

BIAS

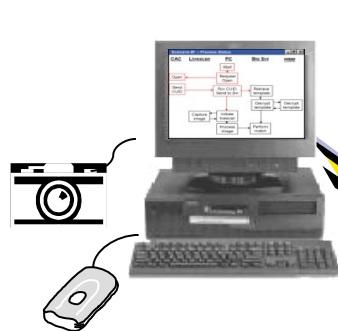
Biometric Identity Assurance Services

6 March 2009

Catherine Tilton

Biometric services – What's missing?

Biometric Applications

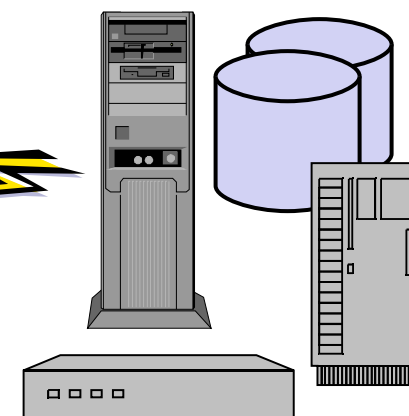


ANSI/NIST-ITL 1-2000/6 ?

BioAPI/BIP ?

Other ?

Biometric Resources



- In reviewing the current biometric-related standards portfolio and system oriented architecture (SOA) references, it became apparent that a gap existed in the availability of standards related to biometric services.

BIAS – Driving requirements

- Provide ability to remotely invoke biometric operations across an SOA infrastructure, decoupling the service from the interface (and requester) that calls it.
- Provide business level operations, without constraining the application/business logic that implements those operations.
- Provide basic capabilities that can be used to construct higher level, aggregate/composite operations.
- Be as generic as possible – technology, framework, and application domain independent.

INCITS & OASIS collaboration

- Development of the BIAS standard requires expertise in two distinct technology domains to ensure that the final specification provides the right structure, functionality, and technical details:
 - Biometrics, with standards leadership provided by INCITS M1
 - Service Architectures (initially focused on Web services), with standards leadership provided by OASIS
- Close collaboration between both standards organizations is required:

