

Position Paper - Relationship Options Between BIAS and SIV/VoiceXML

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Activity area: Integrating existing and in-process standards with VoiceXML3.0

Community: Standards bodies interested in SIV

Topic areas:

- 1) Integration of XML and non-XML formats (“What is the relationship with BIAS and how should that relationship evolve?”)
- 2) The role of multimodal biometrics

Background: In 2005/2006, a collaborative project between INCITS and OASIS was initiated to develop a standard in the area of Biometric Identity Assurance Services (BIAS). The intent of BIAS is to provide a common method of remotely invoking biometric operations over a services-based framework. INCITS took responsibility for part 1 – defining the operations and associated data elements. OASIS took responsibility for part 2 – developing a Web services (SOAP) binding for these operations. BIAS is meant to be biometric modality/technology and application/domain independent. It defines generic biometric services and does not define a mechanism for their integration into authentication protocols.

At present, INCITS has published ANSI INCITS 442-2008, “Biometric Identity Assurance Services (BIAS)”. OASIS is about to begin an informal review of the draft “BIAS SOAP Profile”.

BIAS operations include such functionality as biometric enrollment, processing/transformation, verification, and identification, as well as data storage, query, and retrieval. It also addressed, in addition to biometrics alone, associated identity data (e.g., biographics).

BIAS is flexible in the type and format of the biometric data it carries. It incorporates the concept and data structure of CBEFF (Common Biometric Exchange Formats Framework) such that a format identifier in a (metadata) header (in this case, using the XML patron format) identifies the format of the data payload. As a result, any registered “format owner” can define a format type, and any BIAS user can encapsulate any data format for which a format identifier exists. As a result, data formats may be those defined by INCITS, ISO, the law enforcement community, or any 3rd party data format (e.g., a JPEG or WAV file).

Interest in the Workshop: The BIAS community is interested in an open discussion about if and how BIAS and SIV can be compatible or used together in some way. We hope that by making the VoiceXML/SIV community aware of the BIAS work, their ideas can be stimulated.

We are also open to discussions in a broader context, perhaps addressing BioAPI as well. (BIAS is intended to be compatible with BioAPI).

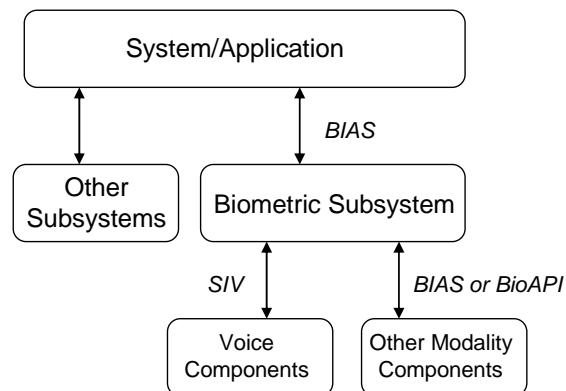
Viewpoint: From a Web services perspective, it is likely that some overlap exists between SIV and BIAS. The former is focused on the voice and speaker verification area alone, and (if I understand it correctly) mostly within a telephony environment; whereas BIAS is more generic and is intended to support the range of biometric modalities and technologies in a wide range of application environments. In a single voice modality environment, there is probably no need for BIAS; however, in a multi-modal or otherwise more diverse environment, then BIAS may provide a “higher level” service.

BIAS can carry voice data (e.g., in a common industry format or in the emerging INCITS or ISO voice data exchange formats) and offers generic biometric services. It is possible that some of the unique requirements of voice technology may not be specifically addressed within BIAS. It is also possible to carry EMMA data.

In its present version, biometric data is considered binary and is Base64 encoded (either embedded or via XOP). Revisions may consider “pure” XML payloads.

Examples of Suggestions: The area of a BIAS-SIV relationship is nascent, so concrete examples are difficult at this point. However, below are a few discussion points:

1. Architectural relationship. The figure below illustrates a possible usage within a larger business/mission application in which biometrics is one subsystem and within which multiple modalities are present.



2. 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.
3. 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.

We hope that the workshop will provide an opportunity to explore these points and make a determination on whether there is enough synergy (and interest) to move to a next step or not.