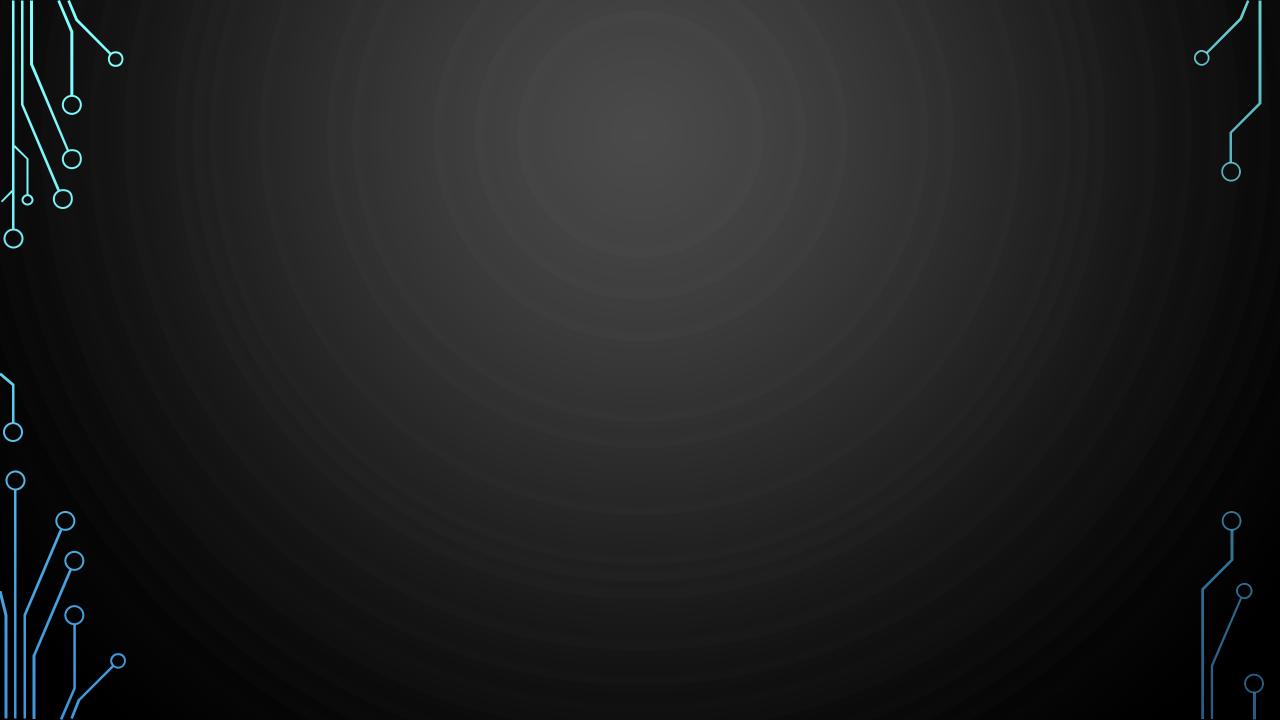
CYBERCRIMES: NEW PRIVACY CONCERNS, NEW LAWS, NEW PROBLEMS, & NEW SOLUTIONS

DONALD H. FLANARY III, Flanary Law Firm, PLLC

State Bar of Texas 44TH ANNUAL ADVANCED CRIMINAL LAW July 23-26, 2018 San Antonio



CYBERCRIMES



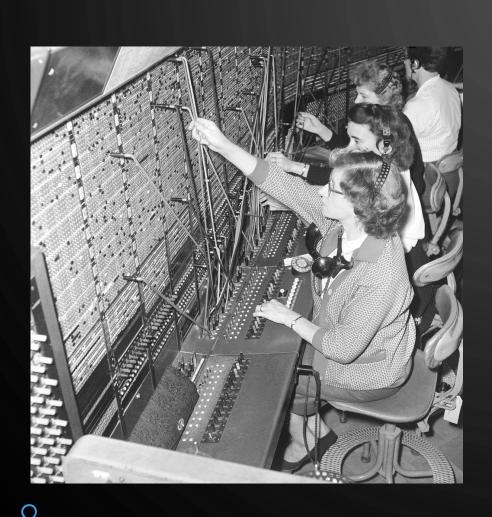
BE AFRAID, BE VERY AFRAID!!!



TOP 5 CYBERSECURITY FACTS:

- 1. Cyber crime damage costs to hit \$6 trillion annually by 2021
- 2. Cybersecurity spending to exceed \$1 trillion from 2017 to 2021
- 3. Cyber crime will more than triple number of unfilled cybersecurity jobs which is predicted to reach 3.5 million by 2021
- 4. Human attack surface to reach <u>6 billion people</u> by 2022
- 5. Global ransomware damage costs exceeded \$5 billion in 2017

HISTORY OF HACKING





CYBERCRIME IS THOUGHT OF AS MODERN WARFARE...

BUT HACKING HAS BEEN AROUND LONGER THAN YOU THINK...

1878 **EARLY TELEPHONE CALLS**

In 1878, Bell Telephone Company was forced to kick a group of teenage boys off the telephone system in for repeatedly and intentionally misdirecting and disconnecting customer calls.



1903 WIRELESS TELEGRAPH

- The discovery of electromagnetic waves in the late 19th century paved the way for the invention of the wireless telegraph.
- In 1903, magician and inventor Nevil Maskelyne disrupted the first public demonstration of Marconi's 'secure' wireless telegraphy technology by sending insulting Morse code messages discrediting the invention.



1939-1945 MILITARY CODEBREAKING

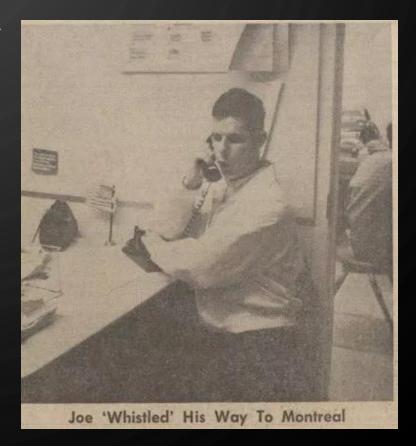
During the WWII, huge military operations were dedicated to breaking the codes and ciphers used by the Axis Powers to transmit top-secret information.

Allied powers developed an electromechanical device capable of deciphering the German encrypted message "Enigma" machine.



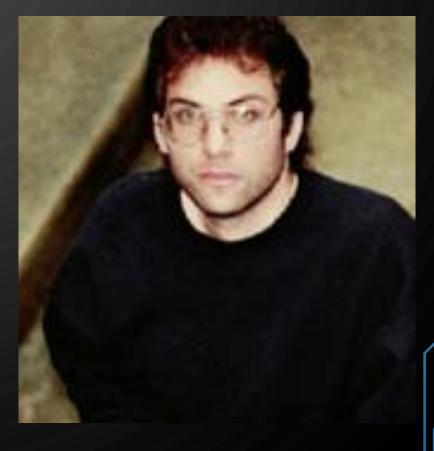
1957-1980 THE RISE OF THE PHONE PHREAKS

- Phone hackers, first emerged in the late 1950s and would listen to tones to figure out how calls were routed. Joe Engressia, aka Joybubbles, was a blind seven-year-old boy with perfect pitch.
- In 1957 he heard a high-pitched tone on a phone line and began whistling along to it at a frequency of 2600Hz
- Other phreakers included John Draper, known as 'Captain Crunch' for his use of a whistle found in a box of Cap'n Crunch cereal, and Apple founders Steve Wozniak and Steve Jobs, who in 1975 began building 'blue boxes', electronic devices that communicated with phone lines.



1970-1995 KEVIN MITNICK

- One of the most notorious hackers in internet history
- From the 1970s until 1995 Mitnick penetrated some of the most highly-guarded networks in the world, including those of Motorola and Nokia.
- Mitnick used elaborate social engineering schemes, tricking insiders into handing over codes and passwords and using the codes to access internal computer systems.
- He was driven by a desire to learn how such systems worked, but became the most-wanted cyber-criminal of the time. Mitnick was jailed twice, in 1988 and 1995, and was placed in solitary confinement.



SOCIAL ENGINEERING

• Social engineering is person-to-person communication used to elicit unauthorized information or access to a system.

Over time, telephone companies, notably Bell Telephone, created automated systems to decrease human interaction, thereby increasing call volume and decreasing costs through automation.

REMEMBER WARGAMES?

REMEMBER WARGAMES?





FOUR TYPES OF MALICIOUS ACTIVITY

- Hacking
- Cracking
- Extortion
- Destruction
- Theft and Conversion



Hacking uses software and person-to-person techniques to obtain access.

Cracking involves modifying or deploying software to alter the system to create access.

Hacking is like the key whereas Cracking is like the hammer.

CRACKING IS WHAT MOST PEOPLE THINK OF WHEN THEY THINK OF HACKERS

- Cracking involves creating and injecting ready-made or custom-built computer
 code to change how the system operates or processes data/requests.
- As cracking involves altering the nature of the system, it damages its functionality, either recklessly or negligently.
- Cracking requires a great deal of knowledge and skill to crack a computer system.

CRACKING AND HACKING FOR SALE

- Cracking and hacking services can be purchased online, either through the darkweb or social media.
- Services range from off-the-shelf software to custom-created code and services.



There are a many hacking tools available online. Chinese and Eastern European criminal conglomerates sell software packages and services designed to illegally hack computer systems.

CHINESE CYBERCRIME GANGS

• Chinese cybercrime gangs are involved in the entire gamut of cybercrimes, from selling illicit software to hack or disable a website to custom service requests tailored for the client. Prices are negotiable, typically with a fifty percent deposit due on agreement; the balance due on completion

WANTED BY THE FBI

Conspiring to Commit Computer Fraud; Accessing a Computer Without Authorization for the Purpose of Commercial Advantage and Private Financial Gain; Damaging Computers Through the Transmission of Cound Commands; Augravated Identity Theft: Economic Espionage; Theft of Trade Secrets

WANG DONG



Aliases: Jack Wang, "UglyGorilla

DETAIL

On May 1, 2014, a grand jury in the Western District of Pennsylvania indicted five members of the People's Liberation Army (PLA) of the People's Republic of China (PRC) for 31 criminal counts, including: conspiring to common computer fraucia, accessing a computer without authorization for the purpose of commercial advantage and private financial gain; damaging computers through the transmission of code and commands; aggravated identity theft; economic espionage; and the foll frade secrets.

