

## **Towards a uniform solution to identity theft**

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**AC Events Smartcard Summit  
June 2005, Sydney**

**Stephen Wilson  
Lockstep Consulting Pty Ltd**



## **Phishing in the USA**

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**Gartner Research May 2004:**

- **57 million US consumers affected**
- **3% provide personal info**
- **19% click through**

[http://news.com.com/2100-7349\\_3-5234155.html](http://news.com.com/2100-7349_3-5234155.html)

<http://www.wallstreetandtech.com/showArticle.jhtml?articleID=26100381>



## Phishing in Australia

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*“Non-lending losses also increased [in the second half] with higher levels of internet phishing and cheque fraud.”*

**A Big Four bank, Financial Results FY04, October**

## Phishing in Australia

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### **ASIC issues alert as 'phishing' reports double**

Wednesday 15 June 2005

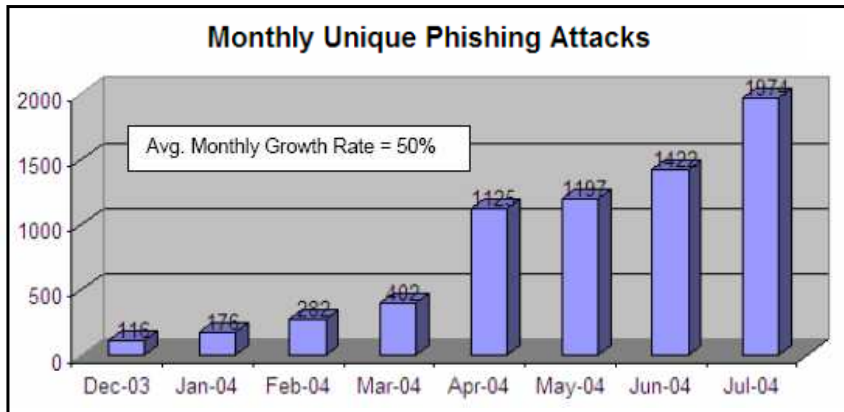
*“The Australian Securities and Investments Commission (ASIC) today warned people to beware of 'phishing', citing a recent doubling in reports to ASIC concerning this financial scam.”*

<http://www.asic.gov.au>

## Phishing globally



### Phishing Attack Trends Report July 2004



[www.antiphishing.org/APWG\\_Phishing\\_Attack\\_Report-Jul2004.pdf](http://www.antiphishing.org/APWG_Phishing_Attack_Report-Jul2004.pdf)

## Phishing globally

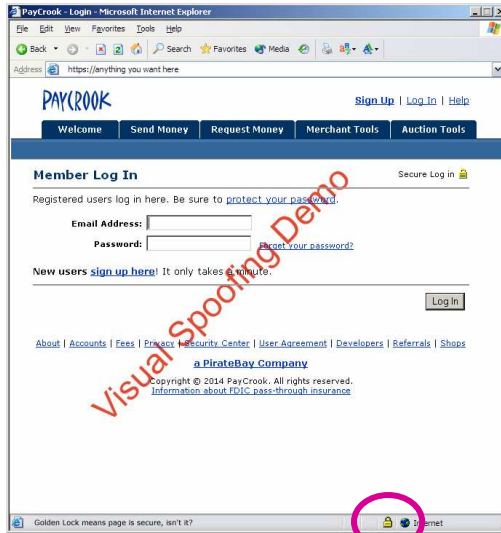
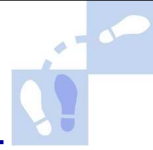


### Phishing Attack Trends Report April 2005



[www.antiphishing.org/APWG\\_Phishing\\_Activity\\_Report\\_April\\_2005.pdf](http://www.antiphishing.org/APWG_Phishing_Activity_Report_April_2005.pdf)

