

# Biometric Identity Assurance Services (BIAS) Soap Profile Version 2.0

## Committee Specification 01

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#### Additional artifacts:

This prose specification is one component of a Work Product that also includes:

- XML schemas: <http://docs.oasis-open.org/bioserv/BIAS/v2.0/cs01/schemas/>

#### Related work:

This specification replaces or supersedes:

- *Biometric Identity Assurance Services (BIAS) SOAP Profile Version 1.0 Plus Errata 02*. Edited by Kevin Mangold, Matthew Swayze, and Cathy Tilton. 06 May 2014. OASIS Standard incorporating Approved Errata 02. <http://docs.oasis-open.org/bias/soap-profile/v1.0/errata02/os/biasprofile-v1.0-errata02-os-complete.html>.

This specification is related to:

- ISO/IEC 30108-1:2015, Biometric Identity Assurance Services (BIAS). [http://www.iso.org/iso/catalogue\\_detail.htm?csnumber=53228](http://www.iso.org/iso/catalogue_detail.htm?csnumber=53228)

#### Declared XML namespace:

- <http://docs.oasis-open.org/bioserv/ns/bias-2.0>

**Abstract:**

BIAS defines biometric services used for identity assurance that are invoked over a services-based framework. It is intended to provide a generic set of biometric and identity-related functions and associated data definitions to allow remote access to biometric services.

**Status:**

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# 1 Introduction

## 1.0 IPR Policy

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## 1.1 Purpose/Scope

This Organization for the Advancement of Structured Information Standards (OASIS) Biometric Identity Assurance Services (BIAS) profile specifies how to use the eXtensible Markup Language (XML) [XML10] defined in ISO/IEC 30108-1:2015, Information technology — Biometric Identity Assurance Services [ISO/IEC-BIAS] to invoke Simple Object Access Protocol (SOAP) -based services that implement BIAS operations. These SOAP-based services enable an application to invoke biometric identity assurance operations remotely in a Services Oriented Architecture (SOA) infrastructure.

Not included in the scope of BIAS is the incorporation of biometric authentication as an integral component of an authentication or security protocol. (However, BIAS services may be leveraged to implement biometric authentication in the future.)

## 1.2 Overview

In addition to this introduction, this standard includes the following:

- Clause 2 presents the design concepts and architecture for invoking SOAP-based services that implement BIAS operations.
- Clause 3 presents the namespaces necessary to implement this profile, ISO/IEC BIAS data elements, and identifies relationships to external data definitions.
- Clause 4 specifies the content of the BIAS messages.
- Clause 5 presents the BIAS message structure, as well as rules and considerations for its application.
- Clause 6 presents information on error handling.
- Clause 7 specifies conformance requirements.
- Annexes include the OASIS BIAS XML schema/sample Web Service Definition Language (WSDL), use cases, sample code, acknowledgements, and the revision history of this profile.

## 1.3 Background

In late 2005/early 2006, a gap was identified in the existing biometric standards portfolio with respect to biometric services. The Biometric Identity Assurance Services standard proposal was for a collaborative effort between government and private industry to provide a services-based framework for delivering identity assurance capabilities, allowing for platform and application independence. This standard proposal required the attention of two major technical disciplines: biometrics and service architectures. The expertise of both disciplines was required to ensure the standard was technically sound, market relevant, and achieved widespread adoption. The International Standards Organization and the International Electrotechnical Commission (ISO/IEC) provided the standards leadership relevant to biometrics, defining the “taxonomy” of biometric operations and data elements. OASIS provided the standards leadership relevant to service architectures with an initial focus on web services, defining the schema and SOAP messaging.



43  
44 The driving requirements of the BIAS standard proposal were to provide the ability to remotely invoke  
45 biometric operations across an SOA infrastructure; to provide business level operations without  
46 constraining the application/business logic that implements those operations; to be as generic as possible  
47 – technology, framework, & application domain independent; and to provide basic capabilities that can be  
48 used to construct higher level, aggregate/composite operations.

## 49 1.4 Relationship to Other Standards

50 This OASIS BIAS profile comprises a companion standard to ISO/IEC 30108-1:2015, Information  
51 technology — Biometric Identity Assurance Services, which defines the BIAS requirements and  
52 taxonomy, specifying the identity assurance operations and the associated data elements. This OASIS  
53 BIAS profile specifies the design concepts and architecture, data model and data dictionary, message  
54 structure and rules, and error handling necessary to invoke SOAP-based services that implement BIAS  
55 operations.

56 Together, the BIAS standard and the BIAS profile provide an open framework for deploying and remotely  
57 invoking biometric-based identity assurance capabilities that can be readily accessed across an SOA  
58 infrastructure.

59 This relationship allows the leveraging of the biometrics and web services expertise of the two standards  
60 development organizations. Existing standards are available in both domains and many of these  
61 standards will provide the foundation and underlying capabilities upon which the biometric services  
62 depend.

## 63 1.5 Terminology

64 The key words “MUST”, “MUST NOT”, “REQUIRED”, “SHALL”, “SHALL NOT”, “SHOULD”, “SHOULD  
65 NOT”, “RECOMMENDED”, “MAY”, and “OPTIONAL” in this document are to be interpreted as described  
66 in [[RFC2119](#)].

67 The following additional terms and definitions are used:

68 Note: The terms and definitions specified in ISO/IEC 30801-1 [[ISO/IEC-BIAS](#)] also apply to this  
69 Standard.

70  
71 BIAS operation and data element names are not defined here, but in their respective sections.

72

### 73 **BIAS**

74 Biometric Identity Assurance Services

### 75 **BIR**

76 Biometric Information Record

### 77 **ESB**

78 Enterprise Service Bus

### 79 **HTTP**

80 HyperText Transfer Protocol

### 81 **HTTPS**

82 HyperText Transfer Protocol over SSL or HTTP Secure

### 83 **IRI**

84 Internationalized Resource Identifier

### 85 **SOA**

86 Service-Oriented Architecture

### 87 **SOAP**

88	Simple Object Access Protocol
89	<b>SSL</b>
90	Secure Sockets Layer
91	<b>TLS</b>
92	Transport Layer Security
93	<b>UDDI</b>
94	Universal Description, Discovery, and Integration
95	<b>URI</b>
96	Uniform Resource Identifier
97	<b>VPN</b>
98	Virtual Private Network
99	<b>WSDL</b>
100	Web Services Description Language
101	<b>WSS</b>
102	Web Services Security
103	<b>XML</b>
104	eXtensible Markup Language
105	<b>CBEFF</b>
106	Common Biometric Exchange Formats Framework - data elements and BIR formats specified in
107	ISO/IEC 19785-1
108	<b>BIAS implementation</b>
109	software entity that is capable of creating, processing, sending, and receiving BIAS messages
110	<b>BIAS endpoint</b>
111	runtime entity, identified by an endpoint URI/IRI, capable of sending and receiving BIAS
112	messages, and containing a running BIAS implementation
113	<b>BIAS message</b>
114	message that can be sent from a BIAS endpoint to another BIAS endpoint through a BIAS link
115	channel
116	<b>BIAS request message</b>
117	BIAS message conveying a request for an action to be performed by the receiving BIAS endpoint
118	<b>BIAS response message</b>
119	BIAS message conveying a response to a prior BIAS requestmessage

## 120 **1.6 References**

### 121 **1.6.1 Normative References**

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125
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128 <http://www.iso.org>  
129

- 130 **[CBEFF-3]** ISO/IEC19785-3:2015, Information technology – Common Biometric Exchange Formats  
131 Framework – Part 3: Patron format specifications  
132 <http://www.iso.org>  
133
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135 Representation of dates and times  
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137
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140
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- 167 **[XOP]** XML-binary Optimized Packaging, W3C Recommendation, 25 January 2005  
168 <http://www.w3.org/TR/2005/REC-xop10-20050125/>

## 169 **1.6.2 Non-Normative References**

- 170 **[BioAPI]** ISO/IEC 19784-1:2006, Information technology – Biometric Application Programming  
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172 <http://www.iso.org>

- 173 **[BIO SEC]** ISO 19092 Financial services -- Biometrics -- Security framework  
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- 203 **[SAML SEC]** Security and Privacy Considerations for the OASIS Security Assertion Markup  
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- 206 **[SSL3]** SSL 3.0 Specification  
207 <http://www.freesoft.org/CIE/Topics/ssl-draft/3-SPEC.HTM>
- 208 **[WSS]** Web Services Security: SOAP Message Security 1.1, (WS-Security 2004), OASIS Standard  
209 Specification, 1 February 2006  
210 [http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-spec-os-](http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-spec-os-SOAPMessageSecurity.pdf)  
211 [SOAPMessageSecurity.pdf](http://www.oasis-open.org/committees/download.php/16790/wss-v1.1-spec-os-SOAPMessageSecurity.pdf)
- 212 **[X509]** X.509: Information technology - Open Systems Interconnection - The Directory: Public-key  
213 and attribute certificate frameworks, ITU-T, August 2005  
214 <http://www.itu.int/rec/T-REC-X.509-200508-I>
- 215 **[xNAL]** Customer Information Quality Specifications Version 3.0: Name (xNL), Address (xAL), Name  
216 and Address (xNAL) and Party (xPIL), Committee Specification 02, 20 September 2008  
217 [http://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=cig](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=cig)

## 2 Design Concepts and Architecture (non-normative)

### 2.1 Philosophy

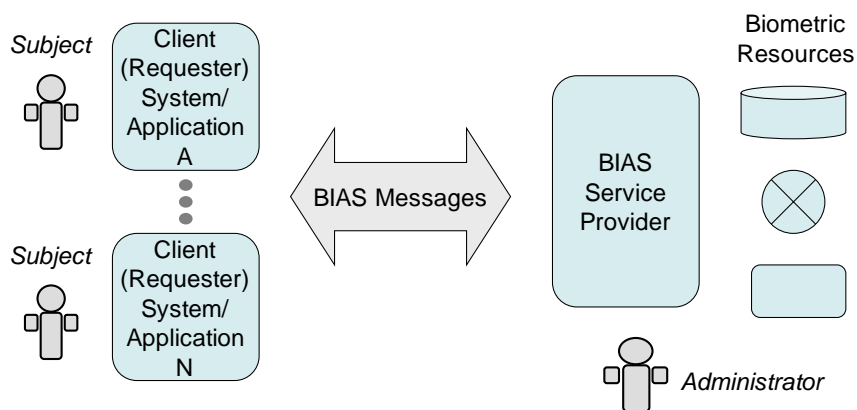
Rather than define a totally new and unique messaging protocol for biometric services, this specification instead defines a method for using existing biometric and Web services standards to exchange biometric data and perform biometric operations.

### 2.2 Context

Today, biometric systems are being developed which collect, process, store and match biometric data for a variety of purposes. In many cases, data and/or capabilities need to be shared between systems or systems serve a number of different client stakeholders. As architectures move towards services-based frameworks, access to these biometric databases and services is via a Web services front-end. However, lack of standardization in this area has led implementers to develop customized services for each system/application.

BIAS is intended to provide a common, yet flexible, Web services interface that can be used within both closed and open SOA systems. Figure 1, below, depicts the context in which the BIAS messages will be implemented.

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Figure 1. BIAS Context

The clients (requesters) may use standard discovery mechanisms (i.e., UDDI directories) to discover the BIAS service provider (implementation) or, particularly in closed systems, the URI/IRI and WSDL for the service provider may be known *a priori* by the client BIAS application developer.

### 2.3 Architecture

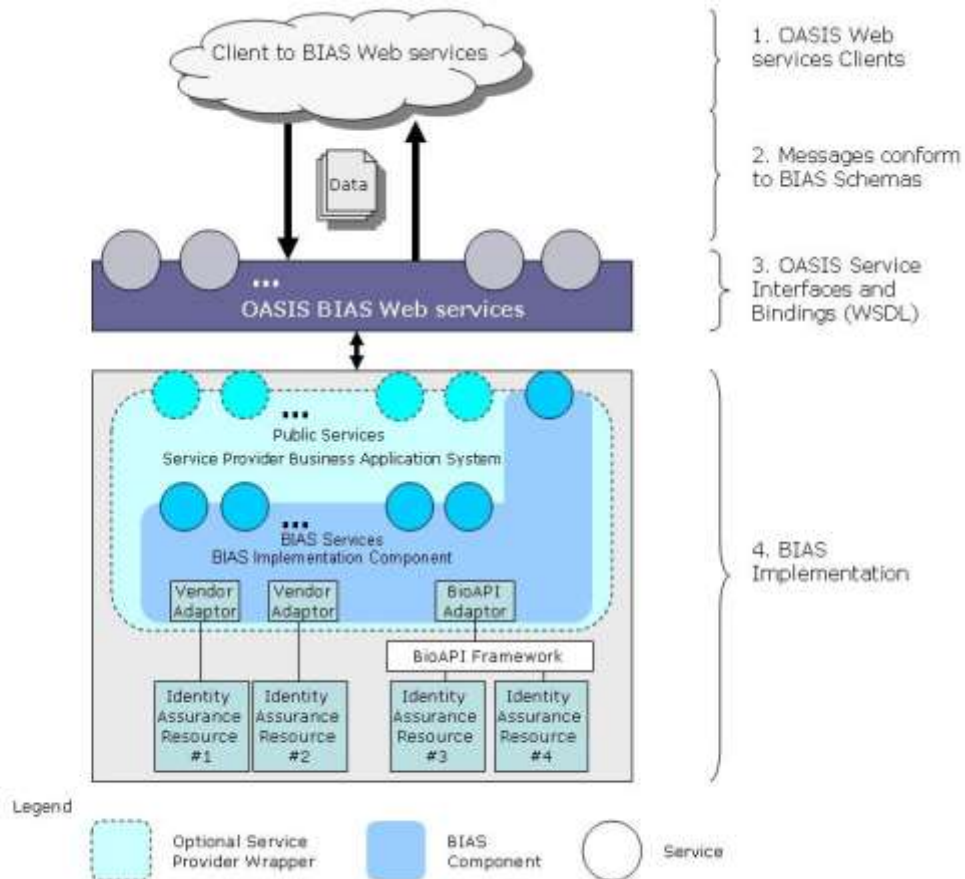
BIAS Web services are intended to be used within systems employing a services framework, such as a services-oriented architecture (SOA) (although implementations are not limited to this environment). As such, it is recognized that the clients may interact directly with the BIAS service provider or layers may exist between the client and the service provider, for example as an ESB or other application layer.

The BIAS Architecture as shown in Figure 2, in which:

- 249 • A Client request to the BIAS Web services may be triggered by a human interaction OR any proxy system such as an ESB.
- 250
- 251 • Client sends and receives SOAP messages that conform to the BIAS schemas
- 252 • Calls to the BIAS Implementation use OASIS Service Interfaces and Bindings (via WSDL)
- 253 • The BIAS implementation maps the service call to the appropriate internal API or set of APIs
- 254 and returns data according to the service interface.

255 Note that services are represented as circles.

256



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259

**Figure 2. Representative BIAS Architecture**

260

261 NOTE: It is possible that BIAS may also be used between the service provider and the managed  
 262 resource (e.g., a biometric matcher).

263

264 At the heart of the BIAS SOAP Profile are the concepts of BIAS messages and endpoints.

265

266 **BIAS implementation**

267 A BIAS implementation is a software entity that is capable of creating, processing, sending, and receiving  
 268 BIAS messages. This standard does not define requirements for the BIAS implementation other than  
 269 defining the messages and protocols used by the endpoints.

270 **BIAS messages**

271 A BIAS message is a one that can be sent from a BIAS endpoint to another BIAS endpoint over a TCP/IP  
272 link.

273 ***BIAS endpoints***

274 A BIAS endpoint is a runtime entity, uniquely identified and accessed by an endpoint URI/IRI [URI] [IRI],  
275 capable of sending and receiving BIAS messages.

276 NOTE: When not publicly and directly exposed, the endpoints for purposes of this specification are  
277 the BIAS service provider exposing BIAS services and the component that directly interacts with that  
278 service provider, e.g., the business application or ESB, rather than the ultimate end client requester.

## 279 3 Data Dictionary

280 This section describes the BIAS data elements used within BIAS messages (as defined in Clause 4).  
281 Common data elements are defined for use in one or more operations. These include common data types  
282 or return codes. BIAS data elements are defined in ISO/IEC 30108-1. The elements, complex types and  
283 simple types described for the BIAS messages belong to the following namespace: [http://docs.oasis-](http://docs.oasis-open.org/bias/ns/bias-2.0/)  
284 [open.org/bias/ns/bias-2.0/](http://docs.oasis-open.org/bias/ns/bias-2.0/). See Annex A for the XML schema.

285 NOTE: Biographic and biometric data included in a native XML format MAY contain elements  
286 referencing external namespaces (e.g., ansi-nist).

### 287 3.1 Documentation Conventions

288 Each common element has a section describing its content. Likewise, each operation has a section  
289 describing the request and response messages and the associated input and output parameters. The  
290 input and output of each message and the comment elements are detailed in a table as described in the  
291 figure below. Each field that forms part of the message request/response is detailed in the table.

292

Header Name	Description	Values	Value Meaning
Field	The name of the field.		
Type	The XML schema type of the field.		
#	The cardinality of the field	1	One occurrence
		0..1	Zero or one occurrence
		0..*	Zero or more occurrences
		1..*	One or more occurrences
?	Defines if the field must be present.	Y	Yes – is always required
		N	No – is not always required, an optional field.
		C	Conditional – requirement is dependent on system or message conditions.
Meaning	Gives a short description of the field's use		

293

**Figure 3. BIAS Message Input/Output Dictionary Table Headings**

#### 294 **Fields Hierarchy Explained:**

295 To denote the field hierarchy the symbol  $\uparrow$  is used to denote the child-of relationship.

296 All string types/elements MUST consist of ISO/IEC 10646 (Unicode) characters encoded in UTF-8 [UTF-  
297 8] (see ISO/IEC 10646:2003, Annex D).

298



## 299 3.2 Common Elements

### 300 3.2.1 ApplicationIdentifier

<b>Type:</b>	string
<b>Description:</b>	Identifies an application.
<b>Min Length:</b>	1
<b>Max Length:</b>	255

### 301 3.2.2 ApplicationUserIdentifier

<b>Type:</b>	string
<b>Description:</b>	Identifies an application user or instance.
<b>Min Length:</b>	1
<b>Max Length:</b>	255

### 302 3.2.3 BaseBIRType

<b>Type:</b>	Schema complexType
<b>Description:</b>	Base type for all BIR subtypes; see <a href="#">BinaryBIR</a> , <a href="#">URI_BIR</a> , and <a href="#">XML_BIR</a> for currently available types.

### 303 3.2.4 BIASBiometricDataType

Field	Type	#	?	Meaning
BIASBiometricDataType			Y	Wraps the various BIAS biometric types. The operations that use this type specify which elements are required.
↳ BIRList	<a href="#">CBEFF_BIR_ListType</a>	0..1	N	A list of CBEFF-BIR elements.
↳ BIR	<a href="#">CBEFF_BIR_Type</a>	0..1	N	Contains biometric information in either a non-XML or an XML representation.
↳ InputBIR	<a href="#">CBEFF_BIR_Type</a>	0..1	N	Maps to specific ISO/IEC BIAS elements as required by that specification.
↳ ReferenceBIR	<a href="#">CBEFF_BIR_Type</a>	0..1	N	Maps to specific ISO/IEC BIAS elements as required by that specification.
↳ BiometricDataList	<a href="#">BiometricDataListType</a>	0..1	N	A list of biometric data elements.

304 **3.2.5 BIASFaultCode**

<b>Type:</b>	String
<b>Description:</b>	Error code referenced in a SOAP fault.

305 **BIASFaultCode Enumeration Values**

Value	Description
UNKNOWN_ERROR	The service failed for an unknown reason.
UNSUPPORTED_CAPABILITY	A requested capability is not supported by the service implementation.
INVALID_INPUT	The data in a service input parameter is invalid.
BIR_QUALITY_ERROR	Biometric sample quality is too poor for the service to succeed.
INVALID_BIR	The input BIR is empty or in an invalid or unrecognized format.
BIR_SIGNATURE_FAILURE	The service could not validate the signature, if used, on the input BIR.
BIR_DECRYPTION_FAILURE	The service could not decrypt an encrypted input BIR.
INVALID_ENCOUNTER_ID	The input encounter ID is empty or in an invalid format.
INVALID_SUBJECT_ID	The input subject ID is empty or in an invalid format.
UNKNOWN_SUBJECT	The subject referenced by the input subject ID does not exist.
UNKNOWN_GALLERY	The gallery referenced by the input gallery ID does not exist.
UNKNOWN_ENCOUNTER	The encounter referenced by the input encounter ID does not exist.
UNKNOWN_BIOGRAPHIC_FORMAT	The biographic data format is not known or not supported.
UNKNOWN_IDENTITY_CLAIM	The identity referenced by the input identity claim does not exist.
INVALID_IDENTITY_CLAIM	The identity claim requested is already in use.
NONEXISTANT_DATA	The data requested for deletion does not exist.
UNKNOWN_DOCUMENT_CATEGORY	The data requested does not exist.
INVALID_TOKEN	The data requested does not exist.
TOKEN_EXPIRED	The data requested does not exist.
DUPLICATE_ENCOUNTER	The input encounter ID for a new encounter already exists for that subject.

Value	Description
IDENTIFICATION_RESULT_NOT_YET_AVAILABLE	The result of an asynchronous identification process is not yet available.

### 306 3.2.6 BIASFaultDetail

Field	Type	#	?	Meaning
BIASFaultDetail			Y	Defines the error information associated with a SOAP fault.
↳ BIASFaultType	<a href="#">BIASFaultCode</a>	1	Y	References an error code.
↳ BIASFaultMessage	string	1	Y	Provides a brief explanation of the fault.
↳ BIASFaultDescription	string	0..1	N	Provides detailed information about a BIAS fault, such as trace details.

### 307 3.2.7 BIASIdentity

Field	Type	#	?	Meaning
BIASIdentity			Y	Defines a single element for encapsulating the data associated with an Identity. Includes the Identity's reference identifiers, biographic data, and biometric data.  The operations that use this type specify which elements are required.
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	C	A system unique identifier for a subject.  Required as input to many operations.
↳ IdentityClaim	<a href="#">BIASIDType</a>	0..1	N	An identifier by which a subject is known to a particular gallery or population group.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject.  Required for encounter-centric models.
↳ EncounterList	<a href="#">EncounterListType</a>	0..1	N	A list of encounters associated with a subject.
↳ BiographicData	<a href="#">BiographicDataType</a>	0..1	N	An Identity's biographic data.
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	0..1	N	An Identity's biometric data.

### 308 3.2.8 BIASIDType

<b>Type:</b>	string
<b>Description:</b>	A BIAS Identifier.

### 309 3.2.9 BinaryBIR

Field	Type	#	?	Meaning
BinaryBIR	BaseBIRType		Y	Defines a BIR type of Binary
↑ Binary	base64Binary	1	Y	BIR information in base64 binary format

### 310 3.2.10 BiographicDataItem

Field	Type	#	?	Meaning
BiographicDataItem			Y	Defines a single biographic data element.
↑ Name	string	1	Y	The name of the biographic data item.
↑ Type	string	1	Y	The data type for the biographic data item.
↑ Value	string	0..1	N	The value assigned to the biographic data item.

311 NOTE: This element can be used to transmit scanned identity documents or document information  
 312 (e.g., passports, driver's license, birth certificates, utility bills, etc. required to establish an identity).

### 313 3.2.11 BiographicDataItemList

Field	Type	#	?	Meaning
BiographicDataItemList			Y	Defines a list of biographic data elements.
↑ BiographicDataItem	<a href="#">BiographicDataItem</a>	1..*	Y	Data structure containing information about a biographic record.

### 314 3.2.12 BiographicDataList

Field	Type	#	?	Meaning
BiographicDataList			Y	Defines a list of biographic data.
↑ BiographicData	<a href="#">BiographicData</a>	0..*	N	Data structure containing information about a biographic record.

### 315 3.2.13 BiographicDataSet

Field	Type	#	?	Meaning
BiographicDataSet			Y	Defines a set of biographic data that is formatted according to the specified format.

Field	Type	#	?	Meaning
↑ name	string	1	Y	The name of the biographic data format. Use these names for common formats: FBI-EFTS [EFTS], FBI-EBTS [EBTS-FBI], DOD-EBTS [EBTS-DOD], INT-I [INT-I], NIEM [NIEM], xNAL [xNAL], HR-XML [HR-XML].
↑ version	string	0..1	N	The version of the biographic data format (e.g., “7.1” for FBI-EFTS or “2.0” for NIEM).
↑ source	string	1	Y	Reference to a URI/IRI describing the biographic data format. For example: (FBI-EFTS and FBI-EBTS) www.fbi biospecs.org, (DOD-EBTS) www.biometrics.dod.mil, (INT-I) www.interpol.int, (NIEM) www.niem.gov, (xNAL) www.oasis-open.org, (HR-XML) www.hr-xml.org.
↑ type	string	1	Y	The biographic data format type. Use these types for common formats: ASCII (e.g., for non-XML versions of FBI-EFTS, FBI-EBTS, DOD-EBTS, or INT-I), XML (e.g., for NIEM, xNAL, and HR-XML or future versions of FBI-EBTS).
↑ unspecified	any	0..*	N	Biographic data formatted according to a specific format.

316 NOTE: Biographic data formats are not limited to those listed. The string value is not enumerated.  
317 If one of the common types are used, it MUST be indicated by the specified name values; however,  
318 the service provider MAY offer other formats. See ISO/IEC 30108 for further information.

### 319 3.2.14 BiographicDataType

Field	Type	#	?	Meaning
BiographicDataType			Y	Defines a set of biographic data elements, utilizing either the <a href="#">BiographicDataItemListType</a> to represent a list of elements or the <a href="#">BiographicDataSetType</a> to represent a complete, formatted set of biographic information. One of the following elements must be present.
↑ LastName	string	0..1	N	The last name of a subject.
↑ FirstName	string	0..1	N	The first name of a subject.
↑ BiographicDataItemList	<a href="#">BiographicDataItemListType</a>	0..1	N	A list of biographic data elements.
↑ BiographicDataItem	<a href="#">BiographicDataItemType</a>	1..*	Y	A single biographic data element.
↑ BiographicDataSet	<a href="#">BiographicDataSetType</a>	0..1	N	A set of biographic data information.

320 NOTE: The implementer is given three choices for encoding biographic data:  
321 • Encode only first and last name using the defined fields within BiographicDataType  
322 • Define a list of biographic data elements using the BiographicDataItemListType

- 323                   • Use a pre-defined set of biographic data (e.g., as specified in another standard) using  
 324                   the BiographicDataSetType.  
 325                   See also ISO/IEC 30108-1, section 8.1 for further information.

326   **3.2.15 BiometricDataType**

Field	Type	#	?	Meaning
BiometricDataType			Y	Provides descriptive information about biometric data, such as the biometric type, subtype, and format, contained in the BDB of the CBEFF-BIR.
↑ BiometricType	oasis_cbeff:MultipleTypesType	1	Y	The type of biological or behavioral data stored in the biometric record, as defined by CBEFF.
↑ BiometricTypeCount	positiveInteger	0..1	N	The number of biometric records having the biometric type recorded in the biometric type field.
↑ BiometricSubType	oasis_cbeff:SubtypeType	0..1	N	More specifically defines the type of biometric data stored in the biometric record, as defined by CBEFF.
↑ BDBFormatOwner	positiveInteger	1	Y	Identifies the standards body, working group, industry consortium, or other CBEFF biometric organization that has defined the format for the biometric data.
↑ BDBFormatType	positiveInteger	1	Y	Identifies the specific biometric data format specified by the CBEFF biometric organization recorded in the BDB Format Owner field.

327   **3.2.16 BiometricDataListType**

Field	Type	#	?	Meaning
BiometricDataListType			Y	A list of biometric data elements.
↑ BiometricDataRecord	<a href="#">BiometricDataType</a>	0..*	N	Data structure containing information about a biometric record.

328 **3.2.17 CandidateListResultType**

Field	Type	#	?	Meaning
CandidateListResultType			Y	Defines a set of candidates, utilizing the <a href="#">CandidateType</a> to represent each element in the set.
↳ CandidateList	<a href="#">CandidateListType</a>	1	Y	The candidate list.

329 **3.2.18 CandidateListType**

Field	Type	#	?	Meaning
CandidateListType			Y	Defines a set of candidates, utilizing the <a href="#">CandidateType</a> to represent each element in the set.
↳ Candidate	<a href="#">CandidateType</a>	0..*	N	A single candidate.

330 **3.2.19 CandidateType**

Field	Type	#	?	Meaning
CandidateType			Y	Defines a single candidate as a possible match in response to a biometric identification request.
↳ ScoreList		0..1	N	A list of comparison(s) scores and optionally the type and subtype of the relating biometric
↳ Score	<a href="#">ScoreType</a>	1	Y	The match score.
↳ Rank	integer	1	Y	The rank of the candidate in relation to other candidates for the same biometric identification operation.
↳ Identity				
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	Y	The identifier of the subject.
↳ BiographicData	<a href="#">BiographicDataType</a>	0..1	N	Biographic data associated with the candidate match.
↳ BIRList	<a href="#">CBEFF_BIR_ListType</a>	1	Y	Biometric data associated with the candidate match.

331 **3.2.20 CapabilityListType**

Field	Type	#	?	Meaning
CapabilityListType			Y	Defines a set of capabilities.
↳ Capability	<a href="#">CapabilityType</a>	0..*	N	A single capability.

332 **3.2.21 CapabilityName**

<b>Type:</b>	string
<b>Description:</b>	A list of capability items.

333 **CapabilityName Enumeration Values**

Value	Description
AggregateInputDataOptional	<p>A data element accepted as optional input by the implementing system for the aggregate services.</p> <p>The Capability Value should be set to the name of the data element that will be accepted by the aggregate services.</p> <p>The Capability Supporting Value that indicates the which services support the data element, using one or more of the following values, each separated by a comma:</p> <p>“Delete”  “Enrol”  “Identify”  “Verify”  “All”</p>
AggregateInputDataRequired	<p>A data element required as input by the implementing system for the aggregate services.</p> <p>The Capability Value should be set to the name of the data element that will be accepted by the aggregate services.</p> <p>The Capability Supporting Value that indicates the which services support the data element, using one or more of the following values, each separated by a comma:</p> <p>“Delete”  “Enrol”  “Identify”  “Verify”  “All”</p>



Value	Description
AggregateProcessingOption	<p>A processing option supported by the implementing system for the aggregate services.</p> <p>The Capability Value should be set to the option identifier, or “key” field, for the Processing Option parameter in the aggregate services.</p> <p>The Capability Supporting Value that indicates the option value, or “value” field, for the Processing Option parameter in the aggregate services, if applicable.</p> <p>The Capability Additional Info should indicate which aggregate services support the processing option, using one or more of the following values, each separated by a comma:</p> <p>“Delete”  “Enrol”  “Identify”  “Verify”  “Retrieve”  “All”</p>
AggregateReturnData	<p>A data element returned by the implementing system for the aggregate services.</p> <p>The Capability Value should be set to the name of the data element that will be returned by the aggregate services.</p> <p>The Capability Supporting Value that indicates which services support the data element, using one or more of the following values, each separated by a comma:</p> <p>“Delete”  “Enrol”  “Identify”  “Verify”  “Retrieve”  “All”</p>

Value	Description
AggregateServiceDescription	<p>Describes the processing logic of an aggregate service supported by the implementing system.</p> <p>The Capability Value should be set to the name of the data element that describes the aggregate services.</p> <p>The Capability Supporting Value that indicates the which services support the data element, using one or more of the following values, each separated by a comma:</p> <p>“Delete”  “Enrol”  “Identify”  “Verify”  “Retrieve”</p>
BiographicDataSet	<p>Identifies a biographic data set supported by the implementing system.</p> <p>The Capability Value should contain the name of the biographic data format supported by the implementing system (e.g. “EBTS” or “NIEM”).</p> <p>The Capability Supporting Value should contain the version of the biographic data format supported by the implementing system.</p> <p>The Capability Additional Info should contain the biographic data format type supported by the implementing system (e.g. ASCII or XML).</p>
CBEFFPatronFormat	<p>A patron format supported by the implementing system.</p> <p>The Capability Value should contain the format owner.</p> <p>The Capability Supporting Value should contain the format type.</p>
ClassificationAlgorithmType	<p>A classification algorithm type supported by the implementing system.</p> <p>The Capability Value should contain the name of classification alogorithm type supported by the implementing system.</p>

Value	Description
ConformanceClass	<p>Identifies the conformance class of the BIAS implementation.</p> <p>The Capability Value should be set to one of the following:</p> <ul style="list-style-type: none"> <li>1 – (Class 1 conformance)</li> <li>2 – (Class 2 conformance)</li> <li>3 – (Class 3 conformance)</li> <li>4 – (Class 4 conformance)</li> <li>5 – (Class 5 conformance)</li> <li>6 – (Class 6 conformance)</li> <li>7 – (Class 7 conformance)</li> </ul>
Gallery	<p>A gallery or population group supported by the implementing system.</p> <p>The Capability Value should be the same as the value used for the Gallery ID parameter in the <a href="#">Add Subject to Gallery</a>, <a href="#">Delete Biographic Data</a>, <a href="#">Delete Biometric Data</a>, <a href="#">Delete Subject From Gallery</a>, <a href="#">Identify Subject</a>, <a href="#">Retrieve Biographic Data</a>, <a href="#">Retrieve Biometric Data</a>, <a href="#">Retrieve Document Data</a>, <a href="#">Set Biographic Data</a>, <a href="#">Set Biometric Data</a>, <a href="#">Set Document Data</a>, and <a href="#">Verify Subject</a> Services.</p>
IdentityModel	<p>Identifies whether the implementing system is person-centric or encounter-centric based.</p> <p>The Capability Value shall be set to one of the following:</p> <ul style="list-style-type: none"> <li>“person”</li> <li>“encounter”</li> </ul>
MatchAlgorithm	<p>A match algorithm vendor and algorithm vendor product ID supported by the implementing system.</p> <p>The Capability Value shall contain the algorithm vendor.</p> <p>The Capability Supporting Value shall contain the algorithm vendor product ID.</p> <p>The Capability Additional Info shall be set to the biometric type (defined by the XML Patron Format in ISO/IEC 19785-3) that corresponds to the match algorithm.</p> <p>The Capability Description shall contain the software version of the match algorithm.</p>

Value	Description
MatchScore	<p>Identifies the use of match scores returned by the implementing system.</p> <p>The Capability Value shall be set to the end-of-score-range that signifies a match.</p> <p>The Capability Supporting Value shall be set to the end-of-score-range that signifies a no-match.</p> <p>The Capability Additional Info shall be set to the biometric type (defined by the XML Patron Format in ISO/IEC 19785-3) that corresponds to the match score range.</p>
QualityAlgorithm	<p>A quality algorithm vendor and algorithm vendor product ID supported by the implementing system.</p> <p>The Capability Value shall contain the algorithm vendor.</p> <p>The Capability Supporting Value shall contain the algorithm vendor product ID.</p> <p>The Capability Additional Info shall be set to the biometric type (defined by the XML Patron Format in ISO/IEC 19785-3) that corresponds to the quality algorithm.</p> <p>The Capability Description shall contain the software version of the quality algorithm.</p>
SupportedBiometric	<p>A biometric type supported by the implementing system.</p> <p>The Capability Value shall be set to the biometric type, as defined by the ZML Patron Format in ISO/IEC 19785-3 (for example, the biometric type for face is represented a "face").</p> <p>The Capability Supporting Value shall indicate if the implementing system supports matching for the biometric type, using one of he following values:</p> <p>"1" (identification)</p> <p>"2" (verification)</p> <p>"3" (identification and verification)</p> <p>"4" (no comparison supported)</p>

Value	Description
TransformOperation	<p>A transform operation type supported by the implementing system.</p> <p>The Capability Value shall be equal to the value for the Transform Operation parameter in the Transform Biometric Data service.</p> <p>The Capability Supporting Value shall specify the value of the Transform Control parameter in the <a href="#">Transform Biometric Data</a> service. The value returned may be either a single value or a range of values. If a range of values is returned, the Capability Description shall specify additional information for the value of the Transform Control parameter. If the Transform Operation does not support a Transform Control, the Capability Supporting value shall be set to "NotApplicable".</p>

### 334 3.2.22 CapabilityType

Field	Type	#	?	Meaning
CapabilityType			Y	Defines a single capability supported by an implementing system.
↑ CapabilityName	<a href="#">CapabilityName</a>	1	Y	The name of the capability.
↑ CapabilityID	string	0..1	N	An identifier assigned to the capability by the implementing system.
↑ CapabilityDescription	string	0..1	N	A description of the capability.
↑ CapabilityValue	string	0..1	N	A value assigned to the capability.
↑ CapabilitySupportingValue	string	0..1	N	A secondary value supporting the capability.
↑ CapabilityAdditionalInfo	string	0..1	N	Contains additional information for the supported capability.

