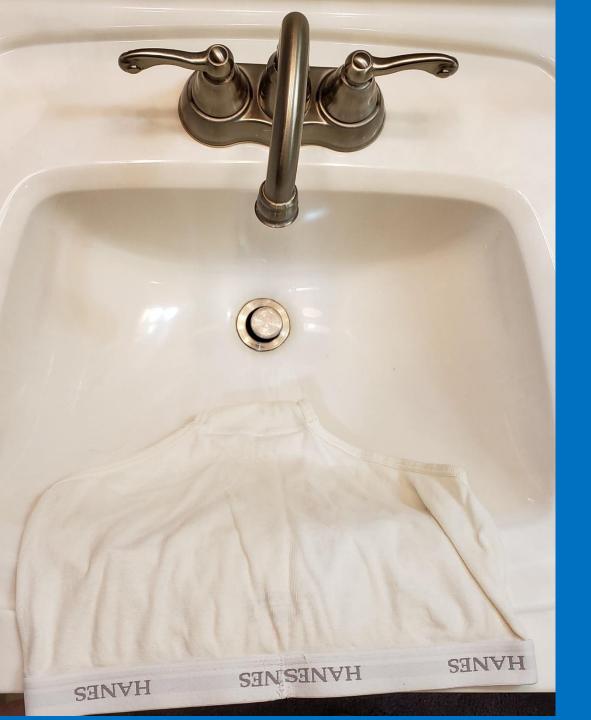
Cybersecurity

What We're up Against and How to Kick Bad Guys' Butts



CISSP Number 358671



Who says IT is boring?

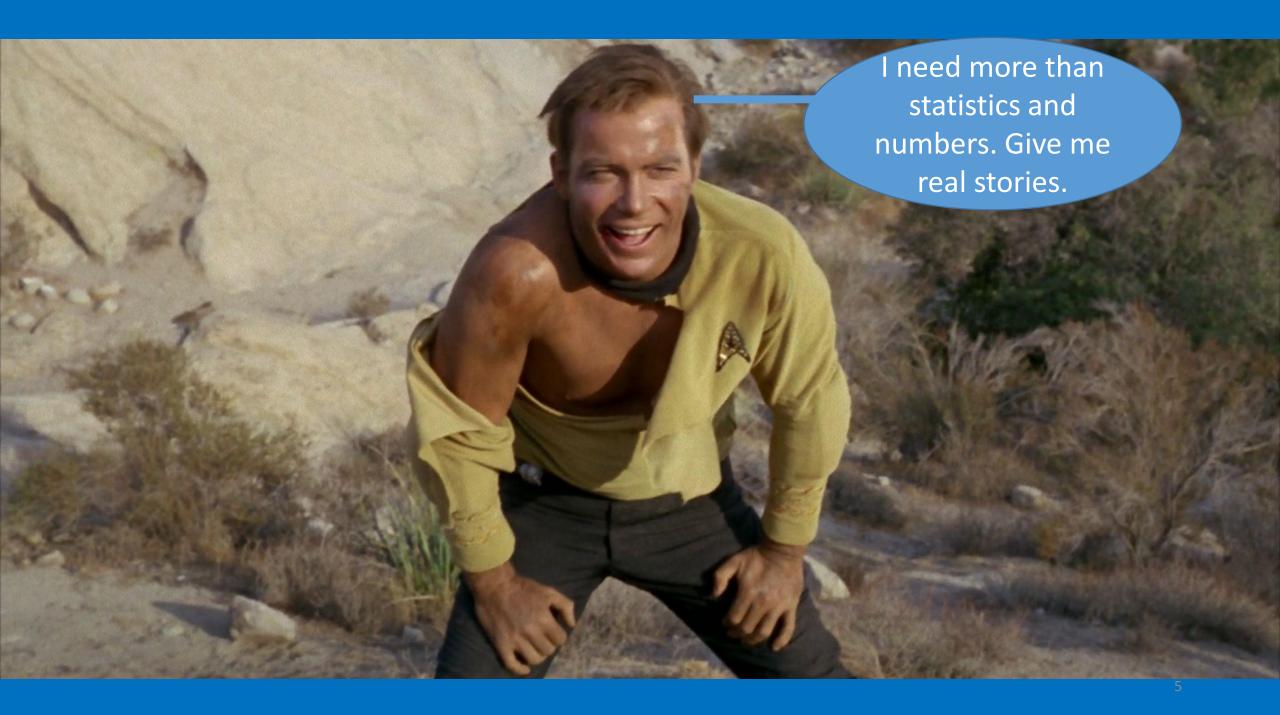
Boring statistics that hit home

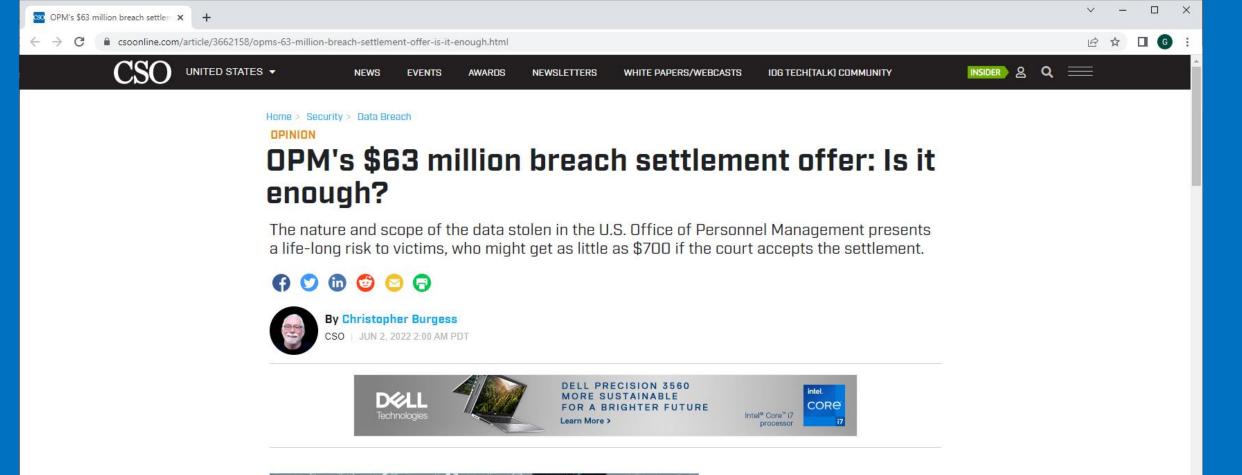
From https://www.broadbandsearch.net/blog/alarming-cybercrime-statistics

