

Human Infrastructure is a bi-weekly magazine-style newsletter from EtherealMind.com with News, Views and Opinions on being a human in IT Infrastructure. Hit the [signup_page](#) to subscribe and join 5,013 subscribers.

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Human Infrastructure Magazine

A Newsletter on a Life in Networking

Issue Number 7
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You can't get a refund on life wasted with sales grunts - Greg Ferro

I like the Interop Las Vegas conference.

As I write this from the media centre at Interop Las Vegas. I've just completed two 3-hour presentations on Software Defined WAN and Physical Hardware for the Data Centre, my throat is sore from speaking for so many hours, my back and legs hurt from standing up (my super power is sitting in a chair to work).

It's a good feeling. This is one of the hardest things I have ever done. I select the topic, pitch it to editorial staff for approval, then I have to write all of it from scratch from my tiny little brain. Finally, I stand up and present to a room of 150 people who know quite a bit about technology.

Its a nerve wracking experience and I love it.



One thing about Interop ?

If I had to pick one aspect of Interop, then it is the presentations in the techtorial / education tracks.

1. Presentations are all delivered by people who have no vendor alignment. You get real opinion / analysis,

2. Topics looks at industry trends and perspectives instead of just focussing on vendor product, features and technology.
3. I'm not surrounded by "evangelists" and other forms of vendor bigotry
4. I'm not being smothered by "social media professionals" and other forms of customer control so that everything is "on message."

The big vendor conferences are great events and there is piles of great information but they presentations are carefully controlled and sanitised to ensure that nothing negative is ever said.

Everyone I spoke to was high level engineer, manager or executive. These were real people who made big decisions and knew their stuff.

Refreshing and stimulating.

The banner features a scenic background of a beach with waves and a cliffside. Overlaid on the left is the text "Live Event: How To Software Define Your WAN" in large, white, bold, sans-serif font. In the top right corner, there is a logo for "Sponsor viptela" consisting of a blue checkmark icon and the text "Sponsor viptela". In the bottom right corner, there is a logo for "Open Networking USER GROUP" featuring a blue network diagram icon and the text "Open Networking USER GROUP".

A Night of Software Defined WAN

Are you attending the Open Networking User Group conference in New York on May 13 ?

Ethan & I will be moderating a discussion about SD-WAN in an ONUG after hours session on May 13, 2015. The format is food and a live podcast with network architects

from big companies such as VISA, Gap and Bloomberg with topics on real world SD-WAN and discussing the issues around deployment, design and outcomes for their companies.

Head over to **Viptela** to register (we need numbers for catering and seating) and thanks to Viptela for sponsoring the event and the recording.

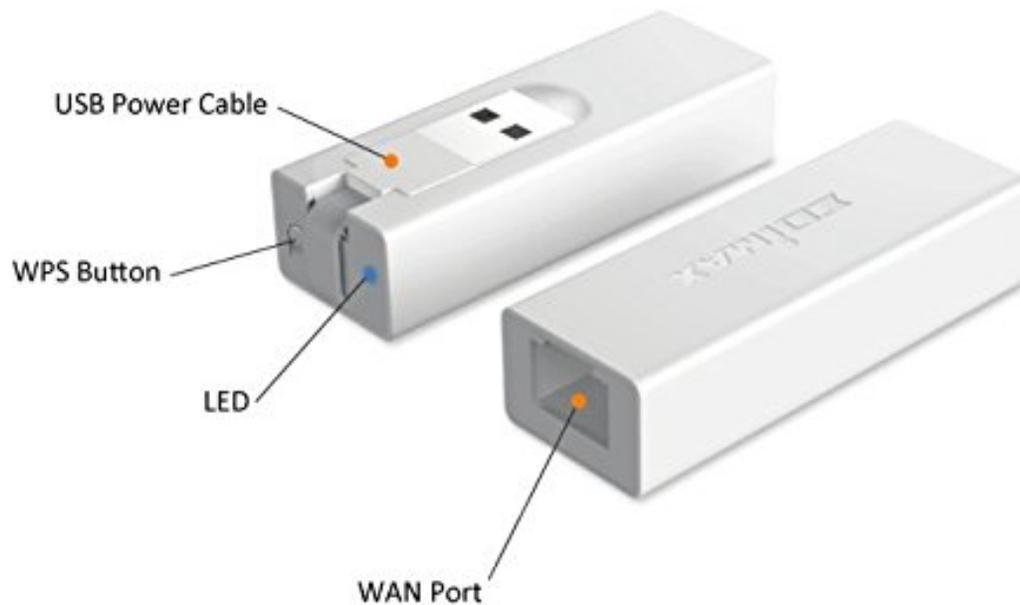


Biohacking and Networks

While fast-reading my way through some twitter I noticed **this article** on implanting RFID under the skin. Later the same day I was discussing the how networking silicon continues to reduce in size

Now that Samsung has a viable 20nm & 12nm silicon production in addition to TSMC, there is greater production capacity and better pricing. Merchant silicon companies are moving their network chips onto 20nm process.

