# Let's Open our Security Practices



CISSP Number 358671

# DISCOVER®

Cashback Bonus

## **Bankof America**

PLEASE GO ONLINE OR CALL FROM YOUR HOME PHONE TO ACTIVATE YOUR CARD

www.bankofamerica.com/activate

1.800.276.9939

1301

DANIMILINICAL

DANIEL GREGORY SCOTT



### Agenda

- What's wrong with security today?
- What's the cure?
- Have I lost my mind?
- In my defense...
- Call to action.

























# 66 million records breached in 95 attacks in the news in Jan. 2022

From <a href="https://www.itgovernance.co.uk/blog/list-of-data-breaches-and-cyber-attacks-in-january-2022-66-million-records-breached">https://www.itgovernance.co.uk/blog/list-of-data-breaches-and-cyber-attacks-in-january-2022-66-million-records-breached</a>

#### Cyber attacks

- Gloucester Council cyber attack linked to Russian hackers (unknown)
- Parents warned after scam emails at Liverpool secondary school (unknown)
- DatPiff data being sold online after password-cracking attack (7.5 million)
- New York Attorney General alerts companies to credential-stuffing cyber attacks (1.1 million)
- Jefferson Surgical Clinic notifies those affected by 2021 data breach (174,769)

#### More Cyber Attacks

- Singapore-based department store OG suffers security incident (unknown)
- Indonesian govt responds to massive data leak of medical records (6 million)
- Monroe Public Schools notifies those affected by malware attack (1,201)
- Data captured from Siriraj Hospital put up for sale on dark web (39 million)
- Visalia Unified School District notifying employees and students about security incident (35,000)
- Hackers raided Panasonic server for months, stealing personal data of job seekers (unknown)
- Memorial Health System notifies patients of malware incident (216,478)
- Canadian city of Brantford says its city hall has been breached (unknown)
- Cyber attack hits Ukrainian websites as Russia tensions mount (unknown)
- City of Tenino loses \$280,309 to phishing email scam (unknown)

#### Still More Cyber Attacks

- Data stolen in attack at Arnprior Regional Health (unknown)
- Another hack on Lympo, lost 165.2 million LMT tokens (unknown)
- Red Cross discloses cyber attack affecting "highly vulnerable people" (515,000)
- Thousands of Indians' Covid-19 related data leaked online (20,000)
- Anne Arundel Medical Center discloses phishing attack (unknown)
- Peachtree Orthopaedic Clinic reports breach to HHS (53,686)
- Sacramento County employee fell for phishing scam (2,096)
- Brazil's Acesso Soluções de Pagamento suffers cyber attack (160,100)
- Patient info possibly disclosed in Spokane Health District phishing attack (1,000)
- Canada's Foreign Affairs Ministry hacked (unknown)

#### A Few More Cyber Attacks

- Pennsbury School District's computer system breached (unknown)
- North Korean Internet downed by DDoS attacks (unknown)
- NHS Management discloses incident from last May (unknown)
- Nobel Foundation site hit by DDoS attack on award day (unknown)
- Mall retailer Spencer Gifts discloses cyber attack (unknown)
- True Health New Mexico says it was targeted by cyber attack (62,000)
- StarTek says it was hit by cyber attack (unknown)
- <u>Taylor Regional Hospital phone lines still down after reported cyber attack</u> (unknown)

#### Ransomware Attacks

- Attack on FinalSite shuts down thousands of school websites (unknown)
- Missouri school district's employee data dumped by ransomware group (unknown)
- Maryland Department of Health confirms ransomware attack caused disruption in COVID-19 data last month (unknown)
- Portuguese newspaper Expresso hit by cyber criminals (unknown)
- Ransomware puts New Mexico prison in lockdown (unknown)
- Neenah schools in Wisconsin investigating apparent cyber attack (unknown)
- Compton and Broomhead Dental Center alleged victim of cyber attack (unknown)
- Hospital Centro de Andalucia recovered quickly from ransomware attack (unknown)
- National Association of Community Health Centers to notify current and former employees of data breach (935)
- Guilford Technical Community College notifies those affected by ransomware (65,646)

