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**U.S. Department of Justice
(DOJ)**

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LEXS FBI EBTS IEPD Specification

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Version 9.0 beta 2

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Revision 4

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December 9, 2009

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19

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28

29 Portions of the this document and its associated schemas are based on earlier work described
30 in *Electronic Biometric Transmission Specification (EBTS) -- NIEM Information Exchange*
31 *Package Documentation*, revision 1.5, CJIS Document Number – BIO-DOC-02261-1.5.

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66 1. Executive Summary

67 The FBI's Next Generation Identification (NGI) project requires an XML version of the Electronic
68 Biometric Transmission Standard (EBTS). The task force assigned to perform technical review of
69 the XML development is the IAFIS Interface Evaluation Task Force (IETF). The IETF has
70 recommended an evaluation of LEXS 4.0 (Logical Entity eXchange Specification Version 4.0) for
71 fingerprint and other biometric transmissions using XML (Extensible Markup Language). The
72 IETF supports the move toward web-based services with the understanding that the FBI will
73 provide support to the legacy transactions and data elements. This executive summary defines
74 many of the acronyms used, provides background information, and offers an explanation for
75 why it is useful to implement EBTS with XML and LEXS.

76 1.1 Terminology and Acronyms

77 **CJIS.** The FBI's *Criminal Justice Information Services* Division was established in
78 February, 1992 to serve as the focal point and central repository for criminal justice
79 information and local law enforcement services within the FBI.

80 **APB.** The FBI's *CJIS Advisory Policy Board* was established in 1994 to obtain the advice
81 and guidance of the state and local user community on the operation of CJIS
82 applications and programs. The philosophy underlying the advisory process is one of
83 shared management; that is, the FBI along with local and state data providers and
84 system users share responsibility for the operation and management of all systems
85 administered by CJIS for the benefit of the criminal justice community.

86 **IAFIS.** The *Integrated Automated Fingerprint Identification System* became operational
87 in 1999. It merged the technical fingerprint identification services of AFIS with the
88 criminal history repository as a single criminal justice service. CJIS Division has
89 management responsibility for the day-to-day operation of IAFIS.

90 **IETF.** The *IAFIS Interface Evaluation Task Force* was established by the CJIS APB in 1999
91 to examine the IAFIS workflow between the states and the FBI. The IETF's goal is to
92 ensure effective and efficient processing for both the FBI and the states and to identify
93 processing and specifications that need to be corrected, supplemented, or modified.

94 **XML.** *Extensible Markup Language* is a data format used when one computer sends
95 data to another. It is the most modern of today's data transmission formats. It is an
96 Internet standard that has been widely adopted by government and industry. It is
97 familiar to today's generation of computer technicians and programmers. In general,
98 implementers can expect to pay less for development and support of current
99 technologies such as XML, and to pay more for obsolete technologies.

100 **ANSI.** The *American National Standards Institute* is a private, non-profit corporation
101 that oversees the development and use of standards intended for use by U.S. industry.
102 NIST-ITL uses ANSI's formal consensus development process to produce standards that

103 can be accredited by ANSI. ANSI accreditation certifies that NIST has used procedures
104 that meet ANSI requirements for openness, balance, consensus and due process.

105 **NIST.** The *National Institute of Standards and Technology* is an agency of the U.S. Dept.
106 of Commerce.

107 **NIST-ITL.** The *Information Technology Laboratory* is one of ten NIST labs that provide
108 measurements and standards for U.S. industry. NIST-ITL has long partnered with the
109 FBI's forensic laboratory to develop electronic capture and comparison procedures and
110 standards for fingerprint and other identification biometrics. In 1985, NIST initiated
111 efforts to develop a data format for the interchange of fingerprint identification
112 information. The result of this work was the publication of an American National
113 Standards Institute (ANSI) minutiae-based standard for fingerprints. A revision of the
114 standard was published in 2007 as NIST Special Publication 500-271: Data Format for
115 the Interchange of Fingerprint, Facial, & Other Biometric Information - Part 1
116 (ANSI/NIST-ITL 1-2007). It was followed by the XML version, which was published in
117 2008 as NIST Special Publication 500-275: Data Format for the Interchange of
118 Fingerprint, Facial, & Other Biometric Information - Part 2: XML Version (ANSI/NIST-ITL
119 2-2008).

120 **EBTS.** *Electronic Biometric Transmission Standard.* In the 1990's, the FBI developed and
121 published an electronic format for contributing fingerprints from state repositories to
122 the FBI (then called EFTS). Today, the vast majority of fingerprints, both civil and
123 criminal, are transmitted electronically using the FBI's standard. The legacy formats,
124 however, are not XML. The FBI is in the process of developing an XML version of this
125 transmission standard.

126 **NIEM.** The National Information Exchange Model is a partnership of the U.S.
127 Department of Justice and the Department of Homeland Security. It is designed to
128 develop, disseminate and nation-wide information exchange standards and processes
129 that can enable jurisdictions to effectively share law enforcement and critical
130 information in emergency situations, as well as support the day-to-day operations of
131 government agencies throughout the nation. NIEM introduces the concept of an **IEP**,
132 "information exchange package" as a data structure containing XML elements to
133 support information sharing. An exchange package is a package used for a particular
134 purpose – like the data elements that would be used to report a booking event. The
135 documentation that is required to define a package is known as an **IEPD**, or *Information*
136 *Exchange Package Documentation*. There is an IEPD clearinghouse that contains
137 documentation on dozens of exchange packages.

138 **LEXS.** *Logical Entity Exchange Specification.* Developed by the U.S. Dept. of Justice,
139 LEXS is a framework for packaging XML data. It can be used for packaging elements
140 defined by NIEM, or for any other XML content. LEXS also standardizes transaction
141 handling (like query/response), and provides constructs that can be used by the FBI and
142 state and local agencies for their own business-specific data.

143 **1.2 LEXS as an XML Framework for EBTS**

144 Compared to legacy transmission formats, XML introduces new opportunities and presents new
145 problems. It is not always possible or desirable to create an XML structure that exactly “looks
146 like” a legacy format. This document will show that, although LEXS packages may not exactly
147 “look like” the legacy EBTS packages, it is a useful re-arrangement of the well-known data fields.
148 LEXS capitalizes on the opportunities of XML and solves problems that other arrangements do
149 not.

150 **1.3 XML Opportunities**

151 XML has become the most widely-used transmission format because it allows dissimilar
152 computer systems to communicate with each other, it provides mechanisms for data validation
153 and translation to human-readable formats, it is supported by virtually every vendor, and it can
154 be maintained by off-the-shelf products and tools.

155 **Dissimilar computers.** The FBI’s network for EBTS transactions includes approximately
156 30,000 local law enforcement agencies, every state AFIS, and civil background check
157 vendors. Local law enforcement will initiate the arrest and booking submissions and will
158 be the primary users of fast-id (fingerprint transactions that return an immediate
159 identification response). The volume of civil background check submissions equals or
160 exceeds law enforcement transaction volume. State AFIS systems and civil background
161 check vendors forward EBTS transactions to the FBI. As in the past, the EBTS network
162 must allow computer equipment from any manufacturer to benefit from biometric
163 services. XML, however, is an open, non-proprietary standard that will be easier to
164 implement and less expensive to maintain than binary/ASCII formats currently in use.

165 **Data validation.** XML includes tools for discovering errors in a data transmission
166 package. In the past, all kinds of data validation required custom computer
167 programming. The XML validation feature makes it easier to bring new systems on line,
168 and to improve the quality of data stored in repositories. An XML *schema* contains the
169 information needed to validate an XML *instance*.

170 **Translation.** XML includes tools for translating a data transmission package into other
171 formats. One popular use is to translate into human-readable content (a “presentation”
172 format). The XML translation feature makes it easier to integrate new XML formats with
173 existing legacy systems.

174 **Vendor support.** Today, every computer hardware and software vendor is familiar with
175 XML. They have invested considerable effort to hire or train expert staff. Vendors
176 involved in the development of new systems *want* to use XML.

177 **XML tools.** Modern databases, operating systems, application development
178 environments, telecommunication systems, and the Internet have utility programs and
179 mechanisms for handling and manipulating XML content. As vendor investment in

180 training and use of tools increases, the use of XML will increase. It is important perhaps
181 that the design of XML structures be optimized to facilitate use of XML tools.

182 ***1.4 The Problem with XML***

183 A big challenge for the criminal justice community is to create standard data packages for the
184 most common kinds of communication. The problem with XML is that it is so easy to define a
185 communication structure that everybody is doing it -- and each effort brings about a different
186 product. NIEM, widely embraced by criminal justice, defense, and homeland security, has been
187 successful in standardizing data *elements*, but not in standardizing data *packages*. LEXS
188 addresses this challenge by standardizing the data *package* for EBTS.

189 **1.4.1 Standardizing Information Exchange**

190 While defining an IEP using accompanying IEPD is important, unfortunately, defining an
191 exchange package is not the same thing as *standardizing* a single package so that it is used by
192 everybody for the same business purpose. Inevitably -- a consequence perhaps of managing a
193 business for 30,000 agencies -- there are local data needs and jurisdictional differences that
194 must be accommodated.

195 ***1.5 The Basic LEXS Approach to EBTS***

196 LEXS is a framework constructed to contain one or many kinds of XML content in a single
197 package. LEXS standardizes the structure and format of an information exchange package,
198 making packages reusable and consistent across implementations.

199 It is designed to be used in a transaction environment, and to allow different validation
200 procedures on its separate parts. LEXS has already been adopted by the FBI for use in the N-
201 DEx system. Local law enforcement agencies and vendors who do or want participate in N-DEX
202 are already learning to use LEXS.

203 The *biometric* content of the EBTS-XML message will be contained in a structure exactly
204 according to the ANSI/NIST Part 2: XML standard. The *biographic* content will be in one or
205 more LEXS structures, outside the ANSI/NIST structure.

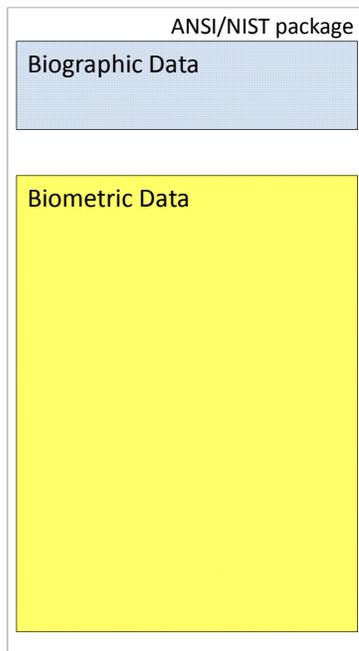
206 **Biometric content.** *Fingerprint images, mugshots, tattoo photos, palmprint images and*
207 *related text or code elements.* The ANSI/NIST Part 2 interchange standard defines an
208 XML format for transmitting images and related data. Related data includes image
209 attributes like pixel density, horizontal and vertical image size, palm or finger position,
210 compression algorithm, image capture date, subject pose code.

211 **Biographic content.** *Subject identification data, arrest detail, and optional disposition*
212 *information.* Biographic data includes subject name, sex, race, date of birth, height, eye
213 color, FBI number, date of arrest, arrest offenses, court sentencing. The ANSI/NIST
214 standard does not define any of these elements. The FBI, state, and local agencies

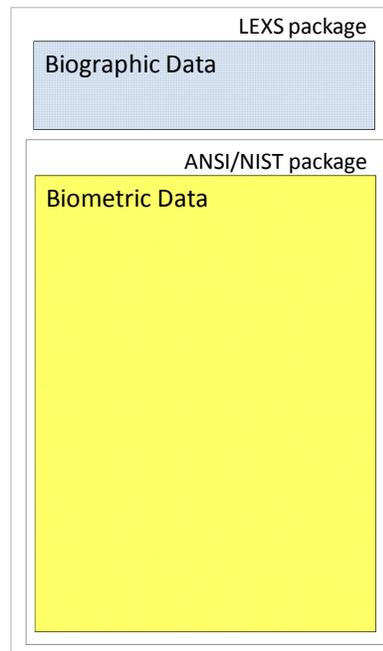
215 create biographic content to accompany the biometric images. In the past, this content
216 has been inserted into the ANSI/NIST structure (the “Type 2” record).

217 The LEXS implementation of EBTS keeps intact the biometric data as required by ANSI/NIST, and
218 provides LEXS structures for the biographic data in a place other than the ANSI/NIST Type 2
219 record.

