

This week, the difference between training and teaching and lots of research papers to read.

ETHEREALMIND

Human Infrastructure Magazine

A Newsletter on a Life in Networking

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The "Sure I Am A Startup" Edition

Thought For The Week:

They say young hearts run free. In reality they are paid for by their parents.

Thoughts: **Teaching AND Training Are Education**

Training isn't enough. You need some teaching too.

Training means you can drive a car. *Teaching* will educate you on how a car works, the costs of ownership and history of transport.

In IT, training can be bought for money. Teaching comes from the people around you and from your own unstructured study. Your education program should include both.

Takeaways

1. Training is practical knowledge.
2. Teaching focusses on fundamental knowledge plus support for your emotional and personal needs.
3. Both teaching and training have their place. Training is short term, job-centric, task focused. Teaching is long-term, career enhancing and knowledge-centric.
4. Find teachers in the workplace, in blogs/podcasts, in user groups.
5. Education is a combination of training and teaching. And probably a lot of other things too.

Training

Pull the lever, load the truck this way because it works best and configure the router with these commands. Write a script.

These are examples of training. You can train to drive a car, forklift or fly a plane. You haven't learned how a car operates or how a plane flies.

You can train to configure a Netscaler load balancer, Juniper router or Fortinet firewall but you won't learn the theory of load balancing, routing or security.

Teaching To Learn

The role of the teachers has two parts - education and learning.

Education is teaching the fundamentals. Calculus & English grammar taught in high school are good examples. Or learning about graf theory (that OSPF uses to calculate the best path).

Learning is about you, the person. Personal and emotional growth is equally important. In the corporate workplace, learning is about respect, teamwork, process, timely reports and prompt timesheets. And its about emotional hygiene towards your colleagues who you are forced to get along with.

Teaching as Education

“Education is what people do to you. Learning is what you do for yourself” - Joi Ito

Most people see "teaching as education" when you attend an institution or a programs and, in practice, is mass-production of teaching. A factory can weave cloth in large volume & at faster speed compared to hand-powered loom to produce low cost cloth at predictable quality.

Teaching means understanding the difference between a program and a script. Or learning protocols to perform best possible load balancing or firewalls.

An institution (university, vendor) can teach or train at lower unit costs and predictable quality - in effect, a mass production of education. But commercial interests mean vendors focus on training for short term results.

Its Not A Choice

You need training and teaching.

- Training is often **passively** sitting the classroom while a "trainer" spouts hours of slides at you. Working with a teacher is **actively** engaging and having discussions.
- Training teaches how to complete **tasks**, teaching understand the **purpose** of the task as well.

Learning Strategies

The gap between Train & Teach, Job & Career, Short & Long Term

<u>Train</u>	<u>Teach</u>
Passive	Active
Formal	Informal
Do Task	Know Purpose
Curriculum	Knowledge
Short Term Results	Long-term Enablement
Job	Career
Measurable	Estimate

Training uses a **curriculum**, teachers share **knowledge**.

- Training gives **short term results** by improving task completion or providing skill competency. Teaching gives you life long **enablement** to keep learning more.
- Training helps you to complete the job. Teaching will enable your entire career.
- Training lends itself to **measurement** while teaching doesn't.

Getting Teaching

Places you can go for teaching:

- Podcasts - listen to discussion, consider the ideas and concepts. Think for yourself while you listen to
- Blogs - read blog articles
- Conferences - although conferences are expensive and time consuming, the personal face-to-face time is a very intense learning experience.
- Meetups and Local Events - look around for local community groups that talk technology.

Sponsor: Riverbed

Application Performance is Business Performance

Businesses rely upon enterprise applications more than ever to conduct day-to-day business and interact with employees, partners, and customers. As these applications become the tools of business, the performance of business is directly dependent on application performance.

In today's hybrid world, companies are able to deliver apps from public or private clouds, across MPLS or internet connections, and to any device to realize greater business agility. While these hybrid capabilities enable organizations to work faster and be more flexible, they aren't without challenges for IT. Application complexity is becoming a major issue in hybrid environments that limits IT's ability to troubleshoot and see how apps are running, negatively impacts end-user experience, and eliminates IT's ability to control the entire application environment.

The Riverbed logo consists of the word "riverbed" in a lowercase, bold, orange sans-serif font. A small registered trademark symbol (®) is located at the top right of the letter "d".

In order to overcome these challenges, IT needs a solution that provides visibility, optimization and control across their hybrid IT environments. Riverbed, The Application Performance Company™, delivers end-to-end app visibility, faster app performance, and secure control of all apps to enable organizations get the most out of their IT investments and achieve superior business performance. Riverbed specializes in Application Performance Infrastructure and has the most complete platform to transform application performance into a competitive advantage. Learn more at <http://www.riverbed.com>.