### 335 3.2.23 CBEFF\_BIR\_ListType

Field	Type	#	?	Meaning
CBEFF_BIR_ListType			Y	A list of CBEFF-BIR elements.
↑ BIR	<a href="#">CBEFF_BIR_Type</a>	0..*	N	CBEFF structure containing information about a biometric sample.

### 336 3.2.24 CBEFF\_BIR\_Type

Field	Type	#	?	Meaning
CBEFF_BIR_Type			Y	Represents biometric information, with either a non-XML or XML representation.
↑ FormatOwner	positiveInteger	1	Y	Identifies the Patron format owner.

Field	Type	#	?	Meaning
↑ FormatType	positiveInteger	1	Y	Identifies the Patron format type.
↑ BIR_Information		0..1	N	Describes what is contained in a BIR.
↑ BIR_Info	oasis_cbeff:BIRInfoType	0..1	N	Contains information about the CBEFF-BIR.
↑ BDB_Info	oasis_cbeff:BDBInfoType	0..1	N	Contains information about the BDB in a simple CBEFF-BIR.
↑ SB_Info	oasis_cbeff:SBIInfoType	0..1	N	Contains information about the security block, if used, in a simple CBEFF-BIR.
↑ BIR	<a href="#">BaseBIRType</a>	1	Y	One of the following sub-elements must be present: <a href="#">BinaryBIR</a> , <a href="#">URI_BIR</a> , or <a href="#">XML_BIR</a> .

337 NOTE: The implementer is given three choices for encoding a BIR:

- 338
- As an XML BIR (following the XML Patron format as specified in Annex B)
  - 339 • As a reference to a URI (from which the receiver would retrieve the actual BIR)
  - 340 • As a complete Base64 encoded binary (non-XML) BIR.

341 The latter two alternatives can use any CBEFF Patron Format.  
 342 The optional BIR\_Information provides a mechanism for  
 343 exposing metadata associated with a BIR format that is not easily  
 344 decoded (i.e., a non-XML BIR). See section 5.3 for more  
 345 information on handling of binary data within BIAS and ISO/IEC  
 346 30108, Clause 8.2, for more information on representing  
 347 biometric data.

348 NOTE:

- 349 (1) XML BIRs MUST conform to the XML patron format in  
 350 Annex B; however, non-XML (binary) and URI BIRs  
 351 MAY implement any CBEFF patron format.
- 352 (2) It is RECOMMENDED that only registered CBEFF  
 353 patron formats be used; however, in closed systems,  
 354 this may not be required.

### 355 3.2.25 Classification

<b>Type:</b>	string
<b>Description:</b>	The result of a classification.

### 356 3.2.26 ClassificationAlgorithmType

<b>Type:</b>	string
<b>Description:</b>	Type of classification algorithm that was used to perform the classification.

357 **3.2.27 ClassificationData**

Field	Type	#	?	Meaning
ClassificationData			Y	Contains information on classification results and the algorithm used to determine the classification.
↳ Classification	<a href="#">Classification</a>	1	Y	The result of the classification.
↳ ClassificationAlgorithmType	<a href="#">ClassificationAlgorithmType</a>	1	Y	Identifies the type of classification algorithm that was used to perform the classification.

358 **3.2.28 DocumentDataType**

Field	Type	#	?	Meaning
DocumentDataType			Y	Defines a set of document data elements providing information about the presented identity document.
↳ DocumentCategory	string	1	Y	The type of identity document presented (e.g. passport).
↳ DocumentIDNumber	string	0..1	N	The number associated with the identity document (e.g. passport number)
↳ DocumentIssuanceCountryCode	iso_3166_1:CountryAlpha2CodeType	0..1	N	The ISO 2-character code for the country which issued the document or from within which it was issued.
↳ DocumentIssuingOrganization	string	0..1	N	The entity which issued the identity document.
↳ DocumentIssuanceDate	datetime	0..1	N	The date upon which the identity document was issued.

Field	Type	#	?	Meaning
DocumentExpirationDate	datetime	0..1	N	The date upon which the identity document is no longer valid (expires).
DocumentLastName	string	0..1	N	The family name of the person to whom the identity document was issued, as contained within the document itself.
DocumentFirstName	string	0..1	N	The first given name of the person to whom the identity document was issued, as contained within the document itself.
DocumentMiddleName	string	0..1	N	The second given name of the person to whom the identity document was issued, as contained within the document itself.
DocumentValidity	boolean	0..1	N	The assessed validity of the identity document (e.g. as the result of local or online validity checks).
DocumentValidityText	string	0..1	N	Details or remarks associated with the assessed validity (e.g. description of validity issue).
DocumentImage	xsd:base64binary	0..1	N	A scanned image of the subject document (e.g. passport picture page).

### 359 3.2.29 DocumentDataListType

Field	Type	#	?	Meaning
DocumentDataListType			Y	Provides a list of documents.



Field	Type	#	?	Meaning
↑ DocumentData	<a href="#">DocumentDataType</a>	0..*	Y	Data structure containing information about a document and optionally an image of that document.

### 360 3.2.30 EncounterCategoryType

<b>Type:</b>	String
<b>Description:</b>	Identifies the type of encounter (interaction) during which the identity (biographic, biometric, and/or document) data was collected from the subject as determined by the requester.

### 361 EncounterCategoryType Enumeration Values

Value	Description
Enrolment	The encounter is created during an enrolment interaction.
Recognition	The encounter is created during a recognition interaction.
Unspecified	The type of encounter is unknown.

### 362 3.2.31 EncounterListType

Field	Type	#	?	Meaning
EncounterListType			Y	Defines a set of encounters.
↑ EncounterID	<a href="#">BIASIDType</a>	0..*	N	The identifier of an encounter.

### 363 3.2.32 FusionDecision

<b>Type:</b>	string
<b>Description:</b>	The match decision assigned by the matching algorithm

### 364 3.2.33 FusionIdentityListType

Field	Type	#	?	Meaning
FusionIdentityListType			Y	Contains fusion input elements for one or more identities, utilizing the FusionInformationListType to represent a single set of fusion information for each identity.
↑ FusionIdentity	<a href="#">FusionInformationListType</a>	0..*	Y	A set of fusion information for a single identity.

365 **3.2.34 FusionInformationListType**

Field	Type	#	?	Meaning
FusionInformationListType			Y	Contains at a minimum two sets of fusion input elements, as input to the <a href="#">PerformFusion</a> operation.
↳ FusionElement	<a href="#">FusionInformationType</a>	2..*	Y	A set of fusion information.

366 **3.2.35 FusionInformationType**

Field	Type	#	?	Meaning
FusionInformationType			Y	Represents the information necessary to perform a fusion operation.
↳ BiometricType	oasis_cbeff:MultipleTypesType	1	Y	The type of biological or behavioral data stored in the biometric record, as defined by CBEFF.
↳ BiometricSubType	oasis_cbeff: SubtypeType	0..1	N	More specifically defines the type of biometric data stored in the biometric record.
↳ AlgorithmOwner	string	1	Y	The owner or vendor of the algorithm used to determine the score or decision.
↳ AlgorithmType	string	1	Y	The Algorithm Owner's identifier for the specific algorithm product and version used to determine the score or decision.
↳ FusionResult	<a href="#">FusionResult</a>	0..1	C	Either <a href="#">FusionScore</a> or a <a href="#">FusionDecision</a> element MUST be used.

367 **3.2.36 FusionResult**

<b>Type:</b>	complexType
<b>Description:</b>	The base type for any resulting types which indicate the status of a Fusion operation

368 **3.2.37 FusionScore**

<b>Type:</b>	<a href="#">ScoreType</a>
<b>Description:</b>	The similarity score assigned by the matching algorithm.

369 **3.2.38 GenericRequestParameters**

Field	Type	#	?	Meaning
GenericRequestParameters			Y	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested.

370 NOTE: See section 5.4 for alternatives for identifying the  
 371 requested BIAS operation in a BIAS SOAP message.

372 **3.2.39 IdentifySubjectResultType**

<b>Description:</b>	A base type for all types that could be returned from the IdentifySubject operation
---------------------	---

373 **3.2.40 InformationType**

Field	Type	#	?	Meaning
InformationType			Y	Allows for an unlimited number of data element types, and it does not specify nor require any particular data element.
↳ unspecified	any	0..*	N	

374 **3.2.41 ListFilterType**

Field	Type	#	?	Meaning
ListFilterType			Y	Provides a method to filter the amount of information returned in a search of biometric data.
↳ BiometricTypeFilters		1	Y	
↳ BiometricTypeFilter	<code>oasis_cbeff:MultipleTypesType</code>	1..*	Y	Limits the returned information to a specific type of biometric, as defined by CBEFF.
↳ IncludeBiometricSubType	boolean	1	Y	A Boolean flag indicating if biometric subtype information should be returned.

375 **3.2.42 MatchType**

<b>Type:</b>	boolean
<b>Description:</b>	The result of a fusion method.

376 **3.2.43 OptionType**

Field	Type	#	?	Meaning
OptionType			Y	BIAS aggregate operations support the ability to include various processing options which direct and possibly control the business logic for that operation. Together with the ProcessingOptionsType, The OptionType provides a method to represent those options. Processing options SHOULD be defined by the implementing system.
↳ Key	string	1	Y	The identifier of an option supported by the implementing system.
↳ Value	string	0..1	N	The value for an option supported by the implementing system.

377 **3.2.44 ProcessingOptionsType**

Field	Type	#	?	Meaning
ProcessingOptionsType			Y	BIAS aggregate operations support the ability to include various processing options which direct and possibly control the business logic for that operation. The ProcessingOptionsType provides a method to represent those options. Processing options SHOULD be defined by the implementing system.
↳ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.

378 **3.2.45 ProductID**

<b>Type:</b>	string
<b>Description:</b>	The vendor's ID for a particular product.

379 **3.2.46 QualityData**

Field	Type	#	?	Meaning
QualityData			Y	Contains information about a biometric sample's quality and the algorithm used to compute the quality.
↳ QualityScore	oasis_cbeff:QualityType	0..1	N	The quality of a biometric sample.

Field	Type	#	?	Meaning
AlgorithmVendor	<a href="#">VendorIdentifier</a>	1	Y	The vendor of the quality algorithm used to determine the quality score.
AlgorithmVendorProductID	<a href="#">ProductID</a>	1	Y	The vendor's ID for the algorithm used to determine the quality.
AlgorithmVersion	<a href="#">VersionType</a>	0..1	N	The version of the algorithm used to determine the quality.

380

### 381 3.2.47 ResponseStatus

Field	Type	#	?	Meaning
ResponseStatus			Y	
Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
Message	string	0..1	N	A short message corresponding to the return code.

### 382 3.2.48 ReturnCode

<b>Type:</b>	unsignedLong
<b>Description:</b>	Return value specifying success or other condition.

#### 383 ReturnCode Enumeration Values

Value	Description
0	Success

### 384 3.2.49 ScoreType

Field	Type	#	?	Meaning
ScoreType			Y	
Value	float	1	Y	Defines a match result or quality score.
BiometricType	<code>oasis_cbeff:MultipleTypesType</code>	0..1	N	The type of biological or behavioral data stored in the biometric record, as defined by CBEFF.
BiometricSubType	<code>oasis_cbeff:SubTypesType</code>	0..1	N	More specifically defines the type of biometric data stored in the biometric record.

385 NOTE: Matching scores MAY be in a standardized or proprietary form in terms of value range and  
386 interpretation. Quality scores, however, follow the definition found in Annex

387 **3.2.50 TokenResultType**

Field	Type	#	?	Meaning
TokenResultType			Y	Defines a token that is returned for asynchronous processing.
↳ TokenType	<a href="#">TokenType</a>	1	Y	Defines a token that is returned for asynchronous processing.

388 **3.2.51 TokenType**

Field	Type	#	?	Meaning
TokenType			Y	Defines a token that is returned for asynchronous processing.
↳ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↳ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

389 NOTE: Date/time format is defined in ISO/IEC 30108 and is  
 390 consistent with the date format specified in Annex B and ISO  
 391 8601[DATE-TIME]. See also Annex A for schema definition.

392 **3.2.52 URI\_BIR**

Field	Type	#	?	Meaning
URI_BIR	BaseBIRType		Y	Defines a BIR type of Binary
↳ URI	anyURI	1	Y	The URI of the BIR

393 **3.2.53 VendorIdentifier**

<b>Type:</b>	string
<b>Description:</b>	Identifies a vendor.

394 NOTE: Vendor identifiers are registered with IBIA as the CBEFF  
 395 registration authority (see ISO/IEC 19785-2). Registered biometric  
 396 organizations are listed at:  
 397 [http://www.ibia.org/cbeff/\\_biometric\\_org.php](http://www.ibia.org/cbeff/_biometric_org.php).

398 **3.2.54 Version**

Field	Type	#	?	Meaning
Version			Y	For a description or definition of each data element, see the referenced CBEFF standards in the <a href="#">CBEFF_BIR_TYPE</a> schema.
↳ major	nonNegativeInteger	1	Y	
↳ minor	nonNegativeInteger	1	Y	

399 **3.2.55 VersionType**

<b>Type:</b>	string
<b>Description:</b>	The version of a component.

400 **3.2.56 XML\_BIR**

Field	Type	#	?	Meaning
XML_BIR	BaseBIRType		Y	Defines a BIR type of Binary
↑ XML	Oasis_cbeff:BIRType	1	Y	BIR information in XML format

401

## 402 **4 BIAS Messages**

403 This section describes the BIAS messages implementing BIAS operations as defined in ISO/IEC 30108-  
404 1:2015. The operations are listed alphabetically, with each operation containing a request and a  
405 response message. The tables follow the conventions described in section 3.1.

### 406 **4.1 Primitive Operations**

#### 407 **4.1.1 AddSubjectToGallery**

408 [AddSubjectToGalleryRequest](#)

409 [AddSubjectToGalleryResponse](#)

410 The AddSubjectToGallery operation registers a subject to a given gallery or population group. As an  
411 OPTIONAL parameter, the value of the claim to identity by which the subject is known to the gallery MAY  
412 be specified. This claim to identity MUST be unique across the gallery. If no claim to identity is specified,  
413 the subject ID (assigned with the [CreateSubject](#) operation) will be used as the claim to identity. In the  
414 encounter-centric model, the encounter ID associated with the subject's biometrics that will be added to  
415 the gallery MUST be specified. Additionally, the service provider implementation is responsible for the  
416 creation and management of galleries. For this purpose, services are not exposed to the requester.

#### 417 **Request Message**

Field	Type	#	?	Meaning
AddSubjectToGallery			Y	Register a subject to a given gallery or population group.
↳ AddSubjectToGalleryRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "AddSubjectToGallery".



Field	Type	#	?	Meaning
↳ GalleryID	<a href="#">BIASIDType</a>	1	Y	The identifier of the gallery or population group to which the subject will be added.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	The identity to add to the gallery.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ IdentityClaim	<a href="#">BIASIDType</a>	0..1	N	An identifier by which a subject is known to a particular gallery or population group. (This could be a username or account number, for example.)
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject.  Required for encounter-centric models.

## 418 Response Message

Field	Type	#	?	Meaning
AddSubjectToGalleryResponse			Y	The response to an AddSubjectToGallery operation.
↳ AddSubjectToGalleryResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

## 419 4.1.2 CheckQuality

420 [CheckQualityRequest](#)

421 [CheckQualityResponse](#)

422 The CheckQuality operation returns a quality score for a given biometric or a specified subject. Either a  
 423 biometric sample or a subject ID MUST be provided. The biometric input is provided in a CBEFF basic  
 424 structure or CBEFF record, which in this specification is called a CBEFF-BIR. The algorithm vendor and  
 425 algorithm vendor product ID MAY be optionally provided in order to request a particular algorithm's use in  
 426 calculating the biometric quality. If an algorithm vendor is provided, then the algorithm vendor product ID  
 427 is REQUIRED. If no algorithm vendor is provided, the implementing system will provide the algorithm  
 428 vendor and algorithm vendor product ID that were used to calculate the biometric quality as output  
 429 parameters.

430 Algorithm Vendors are registered with the ISO Biometric Registration Authority. They are assigned unique  
 431 identifiers as outlined in ISO/IEC 19785-2. Algorithm Product IDs are assigned by the registered algorithm  
 432 vendor.

433 **Request Message**

Field	Type	#	?	Meaning
CheckQuality			Y	Calculate a quality score for a given biometric.
↳ CheckQualityRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "CheckQuality".
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	0..1	C	Data structure containing a single biometric sample for which a quality score is to be determined; required if no Subject ID is provided.

Field	Type	#	?	Meaning
↑ BIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	The biometric sample.
↑ Identity	<a href="#">BIASIdentity</a>	0..1	C	Required if no BIR is provided.
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	Identifies the subject; required if no BIR is provided.
↑ Qualityinfo	<a href="#">QualityData</a>	0..1	N	Specifies a particular algorithm vendor and vendor product ID.
↑ AlgorithmVendor	<a href="#">VendorIdentifier</a>	1	Y	The vendor of the quality algorithm used to determine the quality score.
↑ AlgorithmVendorProductID	<a href="#">ProductID</a>	1	C	The vendor assigned ID for the algorithm used to determine the quality; required as input if algorithm vendor is provided

#### 434 Response Message

Field	Type	#	?	Meaning
CheckQualityResponse			Y	The response to a CheckQuality operation.
↑ CheckQualityResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

Field	Type	#	?	Meaning
↑ QualityInfo	<a href="#">QualityData</a>	1	Y	Contains the quality information for the submitted biometric sample.
↑ QualityScore	oasis_cbeff:QualityType	0..1	N	The quality of a biometric sample.
↑ AlgorithmVendor	<a href="#">VendorIdentifier</a>	1	Y	The vendor of the quality algorithm used to determine the quality score.
↑ AlgorithmVendorProductID	<a href="#">ProductID</a>	1	Y	The vendor's ID for the algorithm used to determine the quality.
↑ AlgorithmVersion	<a href="#">VersionType</a>	1	Y	The version of the algorithm used to determine the quality.

### 435 4.1.3 ClassifyBiometricData

436 [ClassifyBiometricDataRequest](#)

437 [ClassifyBiometricDataResponse](#)

438 The ClassifyBiometricData operation attempts to classify a biometric sample. For example, a fingerprint  
 439 biometric sample may be classified as a whorl, loop, or arch (or other classification classes and sub-  
 440 classes). If no classification algorithm is input, then the BIAS service provider will make the selection.

441 To obtain the types of classification algorithms and classes, see the [QueryCapabilities](#) operation.

### 442 Request Message

Field	Type	#	?	Meaning
ClassifyBiometricData			Y	Classifies a biometric sample.
↑ ClassifyBiometricDataRequest		1	Y	
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "ClassifyBiometricData".

Field	Type	#	?	Meaning
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	1	Y	Data structure containing a single biometric sample for which the classification is to be determined.
↳ BIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	The biometric sample.
↳ ClassificationData		0..1	N	Contains the algorithm to be used to determine the classification.
↳ ClassificationAlgorithmType	<a href="#">ClassificationAlgorithmType</a>	1	Y	Identifies the type of classification algorithm to be used to perform the classification.

#### 443 Response Message

Field	Type	#	?	Meaning
ClassifyBiometricDataResponse			Y	The response to a ClassifyBiometricData operation, containing the classification of a biometric sample.
↳ ClassifyBiometricDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ ClassificationData	<a href="#">ClassificationData</a>	1	Y	Information on the results and type of classification performed.
↳ Classification	<a href="#">Classification</a>	1	Y	The result of the classification.
↳ ClassificationAlgorithmType	<a href="#">ClassificationAlgorithmType</a>	1	Y	Identifies the type of classification algorithm that was used to perform the classification.

444 **4.1.4 CreateEncounter**

445 [CreateEncounterRequest](#)

446 [CreateEncounterResponse](#)

447 The CreateEncounter operation creates a new encounter record for a subject and associates an  
 448 encounter ID to that record. If an encounter ID is not supplied by the requester, the service generates an  
 449 encounter ID that uniquely identifies the encounter within the subject record. The CreateEncounter  
 450 operation is performed prior to a [SetBiographicData](#), [SetBiometricData](#), or [SetDocumentData](#) operation.

451 In encounter mode, for match operations, the BIAS service provider will create the encounter and will set  
 452 the encounter type to “recognition”. Normally the BIAS implementation will assign the encounter ID.  
 453 However, if a requester assigns the encounter ID, it should be used unless it duplicates an existing  
 454 encounter ID. If that happens an error should be returned.

455 **Request Message**

Field	Type	#	?	Meaning
CreateEncounter			Y	Create a new encounter record for the specified subject and associate an encounter ID to that record.
↳ CreateEncounterRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: “CreateEncounter”.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.  Required for encounter-centric models.

Field	Type	#	?	Meaning
↳ EncounterType	<a href="#">EncounterCategoryType</a>	1	Y	Identifies the type of encounter during which data was collected from the subject, as determined by the requester.

## 456 Response Message

Field	Type	#	?	Meaning
CreateEncounterResponse			Y	The response to a CreateEncounter operation, containing the new encounterID associated with the specified subject.
↳ CreateEncounterResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of an encounter associated with the subject. Required for encounter-centric models.

## 457 4.1.5 CreateSubject

458 [CreateSubjectRequest](#)

459 [CreateSubjectResponse](#)

460 The CreateSubject operation creates a new subject record and associates a subject ID to that record. As  
 461 an optional parameter, the subject ID MAY be specified by the caller. If no subject ID is specified, the  
 462 CreateSubject operation will generate one. UUIDs should be used for Subject IDs when universal  
 463 uniqueness is required.

## 464 Request Message

Field	Type	#	?	Meaning
CreateSubject			Y	

Field	Type	#	?	Meaning
↑ CreateSubjectRequest		1	Y	
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "CreateSubject".

## 465 Response Message

Field	Type	#	?	Meaning
CreateSubjectResponse			Y	The response to a CreateSubject operation, containing the subject ID of the new subject record.
↑ CreateSubjectResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
Message	string	0..1	N	A short message corresponding to the return code.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	
SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.

## 466 4.1.6 DeleteBiographicData

467 [DeleteBiographicDataRequest](#)

468 [DeleteBiographicDataResponse](#)

469 The DeleteBiographicData operation erases all of the biographic data associated with a given subject  
470 record. In the encounter-centric model the operation erases all of the biographic data associated with a  
471 given encounter, and therefore the encounter ID MUST be specified. If no encounter ID is specified, or it  
472 is null, biographic data will be removed from all encounters. If a gallery is specified, biographic data will  
473 be deleted from that gallery only.



474 When deleting data, BIAS implementations MAY completely erase the information in order to prevent the  
 475 ability to reconstruct a record in whole or in part, or they MAY track and record the deleted information for  
 476 auditing and/or quality control purposes.

477 **Request Message**

Field	Type	#	?	Meaning
DeleteBiographicData			Y	Erase all of the biographic data associated with a given subject record or, in the encounter-centric model, with a given encounter.
↳ DeleteBiographicDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "DeleteBiographicData"
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required for encounter-centric models.
↳ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group from which the biographic information will be deleted.

478 **Response Message**

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
DeleteBiographicDataResponse			Y	The response to a DeleteBiographicData operation.
↳ DeleteBiographicDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

#### 479 **4.1.7 DeleteBiometricData**

480 [DeleteBiometricDataRequest](#)

481 [DeleteBiometricDataResponse](#)

482 The DeleteBiometricData operation erases all of the biometric data associated with a given subject  
483 record. In the encounter-centric model the operation erases all of the biometric data associated with a  
484 given encounter, and therefore the encounter ID MUST be specified. If no encounter ID is specified, or it  
485 is null, biometric data will be removed from all encounters. If a gallery is specified, biometric data will be  
486 deleted from that gallery only. If a biometric type(s) is specified, then only biometric data of that type will  
487 be deleted.

488 When deleting data, BIAS implementations MAY completely erase the information in order to prevent the  
489 ability to reconstruct a record in whole or in part, or they MAY track and record the deleted information for  
490 auditing and/or quality control purposes.

#### 491 **Request Message**

Field	Type	#	?	Meaning
DeleteBiometricData			Y	Erase all of the biometric data associated with a given subject record or, in the encounter-centric model, with a given encounter.
↳ DeleteBiometricDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.

Field	Type	#	?	Meaning
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "DeleteBiometricData".
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required for encounter-centric models.
↑ BiometricType	oasis_cbeff:MultipleTypesType	0..1	N	The type of biological or behavioral data to delete, as defined by CBEFF.
↑ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group from which the biometric information will be deleted.

## 492 Response Message

Field	Type	#	?	Meaning
DeleteBiometricDataResponse			Y	The response to a DeleteBiometricData operation.
↑ DeleteBiometricDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

## 493 4.1.8 DeleteDocumentData

494 [DeleteDocumentDataRequest](#)

495 [DeleteDocumentDataResponse](#)

496 The DeleteDocumentData operation erases all of the document data of the specified category(ies)  
497 associated with a given subject record. In the encounter-centric model the service erases all of the

498 document data associated with a given encounter, and therefore the encounter ID MUST be specified. If  
 499 no encounter ID is specified, or it is null, document data will be removed from all encounters. If no  
 500 categories are specified, then all categories (for the specified encounters) will be deleted.

501 When deleting data, BIAS implementations MAY completely erase the information in order to prevent the  
 502 ability to reconstruct a record in whole or in part, or they may track and record the deleted information for  
 503 auditing and/or quality control purposes.

## 504 Request Message

Field	Type	#	?	Meaning
DeleteDocumentData			Y	Erase all of the document data associated with a given subject record or, in the encounter-centric model, with a given encounter.
↳ DeleteDocumentDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "DeleteDocumentData"
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required for encounter-centric models.
↳ DocumentData	<a href="#">DocumentDataType</a>	0..1	N	Defines a set of document data elements providing information about the presented identity document.

Field	Type	#	?	Meaning
↳ DocumentCategory	string	1	Y	The category(ies) of the identity documents to be deleted.

## 505 Response Message

Field	Type	#	?	Meaning
DeleteDocumentDataResponse			Y	The response to a DeleteDocumentData operation.
↳ DeleteDocumentDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

## 506 4.1.9 DeleteEncounter

507 [DeleteEncounterRequest](#)

508 [DeleteEncounterResponse](#)

509 The DeleteEncounter operation deletes an existing encounter record from the system. When deleting an  
510 encounter, BIAS implementations MAY completely erase the information in order to prevent the ability to  
511 reconstruct a record in whole or in part, or they MAY track and record the deleted information for auditing  
512 and/or quality control purposes.

## 513 Request Message

Field	Type	#	?	Meaning
DeleteEncounter			Y	Delete an existing encounter record and, any associated encounter information.
↳ DeleteEncounterRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.

Field	Type	#	?	Meaning
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "DeleteEncounter".
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject
↑ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of an encounter associated with the subject.

## 514 Response Message

Field	Type	#	?	Meaning
DeleteEncounterResponse			Y	The response to a DeleteEncounter operation.
↑ DeleteEncounterResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

## 515 4.1.10 DeleteSubject

516 [DeleteSubjectRequest](#)

517 [DeleteSubjectResponse](#)

518 The DeleteSubject operation deletes an existing subject record and, in an encounter-centric model, any  
519 associated encounter information from the system. This operation also removes the subject from any  
520 registered galleries.

521 When deleting a subject, BIAS implementations MAY completely erase the subject information in order to  
522 prevent the ability to reconstruct a record or records in whole or in part, or they MAY track and record the  
523 deleted information for auditing and/or quality control purposes.

## 524 Request Message

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
DeleteSubject			Y	Delete an existing subject record and, in an encounter-centric model, any associated encounter information.
↳ DeleteSubjectRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "DeleteSubject".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	The identity of the subject to delete.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.

## 525 Response Message

Field	Type	#	?	Meaning
DeleteSubjectResponse			Y	The response to a DeleteSubject operation.
↳ DeleteSubjectResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

## 526 4.1.11 DeleteSubjectFromGallery

527 [DeleteSubjectFromGalleryRequest](#)

528 [DeleteSubjectFromGalleryResponse](#)

529 The DeleteSubjectFromGallery operation removes the registration of a subject from a gallery or  
 530 population group. The subject is identified by either the subject ID or the claim to identity that was  
 531 specified in the [AddSubjectToGallery](#) operation.

532 **Request Message**

Field	Type	#	?	Meaning
DeleteSubjectFromGallery			Y	Remove the registration of a subject from a gallery or population group.
↳ DeleteSubjectFromGalleryRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "DeleteSubjectFromGallery".
↳ GalleryID	<a href="#">BIASIDType</a>	1	Y	The identifier of the gallery or population group from which the subject will be deleted.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	The identity to remove from the gallery.
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	C	A system unique identifier for a subject. Required if an Identity Claim is not provided.
↳ IdentityClaim	<a href="#">BIASIDType</a>	0..1	C	An identifier by which a subject is known to a particular gallery or population group. Required if a Subject ID is not provided.

533 **Response Message**

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
DeleteSubjectFromGalleryResponse			Y	The response to a DeleteSubjectFromGallery operation.
↳ DeleteSubjectFromGalleryResponsePackage				
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

#### 534 **4.1.12 GetIdentifySubjectResults**

535 [GetIdentifySubjectResultsRequest](#)

536 [GetIdentifySubjectResultsResponse](#)

537 The GetIdentifySubjectResults operation retrieves the identification results for the specified token. This  
538 operation is used in conjunction with the [IdentifySubject](#) operation. If the IdentifySubject operation is  
539 implemented as an asynchronous service, the implementing system returns a token and the  
540 GetIdentifySubjectResults operation is used to poll for the results of the original IdentifySubject request.

#### 541 **Request Message**

Field	Type	#	?	Meaning
GetIdentifySubjectResults			Y	Retrieve the identification results for a specified token, which was returned by the <a href="#">IdentifySubject</a> operation.
↳ GetIdentifySubjectResultsRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.

Field	Type	#	?	Meaning
BIASOperationName ↑	string	0..1	N	Identifies the BIAS operation that is being requested: "GetIdentifySubjectResults".
Token ↑	<a href="#">TokenType</a>	1	Y	A value used to retrieve the results of an IdentifySubject request.
TokenValue ↑	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
Expiration ↑	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

## 542 Response Message

Field	Type	#	?	Meaning
GetIdentifySubjectResultsResponse			Y	The response to a GetIdentifySubjectResults operation, which includes a candidate list.
GetIdentifySubjectResultsResponsePackage ↑		1	Y	
ResponseStatus ↑	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
Return ↑	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
Message ↑	string	0..1	N	A short message corresponding to the return code.
CandidateList ↑	<a href="#">CandidateListType</a>	1	Y	A rank-ordered list of candidates that have a likelihood of matching the input biometric sample.
Candidate ↑	<a href="#">CandidateType</a>	0..*	N	A single candidate.
Score ↑	<a href="#">ScoreType</a>	0..1	N	The match score.

Field	Type	#	?	Meaning
BiographicData <span style="float: right;">↑</span>	<a href="#">BiographicDataType</a>	0..1	N	Biographic data associated with the candidate match.
<span style="float: right;">↑ BIRList</span>	<a href="#">CBEFF_BIR_ListType</a>	1	Y	Biometric data associated with the candidate match.
BIR <span style="float: right;">↑</span>	<a href="#">CBEFF_BIR_Type</a>	0..*	N	CBEFF structure containing information about a biometric sample.

### 543 **4.1.13 IdentifySubject**

544 [IdentifySubjectRequest](#)

545 [IdentifySubjectResponse](#)

546 The IdentifySubject operation performs an identification search against a given gallery for a given  
547 biometric, returning a rank-ordered candidate list of a given maximum size. Note that multiple  
548 scores/candidates is already incorporated as a score comes with a CandidateType which is a member of  
549 CandidateList.

550 If the IdentifySubject operation is implemented as a synchronous service, the implementing system  
551 immediately processes the request and returns the results in the candidate list. If the IdentifySubject  
552 operation is implemented as an asynchronous service, the implementing system returns a token, which is  
553 an indication that the request is being handled asynchronously. In this case, the  
554 [GetIdentifySubjectResults](#) operation is used to poll for the results of the IdentifySubject request.

555 Gallery ID must not be used in conjunction with Gallery parameter. Gallery must not be used in  
556 conjunction with Gallery ID parameter. However, Gallery ID or Gallery MUST be present.

### 557 **Request Message**

Field	Type	#	?	Meaning
IdentifySubject			Y	Perform an identification search against a given gallery for a given biometric.
↑ IdentifySubjectRequest		1	Y	
<span style="float: right;">↑</span> GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
<span style="float: right;">↑ Application</span>	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
<span style="float: right;">↑ ApplicationUser</span>	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
<span style="float: right;">↑</span> BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "IdentifySubject".

