

IN THIS WEEK'S ISSUE: Cisco Plays Rough, Learning To Live With Idiots, Feelings Of Inadequacy, Big Brother's Toys. Make sure you enable the images; the magazine looks a whole lot better that way!



PACKETPUSHERS

Human Infrastructure Magazine

A Newsletter About a Life in Networking

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Issue Number 24

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The "I'm good at keeping my inner awesome under control. That's why you can't see it" issue.

Thought For The Week:

Enterprise IT Morals: Spend 10 days cutting IT budgets, sacking stars, and reducing services. Then buy the most expensive products available to save money.

1. The Cisco I Know Isn't Nice

by Greg Ferro

I've been working with Cisco as customer or reseller for 20 years or so. It's been about 60% good and 40% ruthless business behavior, backstabbing, and going over my head. I don't expect anything less.

Going Over Your Head

Cisco sales grunts are not allowed to lose deals. I believe that Cisco execs see any outside purchase as a loss of account control and punish the sales grunt for "letting" it happen.

Today, for the first time in decades, customers have choices for low-cost alternatives to Cisco products, and customers are turning away from Cisco for certain use cases.

If this happens, the Cisco account manager will start working up the food chain from your manager, to the CIO, and on to the CEO to advise them that their employee is making a terrible mistake. They will also work sideways in your company to undermine you as an engineer and your standing in the company.

From a one-eyed Cisco perspective, they have the best products and are the best voice, therefore they are saving the customer from itself.

Yes, I've had this happen to me several times. A small number of people have contacted me in the last year to say that they have been sacked, moved or suffered career damage from Cisco sales.

We are living in the era where you can get fired for *not* buying Cisco.

The Fear

Total account control is a requirement for big companies who run >80% gross profit margin. Cisco's fear is that once a customer goes to an open source or lower-cost alternative they are never coming back. Therefore, it's better to burn

a few of the customer's employees than to lose a major deal.

Also important is that sales grunts can lose their jobs, or be demoted if they lose accounts but easy enough for them to move into a different market like printer consumables and continue with their career. They aren't bacon in the scenario, better to burn the customer than their pay check.

Market Changes

Enterprise IT spending among the big IT vendors is expected to shrink in 2016, if the current predictions are correct.

Some spending is moving to the cloud. Some customers are delaying upgrades as the wider economy looks bad. Some customers are moving to open source / whitebox options.

I've heard of companies running internal whitebox cloud projects that are kept intensely secret to ensure their incumbent vendors don't find out for fear of retribution.

Cisco Vs. Arista

In the last few months, Cisco has laid down an artillery barrage of lawyers on Arista Networks. Not only is Cisco suing for copyright infringement, it is taking the nuclear option in the US International Trade Commission to block Arista from importing products to sell in the US.

I believe the whole exercise is a clear sign that Cisco is under threat and concerned about losing sales for the first time in more than a decade.

Cisco is reverting to behaviors its that were common back in the 1990s: using its financial strength to run roughshod over competitors. It's not new, but we haven't seen its happen in 15 years or so.

It seems clear that Cisco is losing market share and revenue to Arista. Cisco sales reps are using lawsuit FUD about the future supply of products and spare parts. This will scare some customers into staying with Cisco instead of moving

to Arista.

Being Careful

If you are decision maker or influencer and these kinds of tactics happen to you, what can you do?

1. **Don't take it personally.** It's not about you, it's about the money. You work for money too. Don't stress whatever your boss decides. Smile and then start looking for another job to feel better.
2. **Don't trust vendor salary slaves.** Cisco employees are primed for the delusion that they have the best-ever products and you can't possibly buy anything else. That makes it easy for them to ignore you as a person.
3. **Understand the job of your Cisco sales team.** They are not your partner or your friend. Their primary purpose is to build a relationship to exploit for sales volumes and profit. Their secondary purpose is to make sure you buy Cisco all the time, especially when you don't want to or it's not the right fit.
4. **Plan for the backstab.** Make sure that your back is protected by everyone in the decision tree. Use documentation to substantiate your decisions. Prepare your executive leadership to expect the call from Cisco that will undermine you, the team, and even the entire IT department if you decide to move away from Cisco or even pursue a low-profit Cisco option (yes, that too).
5. **Pre-sales isn't free.** It's built into the cost of what you buy. The more investment Cisco makes in pre-sales services, the more aggressive they will be in getting that spending back.

