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

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IN THIS WEEK'S ISSUE: Avoiding Stupid Network Tricks; What SDN Means In 2017. 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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(aka The Project Plan)

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The "Stupid Network" issue.

Thought For The Week:
Be kind, rewind.

1. Avoiding Stupid Network Tricks

by Ethan Banks

Recently I recorded a podcast with Greg and Chris Young (@netmanchris) called "[Can We Put An End To Stupid Network Tricks?](#)" I was inspired by Chris tweeting about his early forays into AWS, where he found that Amazon doesn't offer features like layer 2 extension across availability zones. The AWS networking toolkit isn't loaded with features designed to overcome crapplications.

Huh. Imagine a world where the network infrastructure team wasn't expected to overcome IP address dependencies. Instead, developers were expected to design an application to work with infrastructure in a location- and host-independent way.

Chris went on to make that point that a complex network featuring NAT/PAT, L2 fabrics, L2 extension between data centers, and similar stupid network tricks are just that. Stupid.

And perhaps it's time we start saying "no" as network engineers when asked (or told) to overcome an application design that didn't consider infrastructure or operations. After all, if AWS has to keep it simple to scale to a worldwide public cloud offering, isn't that a lesson we can all learn from?

Of course, the answer is yes. And no. Saying "no" when asked to do something could be, as Chris put it, a resume-generating event. The key then, is getting involved in projects at the outset to avoid showdowns, ultimatums, and drama.

The Secret? Talk To People

One of the very best IT managers I ever had the privilege of working for was skilled at this. He went out of his way to turn the reputation of the IT department from, "We hate those IT people. They always say no and their infrastructure is always broken," to "We involve IT at the outset of every project, and applications deployments have been more successful."

This IT manager, let's call him Lou, spent a lot of time in a lot of meetings to drive this culture shift. Lou attended meetings with business leaders. He attended meetings with development teams. He informed IT staff about the major initiatives going on in the company. Lou assigned key IT resources to major projects to make sure that the infrastructure was going to be able to cope with what was coming. Lou brought people together.

Lou made sure that IT went from being a scapegoat to a trusted partner. IT ended up having a seat at the table. That meant that infrastructure teams, networking included, had the opportunity as a project was being designed to share input. And being a part of the conversation in this way meant that we were able to reduce the number of stupid tricks required to make an application work.

I'm not saying that we overcame all political challenges, that all groups were great friends, stress fell to zero while uptime climbed to a zillion nines. No scenario is perfect. But Lou bridged the gap among the business, development, and infrastructure teams by fostering communication.

Can you do this? Can you foster communication between your teams and avoid stupid network tricks? Even if you aren't a manager, you might be able to. I encourage you to come out of your fabric-covered box now and again. Give it a try.

Sponsor: Interop ITX

Where Tech Pros Go For Objective Full Stack IT Education

Interop ITX takes place May 15-19 at the MGM in Las Vegas. Join Greg Ferro and Ethan Banks for The Future of Networking Summit – a two-day session where we'll take a deep dive into next-generation developments in wide area networks, data center networking, network operations, and software-defined security.

Register for Interop ITX and attend other hands-on workshops like The Future of Data, Container Crash Course, Dark Reading Cyber Security Summit and the Open Source IT Summit. The event's Conference tracks focus on Security, DevOps, Cloud, Infrastructure, Data & Analytics – all the technologies you need for a successful Full Stack IT strategy. If you're looking to accelerate your career, there are also plenty of sessions on leadership and professional development. Plus, check out over 100 vendors at Interop ITX's Business Hall where you'll have an opportunity to meet with leading and emerging tech vendors.

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We want to see you in Vegas, so visit interopitx.com and reserve your spot today.

