



Stephen Wilson **digital identity profile**

Stephen Wilson is a leading authority on digital identity and electronic authentication. For over 22 years he has helped organisations in government, healthcare and banking establish effective authentication systems and frameworks, providing high calibre advice on strategy, technology selection, architecture, policy, privacy and governance. His specialisations include national scale IDAM infrastructure, PKI, smart devices, cryptography, blockchain technologies and biometrics. He has been personally responsible for many important innovations and policy reforms, and today is one of the world's most original thinkers in digital identity. In December 2016, UK-based Innovate Identity named Stephen in the top 10 of *The Most Influential Thought Leaders in Digital Identity*. He is currently undertaking a PhD on the evolution and ecology of digital identity, at the Australian Defence Force Academy.

Selected digital identity engagements

- **Evernym (US) 2017-18:** Specialist adviser on key management and privacy for a US Dept of Homeland Security funded research project
- **Service NSW 2017:** Privacy Impact Assessment of new *MyAccount* facility
- **FIDO Alliance (US) 2017:** organised the first FIDO Alliance satellite seminar in Australia; produced *FIDO Update Q2 2017: Certification and Disruption*.
- **Australia Post 2017:** Retained as privacy adviser for new Digital ID service
- **Service NSW 2017:** PIA for the new *MySNSW* state citizen registration utility
- **Digital Transformation Agency 2016:** Retained to provide strategy advice on the Australian government's Trusted Digital Identity Framework and proposed Commonwealth Single Sign On hub, and to provide privacy engineering training
- **Attorney General's Face Verification Service 2016:** Four PIAs on new functionality being piloted for the new intra-government biometric matching hub
- **Queralt (US) 2016:** Acting Product Manager for this US government funded early stage innovator, developing FIDO and Derived PIV (mobile ID) software.
- **Dept of Homeland Security "MDAV" Project (US) 2016-18:** Awarded a DHS R&D grant to develop a novel *Mobile Device Attributes Verification* mobile wallet for First Responder credentials, based on Lockstep Technologies.
- **Biometrics Institute (UK) 2015-17:** Principal adviser on new biometrics privacy trust mark; undertook international feasibility study and road map; developed the evaluation criteria; designing and managed first trial
- **Large health insurer (US) 2016:** Wrote a strategic roadmap for large scale rollout of multimodal biometrics to tens of millions of policy holders
- **Conform (US) 2015-2016:** Privacy subject matter expert in the founding team for this identity management services company, undertaking an NSTIC Pilot.
- **Victoria Government 2014:** Advised the state on an all-of-government Citizen Identity & Access Mgt framework, leveraging social logon and government SSO
- **NSTIC National Strategy for Trusted Identities in Cyberspace 2012:** Led the preliminary privacy evaluation of the project management office infrastructure

Stephen's other digital identity clients since 1998 included the National eHealth Transition Authority (NEHTA), South Australia Health, the Westpac Trust Centre, the Victoria Department of Justice, the Australian National Smartcard Framework, Project Gatekeeper, the Internet Industry Association, the World Bank, eASEAN, Medicare Australia, Identrus, the New Zealand Bankers Association, Standard Chartered Bank, the Australian Stock Exchange, and the governments of Hong Kong, Indonesia, Kazakhstan, Macau, New Zealand and Singapore.

Patents

- AU 2009238204 *Authenticating electronic financial transactions* (2015)
- US 8,608,065 *Authenticating electronic financial transactions* (2014)
- US 8,347,101 *System and method for anonymously indexing electronic record systems* (2013)
- US 8,286,865 *Authenticating electronic financial transactions* (2012)
- AU 2012101460 *Verified anonymous code signing* (2012)
- NZ 589160 *Authenticating electronic financial transactions* (2012)
- AU 2005220988 *System and method for anon indexing electronic record systems* (2005)
- AU 2004100268 [*Using*] *cryptographic devices to combat online institution id theft* (2004)
- AU 743570 *Means and method of registering new users in a system of registered users* (2002).

Committees & Professional Associations

- Cloud Identity Summit / Identiverse Privacy Track Committee 2016-18
- Mobile World Congress *GLOMO Awards* IDAM category judging panel 2016-18
- Standards Australia Information Security Committee IT-12-4 (since 2004)

- Gatekeeper Policy Committee (2004-2014)
- National Strategy for Trusted Ids in Cyberspace Privacy Committee (2012-14)
- NATA IT Testing Accreditation Advisory Committee (2003-14)
- Australian Law Reform Commission Emerging Technology Committee (2007-8)
- OASIS PKI Adoption Technical Committee - Chair (2007-08)
- Asia PKI Forum - OASIS Liaison Representative (2005-08)
- Smartcards & Information Security Australia (Co-chair) (2005-07)
- National Electronic Authentication Council (NEAC) (1998-2001)
- Federal Privacy Commissioner's PKI Reference Group (2001)
- Certification Forum of Australasia - Chair (1998-2001)
- American Bar Association Information Security Committee (1999-2002)
- APEC e-Authentication Task Group (1998-2001)
- National Authentication Working Group - Co-chair (2000-01).