The executive team at Cisco runs a ruthless business model. For 20 years, they have maintained a profitable companies and successful business in face of massive change. They didn't achieve that by being nice. Thats just business. Be ready for it.

Addendum:

By the way, this isn't unique to Cisco. IBM has been doing this for many years. EMC, Oracle, SAP are also ruthless with these tactics.



2. Coping With Idiots

by Ethan Banks

As Greg has said on [Packet Pushers](#) many times, some people just want to go home and curl up on the couch with a bag of crisps. That's probably not you, but you have to deal with these crisp-eating oxygen bandits nonetheless.

At least, that's how you think of them -- as idiots. If they can't be bothered to go home, fire up the lab, and start hitting the certification studies, you don't want to bother with them.

Of course, you must bother with them. Because there they are in the workplace, every day. Getting stumped by simple trouble tickets. Asking you the same questions they asked you last week. Telling you they'd get that thing done for you, but never doing it. Cruising past your cubicle to talk to your neighbor about sportsball.

Your interior monologue drips with snark. "How do these people find their cars in the parking lot each day? If I shut off their TV, would their heads explode? I wonder how they'd like it I dropped a printout of their Web history on the boss' desk?"

You can't stand dealing with incompetence, and yet it presents itself to you in the form of employed idiocy day after day.

Every now and again, I'll guess that your interior monologue goes exterior: a slammed door, a raised voice in the hot aisle, a loud sigh in a crowded meeting as they talk. If you could only master Force Choke, several people might get a personal introduction to your almighty wrath.

With luck, you've laughed along with me this far. And I do mean *with* me. I have been that person at some point or another, and I do harbor the desire for Force

Choke mastery.

However, I've also learned how to cope with idiots so that I'm not nearly so frustrated by them.

1. I've learned to adjust my expectations.
2. I've significantly changed how I think about people.

Adjusting expectations is simple, but still a surprisingly powerful way to master frustration. If you set reasonable expectations, you're less likely to be disappointed. This is true of anything in life, but is especially true of people.

Just anticipate that people are going to chat earnestly about things that seem pointless to you, be apathetic about their work, and otherwise live an employed life on a lower plane than you choose to live. Then, when folks meet that lowered expectation, there's far less frustration. Because, hey -- what did you expect?

Changing how you think about people is far more challenging, but gets to the heart of the issue. If you, in your own mind, are superior to those around you, you'll reinforce that perception every chance you get.

For me, this has always been rooted in an inferiority complex. I can point back to a miserable childhood where I was socially maladroit, struggled with bullies, and was otherwise made to feel less than those around me. It's a long sad, story. I dare not tell it unless I know you've got a fresh supply of hankies to weep into. ;-)

Sure, we nerds have won the war after all this time. After all, we gave them the Internet for funny cat pics. But that feeling of insecurity still pops up from time to

time. Thus we bolster our hope that we really are pretty amazing by comparing ourselves to those who, by our standards, are not.

I've come to believe that this is all wrong. People are people. Whatever the combination of genetics and circumstance, not everyone has the drive built into them, or external forces exerted upon them, to be anything other than average. And there's nothing wrong with that.

As I've dismantled my unicorn of superiority, I've realized that I stand on the same ground as those around me -- even those I might like to Force Choke from time to time.

By being willing to hang out with no reservations with whoever crosses my path, I've met fascinating people. Do they know the difference between a packet and a frame? Or a packet and twice-baked potato for that matter? No. But invariably, they have interests and knowledge about things that I didn't even know were things.

Every person I run across now is an opportunity to broaden my horizons, increase my circle of friends, and enrich my life. Not every opportunity works out, but I'm ever hopeful -- always open-minded, even in the face of occasional disappointments.

And you know what? Sometimes I'm lucky enough for that other person to climb down from their unicorn of superiority, squelch their frustration with me, and see what I might have to offer.



I find your lack of intelligence disturbing.

Sponsor: Interop

[Interop](#) is the leading independent IT conference, and the Packet Pushers are putting together a two-day "Future of Networking Summit" for [Interop Las Vegas 2016](#).

The goal of this summit is to identify current and emerging technologies that will affect the networking industry over the next 5 to 10 years.