Field	Type	#	?	Meaning
↑ GalleryID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the gallery or population group which will be searched. Must not be used in conjunction with Gallery parameter.
↑ Gallery	<a href="#">CandidateListType</a>	0..1	C	A list of BIRs that must be used instead of a stored gallery. Must not be used in conjunction with GalleryID parameter.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Contains the BIR, a data structure containing the biometric sample for the search.
↑ BiometricData	<a href="#">BIASBiometricDataType</a>	1	Y	An Identity's biometric data.
↑ BIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	Contains biometric information in either a non-XML or an XML representation.
↑ MaxListSize	positiveInteger	1	Y	The maximum size of the candidate list that should be returned.

## 558 Response Message

Field	Type	#	?	Meaning
IdentifySubjectResponse			Y	The response to an IdentifySubject operation, returning a rank-ordered candidate list.
↑ IdentifySubjectResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

Field	Type	#	?	Meaning
↑ CandidateList	<a href="#">CandidateListResultType</a> (see <a href="#">IdentifySubjectResultType</a> )	0..1	C	A rank-ordered list of candidates that have a likelihood of matching the input biometric sample (i.e., exceed the system threshold).  Rank ordering is from highest to lowest match score.  Returned with successful synchronous request processing.
↑ Candidate	<a href="#">CandidateType</a>	0..*	N	A single candidate.
↑ Score	<a href="#">ScoreType</a>	0..1	N	The match score.
BiographicData ↑	<a href="#">BiographicDataType</a>	0..1	N	Biographic data associated with the candidate match.
↑ BIRList	<a href="#">CBEFF_BIR_ListType</a>	1	Y	Biometric data associated with the candidate match.
BIR ↑	<a href="#">CBEFF_BIR_Type</a>	0..*	N	CBEFF structure containing information about a biometric sample.
↑ Token	<a href="#">TokenResultType</a> (see <a href="#">IdentifySubjectResultType</a> )	0..1	C	A token used to retrieve the results of the IdentifySubject operation.  Returned with asynchronous request processing.
↑ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↑ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

559 NOTES:

560 (1) In the event that the number of candidates exceeding the threshold exceeds the  
561 MaxListSize, the system will determine which candidate is included in the last position of  
562 the rank ordered candidate list (i.e., in the event of a tie).

563 (2) Requesters MAY NOT change the system thresholds.

#### 564 4.1.14 ListBiographicData

565 [ListBiographicDataRequest](#)

566 [ListBiographicDataResponse](#)

567 The ListBiographicData operation lists the biographic data elements stored for a subject using the  
 568 Biographic Data Elements output parameter. Note that no actual biographic data is returned by this  
 569 operation (see the [RetrieveBiographicData](#) operation to obtain the biographic data). In the encounter-  
 570 centric model, an encounter ID MAY be specified to indicate that only the biographic data elements stored  
 571 for that encounter should be returned. If an encounter ID is not specified and encounter data exists for the  
 572 subject, the operation returns the list of encounter IDs which contain biographic data using the Encounter  
 573 List output parameter, and the Biographic Data Element List output parameter is empty.

574 **Request Message**

Field	Type	#	?	Meaning
ListBiographicData			Y	Lists the biographic data elements stored for a subject.
↳ ListBiographicDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "ListBiographicData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.

Field	Type	#	?	Meaning
↑ EncounterType	<a href="#">EncounterCategoryType</a>	0..1	C	Identifies the category of encounter. If an encounter ID is not specified and encounter data exists for the subject, the operation returns the list of encounter IDs of a specific type which contain biographic data using the Encounter List output parameter, and the Biographic Data Elements output parameter is empty. Should not be used in conjunction with EncounterID.

575 **Response Message**

Field	Type	#	?	Meaning
ListBiographicDataResponse			Y	The response to a ListBiographicData request, containing a list of biographic data elements stored for a subject. In the encounter-centric model, the biographic data elements for a specific encounter are returned. If an encounter ID is not specified and encounter data exists for the subject, the list of encounter IDs which contain biographic data is returned.
↑ ListBiographicDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

Field	Type	#	?	Meaning
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Contains a list of biographic data elements associated with a subject or encounter; non-empty if the service was successful, biographic data exists, and either (a) the person-centric model is being used or (b) the encounter-centric model is being used and an encounter identifier was specified.
↑ BiographicData	<a href="#">BiographicDataType</a>	0..1	C	An Identity's biographic data elements that are stored in the implementing system.
BiographicDataItemList ↑	<a href="#">BiographicDataItemListType</a>	0..1	N	A list of biographic data elements.
BiographicDataItem ↑	<a href="#">BiographicDataItemType</a>	1..*	Y	A single biographic data element.
↑ Name	string	1	Y	The name of the biographic data item.
↑ Type	string	1	Y	The data type for the biographic data item.
↑ Value	string	0..1	N	The value assigned to the biographic data item.
↑ EncounterList	<a href="#">EncounterListType</a>	0..1	C	A list of encounter ID's associated with a subject and which contain biographic data; non-empty if the service was successful, biographic data exists, the encounter-centric model is being used, and an encounter identifier was not specified.
↑ EncounterID	<a href="#">BIASIDType</a>	0..*	N	The identifier of an encounter.

576 **4.1.15 ListBiometricData**

577 [ListBiometricDataRequest](#)



578 [ListBiometricDataResponse](#)

579 The ListBiometricData operation lists the biometric data elements stored for a subject using the Biometric  
 580 Data List output parameter. Note that no actual biometric data is returned by this operation (see the  
 581 [RetrieveBiometricData](#) operation to obtain the biometric data). In the encounter-centric model, an  
 582 encounter ID MAY be specified to indicate that only the biometric data elements stored for that encounter  
 583 should be returned. If an encounter ID is not specified and encounter data exists for the subject, the  
 584 operation returns the list of encounter IDs which contain biometric data using the Encounter List output  
 585 parameter, and the Biometric Data List output parameter is empty.

586 An optional parameter MAY be used to indicate a filter on the list of returned data. Such a filter may  
 587 indicate that only biometric types should be listed (e.g., face, finger, iris, etc.) or that only biometric  
 588 subtypes for a particular biometric type should be listed (e.g., all fingerprints: left slap, right index, etc.). If  
 589 a filter is not specified, all biometric type and biometric subtype information must both be listed (e.g., left  
 590 index finger, right iris, face frontal, etc.).

591 **Request Message**

Field	Type	#	?	Meaning
ListBiometricData			Y	Lists the biometric data elements stored for a subject.
↳ ListBiometricDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "ListBiometricData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.

Field	Type	#	?	Meaning
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.
↳ EncounterType	<a href="#">EncounterCategoryType</a>	0..1	C	Identifies the category of encounter. If an encounter ID is not specified and encounter data exists for the subject, the operation may return the list of encounter IDs of a specific type which contain biometric data using the Encounter List output parameter, and the Biometric Data List output parameter is empty.  Should not be used in conjunction with EncounterID.
↳ ListFilterType	<a href="#">ListFilterType</a>	0..1	N	Indicates what biometric information should be returned.
↳ BiometricTypeFilter	oasis_cbeff:MultipleTypesType	1..*	Y	Limits the returned information to a specific type of biometric, as defined by CBEFF.
↳ IncludeBiometricSubType	boolean	1	Y	A Boolean flag indicating if biometric subtype information should be returned.

592 **Response Message**

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
ListBiometricDataResponse			Y	The response to a ListBiometricData operation, containing a list of biometric data elements stored for a subject. In the encounter-centric model, the biometric data elements for a specific encounter are returned. If an encounter ID is not specified and encounter data exists for the subject, the list of encounter IDs which contain biometric data is returned.
↳ ListBiometricDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ Identity	<a href="#">BIASIdentity</a>	0..1	N	Includes a list of biometric data elements associated with a subject or encounter or a list of encounter ID's associated with a subject and which contain biometric data.
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	0..1	C	An Identity's biometric data.
BiometricDataList ↳	<a href="#">BiometricDataListType</a>	0..1	N	A list of biometric data elements.

Field	Type	#	?	Meaning
BiometricDataRecord <span style="float: right;">↑</span>	<a href="#">BiometricDataType</a>	1..*	Y	Data structure containing information about a biometric record.
<span style="float: right;">↑</span> BiometricType	oasis_cbeff:MultipleTypesType	1	Y	The type of biological or behavioral data stored in the biometric record, as defined by CBEFF.
<span style="float: right;">↑</span> BiometricTypeCount	positiveInteger	0..1	N	The number of biometric records having the biometric type recorded in the biometric type field.
<span style="float: right;">↑</span> BiometricSubType	oasis_cbeff:SubtypeType	0..1	N	More specifically defines the type of biometric data stored in the biometric record, as defined by CBEFF.
<span style="float: right;">↑</span> BDBFormatOwner	positiveInteger	1	Y	Identifies the standards body, working group, industry consortium, or other CBEFF biometric organization that has defined the format for the biometric data.
<span style="float: right;">↑</span> BDBFormatType	positiveInteger	1	Y	Identifies the specific biometric data format specified by the CBEFF biometric organization recorded in the BDB Format Owner field.

Field	Type	#	?	Meaning
↑ EncounterList	<a href="#">EncounterListType</a>	0..1	C	A list of encounter ID's associated with a subject and which contain biometric data; non-empty if the service was successful, biometric data exists, the encounter-centric model is being used, and an encounter identifier was not specified.
↑ EncounterID	<a href="#">BIASIDType</a>	1..*	Y	The identifier of an encounter.

#### 593 **4.1.16 ListDocumentData**

594 [ListDocumentDataRequest](#)

595 [ListDocumentDataResponse](#)

596 The ListDocumentData operation lists the document categories stored for a subject using the Document  
597 Data List output parameter. Note that no other document data is returned by this operation (see the  
598 [RetrieveDocumentData](#) operation to obtain document data by category.) In the encounter-centric model,  
599 an encounter ID may be specified to indicate that only the document data elements stored for that  
600 encounter should be returned. If an encounter ID is not specified and encounter data exists for the  
601 subject, the operation must return the list of encounter IDs which contain document data using the  
602 Encounter List Output parameter, and the Document Data List output parameter must be empty.

#### 603 **Request Message**

Field	Type	#	?	Meaning
ListDocumentData			Y	
↑ ListDocumentDataRequest		1	Y	
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.

Field	Type	#	?	Meaning
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "ListDocumentData".
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter.
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject.
↑ EncounterType	<a href="#">EncounterCategoryType</a>	0..1	C	Identifies the category of encounter. If an encounter ID is not specified and encounter data exists for the subject, the operation must return the list of encounter IDs which contain document data using the Encounter List Output parameter, and the Document Data List output parameter must be empty.  Should not be used in conjunction with EncounterID.

## 604 Response Message

Field	Type	#	?	Meaning
ListDocumentDataResponse			Y	The response to a ListDocumentData operation.
↑ ListDocumentDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.

Field	Type	#	?	Meaning
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ DocumentDataList	<a href="#">DocumentDataListType</a>	0..1	C	A list of document categories associated with a subject or encounter; non-empty if the service was successful, document data exists, and either the person-centric model is being used or the encounter-centric model is being used and an encounter identifier was specified.
↳ DocumentData	<a href="#">DocumentDataType</a>	1..*	Y	Defines a set of document data elements providing information about the presented identity document
DocumentCategory ↳	string	1	Y	The type of identity document presented (e.g. passport).
↳ Identity	<a href="#">BIASIdentity</a>	0..1	C	
↳ EncounterList	<a href="#">EncounterListType</a>	1	Y	A list of encounter IDs associated with a subject and which contain document data; non-empty if the service was successful, document data exists, the encounter-centric model is being used, and an encounter identifier was not specified.
↳ EncounterID	<a href="#">BIASIDType</a>	1..*	Y	The identifier of an encounter.

#### 605 **4.1.17 PerformFusion**

606 [PerformFusionRequest](#)

607 [PerformFusionResponse](#)

608 The PerformFusion operation accepts either match score or match decision information and creates a  
609 fused match result. The [FusionInformationListType](#), through the [FusionInformationType](#), provides specific  
610 elements for match score input and match decision input for a single identity, while the  
611 [FusionIdentityListType](#) provides the ability to submit multiple identities to the Perform Fusion operation.  
612 The fusion method and processes are left to the implementing system.

613 Request Message

Field	Type	#	?	Meaning
PerformFusion			Y	Accepts either match score or match decision information and creates a fused match result.
↳ PerformFusionRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "PerformFusion".
FusionInput	<a href="#">FusionIdentityListType</a>	1	Y	
↳ FusionIdentity	<a href="#">FusionInformationListType</a>	1	Y	Score or decision input information to the fusion method for each identity.
FusionElement ↳	<a href="#">FusionInformationType</a>	2..*	Y	A set of fusion information.
BiometricType ↳	oasis_cbeff:MultipleTypesType	1	Y	The type of biological or behavioral data stored in the biometric record, as defined by CBEFF.
BiometricSubType ↳	oasis_cbeff:SubtypeType	0..1	N	More specifically defines the type of biometric data stored in the biometric record.



Field	Type	#	?	Meaning
AlgorithmOwner <sup>⤴</sup>	string	1	Y	The owner or vendor of the algorithm used to determine the score or decision.
<sup>⤴</sup> AlgorithmType	string	1	Y	The Algorithm Owner's identifier for the specific algorithm product and version used to determine the score or decision.
<sup>⤴</sup> FusionResult	<a href="#">FusionResult</a>	0..1	C	Either <a href="#">FusionScore</a> or a <a href="#">FusionDecision</a> element MUST be used.

## 614 Response Message

Field	Type	#	?	Meaning
PerformFusionResponse			Y	The response to the PerformFusion operation.
<sup>⤴</sup> PerformFusionResponsePackage		1	Y	
<sup>⤴</sup> ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
<sup>⤴</sup> Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
<sup>⤴</sup> Message	string	0..1	N	A short message corresponding to the return code.
<sup>⤴</sup> Match	<a href="#">MatchType</a>	1	Y	Indicates the result of the fusion method.

## 615 4.1.18 QueryCapabilities

616 [QueryCapabilitiesRequest](#)

617 [QueryCapabilitiesResponse](#)

618 The QueryCapabilities operation returns a list of the capabilities, options, galleries, etc. that are supported  
619 by the BIAS implementation. Refer to Annex A in the ISO/IEC BIAS [\[ISO/IEC-BIAS\]](#) standard for  
620 conformance requirements regarding which capability names an implementation must use in the  
621 QueryCapabilities operation. If the implementing system does not support a capability item, the Capability  
622 Value can be set to null in the response.

623 Proprietary and additional information may be returned by returning capabilities that are not part of those  
624 capabilities enumerated in the [Capability Name](#) section 3.2.21. When returning capabilities not  
625 enumerated in section 3.2.21, the Capability Description should describe the capability. For each

626 capability enumerated in section 3.2.21, the Capability Name should be set to the name in the value  
 627 column.

628 **Request Message**

Field	Type	#	?	Meaning
QueryCapabilities			Y	Returns a list of the capabilities, options, galleries, etc. that are supported by the BIAS implementation.
↳ QueryCapabilitiesRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "QueryCapabilities".

629 **Response Message**

Field	Type	#	?	Meaning
QueryCapabilitiesResponse			Y	The response to a QueryCapabilities operation.
↳ QueryCapabilitiesResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ CapabilityList	<a href="#">CapabilityListType</a>	1	Y	A list of capabilities supported by the BIAS implementation.

Field	Type	#	?	Meaning
↳ Capability	<a href="#">CapabilityType</a>	0..*	N	A single capability.
↳ CapabilityName	<a href="#">CapabilityName</a>	1	Y	The name of the capability.
↳ CapabilityID	string	0..1	N	An identifier assigned to the capability by the implementing system.
↳ CapabilityDescription	string	0..1	N	A description of the capability.
↳ CapabilityValue	string	0..1	N	A value assigned to the capability.
↳ CapabilitySupportingValue	string	0..1	N	A secondary value supporting the capability.
↳ CapabilityAdditionalInfo	string	0..1	N	Contains additional information for the supported capability.

#### 630 4.1.19 RetrieveBiographicData

631 [RetrieveBiographicDataRequest](#)

632 [RetrieveBiographicDataResponse](#)

633 The RetrieveBiographicData operation retrieves the biographic data associated with a subject ID. In the  
634 encounter-centric model, the encounter ID MAY be specified and the operation will return the set of  
635 biographic data associated with that encounter (the list contains a single set). If the encounter ID is not  
636 specified in the encounter-centric model, the operation returns the list of biographic information  
637 associated with the most recent encounter. If no gallery ID is specified, a list of biographic information  
638 from all galleries will be returned.

#### 639 Request Message

Field	Type	#	?	Meaning
RetrieveBiographicData			Y	Retrieves the biographic data associated with a subject ID.
↳ RetrieveBiographicDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.

Field	Type	#	?	Meaning
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "RetrieveBiographic Data".
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter.
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.
↑ EncounterType	<a href="#">EncounterCategoryType</a>	0..1	N	Identifies the type of encounter during which data was collected from the subject, as determined by the requester.
↑ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group from which the biographic information will be retrieved.

## 640 Response Message

Field	Type	#	?	Meaning
RetrieveBiographicDataResponse			Y	The response to a RetrieveBiographicData operation.
↑ RetrieveBiographicDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.

Field	Type	#	?	Meaning
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Includes the set of biographic data associated with a subject.
↳ BiographicDataList	<a href="#">BiographicDataListType</a>	1	Y	A list of biographic data associated with the subject or encounter.
↳ BiographicData	<a href="#">BiographicDataType</a>	0..*	N	An Identity's biographic data. One of the following elements MUST be present
LastName	↳ string	0..1	C	The last name of a subject.
FirstName	↳ string	0..1	C	The first name of a subject.
BiographicDataItemList	↳ <a href="#">BiographicDataItemListType</a>	0..1	C	A list of biographic data elements.
↳ BiographicDataItem	<a href="#">BiographicDataItemType</a>	1..*	Y	A single biographic data element.
↳ Name	string	1	Y	The name of the biographic data item.
↳ Type	string	1	Y	The data type for the biographic data item.
↳ Value	string	0..1	N	The value assigned to the biographic data item.
BiographicDataSet	↳ <a href="#">BiographicDataSetType</a>	0..1	C	A set of biographic data information.

641 **4.1.20 RetrieveBiometricData**

642 [RetrieveBiometricDataRequest](#)

643 [RetrieveBiometricDataResponse](#)

644 The RetrieveBiometricData operation retrieves the biometric data associated with a subject ID. In the  
 645 encounter-centric model, the encounter ID MAY be specified and the operation will return the biometric  
 646 data associated with that encounter. If the encounter ID is not specified in the encounter-centric model,  
 647 the operation returns the biometric information associated with the most recent encounter. The operation  
 648 provides an OPTIONAL input parameter to specify that only biometric data of a certain type should be  
 649 retrieved.

650 **Request Message**

Field	Type	#	?	Meaning
RetrieveBiometricData			Y	Retrieves the biometric data associated with a subject ID.
↳ RetrieveBiometricDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "RetrieveBiometricData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.
↳ EncounterType	<a href="#">EncounterCategoryType</a>	0..1	N	Identifies the type of encounter during which data was collected from the subject, as determined by the requester.

Field	Type	#	?	Meaning
↑ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group from which the biometric information will be retrieved.
↑ BiometricType	oasis_cbeff:MultipleTypesType	0..1	N	The type of biological or behavioral data to retrieve.

## 651 Response Message

Field	Type	#	?	Meaning
RetrieveBiometricDataResponse			Y	The response to a RetrieveBiometricData operation.
↑ RetrieveBiometricDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Includes the biometric data associated with a subject.
↑ BiometricData	<a href="#">BIASBiometricDataType</a>	1	Y	An Identity's biometric data.
↑ BIRList	<a href="#">CBEFF_BIR_ListType</a>	1	Y	A list of CBEFF-BIR elements.
↑ BIR	<a href="#">CBEFF_BIR_Type</a>	0..*	N	CBEFF structure containing information about a biometric sample.

## 652 4.1.21 RetrieveDocumentData

### 653 [RetrieveDocumentDataRequest](#)

### 654 [RetrieveDocumentDataResponse](#)

655 The RetrieveDocumentData operation retrieves the list of document data associated with a subject ID for  
656 the category(ies) specified. In the encounter-centric model, the encounter ID MAY be specified and the  
657 operation returns the list of document data associated with that encounter. If the encounter ID is not  
658 specified in the encounter-centric model, the operation returns the list of document information associated  
659 with the most recent encounter for which document data exist. If no gallery ID is specified, document data

660 from all galleries must be returned. If no document category is specified, all documents associated with  
 661 the subject (and encounter ID, if present) must be returned.

662 **Request Message**

Field	Type	#	?	Meaning
RetrieveDocumentData			Y	
↳ RetrieveDocumentDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "RetrieveDocumentData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.
↳ EncounterType	<a href="#">EncounterCategoryType</a>	0..1	C	Identifies the category of encounter.
↳ DocumentData	<a href="#">DocumentDataType</a>	0..1	N	Defines a set of document data elements providing information about the requested identity document.
↳ DocumentCategory	string	0..1	Y	The category(ies) of the identity documents to be retrieved.
↳ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group from which the biographic information will be retrieved.



663 **Response Message**

Field	Type	#	?	Meaning
RetrieveDocumentDataResponse			Y	The response to a RetrieveDocumentData operation.
↑ RetrieveDocumentDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ DocumentDataList	<a href="#">DocumentDataListType</a>	1	Y	A list of document data associated with a subject or encounter.

664 **4.1.22 SetBiographicData**

665 [SetBiographicDataRequest](#)

666 [SetBiographicDataResponse](#)

667 The SetBiographicData operation associates biographic data to a given subject record. The identity  
 668 model of the system determines whether the biographic information should replace any existing  
 669 biographic information (person-centric model) or if a new encounter should be created and associated  
 670 with the subject (encounter-centric model). For encounter-centric models, the encounter ID MAY be  
 671 specified by the caller in order to link biographic with biometric and/or document information (assuming  
 672 biometric and/or document information was previously associated using the [SetBiometricData](#) and/or  
 673 [SetDocumentData](#) operations). If the encounter ID is omitted for the encounter-centric model, the  
 674 operation returns a system-assigned encounter ID.

675 For encounter-based systems, the Create Encounter operation should be called prior to Set Biographic  
 676 Data and/or Set Document Data. The Encounter ID assigned as a result should be used as input to this  
 677 operation.

678 **Request Message**

Field	Type	#	?	Meaning
SetBiographicData			Y	Associates biographic data to a given subject record.
↑ SetBiographicDataRequest		1	Y	

Field	Type	#	?	Meaning
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "SetBiographicData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter, and includes the biographic data to store.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject.
↳ BiographicData	<a href="#">BiographicDataType</a>	1	Y	An Identity's biographic data. One of the following elements MUST be present.
↳ LastName	string	0..1	C	The last name of a subject.
↳ FirstName	string	0..1	C	The first name of a subject.
↳ BiographicDataItemList	<a href="#">BiographicDataItemListType</a>	0..1	C	A list of biographic data elements.
↳ BiographicDataSet	<a href="#">BiographicDataSetType</a>	0..1	C	A set of biographic data information.

Field	Type	#	?	Meaning
↑ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group to which the biographic will be added.

## 679 Response Message

Field	Type	#	?	Meaning
SetBiographicDataResponse			Y	The response to a SetBiographicData operation.
↑ SetBiographicDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ Identity	<a href="#">BIASIdentity</a>	0..1	C	In an encounter-centric model, identifies the encounter ID assigned to a new encounter.
↑ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of an encounter associated with the subject.

## 680 4.1.23 SetBiometricData

681 [SetBiometricDataRequest](#)

682 [SetBiometricDataResponse](#)

683 The SetBiometricData operation associates biometric data to a given subject record. The identity model  
684 of the system determines whether the biometric information should replace any existing biometric  
685 information (person-centric model) or if a new encounter should be created and associated with the  
686 subject (encounter-centric model). For encounter-centric models, the encounter ID MAY be specified by  
687 the caller in order to link biometric with biographic and/or document information (assuming biographic  
688 and/or document information was previously associated using the [SetBiographicData](#) and/or  
689 [SetDocumentData](#) operation). If the encounter ID is omitted for the encounter-centric model, the  
690 operation returns a system-assigned encounter ID.

691 For encounter-based systems, the Create Encounter operation should be called prior to Set Biometric  
692 Data. The Encounter ID assigned as a result should be used as input to this operation.

## 693 Request Message

Field	Type	#	?	Meaning
SetBiometricData			Y	Associates biometric data to a given subject record.

Field	Type	#	?	Meaning
↳ SetBiometricDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "SetBiometricData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter, and includes the biometric data to store.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject.
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	1	Y	An Identity's biometric data.
↳ BIRList	<a href="#">CBEFF_BIR_ListType</a>	1	Y	A list of CBEFF-BIR elements.
BIR	<a href="#">CBEFF_BIR_Type</a>	1..*	Y	CBEFF structure containing information about a biometric sample.
↳ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group to which the biometric will be added.

## 694 Response Message

Field	Type	#	?	Meaning
SetBiometricDataResponse			Y	The response to a SetBiometricData operation.

Field	Type	#	?	Meaning
↑ SetBiometricDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

#### 695 **4.1.24 SetDocumentData**

696 [SetDocumentDataRequest](#)

697 [SetDocumentDataResponse](#)

698 The SetDocumentData operation associates identity document data to a given subject record. The  
699 identity model of the system determines whether the document information should replace any existing  
700 document information for the same document category (person-centric model) or if a new encounter  
701 should be created and associated with the subject (encounter-centric model). For encounter-centric  
702 models, the encounter ID MAY be specified by the caller in order to link document with biographic and/or  
703 biometric information (assuming biographic and/or biometric information was previously associated using  
704 the [SetBiographicData](#) and/or [SetBiometricData](#) operation). If the encounter ID is omitted for the  
705 encounter-centric model, the operation returns a system-assigned encounter ID.

#### 706 **Request Message**

Field	Type	#	?	Meaning
SetDocumentData			Y	
↑ SetDocumentDataRequest		1	Y	
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "SetDocumentData".
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject

Field	Type	#	?	Meaning
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier of an encounter associated with the subject.
↑ DocumentDataList	<a href="#">DocumentDataListType</a>	1	Y	A list of document data to associate with the subject or encounter.
↑ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group to which the document information will be added.

707 **Response Message**

Field	Type	#	?	Meaning
SetDocumentDataResponse			Y	The response to a SetDocumentData operation.
↑ SetDocumentDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	
↑ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of an encounter associated with the subject.

708 **4.1.25 TransformBiometricData**

709 [TransformBiometricDataRequest](#)

710 [TransformBiometricDataResponse](#)

711 The TransformBiometricData operation transforms or processes a given biometric in one format into a  
712 new target format.

713 **Request Message**

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
TransformBiometricData			Y	Transforms or processes a given biometric in one format into a new target format.
↳ TransformBiometricDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "TransformBiometricData".
↳ InputBIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	Data structure containing the biometric information to be transformed.
↳ TransformOperation	unsignedLong	1	Y	Value indicating the type of transformation to perform.
↳ TransformControl	string	0..1	N	Specifies controls for the requested transform operation.  Note: This could be a compression ratio, target data format, etc.

714 NOTE: The values for TransformOperation and TransformControl are implementation specific.

## 715 Response Message

Field	Type	#	?	Meaning
TransformBiometricDataResponse			Y	The response to a TransformBiometricData operation.
↳ TransformBiometricDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.

Field	Type	#	?	Meaning
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ OutputBIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	Data structure containing the new, transformed biometric information.

## 716 4.1.26 UpdateBiographicData

717 [UpdateBiographicDataRequest](#)

718 [UpdateBiographicDataResponse](#)

719 The UpdateBiographicData operation updates the biographic data for an existing subject record. The  
720 operation replaces any existing biographic data with the new biographic data. In the encounter-centric  
721 model, the encounter ID MUST be specified.

## 722 Request Message

Field	Type	#	?	Meaning
UpdateBiographicData			Y	Updates the biographic data for a given subject record.
↳ UpdateBiographicDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "UpdateBiographic Data".



Field	Type	#	?	Meaning
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter, and includes the biographic data to update.
↑ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required for encounter-centric models.
↑ BiographicData	<a href="#">BiographicDataType</a>	1	Y	An Identity's biographic data. One of the following elements MUST be present.
↑ LastName	string	0..1	C	The last name of a subject.
↑ FirstName	string	0..1	C	The first name of a subject.
BiographicDataItemList ↑	<a href="#">BiographicDataItemListType</a>	0..1	C	A list of biographic data elements.
BiographicDataItem ↑	<a href="#">BiographicDataItemType</a>	1..*	Y	A single biographic data element.
↑ Name	string	1	Y	The name of the biographic data item.
↑ Type	string	1	Y	The data type for the biographic data item.
↑ Value	string	0..1	N	The value assigned to the biographic data item.
BiographicDataSet ↑	<a href="#">BiographicDataSetType</a>	0..1	C	A set of biographic data information.

723 **Response Message**

Field	Type	#	?	Meaning
UpdateBiographicDataResponse			Y	The response to an UpdateBiographicData operation.
↳ UpdateBiographicDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

724 **4.1.27 UpdateBiometricData**

725 [UpdateBiometricDataRequest](#)

726 [UpdateBiometricDataResponse](#)

727 The UpdateBiometricData operation updates the biometric data for an existing subject record. The  
 728 operation includes an OPTIONAL parameter indicating if the new biometric sample should be merged  
 729 with the existing biometric sample. If this parameter is set to “False” or is not used in the request, the  
 730 operation replaces the existing biometric sample with the new biometric sample. The “merge” process is  
 731 determined by the implementation. It may be accomplished by adding the sample to a multi-sample  
 732 record or by performing some level of biometric fusion (for example, feature or sample level fusion). In the  
 733 encounter-centric model, the encounter ID MUST be specified.

734 **Request Message**

Field	Type	#	?	Meaning
UpdateBiometricData			Y	Updates a single biometric sample for a given subject record.
↳ UpdateBiometricDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.

Field	Type	#	?	Meaning
BIASOperationName ↳	string	0..1	N	Identifies the BIAS operation that is being requested: "UpdateBiometricData".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter, and includes the biometric data to update.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required for encounter-centric models.
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	1	Y	An Identity's biometric data.
↳ BIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	Contains biometric information in either a non-XML or an XML representation.
↳ Merge	boolean	0..1	N	Value indicating if the input biometric sample should be merged with any existing biometric information.

## 735 Response Message

Field	Type	#	?	Meaning
UpdateBiometricDataResponse			Y	The response to an UpdateBiometricData operation.
↳ UpdateBiometricDataResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

736 **4.1.28 UpdateDocumentData**

737 [UpdateDocumentDataRequest](#)

738 [UpdateDocumentDataResponse](#)

739 The UpdateDocumentData operation updates the document data for an existing subject record. The  
 740 operation replaces any existing document data of the same category with the new document data. In the  
 741 encounter-centric model, the encounter ID MUST be specified.

742 **Request Message**

Field	Type	#	?	Meaning
UpdateDocumentData			Y	Updates the document data for a given subject record.
↳ UpdateDocumentDataRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "UpdateDocument Data".
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Identifies the subject or, in the encounter-centric model, a subject and an encounter, and includes the document data to update.
↳ SubjectID	<a href="#">BIASIDType</a>	1	Y	A system unique identifier for a subject.

Field	Type	#	?	Meaning
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required for encounter-centric models.
↑ DocumentDataList	<a href="#">DocumentDataListType</a>	1	Y	A list of updated document data.

### 743 Response Message

Field	Type	#	?	Meaning
UpdateDocumentDataResponse			Y	The response to an UpdateDocumentData operation.
↑ UpdateDocumentDataResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.

### 744 4.1.29 VerifySubject

745 [VerifySubjectRequest](#)

746 [VerifySubjectResponse](#)

747 The VerifySubject operation performs a 1:1 verification match between a given biometric and either a  
748 claim to identity in a given gallery or another provided biometric. As such either the Identity Claim or  
749 Reference BIR input parameters are REQUIRED.

750 In the encounter-centric model, for match operations, it is not necessary to explicitly create an encounter.  
751 The BIAS service provider will create the encounter and will set the encounter type to “recognition”.

### 752 Request Message

Field	Type	#	?	Meaning
VerifySubject			Y	Performs a 1:1 verification match between a given biometric and either a claim to identity in a given gallery or another given biometric.

Field	Type	#	?	Meaning
↳ VerifySubjectRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "VerifySubject".
↳ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group of which the subject must be a member.  Required if an Identity Claim is provided.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Includes the identifying information and/or input and reference biometric samples.
↳ IdentityClaim	<a href="#">BIASIDType</a>	0..1	C	A unique identifier by which a subject is known to a particular gallery or population group. (e.g. Subject ID or account number)  Required if a Reference BIR is not provided.
↳ BiometricData	<a href="#">BIASBiometricDataType</a>	1	Y	An Identity's biometric data.
↳ InputBIR	<a href="#">CBEFF_BIR_Type</a>	1	Y	Maps to specific ISO/IEC BIAS elements as required by that specification.  When multiple samples are included as input (e.g. in a multimodal operation), a complex BIR is used.

Field	Type	#	?	Meaning
ReferenceBIR ↑	<a href="#">CBEFF_BIR_Type</a>	0..1	C	Maps to specific ISO/IEC BIAS elements as required by that specification. Required if an Identity Claim is not provided.

## 753 Response Message

Field	Type	#	?	Meaning
VerifySubjectResponse			Y	The response to a VerifySubject operation.
↑ VerifySubjectResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ Match	boolean	0..1	Y	Indicates if the Input BIR matched either the biometric information associated with the Identity Claim or the Reference BIR.
↑ Score	<a href="#">ScoreType</a>	0..1	N	The score if the biometric information matched.

## 754 4.2 Aggregate Operations

### 755 4.2.1 Delete

#### 756 [DeleteRequest](#)

#### 757 [DeleteResponse](#)

758 The Delete operation deletes an existing subject or, in an encounter-centric model, an existing encounter  
759 from the system. This may be accomplished in a number of different ways according to system  
760 requirements and/or resources. If the Delete operation is implemented as a synchronous service, the  
761 implementing system immediately processes the request and returns the results in the Return Data  
762 parameter. If the Delete operation is implemented as an asynchronous service, the implementing system  
763 returns a token in the Token parameter, which is an indication that the request is being handled  
764 asynchronously. In this case, the [GetDeletionResults](#) operation is used to poll for the results of the Delete  
765 request.

