



Office & Professional Employees International Union

How to Avoid Being a Victim of Cybercrime

Call in: 1-866-814-9555

Participant code: 1669323050



Bill Blum



The real problem

“The human factor is truly security’s weakest link.”

The Art of Deception

by

Kevin Mitnick, convicted CyberCriminal



The goal of all Cybersecurity Policies and Procedures:



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An acceptable balance between:

Functionality, Usability, and Risk.



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**The only way to be totally secure
is to not connect to anything.**



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Yes TRILLION! Average cost: \$3.8 million (IBM)
- **90% of breaches are caused by human error or carelessness (IBM)**

The Federal Government

- **The FBI**



The Federal Government

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- The President



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- **The Joint Chiefs of Staff**

Cyber Mission Force: 133 teams by 2018

5 Important Concepts

- **Job #1: Backups, Business Continuity, and Disaster Recovery**



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- Nothing is free in life or on the Internet
- **Be vigilant always**

Privacy

**What do Apple, Google, Microsoft,
Facebook, your Internet provider, and the
government know about you?**



Privacy

What do Apple, Google, Microsoft, Facebook, your ISP, and the government know about you?

- **EVERYTHING!**

- **Your IQ**
- **Personal interests, likes, dislikes**
- **Browsing history**
- **Habits**
- **When you access the Internet, check mail**

The difference between



The difference between



Microsoft

Software



Google



The difference between



Microsoft

Software



Hardware

Google

The difference between



Microsoft

Software



Hardware

Google

Ad Agency

Nothing is free

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 - **Free music, videos**
 - **Free money**

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 - Free money
- **Senior Citizens Beware!**



Be Vigilant Always

- **The criminals work 24/7/365 – they have robots**



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- **“Only the Paranoid Survive,” Andy Grove**
 - **Co-founder and CEO of Intel**



Be Vigilant Always

- The criminals work 24/7/365 – they have robots
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- **Everyone and every company is under attack**



Be Vigilant Always

The old way of thinking

There are only 2 kinds of companies



Be Vigilant Always

The old way of thinking

There are 2 kinds of companies:

- 1) Those that know they are under attack
- 2) Those that don't



Be Vigilant Always

The *NEW* way of thinking

There are only 2 kinds of companies

1) Those that *have* been breached

2) Those that *will* be breached

(the FBI and Lowell McAdam, Verizon CEO)



● 2007 – Self morphing viruses



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- **2009 – Zeus Virus – the man in the browser – NO browser is safe**



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- 2016 – Ukraine Power Grid Hack disclosed
- **2017 – Podesta, Swift, Equifax, many others**

**The perpetrators – Who are they?
And why do they do it?**

5 Distinct Groups



The perpetrators – Who are they? And why do they do it?

● Insiders



The perpetrators – Who are they? And why do they do it?

● Individuals, Lone Wolves



The perpetrators – Who are they? And why do they do it?

- Hacktivists (Anonymous and others)
 - Infamous Estonia hack



The perpetrators – Who are they? And why do they do it?

- State-sponsored Terrorists
 - China, North Korea, Russia, Iran



The perpetrators – Who are they? And why do they do it?

- Well Organized Criminal Networks

Figure 2: The Cybercrime Infrastructure, and the ISPs that connect it to the Internet;