- A cyberattack happens once every 39 seconds.
 - "The computers in our study were attacked, on average, 2,244 times a day."
- 78 percent of organizations in the US experienced a cyberattack in 2019.
- 23 percent of Americans have either had their credit card of financial information stolen by attackers, or they know someone who has.
- Data breaches effected 30 percent of all US consumers in 2018.
- The U.S. economy loses between \$57 billion and \$109 billion per year to malicious cyber activity.

Eight seconds in my basement

- Oct 7 12:38:55 infra2020-fw kernel: IN=enp2s0 OUT= MAC=00:30:18:c5:e3:b8:a0:a3:e2:63:de:20:08:00 SRC=171.242.158.152 DST=216.160.2.135 LEN=44 TOS=0x00 PREC=0x00 TTL=49 ID=60708 PROTO=TCP SPT=34494 DPT=23 WINDOW=47045 RES=0x00 SYN URGP=0
- Oct 7 12:38:59 infra2020-fw kernel: IN=enp2s0 OUT= MAC=00:30:18:c5:e3:b8:a0:a3:e2:63:de:20:08:00 SRC=195.54.161.104 DST=216.160.2.136 LEN=44 TOS=0x00 PREC=0x00 TTL=241 ID=39863 PROTO=TCP SPT=42098 DPT=218 WINDOW=1024 RES=0x00 SYN URGP=0
- Oct 7 12:39:00 infra2020-fw kernel: IN=enp2s0 OUT= MAC=00:30:18:c5:e3:b8:a0:a3:e2:63:de:20:08:00 SRC=192.241.220.248 DST=216.160.2.133 LEN=44 TOS=0x00 PREC=0x00 TTL=246 ID=54321 PROTO=TCP SPT=40013 DPT=110 WINDOW=65535 RES=0x00 SYN URGP=0
- Oct 7 12:39:00 infra2020-fw kernel: IN=enp2s0 OUT= MAC=00:30:18:c5:e3:b8:a0:a3:e2:63:de:20:08:00 SRC=171.235.221.124 DST=216.160.2.136 LEN=52 TOS=0x00 PREC=0x00 TTL=49 ID=29656 DF PROTO=TCP SPT=50326 DPT=445 WINDOW=8192 RES=0x00 SYN URGP=0
- Oct 7 12:39:02 infra2020-fw kernel: IN=enp2s0 OUT= MAC=00:30:18:c5:e3:b8:a0:a3:e2:63:de:20:08:00 SRC=79.66.18.65 DST=216.160.2.133 LEN=40 TOS=0x00 PREC=0x00 TTL=53 ID=0 DF PROTO=TCP SPT=54355 DPT=443 WINDOW=0 RES=0x00 RST URGP=0
- Oct 7 12:39:03 infra2020-fw kernel: IN=enp2s0 OUT= MAC=00:30:18:c5:e3:b8:a0:a3:e2:63:de:20:08:00 SRC=45.234.63.120 DST=216.160.2.132 LEN=52 TOS=0x00 PREC=0x00 TTL=115 ID=16530 DF PROTO=TCP SPT=54750 DPT=445 WINDOW=8192 RES=0x00 SYN URGP=0









Supply Chain Attack: The Big One in 2020



What's a Supply Chain Attack?



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

Image from https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/

What's a Supply Chain Attack?



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

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

















Image from https://www.deadgoodbooks.co.uk/nicholas-searle-realistic-spy-movies/

A: Take over the lightbulb factory



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

But I'm not big enough for anyone to attack





Prison for Minnesota man who posed as federal agent

His defense attorney said Reyel Simmons did not benefit financially but "was merely playing dress-up to impress people around him and to woo women."

By Paul Walsh (https://www.startribune.com/paul-walsh/6134706/) Star Tribune

JUNE 8, 2022 - 11:46AM

A southern Minnesota man has been sentenced to six years in prison for posing as a Department of Homeland Security officer on social media, where he built a following of thousands and lured unsuspecting women into relationships.

Reyel D. Simmons, 53, of Dodge Center, Minn., was sentenced in U.S. District Court in St. Paul last week after pleading guilty in January to impersonating a federal officer and illegal weapons possession. Simmons' sentence includes three years of supervision after he leaves prison.

Before sentencing, prosecutors argued for Judge Eric Tostrud to give Simmons a term of more than seven years, pointing out that he carried out his scheme behind his wife's back while at the same time dating the woman who eventually turned him in.

Defense attorney James Becker proposed a two-year sentence. Becker noted that Simmons had an alcoholic mother and was raised in Denver by alcoholic grandparents. He also struggled with dyslexia and attention-deficit disorder in school.