Experts, practitioners, and of course the Packet Pushers themselves will talk about the changing state of network operations, advances in network hardware and silicon, open networking, SD-WAN, containers and more.

Besides the Future of Networking Summit, Interop is assembling a full slate of independent, top-notch content on security, virtualization, IT leadership, SDN, and more.

Make your plans now to join us at Interop Las Vegas, May 2nd through the 6th, at Mandalay Bay. Use the code **PPUSHERS** [when you register](#) and get 25% off 5-Day, 3-Day, and 2-Day conference passes.

3. Do I Belong Here? IT & Imposter Syndrome

by Fred Chagnon

When I look back on nearly twenty years of my career, I sometimes wonder – have I just been lucky? Every major stepping stone has been accompanied by thoughts of: “Are they seriously relying on me to do this job?” “Do they have any idea how little I know about that position?” How have I made it this far when every new role was going to be the one that would sink me?

These thoughts may be symptoms of Imposter Syndrome, which is recognized as feelings of inadequacy in the face of evidence to the contrary.

While this as an aspect of my own personality, I wouldn't be surprised if it's common among other technical professionals as well. People with this affliction tend to look past their successes and are partly driven by anxiety and fear: fear of not knowing, fear of personal inadequacy, fear of being exposed as a fraud.

In an industry that prides itself on the hoarding of obscure knowledge and the ability to operate and manage complex systems, having to say “I don't know” can feel akin to saying “I don't belong here.”

The upside to Imposter Syndrome is that you can harness this anxiety and put it to use. Here's a list of DOs and DON'Ts to maximize the benefits of this syndrome, while mitigating the negative factors.

DO: Continue to learn. Realize that not knowing is not admitting failure.

Learning from others fosters positive relations. If you need external validation, get certified.

DO: Put yourself out there. Blog. Write. Speak at conferences. You may worry about having the limits of your knowledge exposed in public, but you'll find the benefits—making connections, creating opportunities, learning new things—outweigh the risks.

DO: Recognize your own success for what it is. You built it. You own it. Take the time to appreciate your accomplishments.

DON'T: Overwork at the expense of your health, sanity, or family.

DON'T: Fear failure. Everyone fails. All successes are the result of previous failures. It's not what happens, it's what you do about it that matters.

DON'T: Dwell on the negative. Call out the imposter when it rears its ugly head. Remind yourself of your successes instead.

There's pressure to be all-knowing and infallible in our industry, but just because you aren't doesn't mean you don't belong.



4. Connected Teddy Bears? Why IoT Creeps Me Out

by **Drew Conry-Murray**

The age of the Internet of Things is here: from connected industrial sensors to home appliances that are designed to access a network, we are living in an age in which network connectivity and data collection are becoming the norm for once-dumb objects. What's surprised me is the speed with which the toy industry has adopted these trends.

For instance, Hello Barbie, which debuted last year, records and uploads

children's conversations with the dolls, and uses language processing techniques to enable the dolls to talk back.

Meanwhile, Fisher-Price has a line of ["smart" stuffed animals](#). These toys, aimed at children ages 3-8, can interact with kids by posing questions, responding to answers, telling stories, and so on. A companion mobile app, which is controlled by a parent, includes more interactivity options—and collects the child's name, birthday, and gender.

You can probably guess where I'm going. Security researchers have uncovered vulnerabilities in both products.

Recently, Rapid7 announced it had [discovered flaws in the stuffed animals](#): poor authentication and authorization in backend systems would have enabled third parties to get access to a child's details, and determine if the child was interacting with the stuffed animal.

Researchers also [discovered issues with weak authentication and other problems](#) in Hello Barbie.

The upside is that in both cases, the vulnerabilities were acknowledged by the companies and resolved. Many organizations react poorly to vulnerability disclosures, and will either ignore the notification or accuse researchers of malicious behavior.

I'm pleased that companies building products for children seem to taking security more seriously.

At the same time, I'm utterly creeped out by the existence of these toys in the first place.

Frankly, it's not the malicious hackers I'm worried about: it's voracious marketing departments, whether within these companies or outside them, that will want to collect and exploit kids' data to make more money.

As adults we seem willing to trade our privacy to advertisers, social media sites, search engines, and Internet providers in the name of convenience or free stuff.

