



DEPARTMENT OF JUSTICE

Combating cyber-crime: the context

Justice Canada
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Lawful Access – *Criminal Code*

- Benefits of the Internet age:
 - Ubiquity:
 - Government on-line service for all Canadians
 - e-commerce, e-learning, e-medicine, e-banking, etc.
 - Telecommunications spin-offs: VoIP, SMS, Wi-Fi
- A new avenue for criminal activity
 - Viruses, trojans, worms, hacking, spyware, SPAM, DDOS
 - Phishing (combinant forms)
 - ID theft, Internet Fraud (Ebay), money laundering



Trends^a

- More than 4,496 new Windows (Win32) viruses and worms in first half of 2004
 - Four-fold increase from same period in 2003
- Far fewer viruses and worms for other operating systems
- More than 40% IP addresses used as the source of attacks are owned by Fortune 100 companies
 - Each IP address represents a compromised system
 - Still significant information security problems at major corporations

^a Symantec Internet Security Threat Report, September 2004





Trends^b

- For the first time, denial of service (DOS) attacks generated the largest total losses of any type of computer crime
 - These replaced theft of proprietary information, which had the highest monetary loss for past 5 years
 - Hybrid (“blended”) attacks are becoming more prevalent, with virus threats being entwined with denial of service attacks
 - ex. The MyDoom worm carried as its payload a time-triggered denial of service attack)

^b 2004 CSI/FBI Computer Crime and Security Survey





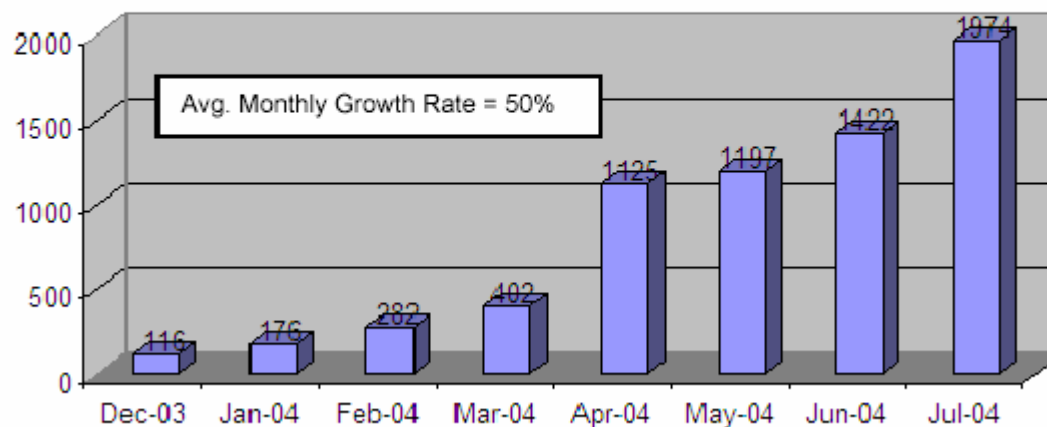
Trends - Phishing

- Gartner, Inc. study (05/2004) (Based on telephone survey responses from 5,000 adult Internet users):
 - An estimated 57 million Americans have received fraudulent phishing e-mails.
 - 19% of those attacked (11 million) clicked link in phishing e-mail.
 - 3% of those attacked (1.78 million) provided phishers their financial or personal information.
 - Direct losses cost banks and credit card issuers about \$1.2 billion in 2003.
 - 76% of all phishing attacks occurred between 10/2003 and 05/2004.



A Big Problem - And Growing Bigger

Monthly Unique Phishing Attacks





Trends

- Identity Theft
- Fastest growing crime in the U.S.
- U.S. Postal Service reported that 9.9 million Americans were affected in 2004 at a cost of \$5 Billion U.S. dollars.
- Recent Shadowcrew case which involved 2 B.C. teens – stole more than 1.7 million credit card numbers. Over \$4M lost in just a year.



Lawful Access – *Criminal Code*

- Law enforcement struggling to keep pace with crimes that implicate technology or electronic evidence:
 - Frequency of crime/lack of resources
 - Behaviour not specifically criminalized
 - Inadequate or ineffective legal investigative tools
 - Criminals located extraterritorially
- Resulting in:
 - Loss of confidence in technology/services offered
 - E-commerce, e-banking,
 - Loss of \$B



Lawful Access – *Criminal Code*

- Last significant *Criminal Code* update relating to computer crime was in 1997.
- Lawful Access initiative from the Justice standpoint is a comprehensive review of the *Criminal Code* in relation to substantive provisions and procedural powers to address these perceived problems.



Lawful Access – *Criminal Code*

- The *Criminal Code* review revealed:
 - There exists deficiencies in both substantive and procedural law.
 - Wording and concepts in the *Criminal Code* need to be updated to properly address new ways of doing old crimes.
 - Electronic Age has transformed a paper-based world (500 years) to an intangible world (10 years) – existing procedural powers were created for the former and not the latter.
 - Existing information sharing mechanisms with international partners are too slow to properly investigate crimes that move at the speed of light.



Addressing the problem

- Canadian substantive law relating to cyber-crime relatively up-to-date.
- Canadian procedural law – deficient
 - Inability to preserve volatile evidence
 - Inability to efficiently and effectively collect targeted data relating to investigations
 - Technology specific terms hampering use of existing tools
- International Assistance – deficient
 - Mechanisms too cumbersome for investigations that must be dealt with in a timely manner





Addressing the problem

- Canadian substantive law relating to cyber-crime relatively up-to-date.
 - Minor amendments required to update language and terminology in order to make provisions less technology dependent.





Addressing the problem

- Canadian procedural law
 - Create a provision to preserve volatile evidence
 - Creating provisions to address deficiencies related to the timely collection of evidence
 - Revise existing procedural powers so they address the nature of the information collected instead of the technology used to generate the evidence





Addressing the problem

- International Assistance
 - Modernize existing MLAT treaties.
 - Update the law governing mutual legal assistance.





Finding a Balance

- Sovereignty
- Security
- Privacy
- Human Rights
- e-Commerce

- Solutions to fighting cyber-crime

*New
Reality*

