GUARDSIGHT

https://www.guardsight.com/

GuardSight is an established provider of comprehensive cybersecurity threat detection and response, risk assessments, and professional cybersecurity services since 2009.

"We fight bad guys on the internet!"

John McGloughlin, CISSP
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CYBERSECURITY: FOR THE INDIVIDUAL

(my pgp key) → **http://pgp.mit.edu johnmac@guardsight.com | https://www.linkedin.com/in/mcgloughlin** ← (about me)

CYBERSECURITY: HISTORY OF CYBERCRIME

1900-1949

1903

Maskelyne (magician) hacks Marconi's secure wireless telegraph

1932

Enigma machine code broken by Polish cryptologists

1939

Turing co-develops the Bombe making the Enigma machine vulnerable to brute force attacks

CYBERSECURITY: HISTORY OF CYBERCRIME

1950-1979

1957

Engressia (7 yrs old & blind) discovers that whistling the fourth E > middle C interferes with AT&T's telephone systems (phreaking)

1963

Hackers tie up phone lines between Harvard and MIT and make long-distance calls charged to a local radar installation

1971

Rosenbaum of Esquire magazine publishes "Secrets of the Little Blue Box" relies on accounts from Draper (Captain Crunch) and a toy whistle

1972

Draper arrested toll fraud (5yrs prob) - catalyst for Wozniak meeting and connection: *Jobs & Wozniak sold phone-phreaking tools*

1979

Mitnick (16 yrs old) posing as Chernoff (DEC developer) breaks into the DEC ARK system used to develop the RSTS/E OS

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CYBERSECURITY: HISTORY OF CYBERCRIME

1980-1999

1983

Release of the movie WarGames introduces the wider public to hacking

1986

Congress passes the CFAA (18 U.S.C 1030) making it a crime to break into computers
(amended '89, '94, '96, '01, '02, '08, '15)

1988

Morris introduces a worm that alters 6k ARPANET computers (booted from Cornell - 1st convicted of violating CFAA)

CERT created by DARPA

1996

Hackers alter the web sites of the DOJ, CIA, and US Air Force

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RIAA begins cracking down on file sharing

1999

Multiple high profile malware impacts millions of computers and causes > $100M in damages
(Melissa, Chernobyl, Bubble Boy)

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CYBERSECURITY: HISTORY OF CYBERCRIME

2000-2009

2001

Code Red worm infects > 350k web servers

Sklyarov arrested at DEF CON - 1st charged w/violating DMCA

2002

ISC2 reports 10k CISSP certified worldwide (there are now > 70k worldwide)

2003

SQL Slammer worm released infecting 75,000 victims within 10 minutes

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Hacktivist group Anonymous is formed

2007

FBI BotRoast discovers > 1M botnet victims

Spear phishing at office of US Secretary Of Defense steals sensitive defense information

2009

Conficker worm infects 15M government, business, home computers in over 180 countries

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CYBERSECURITY: HISTORY OF CYBERCRIME

2010-2019

2010-2011

Google publicly reveals Operation Aurora IP theft by Chinese APT group

Stuxnet disables Iranian nuclear facilities

77M accounts impacted from hack of Sony's PlayStation network

2012-2013

6M impacted by LinkedIn hack

40M debit and credit cards exposed in Target breach ($252M losses)

65M impacted by Tumblr hack

2014-2015

$460M stolen from bitcoin exchange Mt. Gox

21.5M Americans impacted by attack on US OPM

Ashley Madison extramarital affair website hacked

Ukraine power grid hacked (SCADA ICS)

2016-2017

$100M lost in Bangladesh bank cyber heist

Wikileaks publishes DNC email messages

10k orgs impacted by WannaCry

140M people impacted by Equifax breach

2018-2019

Records: 37M Panera Bread | 27M Ticketfly | 87M Facebook | 150M Under Armour | 340M Exactis | 2M T-Mobile | 100M Quora | 380k Brittish Airways | 40k Ticketmaster | 700k Atrium Health | 1.2M UnityPoint Health | 80k Orbitz | 1.5M SingHealth | 5M Saks, Lord & Taylor