## 766 Request Message

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
Delete			Y	Deletes a subject or, in an encounter-centric model, an existing encounter from the system.
↳ DeleteRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "Delete".
↳ ProcessingOptions	<a href="#">ProcessingOptionsType</a>	1	Y	Options that guide how the aggregate service request is processed.
↳ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.
↳ InputData	<a href="#">InformationType</a>	0..1	N	Contains the input data for the operation, as required by the implementing system.
↳ Identity	<a href="#">BIASIdentity</a>	0..1	N	The identifier for the subject, or in encounter-centric model the encounter to be deleted; required for encounter-centric models.
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	C	The identifier assigned to the subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier for the encounter; required for encounter-centric models.

## 767 Response Message

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
DeleteResponse			Y	The response to a Delete operation.
↳ DeleteResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	C	The identifier assigned to the subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the encounter; required for encounter-centric models.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.
↳ Token	<a href="#">TokenType</a>	0..1	C	A token used to retrieve the results of the Delete request; returned with asynchronous request processing. If set to zero, operation is processed synchronously. If set to a non-zero value, operation is processed asynchronously and Get Deletion Results must be used to retrieve the results.
TokenValue	string	1	Y	A value returned by the implementing system that is used by Get Deletion Results to retrieve the results at a later time.
Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

## 768 4.2.2 Enrol

769 [EnrolRequest](#)

770 [EnrolResponse](#)

771 The Enrol operation adds a new subject or, in an encounter-centric model, a new encounter to the  
772 system. This may be accomplished in a number of different ways according to system requirements  
773 and/or resources. If the Enrol operation is implemented as a synchronous service, the implementing  
774 system immediately processes the request and returns the results in the Return Data parameter. If the  
775 Enrol operation is implemented as an asynchronous service, the implementing system returns a non-zero

776 token in the Token parameter, which is an indication that the request is being handled asynchronously. In  
 777 this case, the [GetEnrolResults](#) operation is used to poll for the results of the Enrol request.

778  
 779 If the identity model is encounter-centric, the encounter ID may optionally be specified by the caller. If the  
 780 encounter ID is omitted the operation returns a system-assigned encounter ID.

781 **Request Message**

Field	Type	#	?	Meaning
Enrol			Y	Adds a new subject or, in an encounter-centric model, a new encounter to the system.
↳ EnrolRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "Enrol".
↳ ProcessingOptions	<a href="#">ProcessingOptionsType</a>	1	Y	Options that guide how the aggregate service request is processed.
↳ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.
↳ InputData	<a href="#">InformationType</a>	1	Y	Contains the input data for the operation, as required by the implementing system.
↳ Identity	<a href="#">BIASIdentity</a>	0..1	N	
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	N	The identifier for the encounter; required for encounter-centric models.

782 **Response Message**

Field	Type	#	?	Meaning
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Field	Type	#	?	Meaning
EnrolResponse			Y	The response to an Enrol operation.
↳ EnrolResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	C	The identifier assigned to the subject.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the encounter; required for encounter-centric models.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.
↳ Token	<a href="#">TokenType</a>	0..1	C	A token used to retrieve the results of the Enrol request; returned with asynchronous request processing. If set to zero, operation is processed synchronously. If set to a non-zero value, operation is processed asynchronously and Get Enrol Results must be used to retrieve the results.
TokenValue	string	1	Y	A value returned by the implementing system that is used by Get Enrol Results to retrieve the results at a later time.
Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

### 783 4.2.3 GetDeletionResults

784 [GetDeletionResultsRequest](#)

785 [GetDeletionResultsResponse](#)

786 The GetDeletionResults operation retrieves the deletion results for the specified token. This operation is  
787 used in conjunction with the [Delete](#) operation. If the Delete operation is implemented as an asynchronous  
788 service, the implementing system returns a token and the GetDeletionResults operation is used to poll for  
789 the results of the original Delete request.

790 If the service provider implements an asynchronous Delete operation, then it MUST also implement the  
 791 Get Deletion Results operation.

792 **Request Message**

Field	Type	#	?	Meaning
GetDeletionResults			Y	Retrieves the deletion results for the specified token.
↳ GetDeletionResultsRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "GetDeletionResults".
↳ Token	<a href="#">TokenType</a>	1	Y	A value used to retrieve the results of the Delete request.
↳ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↳ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

793 **Response Message**

Field	Type	#	?	Meaning
GetDeletionResultsResponse			Y	The response to a GetDeletionResults operation.
↳ GetDeletionResultsResponsePackage		1	Y	

Field	Type	#	?	Meaning
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.

#### 794 4.2.4 GetEnrolResults

795 [GetEnrolResultsRequest](#)

796 [GetEnrolResultsResponse](#)

797 The GetEnrolResults operation retrieves the enrolment results for the specified token. This operation is  
798 used in conjunction with the [Enrol](#) operation. If the Enrol operation is implemented as an asynchronous  
799 service, the implementing system returns a token and the GetEnrolResults operation is used to poll for  
800 the results of the original Enrol request.

801 If the service provider implements an asynchronous Enrol operation, then it MUST also implement the  
802 GetEnrolResults operation.

#### 803 Request Message

Field	Type	#	?	Meaning
GetEnrolResults			Y	Retrieves the enrolment results for the specified token.
↳ GetEnrolResultsRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "GetEnrolResults".
↳ Token	<a href="#">TokenType</a>	1	Y	A value used to retrieve the results of the Enrol request.
↳ TokenValue	string	1	Y	A value returned by

Field	Type	#	?	Meaning
				the implementing system that is used to retrieve the results to an operation at a later time.
↑ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

## 804 Response Message

Field	Type	#	?	Meaning
GetEnrolResultsResponse			Y	The response to a GetEnrolResults operation.
↑ GetEnrolResultsResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	
↑ SubjectID	<a href="#">BIASIDType</a>	0..1	C	The identifier assigned to the subject.
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the encounter; if assigned.

## 805 4.2.5 GetIdentifyResults

806 [GetIdentifyResultsRequest](#)

807 [GetIdentifyResultsResponse](#)

808 The GetIdentifyResults operation retrieves the identification results for the specified token. This operation  
809 is used in conjunction with the [Identify](#) operation. If the Identify operation is implemented as an  
810 asynchronous service, the implementing system returns a token and the GetIdentifyResults operation is  
811 used to poll for the results of the original Identify request.

812 If the service provider implements an asynchronous Identify operation, then it MUST also implement the  
813 GetIdentifyResults operation.

814 **Request Message**

Field	Type	#	?	Meaning
GetIdentifyResults			Y	Retrieves the identification results for the specified token
↳ GetIdentifyResultsRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "GetIdentifyResults".
↳ Token	<a href="#">TokenType</a>	1	Y	A value used to retrieve the results of the Identify request.
↳ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↳ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

815 **Response Message**

Field	Type	#	?	Meaning
GetIdentifyResultsResponse			Y	The response to a GetIdentifyResults operation.
↳ GetIdentifyResultsResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.

Field	Type	#	?	Meaning
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ Identity	<a href="#">BIASIdentity</a>			
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the encounter, if assigned.
↑ CandidateList	<a href="#">CandidateListType</a>	0..1	C	A rank-ordered list of candidates that have a likelihood of matching the input biometric sample.
↑ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.

## 816 4.2.6 GetUpdateResults

817 [GetUpdateResultsRequest](#)

818 [GetUpdateResultsResponse](#)

819 The GetUpdateResults operation retrieves the update results for the specified token. This operation is  
820 used in conjunction with the [Update](#) operation. If the Update operation is implemented as an  
821 asynchronous service, the implementing system returns a token and the GetUpdateResults operation is  
822 used to poll for the results of the original Update request.

823 If the service provider implements an asynchronous Update operation, then it MUST also implement the  
824 GetUpdateResults operation.

## 825 Request Message

Field	Type	#	?	Meaning
GetUpdateResults			Y	Retrieves the Update results for the specified token
↑ GetUpdateResultsRequest		1	Y	
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.



Field	Type	#	?	Meaning
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "GetUpdateResults".
↑ Token	<a href="#">TokenType</a>	1	Y	A value used to retrieve the results of the Update request.
↑ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↑ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

## 826 Response Message

Field	Type	#	?	Meaning
GetUpdateResultsResponse			Y	The response to a GetUpdateResults operation.
↑ GetUpdateResultsResponsePackage		1	Y	
↑ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↑ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↑ Message	string	0..1	N	A short message corresponding to the return code.
↑ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.

## 827 4.2.7 GetVerifyResults

828 [GetVerifyResultsRequest](#)

829 [GetVerifyResultsResponse](#)

830 The GetVerifyResults operation retrieves the verification results for the specified token. This operation is  
831 used in conjunction with the [Verify](#) operation. If the Verify operation is implemented as an asynchronous  
832 service, the implementing system returns a non-zero token and the GetVerifyResults operation is used to  
833 poll for the results of the original Verify request.

834 If the service provider implements an asynchronous Verifyoperation, then it MUST also implement the  
 835 GetVerifyResults operation.

836 **Request Message**

Field	Type	#	?	Meaning
GetVerifyResults			Y	Retrieves the verification results for the specified token
↳ GetVerifyResultsRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "GetVerifyResults".
↳ Token	<a href="#">TokenType</a>	1	Y	A value used to retrieve the results of the Verify request.
↳ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↳ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

837 **Response Message**

Field	Type	#	?	Meaning
GetVerifyResultsResponse			Y	The response to a GetVerifyResults operation.
↳ GetVerifyResultsResponsePackage		1	Y	

Field	Type	#	?	Meaning
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.
↳ Identity	<a href="#">BIASIdentity</a>	0..1	C	
↳ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of the encounter, if assigned.
↳ Match	boolean	1	Y	Indicates if the Input BIR matched either the biometric information associated with the Identity Claim or the Reference BIR.
↳ Score	<a href="#">ScoreType</a>	0..1	N	The score if the biometric information matched.

## 838 4.2.8 Identify

### 839 [IdentifyRequest](#)

### 840 [IdentifyResponse](#)

841 The Identify operation performs an identification function according to system requirements and/or  
842 resources. If the Identify operation is implemented as a synchronous service, the implementing system  
843 immediately processes the request and returns the results in the Return Data parameter. If the Identify  
844 operation is implemented as an asynchronous service, the implementing system returns a non-zero token  
845 in the Token parameter, which is an indication that the request is being handled asynchronously. In this  
846 case, the [GetIdentifyResults](#) operation is used to poll for the results of the Identify request.

## 847 Request Message

Field	Type	#	?	Meaning
Identify			Y	Performs an identification function.
IdentifyRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.

Field	Type	#	?	Meaning
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "Identify".
↳ ProcessingOptions	<a href="#">ProcessingOptionsType</a>	1	Y	Options that guide how the aggregate service request is processed.
↳ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.
↳ InputData	<a href="#">InformationType</a>	1	Y	Contains the input data for the aggregate services.
↳ GalleryID	<a href="#">BIASIDType</a>	0..1	N	The identifier of the gallery or population group which will be searched; this parameter may also be used to identify an external system where the identification request should be forwarded, if this capability is supported by the implementing system.
↳ MaxListSize	positiveInteger	1	Y	The maximum size of the candidate list that should be returned.

## 848 Response Message

Field	Type	#	?	Meaning
IdentifyResponse			Y	The response to an Identify operation.
↳ IdentifyResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.

Field	Type	#	?	Meaning
↑ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.
↑ Identity	<a href="#">BIASIdentity</a>	0..1	C	
↑ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of the encounter, if assigned.
↑ CandidateList	<a href="#">CandidateListType</a>	0..1	C	A rank-ordered list of candidates that have a likelihood of matching the input biometric sample; returned with successful, synchronous processing.
↑ Token	<a href="#">TokenType</a>	0..1	C	A value used to retrieve the results of the Identify request; returned with asynchronous request processing. If set to zero, operation is processed synchronously and candidate list is returned. If set to a non-zero value, operation is processed asynchronously and Get Identify Results must be used to retrieve the results.
↑ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↑ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

## 849 4.2.9 RetrieveData

850 [RetrieveDataRequest](#)

851 [RetrieveDataResponse](#)

852 The RetrieveData operation retrieves requested information about a subject, or in an encounter-centric  
853 model about an encounter. In a person-centric model, this operation can be used to retrieve both  
854 biographic and biometric information for a subject record. In an encounter-centric model, this operation  
855 can be used to retrieve biographic and/or biometric information for either a single encounter or all  
856 encounters. Either a subject ID or encounter ID MUST be specified.

## 857 Request Message

Field	Type	#	?	Meaning
RetrieveData			Y	Retrieves requested information about a subject or encounter.

Field	Type	#	?	Meaning
↑ RetrieveDataRequest		1	Y	
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "RetrieveData".
↑ ProcessingOptions	<a href="#">ProcessingOptionsType</a>	1	Y	Options that guide how the aggregate service request is processed, and MAY identify what type(s) of information should be returned.
↑ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Includes the identifier of the subject or encounter.
↑ SubjectID	<a href="#">BIASIDType</a>	0..1	C	A system unique identifier for a subject. Required if an Encounter ID is not provided.
↑ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required if a Subject ID is not provided.

## 858 Response Message

Field	Type	#	?	Meaning
RetrieveDataResponse			Y	Response to a RetrieveData operation.
↑ RetrieveDataResponsePackage		1	Y	

Field	Type	#	?	Meaning
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.

## 859 4.2.10 Update

860 [UpdateRequest](#)

861 [UpdateResponse](#)

862 The Update operation updates specified information about a subject, or in an encounter-centric model  
863 about an encounter. In a person-centric model, this operation can be used to update both biographic,  
864 biometric and document information for a subject record. In an encounter-centric model, this operation  
865 can be used to update biographic, biometric and/or document information for either a single encounter or  
866 all encounters. Either a subject ID or encounter ID MUST be specified.

## 867 Request Message

Field	Type	#	?	Meaning
Update			Y	Updates requested information about a subject or encounter.
↳ UpdateRequest		1	Y	
↳ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↳ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↳ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↳ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "Update".
↳ ProcessingOptions	<a href="#">ProcessingOptionsType</a>	1	Y	Options that guide how the aggregate service request is processed, and MAY identify what type(s) of information should be returned.

Field	Type	#	?	Meaning
↳ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.
↳ InputData	<a href="#">InformationType</a>	1	Y	Contains the subject data to update.
↳ Identity	<a href="#">BIASIdentity</a>	1	Y	Includes the identifier of the subject or encounter.
↳ SubjectID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the subject; Required if an Encounter ID is not provided.
↳ EncounterID	<a href="#">BIASIDType</a>	0..1	C	The identifier of an encounter associated with the subject. Required if a Subject ID is not provided.

## 868 Response Message

Field	Type	#	?	Meaning
UpdateResponse			Y	Response to an Update operation.
↳ UpdateResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.



Field	Type	#	?	Meaning
↑ Token	<a href="#">TokenType</a>	0..1	C	A value used to retrieve the results of the Update request; returned with asynchronous request processing. If set to zero, operation is processed synchronously. If set to a non-zero value, operation is processed asynchronously and Get Update Results must be used to retrieve the results.
↑ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↑ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

## 869 4.2.11 Verify

870 [VerifyRequest](#)

871 [VerifyResponse](#)

872 The Verify operation performs a 1:1 verification function according to system requirements and/or  
873 resources. Either the Identity Claim or Reference BIR input parameters are REQUIRED.If the Verify  
874 operation is implemented as a synchronous service, the implementing system immediately processes the  
875 request and returns the results in the Return Data parameter. If the Verify operation is implemented as an  
876 asynchronous service, the implementing system returns a non-zero token in the Token parameter, which  
877 is an indication that the request is being handled asynchronously. In this case, the [GetVerifyResults](#)  
878 operation is used to poll for the results of the Verify request.

879 In encounter mode, for match operations, the BIAS service provider will create the encounter and will set  
880 the encounter type to “recognition”. Additionally the encounter ID may optionally be specified by the  
881 caller. If the encounter ID is omitted for the encounter-centric model, the service should return a system-  
882 assigned encounter ID.

## 883 Request Message

Field	Type	#	?	Meaning
Verify			Y	Performs a 1:1 verification function.
↑ VerifyRequest		1	Y	

Field	Type	#	?	Meaning
↑ GenericRequestParameters	<a href="#">GenericRequestParameters</a>	0..1	N	Common request parameters that can be used to identify the requester.
↑ Application	<a href="#">ApplicationIdentifier</a>	0..1	N	Identifies the requesting application.
↑ ApplicationUser	<a href="#">ApplicationUserIdentifier</a>	0..1	N	Identifies the user or instance of the requesting application.
↑ BIASOperationName	string	0..1	N	Identifies the BIAS operation that is being requested: "Verify".
↑ ProcessingOptions	<a href="#">ProcessingOptionsType</a>	1	Y	Options that guide how the aggregate service request is processed.
↑ Option	<a href="#">OptionType</a>	0..*	N	An option supported by the implementing system.
↑ InputData	<a href="#">InformationType</a>	1	Y	Contains the input data for the aggregate services.
↑ Identity	<a href="#">BIASIdentity</a>	1	Y	Includes either the Identity Claim or Reference BIR.
↑ IdentityClaim	<a href="#">BIASIDType</a>	0..1	C	An identifier by which a subject is known to a particular gallery or population group. Required if a Reference BIR is not provided.
↑ BiometricData	<a href="#">BIASBiometricDataType</a>	0..1	N	An Identity's biometric data.
ReferenceBIR ↑	<a href="#">CBEFF_BIR_Type</a>	0..1	C	Maps to specific ISO/IEC BIAS elements as required by that specification. Required if an Identity Claim is not provided.

Field	Type	#	?	Meaning
↳ GalleryID	<a href="#">BIASIDType</a>	0..1	C	The identifier of the gallery or population group of which the subject must be a member.  Required if an Identity Claim is provided.

## 884 Response Message

Field	Type	#	?	Meaning
VerifyResponse			Y	The response to a Verify operation.
↳ VerifyResponsePackage		1	Y	
↳ ResponseStatus	<a href="#">ResponseStatus</a>	1	Y	Returned status for the operation.
↳ Return	<a href="#">ReturnCode</a>	1	Y	The return code indicates the return status of the operation.
↳ Message	string	0..1	N	A short message corresponding to the return code.
↳ ReturnData	<a href="#">InformationType</a>	0..1	N	Contains the output data for the response.
↳ Match	boolean	0..1	N	Indicates if the Input BIR matched either the biometric information associated with the Identity Claim or the Reference BIR.
↳ Score	<a href="#">ScoreType</a>	0..1	N	The score if the biometric information matched.
↳ Identity	<a href="#">BIASIdentity</a>	0..1	C	
↳ EncounterID	<a href="#">BIASIDType</a>	1	Y	The identifier of the encounter, if assigned.
↳ Token	<a href="#">TokenType</a>	0..1	C	A value used to retrieve the results of the Verify request; returned with asynchronous request processing. If set to zero, operation is processed synchronously. If set to a non-zero value, operation is processed asynchronously and Get Verify Results must be used to retrieve the results.

Field	Type	#	?	Meaning
↑ TokenValue	string	1	Y	A value returned by the implementing system that is used to retrieve the results to an operation at a later time.
↑ Expiration	date	1	Y	A date and time at which point the token expires and the operation results are no longer guaranteed to be available.

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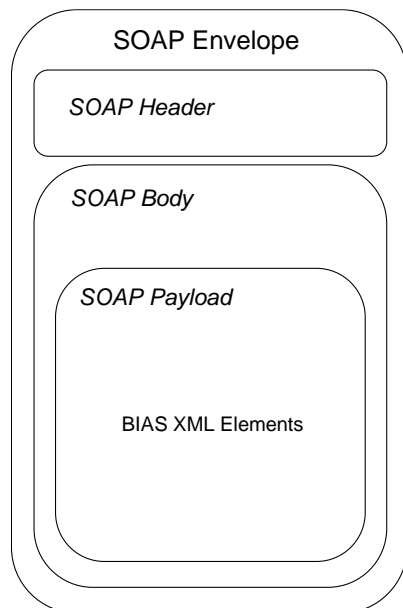
## 5 Message structure and rules

894 BIAS operations and data elements are defined in XML in the ISO/IEC 30108 BIAS standard. This OASIS  
895 standard further specifies the full XML schema (see Annex A) and specifies how this XML is packaged  
896 and exchanged as SOAP messages.

897 Annex A provides a WSDL of operations and structures aggregated from all the conformance classes,  
898 both synchronous and asynchronous. A specific implementation's WSDL must only expose its respective  
899 operations and structures. For example, for a Class 5-only conformant implementation, all of the primitive  
900 operations must not be exposed as operations (with the exception of QueryCapabilities) unless that  
901 functionality is supported. Additionally, the WSDL exposed by an implementation shall not contain  
902 instances of `xsd:any`, `xsd:anyType`, or `xsd:anyAttribute`; these instances must be replaced with explicit  
903 schema contents. An example is the XML complex type, `InformationType`, which has `xsd:any` as its only  
904 child. This type is used to represent implementation-specific input data and return data. The children of  
905 `InformationType` must be replaced with explicit content. Doing so removes the ability to transmit  
906 unexpected or arbitrary data. Also, it provides a clear definition of information that a client needs to  
907 provide to the server, or expect to receive, to optimally perform an operation.

908 SOAP 1.1 messages consist of three elements: an envelope, header data, and a message body. BIAS  
909 request-response elements **MUST** be enclosed within the SOAP message body. The general structure of  
910 the BIAS SOAP message is shown in Figure 4, below. The data model for BIAS is addressed in Section 3  
911 and BIAS messages in Section 4.

912



913

914 **Figure 4. BIAS SOAP Structure**

915

916 Biometric data, regardless of native format, is carried as a binary structure. As such, options exist on how  
917 this data is carried within the SOAP structure. It can be carried as embedded Base-64 objects or [\[XOP\]](#)  
918 can be used – this standard allows for either method (See section 5.3).

### 919 5.1 Purpose and constraints

920 This document defines a SOAP profile describing how the XML elements defined in ISO/IEC 30108 are to  
921 be used as the payload of a SOAP message and the rules for structuring and exchanging such  
922 messages. Philosophical tenets include:

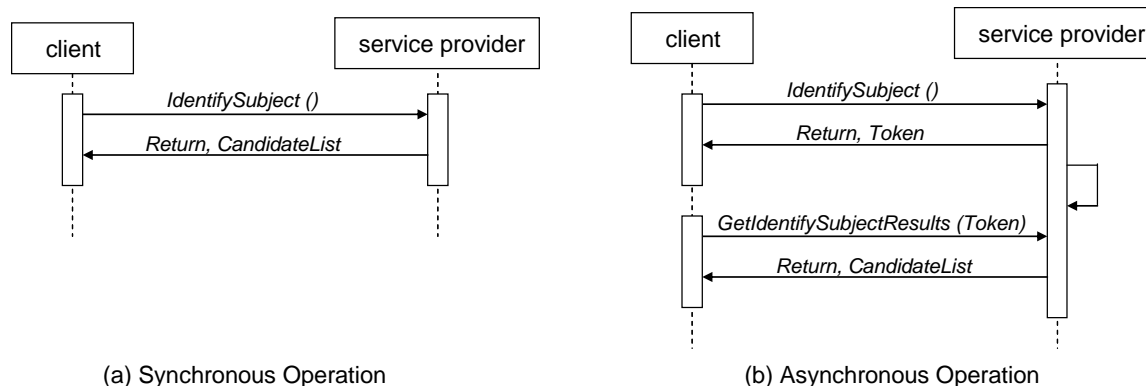
- 923 • SOAP messages will carry BIAS XML [XML10] payloads.
- 924 • SOAP messages will follow WS-I and will deviate only when absolutely necessary.
- 925 • Message structures and interchanges will be kept as simple as possible – “nice to have”  
926 features will be addressed in future revisions.
- 927 • XML schemas will be produced based on ISO/IEC 30108.
- 928 • BIAS will support a broad range of application domains.
- 929 • BIAS will allow for a variety of biometric and biographic data formats to be used
- 930 • Only the SOAP messaging will be defined – no message protocols or client/server agents  
931 will be defined.
- 932 • Basic usage/formatting rules (beyond WS-I) will be defined.
- 933 • Existing biometric and Web services standards will be leveraged wherever possible.
- 934 • Sample WSDL and use cases will be provided as an aid in implementation.
- 935 • Use of basic SOAP will allow all other compatible WS\* standards (and discovery  
936 mechanisms) to be used in conjunction with BIAS messaging.
- 937 • BIAS will support both secure (i.e., using existing security mechanisms such as WS-  
938 Security, SAML, etc.) and non-secure implementations.
- 939 • Generic biometric operations will be defined – use of biometrics within a Web services  
940 authentication protocol is not addressed.
- 941 • OASIS namespace rules will be followed, though some external schemas MAY also be  
942 referenced.

## 943 **5.2 Message requirements**

944 BIAS SOAP messages MUST conform to [WS-I-Basic] and [WS-I-Bind]. A single BIAS SOAP message  
945 MUST contain only one BIAS service request (or single BIAS service response). Binary components of  
946 BIAS messages are already Base-64 encoded and therefore do not need to be conveyed as SOAP  
947 attachments (though XOP MAY be utilized).

948 The system model used for BIAS conversations over SOAP is a simple request-response model. BIAS  
949 comprises both synchronous and asynchronous operations, with the majority being of the former type.  
950 Asynchronous operations are implemented through message pairs. That is, there are separate messages  
951 to request the operation and to request the results of the operation. These have been defined for those  
952 operations that are likely to take significant time to complete. For example, an identify operation can be  
953 implemented as either a synchronous or asynchronous service as follows:

954



955 (a) Synchronous Operation

(b) Asynchronous Operation

956 **Figure 5. Example of Synchronous and Asynchronous BIAS Operations**

957  
958

959 The basic process for using SOAP for BIAS operations is:

- 960 1. A system entity acting as a BIAS requester transmits a BIAS request element within the body of a  
961 SOAP message to a system entity acting as a BIAS responder. The BIAS requester **MUST NOT**  
962 include more than one BIAS request per SOAP message or include any additional XML elements  
963 in the SOAP body.
- 964 2. The BIAS responder **MUST** return either a BIAS response element within the body of another  
965 SOAP message or generate a SOAP fault. The BIAS responder **MUST NOT** include more than  
966 one BIAS response per SOAP message or include any additional XML elements in the SOAP  
967 body. If a BIAS responder cannot, for some reason, process a BIAS request, it **MUST** generate a  
968 SOAP fault. (SOAP 1.1 faults and fault codes are discussed in [\[SOAP11\]](#) section 5.1.)
- 969 3. On receiving a BIAS response in a SOAP message, the BIAS requester **MUST NOT** send a fault  
970 code or other error messages to the BIAS responder. Since the format for the message  
971 interchange is a simple request-response pattern, adding additional items such as error  
972 conditions would needlessly complicate the protocol.

973 SOAP 1.1 also defines an optional data encoding system. This system is not used within the BIAS SOAP  
974 binding. This means that BIAS messages can be transported using SOAP without re-encoding from the  
975 “standard” BIAS schema to one based on the SOAP encoding.

976 NOTE: [\[SOAP11\]](#) references an early draft of the XML Schema specification including an obsolete  
977 namespace. BIAS requesters **SHOULD** generate SOAP documents referencing only the final XML  
978 schema namespace. BIAS responders **MUST** be able to process both the XML schema namespace used  
979 in [\[SOAP11\]](#) as well as the final XML schema namespace.

### 980 5.3 Handling binary data

981 BIAS messages frequently contain binary data (e.g., biometric data, scanned identity documents, etc.).  
982 Two methods are provided for dealing with this:

- 983 • Embedded Base64 encoding
- 984 • XOP [\[XOP\]](#)

985 Use of SOAP with Attachments (SWA) is deprecated.

### 986 **5.3.1 Base64 encoding**

987 This method is the default method for including binary data. Binary data is Base64 encoded and included  
988 between the tags in the XML SOAP body for the appropriate data elements. Data elements using this  
989 method are indicated as such in the schema.

990 As an example, the CBEFF\_BIR\_Type includes, as one of the BIR types, BinaryBIR of type  
991 base64binary.

992

```
993 <xsd:element name="BinaryBIR" type="xsd:base64Binary" />
```

994

995 However, even an XML\_BIR as defined within [CBEFF3], contains a biometric data block (BDB) which  
996 may be entirely binary (most common),

997

```
998 <xsd:element name="bdb" type="xsd:base64Binary" minOccurs="0"/>
```

999

1000 or contain an element which is binary (e.g., an image within an XML BDB).

### 1001 **5.3.2 Use of XOP**

1002 When XOP is used, the binary content is replaced with a reference (URI) to an attachment (i.e., MIME)  
1003 which contains that “stripped” content via an xop:include. The advantage of this method is overall  
1004 message size during transmission since the overhead of the embedded Base64 is not present (since the  
1005 MIME attachment contains the native binary format).

1006 Use of XOP is generally transparent to the developer, other than in how they configure their toolset. Most  
1007 frameworks support this; however, there is a possibility of mismatch if the transmitter supports and uses  
1008 XOP but the receiver does not.

## 1009 **5.4 Discovery**

1010 BIAS implementers (service providers) MUST provide WSDL [WSDL11] to describe their  
1011 implementations. This WSDL MAY or may not be made public via a standard discovery mechanism  
1012 (such as UDDI) or other method.

1013 In addition, it is REQUIRED that the BIAS implementation include the [QueryCapabilities](#) operation to  
1014 provide dynamic information regarding BIAS capabilities, options, galleries, etc. that are supported.

## 1015 **5.5 Identifying operations**

1016 Receivers of BIAS SOAP messages require a method of easily identifying the operation being requested  
1017 (or response being provided). This SHOULD be possible without the receiver needing to infer it from the  
1018 sum of the elements provided within the body of the SOAP message. The BIAS SOAP profile allows for  
1019 two methods of identifying BIAS operations:

- 1020 • Explicit named element in body of the SOAP message
- 1021 • Use of WS-Addressing Action element

### 1022 **5.5.1 Operation name element**

1023 The BIAS message sender (requester) will include within the body of the BIAS SOAP message an XML  
1024 element <BIASOperationName>. The receiver (service provider) can search for this tag within a received  
1025 BIAS SOAP message to determine what operation is being requested. There is no requirement related to  
1026 the ordering of this element within the message, though it is RECOMMENDED that it be included early in  
1027 the message to aid in human readability.

1028 An example of this method for the CreateSubject operation is shown below:



1029  
1030 POST /bias HTTP/1.1  
1031 Host: www.acme.com  
1032 Content-Type: application/soap+xml; charset="utf-8"  
1033 Content-Length: nnnn  
1034 SOAPAction: ""  
1035 <?xml version="1.0"?>  
1036 <soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">  
1037     <soap:Body>  
1038         <tns:CreateSubjectRequest                     xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">  
1039             <tns:GenericRequestParameters>  
1040                 <tns:Application>BIAS Application</tns:Application>  
1041                 <tns:ApplicationUser>BIAS User</tns:ApplicationUser>  
1042                 <tns:BIASOperationName>CreateSubject</tns:BIASOperationName>  
1043             </tns:GenericRequestParameters>  
1044             <tns:Identity>  
1045                 <tns:SubjectID>123456789</tns:SubjectID>  
1046             </tns:Identity>  
1047         </tns:CreateSubjectRequest>  
1048     </soap:Body>  
1049 </soap:Envelope>

## 1050 **5.5.2 WS-Addressing Action**

1051 WS-Addressing [WS-Addr] provides a mechanism for including action information inside any SOAP  
1052 message. The information is in the SOAP Header. The WS-Addressing 'Action' element is used to  
1053 indicate the intent of the message. The value is a URI/IRI identifying that intent; however, there are no  
1054 restrictions on the format or specificity of the URI/IRI nor a requirement that it can be resolved. Adoption  
1055 of this option also requires that the WS-Addressing 'To', 'ReplyTo', and 'MessageID' elements are  
1056 supplied, as they are mandatory elements in a request-reply message pattern as used within BIAS.  
1057 Response messages would also need to use WS-Addressing, requiring the 'To' (matching the 'ReplyTo'  
1058 element in the request), 'RelatesTo' (matching the 'MessageID' element in the request), and  
1059 'RelationshipType' (default value to "wsa:Reply") elements.

1060 Use of WS-Addressing is OPTIONAL in this profile as is this method of using the 'Action' field for this  
1061 purpose. However, when BIAS is used within an environment using WS-Addressing, it is  
1062 RECOMMENDED that this approach for use of the 'Action' field to carry the BIAS operation name is  
1063 employed, either alone or in combination with the BIASOperationName approach described in section  
1064 5.5.1.

1065 An example for a message request for the CreateSubject operation would look likethe following:

1066  
1067 POST /bias HTTP/1.1  
1068 Host: www.acme.com  
1069 Content-Type: application/soap+xml; charset="utf-8"  
1070 Content-Length: nnnn  
1071 SOAPAction: ""  
1072 <?xml version="1.0"?>  
1073 <soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">

```
1074 xmlns:wsa="http://schemas.xmlsoap.org/ws/2004/08/addressing">
1075   <soap:Header>
1076     <wsa:MessageID>some-ID</wsa:MessageID>
1077     <wsa:ReplyTo>
1078       <wsa:Address>response-URI</wsa:Address>
1079     </wsa:ReplyTo>
1080     <wsa:To>destination-URI</wsa:To>
1081     <wsa:Action>CreateSubject</wsa:Action>
1082   </soap:Header>
1083   <soap:Body>
1084     <tns:CreateSubjectRequest
1085       xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/" />
1086   </soap:Body>
1087 </soap:Envelope>
1088
```

## 1089 **5.6 Security**

1090 The end-points that exchange SOAP messages (or handle the contents of the BIAS operations) are  
1091 expected to be protected and trusted such that message-level security mechanisms may not be required.  
1092 The use of SSL (HTTPS) or VPN technology that provides end-point to end-point security is  
1093 RECOMMENDED and MAY be sufficient in some cases. Other mechanisms such as Signed XML or  
1094 WSS [WSS] could also be implemented.

1095 Unless stated otherwise, the following security statements apply to all BIAS bindings.

### 1096 **5.6.1 Use of SSL 3.0 or TLS 1.0**

1097 Unless otherwise specified, in any BIAS binding's use of SSL 3.0 [SSL3] or TLS1.0 [RFC2246], servers  
1098 MUST authenticate clients using a X.509 v3 certificate [X509]. The client MUST establish server identity  
1099 based on contents of the certificate (typically through examination of the certificate's subject DN field,  
1100 subjectAltName attribute, etc.).

1101 Use of transport level security in the form of SSL or TLS is OPTIONAL but highly RECOMMENDED. Use  
1102 of these mechanisms alone may not be sufficient for end-to-end integrity and confidentiality, however  
1103 (see 5.6.3 and 5.6.4 below).

### 1104 **5.6.2 Data Origin Authentication**

1105 Authentication of both the BIAS requester and the BIAS responder associated with a message is  
1106 OPTIONAL and depends on the environment of use: Authentication mechanisms available at the SOAP  
1107 message exchange layer or from the underlying substrate protocol (for example, in many bindings the  
1108 SSL/TLS or HTTP protocol) MAY be utilized to provide data origin authentication.