2. What SDN Means To Me In 2017
by Greg Ferro

We all know that the term Software Defined Networking (SDN) has been overloaded, overhyped, and distorted by several factors:

- Marketing distortions from vendors (both intentional and ignorant)

- Open source projects stumbling and changing

- Legacy technologies/products hoping to eke out a few more sales to last a bit longer, e.g. Oracle

- Incumbent vendors preventing change to maintain market control and profits

These problems aren't new. Similar things happen in every technology transition. (For instance, there was the "routing vs. switching" debate that started around 1998. Today, no one cares.)

Here's where my thinking is now.

A few years back, I focused on devices. Software features and hardware capabilities defined what services I could deliver to the business. My firewall rules defined what applications could do. WAN circuits had to be long haul in a star topology when a hub-and-spoke would be cheaper. Routing protocol limitations defined where circuits terminated instead of latency, cost, or vendor preference. IDS/IPS/Proxy devices prevented new traffic/applications because we couldn't built a multi-path network for different traffic types.

SDN in 2017

What it means to me now
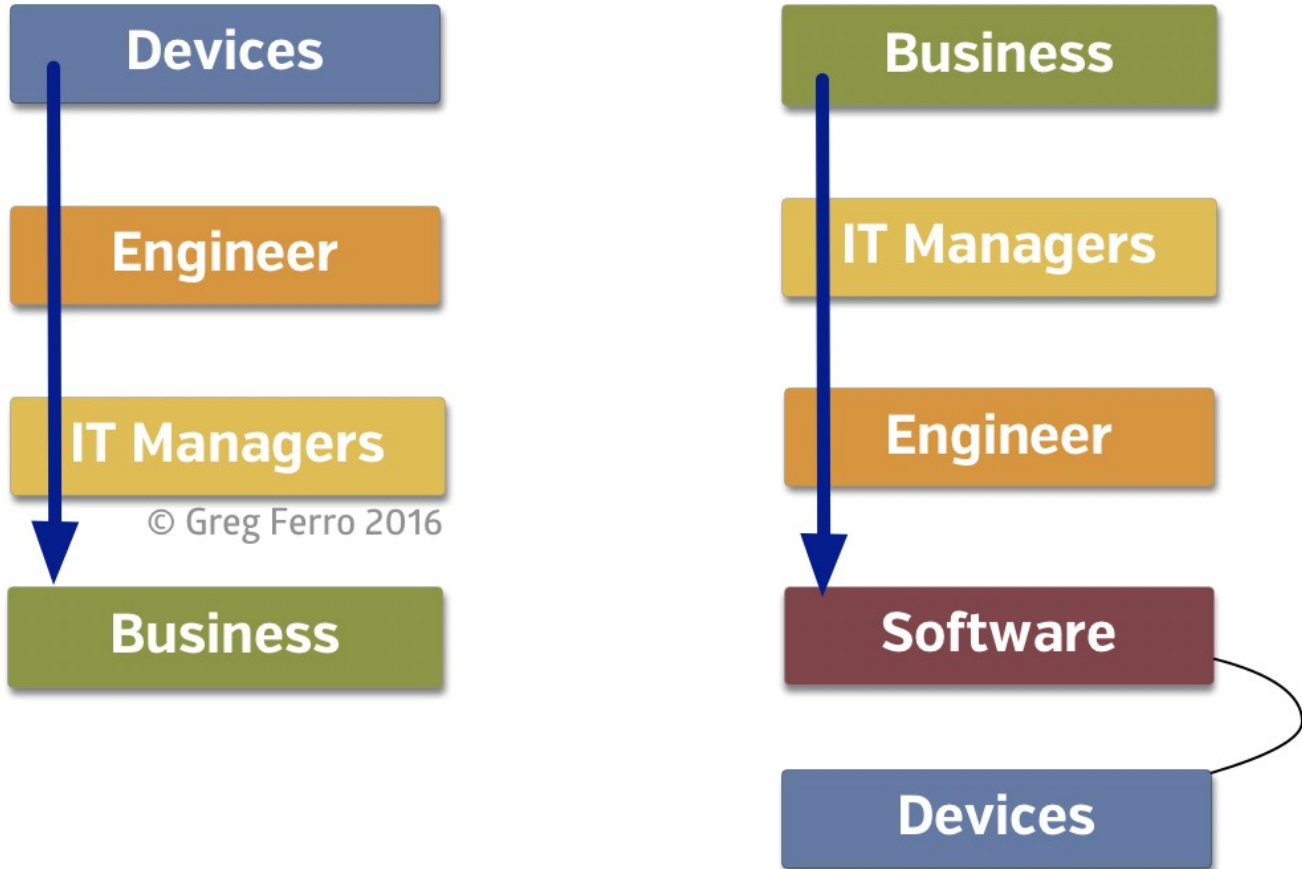
In 2017, we see the emergence of network software that overcomes the limitations of the device-centric approach. This shift to an end-to-end, user-to-server model allows us to be more business-centric and to say yes more often.

