



Daon - your trusted Identity Partner

Biometric Standards since 9/11

Catherine Tilton

9 November 2011



HOMELAND SECURITY
STANDARDS PANEL
(ANSI-HSSP)
*Tenth Annual Plenary
Meeting and Workshop*

NOVEMBER 9-10, 2011 | ARLINGTON, VA

What are biometrics?

- automated recognition of individuals based on their behavioral and biological characteristics

ISO/IEC DIS 2382-37

- Examples of biometric types:

Physiological

- Fingerprint
- Face
- Iris
- Hand geometry
- Vascular
- Retina
- DNA
- Palm print

Behavioral

- Voice
- Keystroke
- Signature
- Handwriting
- Gait



Biometric systems are becoming more sophisticated

- Larger and more complex
- Enterprise architectures built on the Services Oriented Architecture (SOA) model & standards
- Emphasis on data sharing & reuse of resources/ services
- The need for vendor independence, multiple sources
 - Departure from custom solutions
 - Embracing of open systems, standards
- New requirements for interoperability & flexibility



Biometric Data Sharing

Cross-Program

Cross-Agency

Inter-state

International



Standards Acceleration

Pre 9/11

■ Law enforcement standards

- ANSI/NIST ITL1-xxxx
- EFTS
- WSQ

■ Small set of commercial standards

- BioAPI 1.1
- CBEFF
- ANSI X9.84

Post 9/11

■ Formal biometric standards committees formed

- INCITS M1: late 2001
- ISO/IEC JTC1 SC37: June 2002

■ Biometrics work in other groups

- ISO/IEC JTC1 SC17 & 27
- ISO TC68
- ITU-T
- OASIS

EFTS = (FBI's) Electronic Fingerprint Transmission Specification

WSQ = Wavelet Scalar Quantization (standard)

CBEFF = Common Biometric Exchange File Format

The Transformation

The year '1999' is displayed in a large, bold, orange-to-yellow gradient font with a slight 3D effect and a drop shadow.

NIST Workshop:



- Industry rejects the notion of a standard fingerprint minutiae template
- CBEFF project initiated to standardize “package” instead

The year '2005' is displayed in a large, bold, purple-to-pink gradient font with a slight 3D effect and a drop shadow.

ISO/IEC 19794-2 Biometric Data Interchange Format - Part 2: Finger Minutiae Data published

By the Numbers



		
Published	30	53
Final draft	1	3
Draft*	0	34
New projects/proposals	2	8

As of Oct 2011

*Includes withdrawn standards & significant amendments, but not revisions and standing documents

SC37

Areas of Standardization

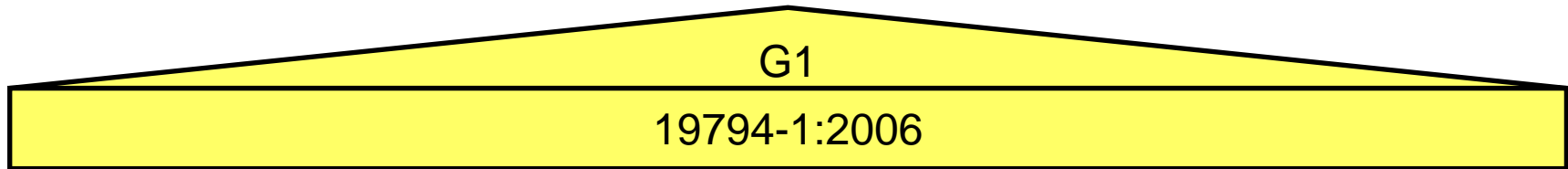
WG1	Harmonized Biometric Vocabulary and Definitions	UK
WG2	Biometric Technical Interfaces	Korea
WG3	Biometric Data Interchange Formats	Germany
WG4	Profiles for Biometric Applications	USA
WG5	Biometric Testing and Reporting	UK
WG6	Cross Jurisdictional and Societal Aspects	Italy

Secretariat and Chair: US / ANSI



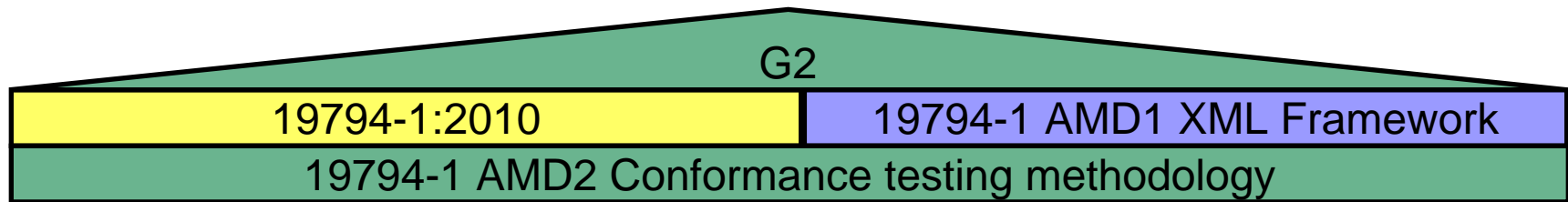
ISO/IEC 19794 Roadmap

Source: Christoph Busch,
WG3 Convenor



-2: 2005	-3: 2006	-4: 2005	-5: 2005	-6: 2005	-7: 2007	-8: 2006	-9: 2007	-10: 2007
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All parts
binary encoding