#### More Ransomware

- Florida-based Jackson Hospital hit by ransomware (unknown)
- Albuquerque schools confirm ransomware attack, resume class (unknown)
- <u>Italian fashion brand Moncler confirms ransomware attack and data breach</u> (unknown)
- OpenSubtitles discloses successful extortion attempt (unknown)
- Griggsville-Perry School District hit by ransomware attack (unknown)
- Memorial Health System fell victim to ransomware (200,000)
- Valley Regional Transit target of ransomware attack (535)
- Charlotte YMCA alerts members of a security incident (unknown)
- Hacktivists attack Belarus railway intended to disrupt Russian forces (unknown)
- Midland University in Nebraska victim of ransomware attack last January (13,716)

#### A Few More Ransonware Attacks

- Conti ransomware hits Apple, Tesla supplier (unknown)
- Data from scheduling service FlexBooker stolen in cyber attack (10 million)
- Hospitality chain McMenamins releases notice after ransomware attack (unknown)
- Medical Healthcare Solutions now notifying clients' patients (unknown)
- Staffing firm ExecuSearch Holdings in suspected ransomware attack (42,000)
- <u>lowa-based Ottumwa dental office notifies patients of ransomware attack</u> (26,144)
- Ransomware group threatens to leak data from France's justice ministry (9,859)

#### Data breaches

- Black Country hospital trust suffers 'significant IT data loss' (unknown)
- COVID test data breach at Worcestershire school (unknown)
- Sensitive information leaked after data breach at Greensward Academy (unknown)
- Vodafone accidentally sent a customer personal details of other accounts (18)
- Names of unvaccinated DDSB staff accidentally shared (400)
- COVID testing appointment scheduling service discovers data breach (unknown)
- South Africa's new traffic fine system exposed personal data (unknown)
- Data from Sea Mar Community Health Centers breach leaks onto web (688,000)
- NYU Langone notifies those affected by mailing vendor error (1,123)
- St. Lucie's County drug screening lab notifying patients after discovering misconfiguration of web portal (14,500)
- California public office admits Covid-19 healthcare data breach (unknown)

#### Financial information

- UScellular discloses data breach after billing system hack (405)
- Grass Valley discloses 2021 data breach (unknown)
- Major Indian fashion retailer hacked and data leaked (unknown)
- South Australian gov issues breach notice to hacked payroll provide (80,000)
- Hacker steals \$200,000 through Multichain bug, offers to return 80% to victim (unknown)

#### Malicious insiders and miscellaneous incidents

- <u>Ex-hospital worker arrested in SGMC data breach</u> (unknown)
- Philippines govt says sacks of criminal records were stolen (unknown)
- University of Arkansas for Medical Sciences notifying patients after employee emailed PHI to her personal email account (518)
- <u>US DoD staffer with top-secret clearance stole identities from work systems to apply for loans</u> (37)

#### In other news...

- FTC warns companies to remediate Log4j security vulnerability
- A Missouri reporter is (still) getting blamed for the security flaw he exposed
- CEO of crypto exchange platform Cryptsy indicted for defrauding customers, destroying evidence, and tax evasion

#### 95 Attacks Over 31 Days in January, 2022

Which averages to about 3 data leakage incidents that made the news every single day.

That's what was documented in news stories.

January is just the most recent full month.

#### What do nearly all attacks have in common?

We don't know what went wrong and what they did to fix it.

• Except for Equifax in 2017, but that took a Congressional investigation.

Here is a SANS article with a link to the Equifax report:
 https://www.sans.org/security-awareness-training/blog/just-released-congressional-report-equifax-hack

#### Supply Chain Attack – NotPetya from 2017



Image and link to a great insider Maersk story from: https://grahamcluley.com/the-inside-story-of-the-maersk-notpetya-ransomware-attack/

### What's a Supply Chain Attack?



Spy movie – good guys planning how to save the world.