What I see is the emergence of SDN software and applications that focus more on the solution instead of the technology. "Intent-driven architecture" and "model-driven" are buzzwords, but also a promising product direction that has some momentum.

"Model-driven" refers to devices and solutions. Data models are API designs that allow for better device operation. Solution models are

groups of network functions that can be automated by an SDN product. This is good for design control, because it reduces "creativity" by operational engineers. It can also guide the design of new service deployments. By contrast, architectural control is lacking in a device-led culture.

SDN tools reduce the scut work of configuring devices and provide a level of consistency. I say "reduce" because devices are important and we'll need CLI operations for troubleshooting, or for work that is outside the scope of SDN, for some time to come. Consistency gives me more time to focus on saying no to project managers instead of exhaustedly just walking away and making it work somehow.

The EtherealMind View

SDN as a technology is about five years old - I see this as the halfway point because I think networking takes ten years to change. For me, the major shift created by SDN is that devices are no longer the focus. Instead I can work on better communication with managers, and get control of the architecture.

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

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 and Drew Conry-Murray

Automation For All The Things! What Happens Next?

There's a lot of talk about network automation, and what it means for current and future generations of network engineers and administrators--and a lot of concern that lots of people will be put out of work. [John Herbert writes](#) that the imminent demise of the profession is "codswallop."

However, he also identifies certain roles that are likely to be automated over time, and examines the impact this might have on training and development. If the impact of automation on your career is on your mind, this post is one to read.

The VMware Specialist's Guide to AWS Certifications

As Amazon begins to eat more of the IT industry, there's a growing interest in AWS certifications. vMiss has a [good overview of what's on offer](#) (through the lens of a VMware pro), so if AWS is on your radar, check it out.

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

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Product News

We don't often get new products worth talking about, so that makes it nice to have something to say.

Barefoot Networks Announces First Switches With Programmable Tofino Chip

Barefoot Networks is [announcing new programmable switches](#) that will be available in the first quarter of 2017. The switches, which use Barefoot's Tofino silicon, will be built by Edgecore Networks and WNC. This is pretty cool stuff, and you can get much more detail from Barefoot's [Network Field Day presentation](#).

Recent Articles

The last five articles published on Packet Pushers

PacketPushers.net - The Last Five

[Datanauts 067: All About Containers As A Service](#)

[Network Break 118: Cisco Meraki Targets MSPs; A VMUG Spat](#)

[Show 322: Can We Put An End To Stupid Network Tricks?](#)

[Datanauts 066: The Harsh Realities Of Scaling Out](#)

[Show 321: Did Anything Change In 2016?](#)

Watch This!

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

This is a thing. I don't know why it's a thing, but it is. Enjoy.

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Quick Survey: Is programmable switch silicion for you?

Barefoot Networks is introducing a switch ASIC you can program. Could you find a use for this?

A. Hell yeah! Where can I get one?
B. Maybe. I need to think about this.
C. Probably not
D. Nope

Did We Miss Something?

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