The subjects, including Wang Dong, were officers of the PRC's Third Department of the General Staff Department of the People's Liberation Army (3PLA), Second Bureau, Third Office, Military Unit Cover Designator (MUCD) 61398, at some point during the investigation. The activities executed by each of these individuals allegedly involved in the conspiracy varied according to his specialties. Each provided his individual expertise to an alleged conspiracy to penetrate the computer networks of six American companies while those companies were engaged in negotiations or joint ventures or were pursuing legal action with, or against, state-owned enterprises in China. They then used their illegal access to allegedly sets alproprietary information including, for instance, e-mail exchanges among company employees and trade secrets related to technical specifications for nuclear plant designs. Wang controlled victim computers.

If you have any information concerning this person, please contact your local FBI office or the nearest America Embassy or Consulate.

ETHICAL HACKING — PENTESTING OPERATING SYSTEMS

• "Ethical Hacking" (or "White Hat Hacking") is the deployment of tools and techniques to test the integrity of a system. This deployment by a system administrator or information security officer is called "Pentesting". Pentesting, short-hand for Penetration Testing, is ethical hacking used to discover system and security weaknesses.

ETHICAL HACKING

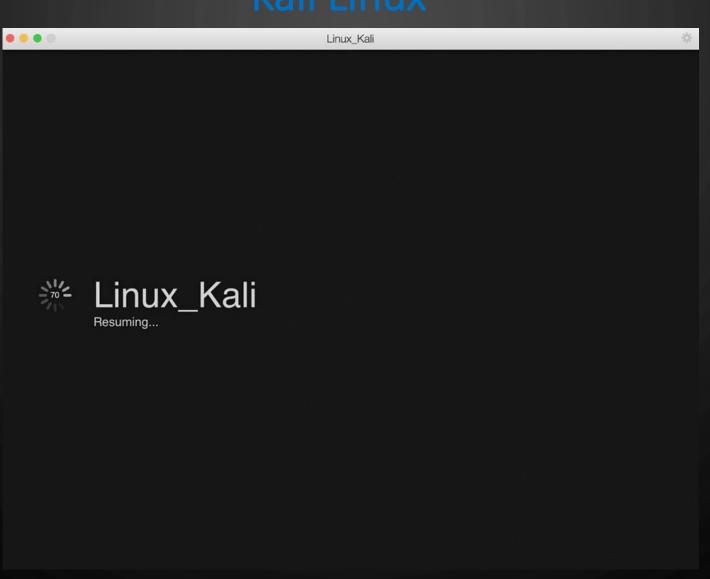
Ethical Hacker Vs. Hacker

Ethical Hacker	Hacker
Done legally with permission of the relevant organization	Done illegally without the consent of the relevant organization
Done in an attempt to prevent malicious attacks from being successful	Done in an attempt to make malicious attacks possible
Disclose any vulnerabilities discovered	Exploit discovered vulnerabilities

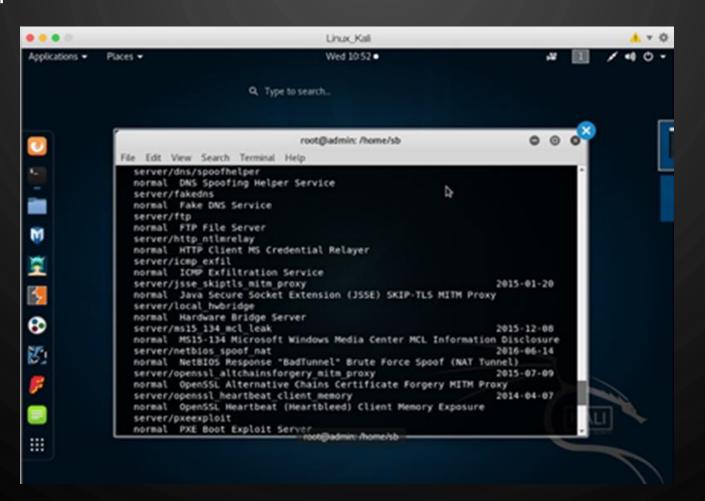
PENETRATION TESTING - "PENTESTING"

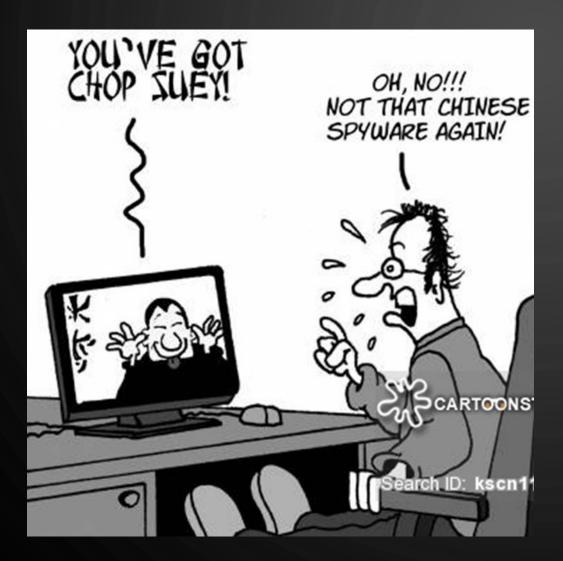
• One of the more popular pentesting facets is the pentesting operating system. These operating systems are used to hack computers. Examples include Parrot OS, Network Security Toolkit, Pentoo Linux, Samurai Web Testing Framework, BlackBox, Caine OS, and Kali Linux. The most popular is arguably Kali Linux.

Pentesting Operating Systems **Kali Linux -**



The software is a command line application. A flashing prompt is displayed in what is known as a terminal. The user **must** know the commands to use the software. **If you do not know the command lines, you cannot use the software.** Careful study and practice is needed to utilize the software.





The American, Russian, and Eastern European markets traffic on **Darknet markets**.

Chinese cybercrime gangs are involved in the entire gamut of cybercrimes, from selling illicit software to hack or disable a website to custom service requests tailored for the client.

MUHAHAHAHA!!!

EXTORTION!!! MUHAHAHAHA!!!

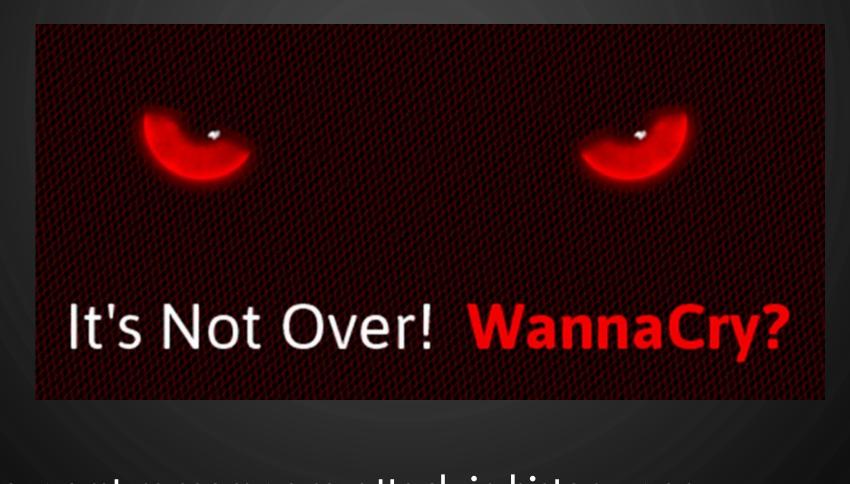


Extortion of existing computer resources primarily takes two forms: making existing victim-owned software unusable and brute threats. The former is known as Ransomware, which is designed to encrypt a systems data pending a payment for release.



RANSOMWARE

- Ransomware is malicious software that either prevents a user from accessing a computer system or encrypts existing data until a ransom is paid (usually in Bitcoin).
- Ransomware is designed to encrypt a system's data pending a payment for release. Oftentimes the data is not released, but is destroyed or remains encrypted.
- Ransomware is commonly delivered via email or through visiting a website



The worst ransomware attack in history was WannaCry, launched in 2017. In four days WannaCry had spread to over 250,000 computers.

WannaCry encrypts the hard drive, preventing access to user files. WannaCry demanded \$200 in bitcoin to release the data back to

the user.





Computer security software company, Symantec believes WannaCry is linked to The Lazarus Group, a cybercrime group suspected of ties with North Korea.

RANSOMWARE ON CELL PHONES

 Ransomware is evolving from computers to cell phones. "Porn **Droid**" targeted Android users. Hackers could remotely lock the phone by changing the PIN.







Activate device administrator?



Porn Droid

Android runtime libs importing



To continue, click 'Activate'.

This operation can't be cancelled.

Activating this administrator will allow the app Adobe Flash Player to perform the following operations:

Erase all data

Erase the phone's data without warning by performing a factory data reset.

Change the screen-unlock password Change the screen-unlock password.

Set storage encryption

Require that stored app data be encrypted.

CANCEL

ACTIVATE



The ransom was commonly \$500. Software security company Symantec estimates about 3% of "hostages" pay the ransom, usually negotiated down to \$200. Symantec estimated one specific ransomware group was generating \$34,000 daily.

Extortion

Behzad Mesri, who went by "Skote Vahshat" allegedly stole 1.5 terabytes of data from HBO in an effort to extort \$6 million worth of Bitcoin.