ASCII/Binary Format



LEXS/XML Format



220

221 LEXS controls how NIEM elements are organized inside an exchange package. LEXS does two
222 “standardizing” things: (1) it has its own elements for managing the transactional elements of
223 an exchange; (2) it has a fixed framework for the most common criminal justice entities, like
224 person, agency, location, activity, and vehicle.

225 While LEXS does standardize the framework for an exchange it is also adaptable and
226 extendable. However, LEXS strictly defines how the exchange package is extended using what
227 is called a “*structured payload*”. Thus, LEXS provides a framework in which state and local
228 participants can add their own content to the EBTS content required for IAFIS. The variable
229 content, necessary for the thousands of agency users and their jurisdictional differences, is
230 contained in a *structured payload* and is segregated from the elements that can be
231 standardized.

232 1.5.1 Detail of LEXS Implementation of EBTS

233 A few transactional elements in the ANSI/NIST package (Type 1) record will be copied into LEXS
234 *metadata*. The EBTS biographic and descriptive data populates the LEXS *digest* and an FBI EBTS

235 Descriptive *structured payload*. Local and state content populates other *structured payloads*.
236 The ANSI/NIST biometric package will be contained in an ANSI/NIST *structured payload*.

237 **Metadata.** This is a fixed part of a LEXS message that relates to the transaction or
238 exchange. There are elements here to manage different kinds of exchange, like
239 query/response, publish/subscribe. For EBTS the exchange type will be *DomainRequest*
240 and *DomainResponse*. The EBTS elements copied into this message section will be
241 transaction date, destination agency, originating agency, transaction control number
242 and reference number.

243 **Digest.** This is a fixed part of a LEXS message that contains the standard entities of
244 person, activity, organization, and location. The *digest* also contains associations
245 between the standard entities; for example the person can be associated with an arrest
246 event.

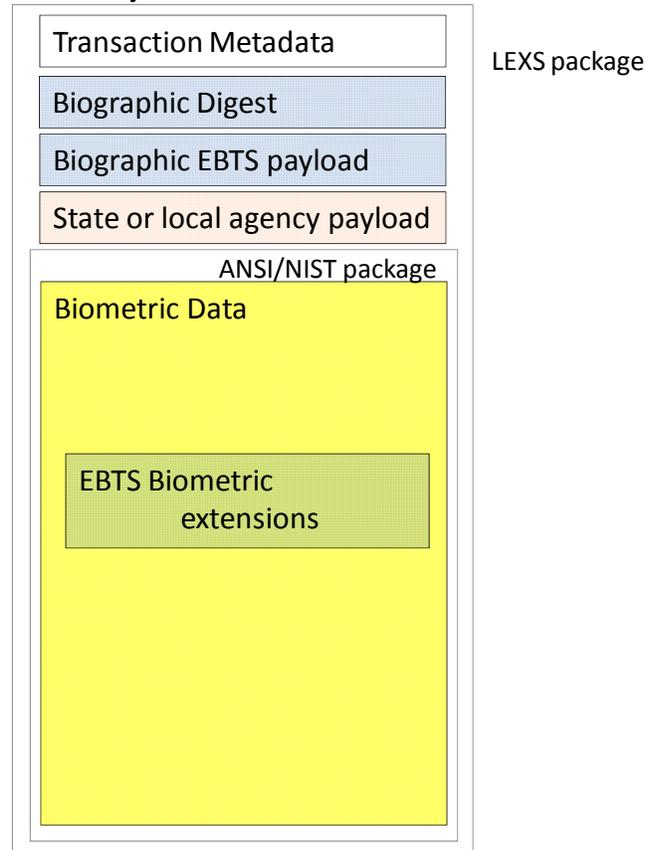
247 **Structured Payload.** A structured payload is the LEXS mechanism for accommodating
248 data that does not fit into the digest. It is the mechanism that allows LEXS to contain
249 and segregate business or jurisdictional differences from the *standard* content in the
250 digest. Each payload has its own “community,” so that content added by a state or local
251 agency can be identified and distinguished from content defined by others.

252 **FBI EBTS Descriptive Structured Payload.** This structure will contain EBTS
253 biographic and descriptive elements that are not defined by the LEXS digest, like
254 the palmprint available indicator, or the field for requesting an electronic
255 rapsheet.

256 **State or Local Structured Payloads.** LEXS can contain structured payloads of
257 many types. A local agency or state could define its own payload and insert it
258 into the LEXS package. Non-EBTS payloads can be easily ignored or discarded by
259 the FBI. Payloads can be separately validated by XML schemas.

260 **ANSI/NIST Structured Payload.** A data structure conforming to the biometric
261 ANSI/NIST interchange standard will be included in the LEXS package in its own
262 structured payload. Some of the ANSI/NIST biometric elements will be extended
263 by adding EBTS elements; for example a Type-9 minutiae record will need the
264 EBTS minutia characterization quality element. But, it is expected that the Type-
265 2 biographic record will be empty; the ANSI/NIST standard describes the content
266 of a Type-2 record as optional.

LEXS/XML Format Detail



267
268

269 **1.5.1.1 Why Use LEXS?**

270 **Transaction management.** By today's transaction management standards, the legacy
271 ANSI/NIST structure provides only a rudimentary container. LEXS adds the structure necessary
272 to manage exchange interactions. EBTS needs transaction extensions, and LEXS provides a
273 framework specifically intended for transaction management.

274 **Entity standardization.** The LEXS digest adds value to NIEM by standardizing the most
275 commonly used EBTS biographic entities: person, agency, location, and activity. EBTS should
276 not create its own version of these entities out of raw NIEM elements. The same local agencies
277 that will be using LEXS entity definitions to report booking events to N-DEX should be allowed
278 to use LEXS entity definitions to report booking events to NGI.

279 **XML validation control.** If the ANSI/NIST package is the container for EBTS transactions, then
280 there would have to be a different XML schema for every state and local version of the
281 ANSI/NIST biometric package. LEXS is structured to allow for multi-pass validation, allowing
282 different schema for different payloads. The FBI's data requirements would be clearly
283 segregated from state and local extensions.

284 **Biographic/Biometric segregation.** The ANSI/NIST package is a credible structure for the
285 electronic interchange of fingerprints, mugshots, palmprints, etc. But, the ANSI/NIST package is
286 a poor container for merging biometric and biographic data. Biometric images are captured by
287 systems dedicated to that business – livescan equipment, mugshot photo systems, and
288 automated fingerprint identification systems. These biometric systems typically do not hold or
289 manage large amounts of biographic data. They are often interfaced to booking management
290 systems, police record systems, or criminal history systems. When single transmission package
291 must contain both biographic and biometric data, the data are extracted from separate systems
292 and merged together into a single transmission package. For EBTS submissions, the biometric
293 data will go to an AFIS or a photo system, and the biographic data will go to the criminal history
294 database. LEXS provides better structure and control for handling the aggregation and
295 disaggregation of these separate data types.

296 **1.5.2 Summary**

297 LEXS is a viable framework for implementing EBTS. It capitalizes on the strengths of XML, and
298 increases the degree of standardization in the criminal justice community. It solves the
299 problem of how state and local extensions to EBTS can be managed effectively, and it provides
300 a transaction management layer necessary for the increasingly complicated business of
301 biometrics envisioned by NGI. LEXS is able to accommodate the EBTS business with only
302 negligible addition to the size of the exchange packages.

303 2. Normative References

304 This specification is based on the following other technical specifications:

- 305 • **LEXS 4.0 beta.** The general message structure as well as the digest contents are defined
306 by LEXS (Logical Entity Exchange Specification) version 4.0. Available from
307 <http://www.lexs.gov>.
- 308 • **NIEM 2.0.** The National Information Exchange Model version 2.0. Available from
309 <http://www.niem.gov>. Version 2.0 is used with ANSI/NIST-ITL-2-2008.
- 310 • **NIEM 2.1.** The National Information Exchange Model version 2.1. Available from
311 <http://www.niem.gov>. Version 2.1 is used with LEXS 4.0.
- 312 • **ANSI/NIST-ITL 1-2007.** American National Standard for Information Systems— Data
313 Format for the Interchange of Fingerprint, Facial, & Other Biometric Information – Part
314 1. Available from <http://fingerprint.nist.gov/standard/Approved-Std-20070427.pdf>.
- 315 • **ANSI/NIST-ITL 2-2008.** American National Standard for Information Systems— Data
316 Format for the Interchange of Fingerprint Facial, & Other Biometric Information – Part 2:
317 XML Version. Available from [http://fingerprint.nist.gov/standard/Approved-XML-Std-](http://fingerprint.nist.gov/standard/Approved-XML-Std-20080828.pdf)
318 [20080828.pdf](http://fingerprint.nist.gov/standard/Approved-XML-Std-20080828.pdf).
- 319 • **FBI EBTS 9.0.** Electronic Biometric Transmission Specification (EBTS) (IAFIS-DOC-01078-9.0
320 of September 30, 2009). Available from
321 http://www.fbibiospecs.org/docs/EBTS_v9_0_User_Services_Draft_Master09302009.pdf
322 f.

3. LEXS Messages

The FBI EBTS IEPD uses two LEXS messages:

1. ulexde:domainRequest is used for EBTS request messages (messages coming into the FBI Biometric System)
2. ulexde:domainResponse is used for EBTS response messages (messages generated by the FBI Biometric System)

The ulexde prefix refers to the namespace <http://ulex.gov/domainexchange/2.0>. ULEX Domain Exchange (ULEX DE) contains messages are used for general-purpose data exchange in a LEXS environment. Although ULEX defines other messages that may roughly correspond to EBTS functionality, such as ulexsr:doStructuredSearchRequest and ulexsr:getDataItemRequest, these messages are not used because their choreography does not exactly match the EBTS choreography. Use of the domainRequest and domainResponse messages allows applications to maintain the existing choreography of EBTS 9.0 messages.

The general structure of a ULEX domainRequest message is shown here:

```
<ulexde:domainRequest ...>
  <ulex:DomainRequestMessage>
    <ulex:SRMessageMetadata>
      <!-- Message Metadata -->
    </ulex:SRMessageMetadata>
    <ulex:DomainAttribute>
      <ulex:DomainName>FBI EBTS 9.0</ulex:DomainName>
      <ulex:DataItemPackage>
        <!-- Data Item Package -->
      </ulex:DataItemPackage>
    </ulex:DomainAttribute>
  </ulex:DomainRequestMessage>
</ulexde:domainRequest>
```

351

The general structure of a ULEX domainResponse message is shown here:

353

```
<ulexde:domainResponse ...>
  <ulex:DomainResponseMessage>
    <ulex:SRMessageMetadata>
      <!-- Message Metadata -->
    </ulex:SRMessageMetadata>
    <ulex:ResponseMetadata>
      <!-- Response-specific Metadata -->
```

```

361         </ulex:ResponseMetadata>
362         <ulex:DomainAttribute>
363             <ulex:DomainName>FBI EBTS 9.0</ulex:DomainName>
364             <ulex:DataItemPackage>
365                 <!-- Data Item Package -->
366             </ulex:DataItemPackage>
367         </ulex:DomainAttribute>
368     </ulex:DomainResponseMessage>
369 </ulex:domainResponse>
370

```

371 **3.1 Message Metadata**

372 The message metadata section, contained in the ulex:SRMessageMetadata element, contains
373 information about the message, such as the sender and receiver, the date, and the LEXS version
374 in use. Certain ANSI/NIST-ITL Type 1 and 2 fields are included in the metadata section, namely:

375

FBI EBTS Field	LEXS Metadata Element
DAT (1.005 -- Date)	ulex:MessageDateTime, with the time portion of the format set to "T00:00:00".
DAI (1.007 -- Destination Agency Identifier)	lexs:MessageDestinationIdentifier/lexs:SystemID
ORI (1.008 -- Originating Agency Identifier)	ulex:MessageOriginMetadata/lexs:SystemIdentifier/ lexs:SystemID
TCN (1.009 -- Transaction Control Number)	wsa:MessageID
TCR (1.010 -- Transaction Control Reference)	ulex:ResponseMetadata/wsa:RelatesTo
CRI (2.073 -- Controlling Agency Identifier)	ulex:SRMessageMetadataDomainAttribute/ fbiebts:ControllingAgencyList/ fbiebts:ControllingAgencyID

376 The Type 1 fields are duplicated in the Type 1 record in the biometric payload, in order to
377 maintain compliance with ANSI/NIST-ITL.