Selected Identity publications & presentations

- *A Digital Identity Stack to Improve Privacy in the Internet of Things*, S. Wilson, N. Moustafa & E. Sitnikova, IEEE World Forum on IoT, Singapore, Feb 2018
- *FIDO Update Q2 2017: Certification and Disruption*, Constellation Research, 12 Oct 2017
- *FIDO and the broader identity landscape* FIDO Alliance Seminar, Sydney, 25 Sep 2017
- *How Healthy is Blockchain Technology?* HIMSS Asia Pac Conference, Singapore, Sept 13, 2017 (awarded Best Paper of the conference)
- *Biometric Standards, Large and Small "Biometrics and Regulation"* Tenth Workshop on the Social Implications of National Security (SINS17), Sydney, 9 Aug 2017

Selected Identity publications & presentations cont.

- *Attribute Certificates Redux – Mobile Device Attributes Validation* DHS Cyber Showcase, Washington DC, July 13, 2017
- *PKI Post Blockchain* Cloud Id Summit, Chicago, June 20, 2017
- *Re-inventing the Privacy, Security and UX Trade-off*, K(NO)W Identity, Washington DC, May 16, 2017
- *Identity on blockchains*, K(NO)W Identity, Washington DC, May 15, 2017
- *The limits of algorithms and implications for AI safety*, AI in Asia Symposium, Korea University Law School, Seoul, December 16, 2016
- *Blockchain Reality Check*, NIST Blockchain and Healthcare Workshop, Gaithersburg, USA, September 26, 2016
- *There is no ID in blockchain*, Cloud Identity Summit, New Orleans, 7 June 2016
- *The future of digital identity*, Bankinter Innovation Foundation, Future Trends Forum, Madrid, 4 Dec 2015
- *Forget about identity*, Cyber Identity Sandpit – Command, Control, and Interoperability Center for Advanced Data Analysis (CCICADA), Rutgers University, New Jersey, 1 July 2015
- *Rationing Identity in the Internet of Things*, Cloud Identity Summit, San Diego California, 10 June 2015
- *Biometrics and Privacy – Can we build trust?* Biometrics Institute Asia-Pacific Conference, Sydney, 28 May 2015
- *The Biometrics Institute Trust Mark 2015* Identity Conference, Wellington New Zealand, 19 May 2015
- *FIDO Alliance: On Track to a Standard* Constellation Research report, April 2015
- *Identity Management Moves from Who to What – The State Of Identity Management In 2015*, Constellation Research report, April 2015
- *Abandoning identity in favor of attributes* SecureIDNews Dec 2014
- *Submission on Biometrics* Lockstep Consulting, to the UK Commons Select Committee - Science and Technology, September 2014
- *Consumer Authentication Panel*, Biometrics Institute Showcase, Canberra Nov 2014
- *The FIDO Alliance*, Biometrics Institute Showcase, Canberra 18 November 2014
- *How to Protect Your Customers' Digital Identity and Personal Data* (Privacy Master Class), Social Media Week Sydney, 26 September 2014
- *The future of identity assurance in government*, 26th Security in Government conference, Canberra, 2 Sept 2014
- *FIDO Alliance Update: Identity Management Implications for a World of Digital Business*, Constellation Research report, Aug 2014
- *The Authentication Family Tree*, Cloud Identity Summit, Monterey California 2014
- *Fractional Identity: An alternative to NSTIC and Federated Identity Models* G. Peabody & S. Wilson, Re:ID Magazine, Summer 2013
- *Yubico: Digital Keys Come of Age*, Constellation Research report, Feb 2014
- *The FIDO Alliance*, Constellation Research report, Dec 2013
- *Attribute Exchange Networks: Critical New Infrastructure for E-Business*, Open Identity Foundation White Paper, 2013
- *The Consumerization of Identity*, Constellation Research report, Oct 2013
- *Applying Information Privacy Norms to Re-Identification Demonstrations*, Harvard Law School, May 2013
- *Re-engineering Digital Identity* Cloud Identity Summit, Napa USA, 2013
- *Fractionating Identity: The ecology of Digital Identity* MIT Media Labs, 2013,

Selected Identity publications & presentations cont.