Included in the stolen data were unaired Emmy-award winning fantasy drama episodes of Game of Thrones (GOT)



BEHZAD MESRI

Computer Fraud - Unauthorized Access to a Protected Computer; Wire Fraud; Computer Fraud - Threatening to Impair the Confidentiality of Information; Computer Fraud - Threatening to Damage a Protected Computer/Impair the Confidentiality of Information; Interstate Transmission of an Extortionate Communication; Aggravated Identity Theft



HBO®



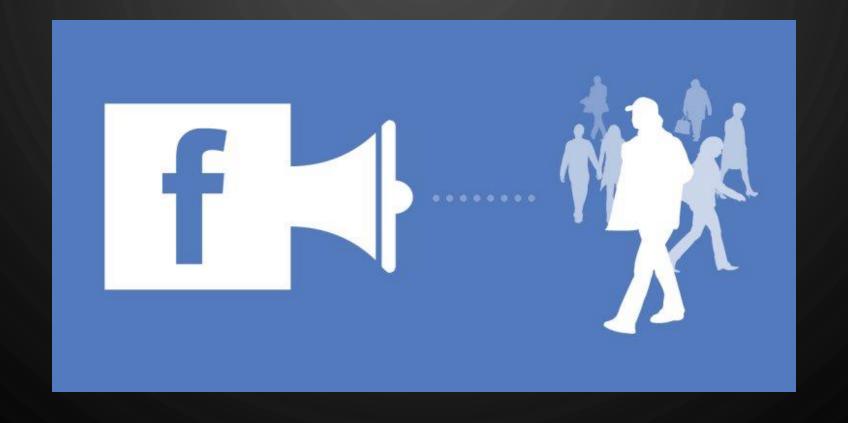
BLACKMAIL ATTACKS

• Blackmail attacks are an emerging threat where a hacker obtains access to Facebook, Google Drive, or a webcam to threaten the victim with revealing personally embarrassing photos or information (such as sexting or pornography habits). The goal of the attack is to convince the victim that the attacker has access to cellphone photos, online photos, and social media accounts. Sometimes the hacker does have access; often it's a bluff. The attacker threatens to disclose this information if payment is not rendered within a specific time.

WHAT IS THE BEST SOLUTIONS TO CAMERA HACKING?



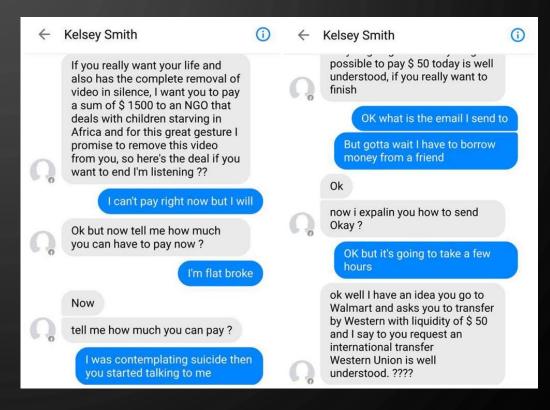
THINK ABOUT WHAT INFO YOU SHARE ON SOCIAL MEDIA!!





Actual Blackmail Attempt





DESTRUCTION



Malware is used to harm/disable a computer or an information system. Generally, malware consists of worms and viruses.



A worm can spread itself to a computer system, whereas a virus is usually introduced to a system via a "carrier", such as a legitimate document sent from one computer to another. Viruses can also spread through infected websites or emails

A worm harms a system by making capies of itself. These copies deplete system resources, such as consuming hard drive space (until the disk will no longer read/write) or sapping system resources, such as memory and bandwidth.





The most famous and effective worm of all time was **Stuxnet**.

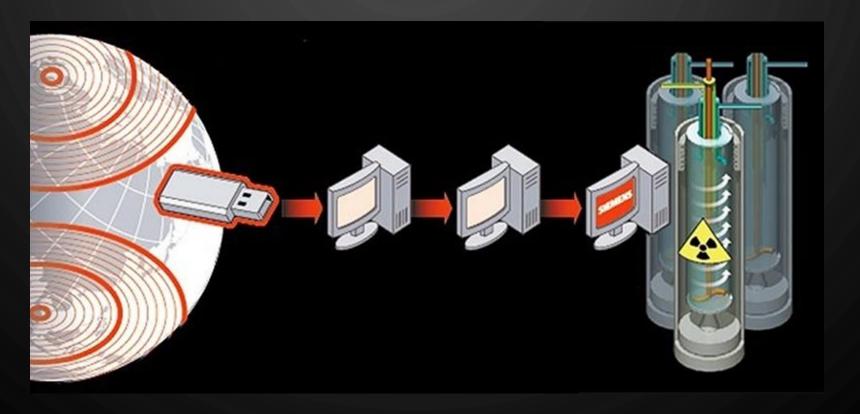
The NSA and Israeli Unit 8200 attacked the Iranian uranium enrichment program.

Considered the first digital weapon, the worm had one purpose: alter the programmable logic controllers found on specific Siemens-manufactured Ouranium centrifuges.

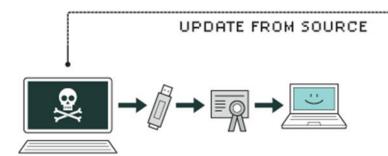


STUXNET ATTACKED IRANIAN NUCLEAR PROGRAM

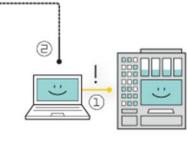
Stuxnet had to replicate itself to files and computers across the world until it found its way to the Natanz nuclear facility system.



HOW **STUXNET** WORKED







1. infection

 σ

Stuxnet enters a system via a USB stick and proceeds to infect all machines running Microsoft Windows. By brandishing a digital certificate that seems to show that it comes from a reliable company, the worm is able to evade automated-detection systems.

2. search

Stuxnet then checks whether a given machine is part of the targeted industrial control system made by Siemens. Such systems are deployed in Iran to run high-speed centrifuges that help to enrich nuclear fuel.

3. update

If the system isn't a target, Stuxnet does nothing; if it is, the worm attempts to access the Internet and download a more recent version of itself.







4. compromise

The worm then compromises the target system's logic controllers, exploiting "zero day" vulnerabilities-software weaknesses that haven't been identified by security experts.

5. control

In the beginning, Stuxnet spies on the operations of the targeted system. Then it uses the information it has gathered to take control of the centrifuges, making them spin themselves to failure.

6. deceive and destroy

Meanwhile, it provides false feedback to outside controllers, ensuring that they won't know what's going wrong until it's too late to do anything about it.

The Massive Iranian Hacking Incident of 2018



In March of 2018, the Trump administration confirmed another cyber-attack when it announced that accounts belonging to roughly 8,000 different professors at hundreds of U.S. and foreign universities, private companies and even government entities were successfully broken into.

THEFT AND CONVERSION

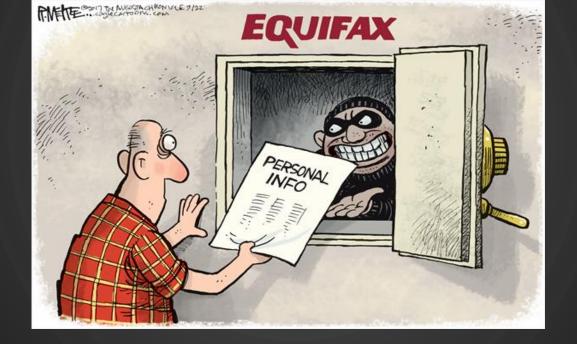
- Conversion of property is rampant on the online black markets known as Darknet Markets.
- Darknet vendors sell active memberships to online services, such as entertainment websites Netflix, Hulu, HBO Now, and Crunchyroll.
- Other account types are available, including music services such as Spotify and pornography memberships.

THEFT AND CONVERSION

- These account credentials are harvested through various passive and active means,
 such as phishing scams and trolling low-security website communities.
- Many users use the exact same usernames and passwords across different sites.
- Some sites become "honeypots" for harvesting usernames and passwords for service sites, such as Netflix and Hulu.
- These credentials are sold online for usually \$5 for unlimited access to Netflix until the actual owner changes the password.
- Other services, like HBO, Spotify, and pornography credentials, are also available.

In 2017, the Equifax web application tool, which is used by many major corporations, was compromised after the company failed to promptly install a security fix. Hackers took advantage of that flaw and stole personal data.





Roughly 2.4 million of those affected by the breach only had their name and a portion of their driver's license numbers leaked, but millions of others had private information stolen, including full names, social security numbers, birthdates, address, and credit card numbers along with expiration dates.



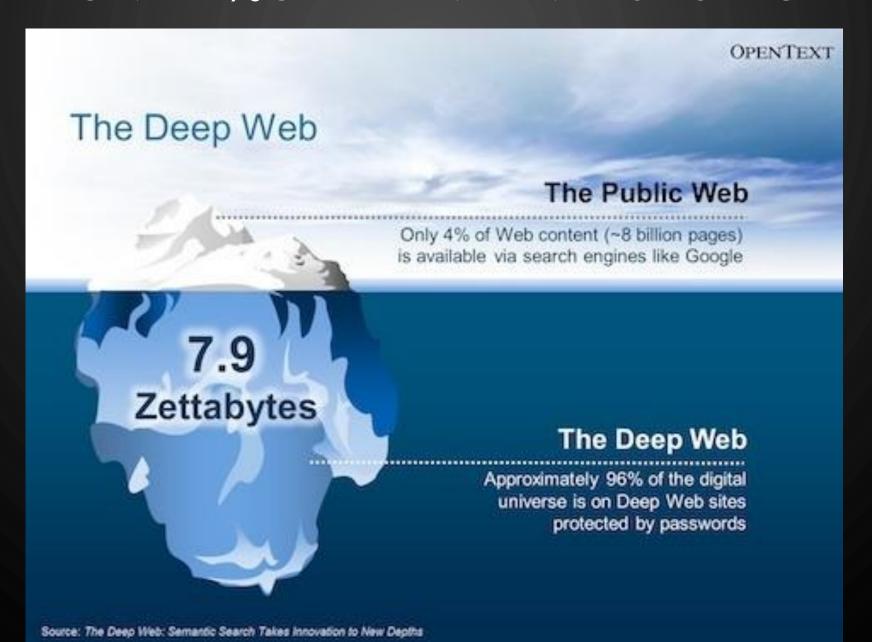
March of 2018, Equifax reported that total number of American affected by the massive breach reached 147.9 million.