378 **3.2 Domain Attribute**

379 The ulex:domainRequest and ulex:domainResponse messages contain an element,
380 ulex:DomainAttribute, that is used for domain-specific information exchange. In the case of
381 LEXS FBI EBTS, the ulex:DomainAttribute must contain:

- 382 • one ulex:DomainName element, whose content is "FBI EBTS 9.0", and
- 383 • one ulex:DataItemPackage element that contains the core of the EBTS message. The
- 384 structure of the LEXS Data Item Package is described in the next section of this
- 385 document.

386 4. Structure of a LEXS Data Item Package

387 The LEXS data item, in the context of the FBI EBTS IEPD, has four parts:

- 388 1. Data Item Metadata
- 389 2. Digest
- 390 3. FBI EBTS Descriptive Payload
- 391 4. Biometric Payload

392

393 The general structure of a LEXS data item package is shown here:

394

```

395 <ulex:DataItemPackage>
396     <ulex:PackageMetadata>
397         <!-- Data Item Metadata -->
398     </ulex:PackageMetadata>
399     <lexs:Digest>
400         <!-- Digest -->
401     </lexs:Digest>
402     <ulex:StructuredPayload>
403         <ulex:StructuredPayloadMetadata>
404             <ulex:CommunityURI>http://cjis.fbi.gov/ebts/9.0</ulex:CommunityURI>
405             <ulex:CommunityDescriptionText>FBI EBTS</ulex:CommunityDescriptionText>
406             <ulex:CommunityVersionText>9.0</ulex:CommunityVersionText>
407         </ulex:StructuredPayloadMetadata>
408         <ulex:StructuredPayloadContent>
409             <fbiebts:FBIEBTSRecord>
410                 <ebtsbio:DescriptiveData>
411                     <!-- Biographic Information -->
412                 </ebtsbio:DescriptiveData>
413                 <ebtsbio:TransactionData>
414                     <!-- Transaction-Related Information -->
415                 </ebtsbio:TransactionData>
416             </fbiebts:FBIEBTSRecord>
417         </ulex:StructuredPayloadContent>
418     </ulex:StructuredPayload>
419     <ulex:StructuredPayload>
420         <ulex:StructuredPayloadMetadata>
421             <ulex:CommunityURI>http://biometrics.nist.gov/standard/2-2008</ulex:CommunityURI>
422             <ulex:CommunityDescriptionText>ANSI/NIST-ITL</ulex:CommunityDescriptionText>
423             <ulex:CommunityVersionText>2-2008</ulex:CommunityVersionText>
424         </ulex:StructuredPayloadMetadata>
425     </itl:NISTBiometricInformationExchangePackage>

```

```

426         <!-- Biometric Payload in standard ITL structure -->
427         </itl:NISTBiometricInformationExchangePackage>
428     </ulex:StructuredPayload>
429     <ulex:Linkages>
430         <!-- links between the payload and the digest -->
431     </ulex:Linkages>
432 </ulex:DataItemPackage>

```

433 **4.1 Data Item Metadata**

434 The metadata section of a data item, contained within a ulex:PackageMetadata element,
 435 contains information about the data item, such as its identifier. One ANSI/NIST-ITL Type 1 field
 436 is included in the metadata section, namely:

437

FBI EBTS Field	LEXS Metadata Element
TCN (1.009 -- Transaction Control Number)	ulex:DataItemID

438

439 **4.2 Digest**

440 The LEXS digest, contained within a lexs:Digest element, is used for biographic and case
 441 information that pertain to an EBTS transaction. The digest has a fixed schema for all LEXS
 442 IEPDs, allowing interoperability across IEPDs. LEXS has standard definitions for common
 443 entities such as person, activity and location, as well as associations between them. For a
 444 complete description of LEXS digest structure, see the LEXS 4.0 User Guide. For a complete
 445 mapping of FBI EBTS Type 2 fields to the LEXS digest, please see Section 5.2 of this document.

446

447 **4.3 FBI EBTS Descriptive Payload**

448 The FBI EBTS Descriptive Payload, contained within an ulex:StructuredPayloadContent element,
 449 is used for the biographic and transaction information that is not common enough to be
 450 described in the LEXS digest schema.

451 The ulex:StructuredPayloadMetadata element describes the type and origin of the payload
 452 definition. For FBI EBTS, it should use the following values:

453

```

454 <ulex:StructuredPayloadMetadata>
455   <ulex:CommunityURI>http://cjis.fbi.gov/ebts/9.0</ulex:CommunityURI>

```

```
456 <ulex:CommunityDescriptionText>FBI EBTS</ulex:CommunityDescriptionText>
457 <ulex:CommunityVersionText>9.0</ulex:CommunityVersionText>
458 </ulex:StructuredPayloadMetadata>
```

459

460 It is a digest-aware payload, which means that entities in the payload are augmentations of
461 entities in the digest. A ulexlib:SameAsConnection element is used to create a link between the
462 extended entity in the payload and the base entity in the digest.

463 For example, in the digest, there is an activity that represents the arrest, as in:

464

```
465 <lexsdigest:EntityActivity>
466   <nc:Activity s:id="Arrest1">
467     <nc:ActivityCategoryText>Arrest</nc:ActivityCategoryText>
468     <nc:ActivityDate>
469       <nc:Date>1995-03-24</nc:Date>
470     </nc:ActivityDate>
471   </nc:Activity>
472 </lexsdigest:EntityActivity>
```

473

474 The LEXS digest does not allow for an element to represent Arrest Seal Indicator (2.2019) or
475 Arrest Date Suffix (2.046). Therefore, in the FBI EBTS Descriptive Payload, there is an
476 augmentation of the digest entity as follows:

477

```
478 <fbiebts:Arrest s:id="ArrestP1">
479   <fbiebts:ArrestAugmentation>
480     <fbiebts:ArrestDateSuffixText>L</ebtsbio:ArrestDateSuffixText>
481     <fbiebts:ArrestSealIndicator>>false</ebtsbio:ArrestSealIndicator>
482   </fbiebts:ArrestAugmentation>
483 </fbiebts:Arrest>
```

484

485 In the linkages section of the document (within the ulex:Linkages element), a link is created
486 between the digest and the payload, as in:

487

```
488 <ulex:Linkages>
489   <ulexlib:SameAsConnection>
490     <ulexlib:DigestObjectReference ulexlib:validatingObjectReference="Arrest1"/>
491     <ulexlib:StructuredPayloadObjectReference ulexlib:structuredPayloadReference="P1"
492     ulexlib:nonValidatingObjectReference="ArrestP1"/>
493   </ulexlib:SameAsConnection>
```

494 </ulex:Linkages>

495

496 The ulexlib:validatingObjectReference attribute with the value "Arrest1" refers to the digest
497 object, and the ulexlib:nonValidatingObjectReference with the value "ArrestP1" refers to the
498 payload object.

499 As shown in the example above, the FBI EBTS Descriptive Payload has its own namespace,
500 <http://cjis.fbi.gov/ebts/9.0>, which uses the prefix fbiebts in the samples.

501 **4.4 Biometric Payload**

502 The biometric payload, contained within an itl:NISTBiometricInformationExchangePackage
503 element, consists of a complete ANSI/NIST-ITL 2-2008 transaction.

504 The ulex:StructuredPayloadMetadata element describes the type and origin of the payload
505 definition. For the biometric payload, it should use the following values:

506

507 <ulex:StructuredPayloadMetadata>

508 <ulex:CommunityURI><http://biometrics.nist.gov/standard/2-2008></ulex:CommunityURI>

509 <ulex:CommunityDescriptionText>ANSI/NIST-ITL</ulex:CommunityDescriptionText>

510 <ulex:CommunityVersionText>2-2008</ulex:CommunityVersionText>

511 </ulex:StructuredPayloadMetadata>

512

513 The Type 2 record is present (as required by ANSI/NIST-ITL) but empty except for the IDC field,
514 as shown in the following example.

515

516 <itl:PackageDescriptiveTextRecord>

517 <ansi-nist:RecordCategoryCode>02</ansi-nist:RecordCategoryCode>

518 <!-- IDC 2.002-->

519 <ansi-nist:ImageReferenceIdentification>

520 <nc:IdentificationID>00</nc:IdentificationID>

521 </ansi-nist:ImageReferenceIdentification>

522 </itl:PackageDescriptiveTextRecord>

523

524 A biometric payload (i.e. an ANSI/NIST-ITL transaction) will be used even for TOTs that do not
525 include any biometric images. For example, a Subject Photo Request contains only the FBI
526 Identifier (and optionally date of arrest) of the subject of interest. No images are included in the
527 request. However, a biometric payload (with only Type 1 and Type 2 records) will be included in
528 the request message in order to provide a structure for the transaction information, and to
529 maintain consistency with the FBI EBTS 9.0 Binary standard.

530 The Type 9 (Minutia) records will contain FBI EBTS-specific extensions. All FBI EBTS extensions
531 to ANSI/NIST-ITL will be in a separate namespace, http://cjis.fbi.gov/ebts_it1/9.0, which
532 uses the prefix `fbiebtsit1` in the samples.

533 **5. Structure of the IEPD**

534 The LEXS FBI EBTS IEPD consists of multiple sets of schemas and other IEPD artifacts.

535 **5.1 Schemas**

536 Three sets of schemas are provided with the IEPD: LEXS, FBI EBTS, and ITL.

537 **5.1.1 LEXS Schemas**

538 The complete set of LEXS 4.0 schemas are included in the `lexs` subdirectory. LEXS 4.0 is based
539 on NIEM 2.1 and therefore includes its own NIEM 2.1 subset.

540 **5.1.2 FBI EBTS Descriptive Payload Schemas**

541 The `fbiebts` subdirectory contains schemas for validating the FBI EBTS Descriptive Payload. It
542 contains an FBI-EBTS specific extension schema, as well as a separate NIEM 2.1 subset to
543 support it.

544 **5.1.3 EBTS ITL Schemas**

545 The `itl` subdirectory contains schemas for validating the biometric payload. It contains the
546 complete set of ANSI/NIST-ITL 2-2008 schemas, whose distribution includes the entire set of
547 NIEM 2.0 schemas. It also contains, in the `fbiebtsitl` subdirectory, an FBI-EBTS specific
548 extension schema for the Type 9 extensions.

549 **5.2 Samples**

550 The IEPD includes samples of common transaction types. Each sample consists of three
551 separate XML documents (where `##` is a sequential number, `TOT` is the type of transaction, and
552 `Name` is the name of the sample):

- 553 • **##-TOT-Name-Complete.xml** contains a complete LEXS message.
- 554 • **##-TOT-Name-Payload-FBIEBTSDesc.xml** contains the FBI EBTS descriptive payload only.
- 555 • **##-TOT-Name-Payload-Biometric.xml** contains the biometric payload only.

556 Providing separate XML documents for the payloads facilitates their validation by the schema
557 subsets used to describe those payloads.

558 **6. Complete Field Mapping**

559 This section contains a complete mapping of FBI EBTS 9.0 Type 2 and Type 9 fields to their
560 equivalent XML elements, along with examples.