Becker acknowledged in a court filing that his client "maintained his fictional biography with several women with whom he had romantic relationships, including the woman he married and deceived for many years."

But, the attorney continued, he "never accrued any financial benefit ... and never sought to use his (mis)identity to gain access to restricted areas or information. ... In truth, Mr. Simmons was merely playing dress-up to impress people around him and to woo women."

According to court documents:



FEDERAL COURT RECORDS

Reyel Simmons made a habit of posing as a federal law enforcement agent or a member of the military.



FBI believes there are more victims of St. Paul man's sextortion scheme

More than 500 minors have already been identified as victims, but agents say they believe there may be more.



Author: Sharon Yoo Published: 6:07 PM CDT June 15, 2022 Updated: 6:59 PM CDT June 15, 2022



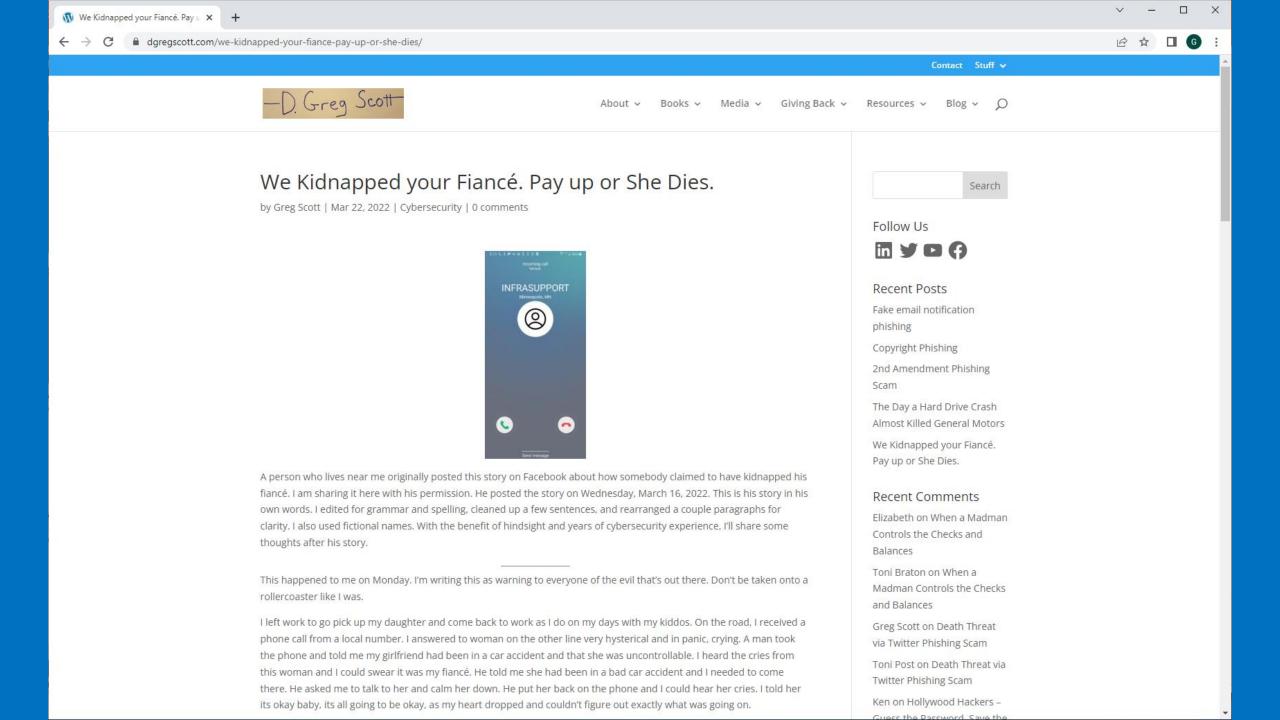
August Sage