If chips can get smaller, then devices are too. The logical extension is that networking devices can become much smaller. For example, here is my latest travel accessory, a USB/WiFi/Gigabit Ethernet adapter that is roughly the size of my thumb.



1. Devices are getting smaller and even self powered
2. Once you implant several devices, you are likely to need a network.
3. What would a "bio-network" of implanted objects look like ?

This leads me to wonder when we will be implanting network hardware under the skin. And how would we build an IoT network that is human-implanted ?

I have no idea why I wonder about these things, but I do.



Collateral damage in Software licensing

Very few customers are happy with the current state of software licensing from network vendors. Networking vendors need to charge for their products (so they can transfer wealth from you (the customer) to them (and their shareholders) - that can't be changed. Software licensing change the way that goods are purchased but customers loathe licensing because its complex, arbitrary, and downright hard to use.

If this is true, then vendors must be willing to accept the collateral damage to customer relationships.

What is the collateral damage to customer relationships ?



Why Software Licenses ?

Software licensing works for some businesses and not for others.

Most software licensing is targeted to cloud providers because their business models require the investment to spent ahead of customer sales. Cloud providers have a huge cashflow problem of building IT Infrastructure **before they make any money**. Compare this to traditional companies who spend money on IT **after money is earned** and usually to make existing business processed more efficient or extend existing opportunities.

Software licensing is often attractive to companies who have poor profits or struggling to sustain revenue. Delaying capital spending is one way of short

term profits. For businesses that are being disrupted (such as media, music and manufacturing), these licensing programs are often ways to hold on a just a bit longer and hope that business improves in a few more years.

For example, merchant/commercial banking remains a highly profitable business and prefer to use capital spending while retail banking is struggling to retain profits. Retail banks often use software licensing to buy products they can't capitalise.

Selling Values

Licensing can reduce the initial price of a product to make it attractive to customers. Reducing "quote shock" will make it easier to customers to move into a product or a platform. Once there, vendors can capture future revenue through incremental upgrades.

It is very difficult to determine the true cost of products when the price of licenses can vary over time. Vendors can increase license costs over time to increase the total revenue opportunity. These price increases are often not detected by customers, even though prices in the market are falling.

Hidden Revenue Increase

Vendors are using licensing to increase prices in a market where prices are falling. For example, Cisco charges roughly 3 to 4 times more than a standard SFP module. The extra cost is a hidden per-port license fee with each "certified SFP/QSFP module". This increases the total vendor revenue for an Ethernet switch while reducing the price of the switch.

Purchase Orders

Raising purchase orders is difficult and time consuming process. Raising new purchase orders every year is significant time wasted by network engineers since there is an entire review process associated. In this scenario, engineers avoid products that require recurrent software licenses, and

Some companies have setup new budgeting, planning and purchasing process to handle this but most haven't.

Collateral Damage

A few things strike me about software licensing:

Some companies are basically buying things they cannot afford. If you are spending opex to avoid spending capex, you might not want to buy anything. Use free software instead.

Recurring software licenses waste a lot of time. Unless your purchasing process is much simpler than those I have experienced, you are likely to be waisting a lot of time checking recurring software POs in the years ahead.

Feature Embuggerance Vendor product managers are using licensing to measure customer adoption. If customers don't buy it, then it can be removed or development stopped. The results in feature sprawl, then compatibility matrixes. Having wasted months of my life on Cisco IOS compatibility and bug scrubbing, I am concerned about how much it will cost customers to confirm what features are in their licenses.

Note: A vendor with "licensing experts" should tell you be a HUGE warning sign that this has happened. Expect to waste your time doing useless work.

What do you think ? **Email me.**



Answers to Questions ?

People ask me questions. I try to provide answers based on who and what I am. **Email me** and I will post the answer here

Feeling Like an Imposter

Q. A lot of us in the networking field are regular sufferers of impostor syndrome, but (I imagine) have had/will have that one clarifying moment when they feel validated in calling themselves an engineer.

At what point did you finally feel like you had earned the title and not just lucked into it?

A. You are not alone. Most people have experienced "imposter syndrome" at some point in their career.

I was discussing this last night with a close friend whose high profile startup was just acquired. A few years ago, he was working for a big university in the USA, now he a leading developer in SDN. I would see him as super-talented and has gone through an amazing transition to become a global leader. But he still feels like an imposter too.

I like to see this as a feature. Being aware of your limitations makes you careful. You will check your work, make sure you are being considerate of fellow workers, research what you aren't sure about.

Embrace it. Use it.

Overwhelming confidence can be a sign of wanker or bullshitter. I will take someone who is questioning, thinking, researching and confirming their data everytime.