561 ***6.1 Type 2 Mappings***

562

563 **2.003 (FFN)**

564 **XPath:** fbiebts:LatentCase/fbiebts:FBIFileNumber

565 **Example:**

566 <fbiebts:FBIFileNumber>2537597861</fbiebts:FBIFileNumber>
567

568 **2.004 (QDD)**

569 **XPath:** fbiebts:QueryDepthCode

570 **Example:**

571 <fbiebts:QueryDepthCode>S</fbiebts:QueryDepthCode>
572

573 **2.005 (RET)**

574 **XPath:** ansi-nist:RecordRetentionIndicator

575 **Example:**

576 <ansi-nist:RecordRetentionIndicator>>true</ansi-nist:RecordRetentionIndicator>
577

578 **2.006 (ATN)**

579 **XPath:** fbiebts:AttentionText

580 **Example:**

581 <fbiebts:AttentionText>SA J Q DOE, RM 11867</fbiebts:AttentionText>

582

583

2.007 (SCO)

584 **XPath:** ansi-nist:RecordForwardOrganizations/nc:OrganizationIdentification585 **Example:**

```
586 <ansi-nist:RecordForwardOrganizations>
587   <nc:OrganizationIdentification>
588     <nc:IdentificationID>WV1000000</nc:IdentificationID>
589   </nc:OrganizationIdentification>
590 </ansi-nist:RecordForwardOrganizations>
```

591

592

2.009 (OCA)

593 **XPath:**594 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='OriginatorCase']/nc:ActivityIde
595 ntification596 **Example:**

```
597 <lexsdigest:EntityActivity>
598   <nc:Activity s:id="Case1">
599     <nc:ActivityIdentification>
600       <!-- OCA 2.009-->
601       <nc:IdentificationID>Q880312465</nc:IdentificationID>
602     </nc:ActivityIdentification>
603     <nc:ActivityCategoryText>OriginatorCase</nc:ActivityCategoryText>
604   </nc:Activity>
605 </lexsdigest:EntityActivity>
```

606

607

2.010 (CIN)

608 **XPath:** lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='ContributorCase']609 **Example:**

```
610 <lexsdigest:EntityActivity>
611   <!--CIN 2.010-->
612   <nc:Activity s:id="Contrib1">
613     <nc:ActivityIdentification>
614       <!-- CIN_ID 2.010BF-->
```

```
615         <nc:IdentificationID>1963BRT715</nc:IdentificationID>
616         <!-- CIN_PRE 2.010A-->
617         <nc:IdentificationCategoryText>INCIDENT NUMBER</nc:IdentificationCategoryText>
618     </nc:ActivityIdentification>
619     <nc:ActivityCategoryText>ContributorCase</nc:ActivityCategoryText>
620 </nc:Activity>
621 </lexsdigest:EntityActivity>
622
```

623 2.011 (CIX)

624 **XPath:** fbiefts:ContributorCase/fbiefts:ContributorCaseIdentificationExtensionNumber

625 **Example:**

```
626 <fbiefts:ContributorCase s:id="d1e641">
627     <!--CIX 2.011-->
628
629 <fbiefts:ContributorCaseIdentificationExtensionNumber>0001</fbiefts:ContributorCaseIdentificationEx
630 tensionNumber>
631 </fbiefts:ContributorCase>
632
```

633 2.012 (LCN)

634 **XPath:**
635 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='LatentCase']/nc:ActivityIdentifi
636 cation

637 **Example:**

```
638 <lexsdigest:EntityActivity>
639     <!--LCN 2.012-->
640     <nc:Activity s:id="LC1">
641         <nc:ActivityIdentification>
642             <nc:IdentificationID>MX-12345678</nc:IdentificationID>
643         </nc:ActivityIdentification>
644         <nc:ActivityCategoryText>LatentCase</nc:ActivityCategoryText>
645     </nc:Activity>
646 </lexsdigest:EntityActivity>
647
```

648 2.013 (LCX)

649 **XPath:** fbiefts:LatentCase/fbiefts:FBILatentCaseExtensionNumber

650 **Example:**

651 <fbiebts:FBILatentCaseExtensionNumber>0001</fbiebts:FBILatentCaseExtensionNumber>

652

653 **2.014 (FBI)**654 **XPath:**

655 lexsdigest:EntityPerson/lexsdigest:Person/j:PersonAugmentation/j:PersonFBIIdentification

656 **Example:**

657 <j:PersonFBIIdentification>

658 <nc:IdentificationID>62760NY12</nc:IdentificationID>

659 </j:PersonFBIIdentification>

660

661 **2.015 (SID)**662 **XPath:**663 lexsdigest:EntityPerson/lexsdigest:Person/j:PersonAugmentation/j:PersonStateFingerprintIdentifi
664 cation665 **Example:**

666 <j:PersonStateFingerprintIdentification>

667 <nc:IdentificationID>WI0123456</nc:IdentificationID>

668 </j:PersonStateFingerprintIdentification>

669

670 **2.016 (SOC)**671 **XPath:** lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonSSNIdentification672 **Example:**

673 <nc:PersonSSNIdentification>

674 <nc:IdentificationID>220-56-5855</nc:IdentificationID>

675 </nc:PersonSSNIdentification>

676

677 **2.017 (MNU)**

678 **XPath:**
679 `lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonOtherIdentification[nc:IdentificationCategoryText=('AF', 'AN', 'AR', 'AS', 'BF', 'CI', 'CG', 'IO', 'MC', 'MD', 'MP', 'NA', 'NS', 'OA', 'PI', 'PP', 'PS', 'SS', 'VA')]`
680
681

682 **Example:**

```
683 <nc:PersonOtherIdentification>  
684   <nc:IdentificationID>PP-1234567890P</nc:IdentificationID>  
685   <nc:IdentificationCategoryText>AF</nc:IdentificationCategoryText>  
686 </nc:PersonOtherIdentification>
```

688 **2.018 (NAM)**

689 **XPath:** `lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonName`

690 **Example:**

```
691 <nc:PersonName s:id="Name1">  
692   <!--NAM 2.018-->  
693   <nc:PersonGivenName>ANTHONY</nc:PersonGivenName>  
694   <nc:PersonMiddleName>PAUL</nc:PersonMiddleName>  
695   <nc:PersonSurName>JONES</nc:PersonSurName>  
696 </nc:PersonName>
```

698 **2.019 (AKA)**

699 **XPath:** `lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonAlternateName`

700 **Example:**

```
701 <nc:PersonAlternateName>  
702   <nc:PersonGivenName>TONY</nc:PersonGivenName>  
703   <nc:PersonSurName>JONES</nc:PersonSurName>  
704 </nc:PersonAlternateName>
```

706 **2.020 (POB)**

707 **XPath:** `j:PersonBirthPlaceCode`

708 **Example:**

709 <j:PersonBirthPlaceCode>VA</j:PersonBirthPlaceCode>

710

711 2.021 (CTZ)

712 **XPath:** fbiefts:Person/fbiefts:PersonCitizenshipCode

713 **Example:**

714 <fbiefts:PersonCitizenshipCode>US</fbiefts:PersonCitizenshipCode>

715

716 2.022 (DOB)

717 **XPath:** lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonBirthDate

718 **Example:**

719 <nc:PersonBirthDate>

720 <nc:Date>1977-08-25</nc:Date>

721 </nc:PersonBirthDate>

722

723 2.023 (AGR)

724 **XPath:** lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonAgeMeasure

725 **Example:**

726 <nc:PersonAgeMeasure>

727 <nc:MeasureRangeValue>

728 <nc:RangeMinimumValue>25</nc:RangeMinimumValue>

729 <nc:RangeMaximumValue>30</nc:RangeMaximumValue>

730 </nc:MeasureRangeValue>

731 </nc:PersonAgeMeasure>

732

733 2.024 (SEX)

734 **XPath:** fbiefts:Person/fbiefts:PersonSexCode

735 **Example:**

736 <fbiefts:PersonSexCode>M</fbiefts:PersonSexCode>

737

738 **2.025 (RAC)**739 **XPath:** lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonRaceCode740 **Example:**

741 <nc:PersonRaceCode>W</nc:PersonRaceCode>

742

743 **2.026 (SMT)**744 **XPath:** fbiefts:Person/nc:PersonPhysicalFeature/nc:PhysicalFeatureCategoryCode745 **Example:**

746 <nc:PersonPhysicalFeature>

747 <!-- SMT 2.026-->

748 <nc:PhysicalFeatureCategoryCode>MISS TOE</nc:PhysicalFeatureCategoryCode>

749 </nc:PersonPhysicalFeature>

750

751 **2.027 (HGT)**752 **XPath:**

753 lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonHeightMeasure/nc:MeasurePointValue

754 **Example:**

755 <nc:PersonHeightMeasure>

756 <nc:MeasurePointValue>601</nc:MeasurePointValue>

757 </nc:PersonHeightMeasure>

758

759 **2.028 (HTR)**760 **XPath:**

761 lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonHeightMeasure/nc:MeasureRangeValue

762 **Example:**

763 <nc:PersonHeightMeasure>

764 <nc:MeasurePointValue>601</nc:MeasurePointValue>

765 </nc:PersonHeightMeasure>

766

767 2.029 (WGT)

768 **XPath:**

769 lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonWeightMeasure/nc:MeasurePointValue

770 **Example:**

771 <nc:PersonWeightMeasure>

772 <nc:MeasurePointValue>182</nc:MeasurePointValue>

773 </nc:PersonWeightMeasure>

774

775 2.030 (WTR)

776 **XPath:**

777 lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonWeightMeasure/nc:MeasureRangeValue

778 **Example:**

779 <nc:PersonWeightMeasure>

780 <nc:MeasurePointValue>182</nc:MeasurePointValue>

781 </nc:PersonWeightMeasure>

782

783 2.031 (EYE)

784 **XPath:** lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonEyeColorCode

785 **Example:**

786 <nc:PersonEyeColorCode>BLU</nc:PersonEyeColorCode>

787

788 2.032 (HAI)

789 **XPath:** fbiefts:Person/fbiefts:PersonHairColorCode

790 **Example:**

791 <fbiefts:PersonHairColorCode>BRO</fbiefts:PersonHairColorCode>

792

793 **2.033 (FPC)**794 **XPath:**

795 fbiebts:PersonFingerprintSet/fbiebts:FingerprintImageFinger/fbiebts:NCICFingerprintClassificat
796 ionCode

797 **Example:**

798 <fbiebts:NCICFingerprintClassificationCode>PI</fbiebts:NCICFingerprintClassificationCode>
799

800 **2.034 (PAT)**801 **XPath:**

802 fbiebts:PersonFingerprintSet/fbiebts:FingerprintImageFinger/fbiebts:FingerprintPatternClassifica
803 tionCode

804 **Example:**

805 <fbiebts:FingerprintImageFinger>
806 <!--FGP 2.074 / 2.034A / 2.091A / 2.092A-->
807 <ansi-nist:FingerPositionCode>3</ansi-nist:FingerPositionCode>
808 <!--FPC 2.033-->
809 <fbiebts:NCICFingerprintClassificationCode>PI</fbiebts:NCICFingerprintClassificationCode>
810 <!--PATCL 2.034B -->
811 <fbiebts:FingerprintPatternClassificationCode>LS</fbiebts:FingerprintPatternClassificationCode>
812 <fbiebts:FingerprintRidgeCoreDelta>
813 <!--RCN1 2.091B-->
814 <fbiebts:FingerprintRidgeCountValue>11</fbiebts:FingerprintRidgeCountValue>
815 </fbiebts:FingerprintRidgeCoreDelta>
816 <fbiebts:FingerprintRidgeCoreDelta>
817 <!--RCN2 2.092B-->
818 <fbiebts:FingerprintRidgeCountValue>0</fbiebts:FingerprintRidgeCountValue>
819 </fbiebts:FingerprintRidgeCoreDelta>
820 </fbiebts:FingerprintImageFinger>
821

822 **2.035 (PPA)**823 **XPath:**

824 fbiebts:Person/j:PersonAugmentation/j:PersonPalmPrint/nc:BiometricImage/nc:BinaryAvailableI
825 ndicator

826 **Example:**

```
827 <j:PersonPalmPrint>
828   <nc:BiometricImage>
829     <!-- PPA 2.035-->
830     <nc:BinaryAvailableIndicator>true</nc:BinaryAvailableIndicator>
831   </nc:BiometricImage>
832 </j:PersonPalmPrint>
833
```

834 2.036 (PHT)

835 **XPath:** fbiefts:Person/nc:PersonDigitalImage/nc:BinaryAvailableIndicator

836 **Example:**

```
837 <nc:PersonDigitalImage>
838   <nc:BinaryAvailableIndicator>true</nc:BinaryAvailableIndicator>
839 </nc:PersonDigitalImage>
840
```

841 2.037 (RFP)

842 **XPath:**
843 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Fingerprinting']/nc:ActivityDesc
844 riptionText

845 **Example:**

```
846 <lexsdigest:EntityActivity>
847   <nc:Activity s:id="Print1">
848     <nc:ActivityCategoryText>Fingerprinting</nc:ActivityCategoryText>
849     <!--DPR 2.038-->
850     <nc:ActivityDate>
851       <nc:Date>2006-12-12</nc:Date>
852     </nc:ActivityDate>
853     <!-- RFP 2.037-->
854     <nc:ActivityDescriptionText>CONSIDERING FOR
855 EMPLOYMENT</nc:ActivityDescriptionText>
856   </nc:Activity>
857 </lexsdigest:EntityActivity>
858
```

859 2.038 (DPR)

860 **XPath:**
861 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Fingerprinting']/nc:ActivityDate