- *Legal Limits to Data Re-Identification* Science 8 Feb 2013: Vol. 339 no. 6120 pp. 647
- *Cyber law & e-authentication in Australia*, International Seminar on Cyber Law, Bali, Indonesia, January 2013
- *Calling for a Uniform Approach to Card Fraud Offline and On* Journal of Internet Banking and Commerce, Dec 2012, vol. 17, no. 3
- *Identity Evolves: Why Federated Identity is easier said than done*, AusCERT 2011 Security Conference, Gold Coast, May 2011
- *Digital Identity in the Age of the Empowered Customer*, SWIFT Inn tribe Sydney, 2012
- *The false allure of Federated Identity*, Cyber Security Summit, Sydney, 2012
- *Kiss Identity 2.0 goodbye! Why federated identity is easier said than done*, Cards & Payments Digital ID World, Sydney, 2012
- *Integrating Chip & PIN with 3D Secure to improve CNP fraud prevention*, Cards & Payments Innovation Seminar, Sydney, 2012
- *Smart Ticketing: The Move to Open-Loop Transit*, Mercator research paper, 2011
- *Electronic Verification: new benchmark for customer identity*, Veda Whitepaper, 2011
- *Smartcards, digital identity & black holes* 5th Smartcards Summit Canberra, 2009
- *Virtual Identities; Real Threats* 4th Annual ID & Access Summit Sydney, 2009
- *Anonymity & Pseudonymity in eResearch via smartcards and Public Key Infrastructure*, eResearch Australasia 2009, Sydney, 2009
- *Biometric Banking?* Online Banking Review, April 2009
- *An easily validated security model for e-voting based on anonymous public key certificates*, AusCERT2008 Security Conference Academic Stream, Gold Coast, 2008
- *Public Key Superstructure*, NIST IDtrust Workshop, Maryland USA, 2008
- *Re-thinking Identity & Privacy* 3rd Annual ID & Access Summit Sydney, 2008
- *A Practical Guide to Authentication* AusCERT Security Conference Gold Coast, 2007
- *Me Myself and I* Online Banking Review, December 2007
- *Embedded PKI state of the art* 6th International Asia PKI Symposium, China, 2006
- *A new manifesto for smartcards as national information infrastructure*, 5th Homeland Security Conference Canberra, 2006
- *The importance of PKI today* China Communications, Dec 2005
- *Clear Heads Needed for Federated ID* Online Banking Review, December 2005
- *Relationship Certificates* 5th International Asia PKI Symposium, Beijing, 2005
- *A novel application of PKI smartcards to anonymise Health Identifiers* AusCERT2005 Security Conference Academic Stream, Gold Coast, 2005
- *Guidelines on how to determine Return on Investment in PKI* OASIS June 2005
- *PKI lessons from Australia* Asia PKI Forum, Tokyo, 2005
- *PKI State of Play* Argus Foundation Forum, Canberra, 2004
- *Position Statement on PKI of the Australian Security Industry*, 2003
- *PKI without Tears* Voice & Data Vol 2 No. 9, 2003
- *Rethinking PKI – the electronic business card* SC Magazine, June 2003
- *PKI lessons from Australia* Global eBusiness Forum, Geneva 2003
- *Re-thinking PKI* Hong Kong PKI Forum Hong Kong, 2003
- *Electronic Authentication – Issues relating to its selection and use* (contributor) APEC Business Facilitation Steering Group eSecurity Task Group, 2002
- *A Critical Review of PKI* RSA Conference, San Jose, 2002
- *Application-driven cross-recognition* RSA Conference, San Jose, 2002
- *Leveraging external accreditation to achieve cross-recognition* Attorney Generals Privacy & Security conference, Melbourne, 2001
- *PKI and the Acceleration of B2B* European-American Business Journal, Spring 2001

Selected Publications & Presentations cont.

- *Comparison of Authentication Technologies in E-business* Asia Business Law Review, 2001
- *Will Biometrics Obsolete PKI?* American Bar Association, June 2001
- *A private sector perspective on PKI* Health Informatics HIC2001, Canberra, 2001
- *Demystifying international cross-recognition of PKI: we've been barking up the wrong tree* International Security Solutions Europe Conference, London, 2001
- *Attribute Certificates and their Limitations* Journal of the PricewaterhouseCoopers Cryptographic Centre of Excellence, Issue 3, 2000
- *The international rise of PKI* Information Security New Zealand Wellington, 2000
- *New models for the management of public key infrastructure and root certification authorities.* Proceedings of 7th IFIP Conference Info Security, Amsterdam 1999
- *Some limitations of web of trust models* Information Management & Computer Security, Vol. 7, No. 2, 1999.