The State of Biometrics in Australia and New Zealand Including Vulnerability Research

International Session
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Overview

- Introduction to the Biometrics Institute
- Biometrics Institute Industry Survey – key findings
- Biometric Vulnerability Assessment Update
Who are we?

Founded in 2001 – celebrating 10 year anniversary in October 2011.

The Biometrics Institute is independent and not-for-profit.

It is a unique forum that brings together the whole of the biometrics industry – users, suppliers and researchers – while giving users more power in setting the direction of this not-for-profit membership organisation through double the voting rights and a majority on the Board of Directors.

The mission of the Biometrics Institute is to be a forum for biometric users and other interested parties and to facilitate the responsible use of biometrics.
Goals of the Biometrics Institute

- Promote the responsible and ethical use of biometrics
- Provide forum for discussion about biometrics
- To educate and inform
- Promote and develop standards, benchmarks and test regimes
- To provide policy input to government
- To encourage appropriate research and development

Current Members:
- 56 Users (incl. state and federal government departments)
- 46 Suppliers
- 8 Universities/ Research
- = 110 Organisations
Biometrics Institute Members –
Over 100 organisations

Users (54)

Bank of New Zealand

- ANZ Banking Group Limited
- Attorney-General's Department (AG) - D Branch
- Attorney-General's Department (AG) - Identity Security Branch
- Australia Post
- Australian Customs and Border Protection Service - Strategic Development (Passengers) Branch
- Australian Customs and Border Protection Service - CCTV Projects & Operations, R&D Branch
- Australian Federal Police (AFP) - Forensic Services
- Australian Federal Police (AFP) - High Tech Crime Operations (HTCO)
- Australian Taxation Office (ATO) - Brisbane
- Australian Taxation Office (ATO) - ICT Voice Services
- Australian Taxation Office (ATO) - IT Security
- Bank of New Zealand
- Bank South Pacific Information Technology
- Brisbane Airport Corporation Ltd
- Centrelink
- CrimTrac Agency
- Defence Science & Technology Organisation (DSTO)
- Defence Signals Directorate (DSD)
- Department of Corrections (NZ)
- Department of Defence - Chief Information Office Group
- Department of Defence - Investment Analysis Branch
- Department of Foreign Affairs & Trade (DFAT) - Australian Passport Office
- Department of Foreign Affairs & Trade (DFAT) - Diplomatic Security Branch
- Department of Human Services (DHS) - VIC Government
- Department of Immigration and Citizenship (DIAC) - Biometric Projects Group, Biometrics & Identity Policy Section
- Department of Infrastructure, Transport, Regional Development & Local Government - Office of Transport Security
- Department of Internal Affairs (DIA) (NZ) - Identity Services
- Department of Justice (VIC) - Corrections Victoria
- Department of Labour (DOL)
- Department of Prime Minister and Cabinet (PMC) - NSST Branch
- Department of the Attorney General and Corrective Services (WA) - Information Services Division
- Foreign and Commonwealth Office UK
- Forensicare
- Inland Revenue Department, NZ
- Inland Revenue NZ
- Ministry of Defence Singapore
- Ministry of Social Development (MSD) - Integrity Services
- National Association of Testing Authorities (NATA)
- National Australia Bank Ltd (NAB)
- New Zealand Customs Service
- New Zealand Ministry of Defence
- NSW Department of Corrective Services (DCS) - Asset Management
- NSW Police Force - Anti Terrorism Security Group (ATSG)
- NSW Police Force - Forensic Services Group
- NSW Police Force - Operational Information Agency
- Privacy NSW (Office of NSW Privacy Commissioner)
- Qantas Airways Limited
- Queensland Department of Transport and Main Roads
- Queensland Police
- Roads & Traffic Authority (RTA)
- TAFE NSW - ICT & Design Faculty
- VIC Roads
- Victoria Police - Intelligence & Covert Support Department (ICSD)
- Western Australia Police
- Westpac Banking Corporation

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Biometrics Institute Members – Over 100 organisations