862 Example:

```
863 <lexsdigest:EntityActivity>
864   <nc:Activity s:id="Print1">
865     <nc:ActivityCategoryText>Fingerprinting</nc:ActivityCategoryText>
866     <!--DPR 2.038-->
867     <nc:ActivityDate>
868       <nc:Date>2006-12-12</nc:Date>
869     </nc:ActivityDate>
870     <!-- RFP 2.037-->
871     <nc:ActivityDescriptionText>CONSIDERING FOR
872 EMPLOYMENT</nc:ActivityDescriptionText>
873   </nc:Activity>
874 </lexsdigest:EntityActivity>
875
```

876 2.039 (EAD)**877 XPath:**

```
878 lexsdigest:EntityLocation/nc:Location[@s:id=//nc:PersonEmploymentLocationAssociation/nc:L
879 ocationReference/@s:ref]/nc:LocationAddress/nc:AddressFullText
```

880 Example:

```
881 <lexsdigest:EntityLocation>
882   <nc:Location s:id="Loc1">
883     <nc:LocationAddress>
884       <nc:AddressFullText>ACE CONSTRUCTION COMPANY, 327 MAPLE AVE, BUFFALO,
885 NY</nc:AddressFullText>
886     </nc:LocationAddress>
887   </nc:Location>
888 </lexsdigest:EntityLocation>
889
```

890 2.040 (OCP)

```
891 XPath: nc:PersonEmploymentAssociation/nc:EmployeeOccupationText
```

892 Example:

```
893 <nc:PersonEmploymentAssociation>
894   <nc:EmployeeReference/>
895   <!--OCP 2.040-->
896   <nc:EmployeeOccupationText>PLUMBER</nc:EmployeeOccupationText>
897 </nc:PersonEmploymentAssociation>
898
```

899 **2.041 (RES)**900 **XPath:**

901 lexsdigest:EntityLocation/nc:Location[@s:id=//nc:ResidenceAssociation/nc:LocationReference/
902 @s:ref]/nc:LocationAddress/nc:AddressFullText

903 **Example:**

```
904 <lexsdigest:EntityLocation>  
905   <nc:Location s:id="Loc3">  
906     <nc:LocationAddress>  
907       <nc:AddressFullText>5021 OAK LEAF DRIVE, BUFFALO, NY</nc:AddressFullText>  
908     </nc:LocationAddress>  
909   </nc:Location>  
910 </lexsdigest:EntityLocation>
```

912 **2.042 (MIL)**

913 **XPath:** ansi-nist:TransactionSubmissionMilitaryCode

914 **Example:**

```
915 <ansi-nist:TransactionSubmissionMilitaryCode>M</ansi-nist:TransactionSubmissionMilitaryCode>
```

917 **2.043 (TSR)**

918 **XPath:** fbiebts:SearchRequestCategoryCode

919 **Example:**

```
920 <fbiebts:SearchRequestCategoryCode>P</fbiebts:SearchRequestCategoryCode>
```

922 **2.044 (GEO)**

923 **XPath:** fbiebts:SearchAreaCode

924 **Example:**

```
925 <fbiebts:SearchAreaCode>WV</fbiebts:SearchAreaCode>
```

926

927 **2.045 (DOA)**928 **XPath:** lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Arrest']/nc:ActivityDate929 **Example:**

```

930 <lexsdigest:EntityActivity>
931   <nc:Activity s:id="Arrest1">
932     <nc:ActivityIdentification>
933       <!-- FUTURE CAPABILITY SAN 2.099 -->
934       <nc:IdentificationID>WV0004312</nc:IdentificationID>
935       <nc:IdentificationCategoryText>Arrest Sequence ID</nc:IdentificationCategoryText>
936     </nc:ActivityIdentification>
937     <nc:ActivityCategoryText>Arrest</nc:ActivityCategoryText>
938     <!-- DOA 2.045 -->
939     <nc:ActivityDate>
940       <nc:Date>2006-12-12</nc:Date>
941     </nc:ActivityDate>
942   </nc:Activity>
943 </lexsdigest:EntityActivity>

```

945 **2.046 (DOS)**946 **XPath:** fbiepts:Arrest/fbiepts:ArrestDateSuffixText947 **Example:**

948 <fbiepts:ArrestDateSuffixText>L</fbiepts:ArrestDateSuffixText>

949

950 **2.047 (ASL)**951 **XPath:** lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Offense']952 **Example:**

```

953 <lexsdigest:EntityActivity>
954   <nc:Activity s:id="Offense1">
955     <nc:ActivityCategoryText>Offense</nc:ActivityCategoryText>
956     <!-- DOO 2.047A-->
957     <nc:ActivityDate>
958       <nc:Date>2006-12-12</nc:Date>
959     </nc:ActivityDate>
960     <!-- AOL 2.047B-->
961     <nc:ActivityDescriptionText>DUI</nc:ActivityDescriptionText>

```

962 </nc:Activity>
963 </lexsdigest:EntityActivity>
964

965 2.048 (CSR)

966 **XPath:** fbiebt:CivilSearchRequestIndicator

967 **Example:**

968 <fbiebt:CivilSearchRequestIndicator>>true</fbiebt:CivilSearchRequestIndicator>
969

970 2.049 (EID)

971 **XPath:** fbiebt:FederalEmployeeIdentification

972 **Example:**

973 <fbiebt:FederalEmployeeIdentification>
974 <nc:IdentificationID>12345</nc:IdentificationID>
975 </fbiebt:FederalEmployeeIdentification>
976

977 2.051 (CSL)

978 **XPath:** fbiebt:Offense/j:Charge

979 **Example:**

980 <j:Charge>
981 <j:ChargeDisposition>
982 <!--CDD 2.051A-->
983 <nc:DispositionDate>
984 <nc:Date>2006-12-28</nc:Date>
985 </nc:DispositionDate>
986 <!--CPL 2.051C-->
987 <j:ChargeDispositionOtherText>5 DAYS JAIL, PAY COURT
988 COSTS</j:ChargeDispositionOtherText>
989 </j:ChargeDisposition>
990 <!--COL 2.051B-->
991 <j:ChargeText>DUI</j:ChargeText>
992 </j:Charge>
993

994 **2.052 (*tbd)**995 **XPath:** fbiebt:RapBackRequestCode996 **Example:**

997 <fbiebt:RapBackRequestCode>1</fbiebt:RapBackRequestCode>

998

999 **2.053 (OFC)**1000 **XPath:** fbiebt:Offense/fbiebt:OffenseCategoryCode1001 **Example:**

1002 <fbiebt:OffenseCategoryCode>3</fbiebt:OffenseCategoryCode>

1003

1004 **2.054 (SSD)**1005 **XPath:**

1006 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Supervision']/nc:ActivityDate

1007 **Example:**

1008 <lexsdigest:EntityActivity>

1009 <nc:Activity s:id="Super1">

1010 <nc:ActivityCategoryText>Supervision</nc:ActivityCategoryText>

1011 <!-- SSD 2.054-->

1012 <nc:ActivityDate>

1013 <nc:Date>2007-01-01</nc:Date>

1014 </nc:ActivityDate>

1015 <!-- SLE 2.055-->

1016 <nc:ActivityDescriptionText>ARMED AND DANGEROUS</nc:ActivityDescriptionText>

1017 </nc:Activity>

1018 </lexsdigest:EntityActivity>

1019

1020 **2.055 (SLE)**1021 **XPath:**

1022 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Supervision']/nc:ActivityDescriptionText

1023

1024 Example:

```

1025 <lexsdigest:EntityActivity>
1026   <nc:Activity s:id="Super1">
1027     <nc:ActivityCategoryText>Supervision</nc:ActivityCategoryText>
1028     <!-- SSD 2.054-->
1029     <nc:ActivityDate>
1030       <nc:Date>2007-01-01</nc:Date>
1031     </nc:ActivityDate>
1032     <!-- SLE 2.055-->
1033     <nc:ActivityDescriptionText>ARMED AND DANGEROUS</nc:ActivityDescriptionText>
1034   </nc:Activity>
1035 </lexsdigest:EntityActivity>

```

1037 2.056 (ICO)**1038 XPath:** fbiebts:Person/nc:PersonDescriptionText**1039 Example:**

```

1040 <nc:PersonDescriptionText>ARMED AND DANGEROUS</nc:PersonDescriptionText>
1041

```

1042 2.057 (FNR)**1043 XPath:** fbiebts:FingerprintImagesRequested/ansi-nist:FingerPositionCode**1044 Example:**

```

1045 <fbiebts:FingerprintImagesRequested>
1046   <ansi-nist:FingerPositionCode>6</ansi-nist:FingerPositionCode>
1047   <ansi-nist:FingerPositionCode>10</ansi-nist:FingerPositionCode>
1048 </fbiebts:FingerprintImagesRequested>
1049

```

1050 2.059 (SRF)**1051 XPath:** fbiebts:SearchResultsCode**1052 Example:**

```

1053 <fbiebts:SearchResultsCode>I</fbiebts:SearchResultsCode>
1054

```

1055 **2.060 (MSG)**1056 **XPath:** fbiebt:StatusText1057 **Example:**1058 <fbiebt:StatusText>MATCH MADE AGAINST SUBJECTS FINGERPRINTS ON 05/01/94. PLEASE
1059

NOTIFY

1060 **2.061 (CST)**1061 **XPath:** fbiebt:LatentCase/nc:CaseTitleText1062 **Example:**1063 <nc:CaseTitleText>ARMED ROBBERY FIRST COUNTY</nc:CaseTitleText>
10641065 **2.062 (IMT)**1066 **XPath:** fbiebt:TransactionData//fbiebt:LatentImageCategoryCode1067 **Example:**1068 <fbiebt:LatentImageCategoryCode>1</fbiebt:LatentImageCategoryCode>
10691070 **2.063 (PTD)**1071 **XPath:** j:Suspect//j:Victim//lexsdigest:OtherInvolvedPerson//fbiebt:EliminatedPerson1072 **Example:**

1073 <j:Suspect>

1074 <nc:RoleOfPersonReference s:ref="Per1"/>

1075 </j:Suspect>
10761077 **2.064 (CAN)**1078 **XPath:** fbiebt:CandidateList/fbiebt:Candidate1079 **Example:**

```

1080 <fbiefts:Candidate>
1081   <nc:PersonName>
1082     <!--NAM 2.064B-->
1083     <nc:PersonFullName>JONES, ANTHONY PAUL</nc:PersonFullName>
1084   </nc:PersonName>
1085   <!-- FNU 2.064A-->
1086   <j:PersonFBIIdentification>
1087     <nc:IdentificationID>62760NY12</nc:IdentificationID>
1088   </j:PersonFBIIdentification>
1089   <!--MSC 2.089-->
1090   <fbiefts:CandidateMatchScoreValue>1200</fbiefts:CandidateMatchScoreValue>
1091   <!--FGP 2.074-->
1092   <fbiefts:CandidateFingerPositionImagesAvailable>
1093     <ansi-nist:FingerPositionCode>6</ansi-nist:FingerPositionCode>
1094     <ansi-nist:FingerPositionCode>10</ansi-nist:FingerPositionCode>
1095   </fbiefts:CandidateFingerPositionImagesAvailable>
1096 </fbiefts:Candidate>
1097

```

1098 2.065 (RSR)

1099 **XPath:** fbiefts:RepositoryResponse

1100 **Example:**

```

1101 <fbiefts:RepositoryResponse>
1102   <fbiefts:RepositoryParameter>
1103     <fbiefts:RepositoryParameterNameText>EYE</fbiefts:RepositoryParameterNameText>
1104     <fbiefts:RepositoryParameterValueText>BLUE</fbiefts:RepositoryParameterValueText>
1105     <fbiefts:RepositoryParameterPercentage>.321</fbiefts:RepositoryParameterPercentage>
1106   </fbiefts:RepositoryParameter>
1107   <fbiefts:RepositoryParameter>
1108     <fbiefts:RepositoryParameterNameText>HAI</fbiefts:RepositoryParameterNameText>
1109     <fbiefts:RepositoryParameterValueText>BRN</fbiefts:RepositoryParameterValueText>
1110     <fbiefts:RepositoryParameterPercentage>.5</fbiefts:RepositoryParameterPercentage>
1111   </fbiefts:RepositoryParameter>
1112 </fbiefts:RepositoryResponse>
1113

```

1114 2.067 (IMA)

1115 **XPath:** fbiefts:TransactionData/ansi-nist:ImageCaptureDetail

1116 **Example:**

```

1117 <ansi-nist:ImageCaptureDetail>
1118   <!--MAK 2.067A-->

