

When I Need You to Know Who I Am ...

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Security in
knowledge



— You need to be identified when ...

- ▶ Most Internet interactions need a digital identifier unconnected with a real world corporeal existence
 - ▶ “All that Google knows is that you are an email address ...”
- ▶ “Real World” services have associated rights, ownership or protections ...
 - ▶ Licensed rights to media content
 - ▶ Access to Lab test results
 - ▶ Ownership of financial accounts or instruments
 - ▶ Voting or other citizen services
- ▶ Lack of verified real world identity disenfranchises individuals and limits their legal rights

Identity Source data

- ▶ Primary source documents
- ▶ Face to Face events
- ▶ Reported Information
 - ▶ Credit ratings
 - ▶ Late payments
- ▶ Public Records
 - ▶ Joe paid \$\$\$ for a house at ...
- ▶ Other
 - ▶ "Product shipped to xxx had no reported issues ..."
 - ▶ "Account usage shows suspicious behavior ..."
 - ▶ Limited to "local" usage



How is identity verified?

- ▶ Assurance level and context/usage
 - ▶ Passports and drivers licenses require face to face proof
 - ▶ As with most security & identity solutions cost matters
 - ▶ £120 per f2f vetting
 - ▶ Banks moved away from f2f verification circa 2005
- ▶ Knowledge Based Authentication
 - ▶ (Sadly) state of the art today
 - ▶ Costly + high friction causes large drop off rates
 - ▶ Barely acceptable for high risk / high value transactions



Leveraging High Assurance Verification



Transactions Made - [Details BB 03/26/2011 11:57 AM]

Date	Transaction Description	Cr/Dr	Transaction Amount (PHP)
03/25/2011	visae cv 03/24/11 pubb [73806] AP 8663 ALERTPAY	Cr	0.42
03/10/2011	ONLINE FUND TRANSFER	Cr	574.36
03/01/2011	ONLINE FUND TRANSFER	Cr	100.00
02/21/2011	VISA-PP*4009CODE SG(508)	Dr	100.00
02/21/2011	VISA-PAYPAL SG(840)	Dr	1.00
02/21/2011	OFF-US ATM WITHDRAWAL FEE	Dr	12.00
02/21/2011	OFF-US ATM WITHDRAWAL	Dr	500.00
02/21/2011	OFF-US ATM INQUIRY FEE	Dr	2.00

This is the verification code.

Establishing an Identity

- ▶ Primary source documents are not useful for most identity verification
 - ▶ Problematic for online registration
- ▶ Credit Reporting Agencies (CRAs) and other data aggregators are “primary sources” for identification
- ▶ How do they establish your identity?
 - ▶ Financial transaction history is powerful
 - ▶ Use is strictly limited and not generally available
- ▶ How is the identity associated with those transactions created ...?
- ▶ When is your credit file created...?



The following description is provided purely in the spirit of research and is intended for informational purposes and should not be considered a recommendation or suggestion

How to create a credit file

- ▶ Apply for a credit card by mail
 - ▶ Name=Fred, birthdate, address and phone number
 - ▶ available for mail pickup and phone responses
 - ▶ **Application will be declined, but credit file created**
- ▶ Open secured credit card account online
 - ▶ Name=Fred, address, birthdate and phone
 - ▶ as per original application.
 - ▶ deposit will be required
 - ▶ Spend \$50-100 per month and pay it off for 2 months.



How to create a credit file...

- ▶ Apply by mail for a retail credit card for Fred
 - ▶ 60-90 days after secured card activation
 - ▶ Birthdate, address and phone as per secured card
 - ▶ Application approved with a low limit
 - ▶ Charge \$50-100 per month & pay it off, for 2 months
- ▶ Apply for a major credit card, online for Fred
 - ▶ If declined, charge \$50-100 per month on secured & retail cards & pay off
 - ▶ Apply every 60 days at different providers until approved



How to create a credit file ...

- ▶ When approved, close secured card
- ▶ Leave retail account open & pay off the balance
- ▶ Continue to charge \$50-100 per month on major credit card, and pay it off
- ▶ Within a year credit score=700-800
- ▶ Obtaining credit is easy from this point



UK Govt Digital Service

- ▶ Move UK Govt service delivery online
 - ▶ More effective delivery and coverage
 - ▶ Dramatic reduction in delivery costs
- ▶ Fundamental requirement is an effective Identity system
- ▶ Effective identification of specific real world corporeal instances of UK citizens and associating them with digital identities and credentials is essential
 - ▶ In a cost effective, easy to use and foolproof fashion of course
- ▶ Much like the US (NSTIC), the UK defines a system of identity assurance and appropriate usage



The Thin File Problem

- ▶ Verifying the identities of 8-10% of your population using traditional bureau services does not work
 - ▶ Face-to-Face verification is expensive
- ▶ Whole segments of the population difficult to identify
 - ▶ Recent immigrants
 - ▶ New graduates
 - ▶ People over 60
- ▶ Insufficient financial transaction histories
- ▶ Governments cover the whole citizen body
 - ▶ Identity Disenfranchisement



Internet Life Verification

- ▶ Attributes used to assemble an credit file come from self asserted information
- ▶ Utilizing information from Internet transactions should allow us to construct an identity file
- ▶ Variety of transactions:
 - ▶ Social network interactions
 - ▶ Patterns of behavior
 - ▶ Shipping addresses



Identity Verification Summary

- ▶ Some forms of online transactions must be supported by verified identities
- ▶ Most Identity Verification devolves to continually self asserted information
- ▶ The Internet makes an intriguing new source of assertions that may be used to increase coverage