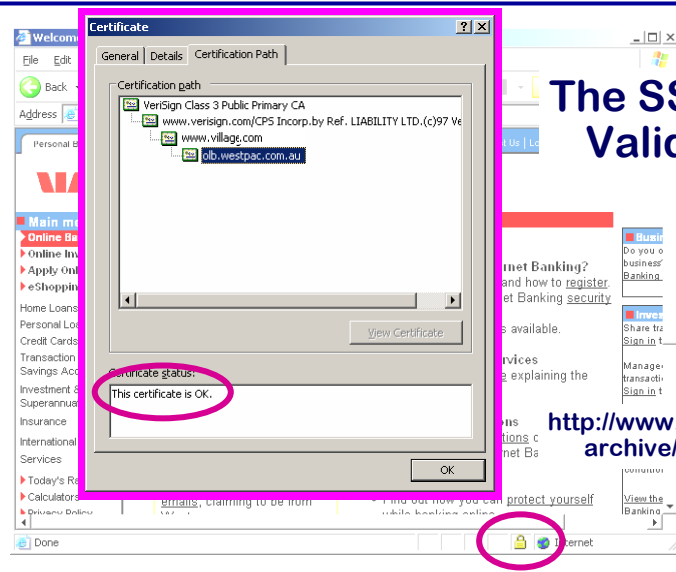
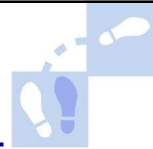
# Advanced phishing



Visual Spoofing

[www.docuverse.com/visualspooof](http://www.docuverse.com/visualspooof)

# The padlock is broken!



The SSL Path Validation flaw

<http://www.securityfocus.com/archive/1/286290>

## To fix phishing?

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*“I know that it sounds very basic, but education is the silver bullet”*  
Hani Durzi, eBay, New York Times, 7 March 05

*“The biggest problem in solving phishing is that it is not a technology issue”* Network World Web Apps Newsletter 31 Jan 05

*“Making consumer identity protection successful is not a technology issue”* Richard Hanson, VP RSA Security.

**It may be politically correct to call security an ‘all-of-business issue’, but the truth is, *phishing is a serious technology problem.***

## Bruce Schneier

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### **The Failure of Two-Factor Authentication**

Bruce Schneier Crypto-Gram

March 2005

<http://www.schneier.com/crypto-gram-0503.html#2>

*“Two-factor authentication won’t work for remote authentication over the Internet”*

