



**BIOMETRICS**  
TASK FORCE

**Department of Defense**

**Electronic Biometric Transmission  
Specification**

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## Change Requests

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## 1.0 INTRODUCTION

This Department of Defense (DoD) Electronic Biometric Transmission Specification (EBTS) is based on the American National Standards Institute (ANSI)/National Institute of Standards and Technology (NIST) Information Technology Laboratory specification number 1-2007 (ITL 1-2007). The DoD's EBTS builds upon the ITL 1-2007 to meet DoD requirements via additions to and customizations of the ITL 1-2007 data format.

### 1.1 Background

The DoD EBTS was originally developed as an interface to the DoD Automated Biometric Identification System (ABIS). The DoD ABIS is an electronic database and an associated set of software applications that support the storage, retrieval, and searching of fingerprint and latent data collected from persons of national security interest. The DoD ABIS was designed to be similar to the FBI Criminal Justice Information Services (CJIS) Integrated Automated Fingerprint Identification System (IAFIS) and therefore its interface was based on the FBI's Electronic Fingerprint Transmission Specification (EFTS). Because of the different nature of DoD encounters and detainment circumstances, the DoD has additional operational requirements beyond those defined in the FBI EFTS. The DoD-unique capabilities are defined in the DoD EBTS.

Following extensive expert review and multiple revisions, the first widely distributed version (version 1.2) of the DoD EBTS was released in November 2006. That document described a set of capabilities that had been implemented in the DoD Biometric Enterprise as well as defining future capabilities.

DoD EBTS version (v) 1.2 was based on the FBI Electronic Fingerprint Transmission Specification (EFTS) v7.0 and ANSI/NIST-ITL 1-2000. Since the release of DoD EBTS v1.2, a number of events have shaped the release of a new version of the DoD EBTS—version 2.0:

- As biometric support for various DoD mission activities has evolved, so have the requirements for a more flexible standard.
- The scope of DoD biometric data collection and sharing has expanded to a wider range of operational scenarios. This broader set of scenarios necessitated the use of a mechanism to tailor the DoD EBTS to individual applications. This mechanism is called an “application profile,” which is an addition to this base DoD EBTS document. It is used to describe customizations for individual operational scenarios that make use of the DoD EBTS. The concept of an application profile is described in Section 2.1.
- Data elements pertaining to biometric data collection and sharing have been defined in a Glossary, a Data Dictionary, and a Data Model. All of the data elements used in the DoD EBTS are defined in the Data Dictionary.
- ANSI/NIST-ITL 1-2000 was updated to ANSI/NIST-ITL 1-2007 Part 1.
- The DoD ABIS has evolved into the Next Generation ABIS (NG-ABIS), which provides additional functionality such as searching of iris images and face images.
- DoD EBTS needs to be usable for communications with DoD biometric repositories in addition to DoD ABIS (or NG-ABIS).
- FBI EFTS v7 was updated to FBI EBTS v8 to reflect ANSI/NIST ITL-1 2007 Part 1.

The DoD EBTS v2.0 is described in this document.

## 1.2 Scope and Purpose

The DoD EBTS is a transmission specification to be used between DoD systems that capture biometric data and repositories of biometric data. The DoD EBTS does not attempt to specify all data used in all biometric enabled applications. It does allow for the definition of application specific data elements as specified in Section 2.1 of this document.

This version of the DoD EBTS has been restructured to contain only the definitions of individual fields and the structure of logical records. It does not attempt to define transactions; any definition of the combination of logical records into transactions is defined in individual application profiles (described in Section 2.1).

The primary audience for this specification consists of software/system engineers who develop, support, and/or test systems that interface with the DoD NG-ABIS or other DoD biometric systems. This document contains the technical details of the DoD EBTS. Readers are expected to have working knowledge of the ANSI/NIST-ITL 1-2007 as a prerequisite for understanding this specification.

This document may also be used by program managers, trainers, or other system design personnel to gain an understanding of the capabilities enabled by the DoD EBTS.

Users who wish to begin using DoD NG-ABIS services or implement biometric identification services should contact the Biometrics Task Force (BTF) Help Desk for further assistance. Refer to Section 1.5 for contact information.

## 1.3 References

[ITL 1-2007] ANSI/NIST-ITL 1-2007, “American National Standard for Information Systems – Data Format for the Interchange of Fingerprint, Facial, & Other Biometric Information – Part 1” (NIST Special Publication 500-271).

[IDD] DoD Integrated Data Dictionary, v2.2.1

[FBI EBTS] Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services (CJIS), “Electronic Biometric Transmission Specification,” November 19, 2008 (IAFIS-DOC-01078-8.1).

[INCITS 385] ANSI INCITS 385-2004, “Face Recognition Format for Data Interchange.”

[ISO 19794-5] ISO/IEC 19794-5, Information technology — Biometric data interchange formats — Part 5: Face Image Data

[ISO 19794-6] ISO/IEC 19794-6, “Information technology – Biometric data interchange formats – Part 6: Iris image data.”

[NCIC] National Crime Information Center (NCIC) 2000 Code Manual, December 2000.

AR 190–8/OPNAVINST 3461.6/AFJI 31–304/MCO 3461.1, 1 October 1997, “Enemy Prisoners of War, Retained Personnel, Civilian Internees and Other Detainees.”

Chief Information Officer/G-6 Memorandum, 29 November 2005, “Department of Defense Compliance with the Electronic Biometric Transmission Specification.”

## **1.4 Change Control**

The BTF maintains change control responsibilities for this document. Requested changes to this document should be submitted to the DoD Biometrics Web site. Refer to Section 1.5 for more information.

## **1.5 Contact Information**

DoD Biometrics Web site: <http://www.biometrics.dod.mil>.

For technical issues, contact the BTF Help Desk at (304) 326-3023, Monday through Friday, 0800-1700 EST or by e-mail at [helpdesk@dodbfc.army.mil](mailto:helpdesk@dodbfc.army.mil).

## 2.0 CONFORMANCE AND UNIQUE REQUIREMENTS

### 2.1 Application Profile

An application profile is a document that describes how the DoD EBTS can be applied to a particular operational scenario. An application profile must be specified to fully describe an implementation.

An application profile includes:

- Transaction details for each transaction:
  - which fields are mandatory or optional for each logical record;
  - how many occurrences of each field are required/allowed;
  - which logical records are mandatory or optional; and
  - how many occurrences of each logical record are required/allowed.
- Definition of the names and purposes of each transaction;
- The identifier assigned by the BTF to name the Application Profile (to be placed in the Domain Name field (1.013)); and
- Conformance requirements for both originators and receivers of transactions.

An Application Profile shall only use data elements defined in the Data Dictionary.

A specific application profile is defined in Appendix B of this document. It describes the transactions (submissions and responses) that provide a data transfer equivalent to that provided by a set of the transactions defined in the DoD EBTS v1.2:

- Submissions (CAR, MAP, LFS) and
- Responses (SRE, LSR, ERRT, ERRL).

An implementation may use this application profile or may generate a new application profile. In the latter case, those DoD entities who wish to develop an application profile must contact the BTF Help Desk (see Section 1.5). A document providing the appropriate details shall be generated and submitted to the BTF for approval. All application profiles will be maintained by the BTF.

The application profile included here may be used as a template to generate the submitted document, or the BTF may be contacted for assistance via the Help Desk (see Section 1.5). The BTF will maintain a registration authority for managing the set of application profiles. This includes the management of the identifiers used in the Domain Name field.

### 2.2 DoD EBTS Domain

The application profile for a transaction is identified by the Domain Name field (1.013). The BTF is the domain registrar for the DoD EBTS implementation domain and assigns values for this field. ITL 1-2007 defines an implementation domain as “a group of agencies or organizations that have agreed to use specific pre-assigned groups of numbered tag fields for exchanging information unique to their installations.”

Note that ANSI/NIST-ITL 1-2007 uses implementation domains to define common sets of Type-2 tags. The DoD EBTS allows an application profile to define much more (including transactions).



### **2.3 Conformance**

DoD EBTS implementations shall conform to the mandatory features of ITL 1-2007.

DoD EBTS implementations shall conform to the mandatory features of this specification.

Implementations shall also conform to one or more application profiles that have been registered with the BTF. DoD EBTS does not have a requirement for an implementation to conform to more than one application profile, nor does it require that all implementations conform to the application profile included in this document. Each application profile will have its own conformance requirements.

### **2.4 Backward Compatibility**

To achieve backwards compatibility, all DoD Biometric Repositories shall be able to process both DoD EBTS v1.2 and DoD EBTS v2.0 transactions. Systems that collect DoD EBTS data shall use DoD EBTS v2.0 for data transmission. Legacy collection systems that send DoD EBTS v1.2 transactions shall receive responses that conform to DoD EBTS v1.2.

## 3.0 DoD EBTS TRANSACTIONS

The DoD EBTS no longer defines individual transactions. Transaction contents are defined in application profiles. This section describes the rules and concepts that apply to any of those transactions. This includes the use of logical records for each biometric modality, transaction control numbers, origination identifiers, error handling, and image quality requirements.

### 3.1 Biometric Data Types

Table 1 identifies the types of biometric data supported by the DoD EBTS and indicates which logical record type is used to carry the data for each modality.

**Table 1: Logical Records**

<b>Biometric Data Type</b>	<b>Logical Record</b>
Fingerprint Images	Type-14
Latent Fingerprint Images	Type-13
Fingerprint Templates	Type-9
Facial Images	Type-10
Palmprint Images	Type-15
Latent Palmprint Images	Type-13
Iris Images	Type-17
CBEFF Biometric Data	Type-99

Information on the DoD EBTS support for each type of biometric data is contained in this section. The details for using these logical records for constructing transactions is described in Section 3.3. Additional requirements for the individual fields of these logical records can be found in Section 4.

Note that it is possible to define a new logical record in an application profile if required.

#### 3.1.1 Fingerprint Support

Fingerprints shall be contained in Type-14 records. A Type-14 record shall contain a fingerprint image of one of:

- 500-ppi image using 15:1 Wavelet Scalar Quantization (WSQ) compression as defined in the FBI EBTS or
- 1,000-ppi image using 15:1 JPEG 2000 compression as defined in ITL 1-2007.

Latent fingerprints shall be contained in Type-13 records. A Type-13 record shall contain a latent fingerprint image of one of:

- 500-ppi image using no compression or
- 1,000-ppi image using no compression.

### **3.1.2 Fingerprint Template Support**

Fingerprint data may also be conveyed as fingerprint minutiae templates. Fingerprint template data shall be contained in Type-9 records. Type-9 records shall choose one of the following minutiae blocks as defined in ITL 1-2007, Table 14:

- “IAFIS Features” (FBI Native-Mode) minutiae block (fields 13-30) as described in the FBI EBTS or
- “M1-378 Features” minutiae block (fields 126-150) as described in Annex G of ITL 1-2007.

The decision on which format to use is driven by interoperability requirements.

### **3.1.3 Facial Image Support**

Facial images and Scar, Mark & Tattoo (SMT) images shall be contained in Type-10 records. Images may be compressed using any algorithm identified in ITL 1-2007, Table 1 other than WSQ.

### **3.1.4 Palmprint Support**

Palmprints shall be contained in Type-15 records. A Type-15 record shall contain a palmprint image of one of:

- 500-ppi image using 15:1 Wavelet Scalar Quantization (WSQ) compression as defined in the FBI EBTS or
- 1,000-ppi image using 15:1 JPEG 2000 compression as defined in ITL 1-2007.

Latent palmprints shall be contained in Type-13 records. A Type-13 record shall contain a latent palmprint image of one of:

- 500-ppi image using no compression or
- 1,000-ppi image using no compression.

### **3.1.5 Iris Image Support**

Iris images shall be contained in Type-17 records. If images are to be compressed, they shall be compressed using the baseline mode of JPEG or JPEG 2000 at no more than 6:1.

### **3.1.6 Other Biometric Modality Support**

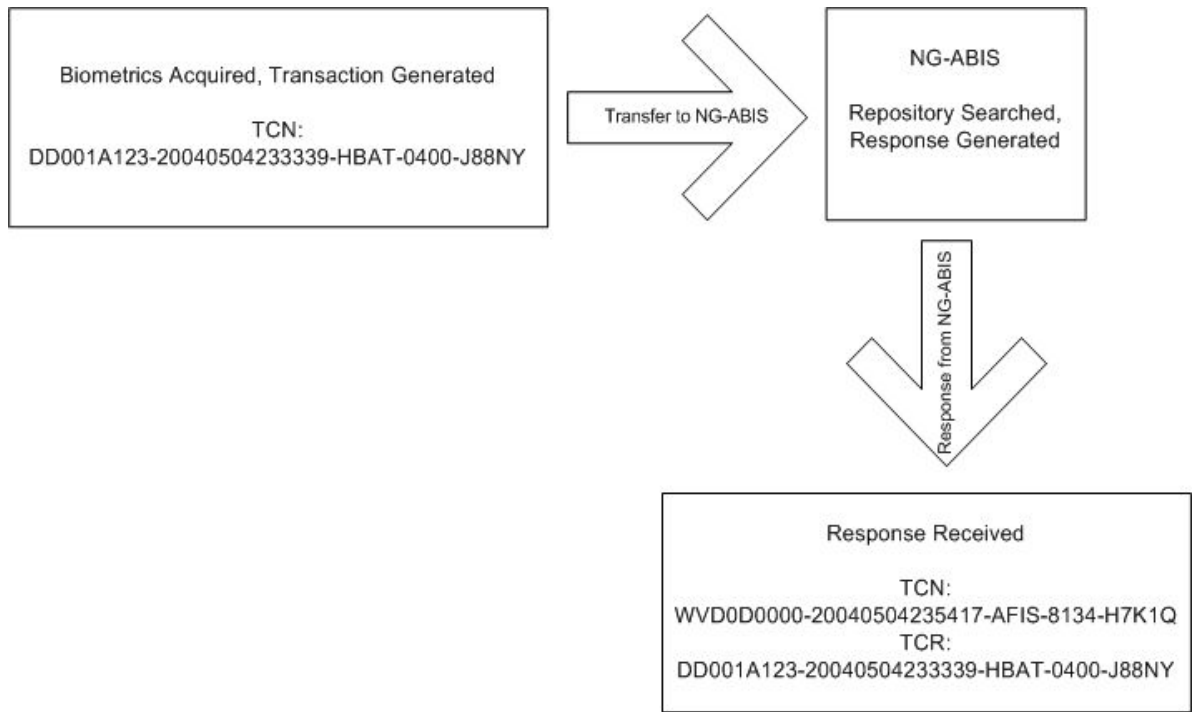
A BTF-approved application profile must define any use of Type-99 to contain other biometric modalities.

## **3.2 Transaction Control Numbers**

An identification number is assigned to a submission and carried through on the response for tracing purposes. This Transaction Control Number (TCN) is a unique identifier generated by the system that submits the transaction. When a transaction is sent to a system that receives and generates responses, the Transaction Control Reference (TCR) in the response(s) will be the TCN used in the submission. A TCN is mandatory for a submission, and a TCR is mandatory for a response. These values are contained in the Type-1 record in an FBI EBTS or DoD EBTS transaction.

Upon submitting a transaction to a DoD repository, the submitter places his control number in the TCN field in the Type-1 record. For submissions not requiring reference to a prior transaction, the TCR field is omitted. When the DoD repository has completed processing the transaction and generates the response, it places the submitter’s control number (the received TCN) into the TCR field of the response as a reference number the submitter can use to mate the response with the original submission. The DoD repository also places its own internal identifier for that transaction in the TCN field of the response.

Figure 1 illustrates, as an example, the TCN and TCR in the transaction flow in the DoD NG-ABIS.

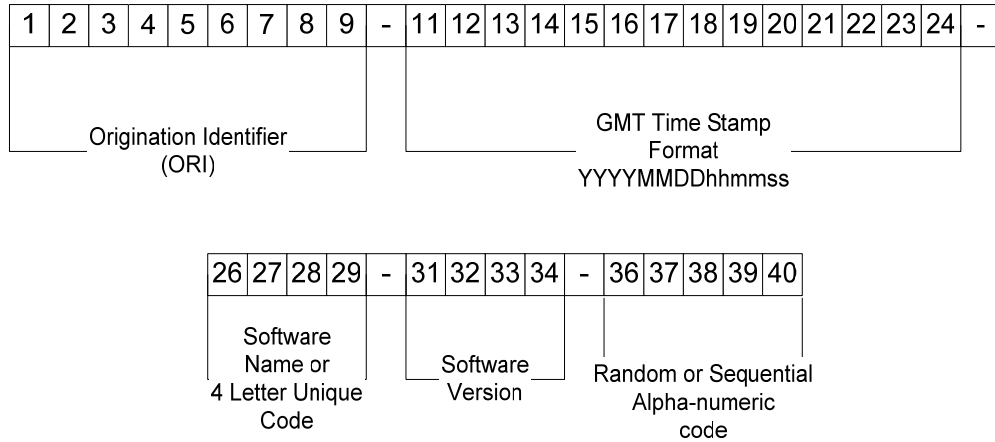


**Figure 1: Transaction Submission and Response Sequence**

The DoD EBTS requires a 40-byte TCN that contains:

- the Originating Agency Identifier (ORI);
- a Greenwich Mean (a.k.a. Zulu or UTC) date/time stamp;
- a code for the software used at the point of collection/transmission;
- an indicator of the software version used at the point of collection/transmission; and
- a random or sequential alphanumeric string.

A hyphen separates each of these values. Figure 2 illustrates the makeup of the TCN.



**Figure 2: TCN Layout**

The BTF will assign a unique software code to a product. Software developers must contact the BTF Help Desk (see Section 1.5) to obtain a four-letter software code. This code must be used consistently in the software product.

Systems that initiate transactions must assign TCNs rather than permit operators to enter them. **A TCN shall be unique.** A TCN shall not be reused. Matching a TCN to a TCR is the method used to match DoD EBTS responses to DoD EBTS submissions.

### 3.3 Origination Identifiers

The mandatory origination field shall contain the ORI identifying the agency or organization submitting the transaction. For DoD EBTS purposes, this field shall be a nine-byte alphanumeric field. The BTF will assign an ORI code to DoD entities that submit directly to DoD NG-ABIS. Those DoD entities must contact the BTF Help Desk (see Section 1.5) to obtain an ORI.

### 3.4 Tagged Fields

Systems that receive transactions (submissions or responses) shall observe the following processing rules for tagged fields.

#### 3.4.1 Interpretation of Tags

In the construction and interpretation of the logical record, the tag number should not be taken as having a fixed number of digits. The format for each field consists of the logical record type number followed by a period (.), a field number followed by a colon (:), followed by the information appropriate to that field. The tagged-field number can be any one- to nine-digit string occurring between the period and the colon. It shall be interpreted as an unsigned integer field number. This implies that a field number of 2.123 is equivalent to and shall be interpreted in the same manner as a field number of 2.00000123. For example, in this version of the standard, Type-2 logical record field tags are shown as having three or four digits between the decimal point and colon (2.NNN:data or 2.NNNN:data). The field numbers should be parsed as all digits between the period and colon. In the construction and interpretation of the logical record, there is no requirement that the tagged fields be present within the logical record in any

given order, with the exception of the Length (LEN) and Image Designation Character (IDC), which must be in the first and second position in the record, respectively. However, for those record types conveying image data (e.g., 13.999: DAT), the data field will always be the last field in the string.

### 3.4.2 Use of Separator Characters

Separator characters may best be understood by considering them necessary for what follows them, not what precedes them. Thus, when a tagged field includes subfields and another subfield is still to follow, the following subfield must be separated from the one preceding it by the unit separator character. If what is to follow is a repetition of a field or group of subfields, a record separator must separate the preceding field or group of subfields from the repetition to follow. If what is to follow is a new field, then the group separator character is used. If the record is complete after the previous field, the file separator is used.

Per ITL 1-2007, successive separator characters may be used with no intervening blank or other character when a subfield is missing. In Type-2 records, DoD EBTS recognizes the following sequences as meaning that a subfield is missing: <US><US>, <US><RS>, <US><GS>, and <US><FS>. These are needed to obviate the need for the receivers of transactions to validate each subfield in a grouped field to see whether it contains valid data or is merely a blank.

## 3.5 Error Handling

Systems that receive transactions (submissions or responses) shall observe the following processing rules for error handling.

In the interpretation of a transaction, fields that are not defined for the requested transaction are to be ignored; their inclusion is not to be considered an error.

Fields should not be transmitted when there is no value present (e.g., ... 2.033:<GS> ...). However, receipt of such an empty field, if the field is not mandatory, should not result in rejection of the submission or issuance of an error message. Rejection will occur, however, when missing or incorrect data would frustrate processing of the transaction.

Appendix D lists the current set of error messages that are pertinent to the DoD EBTS user.

Systems that receive transactions (submissions or responses) shall ignore data that are not defined in the DoD EBTS or appropriate application profile. Table 2 defines the actions that shall be taken when unrecognized data are received.

**Table 2: Response to Unrecognized Reception**

<b>Error Condition</b>	<b>Action</b>
<b>Unrecognized TOT</b> (as indicated by field 1.004 TOT)	Return an “Unauthorized EBTS Transaction” transaction error response (defined as A0004 in Appendix D).
<b>Unrecognized Record</b> (the binary or tagged-field record is not a Type-1, Type-2, Type-9, Type-10, Type-13, Type-14, Type-15, Type-17, or Type-99)	Complete transaction and return appropriate response.
<b>Unrecognized Data in Tagged-Field Record</b>	Complete transaction and return appropriate response if possible. Otherwise, return an “EBTS Field Parse Error” transaction error response (defined as E0005 in Appendix D).
<b>Unrecognized Subfield</b>	Return an “EBTS Field Parse Error” transaction error response (defined as E0005 in Appendix D).

### 3.6 Image Quality Requirements

In the interest of maintaining an accurate and usable database of biometric data, minimum image quality requirements must be followed for images submitted in DoD EBTS transactions.

#### 3.6.1 Fingerprint Image Quality

Fingerprint image quality requirements are defined in Appendix F of the FBI EBTS. From an image quality perspective only, any system certified by the FBI for use with IAFIS meets DoD EBTS image quality requirements.

Rolled fingerprint samples shall be captured with each finger rolled from one side of the fingernail to the other. The collection of a “complete set” of rolled fingerprint samples shall include the following 14 images:

- Rolled image of each of the 10 fingers;
- Combined plain impression of the four fingers on the right hand (no thumb);
- Combined plain impression of the four fingers on the left hand (no thumb);
- Left thumb plain impression; and
- Right thumb plain impression.

Flat fingerprint samples shall be captured with each finger laid flat. The collection of a “complete set” of flat fingerprint samples shall include the following 14 images:

- Flat image of each of the 10 fingers;
- Combined plain impression of the four fingers on the right hand (no thumb);
- Combined plain impression of the four fingers on the left hand (no thumb);
- Left thumb plain impression; and
- Right thumb plain impression.

An explanation for any required but missing fingerprints shall be provided in field 14.018 Amputated or Bandaged. Field 14.018 shall accurately represent the reason for each missing fingerprint. This field has two subfields: Finger Position (FGP) and Amputated or Bandaged Code (AMPCD). Both subfields are required if field 14.018 is present. Subfield FGP is a two-digit code that specifies which finger is missing. Subfield AMPCD uses the value “XX” when there is an actual amputation and the value “UP” (unable to print) for all other situations.

### **3.6.2 Facial Photo Image Quality**

All photographs shall be taken using a color camera. The camera lens orientation shall be pointed to the front of the person, aligned approximately in the center of the face, and taken from a distance of approximately five feet. The orientation(s) of the person for facial photos shall be taken from the following options:

- Frontal view (also known as full-frontal pose);
- 90 degrees left side;
- 45 degrees left side;
- 90 degrees right side; or
- 45 degrees right side.

When photographed, the person shall not be allowed to wear any glasses, sunglasses, or other items obscuring the area photographed. The person may choose to expose only the area from ear to ear and hairline to chin (for example, to not require the removal of a headdress). There are no constraints on cosmetics.

The full frontal pose should be captured in accordance with one of the following:

- ANSI INCITS 385-2004, “Face Recognition Format for Data Interchange”, clauses 8.2, 8.3, and 8.4 (The Full Frontal Image Type). NOTE: this document may be retired in favor of the ISO document below; or
- Annex A, Best Practices for Basic Face Images, of ISO/IEC 19794-5, Information technology — Biometric data interchange formats — Part 5: Face Image Data.

### **3.6.3 Iris Image Quality**

An iris record shall contain an image of a single iris. Note: this does not imply that image capture equipment must be used twice to collect two images. If a single image of both the left and right eye is captured, further processing must result in two separate records.

Images should be captured in accordance with Annex A, Iris Image Capture, of ISO/IEC 19794-6, Information technology — Biometric data interchange formats — Part 6: Iris image data.



## 4.0 DoD EBTS RECORDS AND FIELDS

The DoD EBTS is 100% ITL 1-2007 conformant. Any ITL 1-2007 defined field may occur in a DoD EBTS transaction in the appropriate logical record. Any field that is mandatory in ITL 1-2007 shall occur in a DoD EBTS transaction in the appropriate logical record.

This section contains any additional information not included in ITL 1-2007.

The following discussion uses the ITL 1-2007 standard (Table 7) definition of information separators:

- multiple occurrences of field are separated by the “RS” character (represented in this document by <RS>); and
- information items within a field are separated by the “US” character (represented in this document by <US>).

If the following sections do not identify any subfields, none are allowed.

### 4.1 Type-1 Records [Transaction Information]

DoD EBTS Type-1 records are defined in ITL 1-2007. ITL 1-2007 specifies that Subfield 1.013\_2 Domain Name Implementation Version have a default value. The DoD EBTS does not use that default value. Instead, every application profile shall define values for the Domain Name field (1.013). As specified in ITL 1-2007, for all DoD EBTS v2 transactions (which do not contain Type-3 through Type-7 records), the fields Native Scanning Resolution (1.011) and Nominal Transmitting Resolution (1.012) shall be set to “00.00”.

**Table 3: Type-1 Transaction Information Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
1.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
1.002	VERSION NUMBER	M	1	1	VERSION NUMBER
1.003	FILE CONTENT	M	2	*	FILE CONTENT - Logical Record Type - Subfield Count - Image Designation Character Per Record Type
1.004	TYPE OF TRANSACTION	M	1	1	TYPE OF TRANSACTION
1.005	DATE	M	1	1	DATE
1.006	PRIORITY	O	0	1	PRIORITY
1.007	DESTINATION AGENCY IDENTIFIER	M	1	1	DESTINATION AGENCY IDENTIFIER
1.008	ORIGINATING AGENCY IDENTIFIER	M	1	1	ORIGINATING AGENCY IDENTIFIER
1.009	TRANSACTION CONTROL NUMBER	M	1	1	TRANSACTION CONTROL NUMBER
1.010	TRANSACTION CONTROL REFERENCE	O	0	1	TRANSACTION CONTROL REFERENCE
1.011	NATIVE SCANNING RESOLUTION	M	1	1	NATIVE SCANNING RESOLUTION
1.012	NOMINAL TRANSMITTING RESOLUTION	M	1	1	NOMINAL TRANSMITTING RESOLUTION
1.013	DOMAIN NAME	O	0	1	DOMAIN NAME - Domain Name Implementation - Domain name Implementation Version
1.014	GREENWICH MEAN TIME	O	0	1	GREENWICH MEAN TIME
1.015	DIRECTORY OF CHARACTER SETS	O	0	*	DIRECTORY OF CHARACTER SETS - Character Set Index Number - Character Set Name - Character Set Version

## **4.2 Type-2 Records [User-Defined Descriptive Text]**

The Integrated Data Dictionary (IDD) defines the following Type-2 fields to meet DoD requirements. This DoD EBTS document provides information such as whether the field is mandatory and the minimum and maximum occurrences. Each DoD EBTS field is associated with IDD elements as shown in the following tables. A list of all fields follows the tables. This list may contain additional normative information.

**Table 4: Type-2 User-Defined Descriptive Text Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
2.003	FBI FILE NUMBER	O	1	1	FBI FILE NUMBER
2.007	SEND COPY TO	O	0	9	SEND COPY TO
2.009	ORIGINATING AGENCY CASE NUMBER	O	0	1	ORIGINATING AGENCY CASE NUMBER
2.010	CONTRIBUTOR CASE IDENTIFIER NUMBER	O	0	5	CONTRIBUTOR CASE IDENTIFIER NUMBER - Contributor Case Identifier Prefix - Contributor Case Identifier
2.011	CONTRIBUTOR CASE IDENTIFIER EXTENSION	O	0	5	CONTRIBUTOR CASE IDENTIFIER EXTENSION
2.012	FBI LATENT CASE NUMBER	O	0	1	FBI LATENT CASE NUMBER
2.014	FBI NUMBER	O	0	5	FBI NUMBER
2.015	FBI STATE IDENTIFICATION NUMBER	O	0	1	FBI STATE IDENTIFICATION NUMBER
2.024	BIOMETRIC SUBJECT GENDER	O	0	1	BIOMETRIC SUBJECT GENDER
2.032	BIOMETRIC SUBJECT HAIR COLOR	O	0	1	BIOMETRIC SUBJECT HAIR COLOR
2.037	FBI REASON FINGERPRINTED	O	0	1	FBI REASON FINGERPRINTED
2.044	FBI GEOGRAPHIC AREA OF SEARCH	O	0	5	FBI GEOGRAPHIC AREA OF SEARCH
2.045	DATE OF ARREST	O	0	1	DATE OF ARREST
2.047	ARREST SEGMENT LITERAL	O	0	40	ARREST SEGMENT LITERAL - Date of Arrest - Arrest Offense Literal
2.051	COURT SEGMENT LITERAL	O	0	40	COURT SEGMENT LITERAL - Court Disposition Date - Court Offense Literal - Other Court Sentence Provision Literal
2.053	FBI OFFENSE CATEGORY	O	0	1	FBI OFFENSE CATEGORY

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.054	CUSTODY OR SUPERVISORY STATUS START DATE	0	0	1	CUSTODY OR SUPERVISORY STATUS START DATE
2.055	CUSTODY OR SUPERVISORY STATUS LITERAL	0	0	1	CUSTODY OR SUPERVISORY STATUS LITERAL
2.056	IDENTIFICATION COMMENTS	0	0	1	IDENTIFICATION COMMENTS
2.059	SEARCH RESULTS FINDINGS	0	0	1	SEARCH RESULTS FINDINGS
2.060	STATUS/ERROR MESSAGE	0	0	11	STATUS/ERROR MESSAGE
2.061	LATENT CASE TITLE	0	0	1	LATENT CASE TITLE
2.063	PERSON TYPE DESIGNATOR	0	0	1	PERSON TYPE DESIGNATOR
2.064	DoD CANDIDATE LIST	0	0	99	DoD CANDIDATE LIST - DoD Number - Candidate Name
2.065	FBI REPOSITORY STATISTICS RESPONSE	0	0	1	FBI REPOSITORY STATISTICS RESPONSE
2.069	ESTIMATED TIME TO COMPLETE	0	0	200	ESTIMATED TIME TO COMPLETE
2.070	REQUEST ELECTRONIC RAP SHEET	0	0	1	REQUEST ELECTRONIC RAP SHEET
2.071	FBI ACTION TO BE TAKEN	0	0	1	FBI ACTION TO BE TAKEN
2.073	CONTROLLING AGENCY IDENTIFIER	0	0	3	CONTROLLING AGENCY IDENTIFIER
2.075	ELECTRONIC RAP SHEET	0	0	1	ELECTRONIC RAP SHEET
2.076	LATENT SEARCH PRIORITY	0	0	1	LATENT SEARCH PRIORITY
2.077	FBI CANCEL FINGERPRINT SEARCH	0	0	200	FBI CANCEL FINGERPRINT SEARCH
2.079	NUMBER OF CANDIDATE IMAGES RETURNED	0	0	1	NUMBER OF CANDIDATE IMAGES RETURNED
2.080	RESPONSE EXPLANATION	0	0	1	RESPONSE EXPLANATION
2.082	RESPONSE CODE	0	0	1	RESPONSE CODE
2.084	BIOMETRIC SUBJECT FINGER AMPUTATED OR BANDAGED	0	0	9	BIOMETRIC SUBJECT FINGER AMPUTATED OR BANDAGED - Finger Number - Amputated or Bandaged Code
2.085	FBI CIVIL RECORD NUMBER	0	0	1	FBI CIVIL RECORD NUMBER
2.086	AFIS SEGMENT CONTROL NUMBER	0	0	200	AFIS SEGMENT CONTROL NUMBER

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.088	FBI LATENT SUBMISSION COMMENTS	0	0	1	FBI LATENT SUBMISSION COMMENTS
2.089	MATCH SCORE	0	0	99	MATCH SCORE
2.094	FBI COURT CASE NUMBER	0	0	1	FBI COURT CASE NUMBER
2.096	REQUEST PHOTO RECORD	0	0	1	REQUEST PHOTO RECORD
2.303	DoD NUMBER	0	0	1	DoD NUMBER
2.306	GEOGRAPHIC COORDINATE LATITUDE/LONGITUDE	0	0	1	GEOGRAPHIC COORDINATE LATITUDE/LONGITUDE - Geographic Coordinate Latitude Degree - Geographic Coordinate Latitude Minute - Geographic Coordinate Latitude Second - Geographic Coordinate Longitude Degree - Geographic Coordinate Longitude Minute - Geographic Coordinate Longitude Second
2.307	GEOGRAPHIC COORDINATE DATUM	0	0	1	GEOGRAPHIC COORDINATE DATUM
2.310	BIOMETRIC SUBJECT PERSONNEL TYPE	0	0	10	BIOMETRIC SUBJECT PERSONNEL TYPE
2.316	REQUEST MUG SHOT	0	0	1	REQUEST MUG SHOT
2.317	REQUEST SECONDARY SEARCH	0	0	10	REQUEST SECONDARY SEARCH - Name of Designated Repository - Request Secondary Search Transaction Type x - Secondary Search Retention Code
2.318	XML-BASED RAP SHEET	0	0	1	XML-BASED RAP SHEET
2.321	GEOGRAPHIC COORDINATE - OTHER	0	0	1	GEOGRAPHIC COORDINATE - OTHER - Geographic Coordinate Other System Identifier - Geographic Coordinate Other System Value

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.322	GEOGRAPHIC COORDINATE UNIVERSAL TRANSVERSE MERCATOR	0	0	1	GEOGRAPHIC COORDINATE UNIVERSAL TRANSVERSE MERCATOR - Geographic Coordinate Universal Transverse Mercator Easting - Geographic Coordinate Universal Transverse Mercator Northing - Geographic Coordinate Universal Transverse Mercator Zone
2.350	ALERT	0	0	1	ALERT - Alert Function - Alert Category - Alert Value - Alert Contact - Alert Detail
2.351	ADDITIONAL RESPONSE	0	0	10	ADDITIONAL RESPONSE - Additional Response Source - Additional Response Result - Additional Response Identifier - Additional Response Rap Sheet
2.352	TRANSACTION LOOKUP	0	0	1	TRANSACTION LOOKUP - Transaction Lookup Type - Transaction Lookup Identifier Value
2.353	SUBSEQUENT NOTIFICATION	0	0	1	SUBSEQUENT NOTIFICATION - Subsequent Notification Email Address - Subsequent Notification Function
2.8000	BIOMETRIC SUBJECT NAME	0	0	100	BIOMETRIC SUBJECT NAME - Name Value Type - Name Value - Name Validity

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.8001	BIOMETRIC SUBJECT ADDRESS	0	0	50	BIOMETRIC SUBJECT ADDRESS - Address Value Type - Address Value
2.8002	BIOMETRIC SUBJECT CONTACT	0	0	10	BIOMETRIC SUBJECT CONTACT - Contact Mode - Contact Mode Value
2.8003	BIOMETRIC SUBJECT BIRTH DATE	0	0	3	BIOMETRIC SUBJECT BIRTH DATE - Date Value - Date Validity - Calendar Type
2.8004	BIOMETRIC SUBJECT BIRTH PLACE	0	0	20	BIOMETRIC SUBJECT BIRTH PLACE - Address Value Type - Address Value
2.8005	BIOMETRIC SUBJECT DEATH DATE	0	0	3	BIOMETRIC SUBJECT DEATH DATE - Date Value - Date Validity - Calendar Type
2.8006	BIOMETRIC SUBJECT DEATH PLACE	0	0	20	BIOMETRIC SUBJECT DEATH PLACE - Address Value Type - Address Value
2.8007	BIOMETRIC SUBJECT CITIZENSHIP	0	0	5	BIOMETRIC SUBJECT CITIZENSHIP
2.8008	BIOMETRIC SUBJECT ETHNIC/RACIAL CHARACTERISTIC	0	0	2	BIOMETRIC SUBJECT ETHNIC/RACIAL CHARACTERISTIC
2.8009	BIOMETRIC SUBJECT MEASUREMENT - HEIGHT	0	0	3	BIOMETRIC SUBJECT MEASUREMENT - HEIGHT - Measurement Type - Measurement Value - Measurement Unit - Measurement Validity



Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.8010	BIOMETRIC SUBJECT MEASUREMENT - WEIGHT	0	0	3	BIOMETRIC SUBJECT MEASUREMENT - WEIGHT - Measurement Type - Measurement Value - Measurement Unit - Measurement Validity
2.8011	BIOMETRIC SUBJECT EYE COLOR LEFT	0	0	1	BIOMETRIC SUBJECT EYE COLOR LEFT
2.8012	BIOMETRIC SUBJECT EYE COLOR RIGHT	0	0	1	BIOMETRIC SUBJECT EYE COLOR RIGHT
2.8013	BIOMETRIC SUBJECT BLOOD TYPE	0	0	3	BIOMETRIC SUBJECT BLOOD TYPE - Biometric Subject Blood Type Value - Biometric Subject Blood Type Validity
2.8014	BIOMETRIC SUBJECT VITAL STATUS	0	0	3	BIOMETRIC SUBJECT VITAL STATUS - Biometric Subject Vital Status Value - Biometric Subject Vital Status Validity
2.8015	BIOMETRIC SUBJECT OTHER PHYSICAL CHARACTERISTIC	0	0	10	BIOMETRIC SUBJECT OTHER PHYSICAL CHARACTERISTIC
2.8016	BIOMETRIC SUBJECT MARITAL STATUS	0	0	1	BIOMETRIC SUBJECT MARITAL STATUS
2.8017	BIOMETRIC SUBJECT ASSOCIATED INDIVIDUAL	0	0	100	BIOMETRIC SUBJECT ASSOCIATED INDIVIDUAL - Associated Individual Gender - Associated Individual Role - Name Value Type - Name Value
2.8018	BIOMETRIC SUBJECT GROUP MEMBERSHIP	0	0	100	BIOMETRIC SUBJECT GROUP MEMBERSHIP - Biometric Subject Group Name - Biometric Subject Group Type - Biometric Subject Group Member Role - Address Value Type - Address Value - Contact Mode - Contact Mode Value

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.8019	COLLECTED IDENTIFICATION	0	0	100	COLLECTED IDENTIFICATION - Collected Identification Type - Collected Identification Identifier - Collected Identification Issuance Organization - Collected Identification Issuance Date - Collected Identification Expiration Date - Collected Identification Issuance Office - Collected Identification Comment
2.8020	COLLECTION APPLICATION ASSIGNED IDENTIFICATION	0	0	20	COLLECTION APPLICATION ASSIGNED IDENTIFICATION - Collection Application Name - Collection Application Identifier Field Name - Collection Application Assigned Identifier
2.8021	BIOMETRIC SUBJECT CLEARANCE	0	0	1	BIOMETRIC SUBJECT CLEARANCE - Biometric Subject Clearance Value - Biometric Subject Clearance Validity
2.8022	BIOMETRIC SUBJECT COMPARTMENTS	0	0	50	BIOMETRIC SUBJECT COMPARTMENTS - Biometric Subject Compartments Value - Biometric Subject Compartments Validity
2.8023	BIOMETRIC SUBJECT COMMENT	0	0	1	BIOMETRIC SUBJECT COMMENT
2.8024	BIOMETRIC SUBJECT US PERSON INDICATOR	0	0	1	BIOMETRIC SUBJECT US PERSON INDICATOR
2.8025	BIOMETRIC SUBJECT DEROGATORY COMMENT		0	1	BIOMETRIC SUBJECT DEROGATORY COMMENT
2.8100	COLLECTION LOCATION	0	0	20	COLLECTION LOCATION - Address Value Type - Address Value
2.8101	CONTEXTUAL DATA COLLECTION DATE	0	0	1	CONTEXTUAL DATA COLLECTION DATE
2.8102	ENCOUNTER MISSION TYPE	0	0	1	ENCOUNTER MISSION TYPE
2.8103	COLLECTION REASON	0	0	1	COLLECTION REASON

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.8104	OPERATIONAL PERSONNEL	0	0	20	OPERATIONAL PERSONNEL - Operational Personnel Unit/Organization - Operational Personnel Role - Operational Personnel Rank/Grade - US Person Indicator - Operational Personnel Identifier Type - Operational Personnel Identifier - Name Value Type - Name Value - Contact Mode - Contact Mode Value
2.8105	CONVEYANCE	0	0	20	CONVEYANCE - Conveyance Type - Conveyance Identifier Type - Conveyance Identifier Value
2.8106	EVENT	0	0	1	EVENT - Event Identifier - Address Value Type - Address Value
2.8107	BIOMETRIC SUBJECT PRIVACY ACT INDICATOR	0	0	1	BIOMETRIC SUBJECT PRIVACY ACT INDICATOR
2.8108	ENCOUNTER COMMENT	0	0	1	ENCOUNTER COMMENT
2.8109	DoD CANDIDATE LIST	0	0	99	DoD CANDIDATE LIST - DoD Number - Candidate Name
2.8110	IRIS IMAGE OMITTED REASON	0	0	1	IRIS IMAGE OMITTED REASON
2.8200	SUBMISSION PRIORITY	0	0	1	SUBMISSION PRIORITY
2.8202	VERIFICATION IDENTIFIER	0	0	1	VERIFICATION IDENTIFIER - Verification Identifier Type - Verification Identifier Value

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
2.8203	TEMPLATE EXTRACTION ALGORITHM	0	0	1	TEMPLATE EXTRACTION ALGORITHM - Template Extraction Algorithm Name - Template Extraction Algorithm Version
2.8204	LIMIT OF CANDIDATES	0	0	1	LIMIT OF CANDIDATES

**4.2.1 Field 2.001 Logical Record Length (LEN)****4.2.2 Field 2.002 Image Designation Character (IDC)****4.2.3 Field 2.003 FBI File Number (FFN)****4.2.4 Field 2.007 Send Copy To (SCO)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.5 Field 2.009 Originating Agency Case Number (OCA)****4.2.6 Field 2.010 Contributor Case Identifier Number (CIN)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.010\_1 Contributor Case Prefix.
- Subfield 2.010\_2 Contributor Case Identifier Subfield.