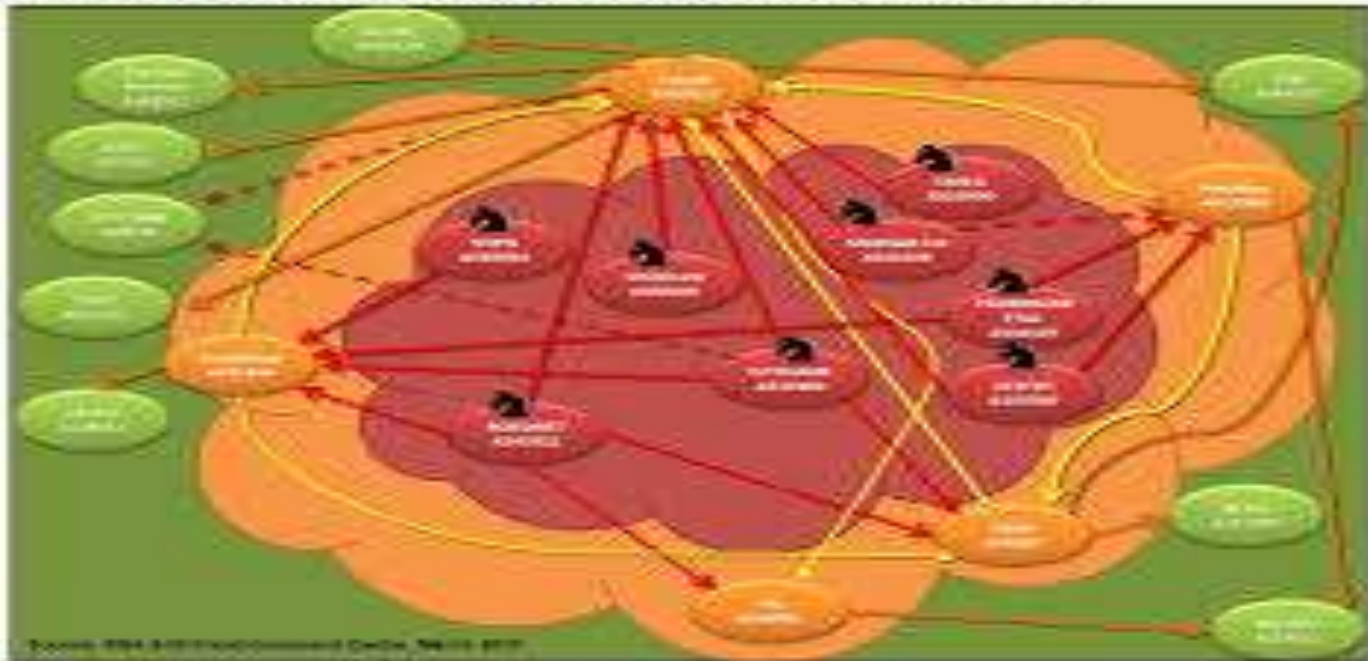


Image Legend:

Malware distribution nodes where malware is actually hosted are marked in red with the Trojan horse's icon sign;

ISPs are orange-colored spheres;

Who are the Targets?



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EVERYONE!



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Retailers are attacked most.

3x more than the previous #1 targets,
financial institutions

Tools of the Trade

Viruses



Spyware

Malware

Tools of the Trade

Viruses



Spyware

Malware

- Hundreds of attempts foiled every week

Tools of the Trade

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Spyware

Malware

- **Hundreds of attempts foiled every week**
- **Designed to steal or corrupt data and information**

Tools of the Trade

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Spyware

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- **Multiple methods of infection**

Tools of the Trade

Viruses



Spyware

Malware

- Multiple methods of infection:

emails, texts, *web sites*

Infection Methods

Email using Spam



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- 98% of all email is SPAM
- Easy to create
- Easy to spoof addresses
(impersonate someone else)

Infection Methods

Emails and Texts

- Viruses in email attachments



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Infection Methods

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- Viruses in email attachments
- Viruses in texts
- Links to infected web sites

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1 in 8 web pages are infected.

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- **Confirm the identity of anyone that sends you a link or attachment**



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- **Their clients:**
 - **Nation states**
 - **for spying, gathering intel, and theft**

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 - **U.S. Government agencies included**



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Former head of the NSA and CIA





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- We do it for fundamentally different reasons than our adversaries
 - **Cyber warfare is more difficult than conventional warfare**
 - **We don't even know how to define it**



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The Chinese vs. US OPM



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- There are “honorable” hacks – The Chinese vs. US OPM
- **There are new, very dangerous ones:
N. Korea vs. Sony**

A word about the future of Cyber Security techniques

- Zero day threats, password hacking, and stealth malware are the problem
- Firewalls and Anti-Virus are useless against them
- The answer? **SIEM utilizing Behavioral Analytics**
- **SIEM: Security Information and Event Management**



Social Networking Sites

- Facebook, Twitter, Google+, Pinterest, thousands of them
- The good, the bad, and the ugly



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- **Be careful what you post.**
- **Don't be stupid!**



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- **Wipe your phone before discarding it**



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- **Location services – the good and bad**



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- **The microphone and camera**



Wireless Networks

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- Hacker's paradise if not.



