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Editor's Note: Some Changes To Human Infrastructure

By Drew Conry-Murray

Hello. We've decided to combine our Human Infrastructure and Link Propagation newsletters into one. It's like the Voltron of newsletters-- more powerful when combined.

OK, maybe not. But we figured there'll be less clutter in your inbox with one weekly missive instead of Link Propagation once a week and Human Infrastructure twice a month. You'll still get articles from the Packet Pushers, links to compelling blogs and IT news with commentary, and industry updates.

If you're not a Link Propagation subscriber and have no idea what I'm talking about, you can move on to Greg's blog about the gray market.

Aspects Of The Gray Market For IT Gear

By Greg Ferro

The term "gray market" as applied to IT gear encompasses a wide range of behaviors, from outright fraud to unscrupulous sales tricks to the legitimate sale and use of second-hand equipment.

The gray market is a business arbitrage in which an opportunity to source products at a low cost is used to extract profits. It works best for branded products that are sold at different prices in different markets. The high prices of new products make it possible for second-hand resale to be quite a successful business. If products were better priced, gray marketing would be less attractive.

There are four aspects of gray marketing technology products that I can think of.

1. Manufacturing Scams

Some manufacturers, often in China, run scams to feed the gray market. "One for you, one for me" is where the factory manufacturers more of the product than was ordered. The original batch is sent to the buyer while the remaining stock is sold through other channels as new and authorized equipment.

This scam can get worse when the manufacturer uses lower-quality or second hand (recovered/recycled) components in the extra run. A poor-quality or outright faulty product damages the brand's reputation. Such scams are less of a problem today as complexity increases and technology companies have increased their monitoring in factories.

2. Upcycling Used Equipment

Another gray market issue is selling used equipment as new. This is sometimes done at the factory, where used gear is put into new packaging along with new manuals and cables.

It's more common with resellers passing off "bench tested" equipment to customers where the boxes have been opened for preparation. Another variant is when resellers buy used equipment and pass it off as new to customers. Sometimes engineers would find previous configurations on devices.

This particular scam is less common now, but in the past resellers looking for a quick buck would play this game. If they went out of business, they just opened up with a new name and started again.

These days, vendors take a more active role in monitoring resellers and used equipment companies.

3. Profit Maximization

To maximize revenue, global vendors will vary the pricing according to the market's ability to pay, cost of operations, and other factors. For example, Cisco has a dominant position in the Australia networking market and applies about a 25% markup on products sold there compared to the U.S. or Europe.

Geographic Markets - To get around this, some companies with an international presence were known to buy gear in locations where it was less expensive, and then ship it internally to the higher-priced region.

Similarly, resellers would use a local office or a local buying and shipping agent to ship gear out of market.

In a few cases, vendors had problems with the supply of spare parts because stock was held in local warehouses based on volumes sold into

that particular market. When this trans-shipping scam reached a certain scale, the vendors has more reasons to clamp down.

Vertical Markets - Pricing for vertical such as schools/universities may be cheaper than a typical enterprise. Resellers might purchase additional products at a discount then sell into enterprise accounts.

4. Supply Chain Integrity

When Snowden released documents from the NSA, we discovered that tampering with devices in transit was a real issue. There have been rumours of components or modules with hardware implants for some time, but no compelling evidence has been found.

Notwithstanding, the brand damage to well known vendors was substantial around trust of the supply chain.

More recently we saw Bloomberg make hysterical and unsubstantiated claims about a hardware implant with Supermicro and everyone went nuts even thought there was no proof.

What Vendors Are Doing

Equipment with substitute components or used gear that's repackaged as new can damage a brand's reputation, create unhappy customers, and cause service problems. Vendors have done a few things to address this:
1. Improve monitoring of factories with dedicated employees on location.
2. Improve inventory tracking from warehouse to reseller to customer.
3. Clamp down on resellers with regular inspections and controls
4. Fight the resale of hardware with tougher software licensing that makes it difficult or prevents resale.
5. Use software to collect asset and product information as part of support contract. This will detect gray market products much earlier and allow the vendor to take steps such deactivating

equipment, launching a license audit of the customer, or other interventions.