INCITS M1

- Define “taxonomy”:
 - Identity Assurance operations
 - Data Elements

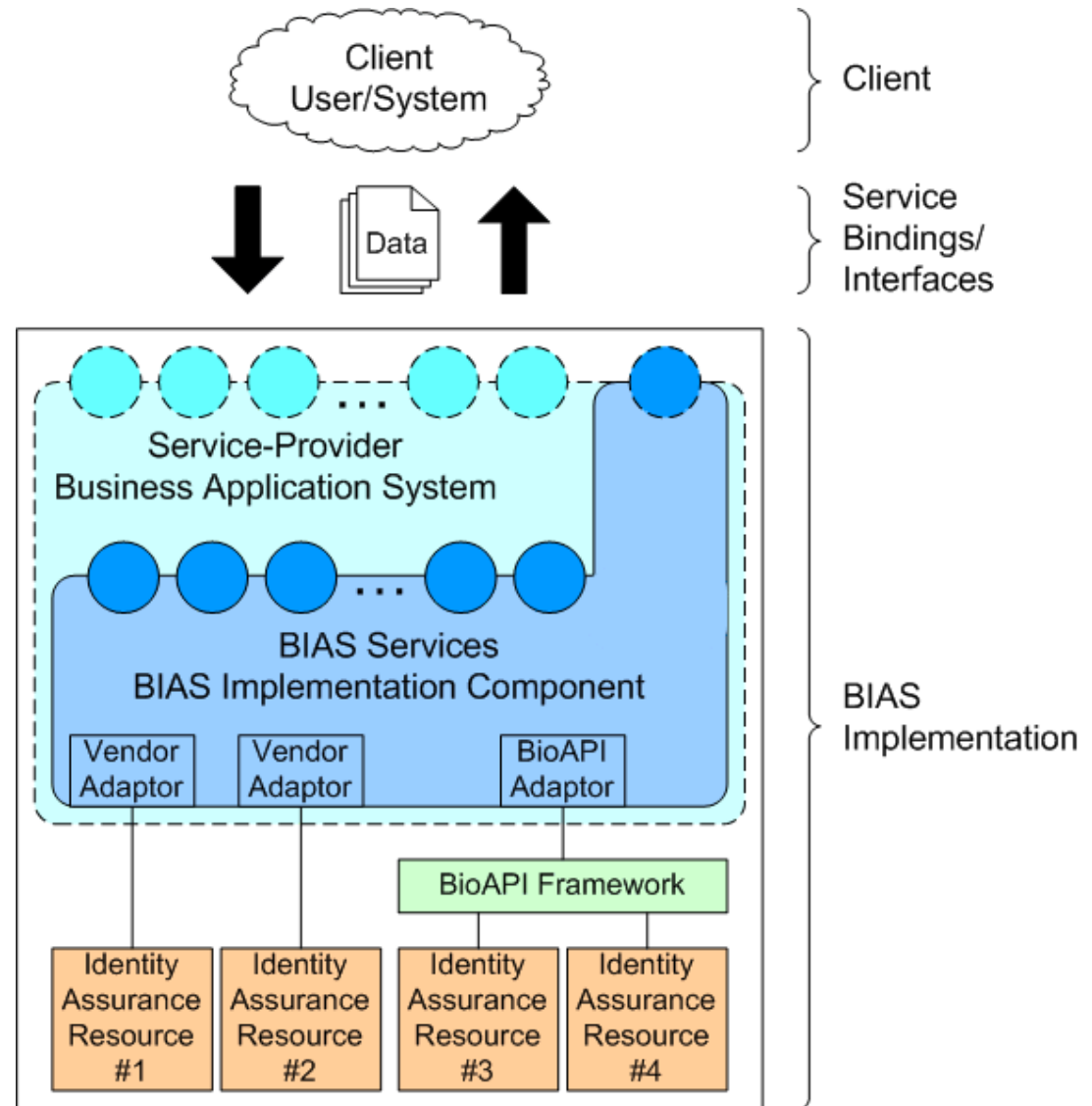
OASIS

- Define Web services bindings:
 - Schema
 - Protocol

- Existing standards are available in both domains and many of these standards will provide the foundation and underlying capabilities upon which the biometric services depend.

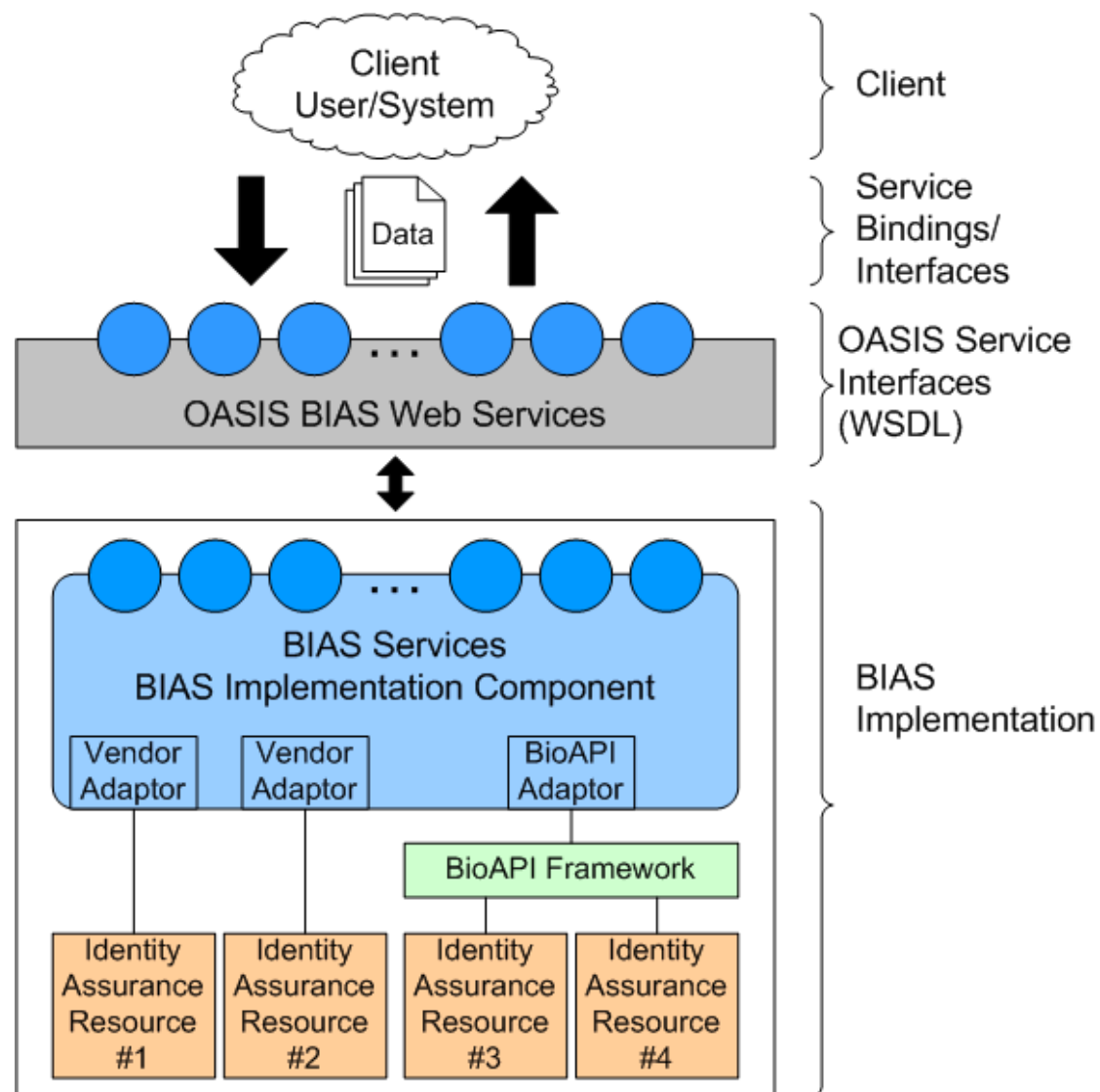
BIAS system context (INCITS)