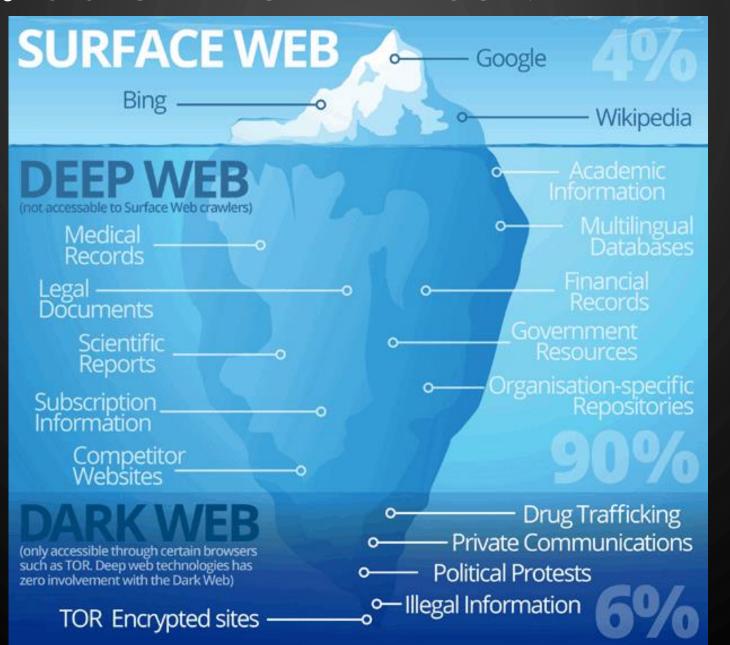
DEEP WEB vs. DARK WEB

- <u>Deep Web</u>: It's all the data behind firewalls. Think user databases, business intranets, web archives, password-protected websites, etc.
- Dark Web: refers to a set of accessible, albeit anonymously hosted, websites that exist within the Deep Web.

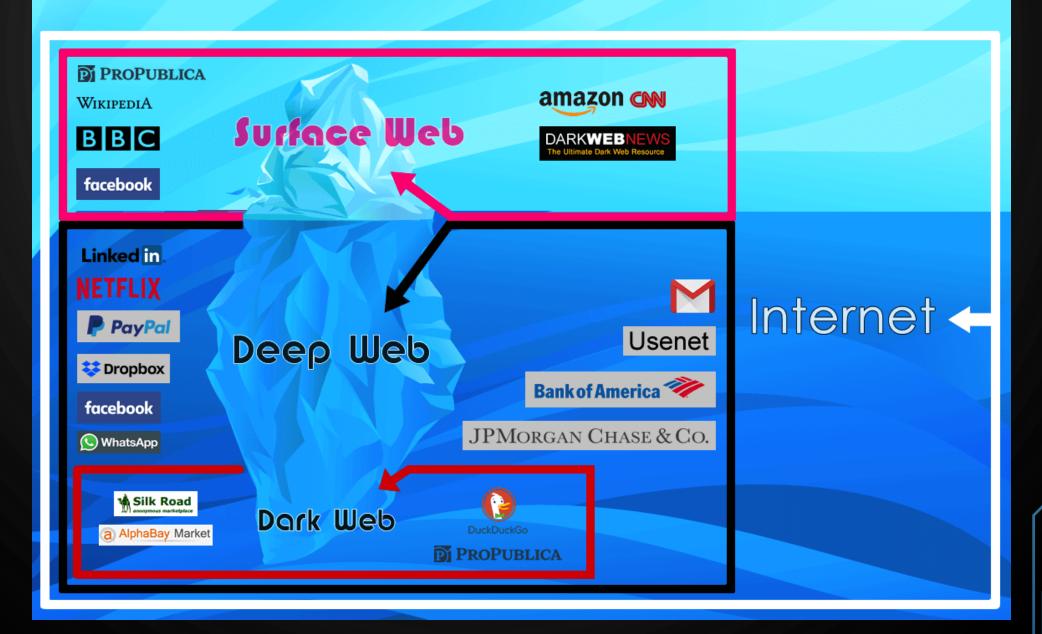
ONLY 4%OF THE INTERNET IS PUBLIC



90% IS SECRET FOR A REASON = DEEP WEB

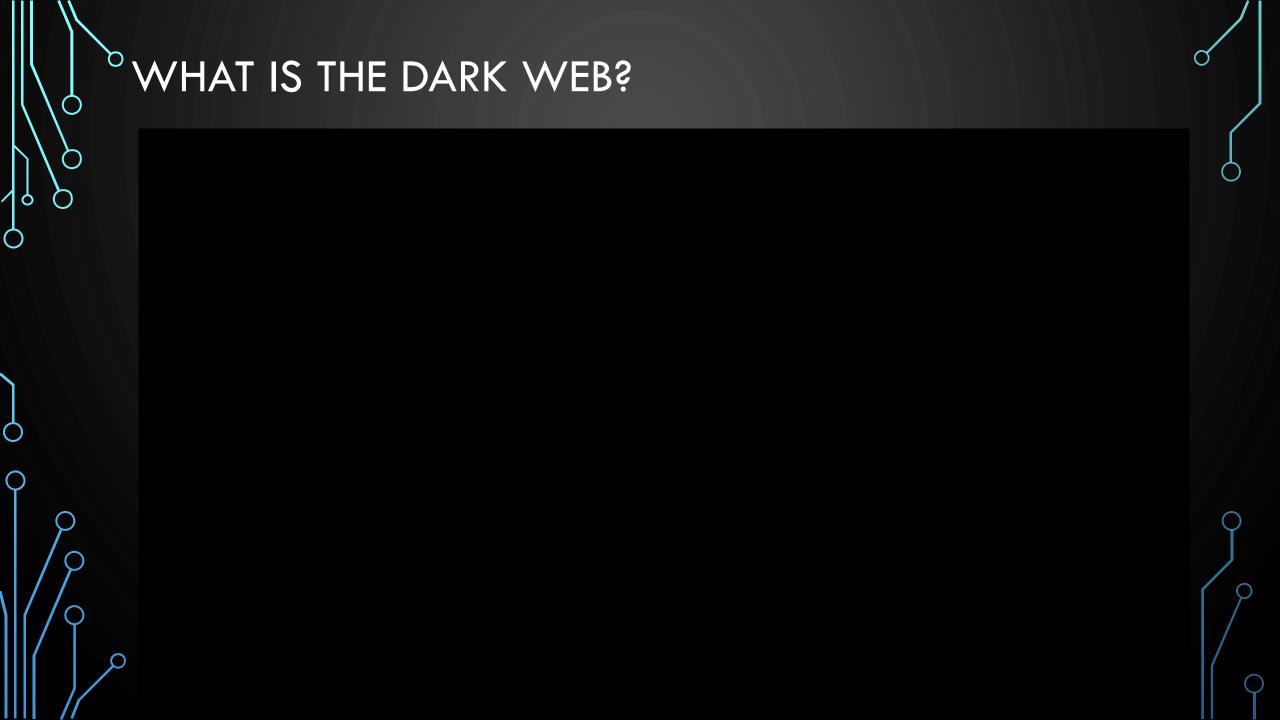


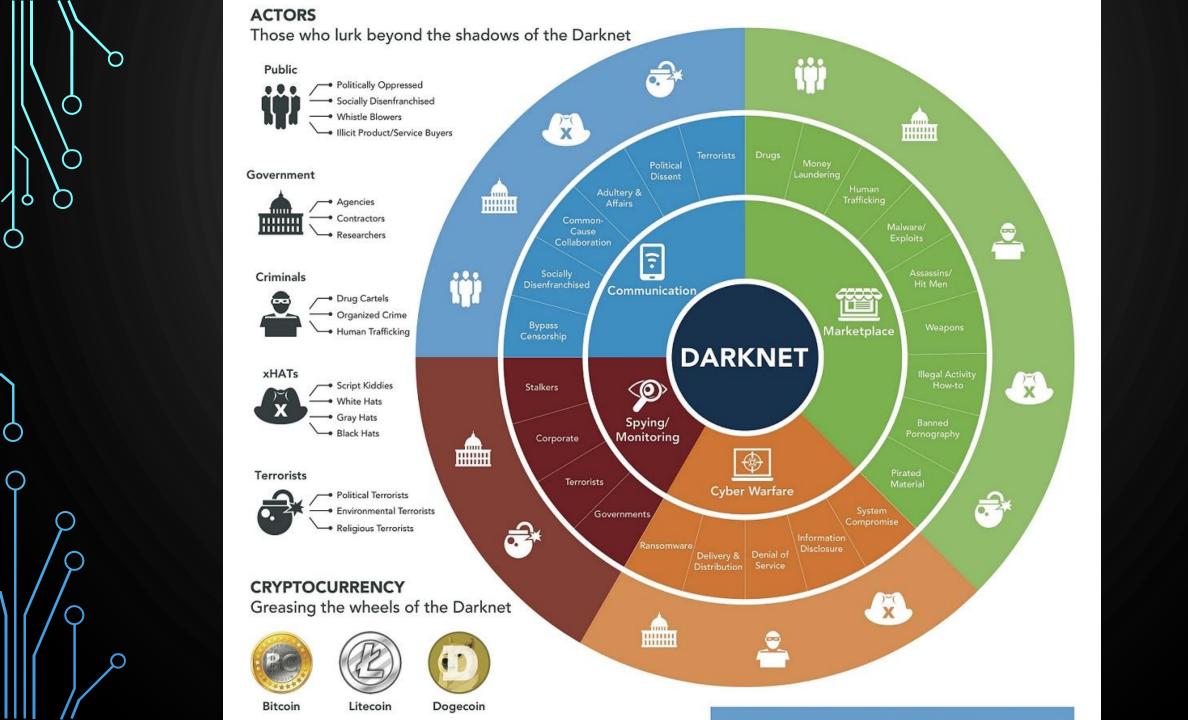
Internet > Deep Web > Dark Web



WHAT IS ACTUALLY IN THE DARK WEB?