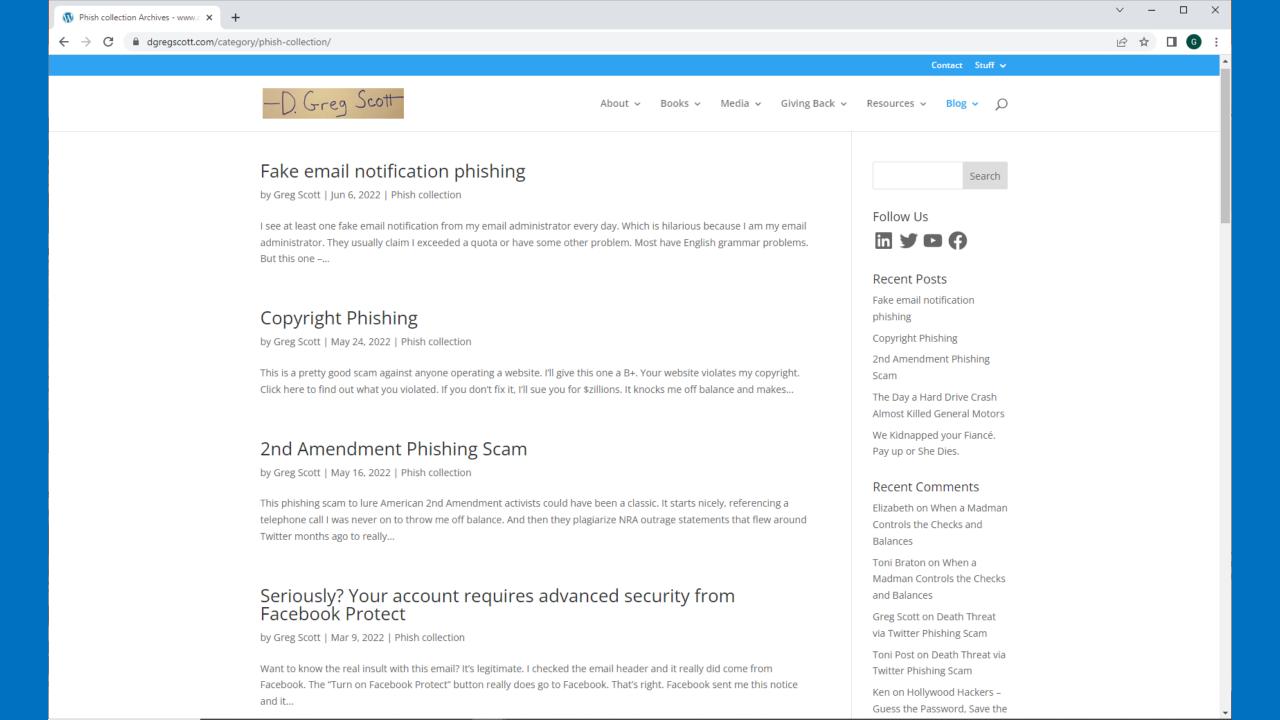
ARTISAN
HANDCRAFTED
HOME GOODS

SHOP NOW

- FBI Supervisory
 Special Agent Brenda
 Born says Chu Vang
 targeted 500 minors.
- "We were able to uncover approximately 75 identifications and monikers he was using to communicate with the victims," Born said.

BROOKLYN CENTER, Minn. — A St. Paul man has pleaded guilty to a massive sextortion





Here's where it gets personal



I am a repeat cyber victim myself.

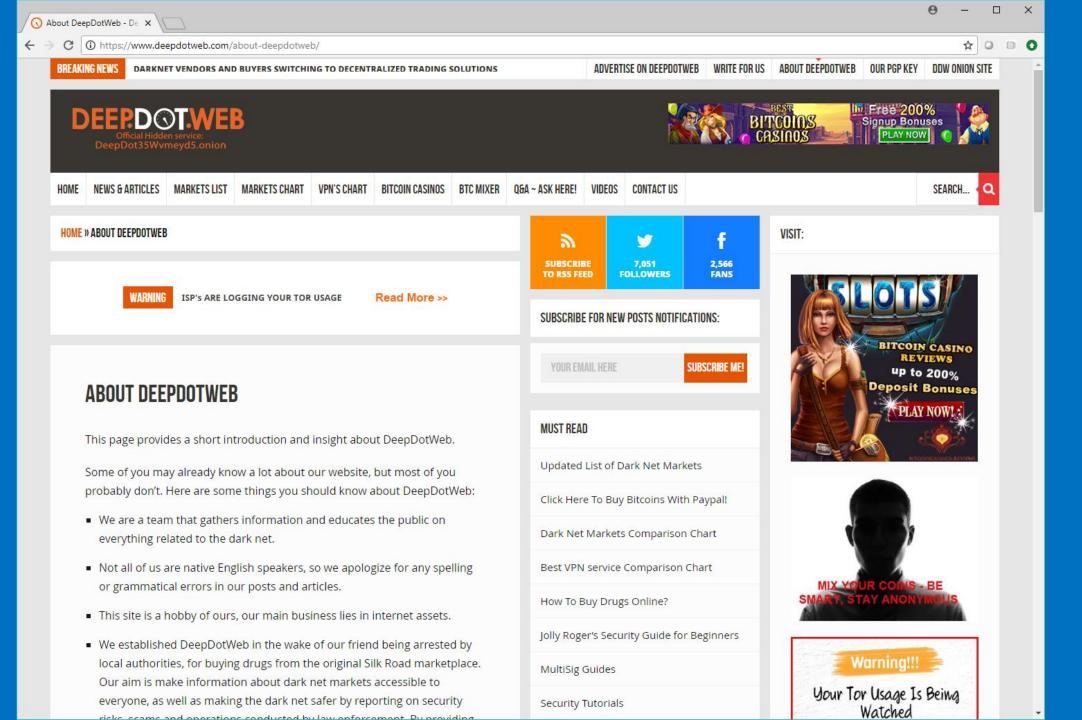
- Late November, 2011, somebody tried to steal more than \$14,000 with one of my credit cards
 - I tracked down names, dates, and details and gave it all to the FBI
 - We traded a few emails and then.....
 - I'm still waiting
- 2008 Norm Coleman for Senate Campaign
 - Details here: http://www.dgregscott.com/gross-security-lapse-hurt-us-senate-campaign/
- November, 2000 attack against my DNS server
- The FBI and I go way back. https://www.dgregscott.com/the-fbi-and-bureaucracy-and-me/

How?