- BIAS services are modular and independent operations which can be assembled in many different ways to support a variety of business processes.
- BIAS services may be implemented with differing technologies on multiple platforms.
- BIAS services can be publicly exposed directly and/or utilized indirectly in support of a service-provider's own public services.



BIAS system context (OASIS)

- Defines a SOAP Profile to implement the “abstract” services specified in INCITS M1.
- Includes:
 - WSDL / XML schema
 - Data model / data dictionary
 - Message structure / rules
 - Error handling
 - Use cases & samples

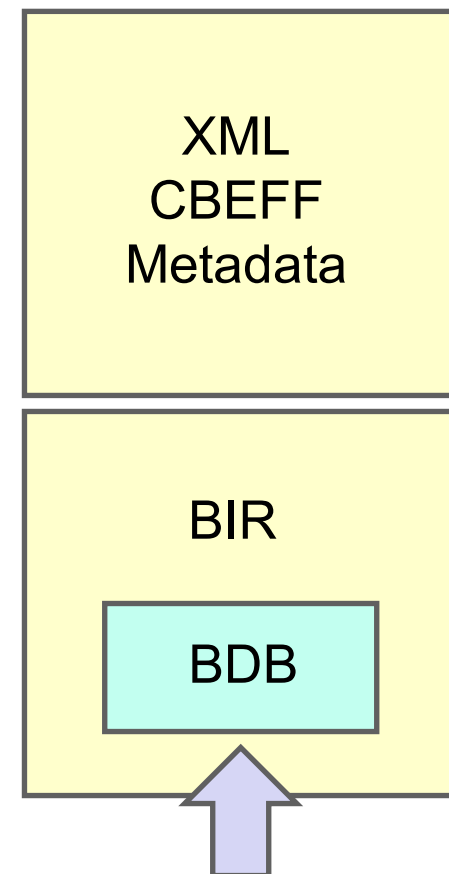


BIAS operations

- Subject
 - Create/delete subject
 - Add/remove subject from gallery
- Biographics
 - Set/list biographic data
 - Update/delete biographic data
 - Retrieve biographic data
- Biometrics
 - Set/list biometric data
 - Update/delete biometric data
 - Retrieve biometric data
- Searching/processing
 - Verify subject
 - Identify subject
 - Check quality
 - Classify biometric data
 - Perform fusion
 - Transform biometric data
- Aggregate services
 - Enroll
 - Identify
 - Verify
 - Retrieve information
- Asynchronous results retrieval
- Query Capabilities

