

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

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Putting on rubber gloves to read this vendor proposal - Greg Ferro



Exordium
Subception
Augury

Changing Views and Problems

This week I am reminded (again) that everything changes in technology and while this likely happens every day repetition means that I often don't notice just how much change there is over time.

For some people who follow my writing, this seems to create some confusion. With more than 1600 blog posts on EtherealMind.com and three hundred podcasts on Packet Pushers, I have expressed opinions, views, thoughts, and offered advice of variable quality. And over time, my view on things changes because **things change**.

And I mean everything. New products, new standards, new technology. Vendors will buy or merge with other companies. Or discontinue a product line. Good products go downhill, bad products improve. Of course sometimes I get smarter too and find new ways of seeing problems, or understanding solutions. Like anyone else, I will have dumb days and stupid mistakes.

Examples of Getting It Wrong

I loved the Cisco ACE module in 2006 and advised many customers to buy them. In 2015, Cisco ACE is zombie product that had feature freeze sometime in 2009. Ouch.

I spent a lot of time on Cisco CS-MARS combined with Cisco Security Manager and invested hundreds of hours in learning the product before Cisco pulled the product after a very short time. Double ouch.

Change in Perspective

I have installed many F5 load balancers in many large and small companies. My opinion hasn't changed about F5 technology or products who remain a solid, boring, predictable and stable. But as I've worked on other load balancers, I'm less convinced that F5 LTM is good value for money because F5 is charging increasing amounts for their products. Other load balancing products are good alternatives.

Getting It Right

I got onboard the wave of change around SDN in early 2011. I didn't see what SDN is today, but once I got the idea that flows can programmed

instead dumb packet routing, I was quickly able to see how this would flow into new products.

In general terms, I don't get much *right straight away*, I do get it right **eventually**.

Changing

My views keep changing, and I shouldn't have to apologise. Over time, everything changes - technology, knowledge, markets, ... something. Don't beat me over the head for it, accept that it is part of being an engineer.



Things On My Mind

What is Happening At Arista

Anyone else get the sense that Arista has slowed down in last few quarters ? This time last year they were rolling out new products that were interesting, features that had a purpose and talked about partnerships with VMware and others. In 2015, things seem to have changed. They were slow to get SDN, haven't seen any new products and Cisco is getting up in their faces with lawsuits.

Takeaways

- Whitebox is growing and changing big company business strategies
- Is it becoming clogged up with big vendor employees bringing non flexible ideas and bad habits
- Transition from startup to boring, low risk, mature business
- Are chassis switches relevant in tomorrow Enterprise ?

Transition To Mature Business

Arista listed on the NASDAQ and now has a market valuation of \$4.7B on a revenue of \$580 million, a generous valuation for a company that is seen as challenging Cisco in one of its most critical markets of data centre Ethernet. More importantly, Arista has been successful in selling to cloud providers like Microsoft with rumours of more than 30% of sales in this market. With cloud providers growing strongly this is a good market to be in.

At the same time, Arista has been hiring a lot of Cisco and Juniper employees. And with those employees that could be getting the bad parts of the cultures of those much bigger, slower and dumber companies (all big companies are inherently stupid, its a function of size).

And what about growing pains ? Is this slowing them ?

Unbundling Licensing From Hardware

This week Arista announced new options for buying its products. Customers can now choose a monthly or yearly subscription fee for the software which reduces the initial purchase price. This is important for cloud providers that have strong business needs to reduce the initial spend because a cloud must built their infrastructure **before selling products**.

This will delay a substantial amount revenue for Arista and they also take on risk that cloud providers will continue to grow and require licenses in the years ahead.

Meeting Customers Needs or Reacting to Whitebox

This move is a step towards the whitebox business model. Some customers have an overriding need to avoid spending capital and whitebox Ethernet switches fit this need but they still need an operating system.

The operating system is incredibly sticky. Customers can choose to buy Arista hardware later, or use Arista chassis switch in the core and have whitebox at the top of rack. But running the same operating system all over.