Now we're teaching our children to do the same.



I'm watching you...

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.

PowerNSX: Automating an entire 3 tier app deployment

From **Network Inferno**:

This script highlights how to deploy an entire three tier application stack. This is example application that can be deployed using both PowerNSX and functionality provided by PowerCLI. It uses numerous networking function

provided by VMware's NSX for vSphere platform.

[LINK](#)

Cockroaches Versus Unicorns: The Golden Age Of Cybersecurity Startups

The IT Security market is weird. It's flooded with small and mid-sized companies that seem to survive year after year. There are no "Big Companies" that have been able to dominate the market like Cisco has for routers & switches. Which begs the question "Why?"

From **TechCrunch**:

Many security startups are not unicorns; rather, they are cockroaches — they rarely die, and in tough times, they can switch into a frugal/consulting mode. Like cockroaches, they can survive long nuclear winters. Security companies can be capital-efficient, and typically consume ~\$40 million to reach break-even. This gives them a survival edge — but VCs are looking for a “growth edge.”

This TechCrunch article runs some numbers and concludes that Enterprise IT is underspending on security products.

[LINK](#)

Note: I believe that Enterprise IT is underspending on security because the current products are solving their problems. You are better off investing in better applications or mobile devices than implementing the products that are on sale today.

Overpass - Free Font

Beautiful, modern font that has been commissioned and open sourced by Red Hat.

An open source webfont family inspired by Highway Gothic.

[LINK](#)



Jolly Roger: A Software Agent That Bedevils Telemarketers

No one likes telemarketing calls, but one person with experience in telephony and programming decided to do something about it. He developed a software agent that uses pre-recorded voice clips to engage telemarketers with inane banter and comments. The results are pretty amusing. You can hear examples on his Web site, linked below.

[LINK](#)



PACKET PUSHERS

Priority Queue

Where Too Much Networking
Would **NEVER** Be Enough

[This channel](#) has our nerdiest shows
on data networking technologies and
products.

The Network Break



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

Research Papers

Research and technology papers that provide deep insight or expertise.

Open vSwitch* Enables SDN and NFV Transformation

This Intel whitepaper highlights the performance improvements to Open vSwitch by using DPDK APIs to use CPU hardware acceleration features.

Observation: Performance comes from hardware. Features/functions come from software. It's one of my maxims for 2016.

From **Intel**:

The openvswitch.org project recently included Data Plane Development Kit

(DPDK) support as a user space option that helps accelerate datapaths across physical and virtual interfaces. Through improvements introduced in OvS with DPDK OSS, a significant boost in performance on Intel® architecture is made possible. Performance results of OvS with DPDK reach 40 Gbps and scale nearly linearly to higher throughputs. This is nearly a 12x improvement for aggregate switching between physical interfaces and a 7x improvement for switching between virtual functions. Increasing throughput is only one key metric for performance improvements. There is further optimization work ongoing within Intel and the community that is expected to deliver not only higher throughput, but also improved functionality and latency and jitter characteristics.

[LINK](#) - (PDF)

Don't Panic: Making Progress on the "Going Dark" Debate

The Berkman Center for Internet & Society at Harvard University brought together policy experts and members of the U.S. intelligence community to discuss surveillance, privacy, and cybersecurity issues.

One goal of this effort was to foster a candid debate about encryption, and fears among law enforcement and intelligence agencies about terrorists and criminals "going dark" through the use of encrypted communications, and whether back doors should be built into cryptographic systems.

This group has published a report to "distill our conversations and some conclusions."

Among the conclusions is that, even without weakening crypto systems, the government will have ample surveillance mechanisms, including unencrypted meta-data, and the rising adoption of IoT sensors and devices that could provide new intelligence channels.

Note: The "Don't Panic" title is aimed at the law enforcement and intelligence

communities. However, given the surveillance opportunities outlined in this paper, citizens may feel a bit alarmed.

[LINK](#) - (PDF)

Product News

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

Seesaw: scalable and robust load balancing

Google open sources its load balancer. A notable feature is the use of Direct Server Return, which would work perfectly in cloud networks with no physical limitations that require L3 routing in the DMZ.