1109 Transport authentication will not meet end-to-end origin authentication requirements in bindings where  
1110 the BIAS SOAP message passes through an intermediary – in this case, message authentication is  
1111 RECOMMENDED.

1112 Note that SAML [SAML] MAY be used as the mechanism for parties to authenticate to one another.

### 1113 **5.6.3 Message Integrity**

1114 Message integrity of both BIAS requests and BIAS responses is OPTIONAL and depends on the  
1115 environment of use. The security layer in the underlying substrate protocol or a mechanism at the SOAP  
1116 message exchange layer MAY be used to ensure message integrity.

1117 Transport integrity will not meet end-to-end integrity requirements in bindings where the BIAS SOAP  
1118 message passes through an intermediary – in this case, message integrity is RECOMMENDED.

#### 1119 **5.6.4 Message Confidentiality**

1120 Message confidentiality of both BIAS requests and BIAS responses is OPTIONAL and depends on the  
1121 environment of use. The security layer in the underlying substrate protocol or a mechanism at the SOAP  
1122 message exchange layer MAY be used to ensure message confidentiality.

1123 Transport confidentiality will not meet end-to-end confidentiality requirements in bindings where the BIAS  
1124 SOAP message passes through an intermediary.

1125 NOTE: Biometric and biographic data is likely to contain personal information the confidentiality of which  
1126 SHOULD be protected accordingly. See ISO/IEC 30108, section 6.5 for further discussion.

#### 1127 **5.6.5 CBEFF BIR security features**

1128 Within BIAS, biometric data is transferred within a CBEFF BIR (as defined in ISO/IEC 19785-1). CBEFF  
1129 provides for the optional encryption of the Biometric Data Block (BDB) of the BIR and for the integrity of  
1130 the entire BIR. If implemented, this is indicated in the BIR header. The BIR structure defines an optional  
1131 Security Block which MAY contain a digital signature (or message authentication code), encryption  
1132 parameters (e.g., key name, algorithm, etc.), and/or other security related data. Such protections are  
1133 associated with an individual BIR and are separate from any other protections provided at the message  
1134 level.

#### 1135 **5.6.6 Security Considerations**

1136 Before deployment, each combination of authentication, message integrity, and confidentiality  
1137 mechanisms SHOULD be analyzed for vulnerability in the context of the specific protocol exchange and  
1138 the deployment environment.

1139 Special care should be given to the impact of possible caching on security.

1140 IETF RFC 2617 [RFC2617] describes possible attacks in the HTTP environment when basic or message  
1141 digest authentication schemes are used.

1142 Many of the security considerations identified in [SAML SEC] MAY also apply.

1143 ISO/IEC 19092 [BIO SEC] describes a security framework for biometric systems including a minimum set  
1144 of security requirements addressing integrity, authenticity, and confidentiality of biometric information  
1145 during transmission and storage. These SHOULD be considered as part of an overall risk management  
1146 approach.

1147 NOTE: The requirements of ISO/IEC 19092, though useful across many application domains, are  
1148 required for most biometric system implementations in the financial services environment. Application of  
1149 this standard would make the requirements of sections 5.5.3 through 5.5.5 mandatory rather than  
1150 optional. This is highly RECOMMENDED for any high security environment or where privacy concerns  
1151 exist.

#### 1152 **5.6.7 Security of Stored Data**

1153 This specification does not address security considerations for stored data. It is the purview of the BIAS  
1154 service provider to implement security mechanisms and protect data at rest as per their own security  
1155 policies.

#### 1156 **5.6.8 Key Management**

1157 This specification does not address key management considerations with respect to implementation of  
1158 cryptographic security mechanisms (e.g., for authenticity, integrity, or confidentiality).

1159 **5.7 Use with other WS\* standards**

1160 The intent of specifying SOAP bindings for BIAS messages is to enable the full range of existing Web  
1161 services standards to be able to be applied. Some may be normative while others can be optionally  
1162 applied (i.e., WS-Security, WS-Addressing). Still others may require additional profiling to be used in an  
1163 interoperable manner (e.g., WS-Notification); this is left to a future revision. However, the intent is to avoid  
1164 specifying anything in the first, base version that would preclude the use of such standards in the future.

1165 **5.8 Tailoring**

1166 This standard provides for a common method of implementing biometric Web services; however, it does  
1167 not guarantee interoperability in a specific application. In some cases further tailoring or profiling of this  
1168 standard may be required in order to further constrain the implementation options available.

1169 NOTE: As an example, BIAS allows for a number of different biographic and biometric data formats to be  
1170 used, whereas a given application/domain MAY wish to limit this to a small set or just one of each type.  
1171 Other examples (not comprehensive) include:

- 1172 • Identification of a subset of BIAS operations to be used
- 1173 • Specification of security features to be implemented (e.g., SSL, CBEFF BIR encryption, etc.)
- 1174 • Choice of operation name identification method
- 1175 • Choice of BIR type to be used (XML, non-XML, or URI)
- 1176 • Further definition of aggregate operations
- 1177 • Use (or not) of the encounter model
- 1178 • Use (or not) of asynchronous operations
- 1179 • Process sequences
- 1180 • Implementation specific values (e.g., Transform operations/controls)

1181

1182

---

## 1183 6 Error handling

1184 There are two levels of errors that can be returned in an error response: system and service errors.

1185 • System-level errors occur when the implementing system cannot service a request. They could  
1186 result due to an internal logic error or because the implementing system does not support a  
1187 particular request.

1188 • Service-level errors occur when there is a problem transmitting or representing the service  
1189 request. They could result due to an invalid service request or because of a communications  
1190 error.

1191 The ISO/IEC BIAS standard defines the error condition codes for system-level errors.

1192 • If successful, a response message (containing a return code) will be generated.

1193 • If unsuccessful, a SOAP fault message (containing a fault code) will be generated.

### 1194 6.1 BIAS operation return codes

1195 If a BIAS operation is successful, a response (service output) will be sent to the requester by the service  
1196 provider. Each response message contains a response status (see section 3.2.37) and return code (see  
1197 section 3.2.38) along with any response data as defined for that operation, if any. A response code of '0'  
1198 indicates success.

### 1199 6.2 SOAP fault codes

1200 If a BIAS operation is unsuccessful, no BIAS response message is sent. Instead a SOAP fault message  
1201 is returned.

1202 Every Web service (operation) described in the BIAS WSDL may result in a fault message that will be  
1203 returned in the response by the service provider in the event of an error. The fault message contains a  
1204 FaultCode element as defined by the SOAP 1.1 specification (see section 3.2.5). The fault message  
1205 MUST contain a Detail element in a common format, as described by the BIASFault element (see section  
1206 3.2.6).

1207 The schema provided in Annex A defines "BIASFaultCode" and "BIASFaultDetail" types as well as  
1208 "BIASFault", "BIASFaultType", "BIASFaultMessage" and "BIASFaultDescription" elements.

1209 The list of defined BIAS fault codes is provided in section 3.2.5. Note that BIAS service providers MAY  
1210 define additional fault codes unique to their service.

1211 NOTE: See also section 5.2 for additional information on message returns and faults.

1212

1213

1214

## 7 Conformance

1215

1216 Implementations claiming conformance to this standard, MUST implement, at a minimum, all mandatory  
 1217 requirements and provisions set forth in sections 3, 4, 5 and 6 listed for the target conformance class(es).  
 1218 If such implementations claim conformance to any OPTIONAL requirements and provisions stated in  
 1219 sections 3, 4, 5 and 6, these requirements and provisions MUST be implemented as set forth in these  
 1220 sections.

1221 ISO/IEC 30108 [ISO/IEC-BIAS] (Annex A) specifies seven BIAS conformance classes. In this document,  
 1222 these classes are outlined at a high level; more detailed information can be found in ISO/IEC 30108  
 1223 [ISO/IEC-BIAS]. For each class, a set of mandatory BIAS operations is identified in order for  
 1224 implementations (BIAS service providers) to claim conformance. These categories are:

1225

- 1226 • Class 1: Full Primitive Services Implementation
- 1227 • Class 2: Full Aggregate Services Implementation
- 1228 • Class 3: Limited Primitive Services Implementation
- 1229 • Class 4: Minimum Primitive Services Implementation
- 1230 • Class 5: Minimum Aggregate Services Implementation
- 1231 • Class 6: Matcher Primitive Services Implementation
- 1232 • Class 7: Matcher Aggregate Services Implementation

1233 Required operations and capabilities are described in Table 7.1 below.

1234

1235 *Table 7.1 – BIAS conformance classes*

Service / Capability	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7
<b>Primitive Services</b>							
Add Subject to Gallery	X		X				
Check Quality	X						
Classify Biometric Data	X						
Create Encounter	C**		C**	C**			
Create Subject	X		X	X		X	
Delete Biographic Data	X		X	X			
Delete Biometric Data	X		X	X		X	
Delete Document Data	X		X				
Delete Encounter	C**		C**	C**			
Delete Subject	X		X	X			
Delete Subject from Gallery	X		X				
Get Identify Subject Results	C*		C*			C*	
Identify Subject	X		X			X	

<b>Service / Capability</b>	<b>Class 1</b>	<b>Class 2</b>	<b>Class 3</b>	<b>Class 4</b>	<b>Class 5</b>	<b>Class 6</b>	<b>Class 7</b>
List Biographic Data	X		X	X			
List Biometric Data	X		X	X		X	
List Document Data	X		X				
Perform Fusion	X						
Query Capabilities	X	X	X	X	X	X	X
Retrieve Biographic Data	X		X	X			
Retrieve Biometric Data	X		X	X		X	
Retrieve Document Data	X		X				
Set Biographic Data	X		X	X			
Set Biometric Data	X		X	X		X	
Set Document Data	X		X				
Transform Biometric Data	X						
Update Biographic Data	X		X	X			
Update Biometric Data	X		X	X		X	
Update Document Data	X		X				
Verify Subject	X		X	X		X	
<b>Aggregate Services</b>							
Delete		X					X
Enrol		X			X		X
Get Delete Results		C*					C*
Get Enrol Results		C*			C*		C*
Get Identify Results		C*					C*
Get Update Results		C*			C*		C*
Get Verify Results		C*			C*		C*
Identify		X					X
Retrieve Data		X			X		
Update		X			X		X
Verify		X			X		X
<b>Capability Information Items</b>							
AggregateInputDataOptional		X			X		X
AggregateInputDataRequired		X			X		X
AggregateProcessingOption		X			X		X

Service / Capability	Class 1	Class 2	Class 3	Class 4	Class 5	Class 6	Class 7
AggregateReturnData		X			X		X
AggregateServiceDescription		X			X		X
BiographicDataSet	X	X	X	X	X		
CBEFFPatronFormat	X	X	X	X	X	X	X
ClassificataionAlgorithmType	X						
ConformanceClass	X	X	X	X	X	X	X
Gallery	X	X	X				
IdentityModel	X	X	X	X	X		
ComparisonAlgorithm	X	X	X	X	X	X	X
ComparisonScore	X	X	X	X	X	X	X
QualityAlgorithm	X						
SupportedBiometric	X	X	X	X	X	X	X
TransformOperation	X						
X – Required C* – Conditionally required if associated implementation is asynchronous C** – Conditionally required if implementation uses encounter-centric model							

1236

1237 In addition, the minimum capability information to be returned in response to a Query Capabilities request  
1238 (the only mandatory BIAS operation across all 5 classes) is specified for each class.

1239 These conformance classes and their associated requirements apply to this BIAS SOAP Profile.

1240 There are no minimum set of operations required to be implemented by BIAS requesters; however, any  
1241 operations implemented must conform to the requirements of sections 3 and 4 and those requirements  
1242 within section 5 that are mandatory and are not specific to BIAS responders.

1243

1244



---

## Appendix A. XML Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
    Biometric Identity Assurance Services (BIAS) SOAP Profile Version 2.0
    26 May 2017
    Copyright (c) OASIS Open 2016. All Rights Reserved.
-->
<!--
    Document    : BIAS.xml
    Created on  : December 17, 2009, 9:31 AM
    Last Edit   : May 26, 2017 by Kevin Mangold, National Institute of Standards and Technology
    Description:
        This document represents the WSDL definitions of BIAS Profile.
-->
<wsdl:definitions xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:http="http://schemas.xmlsoap.org/wsdl/http/" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/" xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:cbeff="http://standards.iso.org/iso-iec/19785/-3/ed-2/" xmlns:iso_3166_1="http://standards.iso.org/iso/3166/-1/ed-3/"
xmlns:tns="http://docs.oasis-open.org/bias/ns/bias-2.0/" targetNamespace="http://docs.oasis-open.org/bias/ns/bias-2.0/">
    <wsdl:types>
        <xsd:schema elementFormDefault="qualified" targetNamespace="http://docs.oasis-open.org/bias/ns/bias-2.0/">
            <xsd:import namespace="http://standards.iso.org/iso-iec/19785/-3/ed-2/" schemaLocation="cbeff.xsd"/>
            <xsd:import namespace="http://standards.iso.org/iso/3166/-1/ed-3/" schemaLocation="iso_country_codes.xsd"/>
            <xsd:complexType name="AggregateRequestTemplate">
                <xsd:annotation>
                    <xsd:documentation>Base template for BIAS aggregate service requests.</xsd:documentation>
                </xsd:annotation>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="ProcessingOptions" type="tns:ProcessingOptionsType"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
```

```

request is processed.</xsd:documentation>
                                <xsd:documentation>Options that guide how the aggregate service
                                </xsd:documentation>
                                </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="InputData" type="tns:InformationType" minOccurs="1"
maxOccurs="1">
                                </xsd:documentation>
                                <xsd:documentation>Contains the input data for the aggregate
                                </xsd:documentation>
                                </xsd:annotation>
                                </xsd:element>
                                </xsd:sequence>
                                </xsd:extension>
                                </xsd:complexContent>
                                </xsd:complexType>
                                <xsd:complexType name="AggregateResponseTemplate">
                                <xsd:annotation>
                                <xsd:documentation>Base template for BIAS aggregate service responses.</xsd:documentation>
                                </xsd:annotation>
                                <xsd:complexContent>
                                <xsd:extension base="tns:ResponseTemplate">
                                <xsd:sequence>
                                <xsd:element name="ReturnData" type="tns:InformationType" minOccurs="0"
maxOccurs="1">
                                </xsd:documentation>
                                <xsd:documentation>Contains the output data for the aggregate
                                </xsd:documentation>
                                </xsd:annotation>
                                </xsd:element>
                                </xsd:sequence>
                                </xsd:extension>
                                </xsd:complexContent>
                                </xsd:complexType>
                                <xsd:simpleType name="ApplicationIdentifier">
                                <xsd:annotation>
                                <xsd:documentation>Identifies an application.</xsd:documentation>
                                </xsd:annotation>

```

```

        <xsd:restriction base="xsd:string">
            <xsd:minLength value="1"/>
            <xsd:maxLength value="255"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ApplicationUserIdentifier">
        <xsd:annotation>
            <xsd:documentation>Identifies an application user or instance.</xsd:documentation>
        </xsd:annotation>
        <xsd:restriction base="xsd:string">
            <xsd:minLength value="1"/>
            <xsd:maxLength value="255"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:complexType name="BIASBiometricDataType">
        <xsd:annotation>
            <xsd:documentation>Wraps the various BIAS biometric types.</xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="BIRList" type="tns:CBEFF_BIR_ListType" minOccurs="0" maxOccurs="1">
                <xsd:annotation>
                    <xsd:documentation>A list of CBEFF-BIR elements.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="BIR" type="tns:CBEFF_BIR_Type" minOccurs="0" maxOccurs="1">
                <xsd:annotation>
                    <xsd:documentation>Contains biometric information in either a non-XML and an XML
representation.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="InputBIR" type="tns:CBEFF_BIR_Type" minOccurs="0" maxOccurs="1">
                <xsd:annotation>
                    <xsd:documentation>Maps to specific INCITS BIAS elements as required by that
specification.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>

```

```

        <xsd:element name="ReferenceBIR" type="tns:CBEFF_BIR_Type" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>Maps to specific INCITS BIAS elements as required by that
specification.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="BiometricDataList" type="tns:BiometricDataListType" minOccurs="0"
maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>A list of biometric data elements.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="BIASFaultCode">
    <xsd:annotation>
        <xsd:documentation>Error code referenced in a SOAP fault. </xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="UNKNOWN_ERROR">
            <xsd:annotation>
                <xsd:documentation>The service failed for an unknown reason.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="UNSUPPORTED_CAPABILITY">
            <xsd:annotation>
                <xsd:documentation>A requested capability is not supported by the service
implementation.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="INVALID_INPUT">
            <xsd:annotation>
                <xsd:documentation>The data in a service input parameter is
invalid.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="BIR_QUALITY_ERROR">

```

```

        <xsd:annotation>
            <xsd:documentation>Biometric sample quality is too poor for the service to
succeed.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="INVALID_BIR">
        <xsd:annotation>
            <xsd:documentation>The input BIR is empty or in an invalid or unrecognized
format.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="BIR_SIGNATURE_FAILURE">
        <xsd:annotation>
            <xsd:documentation>The service could not validate the signature, if used, on the
input BIR.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="BIR_DECRYPTION_FAILURE">
        <xsd:annotation>
            <xsd:documentation>The service could not decrypt an encrypted input
BIR.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="INVALID_ENCOUNTER_ID">
        <xsd:annotation>
            <xsd:documentation>The input encounter ID is empty or in an invalid
format.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="INVALID_SUBJECT_ID">
        <xsd:annotation>
            <xsd:documentation>The input subject ID is empty or in an invalid
format.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="UNKNOWN_SUBJECT">
        <xsd:annotation>

```

```

                                <xsd:documentation>The subject referenced by the input subject ID does not
exist.</xsd:documentation>
                                </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="UNKNOWN_GALLERY">
    <xsd:annotation>
        <xsd:documentation>The gallery referenced by the input gallery ID does not
exist.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="UNKNOWN_ENCOUNTER">
    <xsd:annotation>
        <xsd:documentation>The encounter referenced by the input encounter ID does not
exist.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="UNKNOWN_BIOGRAPHIC_FORMAT">
    <xsd:annotation>
        <xsd:documentation>The biographic data format is not known or not
supported.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="UNKNOWN_IDENTITY_CLAIM">
    <xsd:annotation>
        <xsd:documentation>The identity referenced by the input identity claim does not
exist.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="INVALID_IDENTITY_CLAIM">
    <xsd:annotation>
        <xsd:documentation>The identity claim requested is already in
use.</xsd:documentation>
    </xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="NONEXISTANT_DATA">
    <xsd:annotation>
        <xsd:documentation>The data requested for deletion does not
exist.</xsd:documentation>
    </xsd:annotation>

```

```

        </xsd:annotation>
    </xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="BIASFaultDetail">
    <xsd:annotation>
        <xsd:documentation>Defines the error information associated with a SOAP
fault.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element minOccurs="1" maxOccurs="1" name="BIASFaultType" type="tns:BIASFaultCode">
            <xsd:annotation>
                <xsd:documentation>References an error code.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element minOccurs="1" maxOccurs="1" name="BIASFaultMessage" type="xsd:string">
            <xsd:annotation>
                <xsd:documentation>Provides an explanation of the fault.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element minOccurs="0" maxOccurs="1" name="BIASFaultDescription" type="xsd:string">
            <xsd:annotation>
                <xsd:documentation>Provides detailed information about a BIAS fault, such as trace
details.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BIASIdentity">
    <xsd:annotation>
        <xsd:documentation>
            Defines a single element for encapsulating the data associated
            with an Identity. Includes the Identity's reference identifiers,
            biographic data, and biometric data.
        </xsd:documentation>
    </xsd:annotation>

```

```

<xsd:sequence>
  <xsd:element name="SubjectID" type="tns:BIASIDType" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation>A system unique identifier for a subject.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="IdentityClaim" type="tns:BIASIDType" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation>An identifier by which a subject is known to a particular
gallery or population group.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="EncounterID" type="tns:BIASIDType" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation>The identifier of an encounter associated with the subject,
required for encounter-centric models.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="EncounterList" type="tns:EncounterListType" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation>A list of encounters associated with a
subject.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="BiographicData" type="tns:BiographicDataType" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation>An Identity's biographic data.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="BiometricData" type="tns:BIASBiometricDataType" minOccurs="0" maxOccurs="1">
    <xsd:annotation>
      <xsd:documentation>An Identity's biometric data.</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="BIASIDType">

```



```

        <xsd:annotation>
            <xsd:documentation>A BIAS identifier</xsd:documentation>
        </xsd:annotation>
        <xsd:restriction base="xsd:string"/>
    </xsd:simpleType>
    <xsd:complexType name="BiographicDataListType">
        <xsd:annotation>
            <xsd:documentation>Defines a list of biographic data.</xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="BiographicData" type="tns:BiographicDataType" minOccurs="0"
maxOccurs="unbounded">
                <xsd:annotation>
                    <xsd:documentation>Data structure containing information about a biographic
record.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="BiographicDataItemType">
        <xsd:annotation>
            <xsd:documentation>Defines a single biographic data element.</xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="Name" type="xsd:string" minOccurs="1" maxOccurs="1">
                <xsd:annotation>
                    <xsd:documentation>The name of the biographic data item.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="Type" type="xsd:string" minOccurs="1" maxOccurs="1">
                <xsd:annotation>
                    <xsd:documentation>The data type for the biographic data item.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="Value" type="xsd:string" minOccurs="0" maxOccurs="1">
                <xsd:annotation>

```

```

item.</xsd:documentation>
        <xsd:documentation>The value assigned to the biographic data
        </xsd:documentation>
    </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BiographicDataItemListType">
    <xsd:annotation>
        <xsd:documentation>Defines a list of biographic data elements.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="BiographicDataItem" type="tns:BiographicDataItemType" minOccurs="1"
maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>Data structure containing information about a biographic
record.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BiographicDataSetType">
    <xsd:annotation>
        <xsd:documentation>Defines a set of biographic data that is formatted according to the specified
format.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="name" type="xsd:string" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The name of the biographic data format. Use these names for
common formats: FBI-EFTS, FBI-EBTS, DOD-EBTS, INT-I, NIEM, xNAL, HR-XML.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="version" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The version of the biographic data format (e.g., "7.1" for FBI-
EFTS or "2.0" for NIEM).</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:element>
        <xsd:element name="source" type="xsd:string" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>Reference to a URI/IRI describing the biographic data format.
                For example: (FBI-EFTS) www.fbibiospecs.org, (DOD-EBTS) www.biometrics.dod.mil, (INT-I) www.interpol.int, (NIEM) www.niem.gov, (xNAL)
                www.oasis-open.org, (HR-XML) www.hr-xml.org.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="type" type="xsd:string" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The biographic data format type. Use these types for common
                formats: ASCII (e.g., for non-XML versions of FBI-EFTS, FBI-EBTS, DOD-EFTS, or INT-I), XML (e.g., for NIEM, xNAL, and HR-XML or future
                version of FBI-EBTS).</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:any namespace="##any">
            <xsd:annotation>
                <xsd:documentation>Biographic data formatted according to a specific
                format.</xsd:documentation>
            </xsd:annotation>
        </xsd:any>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BiographicDataType">
    <xsd:annotation>
        <xsd:documentation>
            Defines a set of biographic data elements, utilizing either the
            BiographicDataType to represent a list of elements or the
            BiographicDataSetType to represent a complete, formatted set of
            biographic information.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="LastName" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The last name of a subject.</xsd:documentation>
            </xsd:annotation>

```

```

        </xsd:element>
        <xsd:element name="FirstName" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The first name of a subject.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
maxOccurs="1">
        <xsd:element name="BiographicDataItemList" type="tns:BiographicDataItemListType" minOccurs="0"
            <xsd:annotation>
                <xsd:documentation>A list of biographic data elements.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
maxOccurs="1">
        <xsd:element name="BiographicDataSet" type="tns:BiographicDataSetType" minOccurs="0"
            <xsd:annotation>
                <xsd:documentation>A set of biographic data information.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BiometricDataType">
    <xsd:annotation>
        <xsd:documentation>
            Provides descriptive information about biometric data, such as
            the biometric type, subtype, and format, contained in the BDB of
            the CBEFF-BIR.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="BiometricType" type="cbeff:MultipleTypesType" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The type of biological or behavioral data stored in the
                biometric record, as defined by CBEFF.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="BiometricTypeCount" type="xsd:positiveInteger" minOccurs="0" maxOccurs="1">
            <xsd:annotation>

```

```

        <xsd:documentation>The number of biometric records having the biometric type
recorded in the biometric type field.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="BiometricSubType" type="cbeff:SubtypeType" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>More specifically defines the type of biometric data stored in
the biometric record, as defined by CBEFF.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="BDBFormatOwner" type="xsd:positiveInteger" minOccurs="1" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>Identifies the standards body, working group, industry
consortium, or other CBEFF biometric organization that has defined the format for the biometric data.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="BDBFormatType" type="xsd:positiveInteger" minOccurs="1" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>Identifies the specific biometric data format specified by the
CBEFF biometric organization recorded in the BDB Format Owner field.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BiometricDataListType">
    <xsd:annotation>
        <xsd:documentation>A list of biometric data elements.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="BiometricData" type="tns:BiometricDataType" minOccurs="0"
maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>Data structure containing information about a biometric
record.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>

```

```

</xsd:complexType>
<xsd:complexType name="CandidateListType">
  <xsd:annotation>
    <xsd:documentation>
      Defines a set of candidates, utilizing the Candidate Type to
      represent each element in the set.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Candidate" type="tns:CandidateType" minOccurs="0" maxOccurs="unbounded">
      <xsd:annotation>
        <xsd:documentation>A single candidate.</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CandidateType">
  <xsd:annotation>
    <xsd:documentation>
      Defines a single candidate as a possible match in response to a
      biometric identification request.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ScoreList" minOccurs="0">
      <xsd:complexType>
        <xsd:sequence>
          <xsd:element name="Score" type="tns:ScoreType"/>
        </xsd:sequence>
      </xsd:complexType>
    </xsd:element>
    <xsd:element name="Identity" type="tns:BIASIdentity"/>
    <xsd:element name="Rank" type="xsd:integer" minOccurs="1" maxOccurs="1">
      <xsd:annotation>
        <xsd:documentation>The rank of the candidate in relation to other candidates for
        the same biometric identification operation.</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:annotation>
    </xsd:element>
    <xsd:element name="BiographicData" type="tns:BiographicDataType" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation>Biographic data associated with the candidate
match.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CapabilityListType">
    <xsd:annotation>
        <xsd:documentation>Defines a set of capabilities.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="Capability" type="tns:CapabilityType" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>A single capability.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="CapabilityName">
    <xsd:annotation>
        <xsd:documentation>A list of capability items.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="AggregateInputDataOptional">
            <xsd:annotation>
                <xsd:documentation>A data element accepted as optional input by the implementing
system for the aggregate services.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="AggregateInputDataRequired">
            <xsd:annotation>
                <xsd:documentation>A data element required as input by the implementing system for
the aggregate services.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>

```

```

        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="AggregateProcessingOption">
        <xsd:annotation>
            <xsd:documentation>A processing option supported by the implementing system for
the aggregate services.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="AggregateReturnData">
        <xsd:annotation>
            <xsd:documentation>A data element returned by the implementing system for the
aggregate services.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="AggregateServiceDescription">
        <xsd:annotation>
            <xsd:documentation>Describes the processing logic of an aggregate service
supported by the implementing system.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="BiographicDataSet">
        <xsd:annotation>
            <xsd:documentation>Identifies a biographic data set supported by the implementing
system.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="CBEFFPatronFormat">
        <xsd:annotation>
            <xsd:documentation>A patron format supported by the implementing
system.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>
    <xsd:enumeration value="ClassificationAlgorithmType">
        <xsd:annotation>
            <xsd:documentation>A classification algorithm type supported by the implementing
system.</xsd:documentation>
        </xsd:annotation>
    </xsd:enumeration>

```



```

        </xsd:enumeration>
        <xsd:enumeration value="ConformanceClass">
            <xsd:annotation>
                <xsd:documentation>Identifies the conformance class of the BIAS
implementation.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Gallery">
            <xsd:annotation>
                <xsd:documentation>A gallery or population group supported by the implementing
system.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="IdentityModel">
            <xsd:annotation>
                <xsd:documentation>Identifies whether the implementing system is person-centric or
encounter-centric based.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="MatchAlgorithm">
            <xsd:annotation>
                <xsd:documentation>A match algorithm vendor and algorithm vendor product ID
supported by the implementing system.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="MatchScore">
            <xsd:annotation>
                <xsd:documentation> Identifies the use of match scores returned by the
implementing system.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="QualityAlgorithm">
            <xsd:annotation>
                <xsd:documentation>A quality algorithm vendor and algorithm vendor product ID
supported by the implementing system.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>

```

```

        <xsd:enumeration value="SupportedBiometric">
            <xsd:annotation>
                <xsd:documentation>A biometric type supported by the implementing
system.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="TransformOperation">
            <xsd:annotation>
                <xsd:documentation>A transform operation type supported by the implementing
system.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="CapabilityType">
    <xsd:annotation>
        <xsd:documentation>Defines a single capability supported by an implementing
system.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="CapabilityName" type="tns:CapabilityName" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The name of the capability.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="CapabilityID" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>An identifier assigned to the capability by the implementing
system.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="CapabilityDescription" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>A description of the capability.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="CapabilityValue" type="xsd:string" minOccurs="0" maxOccurs="1">

```

```

        <xsd:annotation>
            <xsd:documentation>A value assigned to the capability.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="CapabilitySupportingValue" type="xsd:string" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>A secondary value supporting the
capability.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="CapabilityAdditionalInfo" type="xsd:string" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation> Contains additional information for the supported
capability.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CBEFF_BIR_ListType">
    <xsd:annotation>
        <xsd:documentation>A list of CBEFF-BIR elements.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="BIR" type="tns:CBEFF_BIR_Type" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>CBEFF structure containing information about a biometric
sample.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="CBEFF_BIR_Type">
    <xsd:annotation>
        <xsd:documentation>Represents biometric information, with either a non-XML or XML
representation.</xsd:documentation>
    </xsd:annotation>
</xsd:sequence>

```

```

        <xsd:element name="FormatOwner" type="xsd:positiveInteger" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="FormatType" type="xsd:positiveInteger" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="BIR_Information" minOccurs="0" maxOccurs="1">
            <xsd:complexType>
                <xsd:sequence>
                    <xsd:element name="BIR_Info" type="cbeff:BIRInfoType" minOccurs="0"
maxOccurs="1"/>
                    <xsd:element name="BDB_Info" type="cbeff:BDBInfoType" minOccurs="0"
maxOccurs="1"/>
                    <xsd:element name="SB_Info" type="cbeff:SBInfoType" minOccurs="0"
maxOccurs="1"/>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:element>
        <xsd:element name="BIR" type="tns:BaseBIRType"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="BaseBIRType">
</xsd:complexType>
<xsd:complexType name="BinaryBIR">
    <xsd:complexContent>
        <xsd:extension base="tns:BaseBIRType">
            <xsd:sequence>
                <xsd:element name="Binary" type="xsd:base64Binary"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="URI_BIR">
    <xsd:complexContent>
        <xsd:extension base="tns:BaseBIRType">
            <xsd:sequence>
                <xsd:element name="URI" type="xsd:anyURI"/>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>

```

```

<xsd:complexType name="XML_BIR">
  <xsd:complexContent>
    <xsd:extension base="tns:BaseBIRType">
      <xsd:sequence>
        <xsd:element name="XML" type="cbeff:BIRType"/>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:simpleType name="Classification">
  <xsd:annotation>
    <xsd:documentation>The result of a classification.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:simpleType name="ClassificationAlgorithmType">
  <xsd:annotation>
    <xsd:documentation>Type of classification algorithm that was used to perform the
classification.</xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:complexType name="ClassificationData">
  <xsd:annotation>
    <xsd:documentation>Contains information on classification results and the algorithm used to
determine the classification.</xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="Classification" type="tns:Classification" minOccurs="1" maxOccurs="1">
      <xsd:annotation>
        <xsd:documentation>The result of the classification.</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
    <xsd:element name="ClassificationAlgorithmType" type="tns:ClassificationAlgorithmType"
minOccurs="1" maxOccurs="1">
      <xsd:annotation>

```

```

        <xsd:documentation>Identifies the type of classification algorithm that was used
to perform the classification.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="DocumentDataType">
    <xsd:annotation>
        <xsd:documentation>Defines a set of document data elements providing information about the
presented identity document.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="DocumentCategory" type="xsd:string" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The type of identity document presented (e.g.
passport).</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="DocumentIDNumber" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The number associated with the identity document (e.g. passport
number).</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="DocumentIssuanceCountryCode" type="iso_3166_1:CountryAlpha2CodeType"
minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The ISO 2-character code for the country which issued the
document or from within which it was issued.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="DocumentIssuingOrganization" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The entity which issued the identity
document.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="DocumentIssuanceDate" type="xsd:dateTime" minOccurs="0" maxOccurs="1">

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```

        <xsd:annotation>
            <xsd:documentation>The date upon which the identity document was
issued.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentExpirationDate" type="xsd:dateTime" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The date upon which the identity document is no longer valid
(expires).</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentLastName" type="xsd:string" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The family name of the person to whom the identity document was
issued, as contained within the document itself.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentFirstName" type="xsd:string" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The first given name of the person to whom the identity
document was issued, as contained within the document itself.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentMiddleName" type="xsd:string" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The second given name of the person to whom the identity
document was issued, as contained within the document itself.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentValidity" type="xsd:boolean" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The assessed validity of the identity document (e.g. as the
result of local or online validity checks).</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentValidityText" type="xsd:string" minOccurs="0" maxOccurs="1">
        <xsd:annotation>

```

```

        <xsd:documentation>Details or remarks associated with the assessed validity (e.g.
description of validity issue).</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DocumentImage" type="xsd:base64Binary" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>A scanned image of the subject document (e.g. passport picture
page).</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="DocumentDataListType">
    <xsd:annotation>
        <xsd:documentation>Defines a list of documents.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="DocumentData" type="tns:DocumentDataType" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>Data structure containing information about a document and
optionally an image of that document.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="EncounterCategoryType">
    <xsd:annotation>
        <xsd:documentation>Identifies the type of encounter (interaction) during which the identity
(biographic, biometric, and/or document) data was collected from the subject as determined by the requester.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string">
        <xsd:enumeration value="Enrolment">
            <xsd:annotation>
                <xsd:documentation>The encounter is created during an enrolment
interaction.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>

```



