CYBERSECURITY CHALLENGES OF THE PAST & THE FUTURE

by Kirils Solovjovs, Possible Security

Visit of His Excellency Māris Kučinskis, Prime Minister of The Republic of Latvia, to the Kingdom of the Netherlands
27.09.2017.

possible.lv

IT security services

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THE PAST

2007

THE PRESENT

2017

2007

THE FUTURE

2017

2007

2027
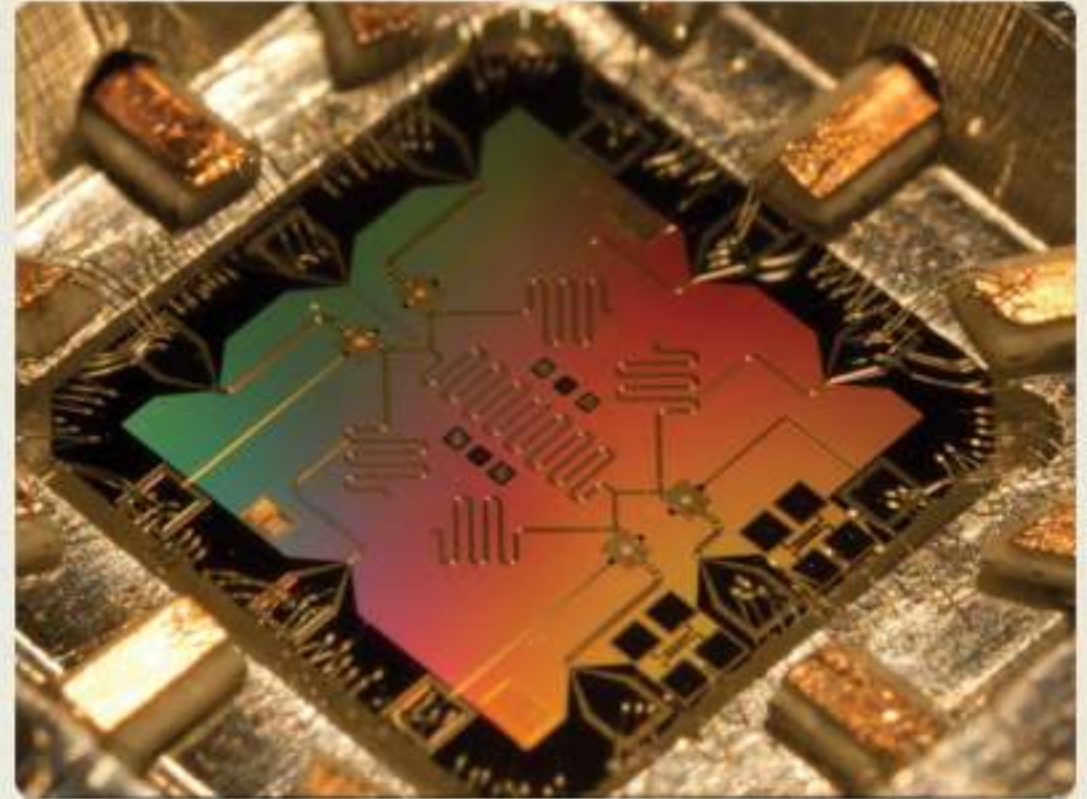
THINK!

ONLINE 24/7/365.25

- Interconnected everything, interconnected you

- Cars, houses, watches, pets, heart stimulators, coffee machines, lamps, traffic lights, power grid, farming, ...

- *You* will not have an IP address, you will have 10!

PERVASIVE SURVEILLANCE

- Visually tracking all movement: face/gait recognition

- Digitally tracking all movement

- Bulk data collection (esp. on digital and land borders)

- Auto-update channel as a effective targeted method

- Governments pushing for crypto backdoors

IOT

- IoT as a marketing feature -> IoT as a backdoor

    - BYO IoT

- Will you install an antivirus on IoT?

INTERNET ACCESS

- Global corporations controlling access and content

- Online availability of new start-ups limited

- Net neutrality almost extinct*

    * except inside some economic unions

INTERNET ACCESS

CRYPTO WARS 3.0

- Will **not** take place (in an overt manner)

- Too late to outlaw encryption

  - E-commerce needs it

  - People of diverse backgrounds able to create their own crypto

CRYPTOCURRENCIES

- Significant part of capital moved in cryptocurrencies

- Exchanges = financial institutions

  - Enough cap to avoid exchanges altogether

- State-issued

QUANTUM COMPUTERS

- New algorithms

  - New bugs!

- TLS (e-banking)

  - Post-quantum crypto

ARTIFICIAL INTELLIGENCE

- Will we reach real AI?

  - Deep Blue 1996

  - Deep Mind 2017

- Does it matter?

The AI was never shown what walking looks like

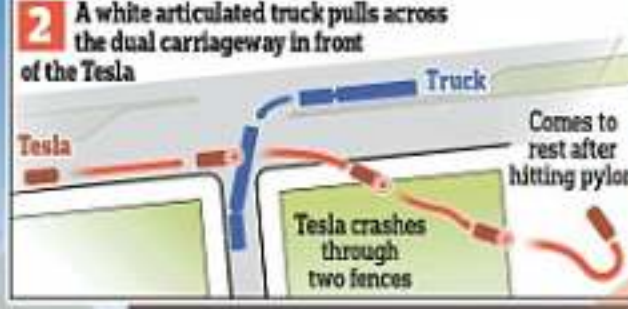TECH INSIDER

WILL AI TRY TO KILL US?

- For sure!

HOW THE SMASH HAPPENED

1 May 7: Joshua Brown (below), had engaged autopilot mode in his Model S Tesla while he drove on the highway.

2 A white articulated truck pulls across the dual carriageway in front of the Tesla

Tesla crashes through two fences

Comes to rest after hitting pylon

LONG RANGE RADAR: Looking ahead of the car, monitoring the presence of other vehicles. It can 'see' through rain or fog.