**4.2.7 Field 2.011 Contributor Case Identifier Extension (CIX)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.8 Field 2.012 FBI Latent Case Number (LCN)****4.2.9 Field 2.014 FBI Number (FBI)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.10 Field 2.015 FBI State Identification Number (SID)****4.2.11 Field 2.024 Biometric Subject Gender (SEX)****4.2.12 Field 2.032 Biometric Subject Hair Color (HAI)****4.2.13 Field 2.037 FBI Reason Fingerprinted (RFP)****4.2.14 Field 2.044 FBI Geographic Area of Search (GEO)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.15 Field 2.045 Date of Arrest (DOA)****4.2.16 Field 2.047 Arrest Segment Literal (ASL)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.047\_1 Date of Offense.
- Subfield 2.047\_2 Arrest Offense Literal.

The following is an example of more than one occurrence of the AOL field using Date of Arrest:

2.047:19940915<US>DUI<RS>19940920<US>POSSESSION OF FIREARMS<GS>

#### **4.2.17 Field 2.051 Court Segment Literal (CSL)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.051\_1 Court Disposition Date (CDD).
- Subfield 2.051\_2 Court Offense Literal (COL).
- Subfield 2.051\_3 Other Court Sentence Provision Literal (CPL).

If the Court Disposition Date is not available, a <US> separator character alone shall be used immediately after the field tag or preceding <RS> separator character. The Court Offense Literal and Other Court Sentence Provision Literal are always mandatory. A Court Disposition Date may optionally be given.

The following is an example of the CSL with multiple occurrences:

```
2.051:19940930<US>DUI<US>5 DAYS JAIL, PAY COURT  
COSTS<RS>19940930<US>POSSESSION OF FIREARMS<US>10 DAYS JAIL, PAY COURT  
COSTS, $50<GS>
```

The following is an example of the CSL when the first of two Court Disposition Dates was not available:

```
2.051: <US>DUI<US>5 DAYS JAIL, PAY COURT COSTS<RS>19940930<US>POSSESSION OF  
FIREARMS<US>10 DAYS JAIL, PAY COURT COSTS, $50<GS>
```

#### **4.2.18 Field 2.053 FBI Offense Category (OFC)**

#### **4.2.19 Field 2.054 Custody or Supervisory Status Start Date (SSD)**

#### **4.2.20 Field 2.055 Custody or Supervisory Status Literal (SLE)**

#### **4.2.21 Field 2.056 Identification Comments (ICO)**

#### **4.2.22 Field 2.059 Search Results Findings (SRF)**

#### **4.2.23 Field 2.060 Status / Error Message (MSG)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

#### **4.2.24 Field 2.061 Latent Case Title (CST)**

#### **4.2.25 Field 2.063 Person Type Designator (PTD)**

#### **4.2.26 Field 2.064 Candidate List (CAN)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.064\_1 Universal Control Number.
- Subfield 2.064\_2 Candidate Name.

**4.2.27 Field 2.065 FBI Repository Statistics Response (RSR)****4.2.28 Field 2.069 Estimated Time to Complete (ETC)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.29 Field 2.070 Request Electronic Rap Sheet (RAP)****4.2.30 Field 2.071 FBI Action to be Taken (ACN)****4.2.31 Field 2.073 Controlling Agency Identifier (CRI)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.32 Field 2.075 Electronic Rap Sheet (ERS)****4.2.33 Field 2.076 Latent Search Priority (PRI)****4.2.34 Field 2.077 Search Cancellation (CFS)**

Each search cancellation indicator shall be separated from the next by the <RS> separator character.

**4.2.35 Field 2.079 Number of Candidate Images Returned (NCR)****4.2.36 Field 2.080 Response Explanation (EXP)****4.2.37 Field 2.082 Response Code (REC)****4.2.38 Field 2.084 Biometric Subject Finger Amputated or Bandaged (AMP)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

Subfields are separated by the <US> character, in the following order:

- Subfield 2.084\_1 Finger Number.
- Subfield 2.084\_2 Amputated or Bandaged Code.

**4.2.39 Field 2.085 FBI Civil Record Number (CRN)****4.2.40 Field 2.086 AFIS Segment Control Number (SCNA)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.41 Field 2.088 Latent Submission Comments (NOT)****4.2.42 Field 2.089 Match Score (MSC)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.43 Field 2.094 FBI Court Case Number (CCN)****4.2.44 Field 2.096 Request Photo Record (RPR)****4.2.45 Field 2.303 DoD Number (DOD\_NO)****4.2.46 Field 2.306 Geographic Coordinate Latitude/Longitude (GEO\_CORD)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.306\_1 Geographic Coordinate Latitude Degree.
- Subfield 2.306\_2 Geographic Coordinate Latitude Minute.
- Subfield 2.306\_3 Geographic Coordinate Latitude Second.
- Subfield 2.306\_4 Geographic Coordinate Longitude Degree.

- Subfield 2.306\_5 Geographic Coordinate Longitude Minute.
- Subfield 2.306\_6 Geographic Coordinate Longitude Second.

Geographic Coordinate Latitude Degree and Coordinate Longitude Degree subfields are mandatory. If any other subfield is not available, a <US> separator character alone shall be used immediately after the preceding <US> separator character.

The datum for this field is indicated in Field 2.307 Geographic Coordinate Datum ID.

#### **4.2.47 Field 2.307 Geographic Coordinate Datum (DATUM\_ID)**

The Geographic Coordinate Datum field shall apply to all coordinate representations (geographic, alternate, UTM).

#### **4.2.48 Field 2.310 Biometric Subject Personnel Type (PER\_TYPE)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

#### **4.2.49 Field 2.316 Request Mug Shot (RMS)**

#### **4.2.50 Field 2.317 Request Secondary Search (RIS)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.317\_1 Name of Designated Repository.
- Subfield 2.317\_2 Request Secondary Search Transaction Type.
- Subfield 2.317\_3 Secondary Search Retention Code.

#### **4.2.51 Field 2.318 XML-based Rap Sheet (XML)**

#### **4.2.52 Field 2.321 Geographic Coordinate – Other (CORD\_OTHER)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.321\_1 Geographic Coordinate Other System Identifier.
- Subfield 2.321\_2 Geographic Coordinate Other System Value.

The datum for this field is indicated in Field 2.307 Geographic Coordinate Datum ID.

#### **4.2.53 Field 2.322 Geographic Coordinate Universal Transverse Mercator (CORD\_UTM)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.322\_1 Geographic Coordinate Universal Transverse Mercator Zone.
- Subfield 2.322\_2 Geographic Coordinate Universal Transverse Mercator Northing.
- Subfield 2.322\_3 Geographic Coordinate Universal Transverse Mercator Easting.

The datum for this field is indicated in Field 2.307 Geographic Coordinate Datum ID.

#### **4.2.54 Field 2.350 Alert (ALERT)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.350\_1 Alert Function.
- Subfield 2.350\_2 Alert Category.
- Subfield 2.350\_3 Alert Value.



- Subfield 2.350\_4 Alert Contact.
- Subfield 2.350\_5 Alert Detail.

#### **4.2.55 Field 2.351 Additional Response (ARSP)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.351\_1 Additional Response Source.
- Subfield 2.351\_2 Additional Response Result.
- Subfield 2.351\_3 Additional Response Identifier.
- Subfield 2.351\_4 Additional Response Rap Sheet.

#### **4.2.56 Field 2.352 Transaction Lookup (LOOKUP)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.352\_1 Transaction Lookup Type.
- Subfield 2.352\_2 Transaction Lookup Identifier Value.

#### **4.2.57 Field 2.353 Subsequent Notification (SN)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.353\_1 Subsequent Notification Function.
- Subfield 2.353\_2 Subsequent Notification Email Address.

#### **4.2.58 Field 2.8000 Biometric Subject Name (NAME)**

This field identifies the names of a subject. Since a subject may have multiple types of names, a DoD EBTS transaction may have more than one occurrence of the Biometric Subject Name field, each separated by the <RS> character.

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8000\_1 Name Value Type.
- Subfield 2.8000\_2 Name Value.
- Subfield 2.8000\_3 Name Validity.

All subfields are not required to be populated but each empty subfield shall be separated from the next one by the <US> character.

#### **4.2.59 Field 2.8001 Biometric Subject Address (SUBJ\_ADDR)**

A DoD EBTS transaction may have one or more occurrences of the Biometric Subject Address Information field, each separated by the <RS> character.

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8001\_1 Address Value Type.
- Subfield 2.8001\_2 Address Value.

#### **4.2.60 Field 2.8002 Biometric Subject Contact (SUBJ\_CNTCT)**

A DoD EBTS transaction may have one or more occurrences of the Biometric Subject Contact Information field, each separated by the <RS> character.

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8002\_1 Contact Mode.
- Subfield 2.8002\_2 Contact Mode Value.

#### **4.2.61 Field 2.8003 Biometric Subject Birth Date (DOB)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8003\_1 Date Value.
- Subfield 2.8003\_2 Date Validity.
- Subfield 2.9003\_3 Calendar Type. This subfield shall equal “G” to indicate the use of the Gregorian calendar.

#### **4.2.62 Field 2.8004 Biometric Subject Birth Place (POB)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8004\_1 Address Value Type.
- Subfield 2.8004\_2 Address Value.

#### **4.2.63 Field 2.8005 Biometric Subject Death Date (DOD)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8005\_1 Date Value.
- Subfield 2.8005\_2 Date Validity.
- Subfield 2.9005\_3 Calendar Type. This subfield shall equal “G” to indicate the use of the Gregorian calendar.

#### **4.2.64 Field 2.8006 Biometric Subject Death Place (POD)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8006\_1 Address Value Type.
- Subfield 2.8006\_2 Address Value.

#### **4.2.65 Field 2.8007 Biometric Subject Citizenship (CTZ)**

Each field shall be separated from the next by the <RS> separator character with primary citizenship first followed by none, one, or more secondary citizenships.

#### **4.2.66 Field 2.8008 Biometric Subject Ethnic/Racial Characteristic**

A DoD EBTS transaction may have one or two occurrences of the Biometric Subject Ethnic/Racial Characteristic field. It shall not have more than two occurrences. Each field shall be separated from the next by the <RS> separator character.

#### **4.2.67 Field 2.8009 Biometric Subject Measurement – Height (HGT)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8009\_1 Measurement Type. This field shall always contain the value “HGT”.
- Subfield 2.8009\_2 Measurement Value. This value shall be represented in feet and inches according to the DoD DD.
- Subfield 2.8009\_3 Measurement Unit. This field shall always contain the value “FTIN” to indicate the use of three characters to represent feet and inches.
- Subfield 2.8009\_4 Measurement Validity.

#### **4.2.68 Field 2.8010 Biometric Subject Measurement – Weight (WGT)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8010\_1 Measurement Type. This field shall always contain the value “WGT”.
- Subfield 2.8010\_2 Measurement Value. This value shall be represented in pounds according to the DoD DD.
- Subfield 2.8010\_3 Measurement Unit. This field shall always contain the value “LB” to indicate the use of three characters to represent weight.
- Subfield 2.8010\_4 Measurement Validity.

#### **4.2.69 Field 2.8011 Biometric Subject Eye Color Left (LEYE)**

#### **4.2.70 Field 2.8012 Biometric Subject Eye Color Right (REYE)**

#### **4.2.71 Field 2.8013 Biometric Subject Blood Type (BLOOD)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8013\_1 Biometric Subject Blood Type Value.
- Subfield 2.8013\_2 Biometric Subject Blood Type Validity.

#### **4.2.72 Field 2.8014 Biometric Subject Vital Status (VITAL)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8014\_1 Biometric Subject Vital Status Value.
- Subfield 2.8014\_2 Biometric Subject Vital Status Validity.

#### **4.2.73 Field 2.8015 Biometric Subject Other Physical Characteristic (OTHR\_PHYS)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.74 Field 2.8016 Biometric Subject Marital Status (MAR\_STAT)****4.2.75 Field 2.8017 Biometric Subject Associated Individual (IASSOC)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8017\_1 Associated Individual Gender.
- Subfield 2.8017\_2 Associated Individual Role.
- Subfield 2.8017\_3 Name Value Type.
- Subfield 2.8017\_4 Name Value.

**4.2.76 Field 2.8018 Biometric Subject Group Membership (GRPMBR)**

This field identifies the associations of a subject with a group. Since a subject may have multiple associations, a DoD EBTS transaction may have more than one occurrence of the Biometric Subject Group Membership field.

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8018\_1 Biometric Subject Group Name.
- Subfield 2.8018\_2 Biometric Subject Group Type.
- Subfield 2.8018\_3 Biometric Subject Group Member Role.
- Subfield 2.8018\_4 Address Value Type.
- Subfield 2.8018\_5 Address Value.
- Subfield 2.8018\_6 Contact Mode.
- Subfield 2.8018\_7 Contact Mode Value.

**4.2.77 Field 2.8019 Collected Identification (COL\_IDENT)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8019\_1 Collected Identification Type.
- Subfield 2.8019\_2 Collected Identification Identifier.
- Subfield 2.8019\_3 Collected Identification Issuance Organization.
- Subfield 2.8019\_4 Collected Identification Issuance Date.
- Subfield 2.8019\_5 Collected Identification Expiration Date.
- Subfield 2.8019\_6 Collected Identification Issuance Office.
- Subfield 2.8019\_7 Collected Identification Comment.

**4.2.78 Field 2.8020 Collection Application Assigned Identification (COL\_APP\_ASGN\_IDENT)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8020\_1 Collection Application Name.
- Subfield 2.8020\_2 Collection Application Identifier Field Name.
- Subfield 2.8020\_3 Collection Application Assigned Identifier.

**4.2.79 Field 2.8021 Biometric Subject Clearance (CLEAR)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8021\_1 Biometric Subject Clearance Value.
- Subfield 2.8021\_2 Biometric Subject Clearance Validity.

#### **4.2.80 Field 2.8022 Biometric Subject Claimed Compartments (COMPART)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8022\_1 Biometric Subject Compartments Value.
- Subfield 2.8022\_2 Biometric Subject Compartments Validity.

#### **4.2.81 Field 2.8023 Biometric Subject Comment (SUBJ\_COM)**

#### **4.2.82 Field 2.8024 Biometric Subject US Person Indicator (SUBJ\_COM)**

#### **4.2.83 Field 2.8025 Biometric Subject Derogatory Comment (SUBJ\_COM)**

#### **4.2.84 Field 2.8100 Collection Location (BLO)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8100\_1 Address Value Type.
- Subfield 2.8100\_2 Address Value.

#### **4.2.85 Field 2.8101 Contextual Data Collection Date (COLL\_DATE)**

#### **4.2.86 Field 2.8102 Encounter Mission Type (ENCTR\_MSN)**

#### **4.2.87 Field 2.8103 Collection Reason (COL\_RSN)**

#### **4.2.88 Field 2.8104 Operational Personnel (OPER)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8104\_1 Operational Personnel Unit/Organization.
- Subfield 2.8104\_2 Operational Personnel Role.
- Subfield 2.8104\_3 Operational Personnel Rank/Grade.
- Subfield 2.8104\_4 US Person Indicator.
- Subfield 2.8104\_5 Operational Personnel Identifier Type.
- Subfield 2.8104\_6 Operational Personnel Identifier.
- Subfield 2.8104\_7 Name Value Type.
- Subfield 2.8104\_8 Name Value.
- Subfield 2.8104\_9 Contact Mode.
- Subfield 2.8104\_10 Contact Mode Value.

#### **4.2.89 Field 2.8105 Conveyance (CONVEY)**

Each occurrence of this field shall be separated from the next by the <RS> separator character. Subfields are separated by the <US> character, in the following order:

- Subfield 2.8105\_1 Conveyance Type.
- Subfield 2.8105\_2 Conveyance Identifier Type.
- Subfield 2.8105\_3 Conveyance Identifier Value.

**4.2.90 Field 2.8106 Event (EVENT)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8106\_1 Event Identifier.
- Subfield 2.8106\_2 Address Value Type.
- Subfield 2.8106\_3 Address Value.

**4.2.91 Field 2.8107 Biometric Subject Privacy Act Indicator (PRI\_ACT)****4.2.92 Field 2.8108 Encounter Comment (ENCTR\_COM)****4.2.93 Field 2.8109 DoD Candidate List (DOD\_CAND)**

Each occurrence of this field shall be separated from the next by the <RS> separator character.

**4.2.94 Field 2.8110 Iris Image Omitted Reason (IOMITTED)****4.2.95 Field 2.8200 Submission Priority (PRIORITY)****4.2.96 Field 2.8202 Verification Identifier (VID)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8202\_1 Verification Identifier Type.
- Subfield 2.8202\_2 Verification Identifier Value.

**4.2.97 Field 2.8203 Template Extraction Algorithm (TEA)**

Subfields are separated by the <US> character, in the following order:

- Subfield 2.8203\_1 Template Extraction Algorithm Name.
- Subfield 2.8203\_2 Template Extraction Algorithm Version.

**4.2.98 Field 2.8204 Limit of Candidates (LIMIT\_CAND)****4.3 Type-9 Records [Minutiae Data]**

DoD EBTS Type-9 records are defined in the ITL 1-2007. DoD EBTS Type-9 records shall choose one of the following minutiae blocks as defined in ITL 1-2007, Table 14:

- a. the “IAFIS Features” (FBI Native-Mode) minutiae block (fields 13-30) as described in the FBI EBTS.
- b. the “M1-378 Features” minutiae block (fields 126-150) as described in Annex G of ITL 1-2007.

**Table 5: Type-9 Minutiae Data Record Layout (IAFIS Features)**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
9.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
9.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
9.003	IMPRESSION TYPE	M	1	1	IMPRESSION TYPE
9.004	MINUTIAE FORMAT	M	1	1	MINUTIAE FORMAT
9.013	AFIS FEATURE VECTOR	C	0	1	AFIS FEATURE VECTOR
9.014	FINGER NUMBER	M	1	1	FINGER NUMBER
9.015	NUMBER OF MINUTIAE	M	1	1	NUMBER OF MINUTIAE
9.016	FINGERPRINT CHARACTERIZATION PROCESS	M	1	1	FINGERPRINT CHARACTERIZATION PROCESS - Fingerprint Characterization Equipment - Fingerprint Characterization Version Identifier - Fingerprint Characterization Method
9.017	AFIS/FBI PATTERN CLASSIFICATION	O	0	3	AFIS/FBI PATTERN CLASSIFICATION - Pattern Classification - Ridge Count Number 1 - Ridge Count Number 2
9.018	REGION OF VALUE POLYGON	O	0	1	REGION OF VALUE POLYGON - Vertex
9.019	COORDINATE OFFSETS	O	0	1	COORDINATE OFFSETS - Offset to Upper Left Corner Subimage - Center of Rotation in Subimage - Rotation Angle Clock Wise Degrees - Rotation Center in Rotated Subimage - Offset to Upper Left Corner Final Subimage
9.020	ORIENTATION UNCERTAINTY				ORIENTATION UNCERTAINTY

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
9.021	CORE ATTRIBUTES	O	0	2	CORE ATTRIBUTES - Core Location - Core Direction in Degrees - Core Position Uncertainty
9.022	DELTA ATTRIBUTES	O	0	2	DELTA ATTRIBUTES - Delta Location - Upward Flow Direction - Leftward Flow Direction - Rightward Flow Direction - Delta Position Uncertainty
9.023	MINUTIA AND RIDGE COUNT DATA	M	1	254	MINUTIA AND RIDGE COUNT DATA - Minutia Index Number - Location Direction - Quality Measure - Minutia Type - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Ridge Count Data - Octant Residuals
9.024	CHARACTERIZATION QUALITY	O	0	1	CHARACTERIZATION QUALITY
9.025	CLASSIFIER QUALITY	O	0	1	CLASSIFIER QUALITY



**Table 6: Type-9 Minutiae Data Record Layout (INCITS-378 Features)**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
9.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
9.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
9.003	IMPRESSION TYPE	M	1	1	IMPRESSION TYPE
9.004	MINUTIAE FORMAT	M	1	1	MINUTIAE FORMAT
9.126	CBEFF INFORMATION	M	1	1	CBEFF INFORMATION - CBEFF Format Owner - CBEFF Format Type - CBEFF Product Identifier
9.127	CAPTURE EQUIPMENT IDENTIFICATION	M	1	1	CAPTURE EQUIPMENT IDENTIFICATION - Capture Equipment Conformance - Capture Equipment Identifier
9.128	HORIZONTAL LINE LENGTH	M	1	1	HORIZONTAL LINE LENGTH
9.129	VERTICAL LINE LENGTH	M	1	1	VERTICAL LINE LENGTH
9.130	SCALE UNITS	M	1	1	SCALE UNITS
9.131	HORIZONTAL PIXEL SCALE	M	1	1	HORIZONTAL PIXEL SCALE
9.132	VERTICAL PIXEL SCALE	M	1	1	VERTICAL PIXEL SCALE
9.133	FINGER VIEW	M	1	1	FINGER VIEW
9.134	FINGER POSITION	M	1	1	FINGER POSITION
9.135	FINGER QUALITY	M	1	1	FINGER QUALITY - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product
9.136	NUMBER OF MINUTIAE	M	1	1	NUMBER OF MINUTIAE

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
9.137	FINGER MINUTIA DATA	M	1	n <sup>1</sup>	FINGER MINUTIAE DATA - Minutia Index Number - Minutia X Coordinate - Minutia Y Coordinate - Minutia Angle - Minutia Type - Quality Measure
9.138	RIDGE COUNT INFORMATION	M	1	n <sup>1</sup>	RIDGE COUNT INFORMATION - Ridge Count Extraction Method - "0" - "0" or - Minutia Index Number - Minutia Index Number - Number of Ridges
9.139	CORE INFORMATON	M	1	n <sup>1</sup>	CORE INFORMATON - Core X Coordinate - Core Y Coordinate - Core Angle
9.140	DELTA INFORMATON	M	1	n <sup>1</sup>	DELTA INFORMATON - Delta X Coordinate - Delta Y Coordinate - Delta Angle

Note 1: n equals the number of minutiae recorded in 9.136.

#### **4.4 Type-10 Records [Facial & SMT]**

DoD EBTS Type-10 records are defined in ITL 1-2007. DoD EBTS adds three fields to that definition.

##### **4.4.1 Field 10.200 Device Unique Identifier (DEV\_UI)**

##### **4.4.2 Field 10.201 Capture Device Global Identifier (DEV\_GI)**

##### **4.4.3 Field 10.202 Capture Device Information (DEV\_INFO)**

Subfields are separated by the <US> character, in the following order:

- Subfield 10.202\_1 Capture Device Manufacturer.
- Subfield 10.202\_2 Capture Device Model.
- Subfield 10.202\_3 Capture Device Serial Number.

**Table 7: Type-10 Facial and SMT Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
10.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
10.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
10.003	IMAGE TYPE	M	1	1	IMAGE TYPE
10.004	SOURCE AGENCY/ORI	M	1	1	SOURCE AGENCY/ORI
10.005	PHOTO DATE	M	1	1	PHOTO DATE
10.006	HORIZONTAL LINE LENGTH	M	1	1	HORIZONTAL LINE LENGTH
10.007	VERTICAL LINE LENGTH	M	1	1	VERTICAL LINE LENGTH
10.008	SCALE UNITS	M	1	1	SCALE UNITS
10.009	HORIZONTAL PIXEL SCALE	M	1	1	HORIZONTAL PIXEL SCALE
10.010	VERTICAL PIXEL SCALE	M	1	1	VERTICAL PIXEL SCALE
10.011	COMPRESSION ALGORITHM	M	1	1	COMPRESSION ALGORITHM
10.012	COLOR SPACE	M	1	1	COLOR SPACE
10.013	SUBJECT ACQUISITION PROFILE	M	1	1	SUBJECT ACQUISITION PROFILE
10.016	SCANNED HORIZONTAL PIXEL SCALE	O	0	1	SCANNED HORIZONTAL PIXEL SCALE
10.017	SCANNED VERTICLE PIXEL SCALE	O	0	1	SCANNED VERTICLE PIXEL SCALE
10.020	SUBJECT POSE	M	0	1	SUBJECT POSE
10.021	POSE OFFSET ANGLE	C1	0	1	POSE OFFSET ANGLE
10.023	PHOTO ACQUISITION SOURCE	O	0	1	PHOTO ACQUISITION SOURCE - Photo Acquisition Source Type Code - Photo Acquisition Source Vendor Description
10.024	SUBJECT QUALITY SCORE	O	0	9	SUBJECT QUALITY SCORE - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
10.025	SUBJECT POSE ANGLES	C2	0	1	SUBJECT POSE ANGLES - 3 or 6 information items (see ITL 1-2007)
10.026	SUBJECT FACIAL DESCRIPTION	C3	0	50	SUBJECT FACIAL DESCRIPTION
10.027	SUBJECT EYE COLOR	C3	0	1	SUBJECT EYE COLOR
10.028	SUBJECT HAIR COLOR	C3	0	2	SUBJECT HAIR COLOR
10.029	FACIAL FEATURE POINTS	O	0	88	FACIAL FEATURE POINTS - Feature Point Type - Feature Point Code - X Coordinate - Y Coordinate
10.030	DEVICE MONITORING MODE	O	0	1	DEVICE MONITORING MODE
10.040	NCIC DESIGNATION CODE	C4	1	3	NCIC DESIGNATION CODE
10.041	SMT SIZE	O	0	1	SMT SIZE - SMT Height - SMT Width
10.042	SMT DESCRIPTORS	O	0	9	SMT DESCRIPTORS
10.043	COLOR	O	0	9	COLOR
10.200	DEVICE UNIQUE IDENTIFIER	O	0	1	DEVICE UNIQUE IDENTIFIER
10.201	CAPTURE DEVICE GLOBAL IDENTIFIER	O	0	1	CAPTURE DEVICE GLOBAL IDENTIFIER
10.202	CAPTURE DEVICE INFORMATION	O	0	1	CAPTURE DEVICE INFORMATION - Capture Device Manufacturer - Capture Device Model - Capture Device Serial Number
10.999	IMAGE DATA	M	1	1	IMAGE DATA

Note 1: Mandatory if field 10.020 is set to 'A' (angle).

Note 2: Mandatory if field 10.020 is set to 'D' (determined 3D pose).

Note 3: Mandatory if the field 10.013 is "40" or greater.

Note 4: Mandatory for records containing SMT data.

## **4.5 Type-13 Records [Variable-Resolution Latent Image]**

DoD EBTS Type-13 records are defined in ITL 1-2007. DoD EBTS adds six fields to that definition.

### **4.5.1 Field 13.200 Device Unique Identifier (DEV\_UI)**

### **4.5.2 Field 13.201 Capture Device Global Identifier (DEV\_GI)**

### **4.5.3 Field 13.202 Capture Device Information (DEV\_INFO)**

Subfields are separated by the <US> character, in the following order:

- Subfield 13.202\_1 Capture Device Manufacturer.
- Subfield 13.202\_2 Capture Device Model.
- Subfield 13.202\_3 Capture Device Serial Number.

### **4.5.4 Field 13.203 Latent Circumstances (LATENT\_CIRC)**

### **4.5.5 Field 13.204 Latent Source Item (LATENT\_ITM)**

### **4.5.6 Field 13.205 Latent Development (LATENT\_MET)**

**Table 8: Type-13 Variable-Resolution Latent Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
13.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
13.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
13.003	IMPRESSION TYPE	M	1	1	IMPRESSION TYPE
13.004	SOURCE AGENCY/ORI	M	1	1	SOURCE AGENCY/ORI
13.005	LATENT CAPTURE DATE	M	1	1	LATENT CAPTURE DATE
13.006	HORIZONTAL LINE LENGTH	M	1	1	HORIZONTAL LINE LENGTH
13.007	VERTICAL LINE LENGTH	M	1	1	VERTICAL LINE LENGTH
13.008	SCALE UNITS	M	1	1	SCALE UNITS
13.009	HORIZONTAL PIXEL SCALE	M	1	1	HORIZONTAL PIXEL SCALE
13.010	VERTICAL PIXEL SCALE	M	1	1	VERTICAL PIXEL SCALE
13.011	COMPRESSION ALGORITHM	M	1	1	COMPRESSION ALGORITHM
13.012	BITS PER PIXEL	M	1	1	BITS PER PIXEL
13.013	FINGER/PALM POSITION	M	1	6	FINGER/PALM POSITION
13.014	SEARCH POSITION DESCRIPTORS	C <sup>1</sup>	0	9	SEARCH POSITION DESCRIPTORS - Probable Decimal Finger Position - EJI/Tip Image Type
13.015	PRINT POSITION COORDINATES	C <sup>1</sup>	0	12	PRINT POSITION COORDINATES - 6 information items (see ITL 1-2007)
13.016	SCANNED HORIZONTAL PIXEL SCALE	O	0	1	SCANNED HORIZONTAL PIXEL SCALE
13.017	SCANNED VERTICAL PIXEL SCALE	O	0	1	SCANNED VERTICAL PIXEL SCALE
13.020	COMMENT	O	0	1	COMMENT
13.024	LATENT QUALITY METRIC	O	0	4	LATENT QUALITY METRIC - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product



Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
13.200	DEVICE UNIQUE IDENTIFIER	O	0	1	DEVICE UNIQUE IDENTIFIER
13.201	CAPTURE DEVICE GLOBAL IDENTIFIER	O	0	1	CAPTURE DEVICE GLOBAL IDENTIFIER
13.202	CAPTURE DEVICE INFORMATION	O	0	1	CAPTURE DEVICE INFORMATION - Capture Device Manufacturer - Capture Device Model - Capture Device Serial Number
13.203	LATENT CIRCUMSTANCES	O	0	1	LATENT CIRCUMSTANCES
13.204	LATENT SOURCE ITEM	O	0	1	LATENT SOURCE ITEM
13.205	LATENT DEVELOPMENT	O	0	1	LATENT DEVELOPMENT
13.999	IMAGE DATA	M	1	1	IMAGE DATA

Note 1: Optional – present if and only if field 13.013 is set to “19”.

## **4.6 Type-14 Records [Var-Res Fingerprint Image]**

DoD EBTS Type-14 records are defined in ITL 1-2007. DoD EBTS adds three fields to that definition.

### **4.6.1 Field 14.200 Device Unique Identifier (DEV\_UI)**

### **4.6.2 Field 14.201 Capture Device Global Identifier (DEV\_GI)**

### **4.6.3 Field 14.202 Capture Device Information (DEV\_INFO)**

Subfields are separated by the <US> character, in the following order:

- Subfield 13.204\_1 Capture Device Manufacturer.
- Subfield 13.204\_2 Capture Device Model.
- Subfield 13.204\_3 Capture Device Serial Number.

**Table 9: Type-14 Variable-Resolution Fingerprint Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
14.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
14.002	IMAGE DESIGNATION CHAR.	M	1	1	IMAGE DESIGNATION CHARACTER
14.003	IMPRESSION TYPE	M	1	1	IMPRESSION TYPE
14.004	SOURCE AGENCY/ORI	M	1	1	SOURCE AGENCY/ORI
14.005	FINGERPRINT CAPTURE DATE	M	1	1	FINGERPRINT CAPTURE DATE
14.006	HORIZONTAL LINE LENGTH	M	1	1	HORIZONTAL LINE LENGTH
14.007	VERTICAL LINE LENGTH	M	1	1	VERTICAL LINE LENGTH
14.008	SCALE UNITS	M	1	1	SCALE UNITS
14.009	HORIZONTAL PIXEL SCALE	M	1	1	HORIZONTAL PIXEL SCALE
14.010	VERTICAL PIXEL SCALE	M	1	1	VERTICAL PIXEL SCALE
14.011	COMPRESSION ALGORITHM	M	1	1	COMPRESSION ALGORITHM
14.012	BITS PER PIXEL	M	1	1	BITS PER PIXEL
14.013	FINGER POSITION	M	1	6	FINGER POSITION
14.014	PRINT POSITION DESCRIPTORS	C1	0	1	PRINT POSITION DESCRIPTORS - Probable Decimal Finger Position - EJI/Tip Image Type
14.015	PRINT POSITION COORDINATES	C1	0	12	PRINT POSITION COORDINATES - 6 information items (see ITL 1-2007)
14.016	SCANNED HORIZONTAL PIXEL SCALE	O	0	1	SCANNED HORIZONTAL PIXEL SCALE
14.017	SCANNED VERTICAL PIXEL SCALE	O	0	1	SCANNED VERTICAL PIXEL SCALE
14.018	AMPUTATED OR BANDAGED	O	0	4	AMPUTATED OR BANDAGED - Finger Position - Amputated or Bandaged Code
14.020	COMMENT	O	0	1	COMMENT

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
14.021	FINGERPRINT SEGMENT POSITION(S)	0	0	*	FINGERPRINT SEGMENT POSITION(S) - Finger Position - Horizontal Offset Left - Horizontal Offset Right - Vertical Offset Top - Vertical Offset Bottom
14.022	NIST QUALITY METRIC	0	0	4	NIST QUALITY METRIC - Finger Position - Predicted Image Quality Score Quantity
14.023	SEGMENTATION QUALITY METRIC	0	0	*	SEGMENTATION QUALITY METRIC - Finger Position - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product
14.024	FINGERPRINT QUALITY METRIC	0	0	*	FINGERPRINT QUALITY METRIC - Finger Position - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product
14.025	ALTERNATE FINGER SEGMENT POSITION(S)	0	0	4	ALTERNATE FINGERPRINT SEGMENTATION POSITION(S) - Finger Position - Alternate Segment Vertex Count - Alternate Segment Vertex Vertical Coordinate - Alternate Segment Vertex Horizontal Coordinate
14.030	DEVICE MONITORING MODE	0	0	1	DEVICE MONITORING MODE
14.200	DEVICE UNIQUE IDENTIFIER	0	0	1	DEVICE UNIQUE IDENTIFIER
14.201	CAPTURE DEVICE GLOBAL IDENTIFIER	0	0	1	CAPTURE DEVICE GLOBAL IDENTIFIER

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
14.202	CAPTURE DEVICE INFORMATION	O	0	1	CAPTURE DEVICE INFORMATION - Capture Device Manufacturer - Capture Device Model - Capture Device Serial Number
14.999	IMAGE DATA	M	1	1	IMAGE DATA

Note 1: Optional – present if and only if field 14.013 is set to “19”.

#### **4.7 Type-15 Records [Var-Res Palmprint Image]**

DoD EBTS Type-15 records are defined in ITL 1-2007. DoD EBTS adds three fields to that definition.

##### **4.7.1 Field 15.200 Device Unique Identifier (DEV\_UI)**

##### **4.7.2 Field 15.201 Capture Device Global Identifier (DEV\_GI)**

##### **4.7.3 Field 15.202 Capture Device Information (DEV\_INFO)**

Subfields are separated by the <US> character, in the following order:

- Subfield 15.202\_1 Capture Device Manufacturer.
- Subfield 15.202\_2 Capture Device Model.
- Subfield 15.202\_3 Capture Device Serial Number.

**Table 10: Type-15 Variable-Resolution Palmprint Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
15.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
15.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
15.003	IMPRESSION TYPE	M	1	1	IMPRESSION TYPE
15.004	SOURCE AGENCY/ORI	M	1	1	SOURCE AGENCY/ORI
15.005	PALMPRINT CAPTURE DATE	M	1	1	PALMPRINT CAPTURE DATE
15.006	HORIZONTAL LINE LENGTH	M	1	1	HORIZONTAL LINE LENGTH
15.007	VERTICAL LINE LENGTH	M	1	1	VERTICAL LINE LENGTH
15.008	SCALE UNITS	M	1		SCALE UNITS
15.009	HORIZONTAL PIXEL SCALE	M	1	1	HORIZONTAL PIXEL SCALE
15.010	VERTICAL PIXEL SCALE	M	1	1	VERTICAL PIXEL SCALE
15.011	COMPRESSION ALGORITHM	M	1	1	COMPRESSION ALGORITHM
15.012	BITS PER PIXEL	M	1	1	BITS PER PIXEL
15.013	PALMPRINT POSITION	M	1	1	PALMPRINT POSITION
15.016	SCANNED HORIZONTAL PIXEL SCALE	O	0	1	SCANNED HORIZONTAL PIXEL SCALE
15.017	SCANNED VERTICAL PIXEL SCALE	O	0	1	SCANNED VERTICAL PIXEL SCALE
15.020	COMMENT	O	0	1	COMMENT
15.024	PALMPRINT QUALITY METRIC	O	0	4	PALMPRINT QUALITY METRIC - Palmprint Position - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product
15.030	DEVICE MONITORING MODE	O	0	1	DEVICE MONITORING MODE
15.200	DEVICE UNIQUE IDENTIFIER	O	0	1	DEVICE UNIQUE IDENTIFIER
15.201	CAPTURE DEVICE GLOBAL IDENTIFIER	O	0	1	CAPTURE DEVICE GLOBAL IDENTIFIER

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
15.202	CAPTURE DEVICE INFORMATION	O	0	1	CAPTURE DEVICE INFORMATION - Capture Device Manufacturer - Capture Device Model - Capture Device Serial Number
15.999	IMAGE DATA	M	1	1	IMAGE DATA



## **4.8 Type-17 Records [Iris Image]**

DoD EBTS Type-17 records are defined in ITL 1-2007. DoD EBTS adds three fields to that definition.

### **4.8.1 Field 17.200 Device Unique Identifier (DEV\_UI)**

### **4.8.2 Field 17.201 Capture Device Global Identifier (DEV\_GI)**

### **4.8.3 Field 17.202 Capture Device Information (DEV\_INFO)**

Subfields are separated by the <US> character, in the following order:

- Subfield 17.202\_1 Capture Device Manufacturer.
- Subfield 17.202\_2 Capture Device Model.
- Subfield 17.202\_3 Capture Device Serial Number.