-2: 2011	-4: 2011	-5: 2011	-6: 2011	-7: 201x	-8: 2011	-9: 2011	-11: 201x	-13: 201x	-14: 201x
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part 4 with binary & XML encoding

parts with XML encoding

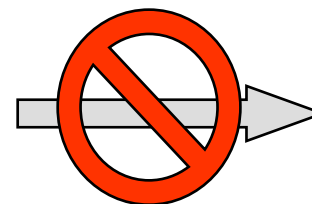
Practical benefits – data formats

Vendor A

Vendor B

Before
(Proprietary
Formats)

Enroll
Capture
Process
Match



Enroll
Capture
Process
Match

Now
(Standard
Formats)

Enroll



Capture
Process
Match

Capture
Process



Match

Capture



Process
Match

Who is sharing data?



5CC countries



EU-VIS/BMS, Eurodac



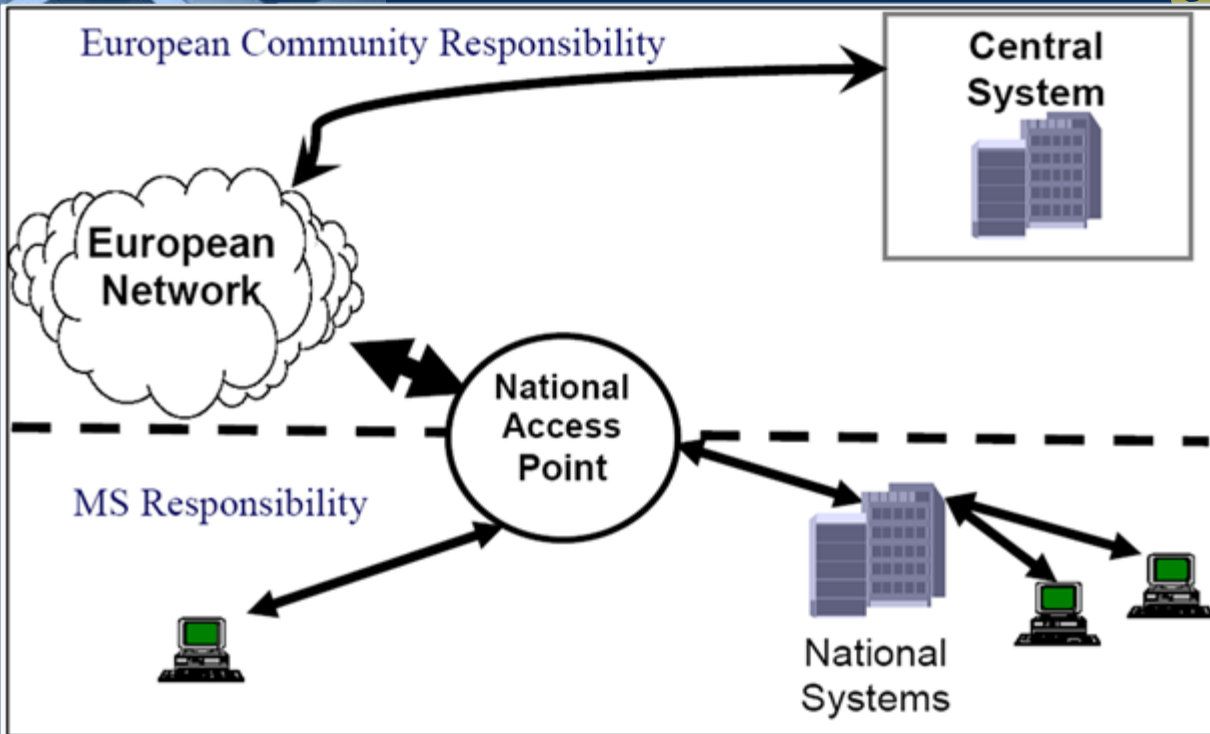
US DOJ, DHS, DOD, DOS



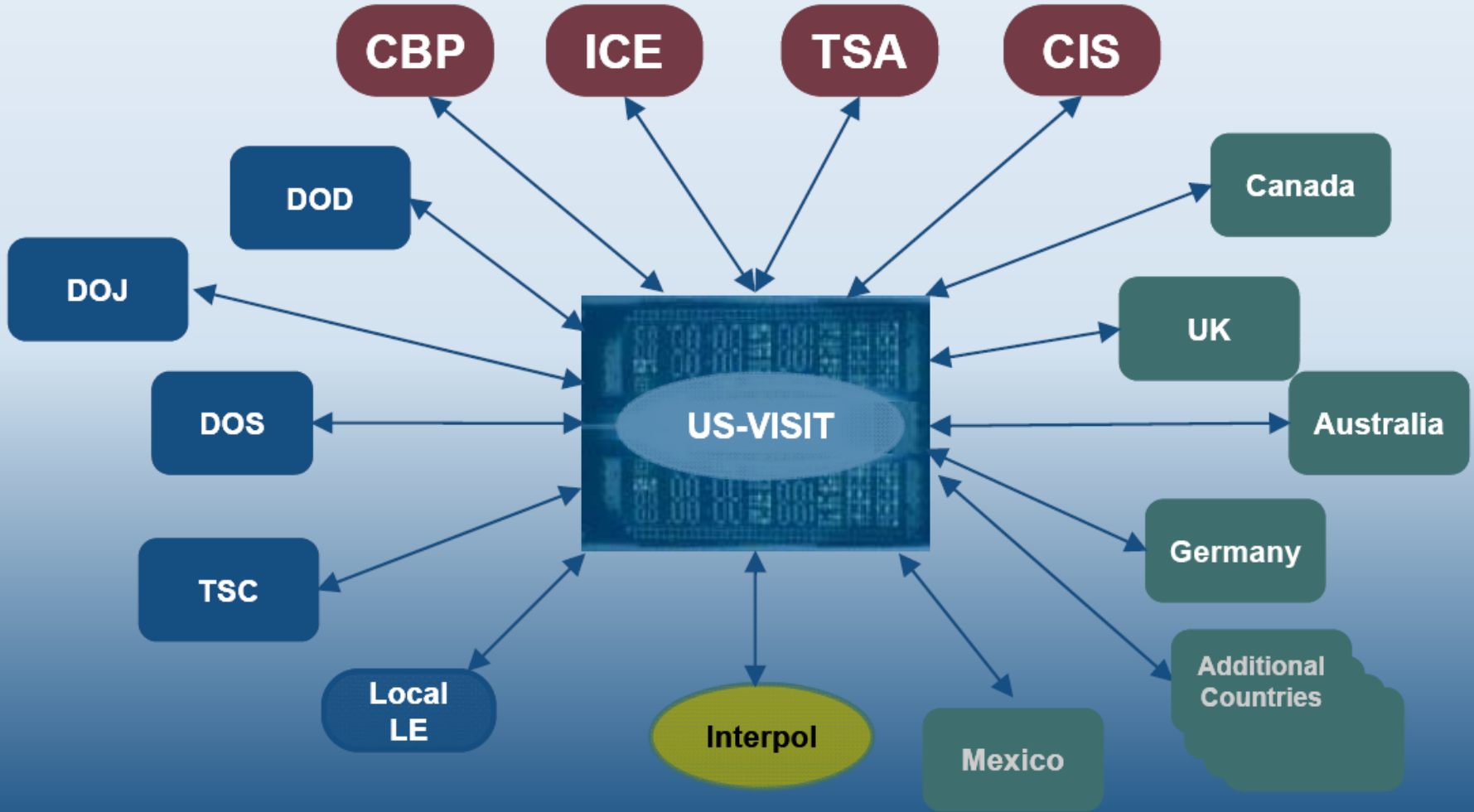
Interpol (188 countries)

EU-VIS/BMS

(Visa Information System/ Biometric Matching System)



US-VISIT



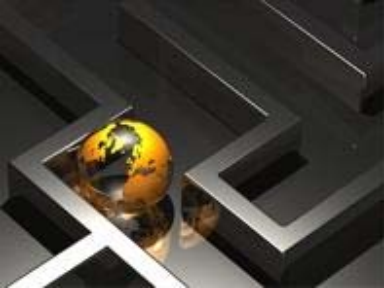
Roles of biometrics

- Identity proofing
- Background checking
- Identity fixing
- Duplicate (uniqueness) checking
- Watchlist checking
- Identity verification (various processes)
- Recidivist tracking
- Credentialing
- Physical access control
- Logical access control
- Surveillance



**Identity
Management**

Questions?



The background of the slide features a 3D maze structure. A large, glowing yellow and orange globe is positioned in the center of the maze, resting on a platform. The maze is composed of grey, rectangular blocks that create a complex path. The lighting is dramatic, with strong highlights and deep shadows, giving the scene a futuristic and technical appearance.

Thank You !

*Catherine J. Tilton, CBP
VP, Standards & Technology, Daon
11955 Freedom Drive, Suite 16000
Reston, VA 20190
703-984-4080
cathy.tilton@daon.com*