The Etherealmind View

The gray market is driven in part by excessive profit seeking in vendors.
1. Companies that build brands will charge higher prices at higher profit margins. There's value in a brand if the products are good and the customers well served, but there are many companies that charge high prices through monopoly or dominant positions. These vendors drive customers to gray markets.

2. Resellers turn to gray marketing to make fast money for unscrupulous reasons or financial problems. Brand vendors bear some blame here because they work hard to prevent resellers from making too much profit and ensuring that most of it goes to themselves.

3. Some buyers aren't willing to consider alternative products at lower costs, but also don't want to pay the brand's market rate, so they go to the gray market. These customers should be honest with themselves and accept that they are being overcharged and find other ways to manage the situation.

Addendum: I've Done It

I once used second-hand products in a network design that worked very well. The customer saved about 50% of the new price, and equipment worked for a number of years. That's a lot of motivation! If you have experiences with or thoughts about the gray market, email me at greg.ferro@packetpushers.net.

Sponsor: ThousandEyes
2018 Global DNS Performance Report

Analyst research firms predict that the global public cloud market will continue to rise and be predominantly influenced by the top three players —Amazon Web Services, Microsoft Azure and Google Cloud. Forrester predicts the Big 3 will capture at least 80% of the cloud platform revenue by 2020. That's big.

Unfortunately, what's not so big is the amount of performance data that IT architects and leaders have had at their disposal to make decisions while choosing their cloud platform. That's now changed with ThousandEyes 2018 Public Cloud Performance Benchmark Report.

The 2018 Public Cloud Performance Benchmark Report measures and compares network performance between the top three public cloud providers – AWS, Microsoft Azure and GCP.

Based on metric data from over 160 million network performance measurements, such as packet loss, latency, jitter and network path analysis, the report serves as a data-driven guide to best practices and decision making for enterprises operating in the public cloud. Download the first-of-its-kind industry report today!
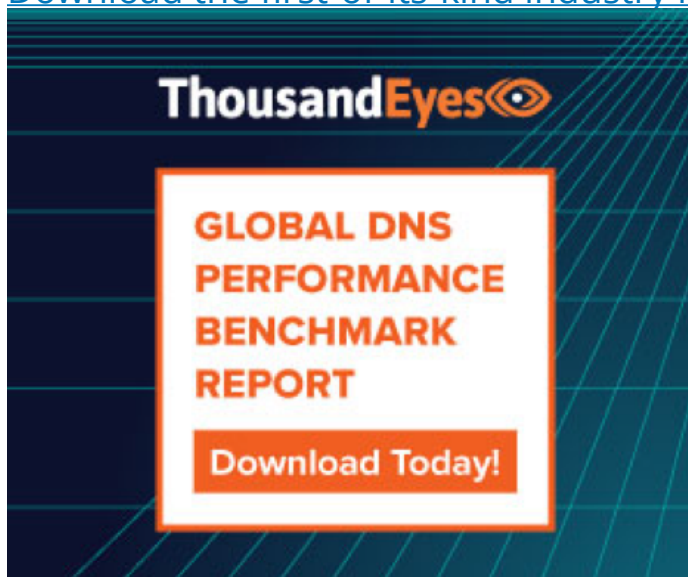
The Lulz

North American Fiber-Seeking Backhoe
Backhoe fili-comedens   AKA "Big Yellow Fiber Finder", "That $%#@*&^"

Continent: North America
Habitat: Mostly urban, occasionally sighted in suburbs or rural areas
Diet: Fiber optic cables primarily, although it will consume other cables such as power lines when hungry
Weight: 5800 - 11000 kg (approx. 13000 - 25000 lbs)

Known for its inexhaustible appetite for buried fiber optic cables, this invasive species has multiplied across North America in recent years. A relative, the European Fiber-Seeking Backhoe, has also emerged across the Atlantic, although it has evolved to be smaller than the North American variety due to smaller European roadways. Scientists are still seeking a means to reduce the multiplication of this species; since current regulatory methods are proving ineffective, limited hunting permits are being proposed.