**Table 11: Type-17 Iris Image Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
17.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
17.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
17.003	FEATURE IDENTIFIER	M	1	1	FEATURE IDENTIFIER
17.004	SOURCE AGENCY/ORI	M	1	1	SOURCE AGENCY/ORI
17.005	IRIS CAPTURE DATE	M	1	1	IRIS CAPTURE DATE
17.006	HORIZONTAL LINE LENGTH	M	1	1	HORIZONTAL LINE LENGTH
17.007	VERTICAL LINE LENGTH	M	1	1	VERTICAL LINE LENGTH
17.008	SCALE UNITS	M	1	1	SCALE UNITS
17.009	HORIZONTAL PIXEL SCALE	M	1	1	HORIZONTAL PIXEL SCALE
17.010	VERTICAL PIXEL SCALE	M	1	1	VERTICAL PIXEL SCALE
17.011	COMPRESSION ALGORITHM	M	1	1	COMPRESSION ALGORITHM
17.012	BITS PER PIXEL	M	1	1	BITS PER PIXEL
17.013	COLOR SPACE	M	1	1	COLOR SPACE
17.014	ROTATION ANGLE OF EYE	O	0	1	ROTATION ANGLE OF EYE
17.015	ROTATION UNCERTAINTY	O	0	1	ROTATION UNCERTAINTY
17.016	IMAGE PROPERTY CODE	O	0	1	IMAGE PROPERTY CODE - Horizontal Orientation - Vertical Orientation - Scan Type
17.020	EYE COLOR	O	0	1	EYE COLOR
17.021	COMMENT	O	0	1	COMMENT
17.022	SCANNED HORIZONTAL PIXEL SCALE	O	0	1	SCANNED HORIZONTAL PIXEL SCALE
17.023	SCANNED VERTICAL PIXEL SCALE	O	0	1	SCANNED VERTICAL PIXEL SCALE

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
17.024	IMAGE QUALITY SCORE	O	0	1	IMAGE QUALITY SCORE - Image Quality Score Quantity - Image Quality Algorithm Vendor Identifier - Image Quality Algorithm Product
17.025	ACQUISITION LIGHTING SPECTRUM	O	0	1	ACQUISITION LIGHTING SPECTRUM
17.026	IRIS DIAMETER	O	0	1	IRIS DIAMETER
17.030	DEVICE MONITORING MODE	O	0	1	DEVICE MONITORING MODE
17.200	DEVICE UNIQUE IDENTIFIER	O	0	1	DEVICE UNIQUE IDENTIFIER
17.201	CAPTURE DEVICE GLOBAL IDENTIFIER	O	0	1	CAPTURE DEVICE GLOBAL IDENTIFIER
17.202	CAPTURE DEVICE INFORMATION	O	0	1	CAPTURE DEVICE INFORMATION - Capture Device Manufacturer - Capture Device Model - Capture Device Serial Number
17.999	IRIS IMAGE DATA	M	1	1	IRIS IMAGE DATA

#### **4.9 Type-99 Records [CBEFF Biometric Data Record]**

DoD EBTS Type-99 records are completely defined in ITL 1-2007.

**Table 12: Type-99 CBEFF Biometric Data Record Layout**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	IDD element
99.001	LOGICAL RECORD LENGTH	M	1	1	LOGICAL RECORD LENGTH
99.002	IMAGE DESIGNATION CHARACTER	M	1	1	IMAGE DESIGNATION CHARACTER
99.004	SOURCE AGENCY/ORI	M	1	1	SOURCE AGENCY/ORI
99.005	BIOMETRIC CREATION DATE	M	1	1	BIOMETRIC CREATION DATE
99.100	CBEFF HEADER VERSION	M	1	1	CBEFF HEADER VERSION
99.101	BIOMETRIC TYPE	M	1	1	BIOMETRIC TYPE
99.102	BIOMETRIC DATA QUALITY	O	0	1	BIOMETRIC DATA QUALITY - Biometric Data Quality Score Quantity - Biometric Data Quality Vendor Identifier - Biometric Data Quality Product
99.103	BDB FORMAT OWNER	M	1	1	BDB FORMAT OWNER
99.104	BDB FORMAT TYPE	M	1	1	BDB FORMAT TYPE
99.999	BIOMETRIC DATA BLOCK	M	1	1	BIOMETRIC DATA BLOCK

## APPENDIX A: ACRONYM LIST

ACRONYM	DEFINITION
ABIS	Automated Biometric Identification System
AFIS	Automated Fingerprint Identification System
ANSI	American National Standards Institute
ASCII	American Standard Code for Information Interchange
BAT	Biometrics Automated Toolset
BTF	DoD Biometrics Task Force
CJIS	Criminal Justice Information Systems
DBIDS	Defense Biometric Identification System
DoD	Department of Defense
EBTS	Electronic Biometric Transmission Specification
EDIPI	Electronic Data Interchange Personal Identifier
EFTS	Electronic Fingerprint Transmission Specification
EPW	Enemy Prisoner of War
FBI	Federal Bureau of Investigation
GMT	Greenwich Mean Time
GUID	Global Unique Identifier
INCITS	InterNational Committee for Information Technology Standards
ISN	Internment Serial Number
MGRS	Military Grid Reference System
MIO	Maritime Interception Operation Encounter
NCIC	National Crime Information Center
NG-ABIS	Next Generation ABIS
NIST	National Institute of Standards and Technology
OCONUS	Outside the Continental United States
ORI	Originating Agency Identifier
PIV	Personal Identity Verification
ppi	Pixels Per Inch
TCN	Transaction Control Number
TOT	Type of Transaction
USO	United Service Organization
UTC	Universal Time Code
v	version

<b>ACRONYM</b>	<b>DEFINITION</b>
WSQ	Wavelet Scalar Quantization
XML	Extensible Markup Language

# **APPENDIX B**

## **EBTS 1.2 EQUIVALENT APPLICATION PROFILE**





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# **Application Profile for DoD EBTS 1.2 Equivalent**

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## 1.0 INTRODUCTION

This Appendix is an application profile of the Department of Defense (DoD) Electronic Biometric Transmission Specification (EBTS) version 2.0. This profile describes an implementation of the DoD EBTS v2.0 that carries the data contained in a set of DoD EBTS v1.2 transactions. It defines transactions with the same name and purpose as those of EBTS v1.2.

This application profile was written by the DoD Biometrics Task Force (BTF).

### 1.1 Background

Starting with version 2.0 of the DoD EBTS, transactions are no longer specified in the base EBTS document. The new strategy is to combine elements from the base DoD EBTS into transactions that are application specific and to define these transactions in a document called an application profile. This appendix is an application profile.

A system developer must assure that their implementation conforms to the DoD EBTS v2.0 and an application profile. They may either develop their own application profile or conform to an existing one.

### 1.2 Scope and Purpose

The DoD EBTS specifies the interface between DoD systems that capture biometric data and those that store or match it. This application profile is applicable to any implementation that requires the same information contained in the following EBTS v1.2 transactions:

- Submissions (CAR, MAP, LFS)
- Responses (SRE, LSR, ERRT, ERRL)

The primary audience for this application profile consists of software/system engineers who develop, support, and/or test these systems. This document contains the technical details of the DoD EBTS based transactions including binary level codes. Readers are expected to have working knowledge of the ANSI/NIST-ITL 1-2007 as a prerequisite for understanding this specification.

This document may also be used by program managers, trainers, or other system design personnel to gain an understanding of the functionality provided by this application profile.

### 1.3 References

DoD EBTS v2.0, "Department of Defense Electronic Biometric Transmission Specification, version 2.0", 27 March 2009.

DoD EBTS v1.2, "Department of Defense Electronic Biometric Transmission Specification, version 1.2", 8 November 2006.

DoD Integrated Data Dictionary, v2.2.

ANSI/NIST-ITL 1-2007, “American National Standard for Information Systems – Data Format for the Interchange of Fingerprint, Facial, & Other Biometric Information – Part 1” (NIST Special Publication 500-271).

Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services (CJIS), “Electronic Biometric Transmission Specification,” FBI CJIS EFTS v7, January 1999 (CJIS RS 0010(V7)).

## 1.4 Change Control

The BTF maintains change control responsibilities for this document. Requested changes to this document should be submitted to the DoD Biometrics Web site. Refer to Section 1.5 for more information.

## 1.5 Contact Information

DoD Biometrics Web site: <http://www.biometrics.dod.mil>.

For technical issues, contact the BTF Help Desk at (304) 326-3023, Monday through Friday, 0800 -1700 EST or by e-mail at [helpdesk@dodbfca.army.mil](mailto:helpdesk@dodbfca.army.mil).

## 2.0 CONFORMANCE AND UNIQUE REQUIREMENTS

Implementations shall conform to the mandatory features of this specification.

### 2.1 Conformance Categories

There are three categories of systems which may claim conformance to this application profile:

1. Systems which originate transactions.
2. Systems which receive responses.
3. Systems which receive transactions and generate responses.

Generally, but not necessarily, systems that fall in category 1 also fall in category 2. Often, but not necessarily, systems that fall in category 2 also fall in category 1. The developer of a system shall determine the category(ies) into which their equipment falls. The equipment will then be able to be tested for conformance to the appropriate categories. Certifications of conformance to that category will then be available.

#### 2.1.1 Systems that Originate Transactions

Systems that originate transactions are systems which collect biometric data and/or demographic data and submit the data to be processed to a system such as DoD ABIS. These systems must conform to the DoD EBTS v2.0 and this application profile.

These systems shall:

- Be capable of generating at least one Type of Transaction (TOT) as defined in this application profile
- Meet the requirements of Table 4 for the use of logical records to construct each implemented TOT.
- Include all mandatory fields for each logical record type.

### **2.1.2 Systems that Receive Responses**

Systems that receive responses are systems that receive response TOTs that are generated by a system such as DoD ABIS. These systems must conform to the DoD EBTS v2.0 and this application profile.

These systems shall:

- Document the response TOTs it can receive (from the set of TOTs defined in this application profile).
- Process those responses.

### **2.1.3 Systems that Receive Transactions and Generate Responses**

Systems that Receive Transactions and Generate Responses are systems that receive TOT(s), process those transactions, and generate a response TOT for the submitted transaction. These systems must conform to the DoD EBTS v2.0 and this application profile. Such systems are meant to receive transactions from multiple originating systems. These originating systems may participate in widely different operational scenarios and be built by different vendors for different services and agencies. Therefore, a receiver of transaction must be able to accept, verify, and process the transactions from many systems implementing different application profiles, including all optional records and/or fields.

Specification of the capabilities of such a system shall be defined in other documentation.

To conform to this application profile, a system must process TOTs as follows:

- Receive Submission TOTs of CAR, MAP and LFS.
- Generate Response TOTs of SRE, LSR, ERRT, and ERRL.

## **3.0 DEFINITION**

The DoD EBTS v2.0 Type-1 domain name field (1.013) consists of two information items (subfields). The first, DOM\_IMP, uniquely identifies the DoD EBTS Application Profile implementation. The second item, DOM\_VER, identifies the version of the EBTS Application Profile.

### **3.1 Application Profile Name**

This profile will be identified by the name DoD EBTS 1.2 Equivalent Application Profile (referred to in this application profile as “EBTS 1.2 Application Profile”).

### **3.2 Domain Name**

The string that represents the EBTS 1.2 Application Profile is “DoD\_EBTS20\_EBTS12”.

### **3.3 Version Identifier**

The version of the EBTS 1.2 Application Profile defined in this document is 1.0 and is represented by the string “1.0”.

### 3.4 Domain Name Field

An system that implements this application profile would populate the domain name field with these values:

DOMAIN IMPLEMENTATION	DOMAIN VERSION
DoD_EBTS20_EBTS12	1.0

This results in the following field:

**“1.013:DoD\_EBTS20\_EBTS12{US}1.0{GS}“.**

## 4.0 EBTS 1.2 APPLICATION PROFILE TRANSACTIONS

The transactions in this EBTS 1.2 Application Profile have the same names as the transactions of the FBI EFTS and the DoD EBTS v1.2. This profile uses data fields defined in the DoD DD and includes all of the information required for these submissions to be converted into FBI EFTS submissions.

The full set of transactions used in this profile are shown in Table 1.

**Table 1: EBTS 1.2 Application Profile TOT (Submissions and Responses) by Category**

TOT	EBTS 1.2 Application Profile Transaction Name	DoD Implementation Notes
Electronic 10-print Submissions		
CAR	Criminal 10-print Submission (Answer Required)	Submission used for detainee or Enemy Prisoner of War (EPW) or other criminal situations.
MAP	Miscellaneous Applicant	Submission used as part of a background check for local nationals and third country nationals who require access to U.S. military installations or other restricted areas.
Electronic 10-print Responses		
SRE	Submission Results - Electronic	Response containing an identification or non-identification decision; will contain an electronic rap sheet if requested.
ERRT	10-print Transaction Error	Error response.
Electronic Submission of Latent Prints		
LFS	Latent Fingerprint Image(s) Submission	Used for latent image submission and searches.
Electronic Submission of Latent Prints Results		
LSR	Latent Result	Indicates an identification or non-identification decision
ERRL	Latent Transaction Error	Error response.

### 4.1 Transaction Record Requirements

Each EBTS 1.2 Application Profile transaction type has requirements for including a certain number of records of each type. Table 4 defines record requirements for the transaction types in the EBTS 1.2 Application Profile. Notations for the table are as follows:

- A single asterisk (\*) indicates that 14 images are required for this transaction. If less than 14 images are present a reason shall be indicated in the Type-2 record (field 2.084).

- Double asterisks (\*\*) indicate that this record type shall contain iris images. Iris images shall be provided in Type-17 records per ANSI/NIST ITL 1-2007. DoD EBTS v1.2 allows iris images in Type-16 records, this EBTS 1.2 Application Profile does not.

**Table 2: EBTS 1.2 Application Profile Transaction Record Requirements**

TOT	Type-1	Type-2	Type-10	Type-13	Type-14	Type-15	Type-17
CAR	1	1	0-N	-	0-14*	0-8	0-6**
MAP	1	1	0-N	-	0-14*	0-8	0-6**
LFS	1	1	-	0-10	0-10	-	-
SRE	1	1	-	-	-	-	-
LSR	1	1	-	-	0-10	-	-
ERRT	1	1	-	-	-	-	-
ERRL	1	1	-	-	-	-	-

## 5.0 EBTS 1.2 APPLICATION PROFILE TRANSACTION DESCRIPTION

EBTS 1.2 Application Profile submission transactions are listed in Table 3. Transactions listed in Table 3 are described in this section. A complete list of submission and response transactions types is available in Table 1.

**Table 3: EBTS 1.2 Application Profile Transaction List**

TOT	Transaction
CAR	Criminal 10-print Submission (Answer Required)
MAP	Miscellaneous Applicant
LFS	Electronic Submission of Latent Prints

Implementation guidance can be requested from the BTF Help Desk (see Section 1.5).

### 5.1 CAR – Criminal 10-print Submission (Answer Required)

The EBTS 1.2 Application Profile CAR transaction type shall be used for detainees or enemy prisoners of war (EPW). DoD Biometrics policy requires 10-print rolled fingerprints for subjects in a detained situation. A full set of 14 images (including slaps) shall be obtained for these subjects.

The two valid responses to a CAR submission are SRE or ERRT. An SRE will be returned with the search results (Identification/Non-identification) if no errors exist in the submission. An ERRT transaction will be returned with details of the specific error should a syntax error and/or image quality problem exist.



## **5.2 MAP – Miscellaneous Applicant**

The EBTS 1.2 Application Profile MAP transaction type shall be used as part of a background check for local nationals and third country nationals who desire access to U.S. military installations or other restricted areas. DoD Biometrics policy requires 10-print rolled or flat fingerprints. A full set of 14 images (including slaps) shall be obtained for these subjects. Rolled prints are always preferred and should be collected whenever possible.

Valid responses to this submission are SRE or ERRT. An SRE will be returned with the search results (Identification/Non-identification) provided that no errors exist in the submission. If a syntax error is present or there is a problem with image quality, an ERRT transaction will be returned with details of the specific error.

## **5.3 LFS – Latent Fingerprint Image(s) Submission**

The EBTS 1.2 Application Profile LFS transaction type shall be used for latent submissions and searches. A latent fingerprint image submission is to be used by users not able to format or extract minutiae from images. The LFS submission includes the following contextual information regarding the latent print with all latent submissions:

The fingerprint features will be manually extracted from the images by qualified Latent Examiners who will perform comparisons and make the Ident/non-Ident decision(s).

A Latent Submission Results (LSR) is the expected result from a latent fingerprint submission. An LSR indicates an identification or non-identification decision provided that no errors exist in the submission. If a syntax error is present or there is a problem with image quality, an ERRT transaction will be returned with details of the specific error.

## **6.0 EBTS 1.2 APPLICATION PROFILE RECORDS AND FIELDS**

The EBTS 1.2 Application Profile relies only on fields defined The DoD Data Dictionary and expanded in the DoD EBTS v2.0.

### **6.1 Type-1 Records**

The EBTS 1.2 Application Profile uses the Type-1 record exactly as defined in the EBTS V2.0. The Domain Name field (1.013) shall contain the entry defined in Section 3.4 Domain Name Field of this document.

### **6.2 Type-2 Records**

The EBTS 1.2 Application Profile uses the Type-2 record as defined in the EBTS v2.0. The optional and mandatory requirements for each transaction type are defined in Annex B.

### **6.3 Type-10 Records**

The EBTS 1.2 Application Profile uses the Type-10 record as defined in the EBTS V2.0 with the following conditions:

- A single occurrence of Subject Pose (field 10.020) shall be mandatory. Field 10.021 Pose Offset Angle (POA) shall be mandatory when 10.020 is set to 'A' indicating an angled pose.

#### **6.4 Type-13 Records**

The EBTS 1.2 Application Profile uses the Type-13 record as defined in the EBTS V2.0 with the following conditions:

- A single occurrence of the following fields shall be mandatory
  - Latent Circumstances (field 13.200)
  - Latent Source Item (field 13.201)
  - Latent Development (field 13.202)
  - Latent Capture Device (field 13.203)

#### **6.5 Type-14 Records**

The EBTS 1.2 Application Profile uses the Type-14 record exactly as defined in the EBTS V2.0.

#### **6.6 Type-15 Records**

The EBTS 1.2 Application Profile uses the Type-15 record exactly as defined in the EBTS V2.0.

#### **6.7 Type-17 Records**

The EBTS 1.2 Application Profile uses the Type-17 record exactly as defined in the EBTS V2.0.

**ANNEX A: ACRONYM LIST**

<b>ACRONYM</b>	<b>DEFINITION</b>
ABIS	Automated Biometric Identification System
AFIS	Automated Fingerprint Identification System
ANSI	American National Standards Institute
ASCII	American Standard Code for Information Interchange
BAT	Biometrics Automated Toolset
BTF	DoD Biometrics Task Force
CAR	Criminal 10-print Submission
CJIS	Criminal Justice Information Systems
CPR	Subject Photo Request
DBIDS	Defense Biometric Identification System
DEK	Known Deceased
DEU	Unknown Deceased
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DPRS	DoD Flat Print Rap Sheet Search
EBTS	Electronic Biometric Transmission Specification
EDIPI	Electronic Data Interchange Personal Identifier
EFTS	Electronic Fingerprint Transmission Specification
EPW	Enemy Prisoner of War
ERRL	Latent Transaction Error
ERRT	10-print Transaction Error
FBI	Federal Bureau of Investigation
FIPS	Federal Information Processing Standard
GMT	Greenwich Mean Time
GUID	Global Unique Identifier
IED	Improvised Explosive Device
INCITS	InterNational Committee for Information Technology Standards
IOC	Initial Operating Capability
IRQ	Fingerprint Image Request
IRR	Fingerprint Image Request Response
ISN	Internment Serial Number
ISR	Image Response Summary

<b>ACRONYM</b>	<b>DEFINITION</b>
LFFS	Latent Fingerprint Feature Search
LFIS	Latent Fingerprint Image Search
LFS	Latent Fingerprint Image(s) Submission
LSR	Latent Result
MAP	Miscellaneous Applicant
MGRS	Military Grid Reference System
MIO	Maritime Interception Operation Encounter
NCIC	National Crime Information Center
NG-ABIS	Next Generation ABIS
NIST	National Institute of Standards and Technology
OCONUS	Outside the Continental United States
ORI	Originating Agency Identifier
PIV	Personal Identity Verification
ppi	Pixels Per Inch
PRR	Photo Response
SOP	Standard Operating Procedure
SRE	Submission Results – Electronic
TCN	Transaction Control Number
TOT	Type of Transaction
TPIS	10-print Fingerprint Image Searches
TPRS	10-print Rap Sheet Search
USO	United Service Organization
UTC	Universal Time Code
v	version
VER	Verification Electronic Submission
VRSP	Verification Response – Electronic
WSQ	Wavelet Scalar Quantization
XML	Extensible Markup Language

## ANNEX B: TYPE-2 SUMMARY FIELD LISTS

The tables in this Appendix summarize the mandatory or optional condition of, and the maximum number of occurrences for, each field which may be used to construct Type-2 records in EBTS 1.2 Application Profile transactions.

**Table 4: Summary Field List for CAR Submission**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.007	SEND COPY TO	O	0	9	
2.009	ORIGINATING AGENCY CASE NUMBER	O	0	1	
2.014	FBI NUMBER	O	0	5	
2.015	FBI STATE IDENTIFICATION NUMBER	O	0	1	
2.024	BIOMETRIC SUBJECT GENDER	M	1	1	
2.032	BIOMETRIC SUBJECT HAIR COLOR	M	1	1	
2.045	DATE OF ARREST	M	1	1	
2.047	ARREST SEGMENT LITERAL	M	1	40	The Date of Arrest portion of this field is optional, but should be provided if known.
2.051	COURT SEGMENT LITERAL	O	0	40	
2.054	CUSTODY OR SUPERVISORY STATUS START DATE	O	0	1	
2.055	CUSTODY OR SUPERVISORY STATUS LITERAL	O	0	1	
2.056	IDENTIFICATION COMMENTS	O	0	1	
2.070	REQUEST ELECTRONIC RAP SHEET	O	0	1	
2.073	CONTROLLING AGENCY IDENTIFIER	M	1	3	
2.084	BIOMETRIC SUBJECT FINGER AMPUTATED OR BANDAGED	O	0	9	This field is mandatory if any finger is either amputated or a rolled impression was not made.
2.303	DOD NUMBER	M	1	1	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.306	GEOGRAPHIC COORDINATE LATITUDE/LONGITUDE	O	0	1	
2.307	GEOGRAPHIC COORDINATE DATUM	O	0	1	
2.317	REQUEST SECONDARY SEARCH	O	0	10	
2.321	GEOGRAPHIC COORDINATE - OTHER	O	0	1	
2.322	GEOGRAPHIC COORDINATE UNIVERSAL TRANSVERSE MERCATOR	O	0	1	
2.350	ALERT	O	0	1	
2.351	ADDITIONAL RESPONSE	O	0	10	
2.352	TRANSACTION LOOKUP	O	0	1	
2.353	SUBSEQUENT NOTIFICATION	O	0	1	
2.8000	BIOMETRIC SUBJECT NAME	M	1	100	One name with a Name Value Type of "FULL" is mandatory. Up to 10 names with the type of "ALIAS" are allowed.
2.8001	BIOMETRIC SUBJECT ADDRESS	O	0	50	
2.8002	BIOMETRIC SUBJECT CONTACT	O	0	10	
2.8003	BIOMETRIC SUBJECT BIRTH DATE	M	1	3	
2.8004	BIOMETRIC SUBJECT BIRTH PLACE	M	1	1	
2.8005	BIOMETRIC SUBJECT DEATH DATE	O	0	3	
2.8006	BIOMETRIC SUBJECT DEATH PLACE	O	0	1	
2.8007	BIOMETRIC SUBJECT CITIZENSHIP	O	0	5	
2.8008	BIOMETRIC SUBJECT ETHNIC/RACIAL CHARACTERISTIC	M	1	2	
2.8009	BIOMETRIC SUBJECT MEASUREMENT - HEIGHT	M	1	3	
2.8010	BIOMETRIC SUBJECT MEASUREMENT - WEIGHT	M	1	3	
2.8011	BIOMETRIC SUBJECT EYE COLOR LEFT	M	1	1	
2.8012	BIOMETRIC SUBJECT EYE COLOR RIGHT	M	1	1	
2.8013	BIOMETRIC SUBJECT BLOOD TYPE	O	0	3	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.8014	BIOMETRIC SUBJECT VITAL STATUS	O	0	3	
2.8015	BIOMETRIC SUBJECT OTHER PHYSICAL CHARACTERISTIC	O	0	10	
2.8016	BIOMETRIC SUBJECT MARITAL STATUS	O	0	1	
2.8017	BIOMETRIC SUBJECT ASSOCIATED INDIVIDUAL	O	0	100	
2.8018	BIOMETRIC SUBJECT GROUP MEMBERSHIP	O	0	100	
2.8019	COLLECTED IDENTIFICATION	M	2	100	ISN is Mandatory, Social Security Number is Mandatory (maximum of four). Others are optional
2.8020	COLLECTION APPLICATION ASSIGNED IDENTIFICATION	O	0	20	
2.8021	BIOMETRIC SUBJECT CLEARANCE	O	0	1	
2.8022	BIOMETRIC SUBJECT COMPARTMENTS	O	0	1	
2.8023	BIOMETRIC SUBJECT COMMENT	O	0	1	
2.8024	BIOMETRIC SUBJECT US PERSON INDICATOR	O	0	1	
2.8025	BIOMETRIC SUBJECT DEROGATORY COMMENT		0	1	
2.8100	COLLECTION LOCATION	O	0	1	
2.8101	CONTEXTUAL DATA COLLECTION DATE	O	0	1	
2.8102	ENCOUNTER MISSION TYPE	O	0	1	
2.8103	COLLECTION REASON	O	0	1	
2.8104	OPERATIONAL PERSONNEL	O	0	20	
2.8105	CONVEYANCE	O	0	20	
2.8106	EVENT	O	0	1	
2.8107	BIOMETRIC SUBJECT PRIVACY ACT INDICATOR	O	0	1	
2.8108	ENCOUNTER COMMENT	O	0	1	
2.8110	IRIS IMAGE OMITTED REASON	O	0	1	
2.8200	SUBMISSION PRIORITY	O	0	1	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.8202	VERIFICATION IDENTIFIER	O	0	1	
2.8204	LIMIT OF CANDIDATES	O	0	1	

Table 5: Summary Field List for MAP Submission

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.007	SEND COPY TO	O	0	9	
2.009	ORIGINATING AGENCY CASE NUMBER	O	0	1	
2.014	FBI NUMBER	O	0	5	
2.015	FBI STATE IDENTIFICATION NUMBER	O	0	1	
2.024	BIOMETRIC SUBJECT GENDER	M	1	1	
2.032	BIOMETRIC SUBJECT HAIR COLOR	M	1	1	
2.070	REQUEST ELECTRONIC RAP SHEET	O	0	1	
2.073	CONTROLLING AGENCY IDENTIFIER	M	1	3	
2.084	BIOMETRIC SUBJECT FINGER AMPUTATED OR BANDAGED	O	0	9	This field is mandatory if any finger is either amputated or a rolled impression was not made.
2.303	DOD NUMBER	O	0	1	
2.306	GEOGRAPHIC COORDINATE LATITUDE/LONGITUDE	O	0	1	
2.307	GEOGRAPHIC COORDINATE DATUM	O	0	1	
2.310	BIOMETRIC SUBJECT PERSONNEL TYPE	O	0	10	
2.316	REQUEST MUG SHOT	O	0	1	
2.317	REQUEST SECONDARY SEARCH	O	0	10	
2.321	GEOGRAPHIC COORDINATE - OTHER	O	0	1	
2.322	GEOGRAPHIC COORDINATE UNIVERSAL TRANSVERSE MERCATOR	O	0	1	



Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.350	ALERT	O	0	1	
2.351	ADDITIONAL RESPONSE	O	0	10	
2.352	TRANSACTION LOOKUP	O	0	1	
2.353	SUBSEQUENT NOTIFICATION	O	0	1	
2.8000	BIOMETRIC SUBJECT NAME	M	1	100	One name with a Name Value Type of "FULL" is mandatory. Up to 10 names with the type of "ALIAS" are allowed.
2.8001	BIOMETRIC SUBJECT ADDRESS	O	0	50	
2.8002	BIOMETRIC SUBJECT CONTACT	O	0	10	
2.8003	BIOMETRIC SUBJECT BIRTH DATE	M	1	3	
2.8004	BIOMETRIC SUBJECT BIRTH PLACE	M	1	1	
2.8005	BIOMETRIC SUBJECT DEATH DATE	O	0	3	
2.8006	BIOMETRIC SUBJECT DEATH PLACE	O	0	1	
2.8007	BIOMETRIC SUBJECT CITIZENSHIP	O	0	5	
2.8008	BIOMETRIC SUBJECT ETHNIC/RACIAL CHARACTERISTIC	M	1	2	
2.8009	BIOMETRIC SUBJECT MEASUREMENT - HEIGHT	M	1	3	
2.8010	BIOMETRIC SUBJECT MEASUREMENT - WEIGHT	M	1	3	
2.8011	BIOMETRIC SUBJECT EYE COLOR LEFT	M	1	1	
2.8012	BIOMETRIC SUBJECT EYE COLOR RIGHT	M	1	1	
2.8013	BIOMETRIC SUBJECT BLOOD TYPE	O	0	3	
2.8014	BIOMETRIC SUBJECT VITAL STATUS	O	0	3	
2.8015	BIOMETRIC SUBJECT OTHER PHYSICAL CHARACTERISTIC	O	0	10	
2.8016	BIOMETRIC SUBJECT MARITAL STATUS	O	0	1	
2.8017	BIOMETRIC SUBJECT ASSOCIATED INDIVIDUAL	O	0	100	
2.8018	BIOMETRIC SUBJECT GROUP MEMBERSHIP	O	0	100	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.8019	COLLECTED IDENTIFICATION	O	0	100	
2.8020	COLLECTION APPLICATION ASSIGNED IDENTIFICATION	O	0	20	
2.8021	BIOMETRIC SUBJECT CLEARANCE	O	0	1	
2.8022	BIOMETRIC SUBJECT COMPARTMENTS	O	0	1	
2.8023	BIOMETRIC SUBJECT COMMENT	O	0	1	
2.8024	BIOMETRIC SUBJECT US PERSON INDICATOR	O	0	1	
2.8025	BIOMETRIC SUBJECT DEROGATORY COMMENT		0	1	
2.8100	COLLECTION LOCATION	O	0	1	
2.8101	CONTEXTUAL DATA COLLECTION DATE	M	1	1	
2.8102	ENCOUNTER MISSION TYPE	O	0	1	
2.8103	COLLECTION REASON	O	0	1	
2.8104	OPERATIONAL PERSONNEL	O	0	20	
2.8105	CONVEYANCE	O	0	20	
2.8106	EVENT	O	0	1	
2.8107	BIOMETRIC SUBJECT PRIVACY ACT INDICATOR	O	0	1	
2.8108	ENCOUNTER COMMENT	O	0	1	
2.8109	DOD CANDIDATE LIST	O	0	99	
2.8110	IRIS IMAGE OMITTED REASON	O	0	1	
2.8200	SUBMISSION PRIORITY	O	0	1	
2.8202	VERIFICATION IDENTIFIER	O	0	1	
2.8203	TEMPLATE EXTRACTION ALGORITHM	O	0	1	
2.8204	LIMIT OF CANDIDATES	O	0	1	

Table 6: Summary Field List for LFS Submission

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.003	FBI FILE NUMBER	O	0	1	
2.007	SEND COPY TO	O	0	9	
2.010	CONTRIBUTOR CASE IDENTIFIER NUMBER	M	1	5	
2.011	CONTRIBUTOR CASE IDENTIFIER EXTENSION	M	1	5	
2.012	FBI LATENT CASE NUMBER	O	0	1	
2.024	BIOMETRIC SUBJECT GENDER	O	0	1	
2.032	BIOMETRIC SUBJECT HAIR COLOR	O	0	1	
2.044	FBI GEOGRAPHIC AREA OF SEARCH	M	1	5	
2.047	ARREST SEGMENT LITERAL	O	0	40	
2.053	FBI OFFENSE CATEGORY	M	1	1	
2.061	LATENT CASE TITLE	M	1	1	
2.063	PERSON TYPE DESIGNATOR	O	0	1	
2.070	REQUEST ELECTRONIC RAP SHEET	O	0	1	
2.073	CONTROLLING AGENCY IDENTIFIER	O	0	3	
2.076	LATENT SEARCH PRIORITY	M	1	1	
2.079	NUMBER OF CANDIDATE IMAGES RETURNED	M	1	1	
2.303	DOD NUMBER	M	1	1	
2.306	GEOGRAPHIC COORDINATE LATITUDE/LONGITUDE	M	1	1	
2.307	GEOGRAPHIC COORDINATE DATUM	M	1	1	
2.317	REQUEST SECONDARY SEARCH	O	0	10	
2.321	GEOGRAPHIC COORDINATE - OTHER	O	0	1	
2.322	GEOGRAPHIC COORDINATE UNIVERSAL TRANSVERSE MERCATOR	O	0	1	
2.350	ALERT	O	0	1	
2.351	ADDITIONAL RESPONSE	O	0	10	
2.352	TRANSACTION LOOKUP	O	0	1	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.353	SUBSEQUENT NOTIFICATION	O	0	1	
2.8000	BIOMETRIC SUBJECT NAME	O	0	100	
2.8001	BIOMETRIC SUBJECT ADDRESS	O	0	50	
2.8002	BIOMETRIC SUBJECT CONTACT	O	0	10	
2.8003	BIOMETRIC SUBJECT BIRTH DATE	M	1	3	
2.8004	BIOMETRIC SUBJECT BIRTH PLACE	M	1	1	
2.8005	BIOMETRIC SUBJECT DEATH DATE	O	0	3	
2.8006	BIOMETRIC SUBJECT DEATH PLACE	O	0	1	
2.8007	BIOMETRIC SUBJECT CITIZENSHIP	O	0	5	
2.8008	BIOMETRIC SUBJECT ETHNIC/RACIAL CHARACTERISTIC	O	0	2	
2.8009	BIOMETRIC SUBJECT MEASUREMENT - HEIGHT	O	0	3	
2.8010	BIOMETRIC SUBJECT MEASUREMENT - WEIGHT	O	0	3	
2.8011	BIOMETRIC SUBJECT EYE COLOR LEFT	O	0	1	
2.8012	BIOMETRIC SUBJECT EYE COLOR RIGHT	O	0	1	
2.8013	BIOMETRIC SUBJECT BLOOD TYPE	O	0	3	
2.8014	BIOMETRIC SUBJECT VITAL STATUS	O	0	3	
2.8015	BIOMETRIC SUBJECT OTHER PHYSICAL CHARACTERISTIC	O	0	10	
2.8016	BIOMETRIC SUBJECT MARITAL STATUS	O	0	1	
2.8017	BIOMETRIC SUBJECT ASSOCIATED INDIVIDUAL	O	0	100	
2.8018	BIOMETRIC SUBJECT GROUP MEMBERSHIP	O	0	100	
2.8019	COLLECTED IDENTIFICATION	O	0	100	
2.8020	COLLECTION APPLICATION ASSIGNED IDENTIFICATION	O	0	20	
2.8023	BIOMETRIC SUBJECT COMMENT	O	0	1	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.8024	BIOMETRIC SUBJECT US PERSON INDICATOR	O	0	1	
2.8025	BIOMETRIC SUBJECT DEROGATORY COMMENT		0	1	
2.8100	COLLECTION LOCATION	O	0	1	
2.8101	CONTEXTUAL DATA COLLECTION DATE	M	1	1	
2.8102	ENCOUNTER MISSION TYPE	O	0	1	
2.8103	COLLECTION REASON	O	0	1	
2.8104	OPERATIONAL PERSONNEL	M	1	20	Latent Submitter and Latent Technician are mandatory
2.8105	CONVEYANCE	O	0	20	
2.8106	EVENT	O	0	1	
2.8108	ENCOUNTER COMMENT	O	0	1	
2.8200	SUBMISSION PRIORITY	O	0	1	
2.8204	LIMIT OF CANDIDATES	O	0	1	

Table 7: Summary Field List for SRE Response

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.007	SEND COPY TO	O	0	9	
2.009	ORIGINATING AGENCY CASE NUMBER	O	0	1	
2.014	FBI NUMBER	O	0	5	
2.015	FBI STATE IDENTIFICATION NUMBER	O	0	1	
2.024	BIOMETRIC SUBJECT GENDER	O	0	1	
2.059	SEARCH RESULTS FINDINGS	M	1	1	
2.073	CONTROLLING AGENCY IDENTIFIER	M	1	3	
2.075	ELECTRONIC RAP SHEET	O	0	1	
2.085	FBI CIVIL RECORD NUMBER	O	0	1	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.303	DOD NUMBER	O	0	1	
2.310	BIOMETRIC SUBJECT PERSONNEL TYPE	O	0	10	
2.318	XML-BASED RAP SHEET	O	0	1	
2.350	ALERT	O	0	1	
2.351	ADDITIONAL RESPONSE	O	0	10	
2.8000	BIOMETRIC SUBJECT NAME	M	0	100	

**Table 8: Summary Field List for LSR Response**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.003	FBI FILE NUMBER	O	0	1	
2.007	SEND COPY TO	O	0	9	
2.010	CONTRIBUTOR CASE IDENTIFIER NUMBER	M	1	5	
2.011	CONTRIBUTOR CASE IDENTIFIER EXTENSION	M	1	5	
2.012	FBI LATENT CASE NUMBER	O	0	1	
2.014	FBI NUMBER	O	0	5	
2.015	FBI STATE IDENTIFICATION NUMBER	O	0	1	
2.024	BIOMETRIC SUBJECT GENDER	O	0	1	
2.032	BIOMETRIC SUBJECT HAIR COLOR	O	0	1	
2.037	FBI REASON FINGERPRINTED	O	0	1	
2.059	SEARCH RESULTS FINDINGS	M	1	1	
2.060	STATUS/ERROR MESSAGE	O	0	11	
2.061	LATENT CASE TITLE	M	1	1	
2.070	REQUEST ELECTRONIC RAP SHEET	O	0	1	
2.073	CONTROLLING AGENCY IDENTIFIER	O	0	3	
2.075	ELECTRONIC RAP SHEET	O	0	1	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.310	BIOMETRIC SUBJECT PERSONNEL TYPE	O	0	10	
2.318	XML-BASED RAP SHEET	O	0	1	
2.350	ALERT	O	0	1	
2.351	ADDITIONAL RESPONSE	O	0	10	
2.8000	BIOMETRIC SUBJECT NAME	M	1	100	
2.8001	BIOMETRIC SUBJECT ADDRESS	O	0	50	
2.8002	BIOMETRIC SUBJECT CONTACT	O	0	10	
2.8003	BIOMETRIC SUBJECT BIRTH DATE	O	0	3	
2.8004	BIOMETRIC SUBJECT BIRTH PLACE	M	1	1	
2.8005	BIOMETRIC SUBJECT DEATH DATE	O	0	3	
2.8006	BIOMETRIC SUBJECT DEATH PLACE	O	0	1	
2.8007	BIOMETRIC SUBJECT CITIZENSHIP	M	1	5	
2.8008	BIOMETRIC SUBJECT ETHNIC/RACIAL CHARACTERISTIC	O	0	2	
2.8009	BIOMETRIC SUBJECT MEASUREMENT - HEIGHT	O	0	3	
2.8010	BIOMETRIC SUBJECT MEASUREMENT - WEIGHT	O	0	3	
2.8011	BIOMETRIC SUBJECT EYE COLOR LEFT	O	0	1	
2.8012	BIOMETRIC SUBJECT EYE COLOR RIGHT	O	0	1	
2.8013	BIOMETRIC SUBJECT BLOOD TYPE	O	0	3	
2.8014	BIOMETRIC SUBJECT VITAL STATUS	O	0	3	
2.8015	BIOMETRIC SUBJECT OTHER PHYSICAL CHARACTERISTIC	O	0	10	
2.8016	BIOMETRIC SUBJECT MARITAL STATUS	O	0	1	
2.8017	BIOMETRIC SUBJECT ASSOCIATED INDIVIDUAL	O	0	100	
2.8018	BIOMETRIC SUBJECT GROUP MEMBERSHIP	O	0	100	
2.8019	COLLECTED IDENTIFICATION	O	0	100	

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.8020	COLLECTION APPLICATION ASSIGNED IDENTIFICATION	O	0	20	
2.8023	BIOMETRIC SUBJECT COMMENT	O	0	1	
2.8024	BIOMETRIC SUBJECT US PERSON INDICATOR	O	0	1	
2.8025	BIOMETRIC SUBJECT DEROGATORY COMMENT		0	1	
2.8105	CONVEYANCE	O	0	20	
2.8200	SUBMISSION PRIORITY	O	0	1	

**Table 9: Summary Field List for ERRT Error Response**

Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.007	SEND COPY TO	O	0	9	
2.009	ORIGINATING AGENCY CASE NUMBER	O	0	1	
2.060	STATUS/ERROR MESSAGE	M	1	11	
2.073	CONTROLLING AGENCY IDENTIFIER	O	0	3	
2.303	DOD NUMBER	O	0	1	
2.8100	COLLECTION LOCATION	O	0	1	
2.8101	CONTEXTUAL DATA COLLECTION DATE	O	0	1	
2.8102	ENCOUNTER MISSION TYPE	O	0	1	
2.8103	COLLECTION REASON	O	0	1	
2.8104	OPERATIONAL PERSONNEL	O	0	20	
2.8108	ENCOUNTER COMMENT	O	0	1	

**Table 10: Summary Field List for ERRL Error Response**



Field Number	Field Name	M/O	Min Occ.	Max Occ.	Notes
2.001	LOGICAL RECORD LENGTH	M	1	1	
2.002	IMAGE DESIGNATION CHARACTER	M	1	1	
2.007	SEND COPY TO	O	0	9	
2.012	FBI LATENT CASE NUMBER	O	0	1	
2.060	STATUS/ERROR MESSAGE	M	1	11	
2.061	LATENT CASE TITLE	O	0	1	
2.073	CONTROLLING AGENCY IDENTIFIER	O	0	3	
2.8019	COLLECTED IDENTIFICATION	O	0	100	
2.8020	COLLECTION APPLICATION ASSIGNED IDENTIFICATION	O	0	20	
2.8100	COLLECTION LOCATION	O	0	1	
2.8101	CONTEXTUAL DATA COLLECTION DATE	O	0	1	
2.8102	ENCOUNTER MISSION TYPE	O	0	1	
2.8103	COLLECTION REASON	O	0	1	
2.8104	OPERATIONAL PERSONNEL	O	0	20	
2.8108	ENCOUNTER COMMENT	O	0	1	

# **APPENDIX C**

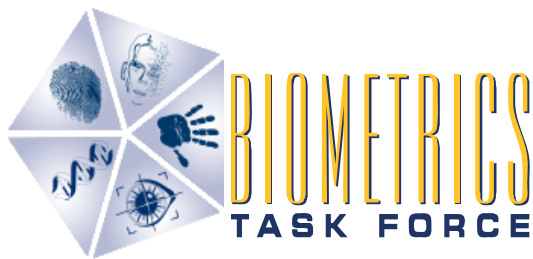
## **INTEGRATED DATA DICTIONARY**

# INTEGRATED DATA DICTIONARY

March 20 2009

V2.2.1

Prepared for:



and



Prepared by:

Net-Centric Data Strategy Center of Excellence

Software Engineering Center

CECOM LCMC



### **Integrated Data Dictionary (V2.2.1) for EBTS V2.0 Element Structure**

The IDD defines the method for constructing each data element used within an EBTS V2.0 field. For each data dictionary element, the IDD defines the following:

<b>Data Element Primary Characteristic</b>	<b>Description</b>
Element Name	Name of the data element.
Description	Textual description or definition for the data element.
Number of Information Items	The number of information items within a data set. The value will be 0 for standalone data element or an information item of a set. The value will be 1 or greater for a set.
ANSI/NIST ITL 1-2007 Field	Indicator that the data element is imported from the ANSI/NIST ITL 1-2007 standard.
Character Type	Type of allowable characters such as alpha, numeric, special or binary. A = Alphabetic N = Numeric S = Special B = Binary Combination of alpha, numeric, and special characters is also supported. For example: AN means the field can support both Alphabetic and Numeric characters.
Number of Characters Allowed	Minimum and Maximum number of characters per occurrence. The size is only pertinent to the data element. Field identifier tags and separators are not accounted for.
Special Characters	Allowable characters that neither is alphanumeric nor binary. For example: Period, Comma, Minus, Plus, Hyphen
Possible Codes	Allowable codes for the data element and a short description of the code.