Chassis Switches

We don't need chassis switches like we used to. ECMP network architectures using 1RU/TOR switches are replacing the need for them. For that matter, a lot of enterprise data centre's don't more than a couple of hundred 10GbE ports.

Wrap It

My current view is that Arista is maturing into something much more conventional and boring. That could be attractive to enterprise IT customers who don't like exciting. Executives who sign the cheques like to having boring lives, get predictable results and be all around ordinary (this is also called risk management). Maybe thats what Arista wants to be. Boring.

Reference

Arista - Arista EOS as a Subscription Simplifies Cloud Adoption

Arista - Arista Networks and Supermicro Deliver Converged Infrastructure for Cloud Scale Data Centers



Vendor News

Vendors have a lot to say but not much worth listening to.
Picking signal from the noise.

Selection on news from vendors that might be worth looking at. Looking for unusual, exciting, weird or amazing without the ho-hum.

Vendor News

Whitebox reaches 7% of DC switch sales by revenue in 2014

Whitebox was big in 2014, much bigger than most people think. At 7% market share of the data centre market this makes whitebox Cisco's biggest competitor. OUCH.

White Box / Bare Metal Switching Reaches 7% of Data Center Revenue in 2014

Data Center to Drive Ethernet Switch Market Growth over the next Five Years - Dell'Oro

Microsoft Forced to Adopt ODF format

Microsoft is learning to be open, the hard way.

In 2014, Microsoft went against the government's request to support ODF, claiming its own XML format was more heavily adopted. The UK government refutes the claim, stating that ODF allows users to not be boxed into one ecosystem.

Microsoft will adopt open document standards following government battle | ITProPortal.com

Juniper & VMware Back Off from OpenDaylight

Both of these companies have their own controller and not really interested in ODL. They have dropped to silver status and will still be adding plugins in the future. The world isn't ending.

Both companies' logos have been removed from the membership page on the OpenDaylight site as of today. And while the OpenDaylight Project isn't explicitly saying Juniper and VMware are gone, it's clear that the vendors' interest in OpenDaylight has waned.

Juniper & VMware Back Down from OpenDaylight's Top Tiers

Cisco to Acquire Embrane

Embrane has an NFV solution for ACI that should fit the enterprise quite nicely. Basically it manages the virtual appliances and instances that you

need to build network services. Embrane's founders are all ex-Cisco, and friends with the ACI leadership (who are nearly all of Italian descent, and speak Italian when together).

Most people are like "about time". This is no surprise.

Today, Cisco is pleased to announce its intent to acquire Embrane, a provider of a lifecycle management platform for application-centric network services.

Cisco Announces Intent to Acquire Embrane - Cisco Blog

Cisco Acquires Embrane - Network Computing



Sponsor

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Internets of Interest

Internets of Interest

IAB moves to encryption by default.

Newly designed protocols should prefer encryption to cleartext operation. There may be exceptions to this default, but it is important to recognize that protocols do not operate in isolation. Information leaked by one protocol can be made part of a more substantial body of information by cross-correlation of traffic observation. There are protocols which may as a result require encryption on the Internet even when it would not be a requirement for that protocol operating in isolation.

IAB Statement on Internet Confidentiality | Internet Architecture Board

Vested interestes led by Cisco and Service Providers are determined to intercept your traffic and sell you personal details to the highest bidder regardless of intent or purpose.

Amazon is getting into chip design.

Amazon gobbles chips firm Annapurna to speed up cloudy data centers • The Register

Could be like Apple, minor improvements that focus on issues that are specific to their own use case. But disrupts the supply chain, middle men are being disrupted by cloud companies.

Submarine Cable Map

Its always cool to see this every year.

TeleGeography's Submarine Cable Map has been updated for 2015. The latest edition depicts 299 cable systems that are currently active, under construction, or expected to be fully-funded by the end of 2015.

<https://www.telegeography.com/telecom-maps/submarine-cable-map/index.html>

Ambient temperature x86 servers

If you didn't have to cool your data centre you could cut up to 50% from the cost.

The Hyve Solutions Ambient Series servers have been specially designed and engineered to tolerate much higher temperatures, which allows for the ambient air in a data center to efficiently cool the servers instead of resorting to power-hungry chilled cooling systems. The result is a substantial and measurable reduction in power consumption.