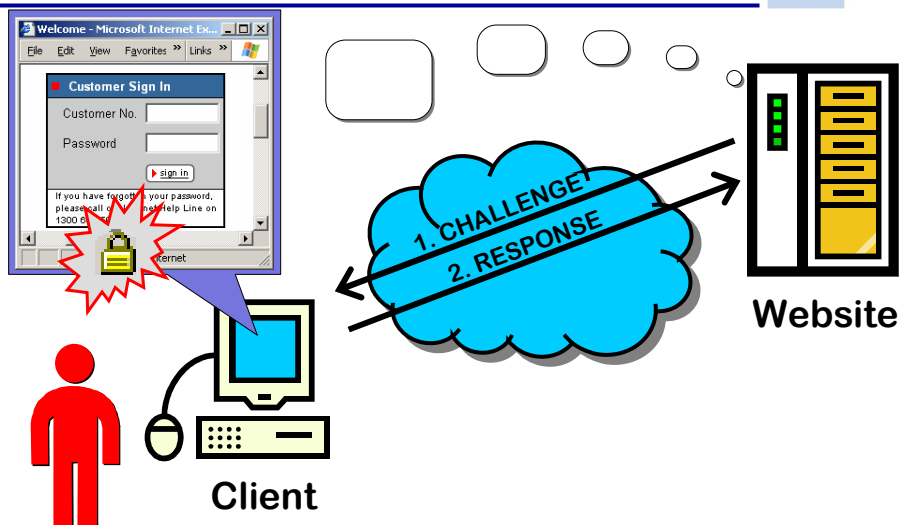
## US Government

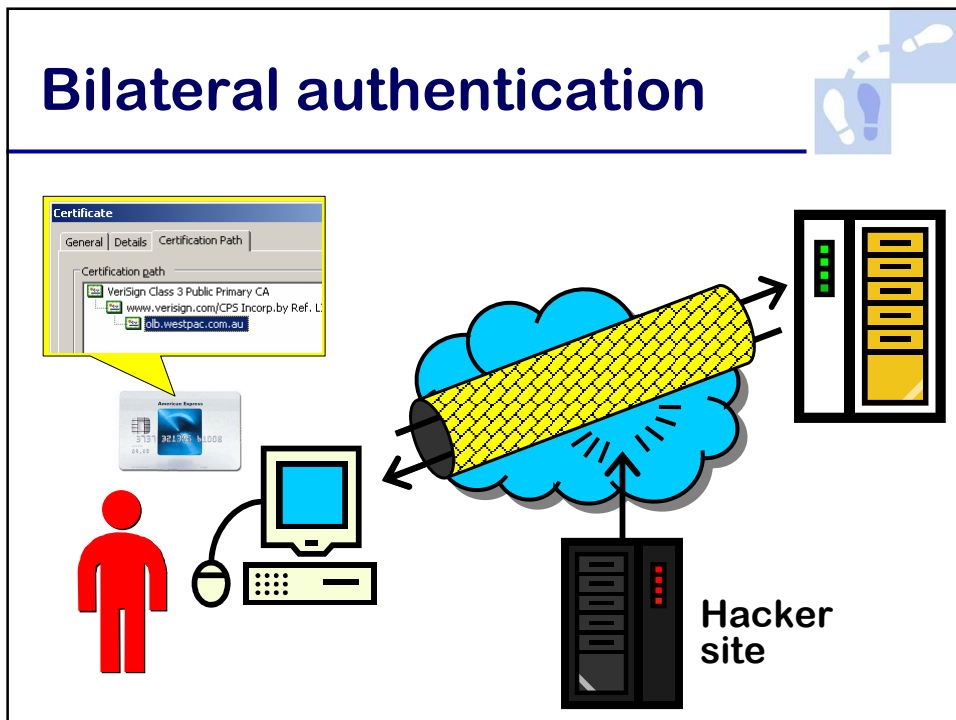
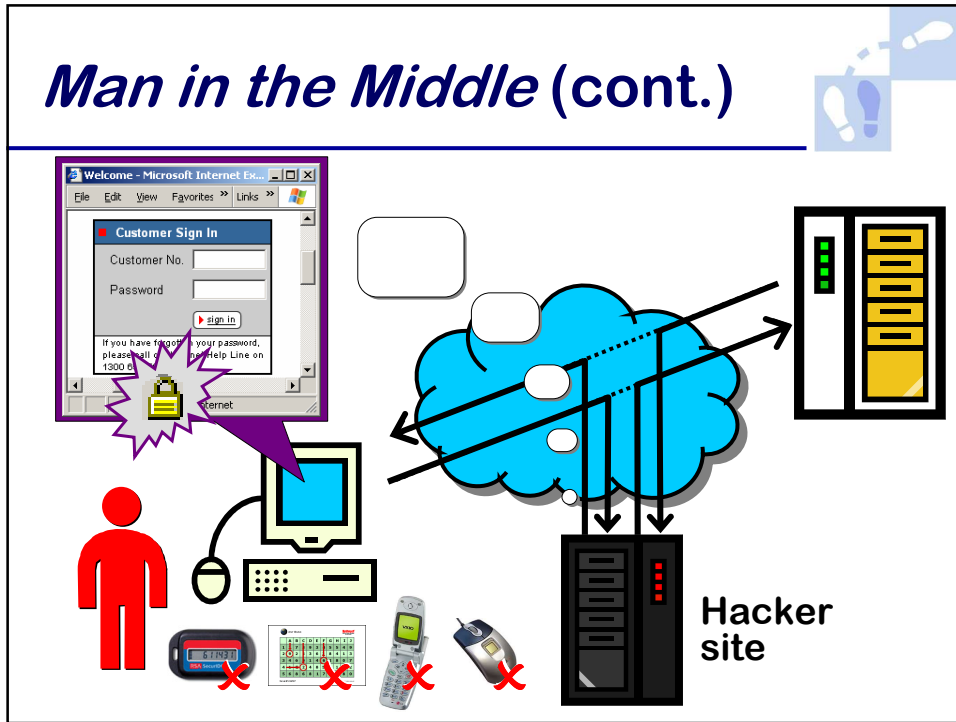
- **Level 4 remote authentication**
  - 2 factors: “hard token”
  - **Must resist eavesdroppers**
  - **Must resist man-in-the-middle attacks**

*“Only practical solution today uses PKI”*

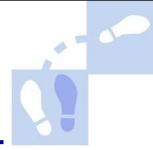
**Bill Burr, Manager Security technology**  
**US National Institute of Standards and Technology**  
[http://asia-pkiforum.org/feb\\_tokyo/NIST\\_Burr.pdf](http://asia-pkiforum.org/feb_tokyo/NIST_Burr.pdf)

