Australian Government
Australian Institute of Criminology

Australian Payments Forum

The nature of the global threat

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Outline

The payment fraud risk environment

- Drivers of change in the 21st century
- Techniques for acquiring personal information
- Computer security risk environment
- Scam and phishing risk environment

The extent of the problem

- Official Australian fraud statistics
- APCA card-not-present and counterfeit / skimming fraud trends
- International identity fraud estimates

Responding to payment fraud

- Assessing levels of risk
- Applying principles of environmental crime prevention

Drivers of change in the 21st century

Globalisation

- Increasing risks from the new economies of China and India

User profile

- Integration of technology into personal and professional life
- Increasing use of ICT in provision of government services

Technological development

- Increasing use of broadband and wireless technologies
- New methods of identification and verification
- New payment systems – SVCs, e-cash, gaming currencies, e-gold, contactless payment terminals for low value transactions
- Developments in cloud computing

Crime methodologies

- Movement from ‘syntactic’ to ‘semantic’ attacks

Techniques for acquiring personal information

Syntactic attacks

- Exploitation of technical vulnerabilities to commit fraud
  (e.g. malware, plastic card skimming, illegal funds transfers, Wi-Fi)

Semantic attacks

- Exploitation of social vulnerabilities to gain personal information
  (e.g. scam solicitations, identity-related fraud, auction fraud)

The Internet as a source of personal information

- 1,733,993,741 global Internet users Sept 2009 (17,033,826 in Australia)
- 988 exabytes (billion gigabytes) of data produced globally at present
- 55.6m adults in USA visited social networking sites > monthly in 2009

Personal information at risk

- *Life history information* – name, age, address, govt numbers:licence etc
- *Financial information* – bank accounts, card numbers, PINs, passwords

The market in personal information

Data leakage cases

- Card Systems Solutions lost details of 40 million accounts in May 2005 with > 130,000 Australians affected
- TJ Maxx lost details of 90 million customers over 2 years
- HM Revenue & Customs – 25 million child benefit records lost
- UK Ministry of Defence – 600,000 personnel details of recruits lost

Verizon Business Data Breach Investigations Report 2009

- In 2008 – 90 breaches involving 285 million compromised records
- 91% attributable to organised crime groups; 74% from external sources
- 67% from mistakes; 64% from hacking; 38% used malware

Data trafficking via the digital underground economy

- USA *Operation Firewall* – 28 people from 6 countries – buying and selling 1.7 million credit card numbers in 2004

Computer security risk environment

AusCERT home users computer security survey 2008

- 1,001 home computer users with access to the Internet
- Randomly selected sample representative of the Australian population
- Aged 18 years or older with an Internet connection

Connection type

- 84% broadband, 9% wireless, 6% dial-up, 1% other

User rights

- 75% administrator rights, 9% limited user, 17% didn't know

Security applications used

- 94% anti-virus, 86% firewall, 80% anti-spyware, 72% anti-spam

Wireless risks

- 16% used insecure networks, 5% used a neighbour's connection

Source: http://www.auscert.org.au

Scam risk environment

Australian Bureau of Statistics Personal Fraud Survey

- 14,320 individuals, 15 years or older, participated in interviews
- Asked about experiences during period 1 July 2006 to 30 June 2007

Exposure to scams *(received, viewed or read invitations)*

- 35.8% exposed to scams (5,809,100 Australians)

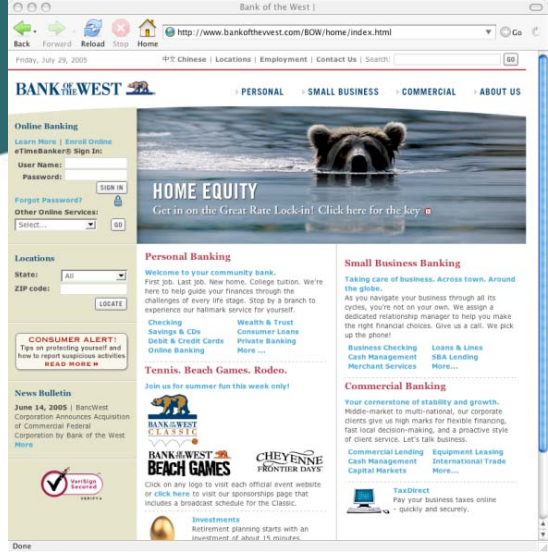
Victimisation *(supplying information or money)*