Suppliers (47)
- ABnote Australasia Pty Ltd
- Argus Global
- Aulich & Co
- Auraya Systems Pty Ltd
- Aware, Inc.
- Axeze Pty Ltd
- Beacon Consulting (NZ)
- Biometix Pty Ltd
- Biometric Consulting Group
- Cognitec Systems GmbH
- Daon
- Datacard Group South Pacific Pty Ltd
- Gemalto Pty Ltd
- Geoff Poulton Research
- Giesecke & Devrient Australasia P/L (G&DAus)
- Hagemeyer Photographics
- Hewlett-Packard
- Hitachi Australia Pty Ltd
- Identity One
- Information Technologies Australia Pty Ltd (iTa)
- InTec1 Pty Ltd
- Jebel Consultant Group
- Fujitsu Australia Limited
- Mondami Pty Ltd
- Morpho
- NEC
- PeopleKey
- Raytheon Australia Pty Ltd
- Rofin Australia Pty Ltd
- Salmat

Cognitec

Daon

Secom Australia Pty Ltd
- Secure World (International) Technologies Ltd
- Shanahan Tudhope Lawyers
- Siemens Ltd Australia
- Unilink Software
- Unisys
- Valid8 Technologies Pty Ltd
- Wacom Australia Pty Ltd

Unisys

University of Technology Sydney

Canberra Institute of Technology (CIT)
- Queensland University of Technology (QUT) - Faculty of Built Environment and Engineering
- RMIT University - School of Computer Science & Information Technology
- RMIT University - School of Electrical and Computer Engineering
- RMIT University - School of Mathematical and Geospatial Sciences (SMGS)
- University of Southern Queensland (USQ) - Division of ICT Services
- University of Technology Sydney (UTS) - Centre for Forensic Science

Research Subscribers (7)
Board of the Biometrics Institute

Paul Kirkbide, BSc, BSc(Hons), PhD, Chairman & Director, Biometrics Institute. Paul is also Chief Scientist, Business Support, Australian Federal Police (AFP) - Forensic Services.

Paul Cross, Director, Biometrics Institute. Paul is also the Assistant Secretary, Department of Immigration and Citizenship (Australia)

Terry Hartmann BSc, Director, Biometrics Institute. Terry is also the VP, Identity & Credentialing Global Practice Lead, Unisys.

Kevin Darch, Director, Biometrics Institute. Kevin is also Manager Visual Identification Unit at QLD Police.

Arron Baker, Director, Biometrics Institute. Arron is also the Programme Manager - Identity & Biometrics, Department of Labour Immigration) New Zealand

Caroline Hubbard, Director, Biometrics Institute. Caroline is also the Strategic Development Manager ID Services at the Dept. of Internal Affairs New Zealand.

Biometrics Institute Team (Management & Secretariat)

Isabelle Moeller, General Manager & Company Secretary (third from left)
Nadia Figol, Manager (left)
Paula Souvannavong, Administration Officer (second from left)
Michelle Porter, Administration Support (right)
Biometrics Institute Privacy Code - a first of its kind

- In operation in Australia since September 2006
- Approved by the Australian Privacy Commissioner Karen Curtis and forms part of Australian Privacy Legislation
- Binding upon organisations that have agreed to be covered by the Code, only members of the Biometrics Institute are eligible to subscribe to this Code
- Requires subscribers to conduct an audit of biometric systems and mandates the use of privacy impact assessments.
- Currently working on a Privacy Charter

Privacy Awareness Checklist (PAC)

- Launched in May 2010 to assist members in a quick and easy way to assess privacy impacts when using biometrics.
- It provides a snapshot in time of where the organisation sits in regards to privacy.
- There is a requirement to indicate on the membership application or renewal form whether the PAC will be reviewed within 3 months of signing up or renewing membership.
- The PAC includes guiding information about Information Holdings, Management Policies and Procedures, Privacy Awareness and Training, Privacy Analysis, Risk and Threat Assessment, Privacy Enhancing Responses and Compliance Mechanisms.
Biometrics Institute Industry Survey
June 2011

Aim:
- Capture different trends and developments in the biometrics industry
- Provide guidance regarding expectations for the performance of the industry in the coming year.