From **Google**:

After evaluating a number of platforms, including existing open source projects, we were unable to find one that met all of our needs and decided to set about developing a robust and scalable load balancing platform. The requirements were not exactly complex - we needed the ability to handle traffic for unicast and anycast VIPs, perform load balancing with NAT and DSR (also known as DR), and perform adequate health checks against the backends. Above all we wanted a platform that allowed for ease of management, including automated deployment of configuration changes.

[LINK](#)

From the **Github description**:

Seesaw v2 is a Linux Virtual Server (LVS) based load balancing platform.

It is capable of providing basic load balancing for servers that are on the same network, through to advanced load balancing functionality such as anycast,

Direct Server Return (DSR), support for multiple VLANs and centralised configuration.

Above all, it is designed to be reliable and easy to maintain.


Realtek Announce Ethernet-Based Camera SoC Solution For Cars

Looks like Dash cameras as standard feature won't be too far away.

From **Realtek**:

Realtek is one of eighteen OPEN Alliance promoters promoting the adoption of single Unshielded Twisted-Pair Ethernet. The OPEN Alliance successfully established the IEEE 100BASE-T1 standard and expects that the 100BASE-T1 standard will be the mainstream high-speed network protocol in next generation vehicles. Through the release of the RTL9020AA, Realtek provides a competitive and complete automotive Ethernet solution that meets the increasing global demand for autonomous driving innovation. Realtek's automotive Ethernet product portfolio now includes 100BASE-T1 PHY, 7-port Switch (integrated with 100BASE-T1 PHY), and a camera SoC.

Key features of the RTL9020AA:

- 1. Target application: rear-view, surround view (360 degrees)*
 - 2. High definition resolution: 720p (1280 x 720) 60fps, 1080p (1920 x 1080) 30fps*
 - 3. Multiple IEEE standards supported - IEEE 802.1AS, IEEE802.1Qat, IEEE802.1Qav, IEEE1722, IEEE 802.3 100BASE-T1*
 - 4. Fisheye calibration*
 - 5. Image Signal processing: 2DNR (2D Noise Reduction), 3DNR (3D Noise Reduction), and HDR (High Dynamic Range) supported*
 - 6. Both MJPEG and H.264 video compression supported*
- 

Q&A - Merchant Silicon

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

Question:

You've been around for a while so I'll ask this - why did merchant silicon drag behind vendor stuff in the past?

Can you see merchant silicon keeping up with the upcoming requirements - 1000GE or whatever will be the hot thing of the day after tomorrow? Was it just the financial aspect of RD those companies could dish out at that time? I'm curious if at some point we'll fall back to custom ASIC designs from vendors like Cisco. I really like the idea of SW-driven industry, but its future is riding on the assumption that we'll have off-the-shelf chipsets that everyone can benefit from.

Answer:

Why now for Merchant Silicon?

You need some economics and some technology to understand this.

1. The networking market has been reasonably small and moves too slowly. This makes it unattractive because making large volumes of chips is what chip companies do. Who wants to wait ten years for people to buy new switches? (Answer: no one new).
2. Very high profit margins (>80%) means that products can be sold at a cheaper price than incumbents.
3. Difficult to enter market. Making chips is one thing, getting software to run on them is another. Say hello to open source.

The disruption is driven by the cloud companies who said they would buy large volumes of chips and use standardized designs. This broke the bottleneck on entering the market, and now anyone can choose to buy merchant silicon/whitebox products.

The Future of Merchant Silicon

I have some limited insight in the pipelines of merchant silicon companies and there are plenty of upgrades on the way. We are also seeing good competition with more vendors than just Broadcom.

1. Networking vendors like Cisco are actually sales companies, not silicon makers, and there is very little customer value in custom silicon when merchant silicon is available.

2. Most of the silicon design is already outsourced to companies in India for the custom silicon anyway.

3. Cisco is big enough to be its own "merchant silicon" and already have the UADP chip in use in the workgroup switches, wireless, and C4500 chassis. They have so much market share that it could make sense for Cisco to continue to build their silicon in competition.

4. However, Cisco has a slow internal pipeline for building new silicon. For example, it takes 3-5 years for Cisco to ship new silicon line cards in the NX7K. Consider that Broadcom has about a bi-yearly release cycle of new chips like the Tomahawk. And the feature freeze happens less than six months before the product is manufactured.