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- **At home: Use encryption. WPA-PSK or stronger.**



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- **If possible, tether your phone or use your own personal cellular data access point (Verizon MiFi, AT&T Velocity)**



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- Easy to embed with a virus



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- **What companies are doing to protect themselves – No USB, no DVD**

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- What companies are doing – No USB, no DVD
- **Do not use public USB Charging Stations**

Social Engineering

- “Psychological manipulation of people into performing actions or divulging confidential information.” – Wikipedia
- **The latest and most effective tool**



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- **How Snowden did it**



Beware the Wire Transfer!

- Criminals do their research



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- **They may register a domain name that has 1 character different from yours**



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- **Email comes from a principal to a finance employee requesting a wire transfer**

Beware the Wire Transfer!



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- They may register a domain name that has 1 character different from yours
- Email comes from a principal to a finance employee requesting a wire transfer
- **This has worked MANY times!**

Physical Security

- Lock the doors!



Physical Security

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- Lock your computer: CTRL-ALT-DEL – Lock Computer



Physical Security



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- **Logoff your computer: Start – Shutdown – Logoff**

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- **Do not leave passwords written next to computer**

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- **Notebook computers with Confidential Data – Use Encryption**

Logical Security

***The single most important thing
you can do***

Change your passwords regularly!



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Different ones for each site,
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Different ones for each site, application, system

Make them complex

**Minimum 8 characters, 3 of these:
Upper, Lower, Numbers, Symbols**



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Keep them Private!

Do not write them on a Post-it note



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Can't remember them? Use Last Pass



Logical Security

Passwords

Regularly change them

Make them unique

Make them complex

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Use Last Pass

**Never e-mail work products to your
personal e-mail account**



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Meta-data- What it is, what is the risk



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Convert to PDF or use Redaction Software



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Meta-data- What it is, what is the risk

Convert to PDF or use Redaction Software

Check your bank accounts daily

Check your credit card accounts at least monthly



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Meta-data- What it is, what is the risk

Convert to PDF or use Redaction Software

Check your bank accounts daily, credit cards monthly

Freeze your Credit Reports





Here's the Good News!





Here's the Good News!

**The bad guys are
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The bad guys are brutally pragmatic.

**They like easy 'soft'
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plenty of them.**





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They like easy 'soft' targets and there are plenty of them.

Be a HARD target!



17 Things you can do at work and home to protect yourself and your company.

- 1. Backup your data! Use encryption with confidential data on laptops**
- 2. Change your passwords, make them strong, unique, private, use Last Pass**
- 3. Keep Anti-Virus, Operating System, Flash & Java up to date**
- 4. Configure Anti-Virus to scan anything plugged in to your computer**
- 5. Lock or logoff your computer**
- 6. Never e-mail work products to your personal email account**
- 7. Never use Flash Drives you “found” or ones given to you. Buy and use brand names only**
- 8. Smartphones: Beware of the apps you use. Delete the ones you don’t use**
- 9. Smartphones: Use biometrics & strong passwords. Wipe before discarding them**
- 10. Never use public USB charging stations- Always use your own charger**
- 11. Beware of phone scams – “I’m from the Help Desk, Microsoft, the IRS, your bank....”**
- 12. Always convert sensitive files to PDF before sending them to strip out metadata**
- 13. Only use secure portals (https://) when transmitting personal information**
- 14. Never use “free” music/video sharing sites**
- 15. Protect your wireless networks with passwords**
- 16. Beware of unsolicited links or attachments. Never open a link or attachment unless you are ABSOLUTELY sure it is safe. Report anything that is suspicious – DO NOT CLICK ON IT!**
- 17. Check your bank accounts daily / credit cards at least monthly, freeze your credit reports**



Questions

Bill Blum

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Office & Professional Employees International Union

How to Avoid Being a Victim of Cybercrime

OPEIU Identity Protection Benefit

www.opeiudprotect.com

Questions?

frontdesk@opeiu.org