```

        <xsd:enumeration value="Recognition">
            <xsd:annotation>
                <xsd:documentation>The encounter is created during a recognition
interaction.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:enumeration value="Unspecified">
            <xsd:annotation>
                <xsd:documentation>The type of encounter is unknown.</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
        <xsd:pattern value="([a-zA-Z0-9])+"/>
    </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="EncounterListType">
    <xsd:annotation>
        <xsd:documentation>Defines a set of encounters.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="EncounterID" type="tns:BIASIDType" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>The identifier of an encounter.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="FusionIdentityListType">
    <xsd:annotation>
        <xsd:documentation>
            Contains fusion input elements for one or more identities, utilizing the FusionInformationListType to represent a single
            set of fusion information for each identity.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="FusionIdentity" type="tns:FusionInformationListType" minOccurs="0"
maxOccurs="unbounded">
            <xsd:annotation>

```

```

        <xsd:documentation>A set of fusion information for a single
identity.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="FusionInformationListType">
    <xsd:annotation>
        <xsd:documentation>
            Contains at a minimum two sets of fusion input
            elements, as input to the PerformFusion request.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="FusionElement" type="tns:FusionInformationType" minOccurs="2"
maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>A set of fusion information.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="FusionInformationType">
    <xsd:annotation>
        <xsd:documentation>Represents the information necessary to perform a fusion
operation.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="BiometricType" type="cbeff:MultipleTypesType" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The type of biological or behavioral data stored in the
biometric record, as defined by CBEFF.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="BiometricSubType" type="cbeff:SubtypeType" minOccurs="0" maxOccurs="1">
            <xsd:annotation>

```

```

        <xsd:documentation>More specifically defines the type of biometric data stored in
the biometric record.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="AlgorithmOwner" type="xsd:string" minOccurs="1" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The owner or vendor of the algorithm used to determine the
score or decision.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="AlgorithmType" type="xsd:string" minOccurs="1" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The Algorithm Owner's identifier for the specific algorithm
product and version used to determine the score or decision.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="FusionResult" type="tns:FusionResult"/>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="FusionResult">
    <xsd:sequence/>
</xsd:complexType>
<xsd:complexType name="FusionScore">
    <xsd:complexContent>
        <xsd:extension base="tns:FusionResult">
            <xsd:sequence>
                <xsd:element name="Score" type="tns:ScoreType">
                    <xsd:annotation>
                        <xsd:documentation>The similarity score assigned by the matching
algorithm.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="FusionDecision">

```

```

        <xsd:complexType name="GenericRequestParameters">
          <xsd:annotation>
            <xsd:documentation>Common request parameters that can be used to identify the
requester.</xsd:documentation>
          </xsd:annotation>
          <xsd:sequence>
            <xsd:element name="Application" type="tns:ApplicationIdentifier" minOccurs="0" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>Identifies the requesting application.</xsd:documentation>
              </xsd:annotation>
            </xsd:element>
            <xsd:element name="ApplicationUser" type="tns:ApplicationUserIdentifier" minOccurs="0"
maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>Identifers the user or instance of the requesting
application.</xsd:documentation>
              </xsd:annotation>
            </xsd:element>
            <xsd:element name="BIASOperationName" type="xsd:string" minOccurs="0" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>Identifers the BIAS operation name that is being
requested.</xsd:documentation>
              </xsd:annotation>
            </xsd:element>
          </xsd:sequence>
        </xsd:complexType>
      </xsd:annotation>
    </xsd:complexType>
  </xsd:complexType>
</xsd:complexType>
  <xsd:sequence>
    <xsd:element name="Decision" type="xsd:string">
      <xsd:annotation>
        <xsd:documentation>The match decision assigned by the matching
algorithm.</xsd:documentation>
      </xsd:annotation>
    </xsd:element>
  </xsd:sequence>
</xsd:extension base="tns:FusionResult">
</xsd:complexType>
</xsd:complexType>
</xsd:complexType>

```

```

        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="InformationType">
        <xsd:annotation>
            <xsd:documentation>
                Allows for an unlimited number of data element types, and it does
                not specify nor require any particular data element.
            </xsd:documentation>
        </xsd:annotation>
        <!-- THE FOLLOWING COMMENTED SECTION IS PROVIDED AS AN INFORMATIVE
            EXAMPLE OF WHAT 'InformationType'S CONTENT COULD BE -->
        <xsd:sequence>
            <xsd:element name="GUID" type="xsd:string" minOccurs="0" />
            <xsd:element name="GivenName" type="xsd:string" minOccurs="0" />
            <xsd:element name="FamilyName" type="xsd:string" minOccurs="0" />
            <xsd:element name="DateOfBirth" type="xsd:string" minOccurs="0" />
            <xsd:element name="Sex" type="xsd:string" minOccurs="0" />
            <xsd:element name="Citizenship" type="xsd:string" minOccurs="0" />
            <xsd:element name="Images" minOccurs="0">
                <xsd:complexType>
                    <xsd:sequence>
                        <xsd:element name="Image" minOccurs="0" maxOccurs="unbounded">
                            <xsd:complexType>
                                <xsd:sequence>
                                    <xsd:element name="ContentType" type="xsd:string"
minOccurs="0" />
                                    <xsd:element name="EyebrowDistance"
type="xsd:string" minOccurs="0" />
                                    <xsd:element name="LEyebrowWidth" type="xsd:string"
minOccurs="0" />
                                    <xsd:element name="REyebrowWidth" type="xsd:string"
minOccurs="0" />
                                    <xsd:element name="REyeHeight" type="xsd:string"
minOccurs="0" />
                                    <xsd:element name="LEyeHeight" type="xsd:string"
minOccurs="0" />
                                    <xsd:element name="EyeDistance" type="xsd:string"
minOccurs="0" />
                                </xsd:sequence>
                            </xsd:complexType>
                        </xsd:element>
                    </xsd:sequence>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>

```

```

minOccurs="0" />
minOccurs="0" />
minOccurs="0" />
minOccurs="0" />
minOccurs="0" />
minOccurs="0" />
minOccurs="0" />
type="xsd:base64Binary" minOccurs="0" />
<xsd:element name="PupilDistance" type="xsd:string"
<xsd:element name="BridgeWidth" type="xsd:string"
<xsd:element name="NoseAlarWidth" type="xsd:string"
<xsd:element name="NostrilWidth" type="xsd:string"
<xsd:element name="UpperLipHeight" type="xsd:string"
<xsd:element name="LowerLipHeight" type="xsd:string"
<xsd:element name="ImageData"
</xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="Identities" minOccurs="0">
<xsd:complexType>
<xsd:sequence>
<xsd:element name="Identity" type="xsd:string" maxOccurs="unbounded" />
</xsd:sequence>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="Example_BIR">
<xsd:complexContent>
<xsd:extension base="tns:BaseBIRType">
<xsd:sequence>
<xsd:element name="BiometricSample" type="xsd:string"/>
<xsd:element name="BiometricSampleType" type="xsd:string"/>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>

```

```

        </xsd:complexType>
        <xsd:complexType name="ListFilterType">
            <xsd:annotation>
                <xsd:documentation>Provides a method to filter the amount of information returned in a search of
biometric data.
            </xsd:documentation>
            </xsd:annotation>
            <xsd:sequence>
                <xsd:element name="BiometricTypeFilters">
                    <xsd:complexType>
                        <xsd:sequence>
                            <xsd:element name="BiometricTypeFilter" type="cbeff:MultipleTypesType"
minOccurs="1" maxOccurs="unbounded">
                                <xsd:annotation>
                                    <xsd:documentation>Limits the returned information to a
specific type of biometric, as defined by CBEFF.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:complexType>
                </xsd:element>
                <xsd:element name="IncludeBiometricSubtype" type="xsd:boolean" minOccurs="1" maxOccurs="1">
                    <xsd:annotation>
                        <xsd:documentation>A Boolean flag indicating if biometric subtype information
should be returned.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:complexType>
        <xsd:simpleType name="MatchType">
            <xsd:annotation>
                <xsd:documentation>The result of a fusion method.</xsd:documentation>
            </xsd:annotation>
            <xsd:restriction base="xsd:boolean"/>
        </xsd:simpleType>
        <xsd:complexType name="OptionType">
            <xsd:annotation>

```

```

        <xsd:documentation>
            BIAS aggregate operations support the ability to include various processing options which direct and possibly control the
            business logic for that operation. Together with the ProcessingOptionsType, The OptionType provides a method to represent those
            options. Processing options SHOULD be defined by the implementing system.
        </xsd:documentation>
    </xsd:annotation>
</xsd:sequence>
    <xsd:element name="Key" type="xsd:string">
        <xsd:annotation>
            <xsd:documentation>The identifier of an option supported by the implementing
system.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Value" type="xsd:string" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation>The value for an option supported by the implementing
system.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ProcessingOptionsType">
    <xsd:annotation>
        <xsd:documentation>
            BIAS aggregate services support the ability to include various
            processing options which direct and possibly control the business
            logic for that service. The ProcessingOptionsType provides a
            method to represent those options. Processing options should be
            defined by the implementing system.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="Option" type="tns:OptionType" minOccurs="0" maxOccurs="unbounded">
            <xsd:annotation>
                <xsd:documentation>An option supported by the implementing
system.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```



```

        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="ProductID">
    <xsd:annotation>
        <xsd:documentation>The vendor's ID for a particular product.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:complexType name="QualityData">
    <xsd:annotation>
        <xsd:documentation>Contains information about a biometric sample's quality and the algorithm used
to compute the quality.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="QualityScore" type="cbeff:QualityType" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The quality of a biometric sample.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="AlgorithmVendor" type="tns:VendorIdentifier" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The vendor of the quality algorithm used to determine the
quality score.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="AlgorithmVendorProductID" type="tns:ProductID" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The vendor's ID for the algorithm used to determine the
quality.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="AlgorithmVersion" type="tns:VersionType" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The version of the algorithm used to determine the
quality.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="RequestTemplate">
    <xsd:annotation>
        <xsd:documentation>Base template for BIAS primitive service requests.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="GenericRequestParameters" type="tns:GenericRequestParameters" minOccurs="0"
maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ResponseStatus">
    <xsd:sequence>
        <xsd:element name="Return" type="tns:ReturnCode" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>The return code indicates the return status of the
operation.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="Message" type="xsd:string" minOccurs="0" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>A short message corresponding to the return
code.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ResponseTemplate">
    <xsd:annotation>
        <xsd:documentation>Base template for BIAS responses.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="ResponseStatus" type="tns:ResponseStatus" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>Returned status for the operation.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="ReturnCode">
    <xsd:annotation>
        <xsd:documentation>BIAS Operation Return Codes</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:unsignedLong">
        <xsd:enumeration value="0">
            <xsd:annotation>
                <xsd:documentation>Success</xsd:documentation>
            </xsd:annotation>
        </xsd:enumeration>
    </xsd:restriction>
</xsd:simpleType>
<xsd:complexType name="ScoreType">
    <xsd:annotation>
        <xsd:documentation>Match result or quality score.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="Value" type="xsd:float"/>
        <xsd:element name="BiometricType" type="cbeff:MultipleTypesType" minOccurs="0"/>
        <xsd:element name="BiometricSubType" type="cbeff:SubtypeType" minOccurs="0"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="TokenType">
    <xsd:annotation>
        <xsd:documentation>Defines a token that is returned for asynchronous
processing.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="TokenValue" type="xsd:string" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>A value returned by the implementing system that is used to
retrieve the results to a service at a later time.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>

```

```

        </xsd:element>
        <xsd:element name="Expiration" type="xsd:date" minOccurs="1" maxOccurs="1">
            <xsd:annotation>
                <xsd:documentation>A date and time at which point the token expires and the
service results are no longer guaranteed to be available.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="VendorIdentifier">
    <xsd:annotation>
        <xsd:documentation>Identifies a vendor.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:complexType name="Version">
    <xsd:annotation>
        <xsd:documentation>
For a description or definition of each data element, see the
referenced CBEFF standards in the CBEFF_XML_BIR_Type schema.
</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="major" type="xsd:nonNegativeInteger" minOccurs="1" maxOccurs="1"/>
        <xsd:element name="minor" type="xsd:nonNegativeInteger" minOccurs="1" maxOccurs="1"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:simpleType name="VersionType">
    <xsd:annotation>
        <xsd:documentation>The version of a component.</xsd:documentation>
    </xsd:annotation>
    <xsd:restriction base="xsd:string"/>
</xsd:simpleType>
<xsd:element name="AddSubjectToGallery">
    <xsd:complexType>
        <xsd:annotation>

```

```

        <xsd:documentation>
            Register a subject to a given gallery or population group.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="AddSubjectToGalleryRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="GalleryID" type="tns:BIASIDType"
                                minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The identifier of
the gallery or population group to which the subject will be added.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
                                minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The identity to
add to the gallery.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="AddSubjectToGalleryResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to an AddSubjectToGallery request.
        </xsd:annotation>
    </xsd:complexType>

```

```

        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="AddSubjectToGalleryResponsePackage" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:ResponseTemplate"/>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="CheckQuality">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Calculate a quality score for a given biometric.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="CheckQualityRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="BiometricData"
type="tns:BIASBiometricDataType" minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Data structure
containing a single biometric sample for which a quality score is to be determined; required if no SubjectID is
provided.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>

```

```

        <xsd:documentation>Data structure
containing a Subject ID associated with a single biometric sample for which a quality score is to be determined; required if no BIR is
provided.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="QualityInfo"
type="tns:QualityData" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>Specifies a
particular algorithm vendor and vender product ID.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="CheckQualityResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a CheckQuality request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="CheckQualityResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate">
                            <xsd:sequence>
                                <xsd:element name="QualityInfo"
type="tns:QualityData" minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>

```

```

quality information for the submitted biometric sample.</xsd:documentation>
                                                                 <xsd:documentation>Contains the
                                                                 </xsd:documentation>
                                                                 </xsd:annotation>
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:extension>
                                                                 </xsd:complexContent>
                                                                 </xsd:complexType>
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:complexType>
</xsd:element>
<xsd:element name="ClassifyBiometricData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Classifies a biometric sample.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="ClassifyBiometricDataRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="BiometricData"
type="tns:BIASBiometricDataType" minOccurs="1" maxOccurs="1">
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:complexType>
                                                                 </xsd:annotation>
                                                                 </xsd:documentation>Data structure
                                                                 </xsd:annotation>
                                                                 </xsd:element>
                                                                 <xsd:element name="ClassificationData"
type="tns:ClassificationData" minOccurs="0" maxOccurs="1">
                                                                 </xsd:element>
                                                                 </xsd:annotation>
                                                                 </xsd:documentation>Contains the
algorithm to be used to determine the classification.</xsd:documentation>

```



```

        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="ClassifyBiometricDataResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The response to a ClassifyBiometricData request, containing
        the classification of a biometric sample.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="ClassifyBiometricDataResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate">
              <xsd:sequence>
                <xsd:element name="ClassificationData"
type="tns:ClassificationData" minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Information on the
results and type of classification performed.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>

```

```

        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="CreateEncounter">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Create a new encounter record.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="CreateEncounterRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="CreateEncounterResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a CreateEncounter request, containing the encounter
                ID of the new encounter record.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="CreateEncounterResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate">
                            <xsd:sequence>

```

```

minOccurs="1" maxOccurs="1">
    <xsd:element name="Identity" type="tns:BIASIdentity"
        <xsd:annotation>
            <xsd:documentation>Contains the
                encounter ID of the new encounter record.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="CreateSubject">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Create a new subject record.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="CreateSubjectRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="CreateSubjectResponse">
    <xsd:complexType>
        <xsd:annotation>

```

```

        <xsd:documentation>
            The response to a CreateSubject request, containing the subject
            ID of the new subject record.
        </xsd:documentation>
    </xsd:annotation>
<xsd:sequence>
    <xsd:element name="CreateSubjectResponsePackage" nillable="true">
        <xsd:complexType>
            <xsd:complexContent>
                <xsd:extension base="tns:ResponseTemplate">
                    <xsd:sequence>
                        <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                            <xsd:annotation>
                                <xsd:documentation>Contains the
subject ID of the new subject record.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                    </xsd:sequence>
                </xsd:extension>
            </xsd:complexContent>
        </xsd:complexType>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteBiographicData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Erase all of the biographic data associated with a given
                subject record or, in the encounter-centric model, with a
                given encounter.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:sequence>

```

```

        <xsd:element name="DeleteBiographicDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Contains either
the subject ID or encounter ID reference.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                            <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>The identifier of
the gallery or population group from which the biographic information will be deleted.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteBiographicDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a DeleteBiographicData request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="DeleteBiographicDataResponsePackage" nillable="true">
                <xsd:complexType>

```

```

        <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate"/>
        </xsd:complexContent>
    </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteBiometricData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Erase all of the biometric data associated with a given
                subject record or, in the encounter-centric model, with a
                given encounter.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="DeleteBiometricDataRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Contains either
the subject ID or encounter ID reference.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="BiometricType"
type="cbeff:MultipleTypesType" minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The type of
biological or behavioral data to delete, as defined by CBEFF.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

```

```

minOccurs="0" maxOccurs="1">
    <xsd:element name="GalleryID" type="tns:BIASIDType"
        <xsd:annotation>
            <xsd:documentation>The identifier of
the gallery or population group from which the biometric information will be deleted.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteBiometricDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a DeleteBiometricData request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="DeleteBiometricDataResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="DeleteDocumentData">
    <xsd:complexType>
        <xsd:annotation>

```

```

        <xsd:documentation>Erase all of the document data associated with a given subject record
or, in the encounter-centric model, with a given encounter.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="DeleteDocumentDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Contains either
the subject ID or encounter ID reference.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                            <xsd:element name="DocumentData"
type="tns:DocumentDataType" minOccurs="0" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Defines a set of
document data elements providing information about the presented identity document. </xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteDocumentDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a DeleteDocumentData request.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:complexType>

```



```

</xsd:annotation>
<xsd:sequence>
  <xsd:element name="DeleteDocumentDataResponsePackage" nillable="true">
    <xsd:complexType>
      <xsd:complexContent>
        <xsd:extension base="tns:ResponseTemplate"/>
      </xsd:complexContent>
    </xsd:complexType>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteEncounter">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Delete an existing encounter record from the system.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="DeleteEncounterRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Subject ID and
encounter ID of the identity to delete.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>

```

```

        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteEncounterResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a DeleteEncounter request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="DeleteEncounterResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="DeleteSubject">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Delete an existing subject record and, in an encounter-centric
                model, any associated encounter information.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="DeleteSubjectRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>

```

```

minOccurs="1" maxOccurs="1">
                                <xsd:element name="Identity" type="tns:BIASIdentity"
                                <xsd:annotation>
                                    <xsd:documentation>Subject ID of the
identity to delete.</xsd:documentation>
                                </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="DeleteSubjectResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a DeleteSubject request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="DeleteSubjectResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="DeleteSubjectFromGallery">
    <xsd:complexType>
        <xsd:annotation>

```

```

        <xsd:documentation>
            Remove the registration of a subject from a gallery or
            population group.
        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="DeleteSubjectFromGalleryRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>The identifier of
the gallery or population group from which the subject will be deleted.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>The identity to
remove from the gallery.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="DeleteSubjectFromGalleryResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>

```

```

        The response to a DeleteSubjectFromGallery request.
    </xsd:documentation>
</xsd:annotation>
<xsd:sequence>
    <xsd:element name="DeleteSubjectFromGalleryResponsePackage" nillable="true">
        <xsd:complexType>
            <xsd:complexContent>
                <xsd:extension base="tns:ResponseTemplate"/>
            </xsd:complexContent>
        </xsd:complexType>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="GetIdentifySubjectResults">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Retrieve the identification results for a specified token,
                which was returned by the Identify Subject service.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="GetIdentifySubjectResultsRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Token" type="tns:TokenType"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>A value used to
retrieve the results of an IdentifySubject request.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

```

```

        </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="GetIdentifySubjectResultsResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a GetIdentifySubjectResults request, which includes a candidate
list.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="GetIdentifySubjectResultsResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate">
                            <xsd:sequence>
                                <xsd:element name="CandidateList"
type="tns:CandidateListType" minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>A rank-ordered
list of candidates that have a likelihood of matching the input biometric sample.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="IdentifySubject">

```

```

<xsd:complexType>
  <xsd:annotation>
    <xsd:documentation>
      Perform an identification search against a given gallery for
      a given biometric.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="IdentifySubjectRequest" nillable="true">
      <xsd:complexType>
        <xsd:complexContent>
          <xsd:extension base="tns:RequestTemplate">
            <xsd:sequence>
              <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                <xsd:annotation>
                  <xsd:documentation>The identifier of
the gallery or population group which will be searched. Must not be used in conjunction with Gallery parameter</xsd:documentation>
                </xsd:annotation>
              </xsd:element>
              <xsd:element name="Gallery"
type="tns:CandidateListType" minOccurs="0" maxOccurs="1">
                <xsd:annotation>
                  <xsd:documentation>A list of BIRs to
be used instead of a stored gallery. Must not be used in conjunction with GalleryID parameter.</xsd:documentation>
                </xsd:annotation>
              </xsd:element>
              <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                <xsd:annotation>
                  <xsd:documentation>Contains the BIR,
a data structure containing the biometric sample for the search.</xsd:documentation>
                </xsd:annotation>
              </xsd:element>
              <xsd:element name="MaxListSize"
type="xsd:positiveInteger" minOccurs="1" maxOccurs="1">
                <xsd:annotation>

```

```

of the candidate list that should be returned.</xsd:documentation>
                                                                 <xsd:documentation>The maximum size
                                                                 </xsd:documentation>
                                                                 </xsd:annotation>
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:extension>
                                                                 </xsd:complexContent>
                                                                 </xsd:complexType>
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:complexType>
</xsd:element>
<xsd:element name="IdentifySubjectResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The response to an IdentifySubject request, returning a
        rank-ordered candidate list.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="IdentifySubjectResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate">
              <xsd:sequence>
                <xsd:element name="IdentifySubjectResult"
type="tns:IdentifySubjectResultType"/>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```



```

<xsd:complexType name="IdentifySubjectResultType">
  <xsd:sequence/>
</xsd:complexType>
<xsd:complexType name="CandidateListResultType">
  <xsd:complexContent>
    <xsd:extension base="tns:IdentifySubjectResultType">
      <xsd:sequence>
        <xsd:element name="CandidateList" type="tns:CandidateListType" minOccurs="0"
maxOccurs="1">
          <xsd:annotation>
            <xsd:documentation>A rank-ordered list of candidates that have a
likelihood of matching the input biometric sample; returned with successful synchronous request processing.</xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:complexType name="TokenResultType">
  <xsd:complexContent>
    <xsd:extension base="tns:IdentifySubjectResultType">
      <xsd:sequence>
        <xsd:element name="Token" type="tns:TokenType" minOccurs="0" maxOccurs="1">
          <xsd:annotation>
            <xsd:documentation>A token used to retrieve the results of the
IdentifySubject request; returned with asynchronous request processing.</xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
<xsd:element name="ListBiographicData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Lists the biographic data elements stored for a subject.
    </xsd:documentation>
  </xsd:annotation>

```

```

        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="ListBiographicDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                            <xsd:element name="EncounterType"
type="tns:EncounterCategoryType" minOccurs="0" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Identifies the
category of encounter. If an encounter ID is not specified
and encounter data exists for
the subject, the operation returns the list of encounter IDs of a specific
type which contain biographic
data using the Encounter List output parameter, and the Biographic
Data Elements output
parameter is empty. Should not be used in conjunction with EncounterID.
                                </xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="ListBiographicDataResponse">

```

```

<xsd:complexType>
  <xsd:annotation>
    <xsd:documentation>
      The response to a ListBiographicData request, containing a list
      of biographic data elements stored for a subject. In the
      encounter-centric model, the biographic data elements for a
      specific encounter are returned. If an encounter ID is not
      specified and encounter data exists for the subject, the list
      of encounter IDs which contain biographic data is returned.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="ListBiographicDataResponsePackage" nillable="true">
      <xsd:complexType>
        <xsd:complexContent>
          <xsd:extension base="tns:ResponseTemplate">
            <xsd:sequence>
              <xsd:element name="Identity" type="tns:BIASIdentity"
                minOccurs="0" maxOccurs="1">
                <xsd:annotation>
                  <xsd:documentation>
                    Contains a list of biographic
                    data elements associated with a
                    subject or encounter; non-
                    empty if the service was
                    successful, biographic data
                    exists, and either (a) the
                    person-centric model is being
                    used or (b) the
                    encounter-centric model is
                    being used and an encounter
                    identifier was specified.
                  </xsd:documentation>
                </xsd:annotation>
              </xsd:element>
            </xsd:sequence>
          </xsd:extension>
        </xsd:complexContent>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:extension>

```

```

        </xsd:complexContent>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="ListBiometricData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Lists the biometric data elements stored for a subject. Note
        that no actual biometric data is returned by this service (see
        the RetrieveBiometricData service to obtain the biometric
        data).
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="ListBiometricDataRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
                <xsd:element name="EncounterType"
type="tns:EncounterCategoryType" minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Identifies the
category of encounter. If an encounter ID is not specified and
encounter data exists for the
subject, the operation may return the list of encounter IDs of a specific

```

data using the Encounter List output parameter, and the Biometric Data empty. Should not be used in conjunction with EncounterID.

type which contain biometric List output parameter is

```
type="tns:ListFilterType" minOccurs="0" maxOccurs="1">
  </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="ListFilter"
  </xsd:documentation>
  </xsd:annotation>
  </xsd:element>
  </xsd:sequence>
  </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="ListBiometricDataResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The response to a ListBiometricData request, containing a list
        of biometric data elements stored for a subject. In the
        encounter-centric model, the biometric data elements for a
        specific encounter are returned. If an encounter ID is not
        specified and encounter data exists for the subject, the list
        of encounter IDs which contain biometric data is returned.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:sequence>
  <xsd:element name="ListBiometricDataResponsePackage" nillable="true">
    <xsd:complexType>
```

```

    <xsd:complexType base="tns:ResponseTemplate">
      <xsd:sequence>
        <xsd:element name="Identity"
          type="tns:BIASIdentity">
          <xsd:annotation>
            <xsd:documentation>
              Includes a list of biometric
              data elements associated
              or a list of encounter ID's
              which contain biometric
              data.
            </xsd:documentation>
          </xsd:annotation>
        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexType>
</xsd:element>
<xsd:element name="ListDocumentData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Lists the document categories stored for a subject.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="ListDocumentDataRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">

```

```

minOccurs="1" maxOccurs="1">
    <xsd:sequence>
        <xsd:element name="Identity" type="tns:BIASIdentity"
            <xsd:annotation>
                <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element name="EncounterType"
            <xsd:annotation>
                <xsd:documentation>Identifies the
category of encounter. If an encounter ID is not specified and encounter data exists for the
subject, the operation shall return
the list of encounter IDs which contain document data using the Encounter List Output parameter,
and the Document Data Elements output
parameter shall be empty. Should not be used in conjunction with EncounterID.
            </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="ListDocumentDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a ListDocumentData request, containing a list of document
categories stored for a subject.
                In the encounter-centric model, an encounterID may be specified to indicate that
only document data categories
                stored for that encounter should be returned. If an encounter ID is not
                specified and encounter data exists for the subject, the list

```

```

of encounter IDs which contain document data is returned.
  </xsd:documentation>
</xsd:annotation>
<xsd:sequence>
  <xsd:element name="ListDocumentDataResponsePackage" nillable="true">
    <xsd:complexType>
      <xsd:complexContent>
        <xsd:extension base="tns:ResponseTemplate">
          <xsd:sequence>
            <xsd:element name="DocumentDataList"
type="tns:DocumentDataListType" minOccurs="0" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>
                  A list of document categories
                  was successful, document data
                  encounter-centric model is
                </xsd:documentation>
              </xsd:annotation>
            </xsd:element>
            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>
                  A list of encounter IDs
                  if the service was
                  and an encounter identifier
                </xsd:documentation>
              </xsd:annotation>
            </xsd:element>
          </xsd:sequence>
        </xsd:extension>
      </xsd:complexContent>
    </xsd:complexType>
  </xsd:element>
</xsd:sequence>

```



```

        </xsd:complexType>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="PerformFusion">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Accepts either match score or match decision information and creates a fused match
result.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="PerformFusionRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="FusionInput"
type="tns:FusionIdentityListType" minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Score or decision
input information to the fusion method for each identity.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="PerformFusionResponse">
    <xsd:complexType>
        <xsd:annotation>

```

```

        <xsd:documentation>
            The response to the PerformFusion request.
        </xsd:documentation>
    </xsd:annotation>
</xsd:sequence>
    <xsd:sequence>
        <xsd:element name="PerformFusionResponsePackage" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:ResponseTemplate">
                        <xsd:sequence>
                            <xsd:element name="Match" type="tns:MatchType"
                                minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Indicates the
                                            result of the fusion method</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="QueryCapabilities">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Returns a list of the capabilities, options, galleries, etc.
                that are supported by the BIAS implementation.
            </xsd:documentation>
        </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="QueryCapabilitiesRequest" nillable="true">
            <xsd:complexType>

```

```

        <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate"/>
        </xsd:complexContent>
    </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="QueryCapabilitiesResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a QueryCapabilities request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="QueryCapabilitiesResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate">
                            <xsd:sequence>
                                <xsd:element name="CapabilityList"
type="tns:CapabilityListType" minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>A list of
capabilities supported by the BIAS implementation.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

```

```

<xsd:element name="RetrieveBiographicData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Retrieves the biographic data associated with a subject ID.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="RetrieveBiographicDataRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
                <xsd:element name="EncounterType"
type="tns:EncounterCategoryType" minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Identifies the
type of encounter during which data was collected from the subject,
as determined by the requester.
                    </xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>The identifier of
the gallery or population group from which the biographic information will be retrieved.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

```

        </xsd:extension>
        </xsd:complexContent>
    </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveBiographicDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a RetrieveBiographicData request,
                containing the biographic data associated with a subject ID. In
                the encounter-centric model, the biographic data associated with
                a specified encounter is returned. If the encounter ID is not
                specified in the encounter-centric model, the biographic
                information associated with the most recent encounter is returned.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="RetrieveBiographicDataResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Includes the set
of biographic data associated with a subject.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>

```

```

        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveBiometricData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Retrieves the biometric data associated with a subject ID.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="RetrieveBiometricDataRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="EncounterType"
type="tns:EncounterCategoryType" minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Identifies the
type of encounter during which data was collected from the subject,
                                        as determined by the requester.
                                        </xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>

```

```

        <xsd:documentation>The identifier of
the gallery or population group from which the biometric information will be retrieved.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="BiometricType"
type="cbeff:MultipleTypesType" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The type of
biological or behavioral data to retrieve.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveBiometricDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a RetrieveBiometricData request,
                containing the biometric data associated with a subject ID. In
                the encounter-centric model, the biometric data associated with
                a specified encounter is returned. If the encounter ID is not
                specified in the encounter-centric model, the biometric
                information associated with the most recent encounter is returned.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:sequence>
        <xsd:element name="RetrieveBiometricDataResponsePackage" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:ResponseTemplate">
                        <xsd:sequence>

```

```

minOccurs="1" maxOccurs="1">
    <xsd:element name="Identity" type="tns:BIASIdentity"
        <xsd:annotation>
            <xsd:documentation>Includes the
biometric data associated with a subject.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveDocumentData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>Retrieves the list of document data associated with a subject ID for
the category(ies) specified. </xsd:documentation>
        </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="RetrieveDocumentDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
                                <xsd:annotation>
                                    <xsd:documentation>Contains either
the subject ID or encounter ID reference.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        <xsd:element name="DocumentData"
                                <xsd:annotation>

```



```

document data elements providing information about the requested identity document. </xsd:documentation>
        <xsd:documentation>Defines a set of
        </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="EncounterType"
type="tns:EncounterCategoryType" minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>Identifies the
            </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>The identifier of
            </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    </xsd:sequence>
    </xsd:extension>
    </xsd:complexContent>
    </xsd:complexType>
    </xsd:element>
    </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveDocumentDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a RetrieveDocumentData request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="RetrieveDocumentDataResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>

```

```

                <xsd:extension base="tns:ResponseTemplate"/>
            </xsd:complexContent>
        </xsd:complexType>
    </xsd:element>
    <xsd:element name="DocumentDataList" type="tns:DocumentDataListType" minOccurs="1"
maxOccurs="1">
        <xsd:annotation>
            <xsd:documentation>A list of document data associated with a subject or
encounter</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="SetBiographicData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Associates biographic data to a given subject record.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="SetBiographicDataRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter, and includes the biographic data to store.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>

```

```

the gallery or population group to which the biographic will be added.</xsd:documentation>
        <xsd:documentation>The identifier of
        </xsd:documentation>
        </xsd:annotation>
        </xsd:element>
        </xsd:sequence>
        </xsd:extension>
        </xsd:complexContent>
        </xsd:complexType>
        </xsd:element>
        </xsd:sequence>
        </xsd:complexType>
</xsd:element>
<xsd:element name="SetBiographicDataResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The response to a SetBiographicData request.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="SetBiographicDataResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>In an encounter-
centric model, identifies the encounter ID assigned to a new encounter.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>

```

```

        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="SetBiometricData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Associates biometric data to a given subject record.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="SetBiometricDataRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter, and includes the biometric data to store.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The identifier of
the gallery or population group to which the biometric will be added.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>

```

```

</xsd:element>
<xsd:element name="SetBiometricDataResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The response to a SetBiometricData request.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="SetBiometricDataResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>In an encounter-
centric model, identifies the encounter ID assigned to a new encounter.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="SetDocumentData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Associates document data to a given subject record.
      </xsd:documentation>
    </xsd:annotation>
  </xsd:complexType>

```

```

        <xsd:sequence>
            <xsd:element name="SetDocumentDataRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:RequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter, and includes the document data to store.</xsd:documentation>
                                        </xsd:annotation>
                                    </xsd:element>
                                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The identifier of
the gallery or population group to which the document data will be added.</xsd:documentation>
                                        </xsd:annotation>
                                    </xsd:element>
                                <xsd:element name="DocumentDataList"
type="tns:DocumentDataListType" minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Defines a set of
document data elements to associate with the subject or encounter. </xsd:documentation>
                                        </xsd:annotation>
                                    </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="SetDocumentDataResponse">
    <xsd:complexType>

```

```

<xsd:annotation>
  <xsd:documentation>
    The response to a SetDocumentData request.
  </xsd:documentation>
</xsd:annotation>
<xsd:sequence>
  <xsd:element name="SetDocumentDataResponsePackage" nillable="true">
    <xsd:complexType>
      <xsd:complexContent>
        <xsd:extension base="tns:ResponseTemplate">
          <xsd:sequence>
            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>In an encounter-
centric model, identifies the encounter ID assigned to a new encounter.</xsd:documentation>
              </xsd:annotation>
            </xsd:element>
          </xsd:sequence>
        </xsd:extension>
      </xsd:complexContent>
    </xsd:complexType>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="TransformBiometricData">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        Transforms or processes a given biometric in one format into a new target format.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="TransformBiometricDataRequest" nillable="true">
        <xsd:complexType>