```

```
1119 <ansi-nist:CaptureDeviceMakeText>DBI</ansi-nist:CaptureDeviceMakeText>
1120 <!--MODL 2.067B-->
1121 <ansi-nist:CaptureDeviceModelText>1134</ansi-nist:CaptureDeviceModelText>
1122 <!--SERNO 2.067C-->
1123 <ansi-nist:CaptureDeviceSerialNumberText>12345</ansi-nist:CaptureDeviceSerialNumberText>
1124 </ansi-nist:ImageCaptureDetail>
1125
```

1126 2.069 (ETC)

1127 **XPath:** fbiebts:EstimatedCompletionTimeQuantity

1128 **Example:**

```
1129 <fbiebts:EstimatedCompletionTimeQuantity>6270</fbiebts:EstimatedCompletionTimeQuantity>
```

1130

1131 2.070 (RAP)

1132 **XPath:** ansi-nist:RecordRapSheetRequestIndicator

1133 **Example:**

```
1134 <ansi-nist:RecordRapSheetRequestIndicator>true</ansi-nist:RecordRapSheetRequestIndicator>
```

1135

1136 2.071 (ACN)

1137 **XPath:** fbiebts:ActionText

1138 **Example:**

```
1139 <fbiebts:ActionText>IF NON-IDENT, SUBMIT TO UNSOLVED LATENT FILE</fbiebts:ActionText>
```

1140

1141 2.072 (FIU)

1142 **XPath:** fbiebts:FingerprintImagesUpdated/ansi-nist:FingerPositionCode

1143 **Example:**

```
1144 <fbiebts:FingerprintImagesUpdated>
1145   <ansi-nist:FingerPositionCode>2</ansi-nist:FingerPositionCode>
1146   <ansi-nist:FingerPositionCode>5</ansi-nist:FingerPositionCode>
```

1147 <ansi-nist:FingerPositionCode>7</ansi-nist:FingerPositionCode>
1148 <ansi-nist:FingerPositionCode>8</ansi-nist:FingerPositionCode>
1149 <ansi-nist:FingerPositionCode>1</ansi-nist:FingerPositionCode>
1150 <ansi-nist:FingerPositionCode>13</ansi-nist:FingerPositionCode>
1151 </fbiefts:FingerprintImagesUpdated>

1152

1153 2.073 (CRI)

1154 **XPath:**

1155 ulex:SRMessageMetadata/ulex:SRMessageMetadataDomainAttribute/fbiefts:ControllingAgency
1156 List/fbiefts:ControllingAgencyID

1157 **Example:**

1158 <fbiefts:ControllingAgencyID>WI0050200</fbiefts:ControllingAgencyID>

1159

1160 2.074 (FGP)

1161 **XPath:** fbiefts:PersonFingerprintSet/fbiefts:FingerprintImageFinger/ansi-
1162 nist:FingerPositionCode

1163 **Example:**

1164 <ansi-nist:FingerPositionCode>1</ansi-nist:FingerPositionCode>

1165

1166 2.076 (PRI)

1167 **XPath:** fbiefts:SearchPriorityCode

1168 **Example:**

1169 <fbiefts:SearchPriorityCode>2</fbiefts:SearchPriorityCode>

1170

1171 2.077 (CFS)

1172 **XPath:** fbiefts:CancelFingerprintSearchIdentification

1173 **Example:**

1174 <fbiefts:CancelFingerprintSearchIdentification>

1175 <nc:IdentificationID>1</nc:IdentificationID>
1176 </fbiebts:CancelFingerprintSearchIdentification>
1177

1178 2.078 (PEN)

1179 **XPath:** fbiebts:PenetrationQueryResponsePercentage

1180 **Example:**

1181 <fbiebts:PenetrationQueryResponsePercentage>.10</fbiebts:PenetrationQueryResponsePercentage>
1182

1183 2.079 (NCR)

1184 **XPath:** fbiebts:ImagesRequestedQuantity

1185 **Example:**

1186 <fbiebts:ImagesRequestedQuantity>20</fbiebts:ImagesRequestedQuantity>
1187

1188 2.080 (EXP)

1189 **XPath:** fbiebts:ResponseExplanationText

1190 **Example:**

1191 <fbiebts:ResponseExplanationText>PHOTO NOT FOUND FOR SPECIFIED DOA
1192 DOS</fbiebts:ResponseExplanationText>
1193

1194 2.081 (UCN)

1195 **XPath:**

1196 lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonOtherIdentification[nc:IdentificationCategoryText='Universal Control Number']

1198 **Example:**

1199 <nc:PersonOtherIdentification>
1200 <nc:IdentificationID>UC-12345678</nc:IdentificationID>
1201 <nc:IdentificationCategoryText>Universal Control Number</nc:IdentificationCategoryText>
1202 </nc:PersonOtherIdentification>

1203

1204 **2.082 (REC)**1205 **XPath:** fbiebt:ResponseIndicator1206 **Example:**

1207 <fbiebt:ResponseIndicator>true</fbiebt:ResponseIndicator>

1208

1209 **2.083 (ULF)**1210 **XPath:** fbiebt:UnsolvedLatentFileIndicator1211 **Example:**

1212 <fbiebt:UnsolvedLatentFileIndicator>true</fbiebt:UnsolvedLatentFileIndicator>

1213

1214 **2.084 (AMP)**1215 **XPath:**1216 fbiebt:PersonFingerprintSet/fbiebt:FingerprintImageFinger[fbiebt:FingerprintMissingReason
1217 Code]1218 **Example:**

1219 <fbiebt:FingerprintImageFinger>

1220 <!--AMP 2.084-->

1221 <ansi-nist:FingerPositionCode>1</ansi-nist:FingerPositionCode>

1222 <fbiebt:FingerprintMissingReasonCode>XX</fbiebt:FingerprintMissingReasonCode>

1223 </fbiebt:FingerprintImageFinger>

1224

1225 **2.085 (CRN)**1226 **XPath:**1227 lexsdigest:EntityPerson/lexsdigest:Person/nc:PersonOtherIdentification[nc:IdentificationCategor
1228 yText='Civil Record Identification']1229 **Example:**

1230 <nc:PersonOtherIdentification>

1231 <nc:IdentificationID>V12345678</nc:IdentificationID>
1232 <nc:IdentificationCategoryText>Civil Record Identification</nc:IdentificationCategoryText>
1233 </nc:PersonOtherIdentification>
1234

1235 2.086 (SCNA)

1236 **XPath:** fbiefts:AFISSegmentControlNumberIdentification

1237 **Example:**

1238 <fbiefts:AFISSegmentControlNumberIdentification>
1239 <nc:IdentificationID>3124</nc:IdentificationID>
1240 </fbiefts:AFISSegmentControlNumberIdentification>
1241

1242 2.087 (TAA)

1243 **XPath:** fbiefts:Person/fbiefts:PersonAugmentation/fbiefts:PersonAdultTreatmentIndicator

1244 **Example:**

1245 <fbiefts:PersonAdultTreatmentIndicator>>true</fbiefts:PersonAdultTreatmentIndicator>
1246

1247 2.088 (NOT)

1248 **XPath:** fbiefts:NoteText

1249 **Example:**

1250 <fbiefts:NoteText>THIS FREE-TEXT FIELD IS USED TO PROVIDE ADDITIONAL
1251 INFORMATION REGARDING ELECTRONIC LATENT SUBMISSIONS</fbiefts:NoteText>
1252

1253 2.089 (MSC)

1254 **XPath:** fbiefts:CandidateMatchScoreValue

1255 **Example:**

1256 <fbiefts:CandidateMatchScoreValue>1200</fbiefts:CandidateMatchScoreValue>
1257

1258 **2.091 (RCD1)**1259 **XPath:**

1260 fbiefts:PersonFingerprintSet/fbiefts:FingerprintImageFinger/fbiefts:FingerprintRidgeCoreDelta[
1261 1]

1262 **Example:**

```
1263 <fbiefts:FingerprintImageFinger>
1264   <!--FGP 2.074 / 2.034A / 2.091A / 2.092A-->
1265   <ansi-nist:FingerPositionCode>3</ansi-nist:FingerPositionCode>
1266   <!--FPC 2.033-->
1267   <fbiefts:NCICFingerprintClassificationCode>PI</fbiefts:NCICFingerprintClassificationCode>
1268   <!--PATCL 2.034B -->
1269   <fbiefts:FingerprintPatternClassificationCode>LS</fbiefts:FingerprintPatternClassificationCode>
1270   <fbiefts:FingerprintRidgeCoreDelta>
1271     <!--RCN1 2.091B-->
1272     <fbiefts:FingerprintRidgeCountValue>11</fbiefts:FingerprintRidgeCountValue>
1273   </fbiefts:FingerprintRidgeCoreDelta>
1274   <fbiefts:FingerprintRidgeCoreDelta>
1275     <!--RCN2 2.092B-->
1276     <fbiefts:FingerprintRidgeCountValue>0</fbiefts:FingerprintRidgeCountValue>
1277   </fbiefts:FingerprintRidgeCoreDelta>
1278 </fbiefts:FingerprintImageFinger>
```

1280 **2.092 (RCD2)**

1281 **XPath:** fbiefts:FingerprintImageFinger/fbiefts:FingerprintRidgeCoreDelta[2]

1282 **Example:**

```
1283 <fbiefts:FingerprintImageFinger>
1284   <!--FGP 2.074 / 2.034A / 2.091A / 2.092A-->
1285   <ansi-nist:FingerPositionCode>3</ansi-nist:FingerPositionCode>
1286   <!--FPC 2.033-->
1287   <fbiefts:NCICFingerprintClassificationCode>PI</fbiefts:NCICFingerprintClassificationCode>
1288   <!--PATCL 2.034B -->
1289   <fbiefts:FingerprintPatternClassificationCode>LS</fbiefts:FingerprintPatternClassificationCode>
1290   <fbiefts:FingerprintRidgeCoreDelta>
1291     <!--RCN1 2.091B-->
1292     <fbiefts:FingerprintRidgeCountValue>11</fbiefts:FingerprintRidgeCountValue>
1293   </fbiefts:FingerprintRidgeCoreDelta>
1294   <fbiefts:FingerprintRidgeCoreDelta>
1295     <!--RCN2 2.092B-->
1296     <fbiefts:FingerprintRidgeCountValue>0</fbiefts:FingerprintRidgeCountValue>
1297   </fbiefts:FingerprintRidgeCoreDelta>
```

1298 </fbiebts:FingerprintImageFinger>

1299

1300 2.093 (SPCN)

1301 **XPath:** fbiebts:SpecialPopulationCognizantFileIdentification

1302 **Example:**

1303 <fbiebts:SpecialPopulationCognizantFileIdentification>

1304 <nc:IdentificationID>SP123456</nc:IdentificationID>

1305 </fbiebts:SpecialPopulationCognizantFileIdentification>

1306

1307 2.094 (CCN)

1308 **XPath:** fbiebts:Offense/fbiebts:CourtCaseIdentification

1309 **Example:**

1310 <fbiebts:CourtCaseIdentification>

1311 <!-- FUTURE CAPABILITY CCN 2.094 -->

1312 <nc:IdentificationID>C123456</nc:IdentificationID>

1313 </fbiebts:CourtCaseIdentification>

1314

1315 2.095 (RFR)

1316 **XPath:** fbiebts:FeaturesRequestIndicator

1317 **Example:**

1318 <fbiebts:FeaturesRequestIndicator>>true</fbiebts:FeaturesRequestIndicator>

1319

1320 2.096 (RPR)

1321 **XPath:** fbiebts:PhotoRequestIndicator

1322 **Example:**

1323 <fbiebts:PhotoRequestIndicator>>true</fbiebts:PhotoRequestIndicator>

1324

1325 **2.098 (NDR)**1326 **XPath:** fbiefts:FBIRepositoryCode1327 **Example:**

1328 <fbiefts:FBIRepositoryCode>1</fbiefts:FBIRepositoryCode>

1329

1330 **2.099 (SAN)**1331 **XPath:**1332 lexsdigest:EntityActivity/nc:Activity[nc:ActivityCategoryText='Arrest']/nc:ActivityIdentificatio
1333 n1334 **Example:**