5. Network vendors simply aren't able to work that fast and they are under pressure to reduce investments and headcount which makes switching to merchant silicon an attractive option.

6. There is still a market for custom silicon in niche market segments like Terabit routers for service providers and high-speed hardware firewalls. Custom silicon will be around for years to come.

My view is that there is plenty of demand for merchant silicon and lots of future products. The market will move almost completely to switching chips from a range of vendors, not just Broadcom.

Networking silicon is *very* high profit margin business and that makes it attractive for companies to enter the market and get reward for that risk. Expect the majority of Enterprise and SP network devices to be using merchant silicon

within a couple of years.

Send your question to humaninfrastructure@packetpushers.net

Recent Articles

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

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](#)

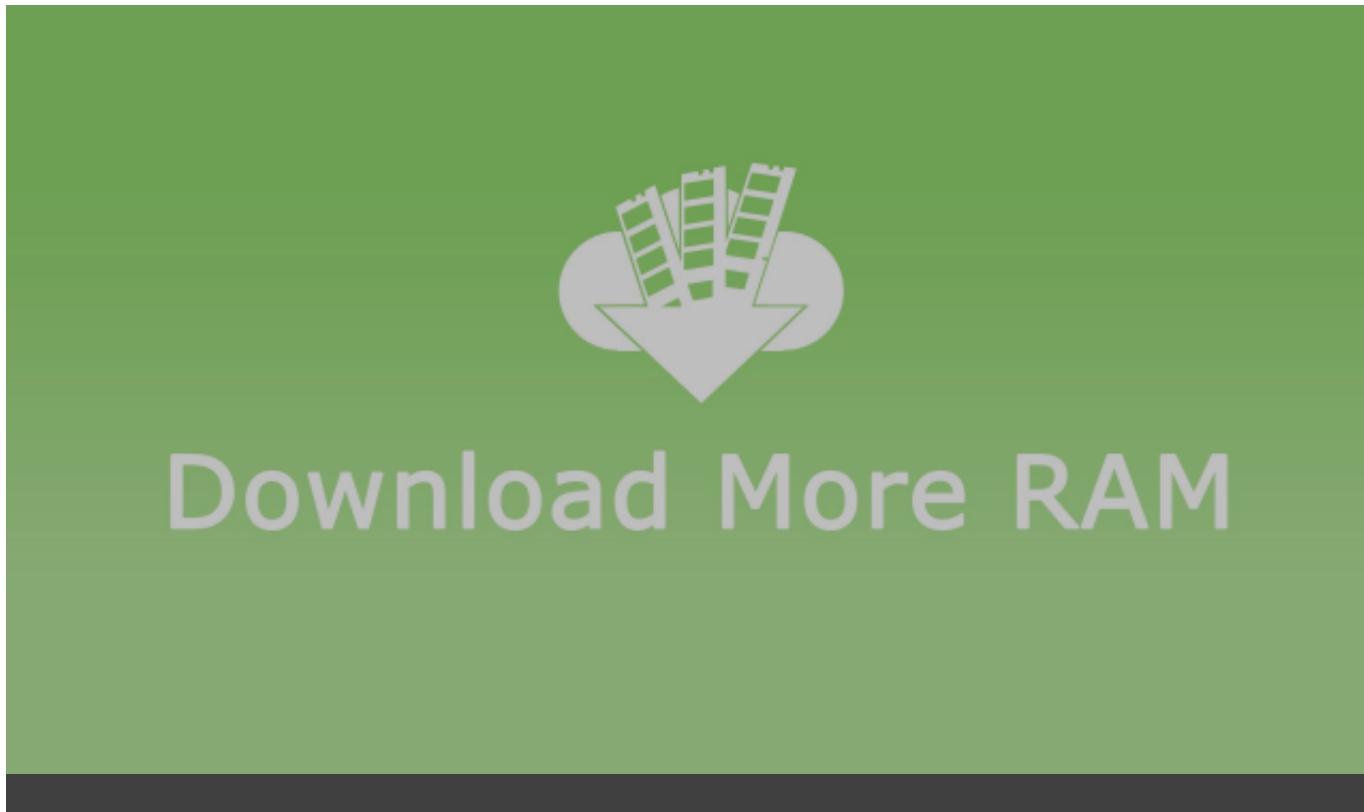
Watch This!