FILE SHARING				29%
LEAKED DATA				28%
FINANCIAL FRAUD				12%
NEWS MEDIA				10%
PROMOTION				6%
DISCUSSION FORUM				5%
DRUGS				4%
INTERNET/COMPUTING				3%
HACKING				3%
PORNO/FETISH				1%
WEAPONS				0.3%
OTHER				0.1%
7-				







Most Darknet markets are on the Deepweb. The Darknet takes advantage of the Deepweb system. The Deepweb allows for sites that want traffic to be configured and hide in the vastness of the Deepweb. These "hidden services" hide the IP address, and ultimately the physical address, because IP's are assigned and known.

Darknet Markets

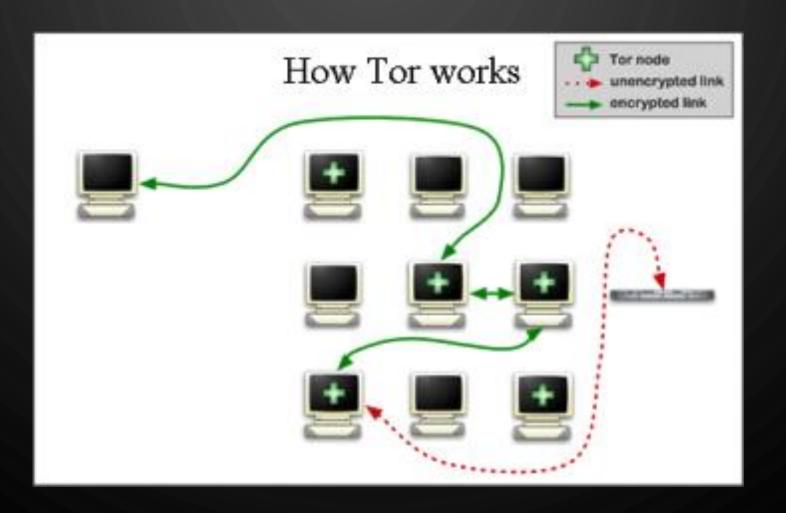


Tor Browser Icon

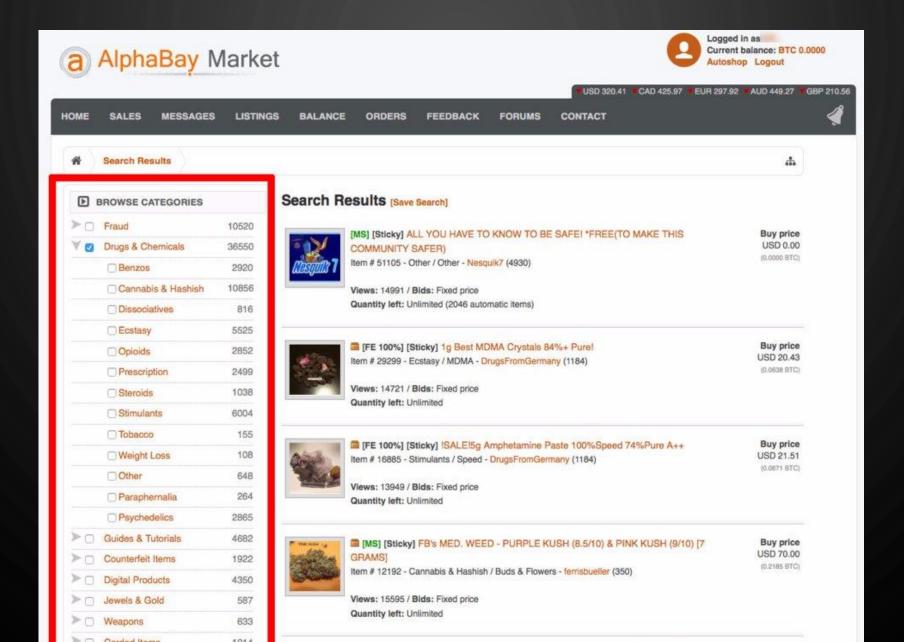
Tor can be used to connect to **Darknet** markets.

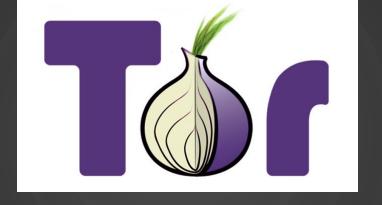
Darknet markets are online retailers, similar to eBay, that matches private buyers with sellers for illegal transactions.

Tor, a software developed in the 1990's to support government espionage. The **United States Navy developed Tor** to help people use the internet **anonymously** throughout the world; regardless if a country's internet was **monitored** and **restricted**.



SILK ROAD IS GONE BUT...





- Commonly purchased items include:
- drugs,
- hacking software,
- hacking services,
- stolen passwords and logins,
- fake documents (such as prestigious degrees),
- credit card information,
- hacker appliances,
- firearms, and illegal 3D printed items (such as serialized firearm parts).

CELL SITE SIMULATORS - IMSI CATCHERS STINGRAY AND KINGFISH

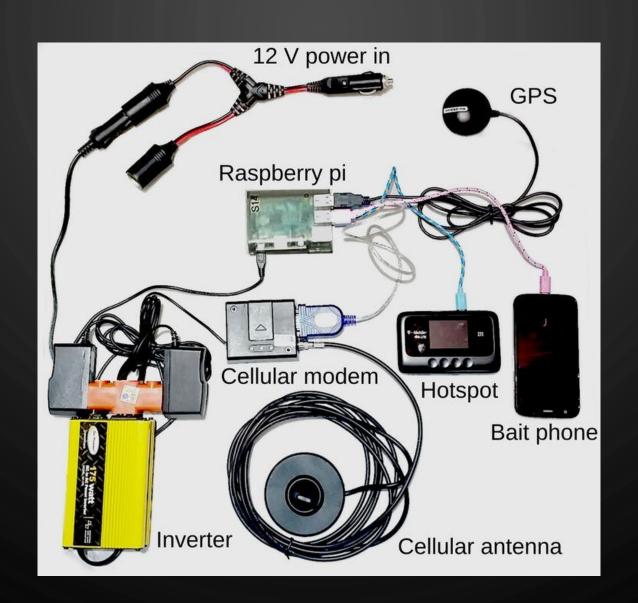




IMSI CATCHERS ACT AS WI-FI



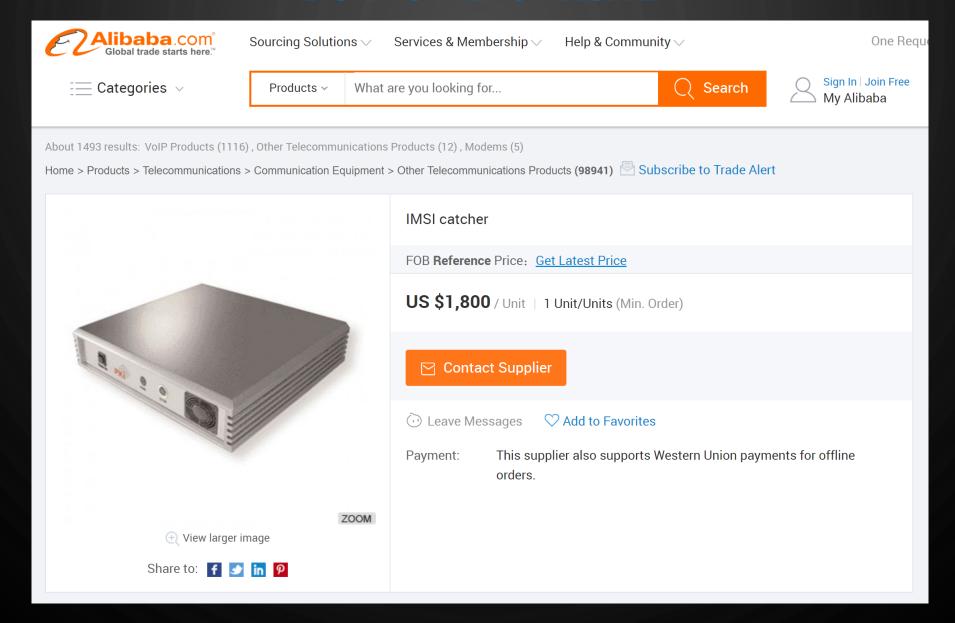
MAKE YOUR OWN IMSI



IMSI CATCHERS



BUY ONE ONLINE



BE AFRAID, BE VERY AFRAID!!!



LAWS TO FIGHT CYBERCRIMES



COMPUTER FRAUD AND ABUSE ACT (CFAA 1986)



The CFAA criminalizes entering a computer without authorization, or exceeding authority within a computer system; recklessly/negligently damaging a computer through intentional access; computer extortion; trafficking in passwords; and intentional damage through knowing transmission.

18 USC 1030 FRAUD AND RELATED ACTIVITY IN CONNECTION WITH COMPUTERS

- 1. Computer Espionage
- 2. Obtaining Information by Unauthorized Computer Access
- 3. Trespassing in Government Cyberspace
- 4. Computer Fraud
- 5. Causing Computer Damage
- 6. Trafficking in Computer Access
- 7. Extortionate Threats

18 U.S.C. § 1030 (a)(1): OBTAINING NATIONAL SECURITY INFORMATION

Whoever having knowingly accessed a computer without authorization or exceeding authorized access, and by means of such conduct having obtained information that has been determined by the United States Government pursuant to an Executive order or statute to require protection against unauthorized disclosure for reasons of national defense or foreign relations, or any restricted data, as defined in paragraph y. of section 11 of the Atomic Energy Act of 1954, with reason to believe that such information so obtained could be used to the injury of the United States, or to the advantage of any foreign nation willfully communicates, delivers, transmits, or causes to be communicated, delivered, or transmitted, or attempts to communicate, deliver, transmit or cause to be communicated, delivered, or transmitted the same to any person not entitled to receive it, or willfully retains the same and fails to deliver it to the officer or employee of the United States entitled to receive it...