# Data Element Examples:



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 EBTS 2.0

**NCIC Designation Code**

**Type-10 Facial and SMT Image**

Record Type

Standalone Element Name

Description:	This field is for a Type-10 record containing SMT image data. It is used to identify a general location of the captured scar, mark, tattoo, or other characteristic (including piercings) in an image. The contents of this field will be an entry chosen from the December, 2000 ninth (or current) edition of the NCIC Code Manual. The captured image can encompass an area larger than that specified by a single NCIC body part code for the particular image type. This situation can be accommodated by listing multiple NCIC codes separated. In this case the primary code is listed first. For the "marks" category, the NCIC manual lists the common locations for needle track marks. For other body part locations not listed under the "marks" category, use the body location codes listed for scars.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	3 to 10
Special Characters:	None
Possible Codes:	See the following URL: <a href="http://www.leds.state.or.us/OSP/CJIS/docs/ncic_2000_code_manual.pdf">http://www.leds.state.or.us/OSP/CJIS/docs/ncic_2000_code_manual.pdf</a>

Character Type

Special Characters

**Photo Acquisition Source**

Set Name

Description:	This field shall specify the classification of the source of the image contained in this record. This field is mandatory if the SAP entry [Type-10 Subject Acquisition Profile field] is "40" or greater. When included, this field shall contain an ASCII character code selected from [possible codes below] to describe the source of captured image data. The "VENDOR" category is used to enter unlisted or miscellaneous source attributes of the facial image. This information shall be entered as a two-information item subfield. The first is "VENDOR" followed by a separator, followed by the unformatted text used to describe the attribute.
Number of Information Items:	2
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

Referenced by ANSI/NIST ITL 1-2007

Number of Information Items

**Photo Acquisition Source Type Code**

Information Item Name

Description:	This field shall contain an ASCII character code selected from [possible codes below] to describe the source of captured image data.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	A
Number of Characters Allowed:	6 to 14
Special Characters:	None
Possible Codes:	Unspecified or unknown = UNSPECIFIED Static photograph from an unknown source = UNKNOWN PHOTO Static photograph from a digital still-image camera = DIGITAL CAMERA Static photograph from a scanner = SCANNER Single video frame from an unknown source = UNKNOWN VIDEO Single video frame from an analogue video camera = ANALOGUE VIDEO Single video frame from a digital video camera = DIGITAL VIDEO Vendor Specific source = VENDOR

Possible Codes

Minimum Field Size

Maximum Field Size

## Contact Information

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## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-1 Transaction Information

#### **Date**

<b>Description:</b>	This field shall contain the date that the transaction was initiated. The date shall appear as eight digits in the format YYYYMMDD. The YYYY characters shall represent the year of the transaction; the MM characters shall be the tens and units values of the month; and the DD characters shall be the day in the month. For example, "20070103" represents January 3, 2007.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD

#### **Destination Agency Identifier**

<b>Description:</b>	<p>The identifier for the administration or organization that is the designated recipient of the biometric sample transmission.</p> <p>This field shall contain the identifier of the administration or organization designated to receive the transmission. The size and data content of this field shall be user-defined and in accordance with the receiving agency.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	9 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Directory of Character Sets**

<b>Description:</b>	This set is a directory or list of character sets other than 7-bit ASCII that may appear within this transaction. This field shall contain one or more information items, each with three information items. The first information item is the three-character identifier for the character set index number that references an associated character set throughout the transaction file. The second information item shall be the common name for the character set associated with that index number, the third information item is the specific version of the character set used. In the case of the use of UTF-8, the information item can be used to hold the specific version of the character set used with UTF-8, so that the display terminal can be switched to the correct font family.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-1 Transaction Information

#### Directory of Character Sets

##### Character Set Index Number

Description:	This information item is the three-character identifier for the character set index number that references an associated character set throughout the transaction file.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	3 to 3
Special Characters:	None
Possible Codes:	n/a

##### Character Set Name

Description:	This information item shall be the common name for the character set associated with that index number.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to -
Special Characters:	n/a
Possible Codes:	n/a

##### Character Set Version

Description:	This information item is the specific version of the character set used. In the case of the use of UTF-8, this information item can be used to hold the specific version of the character set used with UTF-8, so that the display terminal can be switched to the correct font family.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to -
Special Characters:	None
Possible Codes:	n/a

#### Domain Name

Description:	This field identifies the domain name for the DoD EBTS implementation. The domain shall be registered with the BTF. It consists of a Domain Name Implementation and a Domain Name Implementation Version. The BTF is the domain registrar for domain names used in DoD EBTS transactions.
Number of Information Items:	2
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a





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### Type-1 Transaction Information

#### Domain Name

##### Domain Name Implementation

<b>Description:</b>	This field uniquely identifies the agency, entity, or implementation used for formatting DoD EBTS transactions and logical records.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

##### Domain Name Implementation Version

<b>Description:</b>	The unique version of the particular implementation.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### File Content

<b>Description:</b>	<p>This set shall list and identify each of the logical records in the file by record type. It also specifies the order in which the remaining logical records shall appear in the file. It shall consist of two or more subfields. Each subfield shall contain two information items describing a single logical record found in the current file.</p> <p>The subfields shall be entered in the same order in which the logical records shall appear and be transmitted.</p> <p>The first subfield shall relate to this Type-1 Transaction record. The first information item within this subfield shall be the single character "1" [chosen from possible codes] indicating that this is a Type-1 record consisting of header information. The second information item of this subfield shall be the sum of the Type-2 through Type-99 logical records contained in this file. This number is also equal to the count of the remaining subfields of [this set].</p> <p>Each of the remaining subfields of [this set] relate to a single Type-2 through Type-99 logical record contained in the file. Two information items shall comprise each subfield. The first information item shall be the record identifier character(s) chosen from [possible codes] that identifies the record type. The second item shall be the IDC associated with the logical record pertaining to that subfield. The IDC shall be a positive integer equal to or greater than zero.</p>
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-1 Transaction Information

#### **File Content**

##### **Logical Record Type**

<b>Description:</b>	The one to two digit identifying the logical record type.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Transaction information (ASCII) = 1 User-defined descriptive text (ASCII) = 2 Minutiae data (ASCII) = 9 Facial & SMT image (ASCII/Binary) = 10 Variable-resolution latent image (ASCII/Binary) = 13 Variable-resolution fingerprint image (ASCII/Binary) = 14 Variable-resolution palmprint Image (ASCII/Binary) = 15 User-defined variable-resolution testing Image (ASCII/Binary) = 16 Iris image (ASCII/Binary) = 17 CBEFF Biometric data record (ASCII/Binary) = 99

##### **Subfield Count**

<b>Description:</b>	The sum of the Type-2 through Type-99 logical records contained in this file. This number is also equal to the count of the remaining subfields of File Content set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Image Designation Character Per Record Type**

<b>Description:</b>	The information item is part of the Type-1 File Content field. This is the IDC associated with the logical record pertaining to that subfield. The IDC shall be a positive integer equal to or greater than zero.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Greenwich Mean Time**



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### Type-1 Transaction Information

#### Greenwich Mean Time

<b>Description:</b>	This field provides a mechanism for expressing the date and time in terms of universal Greenwich Mean Time (GMT) units. If used, the GMT field contains the universal date that will be in addition to the local date contained in [DATE] (DAT). Use of the GMT field eliminates local time inconsistencies encountered when a transaction and its response are transmitted between two places separated by several time zones. The GMT provides a universal date and 24-hour clock time independent of time zones. It is represented as "YYYYMMDDHHMMSSZ", a 15-character string that is the concatenation of the date with the GMT and concludes with a "Z". The "YYYY" characters shall represent the year of the transaction, the "MM" characters shall be the tens and units values of the month, and the "DD" characters shall be the tens and units values of the day of the month, the "HH" characters represent the hour, the "MM" the minute, and the "SS" represents the second. The complete date shall not exceed the current date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	15 to 15
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Logical Record Length [Type-1]

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-1 logical record. It is the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Native Scanning Resolution

<b>Description:</b>	This field shall specify the native scanning resolution of the AFIS or other fingerprint or palmprint image capture device supported by the originator of the transmission. This field permits the recipient of this transaction to send response data at a transmitting resolution tailored to the NSR (if it is able to do so) or to the minimum scanning resolution. This field shall contain five bytes specifying the native scanning resolution in pixels per millimeter. The resolution shall be expressed as two numeric characters followed by a decimal point and two more numeric characters (e.g., 19.69). This field is needed because the interchange of fingerprint information between systems of the same manufacturer may, in some instances, be more efficiently done at a transmitting resolution equal to the native scanning resolution of the system rather than at the minimum scanning resolution specified in this standard. For transactions that do not contain Type-3 through Type-7 fingerprint image records, this field shall be set to "00.00".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	n/a



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### Type-1 Transaction Information

#### ***Nominal Transmitting Resolution***

<b>Description:</b>	This field shall specify the nominal transmitting resolution for the fingerprint or palmprint image(s) being exchanged. This field shall contain five bytes specifying the transmitting resolution in pixels per millimeter. The resolution shall be expressed as two numeric characters followed by a decimal point and two more numeric characters (e.g., 19.69). The transmitting resolution shall be within the range specified by the transmitting resolution requirement. For transactions that do not contain Type-3 through Type-7 fingerprint image records, this field shall be set to "00.00".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	n/a

#### ***Originating Agency Identifier***

<b>Description:</b>	This field shall contain the identifier of the administration or organization originating the transaction. The size and data content of this field shall be user-defined and in accordance with the receiving agency.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	9 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Priority***

<b>Description:</b>	This field shall contain a single information character to designate the urgency with which a response is desired. The values shall range from "1" to "9", with "1" denoting the highest priority. The default value shall be defined by the agency receiving the transaction.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Transaction Control Number***



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### Type-1 Transaction Information

#### Transaction Control Number

<b>Description:</b>	An identification number is assigned to a submission and carried through on the response for tracing purposes. This Transaction Control Number (TCN) is a unique identifier generated by the system that submits the transaction. These values are contained in the Type-1 record. A TCN requires a 10 to 40-byte identifier. Systems that initiate transactions must assign TCNs rather than permit operators to enter them. Matching a Transaction Control Number (TCN) to a Transaction Control Reference (TCR) number is the method used to match responses to submissions.  Remarks for DoD EBTS: contains the Originating Agency Identifier (ORI), a Greenwich Mean (a.k.a. Zulu or UTC) date/time stamp, a code for the software used at the point of collection/transmission, an indicator of the software version used at the point of collection/transmission, and a random or sequential alphanumeric string. A hyphen separates each of these values. The BTF will assign a unique software code to a product. This code must be used consistently in the software product.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 40
<b>Special Characters:</b>	Hyphen
<b>Possible Codes:</b>	n/a

#### Transaction Control Reference

<b>Description:</b>	A Transaction Control Reference (TCR) number is part of the response transaction. When a transaction has completed processing and the system generates a response, it places the submitter's control number (the received TCN) into the TCR field of the response as a reference number the submitter can use to mate the response with the original submission. The response system places its own internal identifier for that transaction in the TCN field of the response. A TCN is mandatory for a submission and a TCR is mandatory for a response.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 40
<b>Special Characters:</b>	Hyphen
<b>Possible Codes:</b>	n/a

#### Type of Transaction

<b>Description:</b>	This field shall contain an identifier, which designates the type of transaction and subsequent processing that this file should be given. (Note: Type of Transaction shall be in accordance with definitions provided by the receiving agency.)
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Version Number



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### Type-1 Transaction Information

#### **Version Number**

<b>Description:</b>	This four-byte ASCII field shall be used to specify the current version number of the [ANSI/NIST 1-2007] standard implemented by the software or system creating the file. The format of this field shall consist of four numeric characters. The first two characters shall specify the major version number. The last two characters shall be used to specify the minor revision number. The initial revision number for a version shall be "00". The entry in this field for the 2000 version is "0300" and the entry for this 2007 version of the approved standard shall be "0400". This version number addresses the inclusion of the tagged-field logical Type-10 through Type-17 and Type-99 image records.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### ***Additional Response***

<b>Description:</b>	This set of fields shall be used in responses when an additional repository has been searched. It contains information received from the repository that generated an additional response. Multiple repositories may be searched, therefore multiple occurrences of this field shall be allowed. It consists of Response Source, Response Result, Response Identifier, and Response Rap Sheet.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Additional Response Source**

<b>Description:</b>	This field identifies the repository that generated the additional response.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Additional Response Result**

<b>Description:</b>	This field contains the result generated by the repository that generated the additional response.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Identified = I Non-Identified = N Error = E

#### **Additional Response Identifier**

<b>Description:</b>	This conditional field shall contain the unique identifier used (or generated) by the repository that generated the additional response.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### Additional Response

##### Additional Response Rap Sheet

Description:	This conditional field contains the electronic rap sheet generated by the Secondary Search Repository in the case of an Ident. In the case of an error, this field shall contain the error message returned by the repository that generated the additional response.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to 200,000
Special Characters:	Any printable characters
Possible Codes:	n/a

#### AFIS Segment Control Number

Description:	This field contains a number used to allow tracking of or reference to specific transactions.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	1 to 10
Special Characters:	None
Possible Codes:	n/a

#### Alert

Description:	This field contains alert information that will be used in the case where a new submission into the system results in an IDENTED response against the submission containing the alert data. This field contains five information items and all five must be completed if this field is used. It consists of Alert Function, Alert Category, Alert Value, Alert Contact and Alert Detail.
Number of Information Items:	5
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Alert Function

Description:	An Indication of whether the alert on a biometric subject is currently set ON or OFF.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	2 to 3
Special Characters:	None
Possible Codes:	Off = OFF On = ON





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### Type-2 Contextual/Situational Information

#### Alert

##### Alert Category

<b>Description:</b>	The alert category assigned to a biometric subject indicating what action, if any, should be taken regarding the biometric subject if he/she is encountered.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Detain - known or suspected terrorist - DoD watchlist = 1 Detain - known or suspected terrorist - U.S. government watchlist = 2 Detain - known or suspected terrorist - other country watchlist = 3 Detain - individual of interest to U.S. or coalition forces = 4 Detain - known or suspected criminal = 5 No U.S. or coalition base access = 6 Interview but do not detain = 7 Detain but do not interview = 8 Do not detain or interview = 9

##### Alert Value

<b>Description:</b>	The level of interest in a given biometric subject who has been flagged for alert.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Detain if Encountered=T1 Detain for Intelligence=T2 Sum of Threat based Tiers shared w. the Interagency = T3 Do Not Hire/Deny Access/Disqualify for Training/BOLO (Threat Based) = T4 Do Not Hire/Deny Base Access/Disqualify for Training/BOLO (Non-Threat)= T5 Track Movement Intra-Theater and Internationally (developing) = T6

##### Alert Contact

<b>Description:</b>	The agency and individual contact reference responsible for establishing the alert.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 80
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

##### Alert Detail

<b>Description:</b>	Special handling instructions or other information about the individual identified in an alert.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 255
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

**Alert**

**Arrest Segment Literal**

<b>Description:</b>	This field is made up of the Date of Offense (DOO) and the Arrest Offense Literal (AOL). The AOL is a free text description of an offense charged on an arrest. The first character of the AOL text must not be blank. Each AOL should have a corresponding date (DOO) if available. The DOO shall not exceed the current date except when the submission originates from an international contributor located in a time zone earlier than the Eastern Time Zone. This date field shall contain the local date for the region submitting the request. Edit checks on the IAFIS will accept the local date as valid up to 24 hours to accommodate the variance between international time zones.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

**Date of Offense**

<b>Description:</b>	The date when the offense was committed.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: CCYYMMDD

**Arrest Offense Literal**

<b>Description:</b>	The freeform text description of an offense charged on an arrest.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 300
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

**Biometric Subject Address**

<b>Description:</b>	The address information of the biometric subject.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Address**

##### **Address Value Type**

<b>Description:</b>	Defines the type of address in the Address Value field. E.G. address line 1/city/state/country.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Address Line 1 = ADD1 Address Line 2 = ADD2 Address Line 3 = ADD3 Address Line 4 = ADD4 City = CITY State/Province = STAT Country = CTRY Postal Code = POST Neighborhood = NEIG Address Full Text = FULL Comment = ACOM

##### **Address Value**

<b>Description:</b>	The address of an individual or group. The value of this field should correspond to the specified Address Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 250
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-1 Alpha-2 codes where Address Value Type = CTRY or STAT

#### **Biometric Subject Associated Individual**

<b>Description:</b>	This set of fields identifies the names, gender and roles of an individual who is associated with the biometric subject.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Associated Individual***

##### **Associated Individual Gender**

<b>Description:</b>	The gender of the individual associated with the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Gender reported as Female = F Occupation or charge indicated Male Impersonator = G Gender reported as Male = M Occupation or charge indicated Female Impersonator or Transvestite=N Male name, No Gender given =Y Female name, No Gender Given = Z Unknown Gender = X

##### **Associated Individual Role**

<b>Description:</b>	The role of an individual who is affiliated with the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	parent = 1 maternal grandparent = 2 paternal grandparent = 3 spouse = 4 child = 5 sibling = 6 associate = 7 undetermined = 0



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Associated Individual***

##### **Name Value Type**

<b>Description:</b>	Defines the type of name in the Name Value field. E.G. first/given, last/surname, middle , maiden, nickname.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Prefix = PREF Full = FULL First/Given = GIV Middlename = MID Last/Surname/Family = SUR Suffix = SUFF Maiden = MAID Alias = ALIA Nickname = NICK Tribal = TRIB Comment = COM  Fully Qualified Arabic Name: Arabic Full = AFUL Ism = ISM Kunya = KUN Nasab = NAS Laqab = LAQ Nisba = NIS

##### **Name Value**

<b>Description:</b>	The name for the individual. The value of this field should correspond to the specified Name Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Biometric Subject Birth Date***

<b>Description:</b>	The biometric subject's complete date of birth.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Birth Date***

##### **Date Value**

<b>Description:</b>	The eight digit date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD

##### **Date Validity**

<b>Description:</b>	This field defines the validity of the date information.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Documented = DOC Estimated = EST

##### **Calendar Type**

<b>Description:</b>	The type of calendar the date is being specified in (e.g. Gregorian and Islamic).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Gregorian = G Islamic = I Chinese = C Hebrew = H

#### ***Biometric Subject Birth Place***

<b>Description:</b>	Information identifying where the biometric subject was born.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Birth Place**

##### **Address Value Type**

<b>Description:</b>	Defines the type of address in the Address Value field. E.G. address line 1/city/state/country.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Address Line 1 = ADD1 Address Line 2 = ADD2 Address Line 3 = ADD3 Address Line 4 = ADD4 City = CITY State/Province = STAT Country = CTRY Postal Code = POST Neighborhood = NEIG Address Full Text = FULL Comment = ACOM

##### **Address Value**

<b>Description:</b>	The address of an individual or group. The value of this field should correspond to the specified Address Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 250
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-1 Alpha-2 codes where Address Value Type = CTRY or STAT

#### **Biometric Subject Blood Type**

<b>Description:</b>	The blood type of the biometric subject. It consists of Blood Type Value and Blood Type Validity.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Blood Type**

##### **Biometric Subject Blood Type Validity**

<b>Description:</b>	This field defines the validity of the biometric subject blood type.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Documented = DOC Self Reported = SRT Other Reported = ORT

##### **Biometric Subject Blood Type Value**

<b>Description:</b>	The biometric subject's blood type/classification.  Notes: Any of the four main types into which human blood is divided: A, B, AB, and O. Blood types are based on the presence or absence of specific antigens on red blood cells. Also called blood group.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	A = A B = B O = O A+ = APOS O+ = OPOS B+ = BPOS AB+ = ABPOS A- = ANEG O- = ONEG B- = BNEG AB- = ABNEG

#### **Biometric Subject Citizenship**

<b>Description:</b>	This field contains the country of which the biometric subject is a citizen.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-2 Alpha-2 codes

#### **Biometric Subject Clearance**





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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Clearance***

<b>Description:</b>	The set of fields to indicate the biometric subject clearance level and validity.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Biometric Subject Clearance Value**

<b>Description:</b>	This field indicates the clearance level that the biometric subject claims to have. This field is not authoritative.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Top Secret = TOP Secret = SEC Confidential = CNF Non-DoD = NDOD

#### **Biometric Subject Clearance Validity**

<b>Description:</b>	This field indicates whether the clearance level that the biometric subject claims to hold have been verified. This field is used in response transactions.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Claimed= CLA Verified = VER

#### ***Biometric Subject Comment***

<b>Description:</b>	The comments or remarks on the biometric subject for which the biometric sample was collected.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Biometric Subject Compartments***



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Compartments***

<b>Description:</b>	This set of fields indicates the compartment(s) that the biometric subject claims or verified to be cleared for.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Biometric Subject Compartments Value**

<b>Description:</b>	This field indicates the compartment(s) that the biometric subject claims to be cleared for.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	2 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Biometric Subject Compartments Validity**

<b>Description:</b>	This field indicates whether the compartments that the biometric subject claims to hold have been verified. This field is used in response transactions.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Claimed= CLA Verified = VER

#### ***Biometric Subject Contact***

<b>Description:</b>	The contact information of the biometric subject.  Note: See CONTACT INFORMATION for the set of fields.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Contact**

##### **Contact Mode**

<b>Description:</b>	The method of contact for the individual (e.g. phone, email).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Home phone = HP Work Phone = WP Cell Phone = CP Email = EM Relative Phone = RP Other = OT

##### **Contact Mode Value**

<b>Description:</b>	The telephone number or email address for contacting the individual.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Biometric Subject Death Date**

<b>Description:</b>	The biometric subject's complete date of death.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

##### **Date Value**

<b>Description:</b>	The eight digit date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Death Date***

##### **Date Validity**

<b>Description:</b>	This field defines the validity of the date information.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Documented = DOC Estimated = EST

##### **Calendar Type**

<b>Description:</b>	The type of calendar the date is being specified in (e.g. Gregorian and Islamic).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Gregorian = G Islamic = I Chinese = C Hebrew = H

#### ***Biometric Subject Death Place***

<b>Description:</b>	Defines the biometric subject's place of death.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Death Place**

##### **Address Value Type**

<b>Description:</b>	Defines the type of address in the Address Value field. E.G. address line 1/city/state/country.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Address Line 1 = ADD1 Address Line 2 = ADD2 Address Line 3 = ADD3 Address Line 4 = ADD4 City = CITY State/Province = STAT Country = CTRY Postal Code = POST Neighborhood = NEIG Address Full Text = FULL Comment = ACOM

##### **Address Value**

<b>Description:</b>	The address of an individual or group. The value of this field should correspond to the specified Address Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 250
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-1 Alpha-2 codes where Address Value Type = CTRY or STAT

#### **Biometric Subject Derogatory Comment**

<b>Description:</b>	The derogatory notes and comments concerning a biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Biometric Subject Ethnic/Racial Characteristic**



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Ethnic/Racial Characteristic***

<b>Description:</b>	The observed or reported ethnic/racial physical characteristic of the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Native American = NA Asian = AS Black / African = BA Polynesian (Pacific Islander) = PO White (European) = WE Hispanic / Latino = HL Arab = AR Asian Indian = AI

#### ***Biometric Subject Eye Color Left***

<b>Description:</b>	The color of the biometric subject's left eye.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	BLACK = BLK BLUE =BLU BROWN = BRO GREEN = GRN GRAY = GRY HAZEL = HAZ MAROON = MAR MULTICOLORED = MUL PINK = PNK UNKNOWN = XXX

#### ***Biometric Subject Eye Color Right***



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Eye Color Right***

<b>Description:</b>	The color of the biometric subject's right eye.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	BLACK = BLK BLUE = BLU BROWN = BRO GREEN = GRN GRAY = GRY HAZEL = HAZ MAROON = MAR MULTICOLORED = MUL PINK = PNK UNKNOWN = XXX

#### ***Biometric Subject Finger Amputated or Bandaged***

<b>Description:</b>	This grouped field contains information about amputated or bandaged fingerprints in a submission. It is composed of two information items, Finger Position (FGP), and Amputated Or Bandaged Code (AMPCD). This field is to be used any time there are fewer than ten printable fingers in a tenprint submission. A partially scarred finger should be printed and be marked amputated. If the finger's image is missing for any reason, the UP code should be used. This field is used to tell the designated repository which finger positions need to be characterized. All missing or no image provided for fingerprints in the submission should be indicated with the proper code.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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#### **Biometric Subject Finger Amputated or Bandaged**

##### **Finger Position**

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

##### **Amputated or Bandaged Code**

<b>Description:</b>	This information item provides the code that describes the reason the finger's image is missing.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Amputation = XX</li> <li>Unable to print (e.g., bandaged) = UP</li> </ul>

#### **Biometric Subject Gender**





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#### ***Biometric Subject Gender***

<b>Description:</b>	This field is used to report the gender of the subject. The entry is a single character selected from the list of codes below.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Gender reported as Female = F Occupation or charge indicated Male Impersonator = G Gender reported as Male = M Occupation or charge indicated Female Impersonator or Transvestite=N Male name, No Gender given =Y Female name, No Gender Given = Z Unknown Gender = X

#### ***Biometric Subject Group Membership***

<b>Description:</b>	This set of fields identifies the associations of a biometric subject with a group.
<b>Number of Information Items:</b>	7
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### ***Biometric Subject Group Name***

<b>Description:</b>	The name of the group that the biometric subject is associated with.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Group Membership**

##### **Biometric Subject Group Type**

<b>Description:</b>	The type of group that the biometric subject is associated with.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Country = CTRY Military = MIL Tribe = TRIB Gang = GANG Religious = REL Employer = EMP Undetermined = UND

#### **Biometric Subject Group Member Role**

<b>Description:</b>	The role within the associated group that the biometric subject is acting as.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Address Value Type**

<b>Description:</b>	Defines the type of address in the Address Value field. E.G. address line 1/city/state/country.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Address Line 1 = ADD1 Address Line 2 = ADD2 Address Line 3 = ADD3 Address Line 4 = ADD4 City = CITY State/Province = STAT Country = CTRY Postal Code = POST Neighborhood = NEIG Address Full Text = FULL Comment = ACOM



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***Biometric Subject Group Membership***

**Address Value**

<b>Description:</b>	The address of an individual or group. The value of this field should correspond to the specified Address Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 250
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-1 Alpha-2 codes where Address Value Type = CTRY or STAT

**Contact Mode**

<b>Description:</b>	The method of contact for the individual (e.g. phone, email).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Home phone = HP Work Phone = WP Cell Phone = CP Email = EM Relative Phone = RP Other = OT

**Contact Mode Value**

<b>Description:</b>	The telephone number or email address for contacting the individual.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

***Biometric Subject Hair Color***



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### Type-2 Contextual/Situational Information

#### ***Biometric Subject Hair Color***

<b>Description:</b>	The current color of the biometric subject's hair on the head.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Black = BLK Blond or Strawberry = BLN Blue = BLU Brown = BRO Green = GRN Gray or Partially Gray = GRY Orange = ONG Purple = PLE Pink = PNK, Red or Auburn = RED Sandy = SDY White =WHI UNKNOWN OR COMPLETELY BALD = XXX

#### ***Biometric Subject Marital Status***

<b>Description:</b>	Marital status of the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Never Married = NMA Married = MAR Separated = SEP Married Other = MOT Widowed = WID Divorced = DIV Other = OTH

#### ***Biometric Subject Measurement***

<b>Description:</b>	<p>The set of data describing a measurement of a biometric subject, such as height or weight. It consists of Measurement Type, Measurement Value, Measurement Unit and Measurement Validity.</p> <p>Notes: A normalization of height and weight actual and range.</p>
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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#### **Biometric Subject Measurement**

##### **Measurement Type**

<b>Description:</b>	An indicator of the type of measurement taken (e.g., height, weight, etc).  Notes: A normalization of height and weight - actual and range.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 6
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Height = HGT Weight = WGT Height Minimum = HGTMIN Height Maximum = HGTMAX Weight Minimum = WGTMIN Weight Maximum = WGTMAX

##### **Measurement Value**

<b>Description:</b>	The value of the measurement.  The following rules apply when measuring an individual:  Height (FTIN) – Three-character value, the first (leftmost) digit is used to show feet while the two rightmost digits are used to show inches between 00 and 11.  Height (IN) – Three-character value, the leftmost character is “N” followed by two digits.  Height (M) – Four-character value, the first (leftmost) digit is used to show meter, a period is allowed and the two rightmost digits are used to show fraction of a meter.  Height (CM) – Three-character value, the leftmost character can be an “N” followed by two digits.  Weight (LB) – Three-character value, the leftmost character can be an “N” followed by two digits.  Weight (KG) – Three-character value, the leftmost character can be an “N” followed by two digits.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Measurement**

##### **Measurement Unit**

<b>Description:</b>	The units of measure associated with a given measurement ( e.g., inches, centimeters, etc)
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	For Height: Feet = FT Inches = IN Feet Inches = FTIN Meters = M Centimeters = CM  For Weight: Pounds = LB Kilograms = KG

##### **Measurement Validity**

<b>Description:</b>	This field defines the validity of the measurement.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Estimated = EST Measured = MEA

#### **Biometric Subject Name**

<b>Description:</b>	The name of the biometric subject.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

##### **Name Validity**

<b>Description:</b>	This field defines the validity of the individual's name.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Documented = DOC Self Reported = SRT Other Reported = ORT



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### Type-2 Contextual/Situational Information

#### **Biometric Subject Name**

##### **Name Value Type**

<b>Description:</b>	Defines the type of name in the Name Value field. E.G. first/given, last/surname, middle , maiden, nickname.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Prefix = PREF Full = FULL First/Given = GIV Middlename = MID Last/Surname/Family = SUR Suffix = SUFF Maiden = MAID Alias = ALIA Nickname = NICK Tribal = TRIB Comment = COM  Fully Qualified Arabic Name: Arabic Full = AFUL Ism = ISM Kunya = KUN Nasab = NAS Laqab = LAQ Nisba = NIS

##### **Name Value**

<b>Description:</b>	The name for the individual. The value of this field should correspond to the specified Name Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Biometric Subject Other Physical Characteristic**

<b>Description:</b>	Other physical characteristic of a biometric subject such as missing, mutilated, deformed body parts (including Scars, Marks and Tattoos for which there is no image) as defined in the NCIC document SECTION 13--SCARS, MARKS, TATTOOS, AND OTHER CHARACTERISTICS (SMT) FIELD CODES.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	10 to 10
<b>Special Characters:</b>	Blank
<b>Possible Codes:</b>	See NCIC 2000 Code Manual with TOUs incorporated as of 5/29/2007

#### **Biometric Subject Personnel Type**



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#### ***Biometric Subject Personnel Type***

<b>Description:</b>	The personnel classification for the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	3 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	Active Duty or Guard or Reserve on Active Duty Assignment = ADGR AD or Guard/Reserve on Active Duty Family Member = AD_OR_GUARD_OR_RESERVER_ON_ADFM Civilian Associate (e.g. Red Cross or USO) = CIVILIAN_ASSOCIATE Civilian Internee = CIVILIAN_INTERNEE Coalition Member = COM Contractor For Third Country National = OREIGN_NATION_HIRE_CONTRACTOR_OCONUS Conveyance Operator = CONVEYANCE_OPERATOR Criminal = CRIMINAL Detainee=DETAINEE Distinguished Civilian = DISTIGUISHED_CIVILIAN DoD Beneficiary (Retiree, Disabled American Veteran, Transitional Comp) = DOD_BENEFICIARY DoD Civil Service or NAF = DOD_CIVIL_SERVICE_OR_NAF DoD Contractor = DOD_CONTRACTOR DoD or Uniform Service Civil Service or NAF Family Member = DOD_OR_USCS_OR_NAF_FAMILY_MEMBER DoD or Uniform Service Contractor Family Member = DOD_OR_USC_FAMILY_MEMBER Enemy Combatant=ENEMY_COMBATANT Enemy Prisoner of War = EPW Federal Associate (e.g. State Dept) = FEDERAL_ASSOCIATE Foreign Military = FOREIGN_MILITARY High Value Detainee = HIGH_VALUE_DETAINEE Host Nation Hire (OCONUS) (e.g. Local National) = _NATION_HIRE_OCONUS Host Nation Military (OCONUS) = HOST_NATION_MILITARY_OCONUS Identi-Kid=IDENTI_KID Lawful Enemy Combatant = LAWFUL_ENEMY_COMBATANT Maritime Interception Operation Encounter = MIO Member of Service Volunteer Agency = VOLUNTEER_AGENCY National Guard = NATIONAL_GUARD National Guard Family Member = NATIONAL_GUARD_FAMILY_MEMBER Non-Government Civilian = NON_GOVERNMENT_CIVILIAN Operational or Combat Encounter = OEN Other Detainee = OTHER_DETAINEE Patrol or Checkpoint Encounter = PEN Person (Delivery, Pickup, Repair) = FACILITIES_SERVICE_PERSON Personal Services or Domestic = PERSONAL_SERVICES_OR_DOMESTIC Protected Person = PROTECTED_PERSON Reserve = RESERVE Reserve Family Member = RESERVE_FAMILY_MEMBER Retained Personnel = RETAINED_PERSONNEL Security Internee = SECURITY_INTERNEE Third Country National = TCN Unlawful Enemy Combatant = UNLAWFUL_ENEMY_COMBATANT U.S. Person/U.S. Citizen = US_PER_CIT Other = OTHER Unknown = UNK

#### ***Biometric Subject Privacy Act Indicator***





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#### ***Biometric Subject Privacy Act Indicator***

<b>Description:</b>	This field indicates whether U.S. citizens or U.S. persons who are being enrolled have signed a privacy act disclosure that would allow their biometrics to be captured.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Yes = Y No = N

#### ***Biometric Subject US Person Indicator***

<b>Description:</b>	The indicator of whether a biometric subject is a citizen of the United States, an alien lawfully admitted for permanent residence in the United States, or a member of the U.S. Armed Forces.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Yes = Y No = N

#### ***Biometric Subject Vital Status***

<b>Description:</b>	The set of fields to indicate the condition of the biometric subject at the time of biometric sample collection.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Biometric Subject Vital Status Value***

<b>Description:</b>	The condition (alive, dead) of the biometric subject at the time of biometric sample collection. This field should be used only when taking biometric sample of the subject and not for latent sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Alive = A Dead = D



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#### **Biometric Subject Vital Status**

##### **Biometric Subject Vital Status Validity**

<b>Description:</b>	This field defines the validity of the vital status of the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Reported = REP Verified = VER

#### **Collected Identification**

<b>Description:</b>	An identification issued by an agency. It is a set of fields consists of Identification Type, Identification Identifier, Issuance Organization, Issuance Office, Issuance Date, Expiration Date, Comment.  Note: The comment field is not an DoD EBTS V2.0 field.
<b>Number of Information Items:</b>	7
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Collected Identification Type**

<b>Description:</b>	The category of the identification, such as passport, employee id, and internment serial number.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Internment Serial Number = ISN Passport Information = PASS Electronic Data Interchange Personal Identifier = EDIPI Dossier Number = DOSNO Employee Identification Number = EIN Social Security Account Number = SSN Special Population Cognizant file Number = SPC Visa Number = VISA Alien Registration Number = ARN Miscellaneous Identification Number = MISC Local Population Identifier = LPID National Identification Document = NIDDOC



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### Type-2 Contextual/Situational Information

#### Collected Identification

##### Collected Identification Identifier

Description:	The identifying value for the issued identification. Examples include passport number, ssn, or drivers license number. This field is free form text.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	ANS
Number of Characters Allowed:	2 to 50
Special Characters:	Any printable characters
Possible Codes:	n/a

##### Collected Identification Issuance Organization

Description:	The organization or system issuing an identification. This field is free form text and contains values such as "US Government", a country name, a state name, an agency name.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	A
Number of Characters Allowed:	2 to 100
Special Characters:	None
Possible Codes:	n/a

##### Collected Identification Issuance Date

Description:	The date when the collected identification was issued.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	8 to 8
Special Characters:	None
Possible Codes:	Format: YYYYMMDD

##### Collected Identification Expiration Date

Description:	The date the issued identification expires.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	8 to 8
Special Characters:	None
Possible Codes:	Format: YYYYMMDD



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### Type-2 Contextual/Situational Information

#### **Collected Identification**

##### **Collected Identification Issuance Office**

<b>Description:</b>	The location where the biometric subject receives their card after verification. A location or branch identifier for the office or system which issued the identification. This field is free form text.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

##### **Collected Identification Comment**

<b>Description:</b>	The notes and comments concerning the issued identification collected.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Collection Application Assigned Identification**

<b>Description:</b>	The identification a DoD collection application assigned to an information set collected on the biometric subject. It consists of Application Name, Assigned Identifier Field Name, Application Assigned Identifier.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Collection Application Name**

<b>Description:</b>	The name of a collection application or system.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	BAT, DBIDS, BISA, PIV