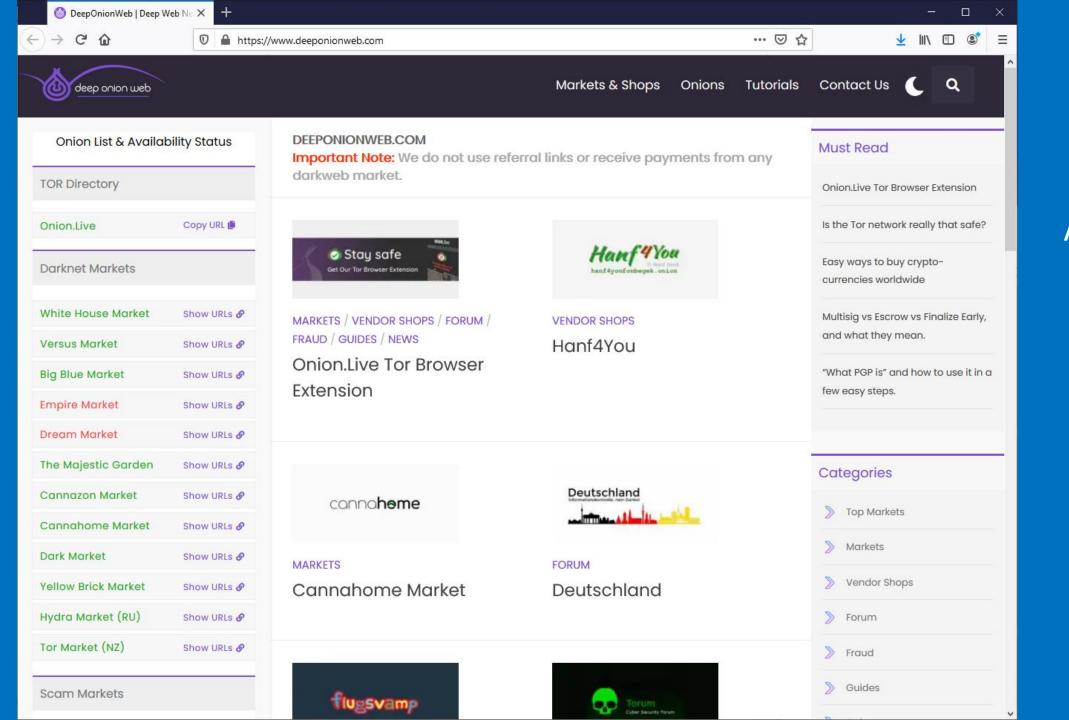
How do bad guys plunder good guys, seemingly at will?

And why do business leaders and politicians keep hiding behind weenie excuses?



How do bad guys win?

They collaborate.



And they adapt





Main page Product releases New pages Recent changes Recent uploads

Random page Help

How to Contribute

All-hands meeting Other meetings Contribute to Mozilla Mozilla Reps Community Portal

MozillaWiki

About Team

Policies

Report a wiki bug

Around Mozilla

Mozilla Support Mozilla Developer Network Planet Mozilla

Mozilla Blog

Research

Tools

What links here Related changes Special pages Printable version Permanent link

Page information Import an Etherpad Browse properties Page Discussion

CA:Symantec Issues

Following the investigation documented below, a consensus proposal was reached among multiple browser makers for a graduated distrust of Symantec roots.

The dates in that proposal and how they apply to Mozilla's Root Program and Firefox are as follows:

- December 1st, 2017: Symantec to implement "Managed CA" proposal
- January 2018 (Firefox 58): Notices in the Developer Console will warn about Symantec certificates issued before 2016-06-01, to encourage site owners to migrate their TLS certs.

Read View source View history

- May 2018 (Firefox 60): Websites will show an untrusted connection error if they have a TLS cert issued before 2016-06-01 that chains up to a Symantec root.
- · October 2018 (Firefox 63): Removal/distrust of Symantec roots, with caveats described below.

Note: Mozilla's planned release content and schedules are subject to change.

This page lists all confirmed issues involving the CA "Symantec". It may be further updated by Mozilla as more information becomes available. Please do not edit this page yourself; if you have proposed changes, email Wayne. Information here is correct to the best of Mozilla's knowledge and belief. Symantec has also confirmed. The accuracy of the information, although errors transcribing their statements into this page remain Mozilla's.

The issues are in broadly chronological order by end date.

Contents [hide]

- 1 Issue B: Issuance of 1024-bit Certificate Expiring After Deadline (Dec 2013 Jan 2014)
 - 1.1 Symantec Response
 - 1.2 Further Comments and Conclusion
- 2 Issue C: Unauthorized EV Issuance by RAs (January 2014 February 2015)
 - 2.1 Symantec Response
 - 2.2 Further Comments and Conclusion
- 3 Issue D: Test Certificate Misissuance (April 2009 September 2015)
 - 3.1 Symantec Response
 - 3.2 Further Comments and Conclusion
- 4 Issue E: Domain Validation Vulnerability (October 2015)
 - 4.1 Symantec Response
 - 4.2 Further Comments and Conclusion
- 5 Issue F: Symantec Audit Issues 2015 (December 2014 November 2015)
 - 5.1 Symantec Response

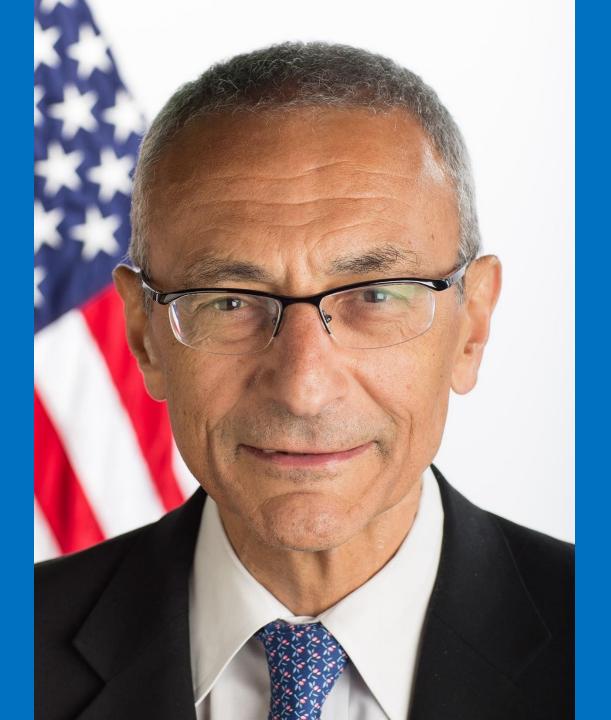
How do good guys lose?