## Man in the Middle attack





## Approaches to id theft



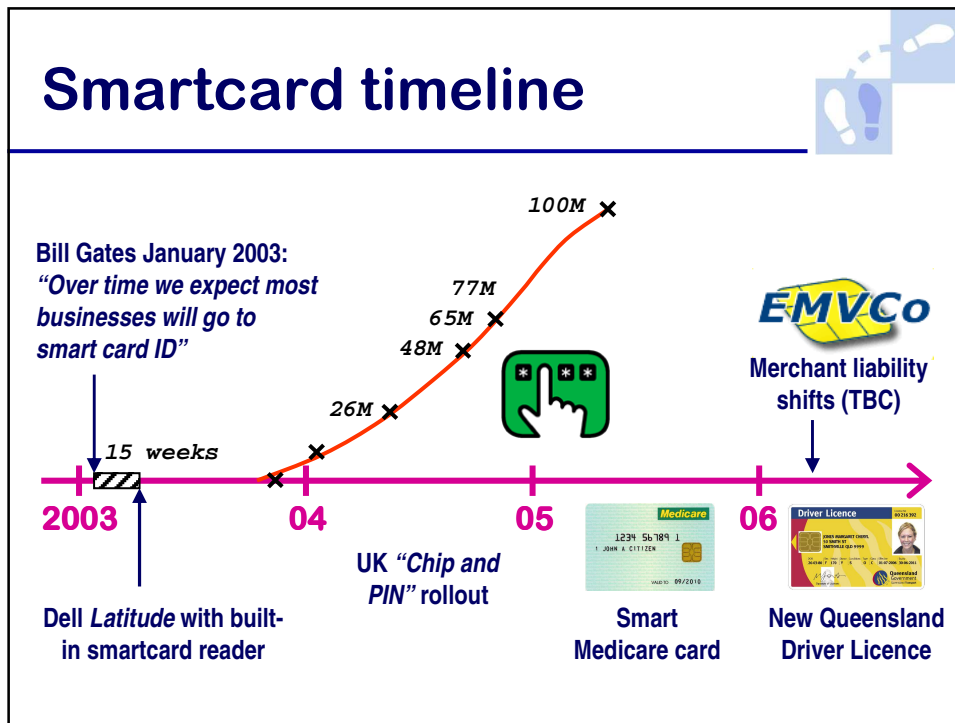
Technology	Pros	Cons
SSL alone	Very low cost	SSL soft keys vulnerable to attack
PIN token	No reader required	Poor fit for wallet/purse
SMS confirmation	No peripheral required	Need to replace phone if hacked? Variable response time
Row-column lookup card	No reader required	
Biometrics	Convenient? Cannot be lost	Expensive Variable performance
<b>Smartcard</b>	Protects SSL keys Familiar form factor	Requires reader
<b>USB key</b>	Protects SSL keys No reader required	Novel form factor

## Approaches (cont.)



Technology	Pros	Cons
SSL alone	Very low cost	<ul style="list-style-type: none"> <li>• Cannot protect SSL 'master codes'</li> <li>• Cannot prevent ghosting and phishing</li> </ul>
PIN token	No reader required	
SMS confirmation	No peripheral required	
Row-column lookup card	No reader required	
Biometrics	Convenient? Cannot be lost	
<b>Smartcard</b>	<b>Protect SSL codes</b>	Requires reader
<b>USB key</b>		Novel form factor





## Smartcards globally

<b>Japan:</b>	<b>1 M residence cards</b>
<b>Hong Kong:</b>	<b>2 M SMARTICS (6M target)</b>
<b>USA:</b>	<b>4 M smart id cards in DoD</b>
	<b>6 M Amex smartcards</b>
	<b>12 M Visa smartcards</b>
<b>Taiwan:</b>	<b>22 M health smartcards</b>
<b>UK:</b>	<b>100 M chip &amp; PIN cards</b>

**Discussion**

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**Stephen Wilson**  
**Principal**  
**Lockstep Consulting**  
**swilson@lockstep.com.au**  
**0414 488 851**

The logo for Lockstep Consulting is positioned vertically on the right side of the slide. It consists of the word "LOCKSTEP" in a bold, blue, sans-serif font. Below the text is a graphic element featuring a lightbulb and a footprint, both in blue and white, set against a light blue background.