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#### **Collection Application Assigned Identification**

##### **Collection Application Identifier Field Name**

<b>Description:</b>	The name of the data field where the identifier assigned by the collection application is being stored.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	Cardholder Unique Identifier = CHUID Global Unique Identifier = GUID DBIDS Identifier = DBIDS_ID

#### **Collection Application Assigned Identifier**

<b>Description:</b>	The value of the field name assigned to the individual by a collection application or system.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	2 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Collection Location**

<b>Description:</b>	The location where the biometric sample was collected.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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#### **Collection Location**

##### **Address Value Type**

<b>Description:</b>	Defines the type of address in the Address Value field. E.G. address line 1/city/state/country.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Address Line 1 = ADD1 Address Line 2 = ADD2 Address Line 3 = ADD3 Address Line 4 = ADD4 City = CITY State/Province = STAT Country = CTRY Postal Code = POST Neighborhood = NEIG Address Full Text = FULL Comment = ACOM

##### **Address Value**

<b>Description:</b>	The address of an individual or group. The value of this field should correspond to the specified Address Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 250
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-1 Alpha-2 codes where Address Value Type = CTRY or STAT

#### **Collection Reason**

<b>Description:</b>	The purpose for which a biometric sample was obtained from the biometric subject.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 75
<b>Special Characters:</b>	Commas, Blanks, Dashes, Hyphens, Slashes
<b>Possible Codes:</b>	n/a

#### **Contextual Data Collection Date**



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### Type-2 Contextual/Situational Information

#### **Contextual Data Collection Date**

<b>Description:</b>	The date that the Type-2 contextual/situation data was collected. This can be different than when the sample data was collected.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	format: YYYYMMDD

#### **Contributor Case Identifier Extension**

<b>Description:</b>	This field is a two-byte to four-byte numeric supplement to the Case Identifier Number that allows multiple searches to be associated with the same case. The CIX shall be used only in conjunction with the CIN.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Contributor Case Identifier Number**

<b>Description:</b>	This set of fields is assigned by the contributor to uniquely identify a case. It consists of a Contributor Case Prefix and a Contributor Case Identifier. This grouped free-text field is assigned by the contributor to uniquely identify a case. It consists of a literal information item Contributor Case Prefix (CIN_PRE) (e.g., "Incident #," "Laboratory Number," "Investigation No."), and the Contributor Case Identifier information item (CIN_ID).
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Contributor Case Identifier Prefix**

<b>Description:</b>	The prefix for the Contributor Case Identifier. For example, "Incident #," "Laboratory Number:", "Investigation No."
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 24
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Contributor Case Identifier Number**

##### **Contributor Case Identifier**

<b>Description:</b>	The identifier assigned by the contributor to uniquely identify a case.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 24
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Controlling Agency Identifier**

<b>Description:</b>	In Criminal and Civil transactions, the first instance of this field contains the ORIGINATING AGENCY IDENTIFIER (ORI) of the organization controlling the transaction when that organization is different than the one submitting the transaction. When the controlling agency has the same ORI as the CSA, both the ORI and CRI fields shall be submitted with the same identifier. In criminal transactions, the CRI will usually refer to the booking station that has submitted the subject's fingerprint card or photo to be transmitted through the CSA to the FBI. For Civil submissions, this field may be user-defined in accordance with predefined parameters and must be validated through the field specification edits and the format of an NCIC-authorized ORI. The FBI uses the first instance of CRI in any transaction that would modify criminal records as the authority to do so. If, in a Civil transaction, there is a criminal Ident against the subject and the first instance of the submitted CRI is not an authorized ORI, the ORI of the State Identification Bureau that submitted the transaction will be used in its stead. The second and third instances of CRI, when sent, are treated as user-defined fields. (See also Appendix B for definitions of ORI and DAI from FBI CJIS EBTS V8.1.) The CRI returned is otherwise the same as was submitted unless the submitting agency has used a deleted or retired CRI, in which case its replacement will be used. For FBI CJIS EBTS purposes, this field shall be a nine-byte alphanumeric field. The first two characters shall be a valid alpha-character POB code, which represents the state or country in which the agency is located, and the entire CRI shall validate to an NCIC-authorized ORI. For federal agencies, the first two characters should coincide with its respective headquarters or office ORI. If an agency is submitting for an entity outside of its respective state, the channeling agency need only ensure that submitted CRIs represent valid ORIs that have been added to the IAFIS Computerized Contributor Address file.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 9
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Conveyance**

<b>Description:</b>	A set of fields for capturing the method of transportation on which the biometric subject was encountered, the type of identification and identifier assigned to the conveyance.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a





## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### Conveyance

##### Conveyance Type

<b>Description:</b>	The category of transportation on which the biometric subject was encountered.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	Automobile = AUTO Aircraft = AIR Vessel = VESSEL Other = OTH

##### Conveyance Identifier Type

<b>Description:</b>	The type of identification assigned to a conveyance.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 20
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Ship Control Number = SCONUM National Identification Document = NIDDOC Vessel Registration Number = VESSELNUM Vehicle Identification Number = VIN License Plate Number = LICENSE Aircraft Registration Number = AIRNUM

##### Conveyance Identifier Value

<b>Description:</b>	The identifier assigned to a conveyance.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	2 to 20
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Court Segment Literal***



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IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### ***Court Segment Literal***

<b>Description:</b>	The information of an offense charged in a court count. The CSL field is made up of the Court Disposition Date (CDD), the Court Offense Literal (COL), and the Other Court Sentence Provision Literal (CPL). The CDD is the date a court count was disposed of by the court. The CDD shall appear as an eight-digit number as specified in Section 1.2 of Appendix C of FBI CJIS EBTS V8.1. The CDD shall not exceed the current date except when the submission originates from an international contributor located in a time zone earlier than the Eastern Time Zone. This date field shall contain the local date for the region submitting the request. Edit checks on the IAFIS will accept the local date as valid up to 24 hours forward to accommodate the variance between international time zones.  When submitting a custody tenprint, use this field for custody information. In the event that there is no arrest information available when submitting a custody tenprint, the COL and CDD must be copied to the corresponding AOL and DOO fields of the Arrest Segment Literal (ASL), which is in all criminal tenprint submissions.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Court Disposition Date**

<b>Description:</b>	The date a court count was disposed of by the court.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: CCYYMMDD

#### **Court Offense Literal**

<b>Description:</b>	A freeform text description of an offense charged in a court count. The first character of the COL must not be a blank.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 300
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### ***Court Segment Literal***

##### **Other Court Sentence Provision Literal**

<b>Description:</b>	The freeform text containing information on sentence provisions.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 300
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Custody or Supervisory Status Literal***

<b>Description:</b>	This field contains the literal for the biometric subject's indicated custody or supervisory status.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 300
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Custody or Supervisory Status Start Date***

<b>Description:</b>	This field contains the start date for the subject's indicated custody or supervisory status. The date shall appear as an eight-digit number. The SSD may not be less than Date Of Arrest. The SSD shall not exceed the current date except when the submission originates from an international contributor located in a time zone earlier than the Eastern Time Zone. This date field shall contain the local date for the region submitting the request.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: CCYYMMDD

#### ***Date of Arrest***

<b>Description:</b>	This field contains the date of arrest. The date shall appear as an eight-digit number. DOA shall not exceed date of submission except when the submission originates from an international contributor located in a time zone earlier than the Eastern Time Zone. This date field shall contain the local date for the region submitting the request.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: CCYYMMDD



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-2 Contextual/Situational Information

#### **DoD Candidate List**

<b>Description:</b>	This grouped field shall contain a candidate list. It is composed of two information items: DoD Number and Candidate Name. These fields will be provided for each candidate in the list.  *Note - The Candidate List is for initial search. It is not intended for secondary search results.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **DoD Number**

<b>Description:</b>	Number assigned to the enrollment by a DoD repository.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Candidate Name**

<b>Description:</b>	The name of a person included in a CANDIDATE LIST. This alpha special field contains the name(s) of the subject. The format shall be the surname followed by a comma (,) followed by the given name(s), which are separated by a space. Special values of Candidate Name to be entered in cases where the subject's name is not known are: <table style="margin-left: 40px; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; border-bottom: 1px dashed black;">Condition</th> <th style="text-align: left; border-bottom: 1px dashed black;">Name Field Value</th> </tr> </thead> <tbody> <tr> <td>Amnesia Victim</td> <td>"UNKNOWN AMNESIA, XX"</td> </tr> <tr> <td>Unknown Deceased</td> <td>"UNKNOWN DECEASED, XX"</td> </tr> <tr> <td>Name Not Available (Other)</td> <td>"DOE, JOHN" or "DOE, JANE"</td> </tr> </tbody> </table>	Condition	Name Field Value	Amnesia Victim	"UNKNOWN AMNESIA, XX"	Unknown Deceased	"UNKNOWN DECEASED, XX"	Name Not Available (Other)	"DOE, JOHN" or "DOE, JANE"
Condition	Name Field Value								
Amnesia Victim	"UNKNOWN AMNESIA, XX"								
Unknown Deceased	"UNKNOWN DECEASED, XX"								
Name Not Available (Other)	"DOE, JOHN" or "DOE, JANE"								
<b>Number of Information Items:</b>	0								
<b>ANSI/NIST ITL 1-2007 Field:</b>	No								
<b>Character Types Allowed:</b>	AS								
<b>Number of Characters Allowed:</b>	3 to 30								
<b>Special Characters:</b>	Any printable characters								
<b>Possible Codes:</b>	n/a								

#### **DoD Number**



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### ***DoD Number***

<b>Description:</b>	Number assigned to the enrollment by a DoD repository.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Electronic Rap Sheet***

<b>Description:</b>	This field shall contain the electronic rap sheet. The electronic rap sheet is an electronic copy of the Identification Record Report (IDRR) or the Non-Identification Response (NIDR) as are done today. The electronic rap sheet shall consist of lines with a maximum of 74 characters per line (text of 72 plus two line control characters).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 200,000
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Encounter Comment***

<b>Description:</b>	The comments or notes on the encounter mission event in which the biometric sample was collected including any extenuating circumstances of the event.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Encounter Mission Type***



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### Type-2 Contextual/Situational Information

#### ***Encounter Mission Type***

<b>Description:</b>	The kind of mission under which the biometric subject's data was collected.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Base Access = BA Combat Patrol = CP Population Control = PC Site Exploitation = SE EMIO = EMIO Unknown = UNK

#### ***Estimated Time to Complete***

<b>Description:</b>	The estimated time to complete a search or multiple searches for a Latent Search Status and Modification Query. This one-to-four-byte field will contain the estimated search completion time in minutes up to five days.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Event***

##### **Event Identifier**

<b>Description:</b>	The unique identifier for an event.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	ANS
<b>Possible Codes:</b>	n/a

##### **Address Value**

<b>Description:</b>	The address of an individual or group. The value of this field should correspond to the specified Address Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 250
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ISO-3166-1 Alpha-2 codes where Address Value Type = CTRY or STAT



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IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### **Event**

#### **Address Value Type**

<b>Description:</b>	Defines the type of address in the Address Value field. E.G. address line 1/city/state/country.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Address Line 1 = ADD1 Address Line 2 = ADD2 Address Line 3 = ADD3 Address Line 4 = ADD4 City = CITY State/Province = STAT Country = CTRY Postal Code = POST Neighborhood = NEIG Address Full Text = FULL Comment = ACOM

#### **FBI Action to be Taken**

<b>Description:</b>	The text answers to submission requests indicating that a latent case will be established or recommending further actions in either latent or ten-print responses. In response to Rapid Print Image Searches (RPIS), additional information will be provided regarding red or yellow values in the SRF field. This field will also be used to indicate action taken by the FBI in response to electronic document (e.g., disposition) submissions. Commas, hyphens, ampersands, slashes, number signs, and blanks are all allowed as special characters.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	0 to 300
<b>Special Characters:</b>	Commas, hyphens, ampersands, slashes, number signs, and blanks.
<b>Possible Codes:</b>	n/a

#### **FBI Cancel Fingerprint Search**

<b>Description:</b>	This field will contain the information required to cancel a latent fingerprint search previously submitted to IAFIS. This field will contain unique identifier numbers (AFIS/FBI uses the AFIS Segment Process Control Number) for all searches to be canceled. The response to this request will contain the same information for all searches that were canceled. Only searches that are still pending will be canceled (searches completed or in-progress may not be canceled).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **FBI Civil Record Number**



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-2 Contextual/Situational Information

#### ***FBI Civil Record Number***

<b>Description:</b>	A unique identifier assigned to each Civil Subject Record.  Notes: Either an FBI number or a Civil Record Number (CRN) may be returned, but not both, depending upon transaction results. No number (neither FBI nor CRN) is returned when none is assigned (e.g., Non-Ident with RET = "N"). FBI number will be returned for any submission resulting in an Ident against the Criminal File or when a Non-Ident results in an add to the Criminal File. CRN will be returned when a submission results in an Ident against a subject in the Civil file only.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	9 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***FBI Court Case Number***

<b>Description:</b>	The unique number assigned by the state or federal court system to identify a specific court event occurrence in a subject criminal history record. The CCN is an optional element that may assist in matching the submitted disposition data to the correct court cycle. If present in the submission, this field should be returned in the response. Any printable 7-bit ASCII character with the exception of a period (.) is acceptable. Embedded blanks are not permitted. A CCN must not begin with a blank
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	0 to 20
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***FBI File Number***

<b>Description:</b>	This is a 10-byte numeric representing the FBI Investigative File Number. This is not the FBI Number specified by the mnemonic "FBI." Since it is used for FBI LFPS record keeping purposes, it is imperative that the user transmit this number if it is known.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	10 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***FBI Geographic Area of Search***





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### Type-2 Contextual/Situational Information

#### ***FBI Geographic Area of Search***

<b>Description:</b>	This field indicates the geographic area to be searched. Entry may be any valid code from Code Table POB in Part VI of the NCIC State and Country Data Code Table. If inclusion of all 50 states is desired, this field shall remain blank.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Table POB in Part VI of the NCIC State and Country Data Code Table.

#### ***FBI Latent Case Number***

<b>Description:</b>	This field is an 11-byte alphanumeric/special assigned by the FBI LFPS and used for recordkeeping purposes. Although the field is optional, it is imperative that the user transmits this number if it is known.  First two characters may be AN followed by a hyphen. Remaining characters are AN.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	11 to 11
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	First two characters may be AN followed by a hyphen. Remaining characters are AN.

#### ***FBI Latent Submission Comment***

<b>Description:</b>	This free-text field is used to provide additional information regarding electronic latent submissions. For latent search IDENT results feedback (LSIR), the NOT field will be used to indicate the candidate from the SRL that matched the search image. For ULM transactions, the NOT field will provide information related to latent search images that are candidates for comparison with the unsolved latent (e.g., case-related identifiers or point of contact information).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 1,000
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***FBI Number***



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### Type-2 Contextual/Situational Information

#### ***FBI Number***

<b>Description:</b>	This field contains the subject's FBI number if known. A valid FBI number shall be no more than nine alphanumeric characters. The FBI number returned in a response is dependent upon the search results (see Section 3.6 of FBI CJIS EBTS V8.1).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***FBI Offense Category***

<b>Description:</b>	The category for a crime committed by the biometric subject. This field shall contain a "1" for a crime categorized as personal, a "2" for a crime categorized as property, and a "3" for a crime categorized as both.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Personal= 1 Property=2 Both =3

#### ***FBI Reason Fingerprinted***

<b>Description:</b>	<p>This alphanumeric-special field is used to indicate the purpose of a civil or applicant fingerprint card submission. Commas, blanks, dashes, hyphens, and slashes are all allowed as special characters. The submitting agency should indicate the specific statutory authority authorizing the fingerprint submission in this field. For MAP submissions, agencies must indicate "Criminal Justice Employment" or "Law Enforcement" in this field or the submission will be rejected.</p> <p>Option: Agencies may choose to use standard terms in this field related to the purpose of the fingerprint submission instead of the specific statutory authority. The standard reasons are:</p> <ul style="list-style-type: none"> <li>• Firearms</li> <li>• Volunteer</li> <li>• Criminal Justice Employment</li> <li>• Child Care/School Employee</li> <li>• Other Employment and Licensing</li> </ul> <p>Note: The use of RFP requires coordination with FBI prior to use.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 75
<b>Special Characters:</b>	Commas, blanks, dashes, hyphens, and slashes are allowed as special characters.
<b>Possible Codes:</b>	n/a

#### ***FBI Repository Statistics Response***



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-2 Contextual/Situational Information

#### ***FBI Repository Statistics Response***

<b>Description:</b>	This field contains a file generated by the AFIS that provides the detailed statistics that can be used to estimate the level of penetration of the repository given a set of search parameters defined in the search request. This field is in the form of a large ASCII file that can contain up to 32,000 bytes of alphanumeric-special (ANS) data. The file has three fields containing: (1) a parameter name, (2) a parameter value; and (3) the fraction of the file having that value of the parameter. The fields are TAB delimited. NEWLINE characters separate records. A period character is used as a decimal point in the Fraction field. As an example, the record EYE<TAB>BLUE<TAB>0.321<NEWLINE> indicates that the parameter EYE having the value BLU occurs in 32.1% of the subjects on file.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 32,000
<b>Special Characters:</b>	Period (as decimal point), tab (as field delimiter), new line (as record separator).
<b>Possible Codes:</b>	n/a

#### ***FBI State Identification Number***

<b>Description:</b>	This field contains any known US-state identification number. The format is the standard two-character abbreviation of the state name followed by the number. Embedded blanks are not permitted. SIDs from New York, Oregon, or Pennsylvania may contain a hyphen in the last position. The SID returned in a response is dependent upon the search results (see Section 3.6 in the FBI CJIS EBTS V8.1).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 10
<b>Special Characters:</b>	NY, OR, and PA may use a hyphen in the last position.
<b>Possible Codes:</b>	n/a

#### ***Geographic Coordinate Datum***



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### Geographic Coordinate Datum

<b>Description:</b>	This field contains an identifier for the datum used to express the coordinates provided in Geographic Coordinate Latitude/Longitude (GEO_CORD). If this field is absent, and one of the GEO_CORD fields is populated, the default datum is WGS-84 / NAD-83.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	3 to 6
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Airy = AIRY Australian National = AUST Bessel 1841 = BES Bessel 1841 (Nambia) = BESN Clarke 1866 = CLK66 Clarke 1880 = CLK80 Everest = EVER Fischer 1960 (Mercury) = FIS60 Fischer 1968 = FIS68 GRS 1967 = GRS67 GRS 1980 = GRS80 Helmert 1906 = HELM Hough = HOUG International = INT Krassovsky = KRAS Modified Airy = AIRYM Modified Everest = EVERM Modified Fischer 1960 = FIS60M South American 1969 = SA69 WGS-60 = WGS60 WGS-66 = WGS66 WGS-72 = WGS72 WGS-84 / NAD-83 = WGS84

#### Geographic Coordinate Latitude/Longitude

<b>Description:</b>	This field contains the longitude and latitude at which the submission was collected. It consists of Latitude Degree, Latitude Minute, Latitude Second, Longitude Degree, Longitude Minute, and Longitude Second. Both Latitude Degree and Longitude Degree are mandatory if this field is present. Decimal values are allowed in each information item. If a decimal value is used in a particular information item, the more granular information item shall be empty (e.g., if Longitude Minutes equals 45.67, Longitude Seconds shall be empty). The datum for this field is indicated in Geographic Coordinate Datum (DATUM_ID).
<b>Number of Information Items:</b>	6
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-2 Contextual/Situational Information

#### Geographic Coordinate Latitude/Longitude

##### Geographic Coordinate Latitude Degree

Description:	This field contains the latitude at which the submission was collected. The data is in degrees in the range +90 to -90. The hyphen representing a negative value is required; the plus sign for positive values may be omitted. Decimal values are allowed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	1 to 9
Special Characters:	Period, Plus, Hyphen
Possible Codes:	n/a

##### Geographic Coordinate Latitude Minute

Description:	This field contains the latitude at which the submission was collected. The data is in minutes in the range 0-60. Decimal values are allowed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	1 to 8
Special Characters:	Period
Possible Codes:	n/a

##### Geographic Coordinate Latitude Second

Description:	This field contains the latitude at which the submission was collected. The data is in seconds in the range 0-60. Decimal values are allowed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	1 to 8
Special Characters:	Period
Possible Codes:	n/a

##### Geographic Coordinate Longitude Degree

Description:	This field contains the longitude at which the submission was collected. The data is in the range of +180 to -180. The plus sign may be omitted. Decimal values are allowed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	1 to 10
Special Characters:	Period, Plus, Hyphen.
Possible Codes:	n/a



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### Type-2 Contextual/Situational Information

#### Geographic Coordinate Latitude/Longitude

##### Geographic Coordinate Longitude Minute

Description:	This field contains the longitude at which the submission was collected. The data is in minutes in the range 0-60. Decimal values are allowed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	1 to 8
Special Characters:	Period
Possible Codes:	n/a

##### Geographic Coordinate Longitude Second

Description:	This field contains the latitude at which the submission was collected. The data is in seconds in the range 0-60. Decimal values are allowed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	1 to 8
Special Characters:	Period
Possible Codes:	n/a

#### Geographic Coordinate Other

Description:	The alternate coordinate data set for the location where a submission was collected.  Notes: These coordinates are expressed in the indicated coordinate system. All information items in the set are mandatory if this field is present. The datum for this field is indicated in Geographic Coordinate Datum.
Number of Information Items:	2
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Geographic Coordinate Other System Identifier

Description:	The identifier for the coordinate system used in the field to identify the location of the submission was collected.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	AN
Number of Characters Allowed:	4 to 6
Special Characters:	None
Possible Codes:	Military Grid Reference System = MGRS (17 Characters) Global Area Reference System = GARS (7 Characters) World Geographic Reference = GEOREF (12 Characters)



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### Type-2 Contextual/Situational Information

#### **Geographic Coordinate Other**

##### **Geographic Coordinate Other System Value**

<b>Description:</b>	The value of the coordinate at which the submission was collected. A MGRS coordinate is in the form of a three character grid Zone Designation, followed by a two letter grid square designator and a four, six, eight, 10 or 12 digit coordinate (e.g. 42BNG112343556789). A GARS coordinate is composed of a three digit longitudinal band designator, followed by a two letter latitudinal band designator, a one character quadrant number and a one character "key" (e.g., 006AG39). A GEOREF coordinate consists of four letters followed by up to eight numerals (e.g., MKPG12041234).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	3 to 17
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Geographic Coordinate Universal Transverse Mercator**

<b>Description:</b>	The Universal Transverse Mercator (UTM) grid coordinates at which the submission was collected. It consists of the Zone, Northing and Easting. All information items are mandatory if this field is present. The datum for this field is indicated in Geographic Coordinate Datum Identifier.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Geographic Coordinate Universal Transverse Mercator Easting**

<b>Description:</b>	The Universal Transverse Mercator (UTM) Easting value at which the submission was collected. The data is in whole meters.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 6
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Geographic Coordinate Universal Transverse Mercator Northing**

<b>Description:</b>	The Universal Transverse Mercator (UTM) Northing value at which the submission was collected. The data is in whole meters.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### **Geographic Coordinate Universal Transverse Mercator**

#### **Geographic Coordinate Universal Transverse Mercator Zone**

<b>Description:</b>	The universal transverse mercator (UTM) zone at which the submission was collected. One or two digit UTM zone number followed by the 8 degree latitudinal band designator.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	2 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Identification Comments**

<b>Description:</b>	Additional miscellaneous identification remarks. The reason for caution may be entered in this free-text field. The first character may not be a blank.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Image Designation Character [User-Defined Text]**

<b>Description:</b>	This ASCII field shall be used to identify the user-defined text information contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Iris Image Omitted Reason**





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### Type-2 Contextual/Situational Information

#### ***Iris Image Omitted Reason***

<b>Description:</b>	Reason why the iris image (aka as Type-17 record) is not present in the associated file.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Not possible to capture left iris = L Left eye missing = Z Not possible to capture right iris = R Right eye missing = X Not possible to capture either iris = B Both eyes missing = A

#### ***Latent Case Title***

<b>Description:</b>	This field identifies the Latent Case. It will include information concerning the case, and it must include the offense type.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Latent Search Priority***

<b>Description:</b>	<p>This field shall indicate the priority of a latent search (from 1 to 3, with 1 being the highest priority). The priority levels will generally correspond to the following crime types in descending order of priority.</p> <ol style="list-style-type: none"> <li>1. Homicide, rape, and special circumstances</li> <li>2. Kidnap, assault, and robbery</li> <li>3. Arson, drugs, personal crimes, and property crimes</li> </ol> <p>Federal agencies will determine their own priority schemes. No additional validation of priorities will be provided. IAFIS will not interrupt searches in progress upon receipt of higher priority searches.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Highest Priority = 1 Medium Priority = 2 Lowest Priority = 3

#### ***Limit of Candidates***



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### Type-2 Contextual/Situational Information

#### ***Limit of Candidates***

<b>Description:</b>	Limit of Candidates, a value in the range 1 to 256.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 256
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	1 to 256

#### ***Logical Record Length [Type-2]***

<b>Description:</b>	This field contains the length of the logical record specifying the total number of bytes, including every character of every field contained in the Type-2 logical record. The number of characters added to the record by the LEN field itself shall be included in calculating the value of LEN.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Match Score***

<b>Description:</b>	This field defines the match score of a biometric sample from the system that performed the search for a candidate list response. The match score is dependent and defined by the designated repository.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Number of Candidate Images Returned***

<b>Description:</b>	This field contains the maximum number of candidate's images the submitter desires to receive in response to a latent image or features search. If the field is left blank, only images for the highest-scoring candidate will be returned. The maximum value of NCR is currently 20.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	1 to 20



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### Type-2 Contextual/Situational Information

#### **Operational Personnel**

<b>Description:</b>	This set of fields shall identify the name information, contact information, unit/organization, role, rank/grade, identification type and the identification identifier of the personnel assigned to specific day-to-day responsibility for program activities.
<b>Number of Information Items:</b>	10
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Operational Personnel Unit/Organization**

<b>Description:</b>	The name or identifier for the operational unit or organization the Operational Personnel belongs to.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Operational Personnel Role**

<b>Description:</b>	The role of the Operational Personnel.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	ABIS Operator = AO Requesting Authority = RA Approval Authority = AA Enroller = EN Latent Submitter = LS Latent Technician = LT Screener = SR Sponsor = SP Biometric Sample Collector = BC

#### **Operational Personnel Rank/Grade**

<b>Description:</b>	The military rank or civilian rank of the Operational Personnel.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### Operational Personnel

##### US Person Indicator

Description:	The indicator of whether an individual is a citizen of the United States, an alien lawfully admitted for permanent residence in the United States, or a member of the U.S. Armed Forces.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	A
Number of Characters Allowed:	2 to 3
Special Characters:	None
Possible Codes:	Yes = YES No = NO

##### Operational Personnel Identifier Type

Description:	The type of unique identifier of the Operational Personnel, such as Social Security Number.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	A
Number of Characters Allowed:	3 to 7
Special Characters:	None
Possible Codes:	Social Security Number = SSN EDIPI = EDIPI Internment Serial Number = ISN DoD Number = DOD BAT Global Unique Identifier = BATGUID DBIDS Identifier = DBIDS

##### Operational Personnel Identifier

Description:	The value of the unique identifier of the Operational Personnel, such as Social Security Number.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to 50
Special Characters:	Any printable characters
Possible Codes:	n/a



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### Type-2 Contextual/Situational Information

#### Operational Personnel

##### Name Value Type

<b>Description:</b>	Defines the type of name in the Name Value field. E.G. first/given, last/surname, middle , maiden, nickname.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Prefix = PREF Full = FULL First/Given = GIV Middlename = MID Last/Surname/Family = SUR Suffix = SUFF Maiden = MAID Alias = ALIA Nickname = NICK Tribal = TRIB Comment = COM  Fully Qualified Arabic Name: Arabic Full = AFUL Ism = ISM Kunya = KUN Nasab = NAS Laqab = LAQ Nisba = NIS

##### Name Value

<b>Description:</b>	The name for the individual. The value of this field should correspond to the specified Name Value Type within the set.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

##### Contact Mode

<b>Description:</b>	The method of contact for the individual (e.g. phone, email).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Home phone = HP Work Phone = WP Cell Phone = CP Email = EM Relative Phone = RP Other = OT



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### Type-2 Contextual/Situational Information

#### **Operational Personnel**

##### **Contact Mode Value**

<b>Description:</b>	The telephone number or email address for contacting the individual.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Originating Agency Case Number**

<b>Description:</b>	This field contains the one-to-twenty character Originating Agency Case Identifier (OCA) assigned by the originating agency. This alphanumeric-special (ANS) field may contain any printable 7-bit ASCII character with the exception of the period (.). The OCA must not begin with a blank.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 20
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Person Type Designator**

<b>Description:</b>	This field is used in the submittal of comparison fingerprints, and it indicates that the fingerprints belong to a victim, suspect, individual with legitimate access to the object, or other individuals involved in the latent case.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Suspect = S Victim = V Elimination = E Other = O

#### **Request Electronic Rap Sheet**



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#### ***Request Electronic Rap Sheet***

<b>Description:</b>	The purpose of this field is to allow the contributors to request an electronic rap sheet of the suspect. That rap sheet will be an IDRR if an Ident was made and an NIDR if the submission resulted in a Non-Ident. A "Y" indicates that a rap sheet is desired, and an omitted field or an "N" indicates that no electronic rap sheet should be returned with the response.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Yes=Y No=N

#### ***DoD Request Mug Shot***

<b>Description:</b>	An indicator that requests a return of the most recent mug shot (frontal pose) on file with DoD for the given biometric subject. Otherwise, this field may be omitted.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Yes = Y No = N

#### ***FBI Request Photo Record***

<b>Description:</b>	This one-character alpha field is used to indicate a user's desire to have the repository return a Type-10 photo record if one is on file and disseminable.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Photo Record Requested = Y Photo Record Not Requested = N

#### ***Request Secondary Search***



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### Type-2 Contextual/Situational Information

#### **Request Secondary Search**

<b>Description:</b>	This set of fields, if provided, shall indicate which repository, the transaction type and secondary search retention code for a secondary search and subsequent processing that the logical file should be given.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Name of Designated Repository**

<b>Description:</b>	This field contains the numerical designation of the secondary repository(ies) to be searched. A submission will be submitted to the primary repository via the DoD EBTS. This field indicates which additional repository(ies) should be searched using the same information. Repository numbers from 1 to 199 are assigned by the FBI CJIS Division. Repository numbers from 200 to 999 are assigned by the BTF.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Criminal Master File Records = 1 Civil Records = 2 Unsolved Latent File = 3 Major Case File Records = 4 Latent Image File Records = 5 Repository for Individuals of Special Concern (RISC) = 6 Canada Real Time Identification (RTID) = 7 DoD Automated Biometric Identification System (ABIS) = 8 DHS IDENT/US-VISIT = 9 IDProTECT = 200

#### **Request Secondary Search Transaction Type**

<b>Description:</b>	This field contains an identifier, designating the type of transaction to secondary search and subsequent processing that the logical file should be given.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





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### Type-2 Contextual/Situational Information

#### **Request Secondary Search**

##### **Secondary Search Retention Code**

<b>Description:</b>	A value of "Y" means retention is acceptable, a value of "N" means the secondary repository should not retain the submission. Secondary repositories are not necessarily bound by this field and policy may override the value present.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Submission Retained = Y Submission Not Retained= N

#### **Response Code**

<b>Description:</b>	A one-byte alpha field with allowable values of "Y" or "N." This field is used to indicate the status of the corresponding Type 10-photo record request. If the request contains any errors, the response code (REC) will be set to "N." Otherwise it will be set to "Y."
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Yes = Y No = N

#### **Response Explanation**

<b>Description:</b>	This field is free-form text to elaborate on the Response Code field for the Type-10 Photo record requested.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Search Results Findings**



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### Type-2 Contextual/Situational Information

#### Search Results Findings

<b>Description:</b>	This field is used in responses to submissions and contains a single character. An "I" shall be used to indicate that an identification has been made, and an "N" shall be used to indicate that no identification has been made. For latent comparison results feedback, in addition to "I" or "N," a pending comparison result will be indicated with a "P." For RPISR TOT, the SRF field will contain the following: "R" for red, "Y" for yellow, or "G" for green.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Identification has been made = I No identification has been made = N Pending = P Red = R Yellow = Y Green = G

#### Send Copy to

<b>Description:</b>	The purpose of this 9-to-19-character alphanumeric-special (ANS) field is to indicate that additional electronic responses need to be forwarded to agencies other than the contributor by the State Identification Bureau. The first nine characters shall be alphanumeric and shall contain the NCIC-assigned Originating Agency Identifier (ORI) for an agency who is to receive a copy of the response. At the option of the transmitting agency, the ORI may be expanded to a size of 19 characters, with 10 characters of alphanumeric-special (ANS) data appended to the end to assist in proper routing of the responses. However, no separator may be used between the ORI and routing extension (use any printable ASCII special character (e.g., a slash) as a separator). Upon receiving an electronic response, the State Identification Bureau will forward a copy of the electronic response to each agency listed in the "SEND COPY TO" block.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	9 to 19
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Status/Error Message

<b>Description:</b>	This free-text field will contain reason, status, or error messages that are generated as a result of the processing of a transaction and will be sent back to the submitter. For example, an Unsolicited Unsolved Latent Delete transaction will contain the reason for the deletion of a record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 300
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Submission Priority



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### Type-2 Contextual/Situational Information

#### **Submission Priority**

<b>Description:</b>	This field shall indicate the priority of a submission (from 1 to 5, with 1 being the highest priority).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	1, 2, 3, 4, 5

#### **Subsequent Notification**

<b>Description:</b>	Information that identifies the current submission is requesting that all future associations will return notifications to the defined email address(es). These subsequent notifications will be sent to the email address list if specified. It consists of Subsequent Notification Email Address and Subsequent Notification Function.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Subsequent Notification Email Address**

<b>Description:</b>	Defines the actual email addresses where subsequent responses will be sent. Individual addresses will be separated by the semi-colon character (;). This field will override any configuration previously made at the ORI level.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Subsequent Notification Function**

<b>Description:</b>	Identifies the type of notification that should be used.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	No subsequent notification = 0 use default = 1 multiple as listed = 2

#### **Template Extraction Algorithm**



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### Type-2 Contextual/Situational Information

#### **Template Extraction Algorithm**

<b>Description:</b>	The algorithm used to extract template data from an existing biometric image. It consists of Template Extraction Algorithm Name and Template Extraction Algorithm Version.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Template Extraction Algorithm Name**

<b>Description:</b>	The name of the algorithm used to extract template data from an existing biometric image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Template Extraction Algorithm Version**

<b>Description:</b>	The version of the algorithm used to extract template data from an existing biometric image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 10
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	n/a

#### **Verification Identifier**

<b>Description:</b>	This field shall contain a verification identifier on file with the DoD. The identifier may contain a DoD number, SSN, EDIPI, ISN, BAT GUID, or DBIDS number. This field contains two information items, Verification Identifier Type and Verification Identifier Value, and both must be present.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-2 Contextual/Situational Information

#### Verification Identifier

##### Verification Identifier Type

<b>Description:</b>	The type of verification identifier.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	DoD number = DOD Social Security Number = SSN EDIPI = EDIPI Internment Serial Number = ISN BAT Global Unique Identifier = BATGUID DBIDS number = DBIDS Local Population Identifier = LPID

##### Verification Identifier Value

<b>Description:</b>	The verification identifier on file with the DoD.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### XML-based Rap Sheet

<b>Description:</b>	An electronic rap sheet for the biometric subject in XML format.  Notes: The electronic rap sheet shall consist of lines with a maximum of 174 characters per line. The response formatting shall conform to a future DoD standard.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	4 to 400,000
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-9 Minutiae Data (IAFIS Features)

#### ***AFIS/FBI Pattern Classification***

<b>Description:</b>	This field contains one to three information items with each composed of three information items. Each information item reports a possible basic pattern class (APAT) and the ridge counts (RCN1, RCN2) defining its subpattern class. It further subdivides the basic pattern classes of loops and whorls according to the count of ridges crossed or touched along a straight line joining the core(s) to the delta(s). The count is one more than the number of intervening ridges. For latents, the latent examiner is expected to make a best estimate as opposed to a range. AFIS/FBI treats all indicated pattern classes equally (i.e., no significance given to the order of the possible classes provided). AFIS/FBI will apply a suitable tolerance to the specified ridge count for search space penetration.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Pattern Classification**

<b>Description:</b>	The basic pattern class defining its subpattern class.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Arch (type not designated) = AU Left slant loop = LS Right slant loop = RS Whorl (type not designated) = WU Complete scar = SR Amputation = XX Unable to classify = UC



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### Type-9 Minutiae Data (IAFIS Features)

#### **AFIS/FBI Pattern Classification**

##### **Ridge Count Number 1**

<b>Description:</b>	The appropriate subpattern class ridge count between the core(s) and the delta(s). A zero (0) should be entered if a ridge count is not appropriate; a thirty-one (31) if it was appropriate but not counted or indeterminate. If a whorl is indicated in pattern classification, the Ridge Count Number 1 contains the ridge count from the left delta to the downward opening core. This implies that a central pocket whorl will have both a downward and an upward opening (directed) core generally aligned along the major axis of the innermost ellipse. If a particular fingerprint was not characterized for a tenprint native mode search request, no Type-9 logical record should be submitted for that finger position, and the classification code for the missing finger must be placed in the Type-2 pattern class field.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Arch (type not designated) = 0 Left slant loop = 1-31 Right slant loop = 1-31 Whorl (type not designated) = 1-31 Complete scar = 0 Amputation = 0 Unable to classify = 0 or 31

##### **Ridge Count Number 2**

<b>Description:</b>	The appropriate subpattern class ridge count between the core(s) and the delta(s). A zero (0) should be entered if a ridge count is not appropriate; a thirty-one (31) if it was appropriate but not counted or indeterminate. If a whorl is indicated in pattern classification, the Ridge Count Number 2 contains the ridge count from the right delta to the upward opening core. This implies that a central pocket whorl will have both a downward and an upward opening (directed) core generally aligned along the major axis of the innermost ellipse. If a particular fingerprint was not characterized for a tenprint native mode search request, no Type-9 logical record should be submitted for that finger position, and the classification code for the missing finger must be placed in the Type-2 pattern class field.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Arch (type not designated) = 0 Left slant loop = 0, Right slant loop = 0 Whorl (type not designated) = 1-31 Complete scar = 0 Amputation = 0 Unable to classify = 0 or 31

#### **AFIS Feature Vector**



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### Type-9 Minutiae Data (IAFIS Features)

#### **AFIS Feature Vector**

<b>Description:</b>	This field is a bit-packed field on the minutiae, the nearest neighbors, pattern class, and ridge counts. Its presence in the Type-9 record is allowed by including a "U" in the tagged field MINUTIAE FORMAT. It possesses sufficient features data to replace the rest of the Type-9 native mode record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2,048 to 2,048
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Characterization Quality**

<b>Description:</b>	This is a single information item field. Within AFIS/FBI, the principal quality parameter is the "Equivalent Number of Minutiae." The distribution of the parameter over thousands of fingerprints approximates a Gaussian distribution with a mean of about 50 and a standard deviation of about 12. The equivalent number of minutiae is calculated as the sum of the weighted normalized quality with the weighting being the number of qualified neighbors for the minutiae divided by the maximum number of neighbors (eight). The normalized minutiae quality ranges from unity (best) to zero (worst). A qualified neighbor would be another minutiae with a reliable separating ridge count (less than 14) and within a reliable distance (not more than 1/5 inch).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Classifier Quality**

<b>Description:</b>	This is a single information item field of seven characters representing a positive real number between one (1.0000) and 99 (99.9999) indicating the quality or confidence of the automatic classification. The presence of the information item may reduce the AFIS/FBI processing load, but its absence will not degrade AFIS/FBI performance. A value of 1.0000 indicates best possible quality or confidence; increasing values indicate progressively worse quality or confidence. The information item format shall be XX.YYYY in which XX represents the integer portion and YYYY the fractional portion to four decimal places with a decimal point (period) between.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	6 to 7
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	Format: XX.YYYY (XX represents the integer portion and YYYY the fractional portion to four decimal places with a decimal point (period) between)

#### **Coordinate Offsets**





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### Type-9 Minutiae Data (IAFIS Features)