The Value of Other People's Questions

You can learn a lot listening to other people ask questions. Case in point was [Network Field Day 10](#). A dozen bloggers spent three days with vendors to hear about new and existing products, including technical deep dives on switch fabrics, SD-WAN, and DPDK, an Intel project to boost switching performance on its chips.

While I had questions of my own, I paid close attention when other delegates probed the presenters. In some ways, I learned more from what other people asked than from answers I got myself.

To my mind, there are two primary benefits of listening to other people interact with a speaker: it indicates your own questions are on the right track, and it illuminates issues or concerns that wouldn't have occurred to me.

The Right Track

When a vendor presents on a new product or technology, there are times when a point or an issue isn't clear. But asking for clarification can be risky; I don't want to look stupid or ignorant, particularly in front of my peers.

So when someone else voices a question similar to the one I had in my mind, it tells me I was on the right track.

It might be that the presenter wasn't being clear. Or it could indicate the presenter was trying to obfuscate or mislead. You know it's the latter when

the response doesn't clarify the issue, and follow-up questions make the presenter squirm.

Another Perspective

I have a general set of concerns that I want addressed when I'm being briefed on a solution or technology (for instance, how much does it cost, how is it different from everything else already out there, and where are the sticking points or kludgy bits the vendor doesn't want us to know about).

But I love getting a new perspective from people who have different interests. At Tech Field Day a lot of the questions focused on operations and automation: Do you have an API for that? Can I run it from my existing tool set? Is this going to make my life more or less complicated?

These kinds of questions broadened my own knowledge and provided insight into the challenges people are facing, which in turn will help inform my own analysis of vendor products and pitches.

Take the opportunity to join with peers and interact with expert presenters. Brown bags, meet-ups, Webinars, local conferences, and big trade shows all provide the chance to ask and to listen. And check out the presentations from [Network Field Day](#); I'll bet some of your own questions have been asked and answered.

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Sites to See: Internets Of Interest

Many new top-level domains have become Internet's "bad neighborhoods"

The spawn of new domain suffixes have been quickly opted for spam & malware. In some cases, more than 90% of all domains are "shady". Companies paid millions of dollars to buy these domain suffixes and will be desperate to get a return.

It hard to see how anyone would approve a domains such '.link' & '.zip' since they will obviously used for malware downloads.

[LINK - Ars Technica](#)

[LINK - Bluecoat report](#)

The Web's Top 10 TLDs with Shady Sites*

Rank	Top-Level Domain Name	Percentage of Shady Sites
1	.zip	100.00%
2	.review	100.00%
3	.country	99.97%
4	.kim	99.74%
5	.cricket	99.57%
6	.science	99.35%
7	.work	98.20%
8	.party	98.07%
9	.gq (Equatorial Guinea)	97.68%
10	.link	96.98%



** As of August 15, 2015 - Percentages are based on categorizations of web sites actually visited by our 75 million users. A TLD having 100 percent shady sites correlates to sites categorized by Blue Coat.*

Which SDN Camp Are You Going To? - PICA8 Blogs

I liked this article from PICA8 on the four SDN Camps - "by camp we mean different users focused on a specific area for SDN to solve their specific problems." I agree with the idea that there are different markets for SDN and each market is different and identifiable.

[LINK](#)

Elasticsearch unplugged - Networking changes in 2.0

Elasticsearch 1.x uses multicast to discover other nodes on the network. Multicast made discovery almost magical... when it worked. Unfortunately, support for multicast is very patchy. Linux doesn't allow multicast listening on localhost, while OS/X sends multicast broadcasts across all interfaces regardless of the configured bind address. On top of that, some networks have multicast disabled by default.

Another article in my **Time for Multicast To Die** folder.

[LINK](#)

CloudRouter is production ready

An open-source software router with a large and supportive community and backed by a large company. Perfect.

The Cloud Router Project, a leading Linux-based open source routing and software defined networking (SDN) project, today announced the general availability of CloudRouter 2.0. This is the first ever release for production use and comes after a 160% increase in community contributions and rigorous testing in realworld production environments.

[LINK](#)

The Jump Box/Jump Server is Not Dead – it is more necessary than ever | Skyport Blog

This blog post from Doug Gourlay at Skyport Systems highlights the relevance of jump boxes in the cloud and list the reasons why you still want them even with IAM features of cloud providers like Amazon and Azure.

Convincing programmers/developers to use a Jump box is hard. In the cloud, it harder because developers are exposed to networking, often for the first time.

The pain threshold is high, scalability is tough and developers have enough problems already.

Oh, and saying that the jump box is a "target" when you put your apps inside a public cloud is silly. Public clouds are a much bigger target than private, that's why public cloud companies put so much effort into security - they are the biggest target on the Internet today.