Image from <a href="https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/">https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/</a>

#### What's a Supply Chain Attack?



But the good-guy room is bugged. Bad guys are listening. Image from <a href="https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/">https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/</a>

# Q: How would bad guys plant bugs in every good-guy room in the world?

















Image from <a href="https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/">https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/</a>

#### A: Take over the lightbulb factory



Plant bugs in every lightbulb.
When good guys change bulbs, bad guys own another room.

# In 2017, Ukrainian Software Company, M.E. Doc was the NotPetya "Lightbulb Factory."



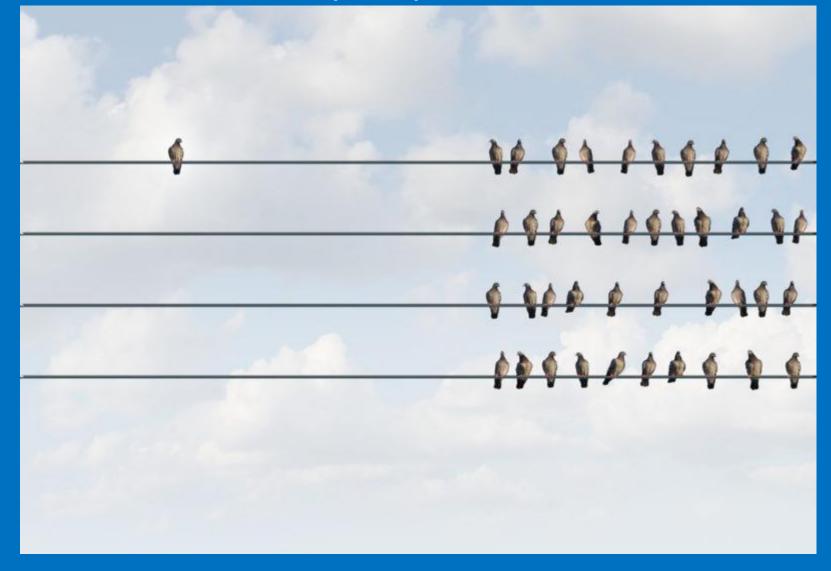
#### Supply Chain Attack: The Big One in 2020



### What's the cure?



### A counter-intuitive proposal



#### Open it all up

- Internal topology
- Permission model
- Incident response plan
- Post-mortems
- Write articles about our security practices.
- Present them at conferences
  - Accept peer review criticism
  - Critique others
  - Game out scenarios with other organizations

# Demand openness from your suppliers. Provide openness to your stakeholders.

## Have I lost my mind?



#### A Solarwinds Blogger thinks so

- https://thwack.solarwinds.com/resources/b/geek-speak/posts/the-prosand-cons-of-open-source-tools
- Greg W. Stuart said...

• [Open source] Security becomes a major issue. "Anyone can be hacked. However, the risk is far less when it comes to proprietary software. Due to the nature of open-source software allowing anyone to update the code, the risk of downloading malicious code is much higher."

He posted that before Solarwinds melted down the world.

History proved him wrong.

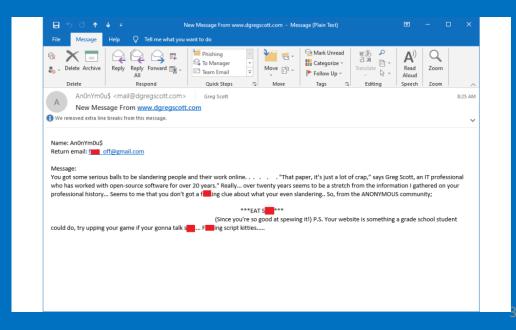
# But speaking about attempted bogus open source commits...