- Victims of: identity fraud 3.1% (499,500); scams 2.0% (329,000)
- Lotteries (0.5%), pyramid schemes (0.4%), phishing and related scams (0.4%), financial advice (0.2%), chain letters (0.2%), advance fee fraud (0.1%), other (0.4%)

Financial loss *(money supplied prior to recovery)*

- 453,100 Australians supplied money (2.8%)
- Total payments: $977 million; Mean $2,156 per person

Source: http://www.abs.gov.au



Phishing risk environment

Phishing attack reports / month

- 23,187 (12/08) to 28,897 (12/09) – 25% increase
- Increase in spear-phishing and whale-phishing (high net-worth targets)

Unique phishing websites / month

- 15,709 (12/08) to 46,190 (12/09) – 194% increase

Industry sectors attacked (Oct-Dec 2009)

- Financial 39%, Payments 33%, Auction 13%, Other 13%, Retail 2%
- Large increase in attacks on social networking sites (incl. in Other)

Banking Trojan / Password stealing crimeware / quarter

- 218,297 (Q4/08) to 3,354,177 (Q4/09) – 1,437% increase

Rogue anti-malware programs detected / month

- 9,287 (12/08) to 122,335 (12/09) – 1,217% increase

Source: www.apwg.org

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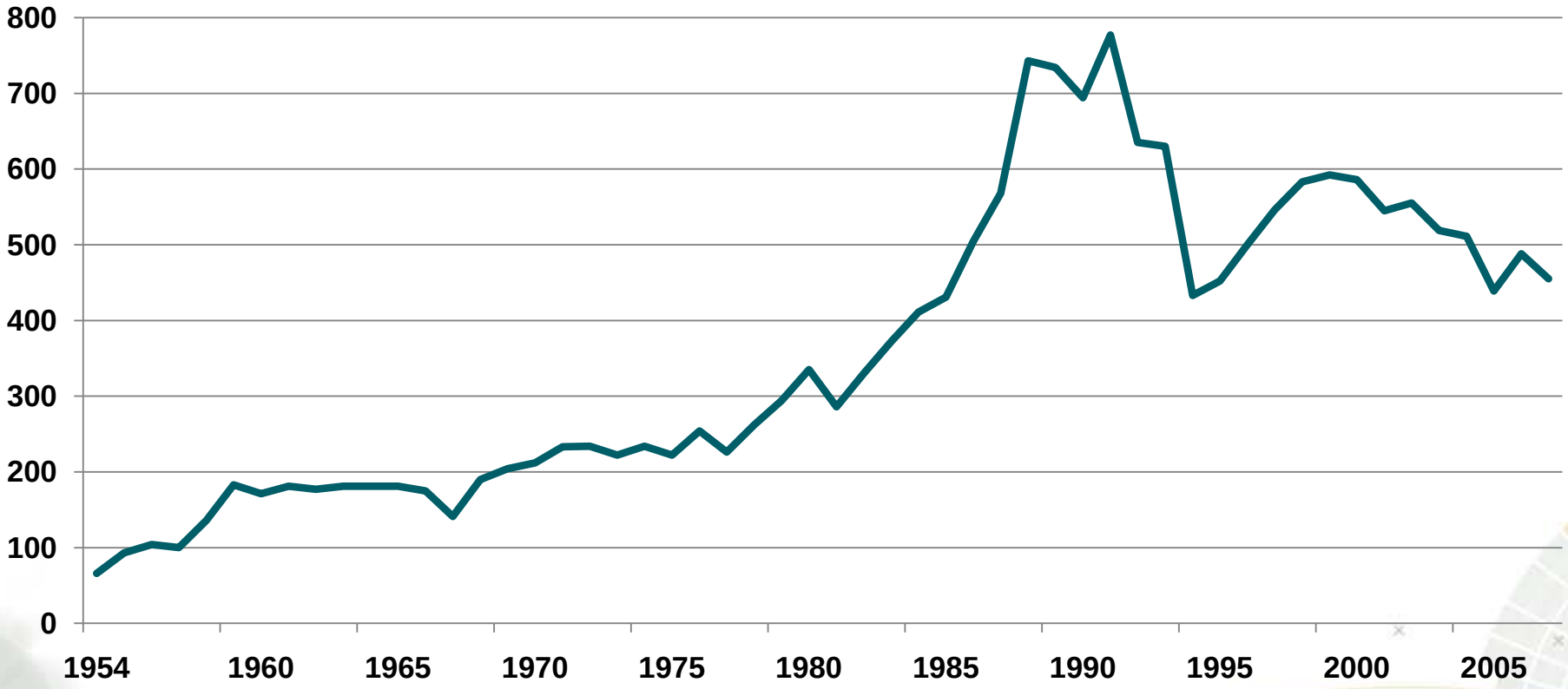
Official Australian fraud statistics