#### Coordinate Offsets

<b>Description:</b>	This field allows the recording of translation, rotation, and image cropping employed in the characterization process to allow the examiner or analyst to overlay onto the original or intermediate image the features reported in this record. The units are in original image pixels and degrees using standard image processing coordinates; that is, (0,0) origin at the upper left, column index increasing from left to right, and row index increasing from top to bottom. The column and row coordinate indexes (XYP) shall be coded as a single eight-digit integer number composed of a four-digit column coordinate (X) connected to a four-digit row coordinate (Y) using a format of XXXXYYYY. A minus sign is permitted in the leftmost digit of a four-digit group.
<b>Number of Information Items:</b>	5
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Offset to Upper Left Corner Subimage

<b>Description:</b>	The offset to the upper left corner of a non-rotated subimage used subsequently in image processing.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	Minus sign
<b>Possible Codes:</b>	Format: XXXXYYYY

#### Center of Rotation in Subimage

<b>Description:</b>	The coordinates of the center of rotation within the Subimage about which the Subimage is rotated.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	Minus sign
<b>Possible Codes:</b>	Format: XXXXYYYY

#### Rotation Angle Clock Wise Degrees

<b>Description:</b>	The clockwise rotation angle (THET) in ten-thousandths of a degree resolution (e.g., 072.2342) including the decimal point.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	n/a



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### Type-9 Minutiae Data (IAFIS Features)

#### Coordinate Offsets

##### Rotation Center in Rotated Subimage

Description:	The item contains the coordinates of the center of rotation within the subimage about which the subimage is rotated.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	8 to 8
Special Characters:	Minus sign
Possible Codes:	Format: XXXXYYYY

##### Offset to Upper Left Corner Final Subimage

Description:	The fifth information item contains the upper-left-corner column and row offsets to a cropped subimage taken from the rotated image once adjusted to eliminate negative coordinate values.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	NS
Number of Characters Allowed:	8 to 8
Special Characters:	Minus sign
Possible Codes:	Format: XXXXYYYY

#### Core Attributes

Description:	The complete, unparsed information for cores that can be perceived in the fingerprint (both ten-print and latent). If there is no core perceived in the fingerprint image, the tagged field should be omitted.
Number of Information Items:	3
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Core Location

Description:	The X and Y coordinates of the core in units of 10 micrometers with the origin at the upper left of the fingerprint image.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	8 to 8
Special Characters:	None
Possible Codes:	Format: XXXXYYYY



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### Type-9 Minutiae Data (IAFIS Features)

#### Core Attributes

##### Core Direction in Degrees

Description:	The direction in integer degrees counterclockwise from horizontal right of the core opening through the center of the curvature for the innermost recurve at maximum curvature.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	3 to 3
Special Characters:	None
Possible Codes:	n/a

##### Core Position Uncertainty

Description:	The radius in integer units of 10 micrometers of the position uncertainty in the manual or automatic placement of the core.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	4 to 4
Special Characters:	None
Possible Codes:	n/a

#### Delta Attributes

Description:	The complete, unparsed information for deltas that can be perceived in the fingerprint for both AFIS/FBI latent and ten-print characterizations.
Number of Information Items:	5
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Delta Location

Description:	The X and Y coordinates of the delta in units of 10 micrometers with the origin at the upper left of the fingerprint image.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	8 to 8
Special Characters:	None
Possible Codes:	Format: XXXXYYYY



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### Type-9 Minutiae Data (IAFIS Features)

#### Delta Attributes

##### Upward Flow Direction

Description:	The direction in integer degrees counterclockwise from horizontal right of the direction of the ridge flow upward from the delta. Direction angles shall be reported between "001" and "360" degrees only. The value "000" shall be reserved for "direction not provided" while "360" shall be equivalent to zero degrees.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	3 to 3
Special Characters:	None
Possible Codes:	n/a

##### Leftward Flow Direction

Description:	The direction in integer degrees counterclockwise from horizontal right of the direction of the ridge flow outward from the delta and to the left. Direction angles shall be reported between "001" and "360" degrees only. The value "000" shall be reserved for "direction not provided" while "360" shall be equivalent to zero degrees.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	3 to 3
Special Characters:	None
Possible Codes:	n/a

##### Rightward Flow Direction

Description:	The direction in integer degrees counterclockwise from horizontal right of the direction of the ridge flow outward from the delta and to the right. Direction angles shall be reported between "001" and "360" degrees only. The value "000" shall be reserved for "direction not provided" while "360" shall be equivalent to zero degrees.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	3 to 3
Special Characters:	None
Possible Codes:	n/a

##### Delta Position Uncertainty

Description:	The radius of position uncertainty in the manual or automatic placement of the delta in integer units of 10 micrometers.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	No
Character Types Allowed:	N
Number of Characters Allowed:	4 to 4
Special Characters:	None
Possible Codes:	n/a

#### Finger Number



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### Type-9 Minutiae Data (IAFIS Features)

#### *Finger Number*

<b>Description:</b>	This two-byte field shall contain a character designating the finger position that produced the information in this Type 9 record. If the exact finger position cannot be determined, "00" shall be entered. Multiple codes are not permitted. Possible finger positions for single latent characterizations are specified in the accompanying Type-2 logical record. If multiple latents from the same person are transmitted, the particular finger position corresponding to the Type-9 record must be identified within the Type-9 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown finger = 00 Right thumb = 01 Right index = 02 Right middle = 03 Right ring = 04 Right little = 05 Left thumb = 06 Left index = 07 Left middle = 08 Left ring = 09 Left little = 10

#### *Fingerprint Characterization Process*

<b>Description:</b>	This field of three information items identifies the characterization equipment and the amount of manual intervention employed in the characterization process.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### *Fingerprint Characterization Equipment*

<b>Description:</b>	The name of the organization (VEN) providing the fingerprint characterization process software.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 12
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-9 Minutiae Data (IAFIS Features)

#### ***Fingerprint Characterization Process***

##### **Fingerprint Characterization Version Identifier**

<b>Description:</b>	The vendor-supplied, alphanumeric character pair representing the model and/or version of the automatic process used in fingerprint characterization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Fingerprint Characterization Method**

<b>Description:</b>	An ordered sequence of three characters indicating the degree of automation in the fingerprint characterization process.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	First (leftmost) character (classification): Automatic pattern classification without manual intervention = C Manually initiated or verified pattern classification = N Second (middle) character (minutiae generation): Minutiae automatically generated, no manual editing or verification = A Minutiae automatically generated, examiner verified or edited = E Minutiae manually generated by examiner = M Third (rightmost) character (ridge count): Automatic, synthesized ridge count without manual verification = S Automatic, actual ridge count without manual verification = T Automatic ridge count any method examiner edited or verified = V

#### ***Image Designation Character [Minutiae]***

<b>Description:</b>	This field shall be used for the identification and location of the minutiae data. The IDC contained in this field shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Impression Type [Minutiae]***



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### Type-9 Minutiae Data (IAFIS Features)

#### ***Impression Type [Minutiae]***

<b>Description:</b>	This one-byte binary field describes the manner by which the fingerprint image information was obtained. The allowable codes, as defined by Table 11 of the ANSI/NIST-ITL 1-2007 standard, are as follows.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Live-scan plain = 0 Live-scan rolled = 1 Nonlive-scan plain = 2 Nonlive-scan rolled = 3 Latent impression = 4 Latent tracing = 5 Latent photo = 6 Latent lift = 7 Live-scan vertical swipe = 8 Live-scan optical contact plain = 20 Live-scan optical contact rolled = 21 Live-scan non-optical contact plain = 22 Live-scan non-optical contact rolled = 23 Live-scan optical contactless plain = 24 Live-scan optical contactless rolled = 25 Live-scan non-optical contactless plain = 26 Live-scan non-optical contactless rolled = 27 Other = 28 Unknown = 29.

#### ***Logical Record Length [Type-9]***

<b>Description:</b>	This ASCII field shall contain the length of the Type-9 logical record specifying the total number of bytes, including every character of every field contained in the record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Minutia and Ridge Count Data***



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### Type-9 Minutiae Data (IAFIS Features)

#### *Minutia and Ridge Count Data*

<b>Description:</b>	This field shall contain all of the individual minutiae and ridge count data associated with the current fingerprint Impression. It shall be composed of as many information items as there are minutiae stated in the NUMBER OF MINUTIAE (NMN). Each information item shall be devoted to a single minutia and shall consist of multiple information items. The minutiae shall be indexed from one to NMN and need not be ordered according to any particular attribute.
<b>Number of Information Items:</b>	6
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Minutiae Index Number

<b>Description:</b>	This information item is the minutiae index number, which shall be initialized to "1" and incremented by "1" for each additional minutia in the fingerprint.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Location Direction

<b>Description:</b>	The X and Y coordinates are values ranging from zero upward, and the theta direction value, between 000 and 360, shall comprise the second required information item. These three values shall be coded and recorded as a single 11-digit integer number corresponding to the connected X, Y, and theta values, in that order. If the minutia is of Type D, the theta value shall be recorded as "000." The origin of the coordinate system shall be the upper left corner of the image with X increasing to the right and Y increasing downward. The coordinate system units shall be units of 0.01mm (10 micrometers). The direction of an ending shall be into the ending ridge and the direction of a bifurcation shall be into the white space created by the dividing ridge. Angles shall be in integer degrees measured positive counterclockwise from a reference horizontal and to the right. The XY coordinates shall be applied after all rotation and translation of the image has been accomplished.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	11 to 11
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





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### Type-9 Minutiae Data (IAFIS Features)

#### **Minutia and Ridge Count Data**

##### **Quality Measure [IAFIS Minutiae]**

<b>Description:</b>	This information item is the minutiae quality measure. The two-digit values shall range from 0 to 63. The value zero shall indicate a manually encoded minutia. The value "1" shall indicate that no method of indicating a confidence level is available. Values between 2 and 63 shall indicate decreasing levels of confidence, with 2 denoting the greatest confidence.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Minutiae Type**

<b>Description:</b>	This information item is the minutiae type designation. This shall be a single character chosen as follows.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Ridge ending=A Ridge bifurcation=B Ridge ending or bifurcation, no distinction provided=C Type other than ending or bifurcation=D

##### **Ridge Count Data**

<b>Description:</b>	The ridge count data for the nearest neighboring minutia of the indexed minutia. It shall be formatted as a series of eight sub-items, each consisting of a minutiae index number and a ridge count. This information shall be conveyed by combining the identity (MDX) of the neighboring minutia and the ridge count to that neighboring minutiae into a five digit number. For AFIS/FBI, the minutiae identification index (MDX) shall increase from 1 to 254. The ridge count values (one more than number of intervening ridges) shall range from 0 to 15; with 14 indicating a count greater than 13, and 15 indicating an indeterminate count. Up to eight neighboring minutiae can be recorded, each being the nearest neighbor in an angular sector of 45 degrees (octant) with the zero-th octant centered (+/- 22.5 degrees) and aligned with the direction of the minutiae and increasing in octant index in the counterclockwise direction. If a minutia does not have a neighbor in a particular octant, the value "25515" should be used for the sub-item.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-9 Minutiae Data (IAFIS Features)

#### **Minutia and Ridge Count Data**

##### **Octant Residuals**

<b>Description:</b>	Information item of eight ASCII characters which indicates into which half of the octant each neighboring minutia lies. This subfield is beneficial for performance but not mandatory. The characters are ordered left to right according to the ascending octant index. The corresponding character shall be 1 if the neighboring minutia lies in the counterclockwise half of the octant. The corresponding character shall be 0 if the neighboring minutia lies in the clockwise half of the octant or if there is no neighboring minutiae in the octant.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Minutia Format**

<b>Description:</b>	<p>This one-byte field shall be used to indicate whether the information in the remainder of the record adheres to the [ANSI/NIST ITL 1-2007] standard format or is a user-defined format.</p> <p>This field shall contain a "U" to indicate that the minutiae are formatted in vendor-specific [such as IAFIS Features] or M1-378 terms. Even though information may be encoded in accordance with a specific vendor's implementation, all data fields of the Type-9 record must remain as ASCII text fields.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Number of Minutiae**

<b>Description:</b>	<p>This field shall contain the count of the number of minutiae recorded for this fingerprint.</p> <p>Remarks: IAFIS Features: The number should not exceed 254. If the number of minutiae provided in this field exceeds the number of minutiae the system can accommodate, the list will be truncated according to the reported minutiae quality. Minutiae below the proximal crease generally are not included.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Orientation Uncertainty**



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### Type-9 Minutiae Data (IAFIS Features)

#### Orientation Uncertainty

<b>Description:</b>	The orientation uncertainty is a substantial contribution for AFIS/FBI latent characterizations and is not used for ten-print searches. This one-to-three character field contains an estimate of the deviation in degrees of the latent image (after rotation and translation to support editing and characterization) relative to fingertip up. The uncertainty would be zero if the impression were made with the extended finger aligned with the vertical of the displayed image. It is expected to be a human visual estimate of "the final image is aligned tip up within about X-degrees." If the examiner does not provide an estimate, the default value shall be 180.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Region of Value Polygon

<b>Description:</b>	The complete, unparsed information defining the 3 to 20 vertices of a polygon that bound the region of the image from which the characterization products have been extracted. The order of the vertices must be in their consecutive order around the perimeter of the polygon, either clockwise or counterclockwise. The polygon side defined by the last information item and the first information item shall complete the polygon. The polygon must be a simple, plane figure with no sides crossing and no interior holes.
<b>Number of Information Items:</b>	1
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Vertex

<b>Description:</b>	One of the vertices of a polygon that bounds the region of the image from which the characterization products have been extracted. It consists of the combination of the row and column coordinates (XYM), with the first four digits representing the column and the second four digits representing the row in the XXXXYYYY structure. The vertices shall be identified in the same coordinate system as the minutiae, cores, and deltas in units of 10 micrometers and padded on the left with zeros as appropriate.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: XXXXYYYY



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### ***Capture Equipment Identification***

<b>Description:</b>	This field shall contain two information items. The first shall contain "APPF" if the equipment used originally to acquire the image was certified to conform with Appendix F (IAFIS Image Quality Specification, January 29, 1999) of CJIS-RS- 0010, the Federal Bureau of Investigation's Electronic Fingerprint Transmission Specification. If the equipment did not conform it will contain the value of "NONE". The second information item shall contain the Capture Equipment ID which is a vendor-assigned product number of the capture equipment. A value of "0" indicates that the capture equipment ID is unreported.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Capture Equipment Conformance**

<b>Description:</b>	This field shall contain "APPF" if the equipment used originally to acquire the image was certified to conform with Appendix F (IAFIS Image Quality Specification, January 29, 1999) of CJIS-RS-0010, the Federal Bureau of Investigation's Electronic Fingerprint Transmission Specification. If the equipment did not conform it will contain the value of "NONE".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Confirmed to IAFIS Appendix F = APPF Not Conformed = NONE

#### **Capture Equipment Identifier**

<b>Description:</b>	The information item shall contain the Capture Equipment [Identifier] which is a vendor-assigned product number of the capture equipment. A value of "0" indicates that the capture equipment ID is unreported.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to -
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***CBEFF Information***



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### **CBEFF Information**

<b>Description:</b>	This set shall contain three information items. The first information item shall contain the value "27". This is the identification of the CBEFF Format Owner assigned by the International Biometric Industry Association (IBIA) to INCITS Technical Committee M1. The [second information item shall contains the] CBEFF Format Type that is assigned a value of "513" to indicate that this record contains only location and angular direction data without any Extended Data Block information. A value of "514" indicates the presence of extended data. The [third information item contains] the CBEFF Product Identifier (PID) that identifies the "owner" of the encoding equipment. The vendor establishes this value. It can be obtained from the IBIA website ( <a href="http://www.ibia.org">www.ibia.org</a> ) if it is posted.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **CBEFF Format Owner**

<b>Description:</b>	The information item shall contain the value "27". This is the identification of the CBEFF Format Owner assigned by the International Biometric Industry Association (IBIA) to INCITS Technical Committee M1.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	27

#### **CBEFF Format Type**

<b>Description:</b>	This information item is assigned a value of "513" to indicate that this record contains only location and angular direction data without any Extended Data Block information. A value of "514" indicates the presence of extended data.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	513 514

#### **CBEFF Product Identifier**

<b>Description:</b>	This information item identifies the "owner" of the encoding equipment. The vendor establishes this value. It can be obtained from the IBIA website ( <a href="http://www.ibia.org">www.ibia.org</a> ) if it is posted.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	0 to 20
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	see <a href="http://www.ibia.org">www.ibia.org</a>



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### Core Information

Description:	This set will consist of one information item for each core present in the original image. Each information item consists of three information items. The first two items contains the 'x' and 'y' coordinates positions in pixel units. The third information item contains the angle of the core recorded in units of 2 degrees. The value shall be a nonnegative value between 0 and 179.
Number of Information Items:	3
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Core X Coordinate

Description:	The 'x' coordinate positions in pixel units of the core.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 5
Special Characters:	None
Possible Codes:	n/a

#### Core Y Coordinate

Description:	The 'y' coordinate positions in pixel units of the core.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 5
Special Characters:	None
Possible Codes:	n/a

#### Core Angle

Description:	This information item contains the angle of the core recorded in units of 2 degrees. The value shall be a nonnegative value between 0 and 179.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 3
Special Characters:	None
Possible Codes:	n/a

#### Delta Information



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### Delta Information

Description:	This field will consist of one information item for each delta present in the original image. Each information item consists of three information items. The first two items contains the 'x' and 'y' coordinates positions in pixel units. The third information item contains the angle of the delta recorded in units of 2 degrees. The value shall be a nonnegative value between 0 and 179.
Number of Information Items:	3
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Delta X Coordinate

Description:	The 'x' coordinate positions in pixel units of the delta.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 5
Special Characters:	None
Possible Codes:	n/a

#### Delta Y Coordinate

Description:	The 'y' coordinate positions in pixel units of the delta.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 5
Special Characters:	None
Possible Codes:	n/a

#### Delta Angle

Description:	This information item contains the angle of the delta recorded in units of 2 degrees. The value shall be a nonnegative value between 0 and 179.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 3
Special Characters:	None
Possible Codes:	n/a

#### Finger Minutiae Data



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### *Finger Minutiae Data*

<b>Description:</b>	This field has six information items. It consists of several information items, each containing the details for a single minutia. The total number of minutiae information items must agree with the count found in field 136. The first information item is the minutiae index number, which shall be initialized to "1" and incremented by "1" for each additional minutia in the fingerprint. The second and third information items are the 'x' coordinate and 'y' coordinates of the minutiae in pixel units. The fourth information item is the minutiae angle recorded in units of two degrees. This value shall be nonnegative between 0 and 179. The fifth information item is the minutiae type. A value of "0" is used to represent a minutia of type "OTHER", a value of "1" for a ridge ending and a value of "2" for a ridge bifurcation. The sixth information item represents the quality of each minutia. This value shall range from 1 as a minimum to 100 as a maximum. A value of "0" indicates that no quality value is available.
<b>Number of Information Items:</b>	6
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Minutiae Index Number**

<b>Description:</b>	This information item is the minutiae index number, which shall be initialized to "1" and incremented by "1" for each additional minutia in the fingerprint.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Minutiae X Coordinate**

<b>Description:</b>	This information item is the 'x' coordinate of the minutiae in pixel units.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Minutiae Y Coordinate**

<b>Description:</b>	This information item is the 'y' coordinates of the minutiae in pixel units.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### ***Finger Minutiae Data***

##### **Minutiae Angle**

<b>Description:</b>	This information item is the minutiae angle recorded in units of two degrees. This value shall be nonnegative between 0 and 179.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Minutiae Type**

<b>Description:</b>	This information item is the minutiae type designation. This shall be a single character chosen as follows.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Ridge ending=A Ridge bifurcation=B Ridge ending or bifurcation, no distinction provided=C Type other than ending or bifurcation=D

##### **Quality Measure [M1-378 Minutiae]**

<b>Description:</b>	This information item represents the quality of each minutia. This value shall range from 1 as a minimum to 100 as a maximum. A value of "0" indicates that no quality value is available.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Finger Position***



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### Finger Position

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### Finger Quality

<b>Description:</b>	<p>This set shall contain the quality of the overall finger minutiae data. They identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.</p>
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### ***Finger Quality***

##### **Image Quality Score Quantity**

<b>Description:</b>	A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Image Quality Algorithm Vendor Identifier**

<b>Description:</b>	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Image Quality Algorithm Product**

<b>Description:</b>	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Finger View***

<b>Description:</b>	This field contains the view number of the finger associated with this record's data. The view number begins with "0" and increments by one to "15".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### *Finger View*

#### *Horizontal Line Length [M1-378 Minutiae]*

<b>Description:</b>	This ASCII field shall contain the number of pixels contained on a single horizontal line of the transmitted image. The maximum horizontal size is limited to 65,534 pixels.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Horizontal Pixel Scale*

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the horizontal direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Image Designation Character [Minutiae]*

<b>Description:</b>	This field shall be used for the identification and location of the minutiae data. The IDC contained in this field shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Impression Type [Minutiae]*



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### *Impression Type [Minutiae]*

<b>Description:</b>	This one-byte binary field describes the manner by which the fingerprint image information was obtained. The allowable codes, as defined by Table 11 of the ANSI/NIST-ITL 1-2007 standard, are as follows.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Live-scan plain = 0 Live-scan rolled = 1 Nonlive-scan plain = 2 Nonlive-scan rolled = 3 Latent impression = 4 Latent tracing = 5 Latent photo = 6 Latent lift = 7 Live-scan vertical swipe = 8 Live-scan optical contact plain = 20 Live-scan optical contact rolled = 21 Live-scan non-optical contact plain = 22 Live-scan non-optical contact rolled = 23 Live-scan optical contactless plain = 24 Live-scan optical contactless rolled = 25 Live-scan non-optical contactless plain = 26 Live-scan non-optical contactless rolled = 27 Other = 28 Unknown = 29.

#### *Logical Record Length [Type-9]*

<b>Description:</b>	This ASCII field shall contain the length of the Type-9 logical record specifying the total number of bytes, including every character of every field contained in the record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Minutia Format*



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### Minutia Format

<b>Description:</b>	<p>This one-byte field shall be used to indicate whether the information in the remainder of the record adheres to the [ANSI/NIST ITL 1-2007] standard format or is a user-defined format.</p> <p>This field shall contain a "U" to indicate that the minutiae are formatted in vendor-specific [such as IAFIS Features] or M1-378 terms. Even though information may be encoded in accordance with a specific vendor's implementation, all data fields of the Type-9 record must remain as ASCII text fields.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Number of Minutiae

<b>Description:</b>	<p>This field shall contain the count of the number of minutiae recorded for this fingerprint.</p> <p>Remarks: IAFIS Features: The number should not exceed 254. If the number of minutiae provided in this field exceeds the number of minutiae the system can accommodate, the list will be truncated according to the reported minutiae quality. Minutiae below the proximal crease generally are not included.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Ridge Count Information

<b>Description:</b>	<p>This set consists of a series of subfields each containing three information items. The first information item of the first subfield shall indicate the ridge count extraction method. A "0" indicates that no assumption shall be made about the method used to extract ridge counts, nor their order in the record. A "1" indicates that for each center minutiae, ridge count data was extracted to the nearest neighboring minutiae in four quadrants, and ridge counts for each center minutia are listed together. A "2" indicates that for each center minutiae, ridge count data was extracted to the nearest neighboring minutiae in eight octants, and ridge counts for each center minutia are listed together. The remaining two information items of this first subfield shall each contain "0". Subsequent subfields will contain the center minutiae index number as the first information item, the neighboring minutiae index number as the second information item, and the number of ridges crossed as the third information item.</p>
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### Ridge Count Information

##### Ridge Count Extraction Method

Description:	This information item of the first information item shall indicate the ridge count extraction method. A "0" indicates that no assumption shall be made about the method used to extract ridge counts, nor their order in the record. A "1" indicates that for each center minutiae, ridge count data was extracted to the nearest neighboring minutiae in four quadrants, and ridge counts for each center minutia are listed together. A "2" indicates that for each center minutiae, ridge count data was extracted to the nearest neighboring minutiae in eight octants, and ridge counts for each center minutia are listed together.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 1
Special Characters:	None
Possible Codes:	0, 1, 2

#### Minutiae Index Number

Description:	This information item is the minutiae index number, which shall be initialized to "1" and incremented by "1" for each additional minutia in the fingerprint.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 3
Special Characters:	None
Possible Codes:	n/a

#### Number of Ridges

Description:	The number of ridges crossed.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to -
Special Characters:	None
Possible Codes:	n/a

#### Scale Units

Description:	This ASCII field shall specify the units used to describe the image sampling frequency (pixel density). A "1" in this field indicates pixels per inch, or a "2" indicates pixels per centimeter. A "0" in this field indicates no scale is given. For this case, the quotient of HPS/VPS gives the pixel aspect ratio.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 1
Special Characters:	None
Possible Codes:	Pixels Per Inch = 1 Pixels Per Centimeter = 2 No Scale = 0



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### Type-9 Minutiae Data (INCITS M1-378 Features)

#### Scale Units

#### Vertical Line Length [M1-378 Minutiae]

<b>Description:</b>	This ASCII field shall contain the number of vertical lines contained in the transmitted image. The maximum vertical size is limited to 65,534 pixels.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Vertical Pixel Scale

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the vertical direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-10 Facial and SMT Image

#### Capture Device Global Identifier

Description:	This field shall contain a 16-byte string to indicate a global unique identifier for an image capture device.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	16 to 16
Special Characters:	Any printable characters
Possible Codes:	n/a

#### Capture Device Information

Description:	The information about the biometric capture device that was used to collect the associated biometric sample. It consists of manufacturer, model, version and serial number.
Number of Information Items:	3
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Capture Device Manufacturer

Description:	The name of the manufacturer for the capture device that was used to collect the associated biometric sample.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to 50
Special Characters:	n/a
Possible Codes:	n/a

#### Capture Device Model

Description:	The model number for the biometric capture device used to collect the associated biometric sample.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to 50
Special Characters:	n/a
Possible Codes:	n/a



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IDD V2.2.1 for EBTS 2.0

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### Type-10 Facial and SMT Image

#### Capture Device Information

##### Capture Device Serial Number

<b>Description:</b>	The serial number for the biometric capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Color

<b>Description:</b>	This field shall contain one subfield corresponding to each subfield contained in [Type-10 SMT Descriptors field]. Each subfield shall contain one or more information items that list the color(s) of the tattoo or part of the tattoo. For each subfield, the first information item in the subfield shall be the predominant color chosen from [possible code below]. Additional colors for the sub-field shall be entered as information items in the subfield separated.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 20
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Black = BLACK Brown = BROWN Gray = GRAY Blue = BLUE Green = GREEN Orange = ORANGE Purple = PURPLE Red = RED Yellow = YELLOW White = WHITE Multi-colored = MULTI Outlined = OUTLINE

#### Color Space

<b>Description:</b>	This ASCII field shall contain an entry from [the possible codes below] to identify the color space used to exchange the image data. If the color space for an RGB image cannot be determined, an entry of "RGB" shall be entered.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Undefined = UNK Grayscale (monochrome) = GRAY Undetermined color space for an RGB image = RGB SRGB (IEC 61966-2-1) = SRGB YCbCr (legacy) = YCC YCbCr (JPEG 2000 compressed) = SYCC



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### Type-10 Facial and SMT Image

#### **Color Space**

#### **Compression Algorithm**

<b>Description:</b>	<p>The ASCII field shall specify the algorithm used to compress the transmitted images. An entry of "NONE" in this field indicates that the data contained in this record is uncompressed.</p> <p>Remarks:                      Facial and SMT Images – WSQ is not supported. The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a series of sequential samples of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image.</p> <p>Latent Print Images - See Section 5.6.1 of ANSI/NIST ITL 1-2007 for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar shall maintain a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Fingerprint or Palmprint Images - The preferred methods for the compression of fingerprint images are WSQ for those images scanned or transmitted at 500 ppi or JPEG 2000 for those images scanned and transmitted at 1000 ppi. See Section 5.6.1. of ANSI/NIST ITL 1-2007 and the Profile for 1000 ppi Fingerprint Compression for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar maintains a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Iris Images - The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a sequential sample of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image. For those images that are to be compressed, the method for the compression of iris images is specified by the baseline mode of the JPEG algorithm or JPEG 2000. For best results, the compression ratio should not exceed 6:1.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Uncompressed = NONE WSQ Version 2.0 = WSQ20 JPEG ISO/IEC 10918 (Lossy) = JPEGB JPEG ISO/IEC 10918 (Lossless) = JPEGL JPEG 2000 ISO/IEC 15444-1 (Lossy) = JP2 JPEG 2000 ISO/IEC 15444-1 (Lossless) = JP2L Portable Network Graphics = PNG

#### **Device Monitoring Mode**



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-10 Facial and SMT Image

#### ***Device Monitoring Mode***

<b>Description:</b>	This field provides information describing the human monitoring operation of the image capture device. This field will contain an entry from [possible codes below] to indicate the monitoring mode of the biometric sample capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	7 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Operator physically controls the subject to acquire biometric sample = CONTROLLED Person available to provide assistance to subject submitting the biometric = ASSISTED Person present to observe operation of the device but provides no assistance = OBSERVED No one present to observe or provide assistance = UNATTENDED No information is known = UNKNOWN

#### ***Device Unique Identifier***

<b>Description:</b>	This field shall contain a sixteen-byte string uniquely identifying the device or source of the data. This data can be one of: (1) Device Serial Number, identified by the first character "D", (2) Host PC Mac address, identified by the first character "M", (3) Host PC processor ID, identified by the first character "P", and (4) No serial number, identified by all zero's.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Facial Feature Points***

<b>Description:</b>	The ASCII set shall be used for the exchange of facial image data. When present, it shall describe special attributes of manually or automatically detected facial feature points of the captured facial image. This information shall be entered as a four-information item feature point block. Multiple facial points may be listed using these four information items. But each feature block must be separated.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-10 Facial and SMT Image

#### **Facial Feature Points**

##### **Feature Point Type**

<b>Description:</b>	This information item is feature point type. For [ANSI/NIST ITL 1-2007 standard] the only allowable value is "1". It denotes a 2D Feature Point.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Feature Point Code**

<b>Description:</b>	The feature point code item shall specify the feature point that is stored in the feature point block. The codes for the feature points are taken from the MPEG4 standard and defined as MPEG4 feature points. Each feature point code is represented by a notation A.B using a major (A) and a minor (B) value. The encoding of the feature point code is given by the numeric ASCII representation of the value of A.B. The period is required, and the maximum size of this entry shall be 5 characters.  The maximum value of A is 12 and of B is 15.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	Period
<b>Possible Codes:</b>	n/a

##### **X Coordinate**

<b>Description:</b>	This information item is the X coordinate of a feature point. Horizontal pixel count from upper left pixel. Counts starts at 0.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Y Coordinate**

<b>Description:</b>	This information item is the Y coordinate of a feature point. Vertical pixel count from upper left pixel. Counts starts at 0.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Horizontal Line Length [Facial and SMT]**



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### Type-10 Facial and SMT Image

#### *Horizontal Line Length [Facial and SMT]*

<b>Description:</b>	This ASCII field shall contain the number of pixels contained on a single horizontal line of the transmitted of a facial or SMT image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Horizontal Pixel Scale*

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the horizontal direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Image Data*



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-10 Facial and SMT Image

#### **Image Data**

<b>Description:</b>	<p>This field shall contain all of the grayscale or color image data.</p> <p>For the ANSI/NIST ITL 1-2007 standard, this field shall always be assigned field number 999 and must be the last physical field in the record. The field number designation is followed by the image data in a binary representation.</p> <p>Remarks:                      Facial and SMT Images – Each pixel of uncompressed grayscale data shall be quantized to eight bits (256 gray levels) and shall occupy a single byte. Uncompressed color image data shall be expressed as 24 or 48 bit sRGB pixels. For the 24-bit sRGB, the first byte shall contain the eight bits for the red component of the pixel, the second byte shall contain the eight bits for the green component of the pixel, and the third byte shall contain the last eight bits for the blue component of the pixel. For the 48-bit sRGB pixel, each color component will occupy two bytes. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field. If the JPEG algorithm is to be used to compress the data, this field shall be encoded using the JFIF format specification. The Facial and SMT Image Data is a CENTCOM requested field.</p> <p>Latent Print, Fingerprint, and Palmprint Images - Each pixel of uncompressed grayscale data shall normally be quantized to eight bits (256 gray levels) contained in a single byte. If the entry in BPX (Bits Per Pixel field) is greater than 8, the number of bytes required to contain a pixel will be different. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Designation Character [Facial and SMT]**

<b>Description:</b>	This ASCII field shall be used to identify the facial or SMT image data contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Type**



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### Type-10 Facial and SMT Image

#### **Image Type**

<b>Description:</b>	This ASCII field is used to indicate the type of image contained in this record. It shall contain "FACE", "SCAR", "MARK", or "TATTOO" to indicate the appropriate image type.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	4 to 6
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	FACE SCAR MARK TATTOO

#### **Logical Record Length [Type-10]**

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-10 logical record. This field shall specify the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **NCIC Designation Code**

<b>Description:</b>	This field is for a Type-10 record containing SMT image data. It is used to identify a general location of the captured scar, mark, tattoo, or other characteristic (including piercings) in an image. The contents of this field will be an entry chosen from the December, 2000 ninth (or current) edition of the NCIC Code Manual. The captured image can encompass an area larger than that specified by a single NCIC body part code for the particular image type. This situation can be accommodated by listing multiple NCIC codes separated. In this case the primary code is listed first. For the "marks" category, the NCIC manual lists the common locations for needle track marks. For other body part locations not listed under the "marks" category, use the body location codes listed for scars.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	See the following URL: <a href="http://www.leds.state.or.us/OSP/CJIS/docs/ncic_2000_code_manual.pdf">http://www.leds.state.or.us/OSP/CJIS/docs/ncic_2000_code_manual.pdf</a>

#### **Photo Acquisition Source**





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### Type-10 Facial and SMT Image

#### **Photo Acquisition Source**

<b>Description:</b>	This field shall specify the classification of the source of the image contained in this record. This field is mandatory if the SAP entry [Type-10 Subject Acquisition Profile field] is "40" or greater. When included, this field shall contain an ASCII character code selected from [possible codes below] to describe the source of captured image data. The "VENDOR" category is used to enter unlisted or miscellaneous source attributes of the facial image. This information shall be entered as a two-information item subfield. The first is "VENDOR" followed by a separator, followed by the unformatted text used to describe the attribute.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Photo Acquisition Source Type Code**

<b>Description:</b>	this field shall contain an ASCII character code selected from [possible codes below] to describe the source of captured image data.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	6 to 14
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unspecified or unknown = UNSPECIFIED Static photograph from an unknown source = UNKNOWN PHOTO Static photograph from a digital still-image camera = DIGITAL CAMERA Static photograph from a scanner = SCANNER Single video frame from an unknown source = UNKNOWN VIDEO Single video frame from an analogue video camera = ANALOGUE VIDEO Single video frame from a digital video camera = DIGITAL VIDEO Vendor Specific source = VENDOR

#### **Photo Acquisition Source Vendor Description**

<b>Description:</b>	This information item is the unformatted text used to describe the attribute for Type-10 Photo Acquisition Source field's first information item when the Acquisition Source Type Code is "VENDOR".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 7
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Photo Date**



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### Type-10 Facial and SMT Image

#### **Photo Date**

<b>Description:</b>	This ASCII field shall contain the date that the facial or SMT image contained in the record was captured. The date shall appear as eight digits in the format YYYYMMDD. The YYYY characters shall represent the year the image was captured; the MM characters shall be the tens and units values of the month; and the DD characters shall be the tens and units values of the day in the month. For example, 20040229 represents February 29, 2004. The complete date must be a legitimate date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD

#### **Pose Offset Angle**

<b>Description:</b>	This field shall only be used for the exchange of facial image data if [Type-10 Subject Post field] (POS) contains an "A" to indicate an angled pose of the subject. This field should be omitted for a full face or a profile. This ASCII field specifies the pose position of the subject at any possible orientation within a circle. Its value shall be to a nearest degree. The offset angle shall be measured from the full-face pose position and have a range of values from -180 degrees to +180 degrees. A positive angle is used to express the angular offset as the subject rotates from a full-face pose to their right (approaching a left profile). A negative angle is used to express the angular offset as the subject rotates from a full-face pose to their left (approaching a right profile). If the entry in the POS field is an "F", "L", or "R", the contents of this field are ignored.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AS
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	Plus, Minus
<b>Possible Codes:</b>	n/a

#### **Scale Units**

<b>Description:</b>	This ASCII field shall specify the units used to describe the image sampling frequency (pixel density). A "1" in this field indicates pixels per inch, or a "2" indicates pixels per centimeter. A "0" in this field indicates no scale is given. For this case, the quotient of HPS/VPS gives the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Pixels Per Inch = 1 Pixels Per Centimeter = 2 No Scale = 0

#### **Scanned Horizontal Pixel Scale**



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### Type-10 Facial and SMT Image

#### ***Scanned Horizontal Pixel Scale***

<b>Description:</b>	This ASCII field shall specify the horizontal pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Scanned Vertical Pixel Scale***

<b>Description:</b>	This ASCII field shall specify the vertical pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***SMT Descriptors***

<b>Description:</b>	This set is used to describe the content of the SMT image. It shall consist of one or more subfields. Each subfield shall contain three or four information items that provide progressively detailed information describing the total image or a portion of the image.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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## Type-10 Facial and SMT Image

### SMT Descriptors

#### SMT Type

<b>Description:</b>	This informatin item shall identify the source of the image as being a scar, a mark or a tattoo.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	healed scar tissue that was the result an accident or medical procedure = SCAR the pattern resulting from needle or track marks = MARK a common tattoo or indelible image resulting from the pricking of the skin with a coloring matter = TATTOO image was created by the use of chemicals to burn the image into the skin = CHEMICAL image was burned into the skin using a branding iron or other form of heat = BRANDED image was caused by incision of the skin = CUT

#### Tattoo Class

<b>Description:</b>	This information item shall be the general class code of tattoo chosen from [possible codes below]. For each general class of tattoo, there are several defined subclasses.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	4 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Human Forms and Features = HUMAN Animals and Animal Features = ANIMAL Plants = PLANT Flags = FLAG Objects = OBJECT Abstractions = ABSTRACT Insignias & Symbols = SYMBOL Other Images = OTHER

#### Tattoo Subclass

<b>Description:</b>	This information item of the subfield shall be the appropriate subclass code selected from [possible codes below] which lists the various subclasses of tattoos for each of the general classes.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 9
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Human Tattoo Subclasses: Male Face = MFACE Female Face = FFACE Abstract Face = ABFACE Male Body = MBODY Female Body = FBODY Abstract Body = ABBODY Roles (Knight, Witch, man, etc.) = ROLES Sports Figures (Football Player, Skier, etc.) = SPORT Male Body Parts = MBPART Female Body Parts = FBPART Abstract Body Parts = ABBPART Skulls = SKULL Miscellaneous Human Forms = MHUMAN Animal Tattoo Subclasses: Cats & Cat Heads = CAT



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**Type-10 Facial and SMT Image**

**SMT Descriptors**

Dogs & Dog Heads = DOG  
 Other Domestic Animals = DOMESTIC  
 Vicious Animals (Lions, etc.) = VICIOUS  
 Horses (Donkeys, Mules, etc.) = HORSE  
 Other Wild Animals = WILD  
 Snakes = SNAKE  
 Dragons = DRAGON  
 Birds (Cardinal, Hawk, etc.) = BIRD  
 Spiders, Bugs, and Insects = INSECT  
 Abstract Animals = ABSTRACT  
 Animal Parts = PARTS  
 Miscellaneous Animal Forms = MANIMAL  
 Vegetable Tattoo Subclasses: Narcotics = NARCOTICS  
 Red Flowers = REDFL  
 Blue Flowers = BLUEFL  
 Yellow Flowers = YELFL  
 Drawings of Flowers = DRAW  
 Rose=ROSE  
 Tulip = TULIP  
 Lily = LILY  
 Miscellaneous Plants, Flowers, Vegetables = MPLANT  
 Flag Tattoo Subclasses: American Flag = USA  
 State Flag = STATE  
 Nazi Flag = NAZI  
 Confederate Flag = CONFED  
 British Flag = BRIT  
 Miscellaneous Flags = MFLAG  
 Object Tattoo Subclasses: Fire = FIRE  
 Weapons(Guns, Arrows, etc.) = WEAP  
 Airplanes = PLANE  
 Boats, Ships, & Other Vessels = VESSEL  
 Trains = TRAIN  
 Cars, Trucks, and Vehicles = VEHICLE  
 Mythical (Unicorns, etc.) = MYTH  
 Sporting Objects (Football, Ski, Hurdles, etc.) = SPORT  
 Water & Nature Scenes(Rivers, Sky, Trees, etc.) = NATURE  
 Miscellaneous Objects = OBJECTS  
 Abstract Tattoo subclasses: Figure(s) = FIGURE  
 Sleeve = SLEEVE  
 Bracelet = BRACE  
 Anklet = ANKLET  
 Necklace = NECKLC  
 Shirt = SHIRT  
 Body Band = BODBND  
 Head Band = HEDBND  
 Miscellaneous Abstract = MABSTRACT  
 Symbols Tattoo Subclasses: National Symbols = NATION  
 Political Symbols = POLITIC  
 Military Symbols = MILITARY  
 Fraternal Symbols = FRATERNAL  
 Professional Symbols = PROFESS  
 Gang Symbols = GANG  
 Miscellaneous Symbols = MSYMBOLS  
 Other Tattoo Subclasses: Wording (Mom, Dad, Mary, etc.) = WORDING  
 Freeform Drawings = FREEFRM  
 Miscellaneous Images = MISC