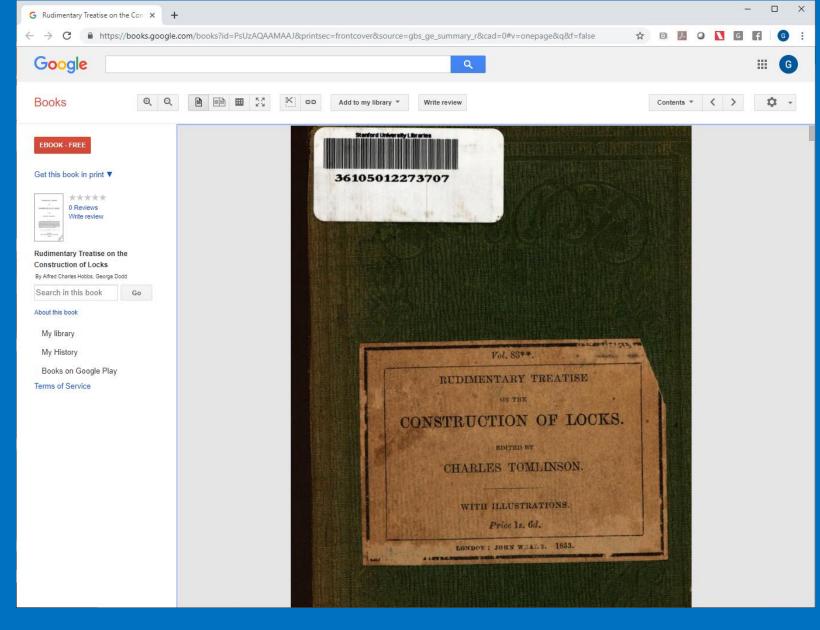
See
 https://www.theverge.com/platform/amp/2021/4/30/22410164/linux-kernel-university-of-minnesota-banned-open-source

Also see my blog post at <a href="https://www.dgregscott.com/nasty-letter-">https://www.dgregscott.com/nasty-letter-</a>

from-an-anonymous-knucklehead/

• Bottom line – the system worked.





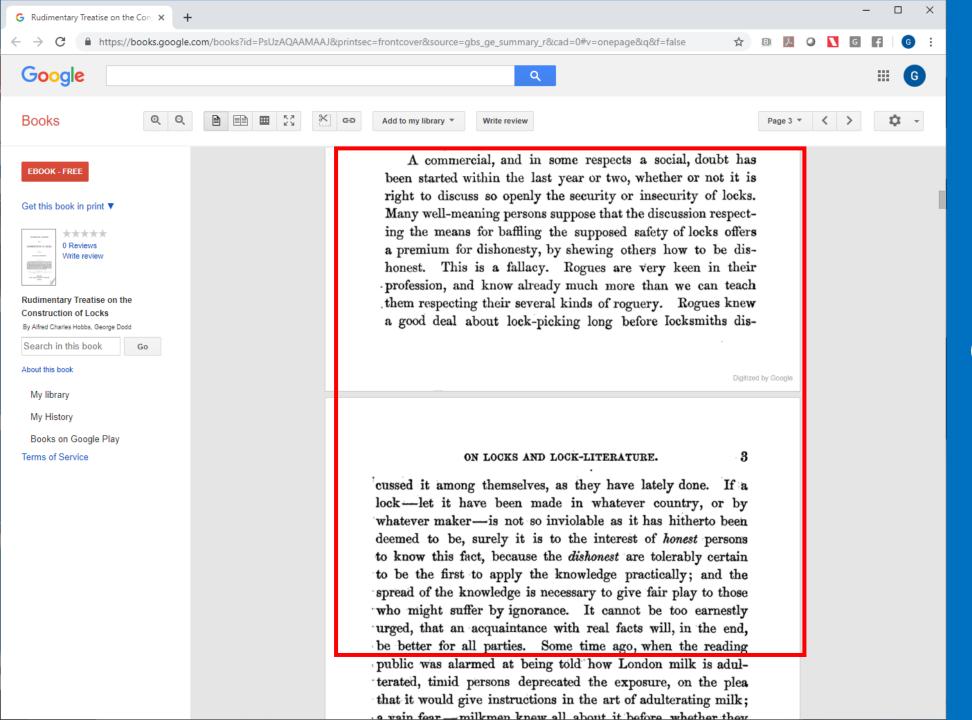
# Controversy around embracing open goes back to at least 1853

