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

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Security in knowledge

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Session Classification: Intermediate

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





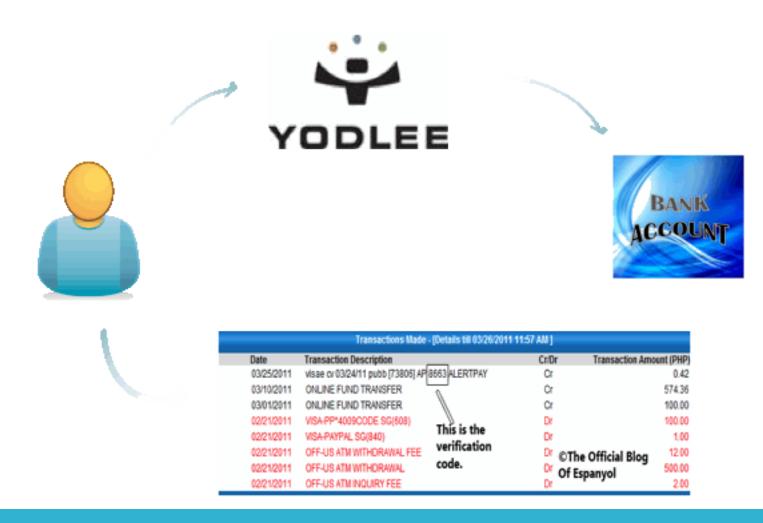
How is identity verified?

- 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



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



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