1335 <lexsdigest:EntityActivity>

1336 <nc:Activity s:id="Arrest1">

1337 <nc:ActivityIdentification>

1338 <!-- FUTURE CAPABILITY SAN 2.099 -->

1339 <nc:IdentificationID>WV0004312</nc:IdentificationID>

1340 <nc:IdentificationCategoryText>Arrest Sequence ID</nc:IdentificationCategoryText>

1341 </nc:ActivityIdentification>

1342 <nc:ActivityCategoryText>Arrest</nc:ActivityCategoryText>

1343 <!-- DOA 2.045 -->

1344 <nc:ActivityDate>

1345 <nc:Date>2006-12-12</nc:Date>

1346 </nc:ActivityDate>

1347 </nc:Activity>

1348 </lexsdigest:EntityActivity>

1349

1350 **2.2001 (NAM1)**1351 **XPath:**

1352 fbiefts:Person/fbiefts:PersonName/fbiefts:PersonNameAugmentation/fbiefts:ExtendedName[1]

1353 **Example:**

1354 <fbiefts:ExtendedName>Person</fbiefts:ExtendedName>

1355

1356 **2.2002 (NAM2)**

1357 **XPath:**
1358 fbiebts:Person/fbiebts:PersonName/fbiebts:PersonNameAugmentation/fbiebts:ExtendedName[2]

1359 **Example:**

1360 <fbiebts:ExtendedName>With</fbiebts:ExtendedName>

1362 2.2003 (NAM3)

1363 **XPath:**
1364 fbiebts:Person/fbiebts:PersonName/fbiebts:PersonNameAugmentation/fbiebts:ExtendedName[3]

1365 **Example:**

1366 <fbiebts:ExtendedName>Very</fbiebts:ExtendedName>

1368 2.2004 (NAM4)

1369 **XPath:**
1370 fbiebts:Person/fbiebts:PersonName/fbiebts:PersonNameAugmentation/fbiebts:ExtendedName[4]

1371 **Example:**

1372 <fbiebts:ExtendedName>Many</fbiebts:ExtendedName>

1374 2.2005 (NAM5)

1375 **XPath:**
1376 fbiebts:Person/fbiebts:PersonName/fbiebts:PersonNameAugmentation/fbiebts:ExtendedName[5]

1377 **Example:**

1378 <fbiebts:ExtendedName>Names</fbiebts:ExtendedName>

1380 2.2006 (CSF)

1381 **XPath:** fbiebts:CascadedSearchCode

1382 **Example:**

1383 <fbiebts:CascadedSearchCode>CR</fbiebts:CascadedSearchCode>

1384

1385 2.2007 (SDOB)

1386 **XPath:** fbiebts:Person/fbiebts:PersonAugmentation/fbiebts:PersonSubmittedBirthDate

1387 **Example:**

1388 <fbiebts:PersonSubmittedBirthDate>

1389 <nc:Date>2008-04-22</nc:Date>

1390 </fbiebts:PersonSubmittedBirthDate>

1391

1392 2.2008 (SNAM)

1393 **XPath:** fbiebts:Person/fbiebts:PersonAugmentation/fbiebts:PersonSubmittedName

1394 **Example:**

1395 <fbiebts:PersonSubmittedName>

1396 <nc:PersonFullName>Public, John Q</nc:PersonFullName>

1397 </fbiebts:PersonSubmittedName>

1398

1399 2.2009 (PTY)

1400 **XPath:** fbiebts:TransactionData//ansi-nist:ImageCategoryCode

1401 **Example:**

1402 <ansi-nist:ImageCategoryCode>FACE</ansi-nist:ImageCategoryCode>

1403

1404 2.2010 (NIR)

1405 **XPath:** fbiebts:SubjectPhotosRequestedQuantity

1406 **Example:**

1407 <fbiebts:SubjectPhotosRequestedQuantity>1</fbiebts:SubjectPhotosRequestedQuantity>

1408

1409 **2.2011 (*tbd)**1410 **XPath:** fbiefts:RapBackVerificationIndicator1411 **Example:**

1412 <fbiefts:RapBackVerificationIndicator>true</fbiefts:RapBackVerificationIndicator>

1413

1414 **2.2012 (IIR)**1415 **XPath:** fbiefts:IrisImagesRequestedCode1416 **Example:**

1417 <fbiefts:IrisImagesRequestedCode>0</fbiefts:IrisImagesRequestedCode>

1418

1419 **2.2013 (DMI)**1420 **XPath:** fbiefts:DispositionMaintenanceCode1421 **Example:**

1422 <fbiefts:DispositionMaintenanceCode>A</fbiefts:DispositionMaintenanceCode>

1423

1424 **2.2014 (*tbd)**1425 **XPath:** fbiefts:RapBackEligibilityIndicator1426 **Example:**

1427 <fbiefts:RapBackEligibilityIndicator>true</fbiefts:RapBackEligibilityIndicator>

1428

1429 **2.2015 (*tbd)**1430 **XPath:** fbiefts:RapBackExpirationDate1431 **Example:**

1432 <fbiefts:RapBackExpirationDate>

1433 <nc:Date>2010-02-24</nc:Date>
1434 </fbiebt:RapBackExpirationDate>
1435

1436 2.2016 (DNAF)

1437 **XPath:** fbiebt:Person/nc:PersonDNA/nc:DNAImage/nc:BinaryAvailableIndicator

1438 **Example:**

1439 <nc:DNAImage>
1440 <nc:BinaryAvailableIndicator>>true</nc:BinaryAvailableIndicator>
1441 </nc:DNAImage>
1442

1443 2.2017 (DORI)

1444 **XPath:**
1445 fbiebt:Person/fbiebt:PersonAugmentation/fbiebt:PersonDNARepositoryOrganization/nc:Orga
1446 nizationIdentification

1447 **Example:**

1448 <fbiebt:PersonDNARepositoryOrganization>
1449 <nc:OrganizationIdentification>
1450 <nc:IdentificationID>WI013415Y</nc:IdentificationID>
1451 </nc:OrganizationIdentification>
1452 </fbiebt:PersonDNARepositoryOrganization>
1453

1454 2.2018 (DNAC)

1455 **XPath:**
1456 fbiebt:Person/fbiebt:PersonAugmentation/fbiebt:PersonBinaryCODISAvailableIndicator

1457 **Example:**

1458 <fbiebt:PersonBinaryCODISAvailableIndicator>>false</fbiebt:PersonBinaryCODISAvailableIndicator>
1459

1460 2.2019 (SEAL)

1461 **XPath:** fbiebt:Arrest/fbiebt:ArrestSealIndicator

1462 Example:

1463 <fbiebt:ArrestSealIndicator>>false</fbiebt:ArrestSealIndicator>

1464

1465 2.2020 (*td)

1466 **XPath:** fbiebt:RapBackRecipientOrganization

1467 Example:

1468 <fbiebt:RapBackRecipientOrganization>
1469 <nc:OrganizationIdentification>
1470 <nc:IdentificationID>WV0001234</nc:IdentificationID>
1471 </nc:OrganizationIdentification>
1472 </fbiebt:RapBackRecipientOrganization>

1473

1474 2.2021 (IFS)

1475 **XPath:** fbiebt:Person/j:PersonAugmentation/j:PersonFirearmSalesDisqualifiedCode

1476 Example:

1477 <j:PersonFirearmSalesDisqualifiedCode>D</j:PersonFirearmSalesDisqualifiedCode>

1478

1479 2.2022 (CIDN)

1480 **XPath:** fbiebt:ContributorAssignedIdentification

1481 Example:

1482 <fbiebt:ContributorAssignedIdentification>
1483 <nc:IdentificationID>1231232</nc:IdentificationID>
1484 </fbiebt:ContributorAssignedIdentification>

1485

1486 **6.2 Type 7 Mappings**

1487 **7.002 (IDC)**

1488 **XPath:** itl:PackageUserDefinedImageRecord/ansi-
1489 nist:ImageReferenceIdentification/nc:IdentificationID

1490 **Example:**

1491 <nc:IdentificationID>02</nc:IdentificationID>

1493 **7.003 (IMP)**

1494 **XPath:** itl:PackageUserDefinedImageRecord/ansi-nist:FingerprintImage/ansi-
1495 nist:FingerprintImageImpressionCaptureCategoryCode

1496 **Example:**

1497 <ansi-nist:FingerprintImageImpressionCaptureCategoryCode>3</ansi-
1498 nist:FingerprintImageImpressionCaptureCategoryCode>

1500 **7.004 (FGP)**

1501 **XPath:** itl:PackageUserDefinedImageRecord/ansi-nist:FingerprintImage/ansi-
1502 nist:FingerprintImagePosition/ansi-nist:FingerPositionCode

1503 **Example:**

1504 <ansi-nist:FingerPositionCode>2</ansi-nist:FingerPositionCode>

1506 **7.005 (ISR)**

1507 **XPath:** itl:PackageUserDefinedImageRecord/ansi-nist:FingerprintImage/ansi-
1508 nist:ImageCaptureDetail/ansi-nist:CaptureResolutionCode

1509 **Example:**

1510 <ansi-nist:CaptureResolutionCode>1</ansi-nist:CaptureResolutionCode>

1511

1512 **7.006 (HLL)**

1513 **XPath:** itl:PackageUserDefinedImageRecord/ansi-nist:FingerprintImage/ansi-
1514 nist:ImageHorizontalLineLengthPixelQuantity

1515 **Example:**

1516 <ansi-nist:ImageHorizontalLineLengthPixelQuantity>80</ansi-
1517 nist:ImageHorizontalLineLengthPixelQuantity>

1519 **7.007 (VLL)**

1520 **XPath:** itl:PackageUserDefinedImageRecord/ansi-nist:FingerprintImage/ansi-
1521 nist:ImageVerticalLineLengthPixelQuantity

1522 **Example:**

1523 <ansi-nist:ImageVerticalLineLengthPixelQuantity>65</ansi-
1524 nist:ImageVerticalLineLengthPixelQuantity>

1526 **7.008 (CGA)**

1527 **XPath:** itl:PackageUserDefinedImageRecord/ansi-nist:FingerprintImage/ansi-
1528 nist:ImageCompressionAlgorithmCode

1529 **Example:**

1530 <ansi-nist:ImageCompressionAlgorithmCode>2</ansi-nist:ImageCompressionAlgorithmCode>

1532 **7.009 (IMG)**

1533 **XPath:** itl:PackageUserDefinedImageRecord/ansi-
1534 nist:FingerprintImage/nc:BinaryBase64Object

1535 **Example:**

1536 <nc:BinaryBase64Object>mrHbPdrko3u1s7ahtgPBjtmO1s85tfG2U7bpofY9
1537 4Czu2SbY7d7wF9fQ7ZptgGrkO2a2dsJ7wZbe 8BlzvAmQ7xq+Y94GoHeEsR3ikWd4DIGhzmp3k42
1538 d4DRmzs94DKveDTB3hqw6PeBLrtpPep0H/+h </nc:BinaryBase64Object>

1539

1540 **6.3 Type 9 Mappings**

1541

1542 **9.003 (IMP)**1543 **9.003 (IMP)**1544 **XPath:** itl:PackageMinutiaeRecord/ansi-nist:MinutiaeImpressionCaptureCategoryCode1545 **Example:**1546 <ansi-nist:MinutiaeImpressionCaptureCategoryCode>4</ansi-
1547 nist:MinutiaeImpressionCaptureCategoryCode>1548

1549 **9.004 (FMT)**1550 **XPath:** itl:PackageMinutiaeRecord/ansi-nist:MinutiaeFormatNISTStandardIndicator1551 **Example:**1552 <ansi-nist:MinutiaeFormatNISTStandardIndicator>false</ansi-
1553 nist:MinutiaeFormatNISTStandardIndicator>1554

1555 **9.013 (AFV)**1556 **XPath:** itl:PackageMinutiaeRecord/fbiebtsitl:Minutiae/nc:BinaryBase64Object1557 **Example:**1558 <nc:BinaryBase64Object>mrHbPdrko3u1s7ahtgPBjtmO1s85tfG2U7bpofY9
1559 4Czu2SbY7d7wF9fQ7ZptgGrtkO2a2dsJ7wZbe 8BlzvAmQ7xq+Y94GoHeEsR3ikWd4DIGhzmp3k42
1560 d4DRmzs94DKveDTB3hqw6PeBLrtpPep0H/+h </nc:BinaryBase64Object>1561

1562 **9.014 (FGN)**1563 **XPath:** itl:PackageMinutiaeRecord/fbiebtsitl:Minutiae/ansi-nist:MinutiaeFingerPositionCode1564 **Example:**