Rudimentary Treatise on the Construction of Locks

Edited by Charles Tomlinson and Alfred Charles Hobbs

John Weale, High Holborn, 1853

https://books.google.com/books?id=PsUzAQAAMAAJ&printsec=frontcover&source=gbs\_ge\_summary\_r&cad=0#v=onepage&q&f=false\_



# Bottom of page 2, top of page 3

### Paragraph breaks and color added for readability

A commercial, and in some respects a social, doubt has been started within the last year or two, whether or not it is right to discuss so openly the security or insecurity of locks. Many well-meaning persons suppose that the discussion respecting the means for baffling the supposed safety of locks offers a premium for dishonesty, by shewing others how to be dishonest.

#### This is a fallacy.

Rogues are Very keen in their profession, and know already much more than we can teach them respecting their several kinds of roguery. Rogues knew a good deal about lock-picking long before locksmiths discussed it among themselves, as they have lately done.

If a lock—let it have been made in whatever country, or by whatever maker—is not so inviolable as it has hitherto been deemed to be, surely it is to the interest of honest persons to know this fact, because the dishonest are tolerably certain to be the first to apply the knowledge practically; and the spread of the knowledge is necessary to give fair play to those who might suffer by ignorance.

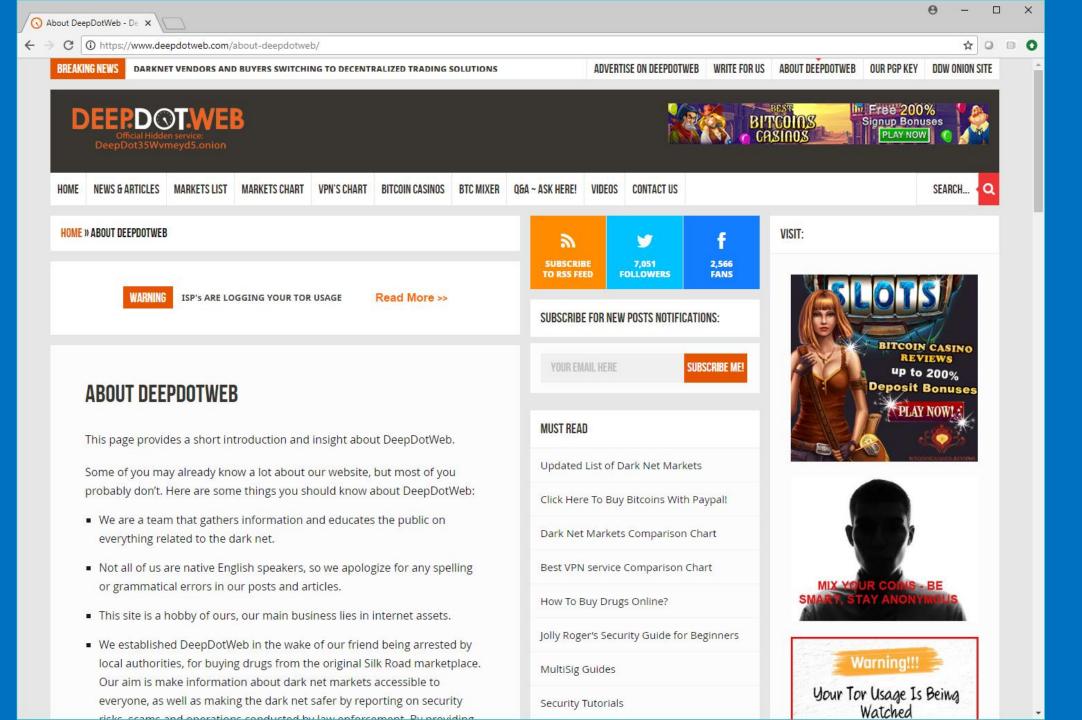
It cannot be too earnestly urged, that an acquaintance with real facts will, in the end, be better for all parties.