LATEST MUELLER INDICTMENT OF RUSSIANS

IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF COLUMBIA

UNITED STATES OF AMERICA

VIKTOR BORISOVICH NETYKSHO,
BORIS ALEKSEYEVICH ANTONOV,
DMITRIY SERGEYEVICH BADIN,
IVAN SERGEYEVICH YERMAKOV,
ALEKSEY VIKTOROVICH
LUKASHEV,
SERGEY ALEKSANDROVICH
MORGACHEV,
NIKOLAY YURYEVICH KOZACHEK,
PAVEL VYACHESLAVOVICH
YERSHOV,
ARTEM ANDREYEVICH
MALYSHEV,

Defendants.

ALEKSANDR VLADIMIROVICH

ALEKSEY ALEKSANDROVICH POTEMKIN, and ANATOLIY SERGEYEVICH KOVALEV.

OSADCHUK.

CRIMINAL NO.

(18 U.S.C. §§ 2, 371, 1030, 1028A, 1956, and 3551 et seq.)

RECEIVED

JUL 13 2018

Clark, U.S. District & Bankruptey Courts for the District of Columbia

INDICTMENT

The Grand Jury for the District of Columbia charges:

COUNT ONE

(Conspiracy to Commit an Offense Against the United States)

1. In or around 2016, the Russian Federation ("Russia") operated a military intelligence agency called the Main Intelligence Directorate of the General Staff ("GRU"). The GRU had multiple units, including Units 26165 and 74455, engaged in cyber operations that involved the staged releases of documents stolen through computer intrusions. These units conducted large-scale cyber operations to interfere with the 2016 U.S. presidential election.

18 U.S.C. § 1030 (a)(2): ACCESSING A COMPUTER AND OBTAINING INFORMATION

Whoever intentionally accesses a computer without authorization or exceeds authorized access, and thereby obtains—

- (A) information contained in a financial record of a financial institution, or of a card issuer as defined in section 1602(n) of title 15, or contained in a file of a consumer reporting agency on a consumer, as such terms are defined in the Fair Credit Reporting Act (15 U.S.C. 1681 et seq.);
- (B) information from any department or agency of the United States; or
- (C) information from any protected computer

18 U.S.C. § 1030 (a)(3): TRESPASSING IN A GOVERNMENT COMPUTER

Whoever intentionally, without authorization to access any nonpublic computer of a department or agency of the United States, accesses such a computer of that department or agency that is exclusively for the use of the Government of the United States or, in the case of a computer not exclusively for such use, is used by or for the Government of the United States and such conduct affects that use by or for the Government of the United States.

18 U.S.C. § 1030 (a)(4): COMPUTER FRAUD

Whoever knowingly and with intent to defraud, accesses a protected computer without authorization, or exceeds authorized access, and by means of such conduct furthers the intended fraud and obtains anything of value, unless the object of the fraud and the thing obtained consists only of the use of the computer and the value of such use is not more than \$5,000 in any 1-year period;

18 U.S.C. § 1030 (a)(5): CAUSING COMPUTER DAMAGE

- Whoever:
- (A) knowingly causes the transmission of a program, information, code, or command, and as a result of such conduct, intentionally causes damage without authorization, to a protected computer;
- (B) intentionally accesses a protected computer without authorization, and as a result of such conduct, recklessly causes damage; or
- (C) intentionally accesses a protected computer without authorization, and as a result of such conduct, causes damage and loss.

18 U.S.C. § 1030 (a)(6): TRAFFICKING IN COMPUTER ACCESS

Whoever knowingly and with intent to defraud traffics in any password or similar information through which a computer may be accessed without authorization, if--

- (A) such trafficking affects interstate or foreign commerce; or
- (B) such computer is used by or for the Government of the United States

18 U.S.C. § 1030 (a)(7): EXTORTIONATE THREATS

Whoever with intent to extort from any person any money or other thing of value, transmits in interstate or foreign commerce any communication containing any--

- (A) threat to cause damage to a protected computer;
- (B) threat to obtain information from a protected computer without authorization or in excess of authorization or to impair the confidentiality of information obtained from a protected computer without authorization or by exceeding authorized access; or
- (C) demand or request for money or other thing of value in relation to damage to a protected computer, where such damage was caused to facilitate the extortion;

18 U.S.C. § 2252– CHILD PORNOGRAPHY STATUTES

- Possession, Receipt, and Distribution of Child Pornography
- Topic for another Presentation

FBI's IC3

In 2000, the FBI established the Internet Fraud Complaint Center to serve as a tool for the public to easily report suspected internet-facilitated criminal activity and to develop effective alliances with law enforcement and industry partners.

In 2003, it was renamed the Internet Crime Complaint Center, or "IC3", to better reflect the vast amount of cyber crimes that are referred to it



Fight Online Sex Trafficking Act 2018 Stop Enabling Sex Traffickers Act 2018

FOSTA and SESTA toughen penalties for web services that facilitate prostitution. The goal was to reduce sex trafficking occurring legally online under previous laws that protected forums from content posted by third parties.

The most infamous sex-trafficking website was www.backpage.com. The site primarily hosted sex work advertisements. The site, and others, has undoubtedly been used to promote forced and coerced sexual activities from both adults and minors.





KILLING PERSONAL ADS — FOSTA-SESTA

- In April of 2018, President Trump signed into law a set of CONTROVERSIAL BILLS with the intention of fighting online illegal sex trafficking
- House Bill FOSTA (Fight Online Sex Trafficking Act)
- Senate Bill SESTA (Stop Enabling Sex Traffickers Act)
- Both were hailed by advocates as a victory for sex trafficking victims



THE PROBLEM — WHAT ABOUT "SAFE HARBOR?"

- Section 230 of the 1996 Communications Decency Act holds:
 - "No provider or user of an interactive computer service shall be <u>treated as the publisher or speaker of any</u> <u>information provided by another information content provider."</u>

THE PROBLEM — WHAT ABOUT "SAFE HARBOR?"

• FOSTA-SESTA creates an exception to Section 230 that means website publishers would be responsible if third parties are found to be posting ads for prostitution — including consensual sex work — on their platforms.

THE PROBLEM — WHAT ABOUT "SAFE HARBOR?"

• In response, numerous websites took action to censor or ban parts of their platforms in response — not because those parts of the sites actually were promoting ads for prostitutes, but because policing them against the outside possibility that they might was just too hard.

THE PURPOSE — ELIMINATING BACKPAGE

 FOSTA-SESTA were intended specifically to fight Backpage.com & similar sites



BACKPAGE.COM

- Backpage has long been known for its advertisements for sex workers (though these were formally removed from the site last year).
- As of late 2015, the site operated in nearly 900 cities around the world, and an independent appraiser <u>valued it at as much as \$626 million</u>.

BACKPAGE.COM

- Backpage saw numerous controversies related to illegal sex work; authorities have <u>arrested individuals</u> using it to pay for sex, and Backpage has <u>aided law enforcement in investigations</u> into ads on its site
- But despite numerous attempts, authorities have continuously failed to hold Backpage accountable for the illegal content published on it's site, largely because of Section 230

THE FIGHT TO TAKE BACKPAGE DOWN

- In 2016, California Attorney General Kamala Harris announced the charges against Carl Ferrer, Michael Lacey and James Larkin in October and called the site "the world's top online brothel." Ferrer, the Backpage CEO, faced 11 counts related to pimping; Lacey and Larkin, newspaper publishers who founded the site in 2004 and sold it a decade later, each faced one count of pimping conspiracy.
- In December of 2016, California's Superior Court dismissed all charges, citing the Communications Decency Act specifically in the dismissal

THE FIGHT CONTINUED

In January 2017, a Senate investigation ultimately found Backpage to be complicit in obscuring ads for child trafficking.



Backpage CEO, COO & Former owner being sworn in at Capitol Hill in January 2017

THE FIGHT CONTINUED

• A month later, a documentary of survivors called *I Am Jane*Doe focused on Backpage, arguing that the safe harbor provision protecting Backpage from liability for ads on its sites should be done away with.



THE FIGHT CONTINUED

•FOSTA and SESTA were created last year in response to the backlash, with the bill's creator <u>specifically</u> <u>naming Backpage</u> in an attempt to ensure that future lawsuits like the one dismissed in 2016 could move forward.

FOSTA-SESTA SKEPTICISM

- Law Professor Eric Goldman warned "The bill would expose Internet entrepreneurs to additional unclear criminal risk, and that would chill socially beneficial entrepreneurship well outside the bill's target zone"
- Critics argue that supporters of the bill fail to acknowledge the ways the internet makes it easier for sex workers to do their work safely, while also making it easier for law enforcement to document and gain evidence about illegal activity

FOSTA-SESTA SKEPTICISM

- A coalition of sex
 workers, advocates, sex trafficking
 survivors, and even the Department of
 Justice have all strongly opposed the
 idea that FOSTA-SESTA is an effective
 deterrent to sex trafficking
- Critics argue that the bills endanger adults who want to do their job
 consensually & safely



FOSTA-SESTA AT WORK

- FOSTA-SESTA does not differentiate between various kinds of sex work & related content
- This is big for states like NEVADA, where sex work can be done legally
- Despite these concerns, Congress overwhelmingly voted to pass both bills into law

FOSTA-SESTA AT WORK

- Instead of directly targeting websites known to facilitate sex trafficking, the FOSTA-SESTA hybrid essentially sets up a template for "broad-based censorship" across the web.
- This means websites will have to decide whether to overpolice their platforms for potential prostitution advertisements or to underpolice them so they can maintain a know-nothing stance, which would likely be a very tricky claim to prove in court.