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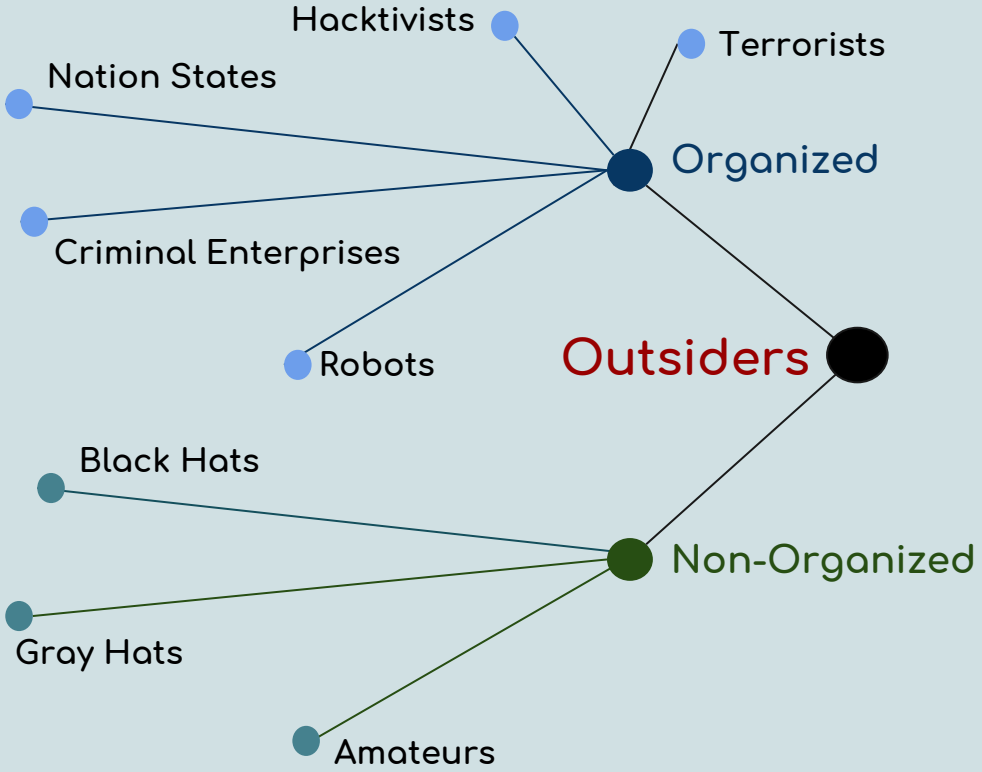
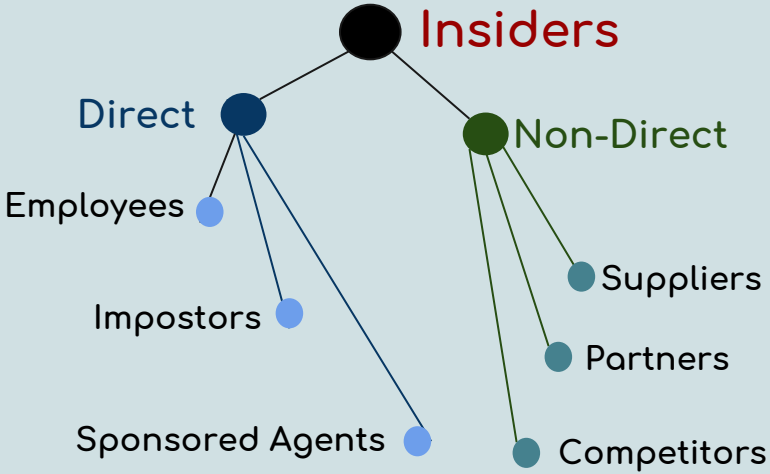
CYBERSECURITY: THREAT ACTOR ATTRIBUTION





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CYBERSECURITY: THREAT ACTOR INTENT

- Identity Resources (*Impersonate*)
  - PII
  - PHI
  - Credentials
- Intellectual Resources (*Dominate*)
  - Brand
  - Property
  - Knowledge
- Physical Resources (*Perpetuate*)
  - Energy
  - Strength
  - Persistence
- Logical Resources (*Violate*)
  - Speech
  - Reputation
  - Communication

Motives & Objectives

- Profit
- Wealth
- Prestige
- Assets
- Warfare
- Defense
- Espionage
- Mobilization
- Ideal[ogy | ism]
- Elimination
- Extortion
- Destruction

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CYBERSECURITY: BLACK MARKET LOOT (US BASED)

ONLINE BANKING CREDENTIALS	
$2k-$20k+ Balance	$100 - $1,000+

ATM CARD WITH BALANCE & PIN	
$2k-$10k+ Balance	$500 - $1,000+

CREDIT CARD NUMBER “Fullz”	
Major Cards	$7 - $50

SOCIAL MEDIA ACCOUNT ACCESS	
1k-10k Accounts	$15 - $60

PERSONALLY IDENTIFIABLE INFORMATION	
SSN, DOB, Histories	$40 - $200

PERSONALLY IDENTIFIABLE INFORMATION	
Bundle (DL, Green Card, Visa, Passport, Insurance)	$2000-$3000

AIRLINE REWARDS POINTS ACCESS	
50k-150k Miles	$100 - $200

HOTEL REWARDS POINTS ACCESS	
50k-150k Points	$75 - $140

1.4 BILLION
US $$ LOSSES EXCEEDED IN 2017

214 MILLION
CALIFORNIA $$ LOSSES EXCEEDED IN 2017

230 THOUSAND
NEW MALWARE VARIANTS DETECTED EVERY DAY

24 THOUSAND
MALICIOUS MOBILE APPS BLOCKED EVERY DAY

66 PERCENT
MALWARE INSTALLED USING EMAIL ATTACHMENTS

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CYBERSECURITY: PROTECT YOUR ASSETS

~~RUN~~ ~~HIDE~~ **FIGHT!**

- ➔ Reduce the attack surface
  - ◆ Own your assets & data
  - ◆ Inventory your assets & data
  - ◆ Prune apps not being used often
  - ◆ Prune accounts not being used often
  - ◆ Prune upload / download residue
  - ◆ Unplug it when you're not using it
  - ◆ Always on location services != friendly
  - ◆ Beware of the "benevolent"
  - ◆ READ the "Terms of Service"
  - ◆ You are the product when it is FREE
  - ◆ FREE == alternative arrangement
- ➔ Apply real world protection strategies to your online persona[s]
- ➔ If you think something is suspicious and could cause you harm that's your limbic system talking - listen to it!
- ➔ The US Congress is not going to fight for you anytime soon - foreign and domestic technology firms own them and lobby the major parties *equally* - own your assets and fight to protect yourself!

- ➔ Use multifactor authentication
- ➔ Avoid using the same passphrase for multiple services
- ➔ Use a pass-[word|phrase] manager
- ➔ Update hardware & software regularly
- ➔ Use automated security patching
- ➔ Use anti-virus / endpoint protection software
- ➔ Routinely backup critical assets
- ➔ Use content-filtering / white-listing / ad-blocking
- ➔ Avoid opening email from unknown senders
- ➔ Avoid opening attachments from unknown senders or senders that normally do not send attachments
- ➔ Refrain from accessing sensitive online accounts when using public Wifl networks
- ➔ Use available alerting from online services
- ➔ Think layered defense-in-depth

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