Representing biometric data

- To meet BIAS goals, any type of biometric information needs to be able to be represented and used in the services.
- BIAS utilizes the existing CBEFF standard (ISO/IEC 19785-1:2006) to represent biometric data.
 - BIAS does not require any particular CBEFF patron format.
 - BIAS implementations may support one or multiple CBEFF patron formats.
- BIAS specification includes an XML representation of CBEFF header information.
- Today, BIRs are binary (embedded Base-64 or XOP).
 - Proposal to be broadened to allow “pure” XML as well as BDBs only (using the XML CBEFF metadata as required) and URIs.



e.g., INCITS 456
(or EMMA)

Representing biographic data

- BIAS provides flexibility for the amount and types of biographic data supported by implementing systems.
- BIAS provides two methods for representing biographic information:
 - A set of individual data items (name/type/value combinations)
 - An existing format, such as:
 - Electronic Fingerprint Transmission Specification (EFTS) [DOJ-CJIS]
 - National Information Exchange Model (NIEM) [DOJ/DHS]
 - xNAL: Name and Address Standard [OASIS Customer Information Quality TC]
 - HR-XML [HR-XML Consortium]
 - and others ...
- Can include contextual & document information as well.

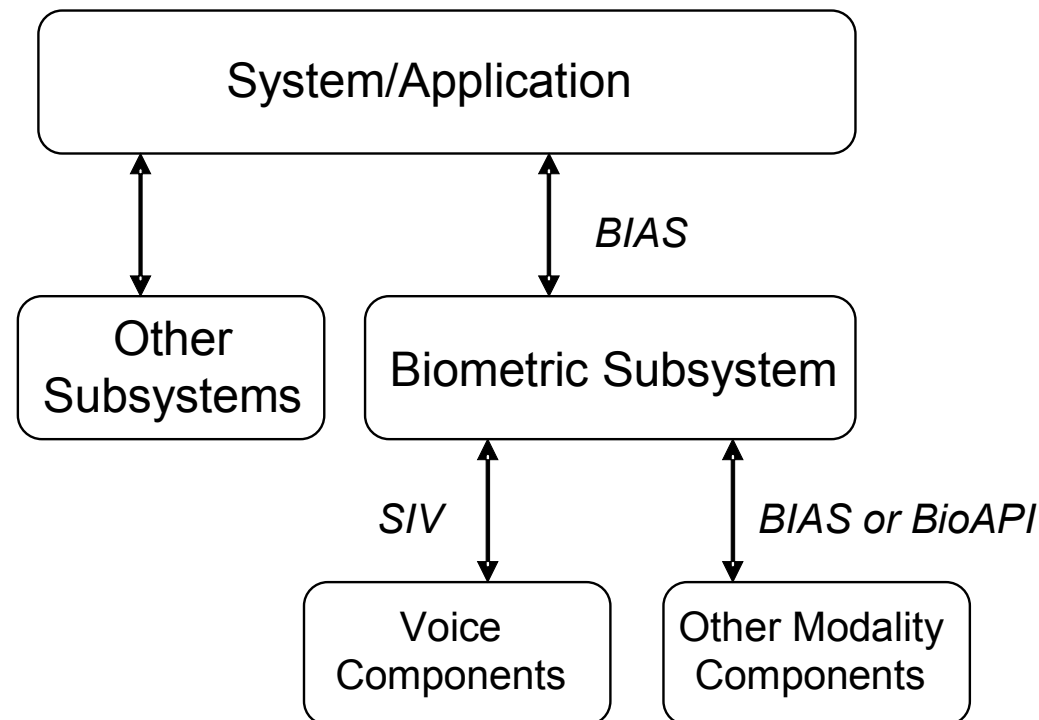
Status

- INCITS 442 published May 2008
 - Revision just initiated to address items arising from OASIS project
- OASIS BIAS SOAP Profile draft in 45-day “informal public review” which ends 7 March
 - Goal is to publish before end of the year
- Next meetings:
 - INCITS M1.2: April 14-15
 - OASIS BIAS TC: 17 March
- Need: Reference/sample implementations!

Possible relationships

Discussion Topic

- Architectural relationship
 - Possible usage within a larger business/mission application in which biometrics is one subsystem and within which multiple modalities are present



Possible relationships (cont'd)

- Data relationship
 - Voice data produced within SIV may be further exchanged within a BIAS operation. For example, if via SIV a voice data capture were performed and if that data were needed for other purposes downstream or by another system, BIAS could be used as the mechanism for exchanging that data.
- Organizational relationship
 - It is possible that the two organizations may be able to assist one another by providing a review and comment function on each other's work.

Thanks!

For your attention!

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