Survey Circulation:
- Circulated to 641 contacts (similar to 2010)
- Press release to 2800 contacts
- 137 responses received of which 55% are members of the Biometrics Institute (73% in the 2010 Survey)
- 65% from Australia, 12.4% of respondents from New Zealand, 11.7% from Asia and 3.6% from Europe.
As in 2010, the majority of respondents are involved in facial recognition (58.4%), followed by fingerprint recognition (56.7%). This year iris recognition has come third (37.2%) as opposed to smart cards in 2010.
Most significant development during 2010-11 and coming years:

**Biometrics at the Border** (in 2010 Survey: Increased User Acceptance)
“Next big thing”: Biometrics on the move (as in 2010 Survey)

What do you expect to be the “next big thing” (please tick all that apply)?

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Major future applications:
1. Border Security
2. Immigration Services
3. Identity Info Management

The main market restraints:
1. Data Sharing
2. Government Secrecy
3. Cost

Hygiene concerns and Low Security Threat are rated as low impact by the respondents.

The systems are used for various purposes including **Identity Management and combating ID theft**.
During 2010-11 suppliers sold in Australia / New Zealand:

1. **Fingerprint** (Facial came first in the previous year)
2. **Facial**

Like in the previous year, most of the customers are government agencies followed by financial services.

Looking ahead, it is expected that fingerprint, facial and iris biometrics will be the main purchases over the next 2 years.
Why is Vulnerability Important?

- For many years a “forgotten aspect” of biometric system performance
  - Was neglected by systems suppliers

- But what good is a security system that can be easily bypassed by a determined attacker?
  - 2002: Publication by Thalheim et al. in a popular magazine
    - Showing how to beat common systems (face, finger, iris)
    - Many others have repeated their results since.
  - Standards are being developed
Co-funded by the **Australian Government Department of the Prime Minister** under the Research Support for Counter-Terrorism Programme for the Biometrics Vulnerability Assessment Project.

It developed a **general methodology framework for the assessment of biometric systems vulnerability** as well as a **specific methodology applicable to Face, Fingerprint and Voice**, outlining the capability to test and report on the vulnerability of any individual system, including suggested countermeasures to identified risks is being developed.

The Biometrics Institute uses the methodology as the basis for the **Biometric Vulnerability Assessment Service (BVAS)**, a commercial service offering such assessments both within Australia and overseas.
Aims of the BI BVA Methodology

- Applicable to any biometric system
- Statistically sound
- Gives a definite assessment of system vulnerability
  - In terms of “spoofing rate”
  - Even for limited numbers of measurements
- Can be readily used to compare systems
- Capable of conforming to emerging standards
Independent assessment of the vulnerabilities of submitted biometric technologies (face, fingerprint, iris and voice).

The Institute established a Biometrics Vulnerability Assessment Expert Group (BVAEG) in 2010 with the aim to:

- Raise awareness about the importance of vulnerability assessments and that mitigation is available
- Support the development of a common standard and align to SC37
- Have a basis for a methodology and put experiences into practice together
Biometrics Vulnerability Expert Group (BVAEG)

Membership is by invitation only and Members need to demonstrate their expertise in the field. Members are:

- Isabelle Moeller, Biometrics Institute (Co-ordinator) – UK/ANZ
- Ted Dunstone, Biometix - Indonesia
- Geoff Poulton, GP Research - Australia
- Nigel Gordon, Communications Electronic Securities Group (CESG) - UK
- Tony Mansfield, National Physical Laboratory (NPL) - UK
- Ralph Breithaupt, Federal Office for Information Security (Bundesamt for Sicherheit in der Informationstechnik) - Germany
- Raul Sanchez-Reillo, University Carlos III of Madrid (UC3M) - Electronic Technology Department - Spain
- Elaine Newton, National Institute of Standards and Technology (NIST) - USA

A first formal full-day meeting of the BVAEG will be held in London on the 21 October 2011 (invitation only hosted by NPL).