[LINK](#) - The Jump Box/Jump Server is Not Dead - Skyport blog

[LINK](#) - Is the Jump Box Obsolete? - O'Reilly Radar

A Product Person's Perspective on Enterprise Selling

Steven Sinofsky (ex-Microsoft manager, onetime contender for CEO - make of that what you will) wrote this article about his enterprise product experiences. While everything is here is obvious, I think he is targeting startup founders who aren't familiar with the Enterprise.

Average enterprise sales cycles for seven figure sales are easily 3 months and often up to 9 months depending on pre-existing systems. While every once in a while there are shortcuts or magical products, by and large this is how enterprise selling goes. It also makes a lot of sense because you're going to collect a lot of money every year and your product will become an important part of a business.

It's kind of sad that we buy strategies, get hooked on them in fact. When we really should be buying products instead. Twenty years ago, we used "make" our own IT because there was no other choice. Now we should buy commodity IT and use it in standard ways.

[LINK](#)



Reading: Reports, Whitepapers and Research

Cloud Connect / Cloud Ethernet

The Open Cloud Connect is a forum of people who want to use L2 Ethernet for everything. In particular, they believe that using Ethernet will promote the use of the hybrid cloud. So far, pretty stupid all round. I agree that End-to-end ethernet has some good of obvious features but the negative outcomes for customers are very dire.

Of course, if you are a WAN provider offering Ethernet services then loop prevention isn't *your problem, its the customers*. Metro-ethernet doesn't care about customers only about the providers.

Fair enough - caveat emptor.

Now, think about building a signalling system so that multiple companies can connect L2 VLANs over carrier backbone with billing, configuration and monitoring information. Not that the Ethernet services must also integrate with the IaaS VMs being moved from site to site.

This whitepaper, [OCC Reference Architecture Technical Specification OCC 1.0](#) shows just how complex the problem is.

ENISA Threat Landscape 2014

The majority of security reports have been commissioned by vendors as commercial activity and sometimes offer good information. But it can be tiring to analyse and weigh up the "angle" of these reports so finding a government agency producing independent security research is exciting.

[ENISA Threat Landscape 2014 — ENISA](#)

Disclosure: I've have written such reports and might do it again for the money. Lets face it, you aren't paying for this newsletter and my daughters need shoes.

Cloud Security Guide for SMEs — ENISA

This report is excellent paper to use when establishing a cloud security policy.

This is chock full of reference content that would be useful for someone setting up a security policy.

Since 2009 ENISA has engaged with the cloud industry and potential cloud customers and published a series of reports on cloud computing. Generally speaking ENISA supports the uptake of cloud computing because of the many opportunities the technology offers to improve network and information security. These are particularly relevant for SMEs which do not always have the resources and/or skills to implement state-of-the-art network and information security. Explaining the security opportunities (and the risks) of cloud computing is therefore an important objective for ENISA.

[LINK](#)

Q&A

People send me questions. I do my best to answer them.

Question:

I am a junior infrastructure engineer. My background is networking. Until now, in my 2nd year of working, I still don't know how to be "related to the business" as an infrastructure engineer. If it were for a software developer/system analyst, I think it will be easier because their job is to build something that obviously has direct impact on the business revenue/loss. But for us, infrastructure engineers, how can we be more than just a mere support to the business?

Answer:

Step 1: You accept that change is inevitable so getting new skills isn't a new idea. You also know how to learn because change drives constant learning. This is what makes engineers look smart to most people.

Step 2: Think about what the purpose of your company is. Here are some bullet points of things to think about:

1. Your company wants to/must make a profit. What does technology do to make a profit ? Think a lot about this. There are two things that are most obvious:
2. **First** - It improves productivity so that the value of employees is higher. Productivity means more output for the same or less effort. This means more profitable operations or keeping up with competitors.
3. **Second** - Technology can be used as competitive advantage. A better website or great service is a result of more efficient and flexible IT systems. Faster, flexible manufacturing. Better or Cheaper design.
4. Bosses, leaders & managers are people. They have a different set of information about 'business' than you do and different motivation. Think about what they do and why. Realise that they act as they must and have very few real choices on a day to day basis.
5. People are just people. We all have partners, lives and families. People want to be nice to each other. You don't choose the people you work with, but be nice to them and they will be nice to you. This includes the senior managers that don't know what you do.

You can sum this up as "Empathy". Empathy is skill that you can't be taught. Its something you will have to develop and nurture in yourself. Managers and executives are 'human infrastructure' just like you.

Recent Articles

The last five articles published on **EtherealMind** and **Packet Pushers** blogs

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](#)

PacketPushers.net - The Last Five

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

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

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

Datanauts 131: Masters And Mentorship - [Link](#)

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

Still Here ?

Ok, lets have some fun.



Lots of people use "Eye of The Tiger" as a motivational tune. But check out how uncool this video clip is - it hasn't aged well at all.



The End Bit

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