IUCN STATUS
Too #$%& Many | Not Threatened | Vulnerable | Endangered | Critically Endangered | Extinct in the Wild

Internets Of Interest: Blogs
The Creeping IT Apocalypse - Cloud Irregular

https://forrestbrazeal.com/2019/01/16/cloud-irregu...

The debate about the effects of IT automation and the cloud tend to ping-pong between two arguments: automation will make tons of IT pros redundant, or automation will create all kinds of new opportunities. This post from Forrest Brazeal, who blogs at Cloud Irregular, makes a disturbingly good case for the former. - Drew

Forrest Brazeal writes *"...instead of five backend developers and three ops people and a DBA to keep the lights on for your line-of-business app, now*

you maybe need two people total. Those two people make great money, they're plenty busy, and they have lots of technical challenges to solve. But they're not managing a database cluster or babysitting a build server or writing giant stored procedures to do some non-differentiated task, like OCR on insurance forms. The cloud provider can do that (and is adding more capabilities all the time)."

Understanding the JunOS Routing Table - Das Blinken Lichten

http://www.dasblinkenlichten.com/understanding-the...

Jon Langemak writes *"I was just about to finish another blog post on MPLS when I got a question from a colleague about Junos routing tables. He was confused as to how to interpret the output of a basic Juniper routing table. I spent some time trying to find some resource to point him at – and was amazed at how hard it was to find anything that answered his questions specifically. Sure, there are lots of blogs and articles that explain RIB/FIB separation, but I couldn't find any that backed it up with examples and the level of detail he was looking for. So while this is not meant to be exhaustive – I hope it might provide you some details about how to interpret the output of some of the more popular show commands. This might be especially relevant for those of you who might be coming from more of a Cisco background (like myself a number of years ago) as there are significant differences between the two vendors in this area."*

Cisco SD-WAN: On-Ramp to the Cloud - Network Phil

HTTPS://NETWORKPHIL.COM/2019/01/14/CISCO-SD-WAN-ON...

Phil Gervasi provides a close analysis of Cisco's SD-WAN strategy based on presentations from a recent Network Field Day. He looks at Cisco's two SD-WAN options (deploy a Viptela appliance or upgrade your ISR router with the latest version of IOS-XE, which includes Viptela

software). He also looks at how Cisco addresses some of the security risks of cloud adoption with its SD-WAN strategy. - Drew

DevOps Demands Netops - The New Stack

https://thenewstack.io/devops-demands-netops/

As the physical network gets abstracted away, particularly in the public cloud, developers are doing more "networking" than ever before. But that doesn't mean there's no role for networkers. - Drew

Mary Branscombe writes: *"Teams will need to developers and networking experts, with an equally hybrid mix of skills. Network admins need to learn scripting and get comfortable with tools that help them deal with declarative states using rules and filters, which is a big cultural shift from the step-by-step procedural runbook approach they're used to..."*

CES 2019: A Show Report – Learning By Shipping

https://medium.learningbyshipping.com/ces-85ca9f07...

CES isn't something that Packet Pushers follows but this report from a former-Microsoft exec is informative summary of the event that captures part of it. A good read. - Greg

Dropgangs, or the future of darknet markets - Opaque Link

https://opaque.link/post/dropgang/

I like to read the occasional article about the dark Web. If I'm protecting corporate systems it may be useful to know something about adversaries and their activities. This article looks at how contraband is being delivered in an era of secure consumer messaging platforms where end-to-end encryption makes it difficult for law enforcement. Worth a read. - Greg

Internets Of Interest: Tech News

I Gave a Bounty Hunter $300. Then He Located Our Phone. - Motherboard

https://motherboard.vice.com/en_us/article/nepxbz/...

US mobile carriers including AT&T, Verizon and T-Mobile are selling smartphone location data to third parties, including bailbondsmen, local law enforcement, and other third parties with little oversight or control over how that data might be used.