### 21st century language

- Bad guys spend all day probing good guys.
  - And all night collaborating with each other to improve the next day's probes.
- Bad guys already know relevant details about our internal networks.

- Good guys isolate ourselves.
  - That's why we keep making the same mistakes.

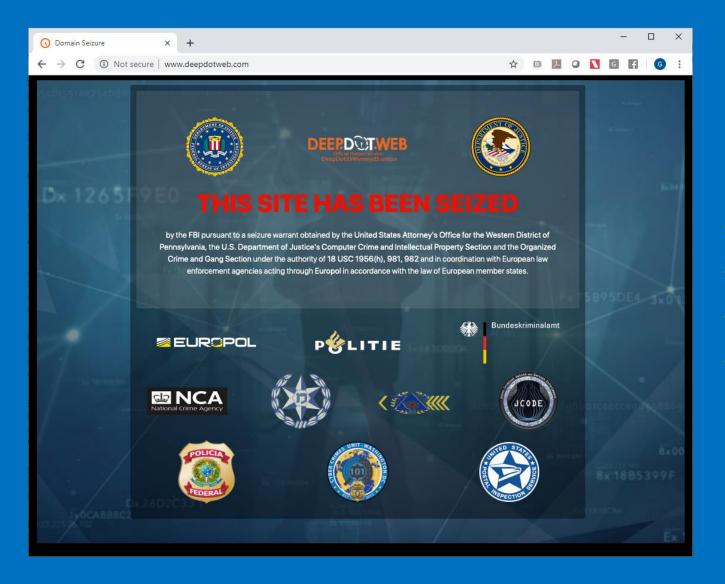
We need to level the playing field.



How do bad guys win?

They collaborate.

### Good guys also win by collaborating



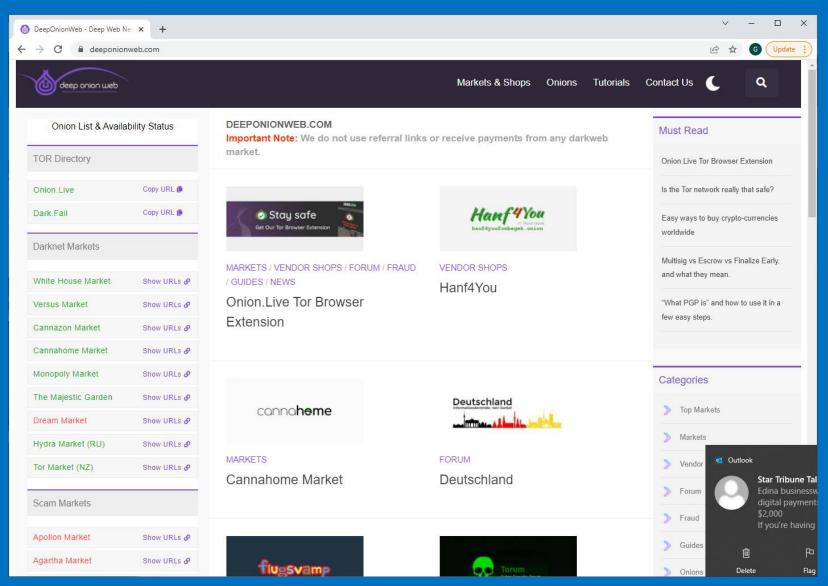
Check out this article from Wired Magazine:

https://www.wired.com/sto ry/dark-web-drugtakedowns-deepdotwebrebound/

Score one for the good guys.