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### Type-10 Facial and SMT Image

#### **SMT Descriptors**

##### **SMT Description**

<b>Description:</b>	This information item in the subfield shall be an ASCII text string that provides additional qualifiers to describe the image or portion of the image. For example, to fully describe a tattoo, there may be a class description of "ANIMAL", with a subclass description of "DOG", and qualified by "golden retriever with an overbite".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	0 to 40
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

##### **SMT Size**

<b>Description:</b>	This set shall contain the dimensions of the scar, mark or tattoo. It shall consist of two information items: the height and the width. Each dimension shall be entered to the nearest centimeter.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

##### **SMT Height**

<b>Description:</b>	The height of the scar, mark or tattoo in nearest centimeter.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **SMT Width**

<b>Description:</b>	The width of the scar, mark or tattoo in the nearest centimeter
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Source Agency/ORI**



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### Type-10 Facial and SMT Image

#### **Source Agency/ORI**

<b>Description:</b>	This ASCII field shall contain the identification of the administration or organization that originally captured the biometric sample contained in the record. Normally, the ORI of the agency that captured the image will be contained in this field. The SRC may contain up to 36 identifying characters and the data content of this field shall be defined by the user and be in accordance with the receiving agency. BTF assigns ORIs for DoD Systems.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 36
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Subject Acquisition Profile**

<b>Description:</b>	The Subject Acquisition Profile (SAP) is a mandatory ASCII text field when [Type-10 Image Type field] contains "FACE". The intent of this field is to provide a general description of the criteria under which the facial image was captured. This field shall contain an ASCII character code selected from [possible codes below] to indicate the numeric value of the acquisition profile and conditions used to acquire the image. Typically, the higher the value, the stronger the acquisition requirements become. Therefore, in the text below, the SAP value will also be denoted as a "level".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown profile = 0 Surveillance facial image = 1 Driver's license image (AAMVA) = 10 ANSI Full Frontal facial image (ANSI 385) = 11 ANSI Token facial image (ANSI 385) = 12 ISO Full Frontal facial image (ISO/IEC 19794-5) = 13 ISO Token facial image (ISO/IEC 19794-5) = 14 PIV facial image (NIST SP 800-76) = 15 Legacy Mugshot = 20 Best Practice Application - Level 30 = 30 Best Practice Application - Level 40 = 40 Best Practice Application - Level 50 = 50 Best Practice Application - Level 51 = 51

#### **Subject Eye Color**



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### Type-10 Facial and SMT Image

#### ***Subject Eye Color***

<b>Description:</b>	This ASCII field shall be used for the exchange of facial image data. This field is mandatory if the SAP entry [Type-10 Subject Acquisition Profile field] is "40" or greater. When present, it shall describe the eye color of the subject as seen in the photograph. If unusual or unnatural such as may be the case when colored contact lenses are present and the "real" eye color cannot be ascertained, then the color should be labeled as "XXX". Eye color attributes and attribute codes are given by [possible codes below].
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Black = BLK Blue = BLU Brown = BRO Gray = GRY Green = GRN Hazel = HAZ Maroon = MAR Multicolored = MUL Pink = PNK Unknown = XXX

#### ***Subject Facial Description***





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### Type-10 Facial and SMT Image

#### **Subject Facial Description**

<b>Description:</b>	<p>This ASCII set shall be used for the exchange of facial image data. This field is mandatory if the SAP entry [Type-10 Subject Acquisition Profile field] is "40" or greater. When present, it shall describe the facial expression of the subject and other attributes associated with the subject's captured facial image. This field may have one or more subfields each containing a single information item.</p> <p>Attributes associated with the facial image may be selected from [possible codes below] and entered in this field. For "Physical Characteristic", enter a characteristic as listed in the Ninth (or current) Edition of the NCIC Code Manual, December, 2000. For the "Other Characteristic" enter unlisted or miscellaneous attributes as unformatted text used to describe the attribute. Multiple attributes may be listed but must be separated.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	5 to 20
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<p>Expression unspecified = UNKNOWN                      Neutral (non-smiling) with both eyesmouth closed)= NEUTRAL                      Smiling where the inside of the mouth and/or teeth is not exposed (closed jaw) = SMILE                      Subject Having Mouth open = MOUTH OPEN                      Having Teeth visible = TEETH VISIBLE                      Raising eyebrows = RAISED BROWS                      Frowning = FROWNING                      Looking away from the camera = EYES AWAY                      Squinting = SQUINTING                      Subject Wearing Left Eye Patch = LEFT EYE PATCH                      Subject Wearing Right Eye Patch = RIGHT EYE PATCH                      Subject Wearing Clear Glasses= CLEAR GLASSES                      Subject Wearing Dark or Visible Colored Glasses (medical) = DARK GLASSES                      Head covering/hat = HAT                      Wearing Scarf = SCARF                      Having Moustache = MOUSTACHE                      Having Beard = BEARD                      Ear(s) obscured by hair = NO EAR                      Blinking (either or both eyes closed)= BLINK                      Having Distorting MedicalFeature Point detection = Distorting Condition                      Physical Characteristics = &lt;From NCIC Code Manual&gt;                      Other Characteristics = &lt;Unformatted Text&gt;</p>

#### **Subject Hair Color**



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### Type-10 Facial and SMT Image

#### Subject Hair Color

<b>Description:</b>	This ASCII field shall be used for the exchange of facial image data. This field is mandatory if the SAP entry [Type-10 Subject Acquisition Profile field] is "40" or greater. When present, it shall contain an entry [from possible codes below] that describes the hair color of the subject as seen in the photograph. For unusual or unnatural colors not listed in the [possible codes], or the "real" color cannot be ascertained, the hair color should be labeled as "XXX". If the subject is completely bald, or has a completely shaved head, then the hair color shall be labeled as "BAL". When the subject is predominantly bald, but hair color is discernable, then the appropriate hair color attribute code shall follow "BAL".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unspecified or unknown = XXX Bald = BAL Black = BLK Blonde or Strawberry = BLN Brown = BRO Gray or Partially Gray = GRY Red or Auburn = RED Sandy = SDY White = WHI Blue = BLU Green = GRN Orange = ONG Pink = PNK Purple = PLE

#### Subject Pose

<b>Description:</b>	This field is to be used for the exchange of facial image data. When included, this field shall contain one ASCII character code selected from [possible codes below] to describe the pose of the subject. For the angled pose entry "A", [Type-10 Pose Offset Angle field] shall contain the offset angle from the full face orientation. For the determined 3D pose entry "D", [Type-10 Subject Post Angles field] shall contain a set of determined 3D pose angles (i.e., Yaw, Pitch, and Roll angles) away from the full frontal face orientation. Note that the offset angle in [Type-10 Pose Offset Angle field] is opposite from the yaw angle in [Type-10 Subject Post Angles field] as indicated by a minus sign.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Full Face Frontal = F Right Profile (90 degree) = R Left Profile (90 degree) = L Angled Pose = A Determined 3D Pose = D

#### Subject Pose Angles



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### Type-10 Facial and SMT Image

#### **Subject Pose Angles**

<b>Description:</b>	<p>This ASCII set shall be present when [TYPE-10 Subject Pose field] (POS) contains a "D" to indicate a set of determined 3D pose angles of the same subject. If the entry in the [TYPE-10 Subject Pose] POS Field is an "F", "L", or "R", the contents of this field are ignored. When present, this information shall be entered as three or six information items.</p> <p>The first three items specify the pose of the subject estimated or measured at constrained possible orientations within a sphere. Each angle value shall be to the nearest integer degree.</p> <p>The second triple information items is not present, then the uncertainty in the angles is not determined.</p> <p>Notes, ANSI/NIST ITL 1-2007 Annex J contains, additional information, details, and examples of the subject pose angles.</p>
<b>Number of Information Items:</b>	6
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Pose Yaw Angle**

<b>Description:</b>	This information item is the Yaw angle (rotation about the vertical 'y' axis).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	Minus
<b>Possible Codes:</b>	n/a

#### **Pose Pitch Angle**

<b>Description:</b>	This information item is the Pitch angle (rotation about 'x' horizontal axis).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	Minus
<b>Possible Codes:</b>	n/a

#### **Pose Roll Angle**

<b>Description:</b>	This information Item is the Roll angle (rotation about the 'z' axis).
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	NS
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	Minus
<b>Possible Codes:</b>	n/a



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### Type-10 Facial and SMT Image

#### **Subject Pose Angles**

##### **Pose Yaw Uncertainty**

<b>Description:</b>	The measure of uncertainty concerning the rotation about the vertical or Y axis of the pose.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Pose Pitch Uncertainty**

<b>Description:</b>	The measure of uncertainty concerning the rotation about horizontal or X axis of the pose.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Pose Roll Uncertainty**

<b>Description:</b>	The measure of uncertainty concerning the rotation about the Z axis of the pose.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Subject Quality Score**

<b>Description:</b>	This ASCII field shall specify quality score data for facial images stored in this record. Each subfield shall contain three information items separated by the "US" separator character. They identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	
<b>Possible Codes:</b>	



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-10 Facial and SMT Image

#### Subject Quality Score

#### Image Quality Score Quantity

Description:	A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 3
Special Characters:	None
Possible Codes:	n/a

#### Image Quality Algorithm Vendor Identifier

Description:	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	4 to 4
Special Characters:	None
Possible Codes:	n/a

#### Image Quality Algorithm Product

Description:	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	5 to 5
Special Characters:	None
Possible Codes:	n/a

#### Vertical Line Length [Face and SMT]

Description:	This ASCII field shall contain the number of vertical lines contained in the transmitted face or SMT image.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	3 to 4
Special Characters:	None
Possible Codes:	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-10 Facial and SMT Image

#### *Vertical Line Length [Face and SMT]*

#### *Vertical Pixel Scale*

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the vertical direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-13 Variable-Resolution Latent Image

#### **Bits Per Pixel**

<b>Description:</b>	This ASCII field shall contain the number of bits used to represent a pixel. This field shall contain an entry of "8" for normal grayscale values of "0" to "255" or each RGB color component. Any entry in this field greater than "8" shall represent a grayscale or color pixel component with increased precision.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Capture Device Global Identifier**

<b>Description:</b>	This field shall contain a 16-byte string to indicate a global unique identifier for an image capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Capture Device Information**

<b>Description:</b>	The information about the biometric capture device that was used to collect the associated biometric sample. It consists of manufacturer, model, version and serial number.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Capture Device Manufacturer**

<b>Description:</b>	The name of the manufacturer for the capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



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### Type-13 Variable-Resolution Latent Image

#### **Capture Device Information**

##### **Capture Device Model**

<b>Description:</b>	The model number for the biometric capture device used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

##### **Capture Device Serial Number**

<b>Description:</b>	The serial number for the biometric capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Comment**

<b>Description:</b>	This field may be used to insert comments or other ASCII text information with the image data.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 127
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Compression Algorithm**





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### Type-13 Variable-Resolution Latent Image

#### Compression Algorithm

<b>Description:</b>	<p>The ASCII field shall specify the algorithm used to compress the transmitted images. An entry of "NONE" in this field indicates that the data contained in this record is uncompressed.</p> <p><b>Remarks:</b>                      Facial and SMT Images – WSQ is not supported. The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a series of sequential samples of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image.</p> <p>Latent Print Images - See Section 5.6.1 of ANSI/NIST ITL 1-2007 for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar shall maintain a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Fingerprint or Palmprint Images - The preferred methods for the compression of fingerprint images are WSQ for those images scanned or transmitted at 500 ppi or JPEG 2000 for those images scanned and transmitted at 1000 ppi. See Section 5.6.1. of ANSI/NIST ITL 1-2007 and the Profile for 1000 ppi Fingerprint Compression for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar maintains a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Iris Images - The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a sequential sample of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image. For those images that are to be compressed, the method for the compression of iris images is specified by the baseline mode of the JPEG algorithm or JPEG 2000. For best results, the compression ratio should not exceed 6:1.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Uncompressed = NONE WSQ Version 2.0 = WSQ20 JPEG ISO/IEC 10918 (Lossy) = JPEGB JPEG ISO/IEC 10918 (Lossless) = JPEGL JPEG 2000 ISO/IEC 15444-1 (Lossy) = JP2 JPEG 2000 ISO/IEC 15444-1 (Lossless) = JP2L Portable Network Graphics = PNG

#### Device Unique Identifier

<b>Description:</b>	<p>This field shall contain a sixteen-byte string uniquely identifying the device or source of the data. This data can be one of: (1) Device Serial Number, identified by the first character "D", (2) Host PC Mac address, identified by the first character "M", (3) Host PC processor ID, identified by the first character "P", and (4) No serial number, identified by all zero's.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-13 Variable-Resolution Latent Image

#### ***Finger/Palm Position***

<b>Description:</b>	This tagged field shall contain one or more possible finger or palm positions that may match the latent image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes for finger position below] or the most probable palm position from [possible codes for palm position below] and entered as a one- or two-character ASCII subfield. Additional finger and/or palm positions may be referenced by entering the alternate position codes as subfields. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. The code "20", for "Unknown Palm", shall be used to reference every listed palmprint position. Code "19" shall be used to reference one or more parts of an EJI or tip.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown = 0 Right thumb = 1 Right index finger = 2 Right middle finger = 3 Right ring finger = 4 Right little finger = 5 Left thumb = 6 Left index finger = 7 Left middle finger = 8 Left ring finger = 9 Left little finger = 10 Plain right thumb = 11 Plain left thumb = 12 Plain right four fingers = 13 Plain left four fingers = 14 Left & right thumbs = 15 EJI or tip = 19. Possible Codes for palm position: Unknown Palm = 20 Right Full Palm = 21 Right Writer's Palm = 22 Left Full Palm = 23 Left Writer's Palm = 24 Right Lower Palm = 25 Right Upper Palm = 26 Left Lower Palm = 27 Left Upper Palm = 28 Right Other = 29 Left Other = 30 Right Interdigital = 31 Right Thenar = 32 Right Hypothenar = 33 Left Interdigital = 34 Left Thenar = 35 Left Hypothenar = 36

#### ***Horizontal Line Length [Latent]***



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### Type-13 Variable-Resolution Latent Image

#### *Horizontal Line Length [Latent]*

<b>Description:</b>	This ASCII field shall contain the number of pixels contained on a single horizontal line of the transmitted latent image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Horizontal Pixel Scale*

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the horizontal direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### *Image Data*



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### Type-13 Variable-Resolution Latent Image

#### **Image Data**

<b>Description:</b>	<p>This field shall contain all of the grayscale or color image data.</p> <p>For the ANSI/NIST ITL 1-2007 standard, this field shall always be assigned field number 999 and must be the last physical field in the record. The field number designation is followed by the image data in a binary representation.</p> <p>Remarks:                      Facial and SMT Images – Each pixel of uncompressed grayscale data shall be quantized to eight bits (256 gray levels) and shall occupy a single byte. Uncompressed color image data shall be expressed as 24 or 48 bit sRGB pixels. For the 24-bit sRGB, the first byte shall contain the eight bits for the red component of the pixel, the second byte shall contain the eight bits for the green component of the pixel, and the third byte shall contain the last eight bits for the blue component of the pixel. For the 48-bit sRGB pixel, each color component will occupy two bytes. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field. If the JPEG algorithm is to be used to compress the data, this field shall be encoded using the JFIF format specification. The Facial and SMT Image Data is a CENTCOM requested field.</p> <p>Latent Print, Fingerprint, and Palmprint Images - Each pixel of uncompressed grayscale data shall normally be quantized to eight bits (256 gray levels) contained in a single byte. If the entry in BPX (Bits Per Pixel field) is greater than 8, the number of bytes required to contain a pixel will be different. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Designation Character [Latent]**

<b>Description:</b>	This ASCII field shall be used to identify the latent image data contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Impression Type**



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### Type-13 Variable-Resolution Latent Image

#### *Impression Type*

<b>Description:</b>	This one- or two-byte ASCII field shall describe the manner by which the fingerprint or palmprint image information was obtained.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Live-scan plain = 0 Live-scan rolled = 1 Nonlive-scan plain = 2 Nonlive-scan rolled = 3 Latent impression = 4 Latent tracing = 5 Latent photo = 6 Latent lift = 7 Live-scan vertical swipe = 8 Live-scan palm = 10 Nonlive-scan palm = 11 Latent palm impression = 12 Latent palm tracing = 13 Latent palm photo = 14 Latent palm lift = 15 Live-scan optical contact plain = 20 Live-scan optical contact rolled = 21 Live-scan non-optical contact plain = 22 Live-scan non-optical contact rolled = 23 Live-scan optical contactless plain = 24 Live-scan optical contactless rolled = 25 Live-scan non-optical contactless plain = 26 Live-scan non-optical contactless rolled = 27 Other = 28 Unknown = 29

#### *Latent Capture Date*

<b>Description:</b>	This ASCII field shall contain the date that the latent image contained in the record was captured. The date shall appear as eight digits in the format YYYYMMDD. The YYYY characters shall represent the year the image was captured; the MM characters shall be the tens and units values of the month; and the DD characters shall be the tens and units values of the day in the month. For example, 20040229 represents February 29, 2004. The complete date must be a legitimate date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD

#### *Latent Circumstances*



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### Type-13 Variable-Resolution Latent Image

#### ***Latent Circumstances***

<b>Description:</b>	This field shall describe the circumstances of a latent collection. This field shall include an event number or case number if available. This field is unformatted free-text and shall contain a string of no more than 100 characters.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	5 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Latent Development***

<b>Description:</b>	The development method used during the processing that resulted in a latent image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 100
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Latent Quality Metric***

<b>Description:</b>	This ASCII set is used to specify one or more different metrics of latent image quality score data for the image stored in this record. The meaning attributed to this metric must be defined and interpreted by the producer of the scoring algorithm or by the person or system used to assign the metric to the latent image. The metric may be a predictor of AFIS matcher accuracy performance or a different metric to indicate a value associated with the quality of the latent image for a particular function. This field may contain one or more subfields.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-13 Variable-Resolution Latent Image

#### Latent Quality Metric

#### Finger/Palm Position

<b>Description:</b>	This tagged field shall contain one or more possible finger or palm positions that may match the latent image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes for finger position below] or the most probable palm position from [possible codes for palm position below] and entered as a one- or two-character ASCII subfield. Additional finger and/or palm positions may be referenced by entering the alternate position codes as subfields. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. The code "20", for "Unknown Palm", shall be used to reference every listed palmprint position. Code "19" shall be used to reference one or more parts of an EJI or tip.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown = 0 Right thumb = 1 Right index finger = 2 Right middle finger = 3 Right ring finger = 4 Right little finger = 5 Left thumb = 6 Left index finger = 7 Left middle finger = 8 Left ring finger = 9 Left little finger = 10 Plain right thumb = 11 Plain left thumb = 12 Plain right four fingers = 13 Plain left four fingers = 14 Left & right thumbs = 15 EJI or tip = 19. Possible Codes for palm position: Unknown Palm = 20 Right Full Palm = 21 Right Writer's Palm = 22 Left Full Palm = 23 Left Writer's Palm = 24 Right Lower Palm = 25 Right Upper Palm = 26 Left Lower Palm = 27 Left Upper Palm = 28 Right Other = 29 Left Other = 30 Right Interdigital = 31 Right Thenar = 32 Right Hypothenar = 33 Left Interdigital = 34 Left Thenar = 35 Left Hypothenar = 36



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-13 Variable-Resolution Latent Image

#### **Latent Quality Metric** **Image Quality Score Quantity**

<b>Description:</b>	A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Quality Algorithm Vendor Identifier**

<b>Description:</b>	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Quality Algorithm Product**

<b>Description:</b>	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Latent Source Item**

<b>Description:</b>	The item from which a latent image(s) was lifted. This free-form field shall include the make, model, and serial number of the item if available.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	No
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	5 to 250
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a





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### Type-13 Variable-Resolution Latent Image

#### Latent Source Item

#### Logical Record Length [Type-13]

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-13 logical record. This field shall specify the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Print Position Coordinates

<b>Description:</b>	<p>If finger position code "19" appears in field [Type-13 or Type-14 Finger Position field], this set contains offsets to the locations for the bounding box of the EJI, each of the full finger views, or segments within the EJI. When used, this field shall consist of six (6) mandatory information items to describe the type or portion of the latent image contained in this record and its location within an entire joint image.</p> <p>The first information item is the number of the full finger view with values of "FV1" through "FV4". Values of "FV1" to "FV4" specify the bounding coordinates for each full finger view.</p> <p>The second information item is used to identify the location of a segment within a full finger view. It will contain the not applicable code "NA" if the image portion refers to a full finger view or to the entire joint image locations. It shall contain "PRX", "DST", "MED" for a proximal, distal, or medial segment.</p> <p>The next four information items are the horizontal and vertical offsets relative to the origin positioned in the upper left corner of the image. The horizontal offsets (X) are the pixel counts to the right, and the vertical offsets (Y) are the pixel counts down. The location of the image portion is defined by the sequence of X coordinates (LEFT, RIGHT) and the Y coordinates (TOP, BOTTOM), of its bounding box.</p> <p>For the case of a fingertip, the first information item shall be "TIP", and the second information item shall be "NA". The next four information items are the horizontal and vertical offsets as defined above. The six information items will describe either the location of the entire joint image, one full finger view, or segment.</p>
<b>Number of Information Items:</b>	6
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-13 Variable-Resolution Latent Image

#### Print Position Coordinates

##### Full Finger View

<b>Description:</b>	This information item is the number of the full finger view with values of "FV1" through "FV4". Values of "FV1" to "FV4" specify the bounding coordinates for each full finger view. For the case of a fingertip, this information item shall be "TIP".
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Rolled Tip = TIP Full Finger Rolled Image = FV1 Full Finger Plain Image – left side = FV2 Full Finger Plain Image – center = FV3 Full Finger Plain Image – right side = FV4

##### Segment Location

<b>Description:</b>	This information item is used to identify the location of a segment within a full finger view. It will contain the not applicable code "NA" if the image portion refers to a full finger view or to the entire joint image locations. It shall contain "PRX", "DST", "MED" for a proximal, distal, or medial segment.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	2 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Not Applicable = NA Proximal, Distal, or Medial Segments = PRX, DST, MED

##### Horizontal Offset Left

<b>Description:</b>	The horizontal offsets (X) are the pixel counts to the right. This is the first X coordinates (LEFT) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### Horizontal Offset Right

<b>Description:</b>	The horizontal offsets (X) are the pixel counts to the right. This is the second X coordinates (RIGHT) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-13 Variable-Resolution Latent Image

#### **Print Position Coordinates**

##### **Vertical Offset Top**

<b>Description:</b>	The vertical offsets (Y) are the pixel counts down. This is the first Y coordinates (TOP) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Vertical Offset Bottom**

<b>Description:</b>	The vertical offsets (Y) are the pixel counts down. This is the second Y coordinates (BOTTOM) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Scale Units**

<b>Description:</b>	This ASCII field shall specify the units used to describe the image sampling frequency (pixel density). A "1" in this field indicates pixels per inch, or a "2" indicates pixels per centimeter. A "0" in this field indicates no scale is given. For this case, the quotient of HPS/VPS gives the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Pixels Per Inch = 1 Pixels Per Centimeter = 2 No Scale = 0

#### **Scanned Horizontal Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the horizontal pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Scanned Vertical Pixel Scale**



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-13 Variable-Resolution Latent Image

#### **Scanned Vertical Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the vertical pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Search Position Descriptors**

<b>Description:</b>	This ASCII set shall be present if and only if the finger position code "19" appears in Field [Finger/Palm Position]. It is used to narrow the search of the latent image in this record against a database. This set shall consist of two mandatory information items.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Probable Decimal Finger Position**

<b>Description:</b>	The probable decimal finger position code (0-10) taken from [possible codes below]. A "0" indicates that all the fingers of a possible candidate should be searched.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown = 0 Right thumb = 1 Right index finger = 2 Right middle finger = 3 Right ring finger = 4 Right little finger = 5 Left thumb = 6 Left index finger = 7 Left middle finger = 8 Left ring finger = 9 Left little finger = 10



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### Type-13 Variable-Resolution Latent Image

#### Search Position Descriptors

##### EJI/Tip Image Type

<b>Description:</b>	<p>This information item is the code taken from [possible codes below] to indicate the portion of the EJI or tip image in the database to search. Latent images of full-length fingers use codes FV1 through FV4 as defined in [possible codes below].</p> <p>Figure 7 [of ANSI/NIST ITL 1-2007] is an illustration of the Entire Joint Image for a middle finger with each of the full finger views and constituent parts identified. The EJI code is used for the case where all four finger images are to be considered. For the case where the latent is to be compared to proximal, distal, or medial segments of a finger, this information item will contain the appropriate finger segment character. Multiple portions of the EJI can be listed.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Entire Joint Image = EJI Rolled Tip = TIP Full Finger Rolled Image = FV1 Full Finger Plain Image – left side = FV2 Full Finger Plain Image – center = FV3 Full Finger Plain Image – right side = FV4 Proximal, Distal, or Medial Segments = PRX, DST, MED

#### Source Agency/ORI

<b>Description:</b>	<p>This ASCII field shall contain the identification of the administration or organization that originally captured the biometric sample contained in the record. Normally, the ORI of the agency that captured the image will be contained in this field. The SRC may contain up to 36 identifying characters and the data content of this field shall be defined by the user and be in accordance with the receiving agency. BTF assigns ORIs for DoD Systems.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 36
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Vertical Line Length [Latent]

<b>Description:</b>	<p>This ASCII field shall contain the number of vertical lines contained in the transmitted latent image.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Vertical Pixel Scale



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### Type-13 Variable-Resolution Latent Image

#### ***Vertical Pixel Scale***

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the vertical direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-14 Variable-Resolution Fingerprint Image

#### ***Alternate Finger Segment Position(s)***

<b>Description:</b>	This ASCII field is an alternate approach to describing the locations for each of the image segments of the individual fingers within a flat image containing the capture of four simultaneous fingers or two simultaneous thumbs. This field uses an n-vertex polygon to encompass each finger image segment, where "n" is between 3 and 99. The order of the vertices must be in their consecutive order around the perimeter of the polygon, either clockwise or counterclockwise. No two vertices may occupy the same location. The polygon side defined by the last subfield and the first subfield shall complete the polygon. The polygon must be a simple, plane figure with no sides crossing and no interior holes. This field shall consist of one to four subfields. Each subfield shall consist of a finger number between 1 and 10, the total number of vertices of the polygon encompassing the finger, and the set of consecutive vertices. Each vertex shall be represented as horizontal and vertical pixel offsets relative to the origin positioned in the upper left corner of the image. The horizontal offsets (X) are the pixel counts to the right, and the vertical offsets (Y) are the pixel counts down from the origin. A minimum of three points is required to describe a finger location. The finger number, the number of vertices, each X coordinate, and each Y coordinate. Subfields representing each finger are separated.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-14 Variable-Resolution Fingerprint Image

#### **Alternate Finger Segment Position(s)**

##### **Finger Position**

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segment Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### **Alternate Segment Vertex Count**

<b>Description:</b>	The total number of vertices of the polygon encompassing the finger.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





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### Type-14 Variable-Resolution Fingerprint Image

#### ***Alternate Finger Segment Position(s)***

##### **Alternate Segment Vertex Vertical Coordinate**

<b>Description:</b>	The vertical offsets (Y) of the vertex are the pixel counts down from the origin positioned in the upper left corner of the image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Alternate Segment Vertex Horizontal Coordinate**

<b>Description:</b>	The horizontal offsets (X) of the vertex are the pixel counts to the right from the origin positioned in the upper left corner of the image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Amputated or Bandaged***

<b>Description:</b>	This ASCII field shall specify if one or more fingers are amputated or bandaged. This field shall consist of one subfield for each amputated or missing finger. Each subfield shall contain two information items separated. The first item is the finger number between one and ten. The second item is the amputated or bandaged code (AMPCD).
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-14 Variable-Resolution Fingerprint Image

#### Amputated or Bandaged Finger Position

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### Amputated or Bandaged Code

<b>Description:</b>	This information item provides the code that describes the reason the finger's image is missing.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Possible Codes: Amputation = XX</li> <li>Unable to print (e.g., bandaged) = UP</li> </ul>

#### Bits Per Pixel



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### Type-14 Variable-Resolution Fingerprint Image

#### Bits Per Pixel

Description:	This ASCII field shall contain the number of bits used to represent a pixel. This field shall contain an entry of "8" for normal grayscale values of "0" to "255" or each RGB color component. Any entry in this field greater than "8" shall represent a grayscale or color pixel component with increased precision.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	1 to 3
Special Characters:	None
Possible Codes:	n/a

#### Capture Device Global Identifier

Description:	This field shall contain a 16-byte string to indicate a global unique identifier for an image capture device.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	16 to 16
Special Characters:	Any printable characters
Possible Codes:	n/a

#### Capture Device Information

Description:	The information about the biometric capture device that was used to collect the associated biometric sample. It consists of manufacturer, model, version and serial number.
Number of Information Items:	3
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	n/a
Special Characters:	n/a
Possible Codes:	n/a

#### Capture Device Manufacturer

Description:	The name of the manufacturer for the capture device that was used to collect the associated biometric sample.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	1 to 50
Special Characters:	n/a
Possible Codes:	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### **Capture Device Information**

##### **Capture Device Model**

<b>Description:</b>	The model number for the biometric capture device used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

##### **Capture Device Serial Number**

<b>Description:</b>	The serial number for the biometric capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Comment**

<b>Description:</b>	This field may be used to insert comments or other ASCII text information with the image data.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 127
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Compression Algorithm**



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### Type-14 Variable-Resolution Fingerprint Image

#### Compression Algorithm

<b>Description:</b>	<p>The ASCII field shall specify the algorithm used to compress the transmitted images. An entry of "NONE" in this field indicates that the data contained in this record is uncompressed.</p> <p><b>Remarks:</b>                      Facial and SMT Images – WSQ is not supported. The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a series of sequential samples of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image.</p> <p>Latent Print Images - See Section 5.6.1 of ANSI/NIST ITL 1-2007 for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar shall maintain a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Fingerprint or Palmprint Images - The preferred methods for the compression of fingerprint images are WSQ for those images scanned or transmitted at 500 ppi or JPEG 2000 for those images scanned and transmitted at 1000 ppi. See Section 5.6.1. of ANSI/NIST ITL 1-2007 and the Profile for 1000 ppi Fingerprint Compression for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar maintains a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Iris Images - The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a sequential sample of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image. For those images that are to be compressed, the method for the compression of iris images is specified by the baseline mode of the JPEG algorithm or JPEG 2000. For best results, the compression ratio should not exceed 6:1.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Uncompressed = NONE WSQ Version 2.0 = WSQ20 JPEG ISO/IEC 10918 (Lossy) = JPEGB JPEG ISO/IEC 10918 (Lossless) = JPEGL JPEG 2000 ISO/IEC 15444-1 (Lossy) = JP2 JPEG 2000 ISO/IEC 15444-1 (Lossless) = JP2L Portable Network Graphics = PNG

#### Device Monitoring Mode



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-14 Variable-Resolution Fingerprint Image

#### ***Device Monitoring Mode***

<b>Description:</b>	This field provides information describing the human monitoring operation of the image capture device. This field will contain an entry from [possible codes below] to indicate the monitoring mode of the biometric sample capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	7 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Operator physically controls the subject to acquire biometric sample = CONTROLLED Person available to provide assistance to subject submitting the biometric = ASSISTED Person present to observe operation of the device but provides no assistance = OBSERVED No one present to observe or provide assistance = UNATTENDED No information is known = UNKNOWN

#### ***Device Unique Identifier***

<b>Description:</b>	This field shall contain a sixteen-byte string uniquely identifying the device or source of the data. This data can be one of: (1) Device Serial Number, identified by the first character "D", (2) Host PC Mac address, identified by the first character "M", (3) Host PC processor ID, identified by the first character "P", and (4) No serial number, identified by all zero's.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Finger Position***



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-14 Variable-Resolution Fingerprint Image

#### Finger Position

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### Fingerprint Capture Date

<b>Description:</b>	<p>This ASCII field (formerly named "Tenprint Capture Date" (TCD)) shall contain the date that the fingerprint image contained in the record was captured. The date shall appear as eight digits in the format YYYYMMDD. The YYYY characters shall represent the year the image was captured; the MM characters shall be the tens and units values of the month; and the DD characters shall be the tens and units values of the day in the month. For example, 20040229 represents February 29, 2004. The complete date must be a legitimate date.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD



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### Type-14 Variable-Resolution Fingerprint Image

#### *Fingerprint Quality Metric*

<b>Description:</b>	This ASCII field is used to specify one or more different metrics of fingerprint image quality score data for the image stored in this record. The meaning attributed to this metric must be defined and interpreted by the producer of the scoring algorithm or by the person or system used to assign the metric to the fingerprint image. The metric may be a predictor of AFIS matcher accuracy performance or a different metric to indicate a value associated with the quality of the fingerprint image for a particular function. This field may contain one or more subfields, each consisting of four information items items separated. The first information item is the finger number. The other three items identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a





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### Type-14 Variable-Resolution Fingerprint Image

#### Fingerprint Quality Metric

##### Finger Position

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### Image Quality Score Quantity

<b>Description:</b>	<p>A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### ***Fingerprint Quality Metric***

##### **Image Quality Algorithm Vendor Identifier**

<b>Description:</b>	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Image Quality Algorithm Product**

<b>Description:</b>	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Finger Segment Position(s)***

<b>Description:</b>	This ASCII field shall contain offsets to the locations of image segments containing the individual fingers within the flat images of the four simultaneous fingers from each hand or the two simultaneous thumbs. The offsets are relative to the origin positioned in the upper left corner of the image. The horizontal offsets (X) are the pixel counts to the right, and the vertical offsets (Y) are the pixel counts down. A finger segment is defined by the FINGER NUMBER, the X coordinates (LEFT, RIGHT) and the Y coordinates (TOP, BOTTOM), of its bounding box. The five information items within a finger segment definition are separated by the "US" separator. Individual finger segment definitions are separated. If more than one algorithm is used to segment the image, successive sets finger segmentation positions shall be formatted as above and immediately follow the previous set.
<b>Number of Information Items:</b>	5
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### **Finger Segment Position(s)**

##### **Finger Position**

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segment Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### **Horizontal Offset Left**

<b>Description:</b>	The horizontal offsets (X) are the pixel counts to the right. This is the first X coordinates (LEFT) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### ***Finger Segment Position(s)***

##### **Horizontal Offset Right**

<b>Description:</b>	The horizontal offsets (X) are the pixel counts to the right. This is the second X coordinates (RIGHT) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Vertical Offset Top**

<b>Description:</b>	The vertical offsets (Y) are the pixel counts down. This is the first Y coordinates (TOP) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Vertical Offset Bottom**

<b>Description:</b>	The vertical offsets (Y) are the pixel counts down. This is the second Y coordinates (BOTTOM) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Horizontal Line Length [Fingerprint]***

<b>Description:</b>	This ASCII field shall contain the number of pixels contained on a single horizontal line of the transmitted fingerprint image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Horizontal Pixel Scale***



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### Type-14 Variable-Resolution Fingerprint Image

#### **Horizontal Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the horizontal direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Data**

<b>Description:</b>	<p>This field shall contain all of the grayscale or color image data.</p> <p>For the ANSI/NIST ITL 1-2007 standard, this field shall always be assigned field number 999 and must be the last physical field in the record. The field number designation is followed by the image data in a binary representation.</p> <p>Remarks:                      Facial and SMT Images – Each pixel of uncompressed grayscale data shall be quantized to eight bits (256 gray levels) and shall occupy a single byte. Uncompressed color image data shall be expressed as 24 or 48 bit sRGB pixels. For the 24-bit sRGB, the first byte shall contain the eight bits for the red component of the pixel, the second byte shall contain the eight bits for the green component of the pixel, and the third byte shall contain the last eight bits for the blue component of the pixel. For the 48-bit sRGB pixel, each color component will occupy two bytes. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field. If the JPEG algorithm is to be used to compress the data, this field shall be encoded using the JFIF format specification. The Facial and SMT Image Data is a CENTCOM requested field.</p> <p>Latent Print, Fingerprint, and Palmprint Images - Each pixel of uncompressed grayscale data shall normally be quantized to eight bits (256 gray levels) contained in a single byte. If the entry in BPX (Bits Per Pixel field) is greater than 8, the number of bytes required to contain a pixel will be different. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Designation Character [Fingerprint]**



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### Type-14 Variable-Resolution Fingerprint Image

#### ***Image Designation Character [Fingerprint]***

<b>Description:</b>	This ASCII field shall be used to identify the fingerprint image data contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Impression Type***

<b>Description:</b>	This one- or two-byte ASCII field shall describe the manner by which the fingerprint or palmprint image information was obtained.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Live-scn plain = 0 Live-scan rolled = 1 Nonlive-scan plain = 2 Nonlive-scan rolled = 3 Latent impression = 4 Latent tracing = 5 Latent photo = 6 Latent lift = 7 Live-scan vertical swipe = 8 Live-scan palm = 10 Nonlive-scan palm 11 Latent palm impression = 12 Latent palm tracing = 13 Latent palm photo = 14 Latent palm lift = 15 Live-scan optical contact plain = 20 Live-scan optical contact rolled = 21 Live-scan non-optical contact plain = 22 Live-scan non-optical contact rolled = 23 Live-scan optical contactless plain = 24 Live-scan optical contactless rolled = 25 Live-scan non-optical contactless plain = 26 Live-scan non-optical contactless rolled = 27 Other = 28 Unknown = 29

#### ***Logical Record Length [Type-14]***



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### Type-14 Variable-Resolution Fingerprint Image

#### **Logical Record Length [Type-14]**

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-14 logical record. This field shall specify the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **NIST Quality Metric**

<b>Description:</b>	This ASCII field shall contain the NIST Fingerprint Image Quality (NFIQ) scores for the individual finger(s) derived from the slap impressions or individual rolled fingerprints. It consists of two information items. The first item is the finger number between one and ten. The second item is the quality score which is a quantitative expression of the predicted AFIS matcher accuracy performance of the fingerprint image. The scores range from "1" for the best quality image, to "5" for the worst quality image. A "254" indicates that no score was ever computed while an entry of "255" shall indicate a failed attempt to calculate the image quality metric. These two information items are separated. Individual finger quality definitions are separated.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### NIST Quality Metric

#### Finger Position

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### Predicted Image Quality Score Quantity

<b>Description:</b>	<p>This information item is the quality score which is a quantitative expression of the predicted AFIS matcher accuracy performance of the fingerprint image. The scores range from "1" for the best quality image, to "5" for the worst quality image. A "254" indicates that no score was ever computed while an entry of "255" shall indicate a failed attempt to calculate the image quality metric.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>1, 2, 3, 4, 5</li> <li>No Score Computed = 254</li> <li>Failed Attempt = 255</li> </ul>

#### Print Position Coordinates





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### Type-14 Variable-Resolution Fingerprint Image

