Modern Threats and Cyber War
Lessons Learned? Maybe Not
Am I a target? Is my company a target? Is my government a target? Are the countermeasures put in place causing me more harm than good?
OK, I KNOW’EM ALL, BUT…

WHAT’S NEXT?
“It’s the best strategy in an asymmetric conflict”

• Distributed attacks, high anonymity
• Possibility to use the same enemy’s infrastructures
• Low cost of technology implementation and R&D
• Wide range of critical infrastructures to be attacked
• Possibility to carry out unconventional activities
• Direct contact with the enemy’s command and control center at the highest ranks

www.zone-h.org
the Internet thermometer
INTERNET + ASYMMETRIC CONFLICT MEANS:

In the traditional wars to fight a country it takes a country

In asymmetric Internet based conflicts, to fight a country it can take just a few or just one motivated and even not so much skilled hacker.
New Cyber Crime Fields

- Cyber Politics
- Cyber industrial and private espionage
• 2001 Pakistan vs West
• 2002 USA vs China
• 2004 South America vs USA
• 2007 Arab countries vs Denmark
• 2007 Russia vs Estonia
• 2008 Russia vs Georgia
2001 Pakistan vs West
2002 United States vs China
In year 2004, a large number of Brasilian hacker crews united their efforts with other South American hackers in launching hacking campaigns against USA in protest to the Bushist imperialistic regime.
For the first time ever, hackers from Chile, Venezuela and even Cuba, participated in a joint cyber-war against one of the major political player of the planet, gaining factual support even from Pakistani hackers.
In year 2007 several hackers from Arab countries launched coordinated defacing and Ddos attacks against Nordic countries particularly against Denmark in protest to the publication of some cartoons portraying Prophet Mohamed. The Danish economy suffered some losses and it took a couple of weeks to re-gain the normal Internet operability.
The cyber raiders hitting Estonia

As Estonia appeals to its Nato and EU partners for help against cyber-attacks it links to Russia, the BBC News website's Patrick Jackson investigates who may be responsible.

Estonia, one of the most internet-savvy states in the European Union, has been under sustained attack from hackers since the ethnic Russian riots sparked in late April by its removal of a Soviet war memorial from Tallinn city centre.
The first modern cyberwar?

Russian attacks on Georgian websites are only a sideshow to the main conflict, but they highlight a major threat to the internet

Aaron Mannes and James Hendler
guardian.co.uk, Friday 22 August 2008 19.00 BST

The Russian-Georgian conflict is being described as the first time cyber-attacks have accompanied an actual war. Last year, the Russian-Estonian spat was described as the first modern cyber-war. These descriptions over dramatise events and are a distraction from the more prosaic, but no less worrying question: will the internet become a weapon? The attacks...
CYBER Espionage

• 2001 Pakistan vs India
• 2005 China vs EU (political)
• 2005 China vs Italy (industrial)
• 2006 Russia vs USA (militar)
• 2008 China vs rest of the world
• 2009 China vs USA (preemptive war?)
A premier multi-disciplinary Nuclear Research Centre of India having excellent infrastructure for advanced Research and Development with expertise covering the entire spectrum of Nuclear Science and Engineering and related areas.
2005 China vs European Union
In year 2005 China launched an extensive cyber espionage campaign against Italian shoe factories and fashion houses causing a dramatic loss to the industry income.
The difference between the first Gulf War and the second one is that in the second one the US troops enjoied 42 times the bandwidth than in the first one thanks to the US Command Centers uplinks in Qatar and Kuwait

Lt.Col.Ernest “Rock” Marcone
“WAS IT WORKING?”

“Hell, NO!”

“We had to stop the Humvees to re-gain connectivity and the tactical downloads took even up to 12 hours …”
• Qatar US Army Headquarter

• Kuwait US Army Headquarter

• Micro-wave beam eye-sight contact

LET THEM RUN!
"The tactical systems were downloading nothing most of the time and when they were downloading they downloaded irrealistic data."

"The system was so slow in distributing the intelligence that we knew about the enemy presence only when it was in front of us and shooting."