Rate per 100,000 popn, recorded by Australian police (1953/54 - 2007/08)



Source: Australian Police Services

Australian Payments Clearing Association

Card-not-present fraudulent transactions 2006-09

Category	2006-07		2007-08		2008-09		change 2006/09	
	No	A$	No	A$	No	A$	No	A$
Aust cards	150,646	39,959,984	220,053	63,491,661	332,396	82,162,968	121%	106%
o/s cards	47,795	16,552,405	79,929	25,131,480	110,065	28,337,731	130%	71%
Total	198,441	56,512,389	287,896	88,623,141	442,461	110,500,699	123%	96%

Aust cards - Credit card and charge card fraud perpetrated in Australia or overseas on Australian-issued cards

o/s cards - Fraud perpetrated in Australia on cards issued overseas

NB – 2006-07 to 2008-09 total number of credit/charge card transactions increased 17%

2006-07 to 2008-09 total number of fraudulent credit/charge card transactions increased 88%

Source: www.apca.com.au

Australian Payments Clearing Association

Counterfeit / skimming transactions 2006-09

Category	2006-07		2007-08		2008-09		change 2006/09	
	No	A$	No	A$	No	A$	No	A$
Aust cards	43,844	26,833,727	68,206	42,836,215	72,452	45,163,953	65%	68%
o/s cards	82,110	39,972,184	163,719	67,283,231	169,698	65,602,302	107%	64%
Total	125,954	66,805,911	231,925	110,119,446	242,150	110,766,255	92%	66%

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Source: www.apca.com.au

International identity fraud estimates

UK – Cyber Source Online Fraud Survey 2009 (150 merchants)

- 13% of merchants lost 5% of online revenue to fraud
- 33% of shoppers a victim of online credit card fraud or knew of a victim

UK – Association of Chief Police Officers Survey 2005

- £1.3 billion identity fraud losses involving 80,000 victims

US – Javelin Strategy & Research Survey 2008 (5075 consumers)

- 8 million victims of ID theft (4% of population) losing US$45 billion
- Decreasing rates from 2003 (US$54 billion lost)

Canada – Public Safety & Emergency Preparedness 2002

- Can$2.5 billion lost to identity theft in 2002

Cf – Australian estimates (AIC & SIRCA)

- Total Australian fraud $8.5 billion (2005); ID fraud $1.1 billion (2002)

Responding to payment fraud

Assessing levels of risk

- Risks from syntactic attacks continuing to develop
- 1 in 20 household users victimised by scams or identity fraud in 2008
- 1 in 7 businesses experienced computer security attacks 2006-07
- 0.02% of credit/charge card transactions fraudulent, 2008-09 (APCA)

Increasing the effort required to offend

- Card security, CVC, computer security, improved user authentication, biometrics, customer education to avoid risky behaviours

Increasing the risk of apprehension

- Real-time transaction monitoring, notification and blocking, data-sharing, data matching, identity evidence verification

Reducing the rewards of offending

- Harmonisation of laws across jurisdictions, skimming and identity crime offences, enhanced sanctions, confiscation of the proceeds of crime

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