FOSTA-SESTA AT WORK

- The <u>bill's language</u> penalizes any websites that "promote or facilitate prostitution," and allows authorities to pursue websites for "knowingly assisting, facilitating, or supporting sex trafficking," which is vague enough to threaten everything from <u>certain cryptocurrencies</u> to porn videos to sites for perfectly legal escort services.
- In short, the bills don't actually PREVENT sex work advertisements, they
 just let website owners know they have to SELF-POLICE

- 2 days after SESTA passed in the Senate, Craigslist removed its entire personals selection
- Another longstanding escort service,
 Cityvibe which tacitly hosted sex workers advertising under the guise of legal services like escorting and massages shut down altogether



• Furry-centric dating site Pounced.org also shut down ovwernight, leaving a lengthy note explaining that specific language in FOSTA undermined Section 230 in a way that made "sites operated by small organizations like pounced.org much riskier to operate."

- "We don't promote prostitution or sex trafficking...We're a personals site for the furry community. ... The problem is, with limited resources and a small volunteer staff, our risk for operating the site has now significantly increased."
 - Pounddog.com letter

- Internet freedom advocates have argued strenuously against FOSTA-SESTA
- •One of the <u>biggest fears</u> surrounding the bill combo is that it could <u>create room for more bills</u> that attempt to create even more exemptions in Section 230



Riley v. California — Data is Different

Privacy concerns of modern <u>cell phones</u> are <u>much higher</u> than other belongings

cellphones today "...are in fact minicomputers" that can easily be called "...cameras, video players, rolodexes, calendars, tape recorders, libraries, diaries, albums, televisions, maps, or newspapers."

Must have a warrant so search a cell phone

Get a warrant.

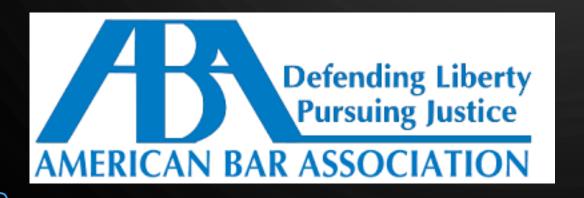
Riley v. California, 573 U.S. ___ (2014)

Does Riley apply to border searches?

From 2011 to 2017, the Department of Homeland Security (DHS) received roughly 250 complaints regarding individuals' laptops and phones being searched without a warrant as they crossed the United States border.



Lawyers have also been experiencing warrantless electronic searches of their belongings when traveling through the border. In April of 2017, the American Bar Association asked DHS to "require a subpoena based on probable suspicion" or a "warrant based on probable cause" before U.S. Customs and Border Protection (CBP) and Immigration and Customs Enforcement (ICE) search and review the content of lawyers' laptop computers, cell phones, or other electronic devices



VS.



• For the first time since *Riley*, a federal appellate court ruled in *United States v. Kolsuz* that forensic searches of electronic devices at the border require individualized suspicion that the traveler is involved in criminal wrongdoing. *United States v. Kolsuz*, 2018 WL 2122085 (4th Cir. May 9, 2018), as amended (May 18, 2018)



- <u>United States v. Kolsuz</u> involved a traveler found with firearm parts in his luggage and charged with arms smuggling
- After defendant was detained at Washington Dulles International Airport, Customs & Border Protection officers took his phone, <u>manually examined his recent</u>
 <u>communications</u>, and then transported the device elsewhere for <u>intensive forensic</u>
 <u>review</u>
- That month-long search, per the court, "yielded an 896-page report that included Kolsuz's personal contact lists, emails, messenger conversations, photographs, videos, calendar, web browsing history, and call logs, along with a history of Kolsuz's physical location down to precise GPS coordinates"

- The month long forensic search yielded nearly 900 pages of Defendant's person data, including:
 - Contact lists / Call logs
 - Emails / Messenger conversations
 - Photos / Videos
 - Calendar
 - Web browsing history
 - GPS history, etc.



- While defendant chose not to challenge the manual search or the seizure of his phone, Kolsuz moved to suppress the forensic report on the grounds that investigators should have been required to obtain a warrant first
- The district court denied the motion and (relying in part on the report)
 convicted him at trial, Kolsuz appealed the denial
- Although the Kolsuz court ultimately affirmed the conviction based on the good-faith exception, the Fourth Circuit ruled that <u>authorities may no longer</u> conduct forensic searches of electronic devices at the border without some degree of individualized suspicion

WHAT ABOUT THE FIFTH CIRCUIT?

- In March, the 5th Circuit decided **US v. Molina-Isidoro**
- In that case the defendant, Maria Isabel Molina-Isidoro's, cell phone was manually searched at the border, and data from the search was used to support a prosecution for attempting to import methamphetamine into the country



WHAT ABOUT THE FIFTH CIRCUIT?

- The court held that the <u>non-forensic search</u> of defendant's cell phone at the border <u>was</u>
 supported by <u>probable cause</u> and thus, at a minimum, the border patrol agents had a <u>good-faith basis</u> for believing the search did not run afoul of the Fourth Amendment
- Accordingly, the court affirmed defendants' drugrelated conviction and sentence



BORDER SEARCHES & THE ELEVENTH CIRCUIT

- In March of 2018, the Eleventh Circuit decided <u>United States v. Vergara</u>, where they rejected a child pornography defendant's argument that device searches require a warrant in the wake of *Riley*
- In Vergara, the defendant was returning home to Florida following a cruise to Cozumel, and had 3 phones in his possession
- Upon return, CBP agents manually searched one phone for about five minutes,
 discovering a picture of two topless female minors

BORDER SEARCHES & THE ELEVENTH CIRCUIT

- CBP notified DHS, who decided to have all three phones forensically examined and found more than 100 images and videos of child pornography
- Veragara moved to suppress the evidence collected as a result of the warrantless searches, which was denied by the trial Court
- In a brief opinion, the Eleventh Circuit affirmed the denial and emphasized that <u>Riley "expressly limited its holding to the search-incident-to-arrest exception" and that border searches "have long been excepted from warrant and probable cause requirements"</u>
- Judge Jill Pryor stressed in dissent that *Riley*'s reasoning sweeps more broadly

BORDER SEARCHES & CIVIL SUITS?

- The number of electronic searches conducted at the border has skyrocketed in the past few years, and so have complaints to DHS
- In September of 2013, the EFF and the American Civil Liberties Union (ACLU) sued the federal government on behalf of 11 travelers whose smartphone and other electronic devices were searched at the U.S. border without a warrant, arguing that the First and Fourth Amendments are violated when these border searches are done

BORDER SEARCHES & CIVIL SUITS?

- In May of 2018, the government sought to dismiss the case, arguing that that the Fourth and First Amendments do not provide protection from warrantless and suspicionless search of electronic devices at the border and that the Plaintiffs lacked standing to sue
- The judge rejected the arguments, holding that the Plaintiffs had standing to sue and that the case could move forward
- The case, Alasaad v. Nielsen, is still pending in a U.S. District Court for the District of Massachusetts

TEXAS PENAL CODE CYBERCRIMES



TPC § 33.02(a). BREACH OF COMPUTER SECURITY

A person commits an offense if the person knowingly accesses a computer, computer network, or computer system without the effective consent of the owner.

Class B misdemeanor

TPC § 33.02(b-1). BREACH OF COMPUTER SECURITY

A person commits an offense if, with the intent to defraud or harm another or alter, damage, or delete property, the person knowingly accesses:

- (1) a computer, computer network, or computer system without the effective consent of the owner; or
- (2) a computer, computer network, or computer system:
 - (A) that is owned by: (i) the government; or (ii) a business or other commercial entity engaged in a business activity;
 - (B) in violation of: (i) a clear and conspicuous prohibition by the owner of the computer, computer network, or computer system; or (ii) a contractual agreement to which the person has expressly agreed; and
 - (C) with the intent to obtain or use a file, data, or proprietary information stored in the computer, network, or system to defraud or harm another or alter, damage, or delete property.

PENALTIES

- Class C less than \$100;
- Class B \$100 < \$750;
- Class A \$750 < \$2,500;
- State jail felony \$2,500 < \$30,000;
- 3rd Degree \$30,000 < \$150,000;
- 2nd Degree \$150,000 < \$300,000;
 - or < \$300,000 and the computer, computer network, or computer system is owned by the government or a critical infrastructure facility;
 - or the actor obtains the identifying information of another by accessing only one computer, computer network, or computer system; or
- 1st Degree > \$300,000
 - Or the actor obtains the identifying information of another by accessing more than one computer, computer network, or computer system.

TPC § 33.022. ELECTRONIC ACCESS INTERFERENCE

A person, other than a network provider or online service provider acting for a legitimate business purpose, commits an offense if the person intentionally interrupts or suspends access to a computer system or computer network without the effective consent of the owner.

3rd Degree Felony

TPC § 33.023. ELECTRONIC DATA TAMPERING

A person commits an offense if the person intentionally alters data as it transmits between two computers in a computer network or computer system through deception and without a legitimate business purpose.

A person commits an offense if the person intentionally introduces ransomware onto a computer, computer network, or computer system through deception and without a legitimate business purpose.

TPC § 33.024. UNLAWFUL DECRYPTION

• A person commits an offense if the person intentionally decrypts encrypted private information through deception and without a legitimate business purpose

ELECTRONIC DATA TAMPERING/ UNLAWFUL DECRYPTION PENALTIES

- Class C less than \$100;
- Class B \$100 < \$750;
- Class A \$750 < \$2,500;
- State jail felony \$2,500 < \$30,000;
- 3rd Degree \$30,000 < \$150,000;
- 2nd Degree \$150,000 < \$300,000;
- 1st Degree > \$300,000

OTHER TEXAS CYBERCRIME STATUTES

- TPC § 33.021. ONLINE SOLICITATION OF A MINOR
 - Ex Parte Ingram Pre-2015 version upheld on writ but still ripe on direct Appeal
- TPC § 33.07. ONLINE IMPERSONATION
- TPC § 21.15. INVASIVE VISUAL RECORDING
 - Ex Parte Thompson RULED UNCONSTITUTIONAL Amended
- TPC § 21.16. UNLAWFUL DISCLOSURE OR PROMOTION OF INTIMATE
 VISUAL MATERIAL Revenge Porn
 - Ex Parte Jones RULED UNCONSTITUTIONAL*

EX PARTE JONES

- 12-17-00346-CR, 2018 WL 1835925 (Tex. App.—Tyler Apr. 18, 2018),
- Petition for discretionary review filed 6/1/18.