1565 <ansi-nist:MinutiaeFingerPositionCode>5</ansi-nist:MinutiaeFingerPositionCode>

1566

1567 9.015 (NMN)

1568 **XPath:** itl:PackageMinutiaeRecord/fbiebtsitl:Minutiae/fbiebtsitl:MinutiaeFBIStandard/ansi-
1569 nist:MinutiaeQuantity

1570 **Example:**

1571 <ansi-nist:MinutiaeQuantity>2</ansi-nist:MinutiaeQuantity>

1572

1573 9.016 (FCP)

1574 **XPath:**

1575 itl:PackageMinutiaeRecord/fbiebtsitl:Minutiae/fbiebtsitl:MinutiaeFBIStandard/fbiebtsitl:Fingerp
1576 rintCharacterizationProcess

1577 **Example:**

1578 <fbiebtsitl:FingerprintCharacterizationProcess>

1579 <!-- VEN 9.016A-->

1580

1581 <fbiebtsitl:CharacterizationSoftwareVendorName>AFISFBI</fbiebtsitl:CharacterizationSoftwareVendor
1582 Name>

1583 <!-- VID 9.016B-->

1584 <fbiebtsitl:CharacterizationVersionValue>R2</fbiebtsitl:CharacterizationVersionValue>

1585 <!-- MET 9.016C-->

1586

1587 <fbiebtsitl:CharacterizationClassificationAutomationDegreeCode>C</fbiebtsitl:CharacterizationClassific
1588 ationAutomationDegreeCode>

1589

1590 <fbiebtsitl:CharacterizationMinutiaeAutomationDegreeCode>A</fbiebtsitl:CharacterizationMinutiaeAut
1591 omationDegreeCode>

1592

1593 <fbiebtsitl:CharacterizationRidgeCountAutomationDegreeCode>V</fbiebtsitl:CharacterizationRidgeCou
1594 ntAutomationDegreeCode>

1595 </fbiebtsitl:FingerprintCharacterizationProcess>

1596

1597 9.017 (APC)

1598 **XPath:** itl:PackageMinutiaeRecord/fbiebtsitl:Minutiae/fbiebtsitl:MinutiaeFingerPatternDetail

1599 Example:

```
1600 <fbiebsitl:MinutiaeFingerPatternDetail>
1601   <itl:FingerPatternCodeSourceCode>U</itl:FingerPatternCodeSourceCode>
1602   <!--APAT 9.017A-->
1603   <ansi-nist:FingerPatternCode>AU</ansi-nist:FingerPatternCode>
1604   <!--RCN1 9.017B-->
1605   <fbiebsitl:MinutiaeRidgeCountValue>0</fbiebsitl:MinutiaeRidgeCountValue>
1606   <!--RCN2 9.017C-->
1607   <fbiebsitl:MinutiaeRidgeCountValue>0</fbiebsitl:MinutiaeRidgeCountValue>
1608 </fbiebsitl:MinutiaeFingerPatternDetail>
```

1609

1610 9.018 (ROV)**1611 XPath:** itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:CharacterizationRegionPolygon**1612 Example:**

```
1613 <fbiebsitl:CharacterizationRegionPolygon>
1614   <!-- XYM 9.018A -->
1615   <itl:PositionPolygonVertex>
1616     <ansi-nist:PositionHorizontalCoordinateValue>1016</ansi-
1617 nist:PositionHorizontalCoordinateValue>
1618     <ansi-nist:PositionVerticalCoordinateValue>508</ansi-nist:PositionVerticalCoordinateValue>
1619   </itl:PositionPolygonVertex>
1620   <!-- XYM 9.018A -->
1621   <itl:PositionPolygonVertex>
1622     <ansi-nist:PositionHorizontalCoordinateValue>2413</ansi-
1623 nist:PositionHorizontalCoordinateValue>
1624     <ansi-nist:PositionVerticalCoordinateValue>1016</ansi-nist:PositionVerticalCoordinateValue>
1625   </itl:PositionPolygonVertex>
1626   <!-- XYM 9.018A -->
1627   <itl:PositionPolygonVertex>
1628     <ansi-nist:PositionHorizontalCoordinateValue>2032</ansi-
1629 nist:PositionHorizontalCoordinateValue>
1630     <ansi-nist:PositionVerticalCoordinateValue>1016</ansi-nist:PositionVerticalCoordinateValue>
1631   </itl:PositionPolygonVertex>
1632 </fbiebsitl:CharacterizationRegionPolygon>
```

1633

1634 9.019 (COF)**1635 XPath:** itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:CoordinateOffsets**1636 Example:**

```

1637 <fbiebsitl:CoordinateOffsets>
1638   <!--XYP 9.019A-->
1639   <fbiebsitl:UpperLeftCornerOffsetPosition>
1640     <fbiebsitl:OffsetHorizontalCoordinateValue>123</fbiebsitl:OffsetHorizontalCoordinateValue>
1641     <fbiebsitl:OffsetVerticalCoordinateValue>444</fbiebsitl:OffsetVerticalCoordinateValue>
1642   </fbiebsitl:UpperLeftCornerOffsetPosition>
1643   <!--XYP 9.019B-->
1644   <fbiebsitl:SubimageCenterOfRotationPosition>
1645     <fbiebsitl:OffsetHorizontalCoordinateValue>465</fbiebsitl:OffsetHorizontalCoordinateValue>
1646     <fbiebsitl:OffsetVerticalCoordinateValue>433</fbiebsitl:OffsetVerticalCoordinateValue>
1647   </fbiebsitl:SubimageCenterOfRotationPosition>
1648   <!--THET 9.019C-->
1649   <fbiebsitl:RotationThetaAngleMeasure>12</fbiebsitl:RotationThetaAngleMeasure>
1650   <!--XYP 9.019D-->
1651   <fbiebsitl:RotatedSubimageCenterOfRotationPosition>
1652     <fbiebsitl:OffsetHorizontalCoordinateValue>465</fbiebsitl:OffsetHorizontalCoordinateValue>
1653     <fbiebsitl:OffsetVerticalCoordinateValue>433</fbiebsitl:OffsetVerticalCoordinateValue>
1654   </fbiebsitl:RotatedSubimageCenterOfRotationPosition>
1655   <!--XYP 9.019E-->
1656   <fbiebsitl:RotatedUpperLeftCornerOffsetPosition>
1657     <fbiebsitl:OffsetHorizontalCoordinateValue>123</fbiebsitl:OffsetHorizontalCoordinateValue>
1658     <fbiebsitl:OffsetVerticalCoordinateValue>444</fbiebsitl:OffsetVerticalCoordinateValue>
1659   </fbiebsitl:RotatedUpperLeftCornerOffsetPosition>
1660 </fbiebsitl:CoordinateOffsets>
1661

```

1662 9.020 (ORN)

1663 **XPath:** itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:OrientationUncertaintyValue

1664 **Example:**

```
1665 <fbiebsitl:OrientationUncertaintyValue>210</fbiebsitl:OrientationUncertaintyValue>
```

1666

1667 9.021 (CRA)

1668 **XPath:** itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:MinutiaeFingerCoreAttribute

1669 **Example:**

```

1670 <fbiebsitl:MinutiaeFingerCoreAttribute>
1671   <!--XYM 9.021A-->
1672   <ansi-nist:PositionHorizontalCoordinateValue>0087</ansi-nist:PositionHorizontalCoordinateValue>
1673   <!--XYM 9.021A-->
1674   <ansi-nist:PositionVerticalCoordinateValue>0087</ansi-nist:PositionVerticalCoordinateValue>
1675   <!--DID 9.021B-->

```

1676 <ansi-nist:PositionDirectionDegreeValue>265</ansi-nist:PositionDirectionDegreeValue>
 1677 <!--PUM 9.012C-->
 1678 <ansi-nist:PositionUncertaintyValue>0175</ansi-nist:PositionUncertaintyValue>
 1679 </fbiebsitl:MinutiaeFingerCoreAttribute>
 1680

1681 9.022 (DLA)

1682 **XPath:** itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:MinutiaeFingerDeltaAttribute

1683 **Example:**

1684 <fbiebsitl:MinutiaeFingerDeltaAttribute>
 1685 <!--XYM 9.022A-->
 1686 <ansi-nist:PositionHorizontalCoordinateValue>0087</ansi-nist:PositionHorizontalCoordinateValue>
 1687 <!--XYM 9.021A-->
 1688 <ansi-nist:PositionVerticalCoordinateValue>0087</ansi-nist:PositionVerticalCoordinateValue>
 1689 <!--DID 9.022B-->
 1690
 1691 <fbiebsitl:PositionUpwardDirectionDegreeValue>1948</fbiebsitl:PositionUpwardDirectionDegreeValue>
 1692 e>
 1693 <!--DID 9.022C-->
 1694 <fbiebsitl:PositionLeftDirectionDegreeValue>0023</fbiebsitl:PositionLeftDirectionDegreeValue>
 1695 <!--DID 9.022D-->
 1696 <fbiebsitl:PositionRightDirectionDegreeValue>078</fbiebsitl:PositionRightDirectionDegreeValue>
 1697 <!--PUM 9.022E-->
 1698 <ansi-nist:PositionUncertaintyValue>210</ansi-nist:PositionUncertaintyValue>
 1699 </fbiebsitl:MinutiaeFingerDeltaAttribute>
 1700

1701 9.023 (MAT)

1702 **XPath:**

1703 itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:MinutiaeFBIStandard/fbiebsitl:Minutia
 1704 Detail

1705 **Example:**

1706 <fbiebsitl:MinutiaDetail>
 1707 <!--XYT 9.023B-->
 1708 <ansi-nist:PositionHorizontalCoordinateValue>0486</ansi-nist:PositionHorizontalCoordinateValue>
 1709 <!--XYT 9.023B-->
 1710 <ansi-nist:PositionVerticalCoordinateValue>2839</ansi-nist:PositionVerticalCoordinateValue>
 1711 <!--MDX 9.023A-->
 1712 <ansi-nist:MinutiaIdentification>
 1713 <nc:IdentificationID>2</nc:IdentificationID>
 1714 </ansi-nist:MinutiaIdentification>

1715 <!--XYT 9.023B-->
 1716 <ansi-nist:PositionThetaAngleMeasure>048</ansi-nist:PositionThetaAngleMeasure>
 1717 <!--QMS 9.023C-->
 1718 <ansi-nist:MinutiaQualityValue>1</ansi-nist:MinutiaQualityValue>
 1719 <!--MTD 9.023D-->
 1720 <ansi-nist:MinutiaCategoryCode>B</ansi-nist:MinutiaCategoryCode>
 1721 <!--MRO 9.023E-L-->
 1722 <ansi-nist:MinutiaRidgeCount>
 1723 <ansi-nist:RidgeCountReferenceIdentification>
 1724 <nc:IdentificationID>1</nc:IdentificationID>
 1725 </ansi-nist:RidgeCountReferenceIdentification>
 1726 <ansi-nist:RidgeCountValue>6</ansi-nist:RidgeCountValue>
 1727 </ansi-nist:MinutiaRidgeCount>
 1728 <ansi-nist:MinutiaRidgeCount>
 1729 <ansi-nist:RidgeCountReferenceIdentification>
 1730 <nc:IdentificationID>2</nc:IdentificationID>
 1731 </ansi-nist:RidgeCountReferenceIdentification>
 1732 <ansi-nist:RidgeCountValue>3</ansi-nist:RidgeCountValue>
 1733 </ansi-nist:MinutiaRidgeCount>
 1734 <!--RSO 9.023N-->
 1735 <fbiebsitl:MinutiaOctantResidualValue>0</fbiebsitl:MinutiaOctantResidualValue>
 1736 </fbiebsitl:MinutiaDetail>
 1737

1738 9.024 (CHQ)

1739 **XPath:**

1740 itl:PackageMinutiaeRecord/fbiebsitl:Minutiae/fbiebsitl:MinutiaCharacterizationQualityValue

1741 **Example:**

1742 <fbiebsitl:MinutiaCharacterizationQualityValue>50</fbiebsitl:MinutiaCharacterizationQualityValue>
 1743

1744 9.025 (CLQ)

1745 **XPath:** fbiebsitl:MinutiaClassifierQualityValue

1746 **Example:**

1747 <fbiebsitl:MinutiaClassifierQualityValue>22</fbiebsitl:MinutiaClassifierQualityValue>
 1748