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

CloudRAM

I LOL'd pretty hard. Check the website

<http://www.downloadmoreram.com>



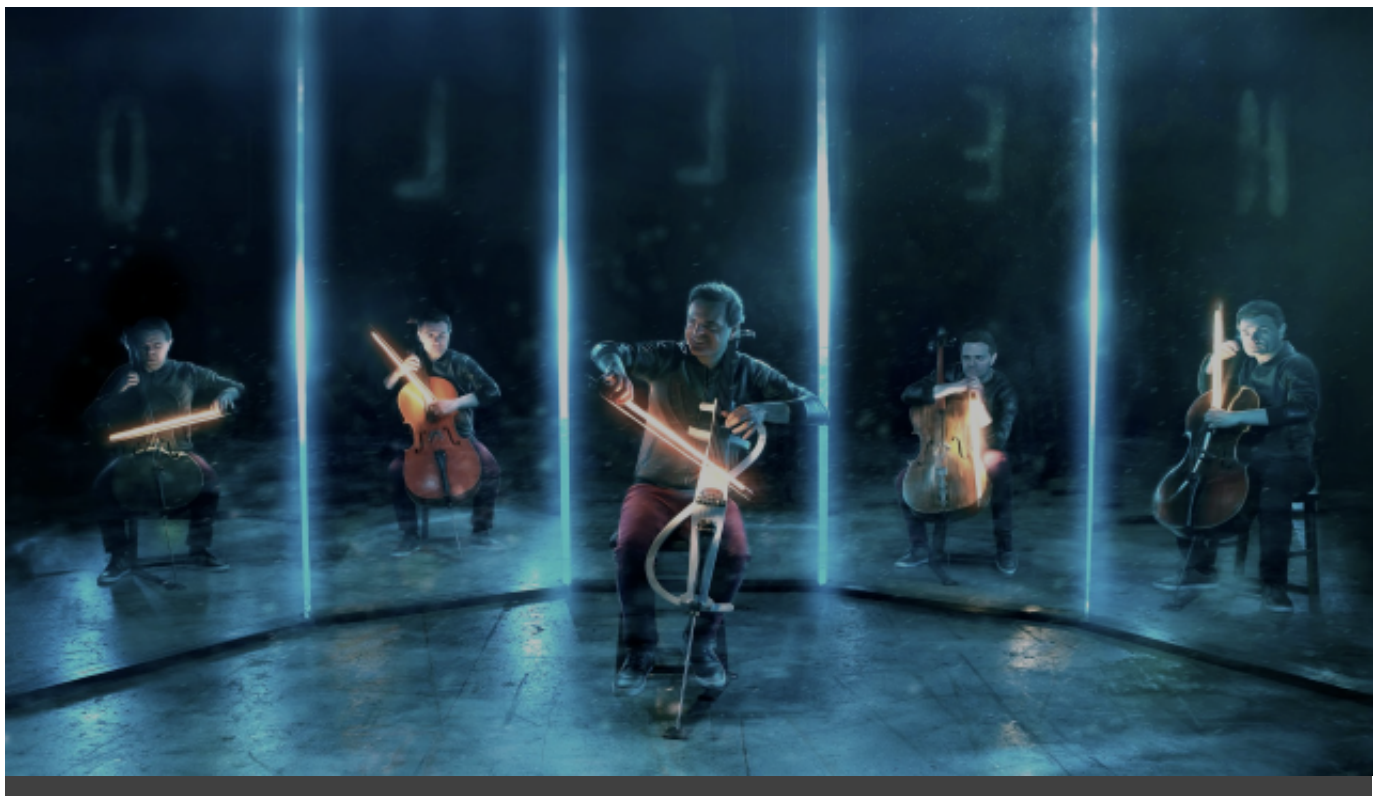
Congratulations to the scumbags in the ad-tech industry. Can we get slimier, creepier, scummier, and lower than a snake/s butthole?

YES WE CAN





"Offermoments is one of the scariest yet exciting things you'll see in retail. Imagine seeing your face and name on digital billboards as you walk through shopping centers.



If you like a little pop mixed with your high culture, here's a lovely mashup of the "Lacrimosa" movement from Mozart's "Requiem" and Adele's "Hello."



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Did We Miss Something?

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

The End Bit

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