The article states *"...a wide variety of companies can access cell phone location data, and that the information trickles down from cell phone providers to a wide array of smaller players, who don't necessarily have the correct safeguards in place to protect that data."*

Watch Out Networking, the Service Mesh Will Rock Your World - SDX Central

https://www.sdxcentral.com/articles/analysis/watch...

Author Roy Chua, with a strong networking background, attended KubeCon with 8,000 others. Service meshes were a major topic of conversation. Roy talks about why service meshes matter in application deployments delivered on cloud platforms using Kubernetes. Roy also considered the service mesh legacy--load balancers aka application delivery controllers. This is a wide-ranging and thoughtful piece by Roy bringing together a lot of different ideas important for L4-L7 traffic management.

Man drives 6,000 miles to prove Uncle Sam's cellphone coverage maps are wrong – and, boy, did he manage it - The Register

https://www.theregister.co.uk/2019/01/17/vermont_m...

A government employee for the state of Vermont drove all over the state to test download speeds of the carriers to see if actual performance matched what the carriers were reporting. Surprise surprise, it seems the carriers have....overestimated.

Industry & Vendor Announcements

Signal v Noise exits Medium – Signal v Noise

https://signalvnoise.com/signal-v-noise-exits-medi...

This is the company blog of Basecamp, which prolifically covers arcane programming, etc. They quit Medium for hosting their blog and moved to Wordpress saying:

"Beyond that, though, we've grown ever more aware of the problems with centralizing the internet. Traditional blogs might have swung out of favor, as we all discovered the benefits of social media and aggregating platforms, but we think they're about to swing back in style, as we all discover the real costs and problems brought by such centralization."

Sure, I have a dog in this hunt (head over to https://etherealmind.com today!! ACT NOW!!) but I think we all would benefit by people flooding into blogging again. - Greg

Another Facebook privacy scandal you have never heard of! - Internet Governance Project

https://www.internetgovernance.org/2019/01/16/anot...

Facebook employees were aggressively pushing to open up the ICANN database. The Internet Governance Blog notes:

"During the ICANN WHOIS policy meetings, the chair sets an agenda which can be amended or added to by the request of the policy group members. The Facebook representative has never missed a chance to add issues to the meeting's agenda that would weaken the data protection of domain name registrants and help with maintaining a public WHOIS. For example, the Facebook representative has pushed to require additional contacts (admin/tech) to consent to publish their data rather than be redacted; She has insisted on trying to force registrars to differentiate natural and legal domain name registrants and hence not protecting the legal person's data; she has attempted to put the burden of the accuracy of data on domain name registrars; and she has pushed to make ICANN fragment its policies by differentiating domain name registrants geographically so that we do not provide protection for those not subject to European jurisdiction."

We know that Facebook wants to exploit your private data but its seems there is no limits on what they will do to get more data.

Rewiring the Enterprise for the Internet of Clouds: An Enterprise WAN Journey - Juniper Networks

https://forums.juniper.net/t5/Enterprise-Cloud-and...

Juniper makes its case for its approach to WAN and SD-WAN.

NetFlow Generators explained - Noction

https://www.noction.com/blog/netflow-generators-ex...

Nice post from Noction explaining some of the basics on using Netflow on which their product is based.

Huawei Unveils Industry's Highest-Performance ARM-based CPU - Huawei

https://www.huawei.com/en/press-events/news/2019/1...

Huawei has been releasing new products at a stunning rate and this one is quite unusual. Most server brands have dabbled with ARM CPUs but their lack of commitment was rather obvious and a way to get better pricing from Intel. Manufacturing latest generation 7nm ARM8 CPUs into servers requires a substantial commitment. What I don't know is operatiing system and application support. Intel spends over $1B to support Linux and more to support MS Windows on their CPUs. I wonder if Huawei or ARM is spending in this area? If not, then this announcement is glamour not substance. - Greg

Kemp Simplifies Application Delivery Management and Cloud Migration Costs with Launch of Transparent Cost Calculator

https://kemptechnologies.com/news/kemp-simplifies-...

Kemp has released a TCO calculator so you can compare pricing on its new metered licensing option. - Drew

The End Bit