Most data centers are run unnecessarily cold, often requiring just as much energy to power the cooling system as it takes to power a typical server. The Hyve Solutions Ambient Series have been thermally tested to handle inlet temperatures as high as 40 degrees Celsius, which means very little power is required to cool the systems.

Ambient Series | Hyve Solutions

Google Chrome Gets HTTP2 support

Google adds full HTTP/2 support to latest Chrome build

Comparing DNS Performance of Providers.

I have done a lot of work on improving website performance and speed by optimising infrastructure. This website tracks exactly this and provides graphical details of the response time. Notably, Amazon's Route53 (a common choice for enterprise and startups) is one of worst performing services.

DNSPerf monitors the most popular DNS providers and companies that offer DNS hosting. This is an independent project started when I was looking for the fastest DNS for jsDelivr.

[DNS Performance - Compare the speed of enterprise and commercial DNS services | DNSPerf](#)

Google Chrome Extensions Riddled With Malware

Google Chrome is arguably the most secure web browser but its plugin/extension are probably the least secure.

The study also found widespread use of ad injectors for multiple browsers on both Windows and OS X computers. More than five percent of people visiting Google sites have at least one ad injector installed. Within that group, half have at least two injectors installed, and nearly one-third have at least four installed. Google officials don't bar such ad injectors outright, but they do place restrictions on them. Terms of service for Chrome extensions, for instance, require that the ad-injecting behavior be clearly disclosed. Customers of DoubleClick and other Google-

operated ads services must also comply with policies barring unwanted software.

Google kills 200 ad-injecting Chrome extensions, says many are malware | Ars Technica



Ask me a question, I will do my best to answer. Warning: Sound advice given here (95% sound, 5% advice). Email humaninfrastructure@packetpushers.net

Question and Answer

Question:

How do you feel about mentors (or the lack thereof) in the field? In a previous thread this was debated as possibly a US-only phenomenon, but by and large, senior engineers/architects are vehemently uninterested in teaching/mentoring their organization's junior employees. Is this a matter of "not enough hours in the day"? Is it some (misguided) sense of job security? Is it a culture that organizations aren't properly incentivizing? Why is the field so isolationist?

Answer:

I'm generally not big on mentoring and believe it is probably a thing of the past.

- once upon a time, people had time to help you out

- people keep working longer hours to be seen as a good employee reducing available time
- spending more hours on you doesn't help their career progression
- you only hear older people talking about mentoring, rarely young people (thing of the past)

Replacing mentors

You can replace mentors by meeting and talking with peers. **Join an IRC channel** like #packetpushers and chat to people about networking. **Write blogs** and people will email you with questions or to offer help. **Attend local user groups and meetups** - there won't be a networking meetup but there will be networking people there.

Go to conferences if you can. Meet people who are like you.

Packet Pushers has some ideas about organising virtual meetings using web conferencing but it will be a while before we can implement them. I hope we can find the time to make that happen.

Question:

My point of view on this comes from my military background. There were a few people who were massively influential early on in my career, and I never felt like it took much of my own time to pass that along. It was usually something more like "This task that would normally take me 2 hours will now take me 2.5 hours because someone's watching over my shoulder and I'm explaining my thought/troubleshooting/configuration process to them".

Not only that it would take 30 minutes more to do, but this mentoring will pay dividends later on as well. "Teach a man to fish" and all that... I loved mentoring my troops/colleagues. Being a know-it-all who doesn't pass along knowledge, doesn't help anyone.

Answer:

I can agree with this. My problem is multifaceted. The lack of mentoring means that

1. managers don't reward mentoring.

2. i am not practiced at being a mentor
3. people are not practised at being mentored which leads to all sorts of misunderstanding.

I would like to mentor, but there are many problems that have prevented me and I no longer try to do so. Exceptions occur :).

Reference: **AMA - Greg Ferro from Packet Pushers Podcast, 25 Year Enterprise IT Survivor. : networking**

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

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About Human Infrastructure Magazine

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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