IMAGE RECOGNITION CAMERAS: These also look ahead of the car, identifying things such as traffic signs, lane markings and pedestrians.

3 The Tesla's radars and cameras did not distinguish the truck from the sky, tearing the roof off as it went under the trailer. The truck driver claims the Tesla driver was watching a Harry Potter film on the Tesla's 17inch touch screen.

360 DEGREE ULTRASONIC SONAR: This all-round sensor detects everything from cars to children or pets in your blind spot

CYBER CONFLICT

- Disinformation

- Attacks on critical utilities

  - Power, water, gas

- Insect drones

- Cyberbiological warfare

- Enemy civilian systems used for military purposes
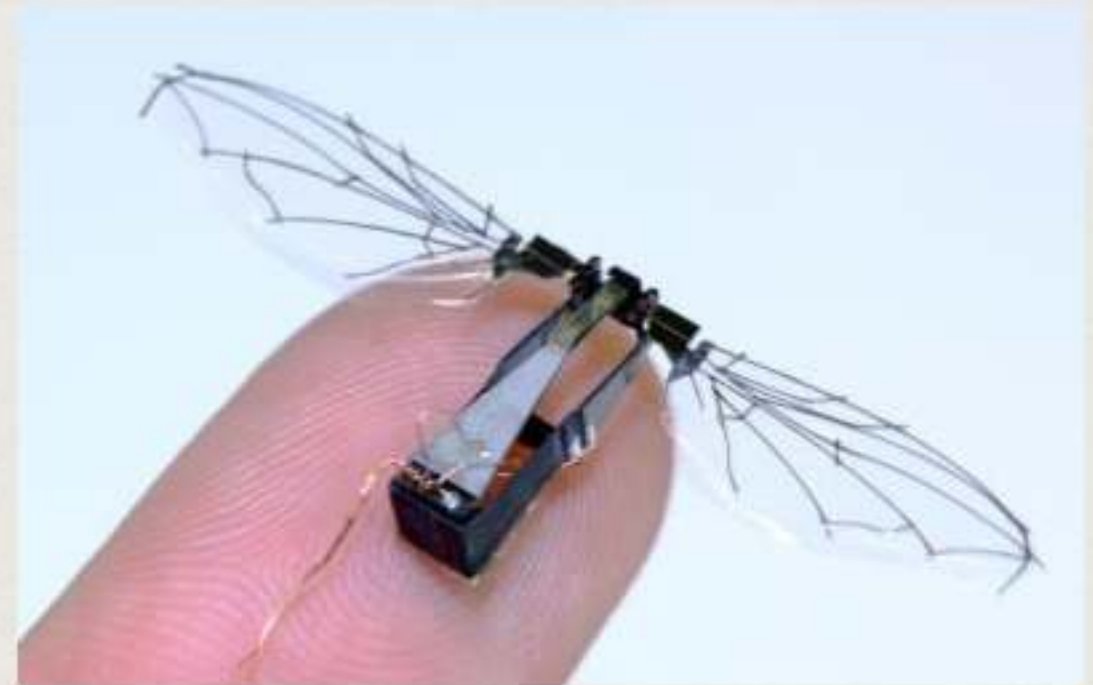
ENEMY SOLDIERS ~~HACKERS~~ **CAN TURN YOUR HOME COMPUTER INTO A BOMB**

... **& blow your family to smithereens!**

By RANDY JEFFRIES / Weekly World News

WASHINGTON — Right now, computer hackers have the ability to turn your home computer into a bomb and blow you to Kingdom Come — and they can do it anonymously from thousands of miles away!

Experts say the recent "break-ins" that paralyzed the Amazon.com, Buy.com and eBAY websites are tame compared to what will happen in the near future.

Computer expert Arnold Yabenson, president of the Washington-based consumer group National CyberCrime Prevention Foundation (NCPF), says that as far as computer crime is concerned, we've only seen the tip of the iceberg.

"The criminals who knocked out those three major online businesses are the least of our worries," Yabenson told Weekly World News.

"There are brilliant but unscrupulous hackers out there who have developed technologies that the average person can't even dream of. Even people who are familiar with how computers work have trouble getting their minds around the terrible things that can be done.

"It is already possible for an assassin to send someone an e-mail with an innocent-looking attachment connected to it. When the receiver downloads the attachment, the electrical current and molecular structure of the central processing unit is altered, causing it to blast apart like a large hand grenade.

Sickos can wreak death and destruction from thousands of miles away!
Arnold Yabenson.

"As shocking as this is, it shouldn't surprise anyone. It's just the next step in an ever-escalating progression of horrors conceived and instituted by hackers."

Yabenson points out that these dangerous sociopaths have already:
• Vandalized FBI and U. S. Army websites.
• Broken into Chinese military networks.
• Come within two digits of cracking an $7-digit Russian security code that would have sent deadly missiles hurtling toward five of America's major cities.

"As dangerous as this technology is right now, it's going to get much scarier," Yabenson said.

"Soon it will be sold to terrorists cults and fanatical religious-fringe groups.

"Instead of blowing up a single plane, these groups will be able to patch into the central computer of a large airline and blow up hundreds of planes at once.

"And worse, this e-mail bomb program will eventually find its way into the hands of anyone who wants it.

"That means anyone who has a quarrel with you, holds a grudge against you or just plain doesn't like your looks, can kill you and never be found out."

KABOOM! It might not look like it, but an innocent home computer like this one can be turned into a deadly weapon.

SUMMARY

Technology progress is not slowing down

Unseen piece of technology takes off every couple of years

Challenges like never before