Q

CA trust failures



Institutional failures



Willful ignorance

- John Podesta, Hilary Clinton campaign manager.
- He gave his email password to the Russians in a 2016 phishing scam.



Willful ignorance on both sides of the political aisle

- Norm Coleman, former US Senator from Minnesota.
- Exposed a spreadsheet with private donor information on his campaign website in 2008.



Stolen government attack tactics

Asleep at the Switch



The Power to Manage IT



Time to recap — what are we up against?

- Bad guys have a vast underground supply chain and support network.
- The entities we're supposed to trust with the Internet security infrastructure have all been compromised.
- Personal information about nearly all adult Americans is up for sale on underground websites.
- Thousands of businesses have been compromised.
- The United States government is both a perpetrator and a victim.
- If your identity is stolen, law enforcement is unwilling or unable to help.
- Lies fly around the planet lots faster than truth.



Maybe we should just give up

Buy a cave in Montana and hide.

Pay with cash.

Bad guys have unlimited time and creativity.

You don't!

Does giving up make you mad? It should.



Because we need to win



A Winning Strategy - Layers of Defense

- Email Hygiene
- Patching
- Authentication
- Trust
- Passwords
- Backups
- Social Media
- Mobility
- Tech Tools
- Awareness
- Six words to summarize everything
- Two great books

Social Media and Disinformation Campaigns



The Twilight Zone, Season 1, Episode 22: The Monsters are Due on Maple Street, March 4, 1960





The firehose of falsehood



Versus

The squirt gun of truth



MIT: Lies travel farther and faster than truth

- See https://news.mit.edu/2018/study-twitter-false-news-travels-faster-true-stories-0308
- "We found that falsehood diffuses significantly farther, faster, deeper, and more broadly than the truth, in all categories of information, and in many cases by an order of magnitude,"
- False news stories are 70 percent more likely to be retweeted than true stories.
- It takes true stories about six times as long to reach 1,500 people as it does for false stories to reach the same number of people.
- When it comes to Twitter's "cascades," or unbroken retweet chains, falsehoods reach a cascade depth of 10 about 20 times faster than facts.
- Falsehoods are retweeted by unique users more broadly than true statements at every depth of cascade.

2019 social media mob up close and personal

See
 https://www.dgregscott.com/when-dakota-county-mn-charged-my-11-year-old-grandson-with-5th-degree-assault-for-playing-in-a-park-in-a-costume/



Comet, COVID, Conspiracies, Chaos









See

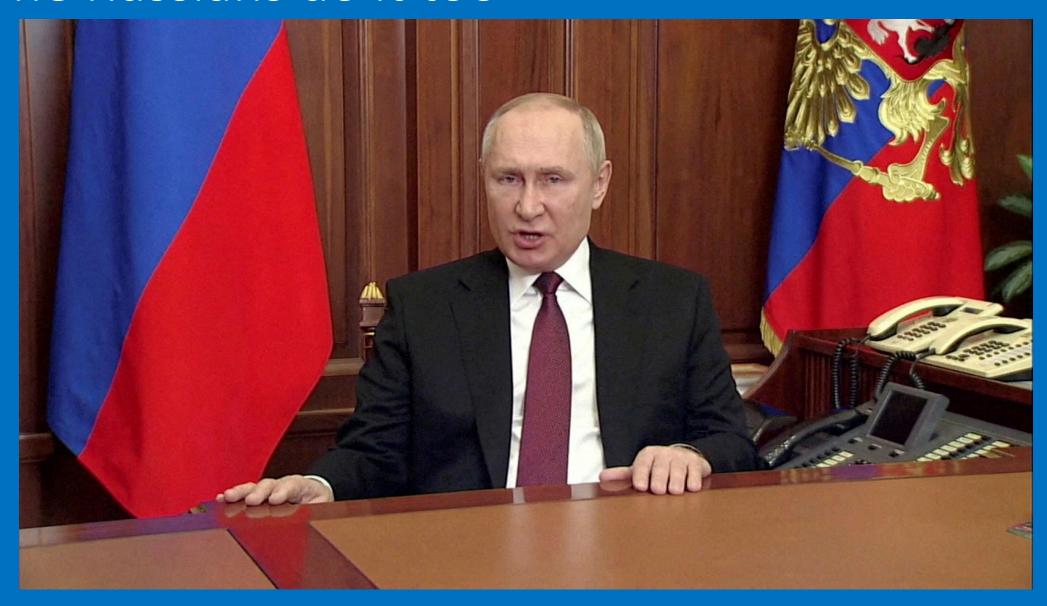
https://www.dgregscott.com/information-warfare-is-a-cybersecurity-thing-duh/



January 6, 2021



The Russians do it too



What do we do about it?

Social media companies

- Ad-hoc censorship was a knee-jerk reaction and self-defeating.
- Adopt circuit breakers, similar to stock market circuit breakers.
- Amplify opposing points of view.
- But business models built on maximizing emotional engagement.

The public

- Learn to understand how social media companies make money.
- Think before sharing.
- Seek out opposing points of view.