## But Bad Guys Don't Give Up Easily

https://www.deeponionweb.com/



### Zero Trust Architecture



- NIST (United States National Institute of Standards) framework called <u>Special Publication</u> 800-207.
  - 1. The entire enterprise private network is not considered an implicit trust zone.
  - 2. Devices on the network may not be owned or configurable by the enterprise.
  - 3. No resource is inherently trusted.
  - 4. Not all enterprise resources are on enterprise-owned infrastructure.
  - 5. Remote enterprise subjects and assets cannot fully trust their local network connection.
  - Assets and workflows moving between enterprise and non-enterprise infrastructure should have a consistent security policy and posture.
  - Helpful because it makes realistic assumptions about how modern networks should operate.
  - But the real world rarely follows theoretical architectures.

There will *never* be a technology defense against supply chain attacks.

Because you *always* need to trust somebody.



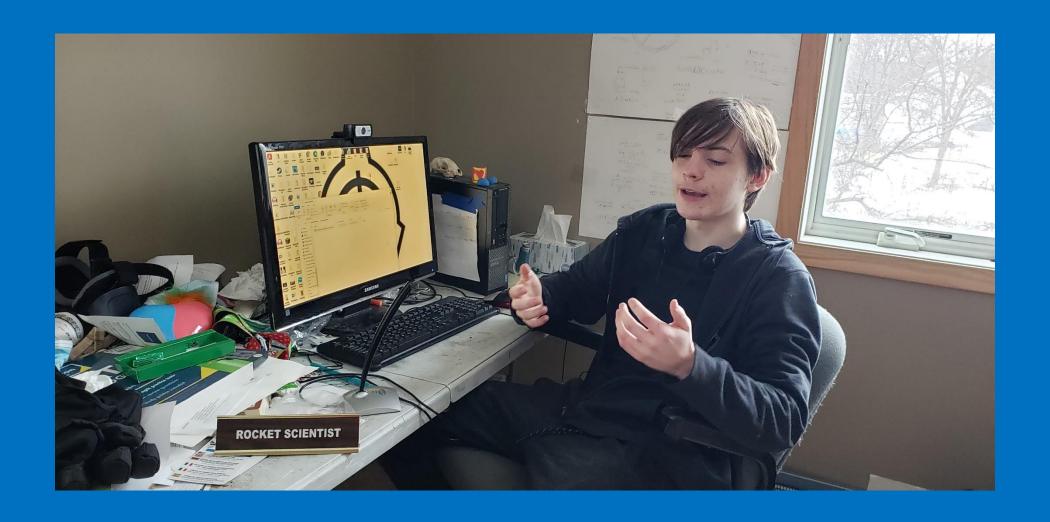
#### The only defense:

- Make suppliers earn your trust.
- Suppliers earn trust by embracing open.

# Call to Action



## I'm just a sysadmin; nobody listens to me!



Well then, listen to guys like Warren Buffet.



"I don't know that much about cyber, but I do think that's the number one problem with mankind." –Warren Buffet

From <a href="https://www.businessinsider.com/warren-buffett-cybersecurity-berkshire-hathaway-meeting-2017-5">https://www.businessinsider.com/warren-buffett-cybersecurity-berkshire-hathaway-meeting-2017-5</a>

## Or Delta CISO Debbie Wheeler



- "We have to get to the point where security can't be seen as a competitive advantage; it can't be what we use to succeed against a competitor. Security has to be one of those areas where we come together to share best practices. Some of those might not be for everyone, but the sharing of them will serve us all and help us all to be stronger. And that's what we need."
- <a href="https://www.csoonline.com/article/3649355/delta-ciso-debbie-wheeler-security-can-t-be-seen-as-a-competitive-advantage.html">https://www.csoonline.com/article/3649355/delta-ciso-debbie-wheeler-security-can-t-be-seen-as-a-competitive-advantage.html</a>

# Taking my own medicine



My buddy, Ihor

about



Welcome - dgregscott.com

Welcome to my dgregscott.com website. And meet my alter-ego, Jerry Barkley. Jerry dgregscott.com

http://dgregscott.com/

why you don't register it?



to Google and catalogs?