```

```

        <xsd:complexType>
            <xsd:sequence>
                <xsd:element name="InputBIR"
                    type="tns:CBEFF_BIR_Type" minOccurs="1" maxOccurs="1">
                    <xsd:annotation>
                        <xsd:documentation>Data structure
                            containing the biometric information to be transformed.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="TransformOperation"
                    type="xsd:unsignedLong" minOccurs="1" maxOccurs="1">
                    <xsd:annotation>
                        <xsd:documentation>Value indicating
                            the type of transformation to perform.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="TransformControl"
                    type="xsd:string" minOccurs="0" maxOccurs="1">
                    <xsd:annotation>
                        <xsd:documentation> Specifies
                            controls for the requested transform operation.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="TransformBiometricDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to a TransformBiometricData request.
        </xsd:documentation>
    </xsd:annotation>
    </xsd:complexType>

```



```

        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="TransformBiometricDataResponsePackage" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:ResponseTemplate">
                        <xsd:sequence>
                            <xsd:element name="OutputBIR"
type="tns:CBEFF_BIR_Type" minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Data structure
containing the new, transformed biometric information.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="UpdateBiographicData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Updates the biographic data for a given subject record.
            </xsd:documentation>
        </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="UpdateBiographicDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>

```

```

minOccurs="1" maxOccurs="1">
    <xsd:element name="Identity" type="tns:BIASIdentity"
        <xsd:annotation>
            <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter, and includes the biographic data to
update.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="UpdateBiographicDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to an UpdateBiographicData request.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="UpdateBiographicDataResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:ResponseTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="UpdateBiometricData">
    <xsd:complexType>
        <xsd:annotation>

```

```

        <xsd:documentation>
            Updates a single biometric sample for a given subject record.
        </xsd:documentation>
    </xsd:annotation>
</xsd:sequence>
    <xsd:sequence>
        <xsd:element name="UpdateBiometricDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter, and includes the biometric data to update.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                            <xsd:element name="Merge" type="xsd:boolean"
minOccurs="0" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Value indicating
if the input biometric sample should be merged with any existing biometric information.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="UpdateBiometricDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The response to an UpdateBiometricData request.
        </xsd:documentation>
    </xsd:annotation>

```

```

        </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="UpdateBiometricDataResponsePackage" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:ResponseTemplate"/>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="UpdateDocumentData">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                Updates the document data for a given subject record.
            </xsd:documentation>
        </xsd:annotation>
    <xsd:sequence>
        <xsd:element name="UpdateDocumentDataRequest" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:RequestTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>Identifies the
subject or, in the encounter-centric model, a subject and an encounter, and includes the document data to update.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        <xsd:element name="DocumentDataList"
type="tns:DocumentDataListType" minOccurs="1" maxOccurs="1">
                                <xsd:annotation>

```

```

updated document data elements to associate with the subject or encounter. </xsd:documentation>
                                <xsd:documentation>Defines a set of
                                </xsd:documentation>
                                </xsd:annotation>
                                </xsd:element>
                                </xsd:sequence>
                                </xsd:extension>
                                </xsd:complexContent>
                                </xsd:complexType>
                                </xsd:element>
                                </xsd:sequence>
                                </xsd:complexType>
                                </xsd:element>
                                <xsd:element name="UpdateDocumentDataResponse">
                                <xsd:complexType>
                                <xsd:annotation>
                                <xsd:documentation>
                                The response to an UpdateDocumentData request.
                                </xsd:documentation>
                                </xsd:annotation>
                                <xsd:sequence>
                                <xsd:element name="UpdateDocumentDataResponsePackage" nillable="true">
                                <xsd:complexType>
                                <xsd:complexContent>
                                <xsd:extension base="tns:ResponseTemplate"/>
                                </xsd:complexContent>
                                </xsd:complexType>
                                </xsd:element>
                                </xsd:sequence>
                                </xsd:complexType>
                                </xsd:element>
                                <xsd:element name="VerifySubject">
                                <xsd:complexType>
                                <xsd:annotation>
                                <xsd:documentation>
                                Performs a 1:1 verification match between a given biometric and
                                either a claim to identity in a given gallery or another given

```

```

        biometric.
    </xsd:documentation>
</xsd:annotation>
<xsd:sequence>
    <xsd:element name="VerifySubjectRequest" nillable="true">
        <xsd:complexType>
            <xsd:complexContent>
                <xsd:extension base="tns:RequestTemplate">
                    <xsd:sequence>
                        <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                            <xsd:annotation>
                                <xsd:documentation>The identifier of
the gallery or population group of which the subject must be a member.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                            <xsd:annotation>
                                <xsd:documentation>Includes the
identifying information and/or input and reference biometric samples.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="InputData"
type="tns:InformationType" minOccurs="0" maxOccurs="1">
                            <xsd:annotation>
                                <xsd:documentation>Contains the
output data for the response.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                    </xsd:sequence>
                </xsd:extension>
            </xsd:complexContent>
        </xsd:complexType>
    </xsd:element>
</xsd:sequence>
</xsd:complexType>

```

```

</xsd:element>
<xsd:element name="VerifySubjectResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The response to a VerifySubject request.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="VerifySubjectResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate">
              <xsd:sequence>
                <xsd:element name="Match" type="xsd:boolean"
minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Indicates if the
Input BIR matched either the biometric information associated with the Identity Claim or the Reference BIR.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
                <xsd:element name="Score" type="tns:ScoreType"
minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>The score if the
biometric information matched.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="Delete">

```

```

    <xsd:complexType>
      <xsd:annotation>
        <xsd:documentation>
          The Delete operation deletes an existing subject or, in an encounter-centric model, an
existing encounter from the
          system.
        </xsd:documentation>
      </xsd:annotation>
      <xsd:sequence>
        <xsd:element name="DeleteRequest" nillable="true">
          <xsd:complexType>
            <xsd:complexContent>
              <xsd:extension base="tns:AggregateRequestTemplate">
                <xsd:sequence>
                  <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
                    <xsd:annotation>
                      <xsd:documentation>The identifier for
the subject, or in encounter-centric model the encounter to be
                      deleted; required for encounter-
centric models.</xsd:documentation>
                    </xsd:annotation>
                  </xsd:element>
                </xsd:sequence>
              </xsd:extension>
            </xsd:complexContent>
          </xsd:complexType>
        </xsd:element>
      </xsd:sequence>
    </xsd:complexType>
  </xsd:element>
  <xsd:element name="DeleteResponse">
    <xsd:complexType>
      <xsd:annotation>
        <xsd:documentation>The response to an Delete request.</xsd:documentation>
      </xsd:annotation>
    <xsd:sequence>

```



```

        <xsd:element name="DeleteResponsePackage" nillable="true">
            <xsd:complexType>
                <xsd:complexContent>
                    <xsd:extension base="tns:AggregateResponseTemplate">
                        <xsd:sequence>
                            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>The identifier for
the subject, or in encounter-centric model, the encounter being deleted;
models.</xsd:documentation>
                                    required for encounter-centric
                                </xsd:annotation>
                            </xsd:element>
                            <xsd:element name="Token" type="tns:TokenType"
minOccurs="0" maxOccurs="1">
                                <xsd:annotation>
                                    <xsd:documentation>A value used to
retrieve the results of the Delete request.</xsd:documentation>
                                </xsd:annotation>
                            </xsd:element>
                        </xsd:sequence>
                    </xsd:extension>
                </xsd:complexContent>
            </xsd:complexType>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="Enrol">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The Enrol aggregate service adds a new subject or, in an
                encounter-centric model, a new encounter to the system.
            </xsd:documentation>
        </xsd:annotation>
    </xsd:complexType>

```

```

        <xsd:sequence>
            <xsd:element name="EnrolRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:AggregateRequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The identifier for
the encounter; required for encounter-centric models.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="EnrolResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>The response to an Enrol request.</xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="EnrolResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:AggregateResponseTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>The identifier for
the encounter; required for encounter-centric models.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>

```

```

minOccurs="0" maxOccurs="1">
    </xsd:annotation>
    </xsd:element>
    <xsd:element name="Token" type="tns:TokenType"
    </xsd:annotation>
    <xsd:documentation>A value used to
    retrieve the results of the Enrol request.</xsd:documentation>
    </xsd:annotation>
    </xsd:element>
    </xsd:sequence>
    </xsd:extension>
    </xsd:complexContent>
    </xsd:complexType>
    </xsd:element>
    </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="GetDeletionResults">
    <xsd:complexType>
    <xsd:annotation>
    <xsd:documentation>
    The GetDeletionResults operation retrieves the deletion results for the specified
    token.
    </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
    <xsd:element name="GetDeletionResultsRequest" nillable="true">
    <xsd:complexType>
    <xsd:complexContent>
    <xsd:extension base="tns:RequestTemplate">
    <xsd:sequence>
    <xsd:element name="Token" type="tns:TokenType"
    </xsd:annotation>
    <xsd:documentation>A value used to
    retrieve the results of the Deletion request.</xsd:documentation>
    </xsd:annotation>

```

```

        </xsd:element>
      </xsd:sequence>
    </xsd:extension>
  </xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="GetDeletionResultsResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>The response to a GetDeletionResults request.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetDeletionResultsResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:ResponseTemplate">
              <xsd:sequence>
                <xsd:element name="ReturnData"
type="tns:InformationType" minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>Contains the
output data for the response.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="GetEnrolResults">

```

```

<xsd:complexType>
  <xsd:annotation>
    <xsd:documentation>
      The GetEnrolResults aggregate service retrieves the enrolment
      results for the specified token.
    </xsd:documentation>
  </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="GetEnrolResultsRequest" nillable="true">
      <xsd:complexType>
        <xsd:complexContent>
          <xsd:extension base="tns:RequestTemplate">
            <xsd:sequence>
              <xsd:element name="Token" type="tns:TokenType"
minOccurs="1" maxOccurs="1">
                <xsd:annotation>
                  <xsd:documentation>A value used to
retrieve the results of the Enrol request.</xsd:documentation>
                </xsd:annotation>
              </xsd:element>
            </xsd:sequence>
          </xsd:extension>
        </xsd:complexContent>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="GetEnrolResultsResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>The response to a GetEnrolResults request.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetEnrolResultsResponsePackage" nillable="true">
        <xsd:complexType>

```

```

        <xsd:complexType>
          <xsd:sequence>
            <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>The identifier for
the subject, and in encounter-centric models, the encounter.</xsd:documentation>
              </xsd:annotation>
            </xsd:element>
          </xsd:sequence>
        </xsd:extension>
      </xsd:complexType>
    </xsd:element>
  </xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="GetIdentifyResults">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The GetIdentifyResults aggregate service retrieves the
        identification results for the specified token.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetIdentifyResultsRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="Token" type="tns:TokenType"
minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>A value used to
retrieve the results of the Identify request.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

```

        </xsd:annotation>
      </xsd:element>
    </xsd:sequence>
  </xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="GetIdentifyResultsResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>The response to a GetIdentifyResults request.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetIdentifyResultsResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:AggregateResponseTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>The identifier of
the encounter, if assigned.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
                <xsd:element name="CandidateList"
type="tns:CandidateListType" minOccurs="0" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>A rank-ordered
list of candidates that have a likelihood of matching the
sample.</xsd:documentation>
                    <xsd:documentation>input biometric
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```

```

        </xsd:sequence>
        </xsd:extension>
        </xsd:complexContent>
        </xsd:complexType>
        </xsd:element>
        </xsd:sequence>
        </xsd:complexType>
</xsd:element>
<xsd:element name="GetUpdateResults">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The GetUpdateResults operation retrieves the update results for the specified
token.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetUpdateResultsRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="Token" type="tns:TokenType"
minOccurs="1" maxOccurs="1">
                  <xsd:annotation>
                    <xsd:documentation>A value used to
retrieve the results of the Update request.</xsd:documentation>
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>

```



```

<xsd:element name="GetUpdateResultsResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>The response to a GetUpdateResults request.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetUpdateResultsResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:AggregateResponseTemplate">
              <xsd:sequence>
                </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
<xsd:element name="GetVerifyResults">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The GetVerifyResults aggregate service retrieves the verification
        results for the specified token.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetVerifyResultsRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:RequestTemplate">
              <xsd:sequence>
                <xsd:element name="Token" type="tns:TokenType"
minOccurs="1" maxOccurs="1">
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>

```

```

retrieve the results of the Verify request.</xsd:documentation>
                                                                 <xsd:documentation>A value used to
                                                                 </xsd:documentation>
                                                                 </xsd:annotation>
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:extension>
                                                                 </xsd:complexContent>
                                                                 </xsd:complexType>
                                                                 </xsd:element>
                                                                 </xsd:sequence>
                                                                 </xsd:complexType>
                                                                 </xsd:element>
<xsd:element name="GetVerifyResultsResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>The response to a GetVerifyResults request.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="GetVerifyResultsResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:AggregateResponseTemplate">
              <xsd:sequence>
                <xsd:element name="Match" type="xsd:boolean"
minOccurs="0" maxOccurs="1">
                                                                 <xsd:annotation>
                                                                 <xsd:documentation>Indicates if the
Input BIR matched either the biometric information
                                                                 associated with the Identity Claim or
the Reference BIR.</xsd:documentation>
                                                                 </xsd:annotation>
                                                                 </xsd:element>
                <xsd:element name="Score" type="tns:ScoreType"
minOccurs="0" maxOccurs="1">
                                                                 <xsd:annotation>
                                                                 <xsd:documentation>The score if the
biometric information matched.</xsd:documentation>

```

```

minOccurs="0" maxOccurs="1">
the encounter, if assigned.</xsd:documentation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="Identify">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The Identify aggregate service performs an identification
        function according to system requirements and/or resources.
      </xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="IdentifyRequest" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:AggregateRequestTemplate">
              <xsd:sequence>
                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
the gallery or population group which will be searched.</xsd:documentation>
</xsd:annotation>

```

```

type="xsd:positiveInteger" minOccurs="1" maxOccurs="1">
of the candidate list that should be returned.</xsd:documentation>
</xsd:element>
<xsd:element name="MaxListSize"
  <xsd:annotation>
    <xsd:documentation>The maximum size
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="IdentifyResponse">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>The response to an Identify request.</xsd:documentation>
    </xsd:annotation>
    <xsd:sequence>
      <xsd:element name="IdentifyResponsePackage" nillable="true">
        <xsd:complexType>
          <xsd:complexContent>
            <xsd:extension base="tns:AggregateResponseTemplate">
              <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
                  <xsd:annotation>
                    <xsd:documentation>The identifier of
                  </xsd:annotation>
                </xsd:element>
              </xsd:sequence>
            </xsd:extension>
          </xsd:complexContent>
        </xsd:complexType>
      </xsd:element>
    </xsd:sequence>
  </xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
type="tns:CandidateListType" minOccurs="0" maxOccurs="1">
  <xsd:annotation>

```

```

list of candidates that have a likelihood of matching the input
successful, synchronous processing.</xsd:documentation>
minOccurs="0" maxOccurs="1">
retrieve the results of the Identify request.</xsd:documentation>
<xsd:documentation>A rank-ordered
biometric sample; returned with
</xsd:annotation>
</xsd:element>
<xsd:element name="Token" type="tns:TokenType"
<xsd:annotation>
<xsd:documentation>A value used to
</xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveData">
<xsd:complexType>
<xsd:annotation>
<xsd:documentation>
The RetrieveData aggregate service retrieves requested
information about a subject, or in an encounter-centric model
about an encounter.
</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="RetrieveDataRequest" nillable="true">
<xsd:complexType>
<xsd:complexContent>
<xsd:extension base="tns:RequestTemplate">
<xsd:sequence>

```

```

type="tns:ProcessingOptionsType" minOccurs="1" maxOccurs="1">
    how the service request is processed, and may identify what
    returned.</xsd:documentation>
minOccurs="1" maxOccurs="1">
    identifier of the subject or encounter.</xsd:documentation>
<xsd:element name="ProcessingOptions"
    <xsd:annotation>
        <xsd:documentation>Options that guide
            type(s) of information should be
        </xsd:annotation>
    </xsd:element>
<xsd:element name="Identity" type="tns:BIASIdentity"
    <xsd:annotation>
        <xsd:documentation>Includes the
    </xsd:annotation>
    </xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="RetrieveDataResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>The response to a RetrieveData request.</xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="RetrieveDataResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:AggregateResponseTemplate"/>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>

```

```

        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="Update">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>
                The Update operation updates specified information about a subject, or in an
                encounter-centric model about an encounter.
            </xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="UpdateRequest" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:AggregateRequestTemplate">
                            <xsd:sequence>
                                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                                    <xsd:annotation>
                                        <xsd:documentation>Includes the
identifier of the subject or encounter.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:extension>
                    </xsd:complexContent>
                </xsd:complexType>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:element>
<xsd:element name="UpdateResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>The response to a Update request.</xsd:documentation>

```

```

</xsd:annotation>
<xsd:sequence>
  <xsd:element name="UpdateResponsePackage" nillable="true">
    <xsd:complexType>
      <xsd:complexContent>
        <xsd:extension base="tns:AggregateResponseTemplate">
          <xsd:sequence>
            <xsd:element name="Token" type="tns:TokenType"
minOccurs="0" maxOccurs="1">
              <xsd:annotation>
                <xsd:documentation>A value used to
retrieve the results of the Update request.</xsd:documentation>
              </xsd:annotation>
            </xsd:element>
          </xsd:sequence>
        </xsd:extension>
      </xsd:complexContent>
    </xsd:complexType>
  </xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="Verify">
  <xsd:complexType>
    <xsd:annotation>
      <xsd:documentation>
        The Verify aggregate service performs a 1:1 verification
        function according to system requirements and/or resources.
        Either the IdentityClaim or ReferenceBIR input data elements in
        the Identity parameter are required.
      </xsd:documentation>
    </xsd:annotation>
  <xsd:sequence>
    <xsd:element name="VerifyRequest" nillable="true">
      <xsd:complexType>
        <xsd:complexContent>

```



```

        <xsd:extension base="tns:AggregateRequestTemplate">
            <xsd:sequence>
                <xsd:element name="Identity" type="tns:BIASIdentity"
minOccurs="1" maxOccurs="1">
                    <xsd:annotation>
                        <xsd:documentation>Includes either
the IdentityClaim or ReferenceBIR.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="GalleryID" type="tns:BIASIDType"
minOccurs="0" maxOccurs="1">
                    <xsd:annotation>
                        <xsd:documentation>The identifier of
the gallery or population group of which the subject must be a member.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
            </xsd:sequence>
        </xsd:extension>
    </xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="VerifyResponse">
    <xsd:complexType>
        <xsd:annotation>
            <xsd:documentation>The response to a Verify request.</xsd:documentation>
        </xsd:annotation>
        <xsd:sequence>
            <xsd:element name="VerifyResponsePackage" nillable="true">
                <xsd:complexType>
                    <xsd:complexContent>
                        <xsd:extension base="tns:AggregateResponseTemplate">
                            <xsd:sequence>
                                <xsd:element name="Match" type="xsd:boolean"
minOccurs="0" maxOccurs="1">

```

```

Input BIR matched either the biometric information
the Reference BIR.</xsd:documentation>

minOccurs="0" maxOccurs="1">

biometric information matched.</xsd:documentation>

minOccurs="0" maxOccurs="1">

the encounter, if assigned.</xsd:documentation>

minOccurs="0" maxOccurs="1">

retrieve the results of the Verify request; </xsd:documentation>

```

```

<xsd:annotation>
  <xsd:documentation>Indicates if the
    associated with the Identity Claim or
  </xsd:documentation>
</xsd:annotation>
</xsd:element>
<xsd:element name="Score" type="tns:ScoreType"
  <xsd:annotation>
    <xsd:documentation>The score if the
  </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="Identity" type="tns:BIASIdentity"
  <xsd:annotation>
    <xsd:documentation>The identifier of
  </xsd:documentation>
  </xsd:annotation>
</xsd:element>
<xsd:element name="Token" type="tns:TokenType"
  <xsd:annotation>
    <xsd:documentation>A value used to
  </xsd:documentation>
  </xsd:annotation>
</xsd:element>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
</xsd:element>
</xsd:sequence>
</xsd:complexType>
</xsd:element>
<xsd:element name="BIASFault" type="tns:BIASFaultDetail"/>
</xsd:schema>

```

```

</wsdl:types>
<wsdl:message name="BIASFaultMessage">
  <wsdl:part name="parameters" element="tns:BIASFault"/>
</wsdl:message>
<wsdl:message name="AddSubjectToGalleryRequestMessage">
  <wsdl:part name="parameters" element="tns:AddSubjectToGallery"/>
</wsdl:message>
<wsdl:message name="AddSubjectToGalleryResponseMessage">
  <wsdl:part name="parameters" element="tns:AddSubjectToGalleryResponse"/>
</wsdl:message>
<wsdl:message name="CheckQualityRequestMessage">
  <wsdl:part name="parameters" element="tns:CheckQuality"/>
</wsdl:message>
<wsdl:message name="CheckQualityResponseMessage">
  <wsdl:part name="parameters" element="tns:CheckQualityResponse"/>
</wsdl:message>
<wsdl:message name="ClassifyBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns:ClassifyBiometricData"/>
</wsdl:message>
<wsdl:message name="ClassifyBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:ClassifyBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="CreateSubjectRequestMessage">
  <wsdl:part name="parameters" element="tns:CreateSubject"/>
</wsdl:message>
<wsdl:message name="CreateSubjectResponseMessage">
  <wsdl:part name="parameters" element="tns:CreateSubjectResponse"/>
</wsdl:message>
<wsdl:message name="DeleteBiographicDataRequestMessage">
  <wsdl:part name="parameters" element="tns>DeleteBiographicData"/>
</wsdl:message>
<wsdl:message name="DeleteBiographicDataResponseMessage">
  <wsdl:part name="parameters" element="tns>DeleteBiographicDataResponse"/>
</wsdl:message>
<wsdl:message name="DeleteBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns>DeleteBiometricData"/>

```

```

</wsdl:message>
<wsdl:message name="DeleteBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:DeleteBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="DeleteSubjectRequestMessage">
  <wsdl:part name="parameters" element="tns:DeleteSubject"/>
</wsdl:message>
<wsdl:message name="DeleteSubjectResponseMessage">
  <wsdl:part name="parameters" element="tns:DeleteSubjectResponse"/>
</wsdl:message>
<wsdl:message name="DeleteSubjectFromGalleryRequestMessage">
  <wsdl:part name="parameters" element="tns:DeleteSubjectFromGallery"/>
</wsdl:message>
<wsdl:message name="DeleteSubjectFromGalleryResponseMessage">
  <wsdl:part name="parameters" element="tns:DeleteSubjectFromGalleryResponse"/>
</wsdl:message>
<wsdl:message name="GetIdentifySubjectResultsRequestMessage">
  <wsdl:part name="parameters" element="tns:GetIdentifySubjectResults"/>
</wsdl:message>
<wsdl:message name="GetIdentifySubjectResultsResponseMessage">
  <wsdl:part name="parameters" element="tns:GetIdentifySubjectResultsResponse"/>
</wsdl:message>
<wsdl:message name="IdentifySubjectRequestMessage">
  <wsdl:part name="parameters" element="tns:IdentifySubject"/>
</wsdl:message>
<wsdl:message name="IdentifySubjectResponseMessage">
  <wsdl:part name="parameters" element="tns:IdentifySubjectResponse"/>
</wsdl:message>
<wsdl:message name="ListBiographicDataRequestMessage">
  <wsdl:part name="parameters" element="tns:ListBiographicData"/>
</wsdl:message>
<wsdl:message name="ListBiographicDataResponseMessage">
  <wsdl:part name="parameters" element="tns:ListBiographicDataResponse"/>
</wsdl:message>
<wsdl:message name="ListBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns:ListBiometricData"/>

```

```

</wsdl:message>
<wsdl:message name="ListBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:ListBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="PerformFusionRequestMessage">
  <wsdl:part name="parameters" element="tns:PerformFusion"/>
</wsdl:message>
<wsdl:message name="PerformFusionResponseMessage">
  <wsdl:part name="parameters" element="tns:PerformFusionResponse"/>
</wsdl:message>
<wsdl:message name="QueryCapabilitiesRequestMessage">
  <wsdl:part name="parameters" element="tns:QueryCapabilities"/>
</wsdl:message>
<wsdl:message name="QueryCapabilitiesResponseMessage">
  <wsdl:part name="parameters" element="tns:QueryCapabilitiesResponse"/>
</wsdl:message>
<wsdl:message name="RetrieveBiographicDataRequestMessage">
  <wsdl:part name="parameters" element="tns:RetrieveBiographicData"/>
</wsdl:message>
<wsdl:message name="RetrieveBiographicDataResponseMessage">
  <wsdl:part name="parameters" element="tns:RetrieveBiographicDataResponse"/>
</wsdl:message>
<wsdl:message name="RetrieveBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns:RetrieveBiometricData"/>
</wsdl:message>
<wsdl:message name="RetrieveBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:RetrieveBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="SetBiographicDataRequestMessage">
  <wsdl:part name="parameters" element="tns:SetBiographicData"/>
</wsdl:message>
<wsdl:message name="SetBiographicDataResponseMessage">
  <wsdl:part name="parameters" element="tns:SetBiographicDataResponse"/>
</wsdl:message>
<wsdl:message name="SetBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns:SetBiometricData"/>

```

```

</wsdl:message>
<wsdl:message name="SetBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:SetBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="TransformBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns:TransformBiometricData"/>
</wsdl:message>
<wsdl:message name="TransformBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:TransformBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="UpdateBiographicDataRequestMessage">
  <wsdl:part name="parameters" element="tns:UpdateBiographicData"/>
</wsdl:message>
<wsdl:message name="UpdateBiographicDataResponseMessage">
  <wsdl:part name="parameters" element="tns:UpdateBiographicDataResponse"/>
</wsdl:message>
<wsdl:message name="UpdateBiometricDataRequestMessage">
  <wsdl:part name="parameters" element="tns:UpdateBiometricData"/>
</wsdl:message>
<wsdl:message name="UpdateBiometricDataResponseMessage">
  <wsdl:part name="parameters" element="tns:UpdateBiometricDataResponse"/>
</wsdl:message>
<wsdl:message name="VerifySubjectRequestMessage">
  <wsdl:part name="parameters" element="tns:VerifySubject"/>
</wsdl:message>
<wsdl:message name="VerifySubjectResponseMessage">
  <wsdl:part name="parameters" element="tns:VerifySubjectResponse"/>
</wsdl:message>
<wsdl:message name="EnrolRequestMessage">
  <wsdl:part name="parameters" element="tns:Enrol"/>
</wsdl:message>
<wsdl:message name="EnrolResponseMessage">
  <wsdl:part name="parameters" element="tns:EnrolResponse"/>
</wsdl:message>
<wsdl:message name="GetEnrolResultsRequestMessage">
  <wsdl:part name="parameters" element="tns:GetEnrolResults"/>

```

```

</wsdl:message>
<wsdl:message name="GetEnrolResultsResponseMessage">
  <wsdl:part name="parameters" element="tns:GetEnrolResultsResponse"/>
</wsdl:message>
<wsdl:message name="GetIdentifyResultsRequestMessage">
  <wsdl:part name="parameters" element="tns:GetIdentifyResults"/>
</wsdl:message>
<wsdl:message name="GetIdentifyResultsResponseMessage">
  <wsdl:part name="parameters" element="tns:GetIdentifyResultsResponse"/>
</wsdl:message>
<wsdl:message name="GetVerifyResultsRequestMessage">
  <wsdl:part name="parameters" element="tns:GetVerifyResults"/>
</wsdl:message>
<wsdl:message name="GetVerifyResultsResponseMessage">
  <wsdl:part name="parameters" element="tns:GetVerifyResultsResponse"/>
</wsdl:message>
<wsdl:message name="IdentifyRequestMessage">
  <wsdl:part name="parameters" element="tns:Identify"/>
</wsdl:message>
<wsdl:message name="IdentifyResponseMessage">
  <wsdl:part name="parameters" element="tns:IdentifyResponse"/>
</wsdl:message>
<wsdl:message name="RetrieveDataRequestMessage">
  <wsdl:part name="parameters" element="tns:RetrieveData"/>
</wsdl:message>
<wsdl:message name="RetrieveDataResponseMessage">
  <wsdl:part name="parameters" element="tns:RetrieveDataResponse"/>
</wsdl:message>
<wsdl:message name="VerifyRequestMessage">
  <wsdl:part name="parameters" element="tns:Verify"/>
</wsdl:message>
<wsdl:message name="VerifyResponseMessage">
  <wsdl:part name="parameters" element="tns:VerifyResponse"/>
</wsdl:message>
<wsdl:portType name="BIAS_v2">
  <wsdl:operation name="AddSubjectToGallery">

```

```

        <wsdl:input name="AddSubjectToGallery" message="tns:AddSubjectToGalleryRequestMessage"/>
        <wsdl:output name="AddSubjectToGalleryResponse" message="tns:AddSubjectToGalleryResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="CheckQuality">
        <wsdl:input name="CheckQuality" message="tns:CheckQualityRequestMessage"/>
        <wsdl:output name="CheckQualityResponse" message="tns:CheckQualityResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="ClassifyBiometricData">
        <wsdl:input name="ClassifyBiometricData" message="tns:ClassifyBiometricDataRequestMessage"/>
        <wsdl:output name="ClassifyBiometricDataResponse" message="tns:ClassifyBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="CreateSubject">
        <wsdl:input name="CreateSubject" message="tns:CreateSubjectRequestMessage"/>
        <wsdl:output name="CreateSubjectResponse" message="tns:CreateSubjectResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="DeleteBiographicData">
        <wsdl:input name="DeleteBiographicData" message="tns:DeleteBiographicDataRequestMessage"/>
        <wsdl:output name="DeleteBiographicDataResponse" message="tns:DeleteBiographicDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="DeleteBiometricData">
        <wsdl:input name="DeleteBiometricData" message="tns:DeleteBiometricDataRequestMessage"/>
        <wsdl:output name="DeleteBiometricDataResponse" message="tns:DeleteBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="DeleteSubject">
        <wsdl:input name="DeleteSubject" message="tns:DeleteSubjectRequestMessage"/>
        <wsdl:output name="DeleteSubjectResponse" message="tns:DeleteSubjectResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="DeleteSubjectFromGallery">
        <wsdl:input name="DeleteSubjectFromGallery" message="tns:DeleteSubjectFromGalleryRequestMessage"/>

```



```

        <wsdl:output name="DeleteSubjectFromGalleryResponse" message="tns:DeleteSubjectFromGalleryResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="GetIdentifySubjectResults">
        <wsdl:input name="GetIdentifySubjectResults" message="tns:GetIdentifySubjectResultsRequestMessage"/>
        <wsdl:output name="GetIdentifySubjectResultsResponse" message="tns:GetIdentifySubjectResultsResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="IdentifySubject">
        <wsdl:input name="IdentifySubject" message="tns:IdentifySubjectRequestMessage"/>
        <wsdl:output name="IdentifySubjectResponse" message="tns:IdentifySubjectResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="ListBiographicData">
        <wsdl:input name="ListBiographicData" message="tns:ListBiographicDataRequestMessage"/>
        <wsdl:output name="ListBiographicDataResponse" message="tns:ListBiographicDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="ListBiometricData">
        <wsdl:input name="ListBiometricData" message="tns:ListBiometricDataRequestMessage"/>
        <wsdl:output name="ListBiometricDataResponse" message="tns:ListBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="PerformFusion">
        <wsdl:input name="PerformFusion" message="tns:PerformFusionRequestMessage"/>
        <wsdl:output name="PerformFusionResponse" message="tns:PerformFusionResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="QueryCapabilities">
        <wsdl:input name="QueryCapabilities" message="tns:QueryCapabilitiesRequestMessage"/>
        <wsdl:output name="QueryCapabilitiesResponse" message="tns:QueryCapabilitiesResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="RetrieveBiographicData">
        <wsdl:input name="RetrieveBiographicData" message="tns:RetrieveBiographicDataRequestMessage"/>
        <wsdl:output name="RetrieveBiographicDataResponse" message="tns:RetrieveBiographicDataResponseMessage"/>
    </wsdl:operation>

```

```

        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="RetrieveBiometricData">
        <wsdl:input name="RetrieveBiometricData" message="tns:RetrieveBiometricDataRequestMessage"/>
        <wsdl:output name="RetrieveBiometricDataResponse" message="tns:RetrieveBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="SetBiographicData">
        <wsdl:input name="SetBiographicData" message="tns:SetBiographicDataRequestMessage"/>
        <wsdl:output name="SetBiographicDataResponse" message="tns:SetBiographicDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="SetBiometricData">
        <wsdl:input name="SetBiometricData" message="tns:SetBiometricDataRequestMessage"/>
        <wsdl:output name="SetBiometricDataResponse" message="tns:SetBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="TransformBiometricData">
        <wsdl:input name="TransformBiometricData" message="tns:TransformBiometricDataRequestMessage"/>
        <wsdl:output name="TransformBiometricDataResponse" message="tns:TransformBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="UpdateBiographicData">
        <wsdl:input name="UpdateBiographicData" message="tns:UpdateBiographicDataRequestMessage"/>
        <wsdl:output name="UpdateBiographicDataResponse" message="tns:UpdateBiographicDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="UpdateBiometricData">
        <wsdl:input name="UpdateBiometricData" message="tns:UpdateBiometricDataRequestMessage"/>
        <wsdl:output name="UpdateBiometricDataResponse" message="tns:UpdateBiometricDataResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>
    <wsdl:operation name="VerifySubject">
        <wsdl:input name="VerifySubject" message="tns:VerifySubjectRequestMessage"/>
        <wsdl:output name="VerifySubjectResponse" message="tns:VerifySubjectResponseMessage"/>
        <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
    </wsdl:operation>

```

```

</wsdl:operation>
<wsdl:operation name="Enrol">
  <wsdl:input name="Enrol" message="tns:EnrolRequestMessage"/>
  <wsdl:output name="EnrolResponse" message="tns:EnrolResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>
<wsdl:operation name="GetEnrolResults">
  <wsdl:input name="GetEnrolResults" message="tns:GetEnrolResultsRequestMessage"/>
  <wsdl:output name="GetEnrolResultsResponse" message="tns:GetEnrolResultsResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>
<wsdl:operation name="GetIdentifyResults">
  <wsdl:input name="GetIdentifyResults" message="tns:GetIdentifyResultsRequestMessage"/>
  <wsdl:output name="GetIdentifyResultsResponse" message="tns:GetIdentifyResultsResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>
<wsdl:operation name="GetVerifyResults">
  <wsdl:input name="GetVerifyResults" message="tns:GetVerifyResultsRequestMessage"/>
  <wsdl:output name="GetVerifyResultsResponse" message="tns:GetVerifyResultsResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>
<wsdl:operation name="Identify">
  <wsdl:input name="Identify" message="tns:IdentifyRequestMessage"/>
  <wsdl:output name="IdentifyResponse" message="tns:IdentifyResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>
<wsdl:operation name="RetrieveData">
  <wsdl:input name="RetrieveData" message="tns:RetrieveDataRequestMessage"/>
  <wsdl:output name="RetrieveDataResponse" message="tns:RetrieveDataResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>
<wsdl:operation name="Verify">
  <wsdl:input name="Verify" message="tns:VerifyRequestMessage"/>
  <wsdl:output name="VerifyResponse" message="tns:VerifyResponseMessage"/>
  <wsdl:fault name="BIASFault" message="tns:BIASFaultMessage"/>
</wsdl:operation>