Email hygiene

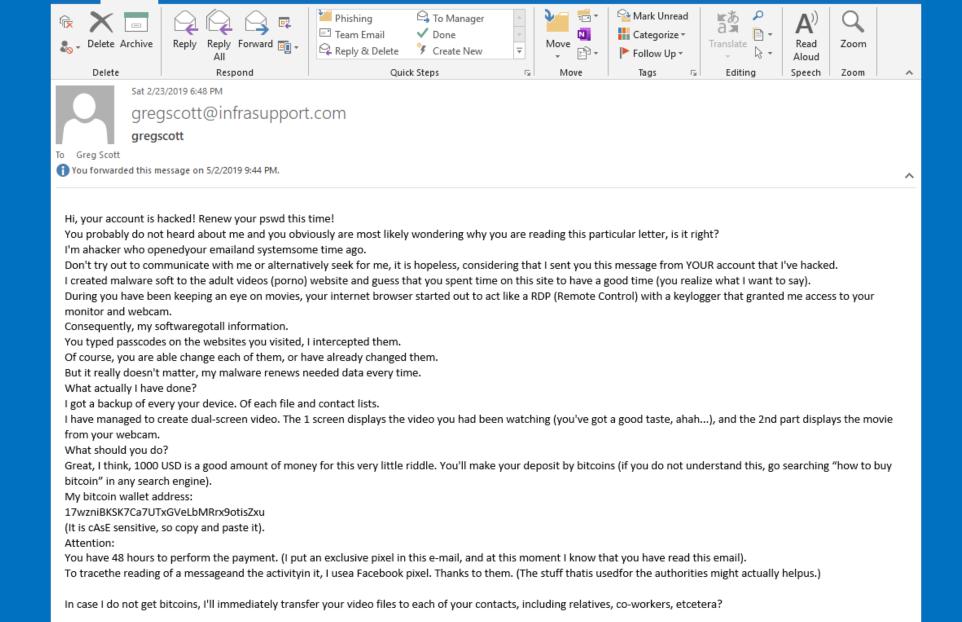












For lots of phishing samples, see https://www.dgregscott.com/category/phishy-emails/

Patching



Authentication

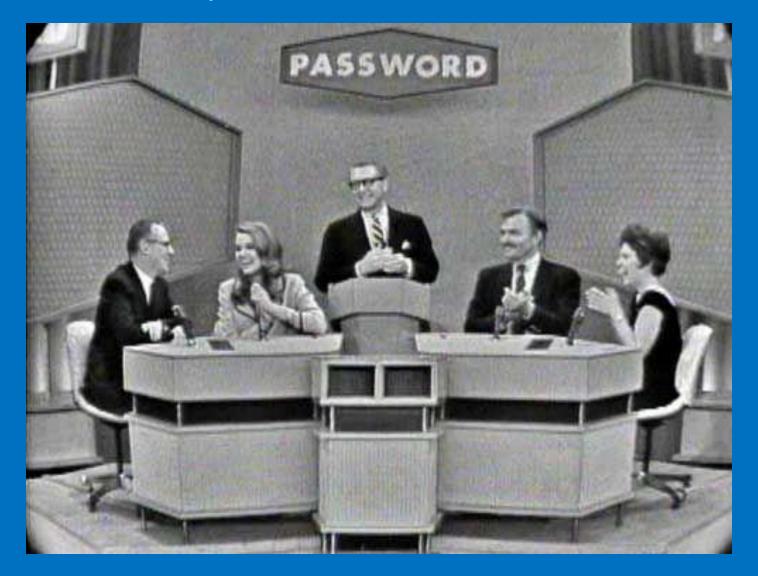


Trust



See https://www.dgregscott.com/internet-trust-mini-seminar/

Passwords/Passphrases



Which do you like better?

A complex password with random characters: jHdfgy&4Jq*7

Or

A good passphrase: goodpassphrasesbeatcomplexpasswords

Goodpassphr@ses

See

https://www.dgregscott.com/passwords-must-die-long-live-passphrases/

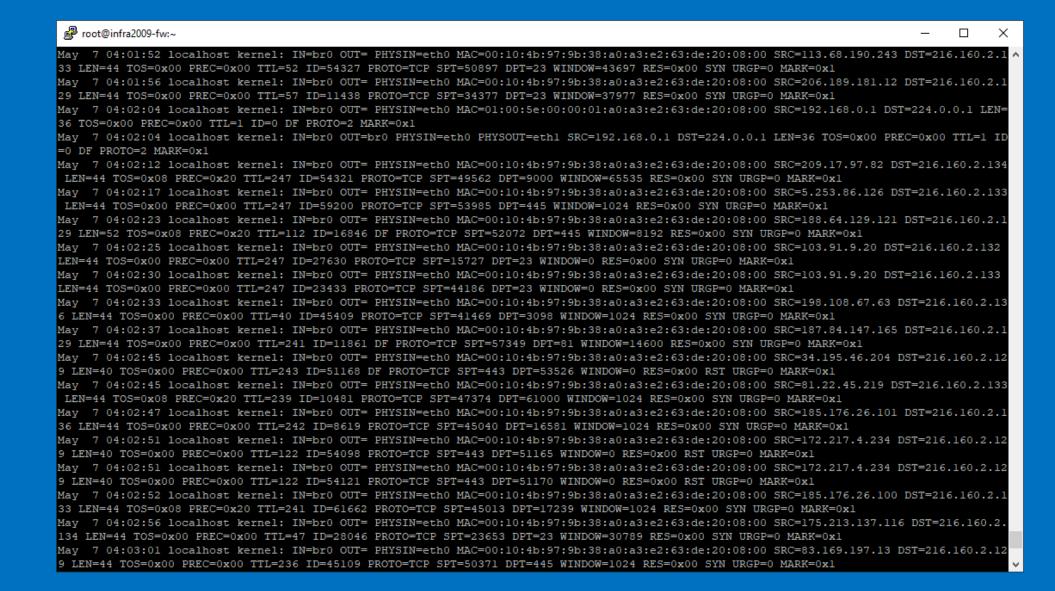
Backups



Mobility



Tech Tools



Awareness



"I don't have time for this. Just tell me what I need to know in 25 words or less."



Everything busy leaders need to know about cyber-security

Distilled into a six word rhyme anyone can remember.