(Too much of intelligence = no intelligence)
BFT + Email (!) tactical coordination

usa@war

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the Internet thermometer
• Customer: U.S. Army
• Definitized Value: $14.8B (*21.2B)
• Period of Performance:
  • May 2003 thru Dec 2011 (*2014)
• *Result of recent Program restructuring
F.C.S. unmanned vehicles

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the Internet thermometer
Warfighter Information Network-Tactical (WIN-T)

•“The WIN-T network provides command, control, communications, computers, intelligence, surveillance and reconnaissance (C4ISR) support capabilities that are mobile, secure, survivable, seamless, and capable of supporting multimedia tactical information systems within the warfighters' battlespace.”

•MOSAIC: Working with CECOM-RDEC, Rockwell Collins has developed IP, mobility and Quality of Service (QoS) networking capabilities as part of the MOSAIC program. MOSAIC is an ad hoc, self-routing network, with key elements being migrated into WIN-T, FCS and JTRS/WNW.
In year 2008 most of the countries reportedly suffered from cyber-espionage attacks originating from within the Chinese territory. Was it the demonstration that China was fearlessly attacking the rest of the world or just a convenient way to hide traditional western originated espionage activity behind Chinese proxies?
Electricity Grid in U.S. Penetrated By Spies
Security Strategy

CIA: Cyberattacks cut power to "multiple cities"

Info made public after weighing up pros and cons...

Tags: cia, cyberattack, evidence, attacks

By Tom Espiner

Published: 21 January 2008 14:53 GMT

The CIA has said a cyberattack caused a power blackout in multiple cities in a country outside the US. Security training body the Sans Institute reported the CIA's disclosure.
Lessons not learned

• Germany (parliament law against security tools)
• France (Sarkozy doctrine)
• Italy (Pisanu decree)
• Sweden (The Pirate Bay case)
• All countries (blindness toward multi layered threats)
• All countries (blindness toward excessive data retention)
Before year 2007, Germany was the only country in the world which parliament was successfully communicating with the hacker community, seeking for advices and help on general IT law matters. In Year 2007 the German parliament issued a law to ban the possession of penetration testing tools, even though the whole German hacker community tried to explain that it was a useless counter-measure against cybercrime.
In year 2008, the French prime minister Sarkozy started to lobby a law toward the European Parliament under which each citizen committing a cyber-crime or even downloading music was to be forcefully disconnected from the Internet for a long period of time. The ISP should be entitled to enforce such law.
In year 2006, the Italian Ministry of Interior Pisanu issued an anti-terrorism decree under which, all the hot spot and wired Internet connections couldn’t be granted to unidentified subjects.
This never helped in reality to fight against criminality but disrupted the communications and services throughout all the country’s hotels and airports.
Sweden 2008-2009
The Pirate Bay case

The Pirate Bay
The music and movie industries are blaming file sharing as the reason behind a reduction of their incomes. The industry lobbied the Swedish authorities in seizing the equipment of the Pirate Bay torrent tracker, whose managers were found guilty in April 2009 after a controversial trial.
THE WRONG SOLUTION
Being INCAPABLE even to understand the file sharing phenomenon from its bare social, motivational and technical foundations, authorities are moving from the concept of punishing the wrongdoers to the concept of punishing those who provides “per se” legitimate technical solutions.

Under this point of view the ISPs, CERN, and all the search engines should be accounted as guilty
Modern threats to economy: file sharing

http://torrents.thepiratebay.org/4856158/Iron_Man_%5BCz%5DDvDRip%5BbY_sOtY%5D.4856158.TPB.torrent

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Multi layered threats

WHAT ELSE?
http://www.eff.org/Privacy/printers/
3G PHONES

Lesson learned?

Use proprietary software and hardware when possible. And when not possible, use at least well reviewed open sourced software.
Excessive data retention causes more troubles than benefits.

There is a hidden danger from the social point of view as once adopted and enforced a data retentive policy, it’ll take a revolution to take it down (remember the London airport case?)
ONCE AGAIN, AM I A TARGET OF CRIMINALS OR OF MY OWN GOVERNMENT?
Who were the best security aware managers in world’s history?
Questions?

¿Preguntas?

Domande?

Ερωτήσεις?

سؤال؟

вопросы?

tupoQghachmey

Klingon