

Network Security

Introduction

- Website: Moodle
- Grading:
 - 80% exam
 - 20% exercises

- Do not apply the knowledge acquired in this course into bad usage.
- Use only with permission.

Cyber crime threats

- Stealing data (images, files, passwords etc.)
- Extortion (webcam hacking, ransomware etc.)
- Stealing money
- Power grids and infrastructures
- And much more...

Cyber crime examples

Stealing data

- What hackers can do with sensitive information?
 - Sony
 - HBO
 - Sites with clients' data

- CryptoLocker
- WannaCry

Cyber crimes examples

Spam scams

[See example](#)

Cyber crimes examples

Phishing

[Link to 'Globes' article](#)

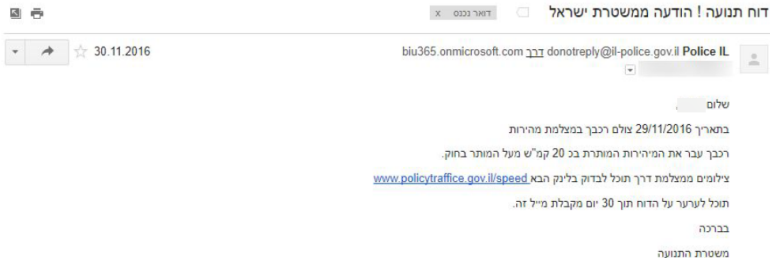
Cyber crimes examples

Phishing

Example from 'Internet-Israel' website by Ran Bar-Zik

Cyber crimes examples

Spear Phishing



Cyber crimes examples

Spear Phishing

The screenshot shows an email interface. At the top, there are icons for a folder, a printer, and a status bar indicating 'תיבת דואר נכנס' (Inbox) with a yellow arrow pointing to the right. The subject line is 'RE: התראת כניסה של' (RE: Login alert). Below the subject line, there are icons for a menu, a share button, a star, and a date '2019'. The email address is partially visible as '@.ac.il'. The body of the email is in Hebrew and contains several highlighted words in yellow. The text reads: 'משתמש דואר יקר, שמנו לב להתחברות לחשבון הדוא"ל שלך ממכשיר לא מזוהה בשעה 10:30 בבוקר יום שלישי, 2019 (GMT + 1) מלונדון, בריטניה. האם זה אתה? אם כן, אנא התעלם משאר דוא"ל זה. אם לא זה אתה, אנא עקוב אחר הקישורים למטה כדי לשמור על ביטחון חשבון הדואר האלקטרוני שלך וספק מידע נדרש לשמירת חשבונך. לחץ כאן תודה, אוניברסיטת שירותי דואר'.

משתמש דואר יקר,

שמנו לב להתחברות לחשבון הדוא"ל שלך ממכשיר לא מזוהה בשעה 10:30 בבוקר יום שלישי, 2019 (GMT + 1) מלונדון, בריטניה.

האם זה אתה? אם כן, אנא התעלם משאר דוא"ל זה.

אם לא זה אתה, אנא עקוב אחר הקישורים למטה כדי לשמור על ביטחון חשבון הדואר האלקטרוני שלך וספק מידע נדרש לשמירת חשבונך.

לחץ כאן

תודה,

אוניברסיטת שירותי דואר

Cyber crimes are not easy to mitigate

Now that I'm aware - there is no longer threat....

Cyber crimes are not easy to mitigate

This website employs the highest security standards.

Cyber crimes are not easy to mitigate

This website employs the highest security standards.



Cyber crimes are not easy to mitigate

This website employs the highest security standards.



Cyber crimes are not easy to mitigate

This website employs the highest security standards.



To make sure you are protected, go to google and sign in
<https://www.google.com>

Cyber crimes are not easy to mitigate

Why?

- Economical factors
- Lack of incentives for secure software
- Security is difficult, expensive and takes time
- Human factors
- Lack of training, largely uneducated population
- Supply chain vulnerability
- Unimplemented solutions

- Stuxnet
- Hijack

Cyber crimes are not easy to mitigate

Sophisticated attacks and side channels

- Meltdown and Spectre
- BlueBorne

Early days cyber incidents

- Brain
- Ambulance
- The Morris worm

Famous hackers

Kevin Mitnick

- Kevin Mitnick
- Kevin Poulsen
- Robert Tappan Morris
- The Analyzer 4:13

- External storage
- Fake ads
- Software impersonation
- Click-jacking

Cyber crimes is an entire industry

- Professional, well organized
- Top of the line tools
- They even have technical support and customer service

Future of cyber crimes - reason to be concerned!

IoT and smart things

- Skateboard
- Sniper
- Car
- Smart toilet

- “If you’re not paying for the product, you are the product”
- Location
- Microphone
- Camera

Not all hackers are malicious

- Hackers as an “immune system”
- Bug bounties

but most of all,
samy is my hero