Care and share to be prepared.

Everything flows from that.



"We take security seriously."

Care!!

Message to busy business leaders:

- Pay more than lip service.
- Or enjoy the consequences of the next incident.

Share

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 they 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.

Alfred Charles Hobbs, "Rudimentary Treatise on the Construction of Locks," edited by Charles Tomlinson, published in 1853, page 2.

Also see https://www.dgregscott.com/a-radical-not-so-new-idea-to-stop-the-daily-barrage-of-data-breaches/

Which do you prefer?

Embarrassment during peer reviews with other good guys?

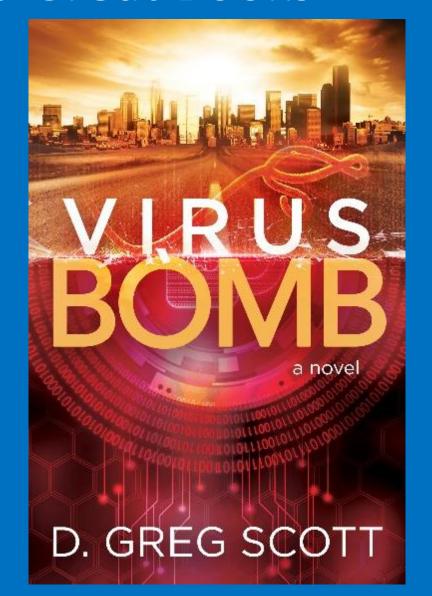
Or...

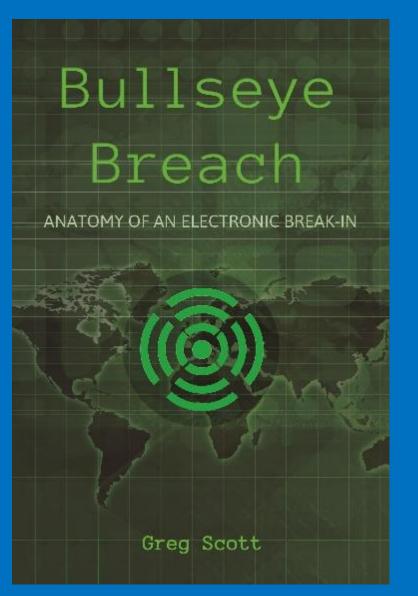
Embarrassment or worse in front of the whole world after somebody plunders you?

I practice what I preach. See

https://www.dgregscott.com/time-to-man-up-swallow-my-pride/

Two Great Books





Security is a process, not an event

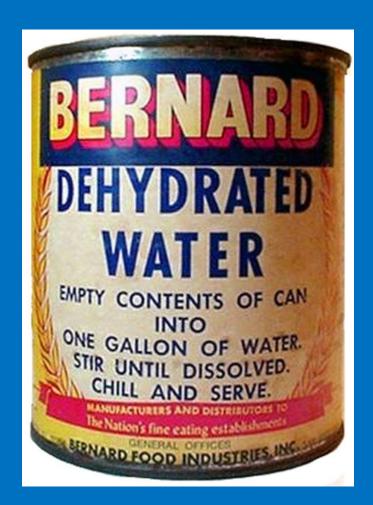
- Share what you learn with other good guys.
- Expect Demand other good guys share what they learn with you.
- Apply what you learn; repeat and refine continuously.

Security is a process, not an event.



Resistance is not futile.

Con games are alive and well today and live on the Internet



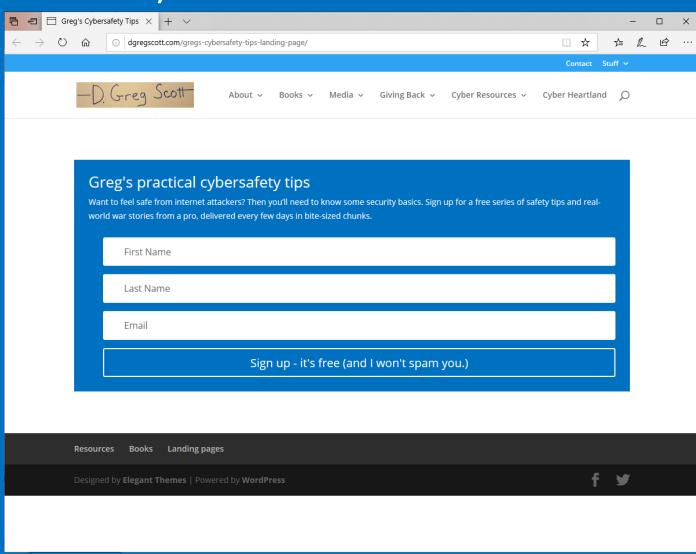
For a great satire blog post, see:

https://www.dgregscott.com/social-media-mobs-notjust-fringe-groups-any-more/

One more plug

To opt in and get these tips delivered to your inbox:

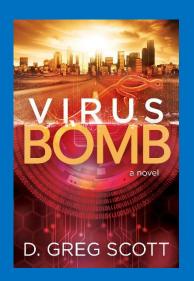
- Go to my website
- Click the big red button
- Fill out the form

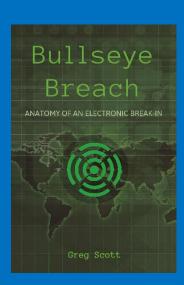


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Twitter: DGregScott

LinkedIn: https://www.linkedin.com/in/dgregscott/

Facebook: https://www.facebook.com/D-Greg-Scott-author-112197323547623

Youtube: "Greg Scott Public Videos" at

https://www.youtube.com/channel/UCBtDWsqzMZ RB941 F4cnRQ