```

```

</wsdl:portType>
<wsdl:binding name="BIAS_v2HttpBinding" type="tns:BIAS_v2">
  <soap:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <wsdl:operation name="AddSubjectToGallery">
    <soap:operation soapAction="AddSubjectToGallery"/>
    <wsdl:input name="AddSubjectToGallery">
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="AddSubjectToGalleryResponse">
      <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
      <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="CheckQuality">
    <soap:operation soapAction="CheckQuality"/>
    <wsdl:input name="CheckQuality">
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="CheckQualityResponse">
      <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
      <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
  </wsdl:operation>
  <wsdl:operation name="ClassifyBiometricData">
    <soap:operation soapAction="ClassifyBiometricData"/>
    <wsdl:input name="ClassifyBiometricData">
      <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="ClassifyBiometricDataResponse">
      <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="CreateSubject">
    <soap:operation soapAction="CreateSubject"/>
    <wsdl:input name="CreateSubject">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="CreateSubjectResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="DeleteBiographicData">
    <soap:operation soapAction="DeleteBiographicData"/>
    <wsdl:input name="DeleteBiographicData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="DeleteBiographicDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="DeleteBiometricData">
    <soap:operation soapAction="DeleteBiometricData"/>
    <wsdl:input name="DeleteBiometricData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="DeleteBiometricDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="DeleteSubject">
    <soap:operation soapAction="DeleteSubject"/>
    <wsdl:input name="DeleteSubject">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="DeleteSubjectResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="DeleteSubjectFromGallery">
    <soap:operation soapAction="DeleteSubjectFromGallery"/>
    <wsdl:input name="DeleteSubjectFromGallery">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="DeleteSubjectFromGalleryResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetIdentifySubjectResults">
    <soap:operation soapAction="GetIdentifySubjectResults"/>
    <wsdl:input name="GetIdentifySubjectResults">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="GetIdentifySubjectResultsResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="IdentifySubject">
    <soap:operation soapAction="IdentifySubject"/>
    <wsdl:input name="IdentifySubject">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="IdentifySubjectResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ListBiographicData">
    <soap:operation soapAction="ListBiographicData"/>
    <wsdl:input name="ListBiographicData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="ListBiographicDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="ListBiometricData">
    <soap:operation soapAction="ListBiometricData"/>
    <wsdl:input name="ListBiometricData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="ListBiometricDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="PerformFusion">
    <soap:operation soapAction="PerformFusion"/>
    <wsdl:input name="PerformFusion">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="PerformFusionResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="QueryCapabilities">
    <soap:operation soapAction="QueryCapabilities"/>
    <wsdl:input name="QueryCapabilities">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="QueryCapabilitiesResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RetrieveBiographicData">
    <soap:operation soapAction="RetrieveBiographicData"/>
    <wsdl:input name="RetrieveBiographicData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="RetrieveBiographicDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```



```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RetrieveBiometricData">
    <soap:operation soapAction="RetrieveBiometricData"/>
    <wsdl:input name="RetrieveBiometricData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="RetrieveBiometricDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="SetBiographicData">
    <soap:operation soapAction="SetBiographicData"/>
    <wsdl:input name="SetBiographicData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="SetBiographicDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="SetBiometricData">
    <soap:operation soapAction="SetBiometricData"/>
    <wsdl:input name="SetBiometricData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="SetBiometricDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="TransformBiometricData">
    <soap:operation soapAction="TransformBiometricData"/>
    <wsdl:input name="TransformBiometricData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="TransformBiometricDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="UpdateBiographicData">
    <soap:operation soapAction="UpdateBiographicData"/>
    <wsdl:input name="UpdateBiographicData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="UpdateBiographicDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="UpdateBiometricData">
    <soap:operation soapAction="UpdateBiometricData"/>
    <wsdl:input name="UpdateBiometricData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="UpdateBiometricDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="VerifySubject">
    <soap:operation soapAction="VerifySubject"/>
    <wsdl:input name="VerifySubject">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="VerifySubjectResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="Enrol">
    <soap:operation soapAction="Enrol"/>
    <wsdl:input name="Enrol">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="EnrolResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetEnrolResults">
    <soap:operation soapAction="GetEnrolResults"/>
    <wsdl:input name="GetEnrolResults">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="GetEnrolResultsResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetIdentifyResults">
    <soap:operation soapAction="GetIdentifyResults"/>
    <wsdl:input name="GetIdentifyResults">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="GetIdentifyResultsResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="GetVerifyResults">
    <soap:operation soapAction="GetVerifyResults"/>
    <wsdl:input name="GetVerifyResults">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="GetVerifyResultsResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="Identify">
    <soap:operation soapAction="Identify"/>
    <wsdl:input name="Identify">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="IdentifyResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">

```

```

        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="RetrieveData">
    <soap:operation soapAction="RetrieveData"/>
    <wsdl:input name="RetrieveData">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="RetrieveDataResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
<wsdl:operation name="Verify">
    <soap:operation soapAction="Verify"/>
    <wsdl:input name="Verify">
        <soap:body use="literal"/>
    </wsdl:input>
    <wsdl:output name="VerifyResponse">
        <soap:body use="literal"/>
    </wsdl:output>
    <wsdl:fault name="BIASFault">
        <soap:fault name="BIASFault" use="literal"/>
    </wsdl:fault>
</wsdl:operation>
</wsdl:binding>
<wsdl:service name="BIAS_v2">
    <wsdl:port name="BIAS_v2HttpBindingPort" binding="tns:BIAS_v2HttpBinding">
        <soap:address location="http://your_URI/IRI_to_your_BIAS_implementation"/>
    </wsdl:port>
</wsdl:service>
</wsdl:definitions>

```

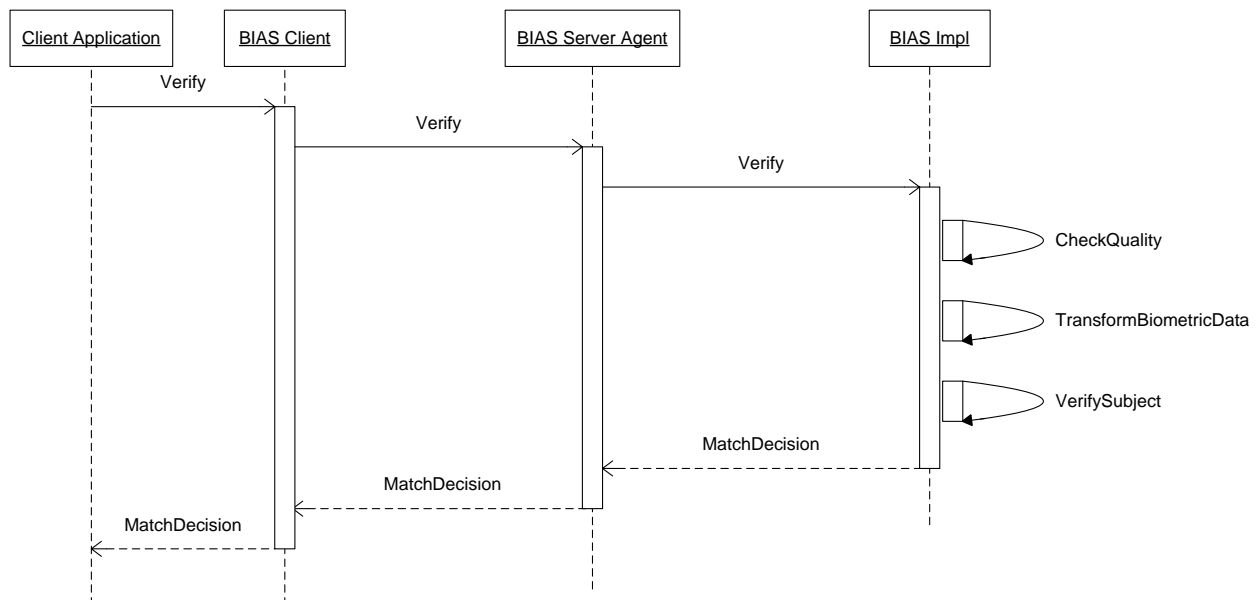
## Appendix B. Use Cases (non-normative)

The intent of this annex is to provide operational sequence diagrams / flow charts that show how the higher level usage scenarios within [ISO/IEC-BIAS] could be implemented using the BIAS SOAP profile. The following use cases are given:

- Verification (synchronous/aggregate)
- Verification (asynchronous/aggregate)
- Verification (primitive)
- Identification (primitive)
- Enrolment (aggregate)
- Enrolment (primitive)

### B.1 Verification Use Case

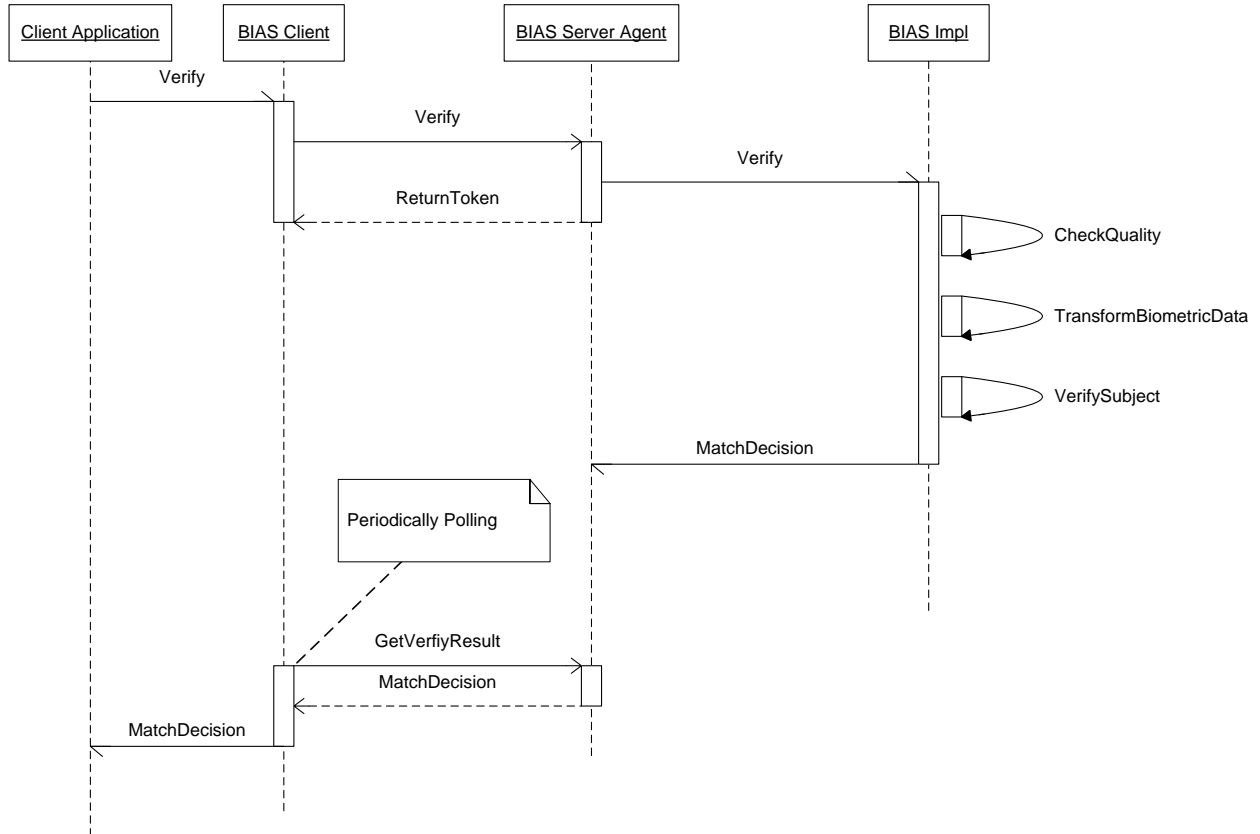
This use case uses the aggregate Verify operation in which a single request results in some set of operations (in this case, a series of primitive BIAS operations) being performed by the BIAS service provider.



Note that  
1. CheckQuality, TransformBiometricData, VerifySubject can be exposed as interfaces of BIAS server agent.

## B.2 Asynchronous Verification Use Case

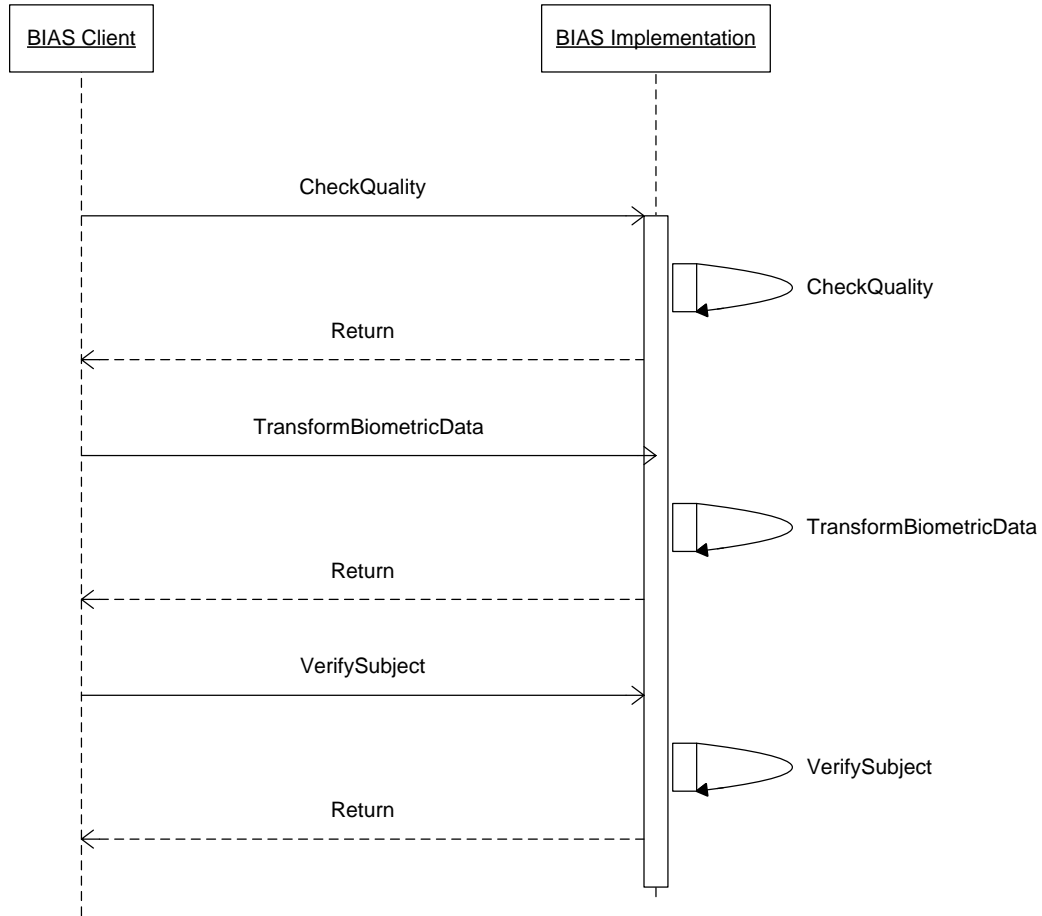
In this use case, the requester issues two requests – the BIAS Verify request to initiate the operation followed by a BIAS GetVerifyResult request to retrieve the results of that operation.



Note that  
1. CheckQuality, TransformBiometricData, VerifySubject can be exposed as interfaces of BIAS server agent.

### B.3 Primitive Verification Use Case

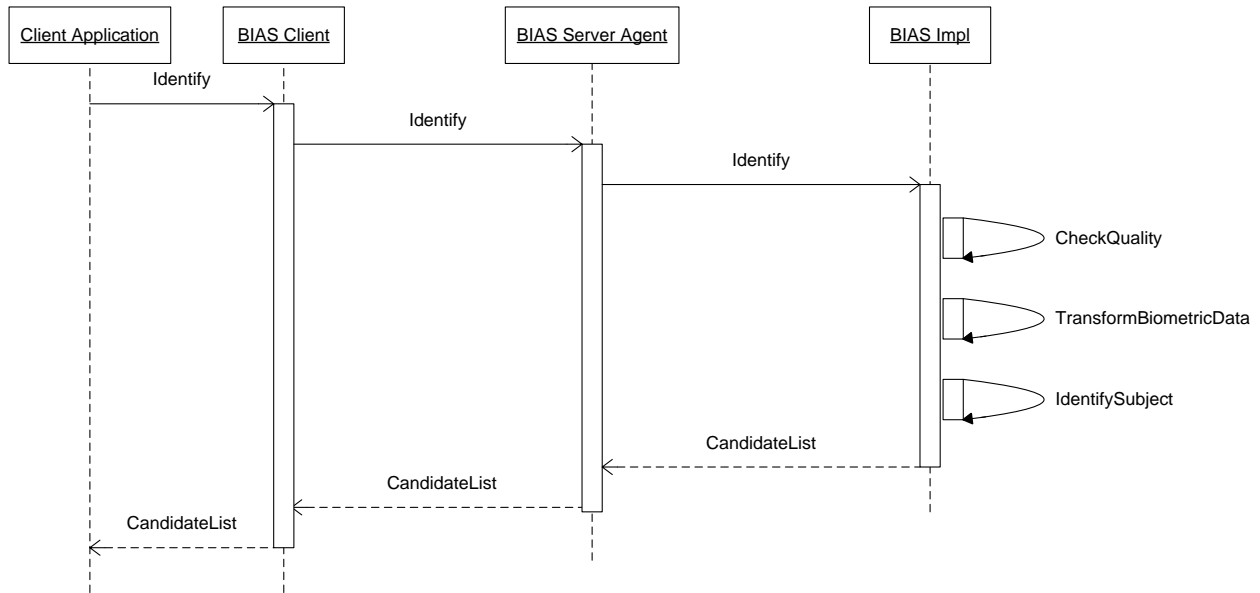
In this use case, the verification operation is performed as a series of requests using the BIAS primitive operations. In this case, the client rather than the service provider controls the workflow of the higher level operation.





## B.4 Identification Use Case

This use case uses the aggregate Identify operation in which a single request results in some set of operations (in this case, a series of primitive BIAS operations) being performed by the BIAS service provider.

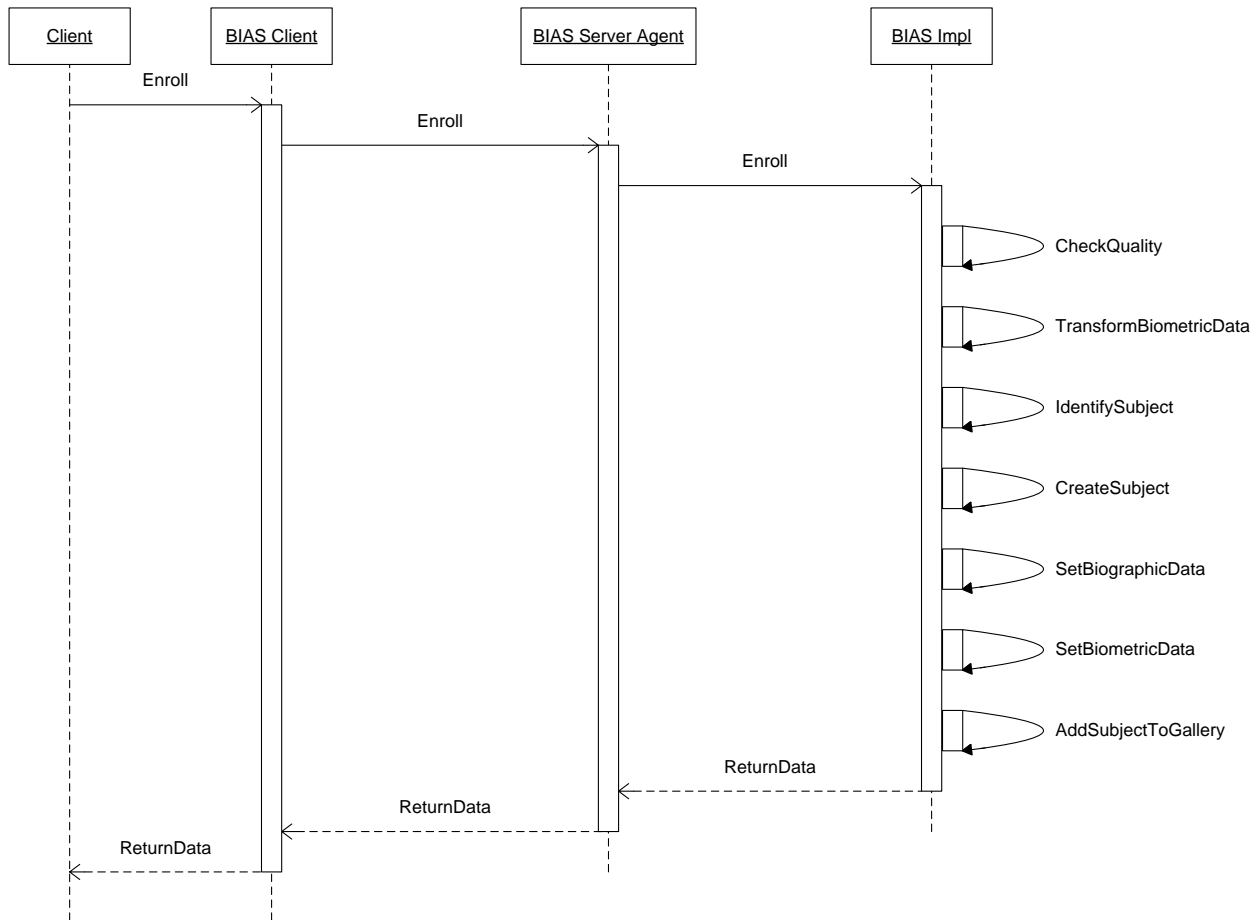


Note that  
1. CheckQuality, TransformBiometricData, IdentifySubject can be exposed as interfaces of BIAS server agent.

## B.5 Biometric Enrolment Use Case

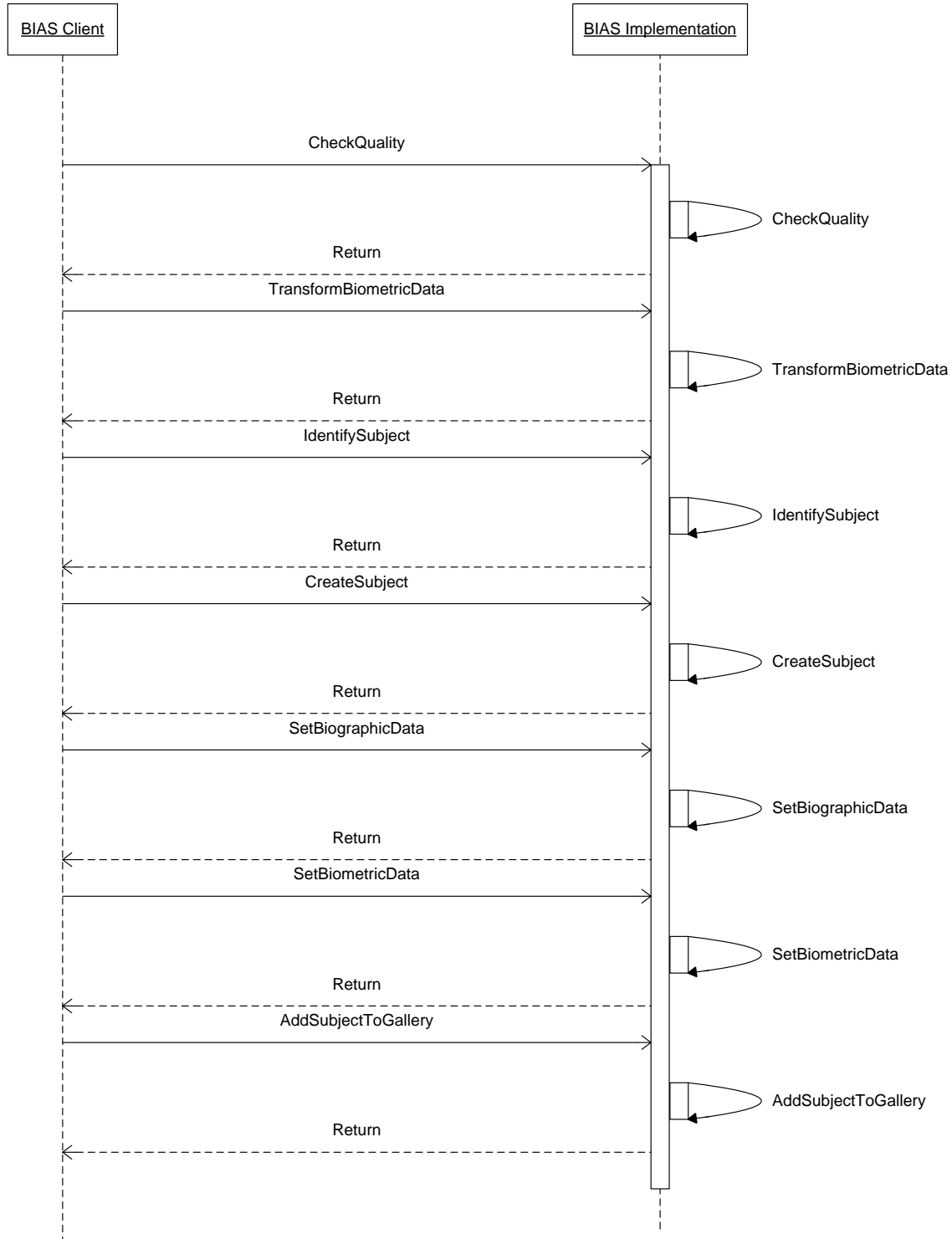
This use case uses the aggregate Enroll operation in which a single request results in some set of operations (in this case, a series of primitive BIAS operations) being performed by the BIAS service provider.

Here, if the result of the IdentifySubject is no matches found, then the subject is added to the gallery. If a match had been found then other logic may have been applied (e.g., return candidate list, add encounter for existing subject, etc.).



## B.6 Primitive Enrolment Use Case

In this use case, the enrolment operation is performed as a series of requests using the BIAS primitive operations. In this case, the client rather than the service provider controls the workflow of the higher level operation.



---

## Appendix C. Samples (non-normative)

### C.1 Create Subject Request/Response Example

*ISO/IEC BIAS Specification*

```
<interface name="CreateSubject">
  <parameter name="SubjectID" type="xs:string" direction="inout" use="optional" />
  <parameter name="Return" type="xs:unsignedLong" direction="out" />
</interface>
```

*OASIS BIAS Examples*

#### **Simple Create Subject Request:**

POST /bias HTTP/1.1

Host: www.acme.com

Content-Type: application/soap+xml; charset="utf-8"

Content-Length: nnnn

SOAPAction: "CreateSubject"

<?xml version="1.0"?>

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">

<soap:Body>

<tns:CreateSubject

xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/" />

</soap:Body>

</soap:Envelope>

#### **Create Subject Request with SubjectID Parameter:**

POST /bias HTTP/1.1

Host: www.acme.com

Content-Type: application/soap+xml; charset="utf-8"

Content-Length: nnnn

SOAPAction: "CreateSubject"

<?xml version="1.0"?>

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">

<soap:Body>

<tns:CreateSubject xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">

<tns:Identity>

<tns:SubjectID>123456789</tns:SubjectID>

</tns:Identity>

</tns:CreateSubject>

</soap:Body>

</soap:Envelope>

#### **Create Subject Request with Optional OASIS BIAS Content:**

POST /bias HTTP/1.1

Host: www.acme.com

Content-Type: application/soap+xml; charset="utf-8"  
Content-Length: nnnn  
SOAPAction: "CreateSubject"  
<?xml version="1.0"?>  
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">  
 <soap:Body>  
 <tns:CreateSubject xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">  
 <tns:GenericRequestParameters>  
 <tns:Application>BIAS Application</tns:Application>  
 <tns:ApplicationUser>BIAS User</tns:ApplicationUser>  
 </tns:GenericRequestParameters>  
 <tns:Identity>  
 <tns:SubjectID>123456789</tns:SubjectID>  
 </tns:Identity>  
 </tns:CreateSubject>  
 </soap:Body>  
</soap:Envelope>

#### **Simple Create Subject Response:**

HTTP/1.1 200 OK  
Content-Type: application/soap+xml; charset="utf-8"  
Content-Length: nnnn  
<?xml version="1.0"?>  
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">  
 <soap:Body>  
 <tns:CreateSubjectResponse xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">  
 <tns:ResponseStatus>  
 <tns:Return>0</tns:Return>  
 </tns:ResponseStatus>  
 <tns:Identity>  
 <tns:SubjectID>123456789</tns:SubjectID>  
 </tns:Identity>  
 </tns:CreateSubjectResponse>  
 </soap:Body>  
</soap:Envelope>

#### **Create Subject Response with Optional OASIS BIAS Content:**

HTTP/1.1 200 OK  
Content-Type: application/soap+xml; charset="utf-8"  
Content-Length: nnnn  
<?xml version="1.0"?>  
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">  
 <soap:Body>  
 <tns:CreateSubjectResponse xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">

```

        <tns:ResponseStatus>
            <tns:Return>0</tns:Return>
            <tns:Message>Subject ID 123456789 successfully
created.</tns:Message>
        </tns:ResponseStatus>
        <tns:Identity>
            <tns:SubjectID>123456789</tns:SubjectID>
        </tns:Identity>
    </tns:CreateSubjectResponse>
</soap:Body>
</soap:Envelope>

```

## C.2 Set Biographic Data Request/Response Example

*ISO/IEC BIAS Specification*

```

<interface name="SetBiographicData">
    <parameter name="SubjectID" type="xs:string" direction="in" />
    <parameter name="IdentityModel" type="IdentityModelType" direction="in" />
    <parameter name="EncounterID" type="xs:string" direction="inout" use="optional" />
    <parameter name="BiographicData" type="BiographicDataType" direction="in" />
    <parameter name="Return" type="xs:unsignedLong" direction="out" />
</interface>

```

*OASIS BIAS Examples*

### Set Biographic Data Request:

POST /bias HTTP/1.1

Host: www.acme.com

Content-Type: application/soap+xml; charset="utf-8"

Content-Length: nnnn

SOAPAction: "SetBiographicData"

<?xml version="1.0"?>

```

<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">
    <soap:Body>
        <tns:SetBiographicData
            xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">
            <tns:Identity>
                <tns:SubjectID>123456789</tns:SubjectID>
                <tns:BiographicData>
                    <tns:BiographicDataItem>
                        <tns:Name>Last</tns:Name>
                        <tns:Type>string</tns:Type>
                        <tns:Value>Doe</tns:Value>
                    </tns:BiographicDataItem>
                </tns:BiographicData>
            </tns:Identity>
        </tns:SetBiographicData>
    </soap:Body>
</soap:Envelope>

```

```

        </tns:Identity>
        <tns:IdentityModel>person</tns:IdentityModel>
    </tns:SetBiographicData>
</soap:Body>
</soap:Envelope>
Set Biographic Data Response:
HTTP/1.1 200 OK
Content-Type: application/soap+xml; charset="utf-8"
Content-Length: nnnn
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">
    <soap:Body>
        <tns:SetBiographicDataResponse
            xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">
            <tns:ResponseStatus>
                <tns:Return>0</tns:Return>
            </tns:ResponseStatus>
        </tns:SetBiographicDataResponse>
    </soap:Body>
</soap:Envelope>

```

### C.3 Set Biometric Data Request/Response Example

*ISO/IEC BIAS Specification*

```

<interface name="SetBiometricData">
    <parameter name="SubjectID" type="xs:string" direction="in" />
    <parameter name="IdentityModel" type="IdentityModelType" direction="in" />
    <parameter name="EncounterID" type="xs:string" direction="inout" use="optional" />
    <parameter name="BIRList" type="CBEFF_BIR_ListType" direction="in" />
    <parameter name="Return" type="xs:unsignedLong" direction="out" />
</interface>

```

*OASIS BIAS Examples*

#### **Set Biometric Data Request:**

```

POST /bias HTTP/1.1
Host: www.acme.com
Content-Type: application/soap+xml; charset="utf-8"
Content-Length: nnnn
SOAPAction: "SetBiometricData"
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">
    <soap:Body>
        <tns:SetBiometricData

```

```

        xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">
      <tns:Identity>
        <tns:SubjectID>123456789</tns:SubjectID>
        <tns:BiometricData>
          <tns:BIRList>
            <tns:BIR>biometric data</tns:BIR>
          </tns:BIRList>
        </tns:BiometricData>
      </tns:Identity>
      <tns:IdentityModel>person</tns:IdentityModel>
    </tns:SetBiometricData>
  </soap:Body>
</soap:Envelope>
Set Biometric Data Response:
HTTP/1.1 200 OK
Content-Type: application/soap+xml; charset="utf-8"
Content-Length: nnnn
<?xml version="1.0"?>
<soap:Envelope xmlns:soap="http://www.w3.org/2003/05/soap-envelope">
  <soap:Body>
    <tns:SetBiometricDataResponse
      xmlns:tns="http://docs.oasis-open.org/bias/bias-1.0/">
      <tns:ResponseStatus>
        <tns:Return>0</tns:Return>
      </tns:ResponseStatus>
    </tns:SetBiometricDataResponse>
  </soap:Body>
</soap:Envelope>

```



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## Appendix D. Acknowledgements

The following individuals have participated in the creation of this specification and are gratefully acknowledged:

### Participants:

Name	Affiliation
Mr. Young Bang	Booz Allen Hamilton
Mr. Ed. Clay	Sun
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Mrs. Catherine Tilton	Daon
Mr. Alessandro Triglia*	OSS Nokalva
Mr. Matthew Young	US Department of Defense
Mr. Brad Wing	NIST (formerly DHS)
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Mr. Gregory Zektser	Booz Allen Hamilton

\* Though no longer members of the BIAS TC at time of publication, these individuals contributed in the early stages of the development of this standard.

In addition, the inputs from the ISO/IEC technical committee are also gratefully appreciated.

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## Appendix E. Revision History

Revision	Date	Editor	Changes Made
WD 1	2015-XX-XX	Kevin Mangold	