I need to so more SEO work.

.do more.. typo

http://dgregscott.com/robots.txt

WP:))

http://dgregscott.com/sitemap\_index.xml

can I try to hack? ))))



Hack away - just don't break anything. And tell me if you get in. 😃

I keep meaning to make a good backup of it.

I've had Russians attack my Bullseye Breach site.





















## http://dgregscott.com

```
Greg )
Man
Why? )))
come on ))))))))))
I think that's only the beginning ))))))))
no no )))))))))))))
Greg ))
```



#### **Index of /wp-content/plugins/jetpack**

	<u>Name</u>	Last modified	<u>Size</u>	<u>Description</u>
-	Parent Directory		-	
	3rd-party/	2017-05-15 00:41	-	
	CODE-OF-CONDUCT.md	2017-05-15 00:41	2.4K	
	_inc/	2017-05-15 00:41	-	
	bin/	2017-05-15 00:41	-	
	<u>changelog.txt</u>	2017-05-15 00:41	140K	
	class.frame-nonce-pr>	2017-05-15 00:41	2.8K	
	class.jetpack-admin.php	2017-05-15 00:41	8.3K	
	class.jetpack-autoup>	2017-05-15 00:41	8.5K	
	class.jetpack-bbpres>	2017-05-15 00:41	2.9K	
	class.jetpack-cli.php	2017-05-15 00:41	27K	
	class.jetpack-client>	2017-05-15 00:41	8.1K	
	class.jetpack-client>	2017-05-15 00:41	11K	
	class.jetpack-connec>	2017-05-15 00:41	32K	
	class.jetpack-consta>	2017-05-15 00:41	2.4K	
	class.jetpack-data.php	2017-05-15 00:41	4.4K	
	class.jetpack-debugg>	2017-05-15 00:41	24K	
	class.jetpack-error.php	2017-05-15 00:41	47	
	class.jetpack-heartb>	2017-05-15 00:41	4.5K	
	class.jetpack-idc.php	2017-05-15 00:41	20K	
	class.jetpack-ixr-cl>	2017-05-15 00:41	3.2K	

#### The cure

I used a different directory on this Wordpress website than normal and the default settings could have killed me.

```
<Directory /var/www/html/wordpress>
    Options Indexes FollowSymLinks
# Get rid of Indexes to prohibit directory searches
    Options FollowSymLinks
</Directory>
```





















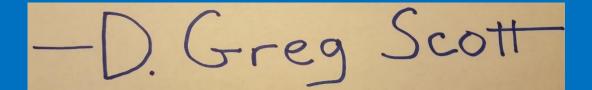




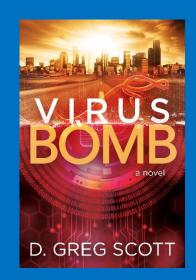
## What if organizations like these embraced open?

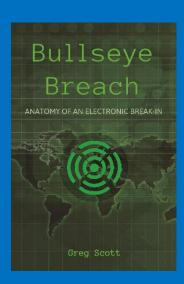
- Equifax may have saved more than \$1 billion in remediation costs.
- Uber would not have become an unwitting partner with people who stole from it.
- Ransomware attacks might not have disrupted Atlanta, Baltimore, and dozens of other cities recently.
- Solarwinds might not have compromised pretty much all the world's critical infrastructure.
- Fuel deliveries across the Eastern United States would never have been disrupted.
- (Your organization here)

### Contact info



gregscott@infrasupport.com or gregscott@dgregscott.com





https://www.dgregscott.com

Twitter: DGregScott

LinkedIn: <a href="https://www.linkedin.com/in/dgregscott/">https://www.linkedin.com/in/dgregscott/</a>

Youtube: "Greg Scott Public Videos" at

https://www.youtube.com/channel/UCBtDWsqzMZ RB94I F4cnRQ