

As more connected devices come online, poor security has real-world consequences. Case in point is security reporter Brian Krebs, [whose Web site came down](#) because of a massive DDoS attack.

Krebs notes that the botnet that took him offline included a large number of IoT devices, including IP cameras and DVRs, "…that are exposed to the Internet and protected with weak or hard-coded passwords."

OK, so that's one person's Web site. But IoT bridges the gap between the Internet and the physical world in all sorts of ways, from industrial controls to [autonomous long-haul trucks](#).

Imagine a DDoS attack that borks the GPS or logistics system for a fleet of driverless trucks. Even if trucks don't crash, an outage that keeps vehicles from moving for a sufficient length of time can have real economic impact, from food spoilage to manufacturing disruptions in a supply chain.

Surveillance

You'll have to pardon my tin-foil-hat extrapolations here, but I believe we're on the precipice of an era of data collection that will dwarf even the most acquisitive fantasies of the NSA.

And as noted above, much of this information collection will revolve around our meat-space coordinates and activities, not just the IP address/URL vectors of the Internet.

Consider cars. Between [event data recorders (EDRs)](#), telematics, and other onboard computing capabilities, reams of information are being collected about vehicle operation, speed, location, and driver and passenger activities.

This information is of great interest to manufacturers, law enforcement, insurance companies, and service providers, but there's not a lot of consensus around who owns the data, and who gets access to it under what circumstances.

Recently, a New Jersey lawmaker proposed a bill that would allow insurance companies to give a discount to drivers who installed dashboard camera in their cars. If required, the camera footage could be used to help resolve disputes about the cause of the accident.

While the underlying motive is to promote safe driving, the discount would create a financial incentive for car owners to essentially submit to persistent surveillance—which the lawmaker touted as a goal, according to a [news story](#):

"I think that they are reminded that this kind of footage is being obtained, and folks will tend to probably slow down a little bit more, pay attention a little bit more," said Assemblyman Jamel Holley.

But what happens if a discount for voluntary surveillance eventually morphs into a premium that gets charged to eliminate surveillance? In other words, what if insurance companies decide to start charging you because you *don't* have a dash camera installed?

Or maybe every time you park in your driveway, your driving data could be downloaded from your home router and sent to your insurance company, which could adjust your premiums in real time.

And why stop there? Municipalities could requisition speed and location data, mash it up with speed limit tables, and then mail tickets directly to your home.

OK, maybe I need to peel back a few layers of the tin foil, but when large institutions and organizations have a financial incentive to gather and monetize data, they will find ways to make it happen.

Can we talk?

Distractions

The notion of an Internet-connected refrigerator has been around for a long time, well before it was shifted under the umbrella of IoT.

However you categorize it, a networked refrigerator is a vastly stupid idea, but that hasn't stopped [some people from rhapsodizing](#) about how great it will be for your refrigerator—and all your other appliances—to send you status updates via texts, tweets, Instagram, whatever.

But seriously, how many more electronic distractions do you need? We already

know it's hard enough to focus on what you're doing for any useful length of time without being bombarded by email, texts, and phone calls from people. Do you want to add Whirlpool to the list?

And the cognitive cost of having to task-switch, while hard to gauge, can have serious ramifications for productivity. [A story in the Washington Post](#) quotes an efficiency expert who found that 40 to 60 percent of employees' time was wasted on interruptions.

So will your life be markedly improved because you know instantly that a laundry cycle has completed, or that you're now out of ketchup?

Just because we can connect and interact with everything doesn't mean we should, or that it will contribute in any meaningful way to our happiness and well being. So please, think before you IoT.

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 Greg Ferro & Drew Conry-Murray

Stupified [(Link)](#)

This article is a scathing critique of modern managers and corporate leadership cultures (or perhaps, cults). After speaking with hundreds of employees at a variety of organizations, [the author concludes](#) that corporate culture rewards those who comply with bureaucracy rather than use their intelligence, and that managers are all but useless.

> *"...we found that most employees in knowledge-intensive firms didn't need much leadership. People working at the coalface were*

self-motivated and often knew their jobs much better than their bosses did. Their superiors' cack-handed attempts to be leaders were often seen as a pointless distraction from the real work."

A High-Stakes Bet: Turning Google Assistant Into a 'Star Trek' Computer (Link)

Google generates tremendous profits from its search engine business, but the company is also smart enough to recognize how that business might be disrupted (and how its profits could be imperiled). Farhad Manjoo writes in the New York Times that Google is essentially betting the company's future on Google Assistant, a ubiquitous digital helper.

> *"The Assistant, in Google's most far-out vision, would always be around, wherever you are, on whatever device you use, to handle just about any informational task."*

The potential success of the project relies in part on Google's efforts in machine learning, artificial intelligence, and its ability to construct an appealing personality for this automated helper--not to mention how it handles issues like privacy and security.

The Democratization of Censorship (Link)

Security writer Brian Krebs had his site, KrebsonSecurity, taken offline for several days by a massive DDoS attack. Thanks to some help from a project called Google Shield, the site is back up, and Krebs shares details about the attack, and his fears about how malicious actors now have the capability to

censor speech on the Internet via DDoS.

> *"...*events of the past week have convinced me that one of the fastest-growing censorship threats on the Internet today comes not from nation-states, but from super-empowered individuals who have been quietly building extremely potent cyber weapons with transnational reach..*"*

This post is worth your time to read.

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

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

Recent Articles

The last five articles published on EtherealMind and Packet Pushers

EtherealMind.com Latest

Enterprise IT Doesn't Care About The Price. Really.

Unregenerate 20160827 – The Week Gone By or To Come

Intel IDF: Convergence Is Everything

Why Google Slows Fibre Rollout

Response: Arista Market Share

PacketPushers.net - The Last Five

Show 308: Moving To The Cloud (And Back)

Datanauts 053: Automate Some Of The Things

Network Break 105: Infoblox Bought; Cisco, Salesforce Team Up

Show 307: Teridion s New Take On SaaS Performance & Quality Of Experience (Sponsored)

PQ Show 93: Smart Network Monitoring With Paessler (Sponsored)

Watch This!

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

This person set up and knocked over 16,018 dominoes. At first I thought this was cool, but then I thought "Wait, is this kind of sad?" I'm still not sure. You can judge for yourself.

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 Appliances On The Internet

How do you feel about home appliances (fridges, coffee makers, washing machines, thermostats) getting connected to the Internet?

[A. It's great! I like the control/interactivity/information](#)
[B. It might be useful in a few cases](#)
[C. I don't have a strong opinion](#)
[D. I want nothing to do with it](#)

Did We Miss Something?

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