Internets of Interest

Webpages that have caught my attention in the last couple of weeks.

Microsoft and Open Compute Project

Microsoft is contributing server hardware designs to Open Compute Foundation and contributing to Redfish specification for server hardware managements.

1. Microsoft's new submission of the Local Energy Storage (LES) specification introduces a transformative approach to provisioning Uninterruptible Power Supply (UPS) capacity - moving batteries from large datacenter rooms to distributed units integrated directly into the power supplies which are part of the server chassis.
2. By providing simple, consistent programming interfaces for common networking functions implemented by network switch application-specific integrated circuits (ASIC), SAI enables the freedom to pick and choose the combination of hardware and software that is the best suited for each networking scenario. SAI is a key element in advancing the OCP objectives for disaggregated networking and an open switch ecosystem.
3. The Redfish Specification is a manageability interface and lightweight data model for managing servers over a network. At the summit, we will demonstrate heterogeneous server management via the Redfish API. A set of PowerShell scripts can auto-discover server platform capabilities through OData metadata, and then execute a series of server management commands on both OCS hardware as well as Intel RSA (rack scale architecture) hardware

Microsoft Extends Commitment to Open Compute Project - Microsoft Server and Cloud Platform Blog - Site Home - TechNet Blogs

52% of Fortune 500 companies have disappeared since 2000

Since 2000, 52 percent of the companies in the Fortune 500 have either gone bankrupt, been acquired or ceased to exist (Figure 1). The pace of change has increased, competition has intensified

and business models have been disrupted. The only certainty is that change will accelerate.

I wonder what is the value of customer/vendor relationships when customers (and vendors to a lesser extent) disappear so often ? Account management by vendor and resellers is already more of nuisance than valuable for many IT teams.

I've said before that the Internet replaces the widespread need for sales people to "faciliate the sales process", what we need to better resources to support delivery enquiries, solution and product design and purchasing support - activities that would be done better over the Internet and not with a low-performance human in the process.

Research Summary: Sneak Peaks From Constellation's Futurist Framework And 2014 Outlook On Digital Disruption - A Software Insider's Point of View

Every Questions In Every Q&A Session Ever

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As a semi-professional speaker and many years of training courses, consulting sessions etc etc, I can agree with nearly every one:

1. "I'd like you to know that I'm particularly smart. Here are some subjects I consider myself to be very smart about. There is no question."

9. "I'm deeply unpleasant, and have run out of friends and family members who are willing to put up with my opinions."

14. "Someone else already asked my question. Make them give it back."

Every Questions In Every Q&A Session Ever

More on Merchant Silicon

These articles provide some useful background about Broadcom and its mixed history of merchant silicon in networking. Couple of things that I see as notable:

1. Broadcom has been trying to break into networking silicon for a long time and spending billions in the process.
2. Its not just about Ethernet switching silicon, its about wireless, network processors, and much more.
3. Broadcom is spending large sums on a wide range of silicon, and continues to grow this business.

As research more about merchant silicon from companies like Intel, Cavium and Broadcom, the more I see their competitive advantages over existing networking vendors like Extreme, Juniper and Cisco.

WiFi Wave 2 Rises at Broadcom | EE Times

EE Times - Broadcom v ASICs, Part 2

Broadcom deal launches comms attack from rear | EE Times



EtherealMind.com Latest

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

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

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

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

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

Video – Enterprise IT is Luxury Market, Stop Whining About The Price - [Link](#)

BPF, eBPF, XDP and Bpfilter... What are these things and what do they mean for the enterprise? – Netronome - [Link](#)

I welcome your feedback, questions and corrections. Send an email to humaninfrastructure@packetpushers.net and I will write a response.

Sponsorship and Advertising - Send an email to humaninfrastructure@packetpushers.net for more information.

About Piece of A Human Infrastructure

A strongly curated newsletter produced by Greg Ferro that contain observations and thoughts on IT Infrastructure with a networking focus that he has seen, done, discussed, reviewed or just simply found on the Internet.

The format is structured but flexible (like any magazine) and will change over time as I settle into a routine of capturing ideas, topics that seem relevant and ultimately finding patterns that seem to be interesting to you. Your feedback will drives changes so don't hesitate to email with feedback or ask followup questions for the next edition.

About Greg Ferro

Greg is a co-host of the Packet Pushers Podcast a weekly podcast on Data Networking which has over 8000 subscribers. He blogs regularly at EtherealMind.com for the last eight years and is pretty well known these days. He also write as an analyst for Network Computing and Gigaom Research. He speaks at major events on Data Centre Design, SDN and life in technology. He moderates panels, advises customers and technology companies.

He works as a part-time network engineer in the UK on a freelance basis. Because real work configuring routers and switches remain not only a passion but important to keeping touch with the industry.

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