EX PARTE JONES - BACKGROUND

- Jones was charged by information with unlawful disclosure of intimate visual material (AKA the "revenge pornography" statute).
- On September 6, 2017, Jones filed an Application for Writ of Habeas Corpus, in which he argued that Texas Penal Code, Section 21.16(b) is UNCONSTITUIONAL ON ITS FACE
- The trial court DENIED Jones's application, and the appeal followed

EX PARTE JONES - THE "REVENGE PORN" STATUTE

- Section 21.16(b) sets forth, in pertinent part, as follows:
- A person commits an offense if:
- (1) without the effective consent of the depicted person, the person intentionally discloses visual material depicting another person with the person's intimate parts exposed or engaged in sexual conduct;
- (2) the visual material was obtained by the person or created under circumstances in which the depicted person had a reasonable expectation that the visual material would remain private;
- (3) the disclosure of the visual material causes harm to the depicted person; and
- (4) the disclosure of the visual material reveals the identity of the depicted person in any manner.

- Jones first argued that the statute was OVERBROAD
- First Amendment—The Statute's Regulation of Free Speech
 - "Because the photographs and visual recordings are inherently expressive and the First Amendment applies to the distribution of such expressive media in the same way it applies to their creation, we conclude that THE RIGHT TO FREEDOM OF SPEECH is implicated in this case."

- Statute's Regulation of Speech: Content-Based or Content-Neutral?
 - "The State CONCEDED at oral argument that 21.16(B) is subject to STRICT SCRUTINY analysis. We agree."
 - <u>"Section 21.16(b)(1)</u> penalizes only a subset of disclosed images, those which depict another person with the person's intimate parts exposed or engaged in sexual conduct. Therefore, we conclude that <u>Section 21.16(b)(1)</u> discriminates on the basis of content."

- "The State argues in its brief that the expectation of privacy and the nonconsensual nature of the disclosure causes any visual material covered by Section 21.16(b) to be unprotected speech because it is contextually obscene. We disagree."
- "Here, <u>Section 21.16</u> does not include language that would permit a trier of fact to determine that the visual material disclosed is obscene. Moreover, if, as the State argues, any visual material disclosed under <u>Section 21.16(b)</u> is obscene, the statute is wholly redundant in light of Texas's obscenity statutes."

• "Because Section 21.16(b) does not use the least restrictive means of achieving what we have assumed to be the compelling government interest of preventing the intolerable invasion of a substantial privacy interest, it is an invalid content-based restriction in violation of the First Amendment."

• "Section 21.16 is extremely broad, applying to any person who discloses visual material depicting another person's intimate parts or a person engaged in sexual conduct, but where the disclosing person has no knowledge or reason to know the circumstances surrounding the material's creation, under which the depicted person's reasonable expectation of privacy arose."

"Furthermore, its application is not attenuated by the fact that the disclosing person had no intent to harm the depicted person or may have been unaware of the depicted person's identity.
 Accordingly, we conclude that the criminal prohibition Section
 21.16(b) creates is of 'alarming breadth' that is 'real' and 'substantial'."

EX PARTE JONES — IN SUMMATION

• "We have concluded that <u>Section 21.16(b)</u> is an invalid contentbased restriction and overbroad in the sense that it violates rights of too many third parties by restricting more speech than the Constitution permits. Accordingly, we hold that Texas Penal Code, Section 21.16(b), to the extent it proscribes the disclosure of visual material, is unconstitutional on its face in violation of the Free Speech clause of the First Amendment. Jones's first issue is sustained."

TEXAS DPS COMPUTER INFORMATION TECHNOLOGY AND ELECTRONIC CRIME (CITEC) UNIT

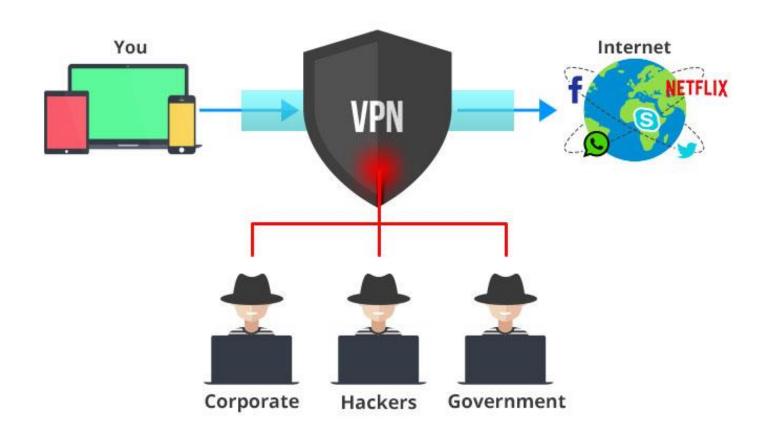
- CITEC Unit investigates non-traditional crimes where computer systems and the Internet are used to facilitate the crime or store evidence of a crime:
- Network intrusions (hacking)
- Denial-of-service attacks
- Web site defacements
- Identity theft/fraud
- Electronic terroristic threats
- Tampering with governmental records.

HOW TO STAY SAFE ON THE INTERNET?

- Use a VPN
- Use different, ever changing, long passwords
- Use the Tor Browser
- Get a faraday bag
- Get a Cryptophone
- By some DuckTape

USE A VPN

How VPN works?



HOW VPN PROTECTS YOU WHEN USING PUBLIC WIFI WITHOUT VPN WITH VPN VPN Server Router Owner's ISP Router Owner's ISP Public WiFi Router Public WiFi Router Data encrypted inside a 'VPN tunnel' Your laptop or phone Your laptop or phone



5 WAYS TO USE YOUR Property of the second s





Defeat Censorship

Watch the content you want from any country on Earth, at blazing fast speeds. Access any website or app without geographic restrictions or censorship.

Increase Online Security

ExpressVPN encrypts your data and protects your online activity, passwords, and sensitive information from prying eyes.





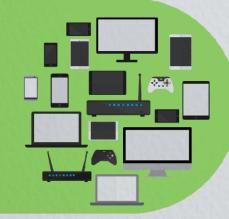
Stay Private

When connected to ExpressVPN, your ISP only sees encrypted traffic passing to our VPN servers, but they cannot decipher the data or know the websites you have visited.

Access Hidden Internet Hacks!

With ExpressVPN, you can change your IP address and location to get better deals on everything from flights to car rentals.





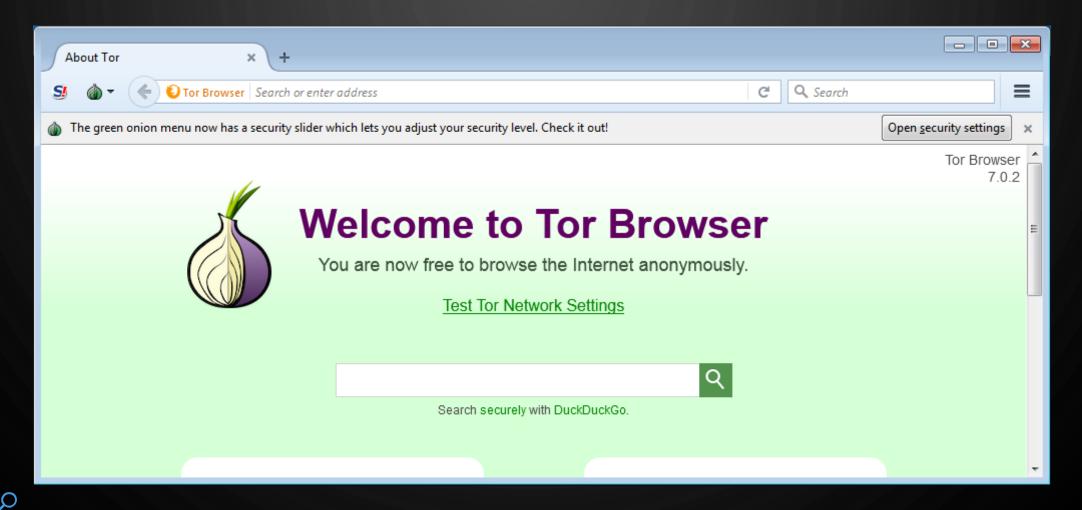
Protect All Your Devices

Download easy-to-use VPN apps for Windows, Mac, iOS & Android.





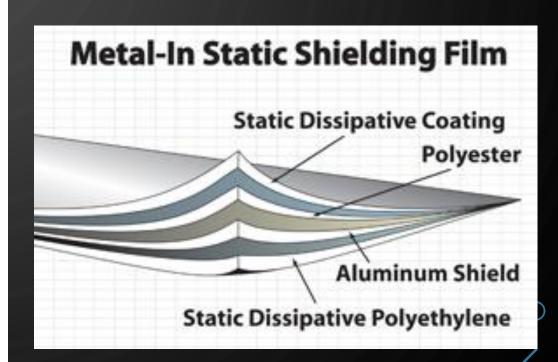
USE THE TOR



GET A FARADAY BAG

Black Hole Faraday Bags Window Sizes





GET A FARADAY BAG!!!







MD SHIELDING





Digital Forensics



Wireless Testing



Personal Security



Anti-Hacking



Travel Data Privacy



Passp/ID Protection

Plus, download the free Mission Darkness
Faraday Bag testing app ("Faraday Test" for iOS,
"MD Faraday Bag Tester" for Android)
to confirm signal cutoff!

GET A CRYPTOPHONE!

14:54



CONSLUSION



BE AFRAID, BE VERY AFRAID!!!