#### Print Position Coordinates

<b>Description:</b>	<p>If finger position code "19" appears in field [Type-13 or Type-14 Finger Position field], this set contains offsets to the locations for the bounding box of the EJI, each of the full finger views, or segments within the EJI. When used, this field shall consist of six (6) mandatory information items to describe the type or portion of the latent image contained in this record and its location within an entire joint image.</p> <p>The first information item is the number of the full finger view with values of "FV1" through "FV4". Values of "FV1" to "FV4" specify the bounding coordinates for each full finger view.</p> <p>The second information item is used to identify the location of a segment within a full finger view. It will contain the not applicable code "NA" if the image portion refers to a full finger view or to the entire joint image locations. It shall contain "PRX", "DST", "MED" for a proximal, distal, or medial segment.</p> <p>The next four information items are the horizontal and vertical offsets relative to the origin positioned in the upper left corner of the image. The horizontal offsets (X) are the pixel counts to the right, and the vertical offsets (Y) are the pixel counts down. The location of the image portion is defined by the sequence of X coordinates (LEFT, RIGHT) and the Y coordinates (TOP, BOTTOM), of its bounding box.</p> <p>For the case of a fingertip, the first information item shall be "TIP", and the second information item shall be "NA". The next four information items are the horizontal and vertical offsets as defined above. The six information items will describe either the location of the entire joint image, one full finger view, or segment.</p>
<b>Number of Information Items:</b>	6
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Full Finger View

<b>Description:</b>	<p>This information item is the number of the full finger view with values of "FV1" through "FV4". Values of "FV1" to "FV4" specify the bounding coordinates for each full finger view. For the case of a fingertip, this information item shall be "TIP".</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<p>Rolled Tip = TIP                      Full Finger Rolled Image = FV1                      Full Finger Plain Image – left side = FV2                      Full Finger Plain Image – center = FV3                      Full Finger Plain Image – right side = FV4</p>



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### Type-14 Variable-Resolution Fingerprint Image

#### Print Position Coordinates

##### Segment Location

<b>Description:</b>	This information item is used to identify the location of a segment within a full finger view. It will contain the not applicable code "NA" if the image portion refers to a full finger view or to the entire joint image locations. It shall contain "PRX", "DST", "MED" for a proximal, distal, or medial segment.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	2 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Not Applicable = NA Proximal, Distal, or Medial Segments = PRX, DST, MED

##### Horizontal Offset Left

<b>Description:</b>	The horizontal offsets (X) are the pixel counts to the right. This is the first X coordinates (LEFT) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### Horizontal Offset Right

<b>Description:</b>	The horizontal offsets (X) are the pixel counts to the right. This is the second X coordinates (RIGHT) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### Vertical Offset Top

<b>Description:</b>	The vertical offsets (Y) are the pixel counts down. This is the first Y coordinates (TOP) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### **Print Position Coordinates**

##### **Vertical Offset Bottom**

<b>Description:</b>	The vertical offsets (Y) are the pixel counts down. This is the second Y coordinates (BOTTOM) in the sequence of the bounding box.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Print Position Descriptors**

<b>Description:</b>	This ASCII field shall be present if and only if the finger position code "19" appears in [Type-14 Finger Position field]. This field shall consist of two information items. The first is the probable decimal finger position code (0-10). The second information item is the code to indicate the portion of the EJI or tip image that is stored as a single image in the database. There may be up to 17 such images for a single finger. Images of full-length fingers use codes FV1 through FV4.
<b>Number of Information Items:</b>	2
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Probable Decimal Finger Position**

<b>Description:</b>	The probable decimal finger position code (0-10) taken from [possible codes below]. A "0" indicates that all the fingers of a possible candidate should be searched.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### Print Position Descriptors

##### EJI/Tip Image Type

<b>Description:</b>	<p>This information item is the code taken from [possible codes below] to indicate the portion of the EJI or tip image in the database to search. Latent images of full-length fingers use codes FV1 through FV4 as defined in [possible codes below].</p> <p>Figure 7 [of ANSI/NIST ITL 1-2007] is an illustration of the Entire Joint Image for a middle finger with each of the full finger views and constituent parts identified. The EJI code is used for the case where all four finger images are to be considered. For the case where the latent is to be compared to proximal, distal, or medial segments of a finger, this information item will contain the appropriate finger segment character. Multiple portions of the EJI can be listed.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Scale Units

<b>Description:</b>	<p>This ASCII field shall specify the units used to describe the image sampling frequency (pixel density). A "1" in this field indicates pixels per inch, or a "2" indicates pixels per centimeter. A "0" in this field indicates no scale is given. For this case, the quotient of HPS/VPS gives the pixel aspect ratio.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Pixels Per Inch = 1 Pixels Per Centimeter = 2 No Scale = 0

#### Scanned Horizontal Pixel Scale

<b>Description:</b>	<p>This ASCII field shall specify the horizontal pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Scanned Vertical Pixel Scale



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### Type-14 Variable-Resolution Fingerprint Image

#### **Scanned Vertical Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the vertical pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Segmentation Quality Metric**

<b>Description:</b>	This ASCII field provides a measure of estimated correctness regarding the accuracy of the location of the segmented finger within the right or left four finger or two thumbs slap image. For each segmented finger, this field shall contain four information items separated. The first information item is the finger number between one and ten. The other three items identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### Segmentation Quality Metric

##### Finger Position

<b>Description:</b>	<p>This tagged field shall contain the finger position that matches the tenprint image. The decimal code number corresponding to the known or most probable finger position shall be taken from [possible codes below] and entered as a one- or two-character ASCII subfield. [See ANSI/NIST ITL 1-2007 Table 12 for the list of] maximum image dimensions that can be transmitted for each of the sixteen possible finger positions. Additional finger positions may be referenced in the transaction by entering the alternate finger positions as subfields separated. The code "0", for "Unknown Finger", shall be used to reference every finger position from one through ten. Code "19" shall be used to reference one or more parts of an EJI or tip.</p> <p>Note, for the following fields listed below, only finger number between one and ten applies:</p> <ul style="list-style-type: none"> <li>Type 2 Biometric Subject Finger Amputated or Bandaged</li> <li>Type 9 (INCITS M1-378 Features) Finger Position</li> <li>Type 14 Amputated or Bandaged</li> <li>Type 14 NIST Quality Metric</li> <li>Type 14 Segmentation Quality Metric</li> <li>Type 14 Alternate Finger Segent Position(s)</li> </ul>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	<ul style="list-style-type: none"> <li>Unknown = 0</li> <li>Right thumb = 1</li> <li>Right index finger = 2</li> <li>Right middle finger = 3</li> <li>Right ring finger = 4</li> <li>Right little finger = 5</li> <li>Left thumb = 6</li> <li>Left index finger = 7</li> <li>Left middle finger = 8</li> <li>Left ring finger = 9</li> <li>Left little finger = 10</li> <li>Plain right thumb = 11</li> <li>Plain left thumb = 12</li> <li>Plain right four fingers = 13</li> <li>Plain left four fingers = 14</li> <li>Left &amp; right thumbs = 15</li> <li>EJI or tip = 19</li> </ul>

#### Image Quality Score Quantity

<b>Description:</b>	<p>A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



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### Type-14 Variable-Resolution Fingerprint Image

#### Segmentation Quality Metric

##### Image Quality Algorithm Vendor Identifier

Description:	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	4 to 4
Special Characters:	None
Possible Codes:	n/a

##### Image Quality Algorithm Product

Description:	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	N
Number of Characters Allowed:	5 to 5
Special Characters:	None
Possible Codes:	n/a

##### Source Agency/ORI

Description:	This ASCII field shall contain the identification of the administration or organization that originally captured the biometric sample contained in the record. Normally, the ORI of the agency that captured the image will be contained in this field. The SRC may contain up to 36 identifying characters and the data content of this field shall be defined by the user and be in accordance with the receiving agency. BTF assigns ORIs for DoD Systems.
Number of Information Items:	0
ANSI/NIST ITL 1-2007 Field:	Yes
Character Types Allowed:	ANS
Number of Characters Allowed:	10 to 36
Special Characters:	Any printable characters
Possible Codes:	n/a

##### Vertical Line Length [Fingerprint]



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### Type-14 Variable-Resolution Fingerprint Image

#### ***Vertical Line Length [Fingerprint]***

<b>Description:</b>	This ASCII field shall contain the number of vertical lines contained in the transmitted fingerprint image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### ***Vertical Pixel Scale***

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the vertical direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





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### Type-15 Variable-Resolution Palmprint Image

#### Bits Per Pixel

<b>Description:</b>	This ASCII field shall contain the number of bits used to represent a pixel. This field shall contain an entry of "8" for normal grayscale values of "0" to "255" or each RGB color component. Any entry in this field greater than "8" shall represent a grayscale or color pixel component with increased precision.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Capture Device Global Identifier

<b>Description:</b>	This field shall contain a 16-byte string to indicate a global unique identifier for an image capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Capture Device Information

<b>Description:</b>	The information about the biometric capture device that was used to collect the associated biometric sample. It consists of manufacturer, model, version and serial number.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Capture Device Manufacturer

<b>Description:</b>	The name of the manufacturer for the capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a



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### Type-15 Variable-Resolution Palmprint Image

#### **Capture Device Information**

##### **Capture Device Model**

<b>Description:</b>	The model number for the biometric capture device used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

##### **Capture Device Serial Number**

<b>Description:</b>	The serial number for the biometric capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Comment**

<b>Description:</b>	This field may be used to insert comments or other ASCII text information with the image data.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 127
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Compression Algorithm**



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### Type-15 Variable-Resolution Palmprint Image

#### Compression Algorithm

<b>Description:</b>	<p>The ASCII field shall specify the algorithm used to compress the transmitted images. An entry of "NONE" in this field indicates that the data contained in this record is uncompressed.</p> <p><b>Remarks:</b>                      Facial and SMT Images – WSQ is not supported. The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a series of sequential samples of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image.</p> <p>Latent Print Images - See Section 5.6.1 of ANSI/NIST ITL 1-2007 for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar shall maintain a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Fingerprint or Palmprint Images - The preferred methods for the compression of fingerprint images are WSQ for those images scanned or transmitted at 500 ppi or JPEG 2000 for those images scanned and transmitted at 1000 ppi. See Section 5.6.1. of ANSI/NIST ITL 1-2007 and the Profile for 1000 ppi Fingerprint Compression for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar maintains a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Iris Images - The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a sequential sample of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image. For those images that are to be compressed, the method for the compression of iris images is specified by the baseline mode of the JPEG algorithm or JPEG 2000. For best results, the compression ratio should not exceed 6:1.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Uncompressed = NONE WSQ Version 2.0 = WSQ20 JPEG ISO/IEC 10918 (Lossy) = JPEGB JPEG ISO/IEC 10918 (Lossless) = JPEGL JPEG 2000 ISO/IEC 15444-1 (Lossy) = JP2 JPEG 2000 ISO/IEC 15444-1 (Lossless) = JP2L Portable Network Graphics = PNG

#### Device Monitoring Mode



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### Type-15 Variable-Resolution Palmprint Image

#### **Device Monitoring Mode**

<b>Description:</b>	This field provides information describing the human monitoring operation of the image capture device. This field will contain an entry from [possible codes below] to indicate the monitoring mode of the biometric sample capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	7 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Operator physically controls the subject to acquire biometric sample = CONTROLLED Person available to provide assistance to subject submitting the biometric = ASSISTED Person present to observe operation of the device but provides no assistance = OBSERVED No one present to observe or provide assistance = UNATTENDED No information is known = UNKNOWN

#### **Device Unique Identifier**

<b>Description:</b>	This field shall contain a sixteen-byte string uniquely identifying the device or source of the data. This data can be one of: (1) Device Serial Number, identified by the first character "D", (2) Host PC Mac address, identified by the first character "M", (3) Host PC processor ID, identified by the first character "P", and (4) No serial number, identified by all zero's.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Horizontal Line Length [Palmprint]**

<b>Description:</b>	This ASCII field shall contain the number of pixels contained on a single horizontal line of the transmitted of a palmprint image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Horizontal Pixel Scale**



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### Type-15 Variable-Resolution Palmprint Image

#### **Horizontal Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the horizontal direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Data**

<b>Description:</b>	<p>This field shall contain all of the grayscale or color image data.</p> <p>For the ANSI/NIST ITL 1-2007 standard, this field shall always be assigned field number 999 and must be the last physical field in the record. The field number designation is followed by the image data in a binary representation.</p> <p>Remarks:                      Facial and SMT Images – Each pixel of uncompressed grayscale data shall be quantized to eight bits (256 gray levels) and shall occupy a single byte. Uncompressed color image data shall be expressed as 24 or 48 bit sRGB pixels. For the 24-bit sRGB, the first byte shall contain the eight bits for the red component of the pixel, the second byte shall contain the eight bits for the green component of the pixel, and the third byte shall contain the last eight bits for the blue component of the pixel. For the 48-bit sRGB pixel, each color component will occupy two bytes. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field. If the JPEG algorithm is to be used to compress the data, this field shall be encoded using the JFIF format specification. The Facial and SMT Image Data is a CENTCOM requested field.</p> <p>Latent Print, Fingerprint, and Palmprint Images - Each pixel of uncompressed grayscale data shall normally be quantized to eight bits (256 gray levels) contained in a single byte. If the entry in BPX (Bits Per Pixel field) is greater than 8, the number of bytes required to contain a pixel will be different. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Designation Character [Palmprint]**



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### Type-15 Variable-Resolution Palmprint Image

#### ***Image Designation Character [Palmprint]***

<b>Description:</b>	This ASCII field shall be used to identify the palmprint image data contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Impression Type***

<b>Description:</b>	This one- or two-byte ASCII field shall describe the manner by which the fingerprint or palmprint image information was obtained.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Live-scn plain = 0 Live-scan rolled = 1 Nonlive-scan plain = 2 Nonlive-scan rolled = 3 Latent impression = 4 Latent tracing = 5 Latent photo = 6 Latent lift = 7 Live-scan vertical swipe = 8 Live-scan palm = 10 Nonlive-scan palm = 11 Latent palm impression = 12 Latent palm tracing = 13 Latent palm photo = 14 Latent palm lift = 15 Live-scan optical contact plain = 20 Live-scan optical contact rolled = 21 Live-scan non-optical contact plain = 22 Live-scan non-optical contact rolled = 23 Live-scan optical contactless plain = 24 Live-scan optical contactless rolled = 25 Live-scan non-optical contactless plain = 26 Live-scan non-optical contactless rolled = 27 Other = 28 Unknown = 29

#### ***Logical Record Length [Type-15]***



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### Type-15 Variable-Resolution Palmprint Image

#### ***Logical Record Length [Type-15]***

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-15 logical record. This field shall specify the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Palmprint Capture Date***

<b>Description:</b>	This ASCII field shall contain the date that the palmprint image contained in the record was captured. The date shall appear as eight digits in the format YYYYMMDD. The YYYY characters shall represent the year the image was captured; the MM characters shall be the tens and units values of the month; and the DD characters shall be the tens and units values of the day in the month. For example, 20040229 represents February 29, 2004. The complete date must be a legitimate date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD

#### ***Palmprint Position***



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### Type-15 Variable-Resolution Palmprint Image

#### ***Palmprint Position***

<b>Description:</b>	This tagged field shall contain the palmprint position that matches the palmprint image. The decimal code number corresponding to the known or most probable palmprint position shall be taken from [possible codes below] and entered as a two-character ASCII subfield.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown Palm = 20 Right Full Palm = 21 Right Writer's Palm = 22 Left Full Palm = 23 Left Writer's Palm = 24 Right Lower Palm = 25 Right Upper Palm = 26 Left Lower Palm = 27 Left Upper Palm = 28 Right Other = 29 Left Other = 30 Right Interdigital = 31 Right Thenar = 32 Right Hypothenar = 33 Left Interdigital = 34 Left Thenar = 35 Left Hypothenar = 36

#### ***Palmprint Quality Metric***

<b>Description:</b>	<p>This ASCII set is used to specify one or more different metrics of palm image quality score data for the image stored in this record. The meaning attributed to this metric must be defined and interpreted by the producer of the scoring algorithm or by the person or system used to assign the metric to the palm print image. The metric may be a predictor of AFIS matcher accuracy performance or a different metric to indicate a value associated with the quality of the palm print image for a particular function. This field may contain one or more subfields, each consisting of four information items.</p> <p>The first information item is the palm code. The other three items identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.</p>
<b>Number of Information Items:</b>	4
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a





## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-15 Variable-Resolution Palmprint Image

#### **Palmprint Quality Metric**

##### **Palmprint Position**

<b>Description:</b>	This tagged field shall contain the palmprint position that matches the palmprint image. The decimal code number corresponding to the known or most probable palmprint position shall be taken from [possible codes below] and entered as a two-character ASCII subfield.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	2 to 2
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Unknown Palm = 20 Right Full Palm = 21 Right Writer's Palm = 22 Left Full Palm = 23 Left Writer's Palm = 24 Right Lower Palm = 25 Right Upper Palm = 26 Left Lower Palm = 27 Left Upper Palm = 28 Right Other = 29 Left Other = 30 Right Interdigital = 31 Right Thenar = 32 Right Hypothenar = 33 Left Interdigital = 34 Left Thenar = 35 Left Hypothenar = 36

#### **Image Quality Score Quantity**

<b>Description:</b>	A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Quality Algorithm Vendor Identifier**

<b>Description:</b>	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-15 Variable-Resolution Palmprint Image

#### **Palmprint Quality Metric**

##### **Image Quality Algorithm Product**

<b>Description:</b>	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Scale Units**

<b>Description:</b>	This ASCII field shall specify the units used to describe the image sampling frequency (pixel density). A "1" in this field indicates pixels per inch, or a "2" indicates pixels per centimeter. A "0" in this field indicates no scale is given. For this case, the quotient of HPS/VPS gives the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	N
<b>Possible Codes:</b>	Pixels Per Inch = 1 Pixels Per Centimeter = 2 No Scale = 0

#### **Scanned Horizontal Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the horizontal pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Scanned Vertical Pixel Scale**



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-15 Variable-Resolution Palmprint Image

#### **Scanned Vertical Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the vertical pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Source Agency/ORI**

<b>Description:</b>	This ASCII field shall contain the identification of the administration or organization that originally captured the biometric sample contained in the record. Normally, the ORI of the agency that captured the image will be contained in this field. The SRC may contain up to 36 identifying characters and the data content of this field shall be defined by the user and be in accordance with the receiving agency. BTF assigns ORIs for DoD Systems.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 36
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Vertical Line Length [Palmprint]**

<b>Description:</b>	This ASCII field shall contain the number of vertical lines contained in the transmitted palmprint image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Vertical Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the vertical direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-17 Iris Image

#### ***Acquisition Lighting Spectrum***

<b>Description:</b>	This field indicates the lighting spectrum used in capturing the iris image. Values shall be one of the following: "NIR" for near-infrared illumination (~700-850nm), "VIS" for visible full spectrum illumination (~380-740nm), or "OTHER" for other illumination.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Near-infrared illumination = NIR Visible full spectrum illumination = VIS Other illumination = OTHER

#### ***Bits Per Pixel***

<b>Description:</b>	This ASCII field shall contain the number of bits used to represent a pixel. This field shall contain an entry of "8" for normal grayscale values of "0" to "255" or each RGB color component. Any entry in this field greater than "8" shall represent a grayscale or color pixel component with increased precision.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Capture Device Global Identifier***

<b>Description:</b>	This field shall contain a 16-byte string to indicate a global unique identifier for an image capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### ***Capture Device Information***



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### Type-17 Iris Image

#### Capture Device Information

<b>Description:</b>	The information about the biometric capture device that was used to collect the associated biometric sample. It consists of manufacturer, model, version and serial number.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Capture Device Manufacturer

<b>Description:</b>	The name of the manufacturer for the capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Capture Device Model

<b>Description:</b>	The model number for the biometric capture device used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Capture Device Serial Number

<b>Description:</b>	The serial number for the biometric capture device that was used to collect the associated biometric sample.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 50
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Color Space



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### Type-17 Iris Image

#### Color Space

<b>Description:</b>	This ASCII field shall contain an entry from [the possible codes below] to identify the color space used to exchange the image data. If the color space for an RGB image cannot be determined, an entry of "RGB" shall be entered.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Undefined = UNK Grayscale (monochrome) = GRAY Undetermined color space for an RGB image = RGB SRGB (IEC 61966-2-1) = SRGB YCbCr (legacy) = YCC YCbCr (JPEG 2000 compressed) = SYCC

#### Comment

<b>Description:</b>	This field may be used to insert comments or other ASCII text information with the image data.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	1 to 127
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### Compression Algorithm



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### Type-17 Iris Image

#### Compression Algorithm

<b>Description:</b>	<p>The ASCII field shall specify the algorithm used to compress the transmitted images. An entry of "NONE" in this field indicates that the data contained in this record is uncompressed.</p> <p><b>Remarks:</b>                      Facial and SMT Images – WSQ is not supported. The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a series of sequential samples of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image.</p> <p>Latent Print Images - See Section 5.6.1 of ANSI/NIST ITL 1-2007 for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar shall maintain a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Fingerprint or Palmprint Images - The preferred methods for the compression of fingerprint images are WSQ for those images scanned or transmitted at 500 ppi or JPEG 2000 for those images scanned and transmitted at 1000 ppi. See Section 5.6.1. of ANSI/NIST ITL 1-2007 and the Profile for 1000 ppi Fingerprint Compression for additional information on the usage of JPEG 2000 for the compression of fingerprint images. The domain registrar maintains a registry of acceptable compression techniques and corresponding codes that may be used as they become available.</p> <p>Iris Images - The image shall be represented as an array of n rows by m columns by at least 8-bit pixels. Each pixel in a monochrome image shall be represented by eight or more bits. Color images shall be represented as a sequential sample of a red, green, and blue intensity for each pixel. The image shall be organized in row-major order, with the lowest address corresponding to the upper left corner of the image. For those images that are to be compressed, the method for the compression of iris images is specified by the baseline mode of the JPEG algorithm or JPEG 2000. For best results, the compression ratio should not exceed 6:1.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	3 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Uncompressed = NONE WSQ Version 2.0 = WSQ20 JPEG ISO/IEC 10918 (Lossy) = JPEGB JPEG ISO/IEC 10918 (Lossless) = JPEGL JPEG 2000 ISO/IEC 15444-1 (Lossy) = JP2 JPEG 2000 ISO/IEC 15444-1 (Lossless) = JP2L Portable Network Graphics = PNG

#### Device Monitoring Mode



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-17 Iris Image

#### **Device Monitoring Mode**

<b>Description:</b>	This field provides information describing the human monitoring operation of the image capture device. This field will contain an entry from [possible codes below] to indicate the monitoring mode of the biometric sample capture device.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	7 to 10
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Operator physically controls the subject to acquire biometric sample = CONTROLLED Person available to provide assistance to subject submitting the biometric = ASSISTED Person present to observe operation of the device but provides no assistance = OBSERVED No one present to observe or provide assistance = UNATTENDED No information is known = UNKNOWN

#### **Device Unique Identifier**

<b>Description:</b>	This field shall contain a sixteen-byte string uniquely identifying the device or source of the data. This data can be one of: (1) Device Serial Number, identified by the first character "D", (2) Host PC Mac address, identified by the first character "M", (3) Host PC processor ID, identified by the first character "P", and (4) No serial number, identified by all zero's.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	16 to 16
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Eye Color**

<b>Description:</b>	This field shall specify the subject's eye color.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	A
<b>Number of Characters Allowed:</b>	3 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Black = BLK Blue = BLU Brown = BRO Gray = GRY Green = GRN Hazel = HAZ Maroon = MAR Multicolored = MUL Pink = PNK Unknown = XXX

#### **Feature Identifier**





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**Type-17 Iris Image**

**Feature Identifier**

<b>Description:</b>	This field shall contain an identifier for the eye represented by the image in the record. An entry of "0" in this field indicates that the image in this record is undefined. An entry of "1" in this field indicates that the image in this record is the subject's right eye. An entry of "2" in this field indicates that the image in this record is the subject's left eye.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Undefined = 0 Right Eye = 1 Left Eye = 2

**Horizontal Line Length [Iris]**

<b>Description:</b>	This ASCII field shall contain the number of pixels contained on a single horizontal line of the transmitted of a iris image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

**Horizontal Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the horizontal direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

**Image Data**



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### Type-17 Iris Image

#### **Image Data**

<b>Description:</b>	<p>This field shall contain all of the grayscale or color image data.</p> <p>For the ANSI/NIST ITL 1-2007 standard, this field shall always be assigned field number 999 and must be the last physical field in the record. The field number designation is followed by the image data in a binary representation.</p> <p>Remarks:                      Facial and SMT Images – Each pixel of uncompressed grayscale data shall be quantized to eight bits (256 gray levels) and shall occupy a single byte. Uncompressed color image data shall be expressed as 24 or 48 bit sRGB pixels. For the 24-bit sRGB, the first byte shall contain the eight bits for the red component of the pixel, the second byte shall contain the eight bits for the green component of the pixel, and the third byte shall contain the last eight bits for the blue component of the pixel. For the 48-bit sRGB pixel, each color component will occupy two bytes. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field. If the JPEG algorithm is to be used to compress the data, this field shall be encoded using the JFIF format specification. The Facial and SMT Image Data is a CENTCOM requested field.</p> <p>Latent Print, Fingerprint, and Palmprint Images - Each pixel of uncompressed grayscale data shall normally be quantized to eight bits (256 gray levels) contained in a single byte. If the entry in BPX (Bits Per Pixel field) is greater than 8, the number of bytes required to contain a pixel will be different. If compression is used, the pixel data shall be compressed in accordance with the compression technique specified in the CGA field.</p>
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Designation Character [Iris]**

<b>Description:</b>	This ASCII field shall be used to identify the iris image data contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Image Property Code**



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### Type-17 Iris Image

#### Image Property Code

<b>Description:</b>	This set shall contain the image property code. It shall contain three information items. The first information item shall indicate the specific horizontal orientation. The second information item shall indicate the specific vertical orientation. The third information item shall indicate the specific scan type. Each information item shall be one character.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Horizontal Orientation

<b>Description:</b>	This field shall be one of: "0" for Undefined, "1" for Base, or "2" for Flipped. "Base" orientation refers to images corresponding to the view facing the subject, where the nasal side of subject's left eye or outer edge of the subject's right eye is on the left side the of image. "Flipped" orientation refers to images where the orientation is opposite from that described for "Base"
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Undefined = 0 Base = 1 Flipped = 2

#### Vertical Orientation

<b>Description:</b>	This shall be one of: "0" for Undefined, "1" for Base, or "2" for Flipped. "Base" orientation refers to images where the superior (top) edge of the eye is at the top of the image. "Flipped" orientation refers to images where the orientation is opposite from that described for "Base"
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Undefined = 0 Base = 1 Flipped = 2



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### Type-17 Iris Image

#### Image Property Code

##### Scan Type

<b>Description:</b>	This shall be one of: "0" for Undefined, "1" for Progressive, "2" for Interlace Frame, or "3" for Interlace Field. "Progressive" indicates that the image was captured using progressive scanning, in which case all image lines are generated sequentially. "Interlace Frame" indicates that the image was captured using interlaced scanning, in which two fields are generated in sequence, the first composed of odd numbered lines and the second of even-numbered lines. "Interlace Field" indicates that the image was captured using interlaced scanning, in which only one field is generated, and then each line is duplicated to produce a full size image
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Undefined = 0 Progressive = 1 Interlace Frame = 2 Interlace Field = 3

#### Image Quality Score

<b>Description:</b>	This ASCII field shall specify a quality score data for the iris image stored in this record. Each subfield shall contain three information items. They identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Image Quality Score Quantity

<b>Description:</b>	A quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

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### Type-17 Iris Image

#### **Image Quality Score**

##### **Image Quality Algorithm Vendor Identifier**

<b>Description:</b>	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

##### **Image Quality Algorithm Product**

<b>Description:</b>	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but it is not required to be registered. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	5 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Iris Capture Date**

<b>Description:</b>	This ASCII field shall contain the date that the iris image contained in the record was captured. The date shall appear as eight digits in the format YYYYMMDD. The YYYY characters shall represent the year the image was captured; the MM characters shall be the tens and units values of the month; and the DD characters shall be the tens and units values of the day in the month. For example, 20040229 represents February 29, 2004. The complete date must be a legitimate date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDD

#### **Iris Diameter**



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-17 Iris Image

#### ***Iris Diameter***

<b>Description:</b>	This field shall specify the expected iris diameter in pixels.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Logical Record Length [Type-17]***

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-17 logical record. This field shall specify the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Rotation Angle of Eye***

<b>Description:</b>	This field shall indicate the rotation angle of the eye. For rectilinear images, rotation angle = round (65536 * angle / 360) modulo 65536. The angle is measured in degrees from horizontal to the interpupillary line. The value "FFFF" indicates rotation angle of eye is undefined.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Rotation Uncertainty***

<b>Description:</b>	This field shall indicate the rotation uncertainty. The rotation uncertainty is equal to [round (65536 * uncertainty / 180)]. The uncertainty is measured in degrees and is the absolute value of maximum error. The value "FFFF" indicates uncertainty is undefined.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-17 Iris Image

#### Scale Units

<b>Description:</b>	This ASCII field shall specify the units used to describe the image sampling frequency (pixel density). A "1" in this field indicates pixels per inch, or a "2" indicates pixels per centimeter. A "0" in this field indicates no scale is given. For this case, the quotient of HPS/VPS gives the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 1
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Pixels Per Inch = 1 Pixels Per Centimeter = 2 No Scale = 0

#### Scanned Horizontal Pixel Scale

<b>Description:</b>	This ASCII field shall specify the horizontal pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the horizontal component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Scanned Vertical Pixel Scale

<b>Description:</b>	This ASCII field shall specify the vertical pixel density used for scanning providing the SLC field contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Source Agency/ORI



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-17 Iris Image

#### **Source Agency/ORI**

<b>Description:</b>	This ASCII field shall contain the identification of the administration or organization that originally captured the biometric sample contained in the record. Normally, the ORI of the agency that captured the image will be contained in this field. The SRC may contain up to 36 identifying characters and the data content of this field shall be defined by the user and be in accordance with the receiving agency. BTF assigns ORIs for DoD Systems.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 36
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a

#### **Vertical Line Length [Iris]**

<b>Description:</b>	This ASCII field shall contain the number of vertical lines contained in the transmitted iris image.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 4
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### **Vertical Pixel Scale**

<b>Description:</b>	This ASCII field shall specify the integer pixel density used in the vertical direction providing the SLC contains a "1" or a "2". Otherwise, it indicates the vertical component of the pixel aspect ratio.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a





## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-99 CBEFF

#### ***BDB Format Owner***

<b>Description:</b>	This ASCII field shall be used to denote the vendor, standards body, working group, or industry consortium that has defined the format of the biometric data (in the BDB). In a CBEFF structure the BDB Format Owner and Format Type, when used in combination, uniquely identify the specific format of the BDB content. The format and content of the BDB is "owned" by the CBEFF Client (see Clause 6.1 of the CBEFF standard). This BDB format definition may be published (public) or unpublished (non-public). A CBEFF requirement is that format owners register with IBIA for an assigned identifier of the format owner. The number is guaranteed to be unique. Refer to the CBEFF standard, Clause 6, "CBEFF Patrons and Clients," for registration information. The four hex digits assigned by IBIA shall be represented by a string of four ASCII characters.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Biometric Creation Date***

<b>Description:</b>	This ASCII field shall contain the date and time that the biometric sample was captured. The date and time shall appear as fifteen digits in the format YYYYMMDDhhmmssZ. The YYYY characters shall represent the year the image was captured; the MM characters shall be the tens and units values of the month; the DD characters shall be the tens and units values of the day in the month; the hh characters shall be the tens and units values of the hour of the day in 24-hour format; the mm characters shall be the tens and units values of the minute within the hour; the ss characters shall be the tens and units values of the second of the minute; and "Z" denotes Coordinated Universal Time, which is abbreviated UTC. For example, December 15, 2000 at 5 AM, 35 minutes and 30 seconds is expressed as 20001215053530Z. The complete date must be a legitimate date.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	15 to 15
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	Format: YYYYMMDDhhmmssZ

#### ***Biometric Data Block***

<b>Description:</b>	This field shall contain the CBEFF Biometric Data Block (BDB). It shall always be assigned field number 999 and must be the last physical field in the record. For example, 99.999: is followed by a finger pattern BDB in a binary representation.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	B
<b>Number of Characters Allowed:</b>	2 to -
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Biometric Data Quality***



## Integrated Data Dictionary Elements - EBTS V2.0

IDDD V2.2.1 for EBTS 2.0

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### Type-99 CBEFF

#### Biometric Data Quality

<b>Description:</b>	This set shall specify a quality score data for the biometric data stored in the BDB in this record. The three information items identify a quality score and the algorithm used to create the quality score. This information is useful to enable the recipient of the quality score to differentiate between quality scores generated by different algorithms and adjust for any differences in processing or analysis as necessary.
<b>Number of Information Items:</b>	3
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	
<b>Number of Characters Allowed:</b>	n/a
<b>Special Characters:</b>	n/a
<b>Possible Codes:</b>	n/a

#### Biometric Data Quality Score Quantity

<b>Description:</b>	This information item shall be a quantitative expression of the predicted matching performance of the biometric sample. This item contains the ASCII representation of the integer image quality score between 0 and 100 assigned to the image data by a quality algorithm. Higher values indicate better quality. An entry of "255" shall indicate a failed attempt to calculate a quality score. An entry of "254" shall indicate that no attempt to calculate a quality score was made. The use of additional values to convey other information should be harmonized with ISO/IEC 19794 standards.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 3
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### Biometric Data Quality Vendor Identifier

<b>Description:</b>	This information item shall specify the ID of the vendor of the quality algorithm used to calculate the quality score. This 4-digit hex value is assigned by IBIA and expressed as four ASCII characters. The IBIA shall maintain the Vendor Registry of CBEFF Biometric Organizations that will map the value in this field to a registered organization.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-99 CBEFF

#### **Biometric Data Quality**

##### **Biometric Data Quality Product Identifier**

<b>Description:</b>	This information item shall specify a numeric product code assigned by the vendor of the quality algorithm, which may be registered with the IBIA, but registration is not required. It indicates which of the vendor's algorithms was used in the calculation of the quality score. This field contains the ASCII representation of the integer product code and should be within the range 1 to 65535.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 5
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Biometric Format Type**

<b>Description:</b>	This ASCII field shall be used to identify the value assigned by the format owner to represent the specific BDB Format as specified by the format owner. This may be a nonstandard, unpublished data format or a data format that has been standardized by an industry group, consortium, or standards body. The registration of the Format Type value is recommended but not required. Refer to the CBEFF standard, Clause 6, "CBEFF Patrons and Clients," for registration information. The four hex digits assigned by the format owner shall be represented by a string of four ASCII characters.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	AN
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### **Biometric Type**



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

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### Type-99 CBEFF

#### ***Biometric Type***

<b>Description:</b>	This ASCII field shall be used to identify the type of biometric technology. This specification adopts the values presented in CBEFF with the addition of two leading zeros for future expansion.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	8 to 8
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	No Information Given = '00000000' Multiple Biometrics Used = '00000001' Facial Features = '00000002' Voice = '00000004' Fingerprint = '00000008' Iris = '00000010' Retina = '00000020' Hand Geometry = '00000040' Signature Dynamics = '00000080' Keystroke Dynamics = '00000100' Lip Movement = '00000200' Thermal Face Image = '00000400' Thermal Hand Image = '00000800' Gait = '00001000' Body Odor = '00002000' DNA = '00004000' Ear Shape = '00008000' Finger Geometry = '00010000' Palm Print = '00020000' Vein Pattern = '00040000' Foot Print = '00080000'

#### ***CBEFF Header Version***

<b>Description:</b>	This ASCII field shall be used to identify the version of CBEFF specification that this record conforms to. The format is two characters for major version number followed by two characters for minor version. The current version of CBEFF is INCITS 398-2005 represented by the string '0101' (major version '01' and minor version '01').
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	4 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Image Designation Character [CBEFF]***



## Integrated Data Dictionary Elements - EBTS V2.0

IDD V2.2.1 for EBTS 2.0

3/20/2009

### Type-99 CBEFF

#### ***Image Designation Character [CBEFF]***

<b>Description:</b>	This ASCII field shall be used to identify the CBEFF data contained in the record. This IDC shall match the IDC found in the file content (CNT) field of the Type-1 record.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	1 to 4
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Logical Record Length [Type-99]***

<b>Description:</b>	This ASCII field shall contain the total count of the number of bytes in the Type-99 logical record. This field shall specify the length of the record including every character of every field contained in the record and the information separators.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	N
<b>Number of Characters Allowed:</b>	3 to 7
<b>Special Characters:</b>	None
<b>Possible Codes:</b>	n/a

#### ***Source Agency/ORI***

<b>Description:</b>	This ASCII field shall contain the identification of the administration or organization that originally captured the biometric sample contained in the record. Normally, the ORI of the agency that captured the image will be contained in this field. The SRC may contain up to 36 identifying characters and the data content of this field shall be defined by the user and be in accordance with the receiving agency. BTF assigns ORIs for DoD Systems.
<b>Number of Information Items:</b>	0
<b>ANSI/NIST ITL 1-2007 Field:</b>	Yes
<b>Character Types Allowed:</b>	ANS
<b>Number of Characters Allowed:</b>	10 to 36
<b>Special Characters:</b>	Any printable characters
<b>Possible Codes:</b>	n/a



## APPENDIX D: TRANSACTION ERROR MESSAGES

When the Status/Error Message field (2.060) is contained in a response transaction that is reporting an error, it will report the reason for the error as detailed in Table D-1. The field will contain the text from the Message Data Dictionary (MDD) Error Description column, the “%number” expression represents the value provided in the like-numbered Insert columns. For errors detected in EBTS messages, the “Element Name” will be the EBTS Field Tag.

**TABLE D-1. TRANSACTION ERROR MESSAGES**

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
A0001	Unauthorized ULF delete	Requested deletion from ULF not authorized.	0			
A0004	Unauthorized EBTS transaction	Requestor is not authorized for TOT of incoming transaction type %1.	1		message	
A0008	Unauthorized ULF Add Confirm	Requested ULF Add Confirm request not authorized.	TBD			
A0009	Latent Search Queue Request Reject	This Latent Search Queue modification request is invalid.				
A0016	Requested Photo Not Available	Photo requested in conjunction with image Request is not available for 1%.	1		UCN	
A0017	Quoted UCN Not Found	Quoted UCN 1% not found in database	1		UCN	
E0001	Required element missing	Mandatory IAFIS-generated element %1 was not supplied in message.	1		Element Name	
E0002	Element failed validation	Element %1, with value of [%2] contains invalid data.	2		Element Name	Element Value
E0003	Element failed validation	Element %1, with value of [%2] contains invalid data. The data may not comply with the acceptable range of values.	2		Element Name	Element Value

<b>Code</b>	<b>Error Condition</b>	<b>MDD Error Description</b>	<b>Count</b>	<b>Insert %1</b>	<b>Insert %2</b>	<b>Insert %3</b>
E0004	EBTS record parse error	EBTS logical record type %1 containing IDC of [%2] in message does not comply with message Contents or Length field values or the record cannot be parsed.	2	Logical Record Type	IDC value or the value -1 if the named logical record is missing or is a Type 1 record.	
E0005	EBTS field parse error	EBTS field %1 could not be parsed. Check use of separator characters and presence of all required subfields.	1	Field Tag		
E0006	Field relationship error	The value of element %1 is inconsistent with the value of element %2.	2	Element Name	Element Name	
E007	NFS File not available	NFS file %1 not available for transfer.	1	FILEHANDLE		
E008	NFS File Read Error	NFS file %1 produced a read error during file transfer. Check for proper format. %2 %3	1-3	FILEHANDLE	Free Text	Free Text
E009	NFS File ICN Error	NFS File ICN does not match the ICN provided in the request message.	0			
E0010	Too Few FNUs for FST	Only one, FNU %1, was supplied for Restore FNU File Synchronization with FST %2.	2	FNU	FST	
E0011	Too Many FNUs for FST	More than one FNU was supplied for Restore FNU File Synchronization with FST %1.	1	FST		
E0012	Message Length Inconsistent	The length of the message is inconsistent with the sum of the lengths of the logical records contained within it.	0			
E0013	NFS File Write Error	NFS file %1 produced a write error during file transfer. %2 %3	1-3	FILEHANDLE	Free Text	Free Text
H0001	Required header element missing	Mandatory element %1 was not supplied in message header.	1	Element Name		
H0002	Header element failed validation	Header element %1, with value of [%2] contains invalid data.	2	Element Name	Element Value*	
H0003	Header element failed validation	Header element %1, with value of [%2], contains invalid data. The data may not comply with the acceptable	2	Element Name	Element Value	

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		range of values.				
L0001	SLC Repositories Full	SLC repositories are full; cannot add another subject.	0			
L0002	Subject does not exist in Criminal or Civil File	Subject with identifier %1 does not exist in repository.	1	UCN		
L0003	SLC Repository does not exist	Cannot perform requested action, SLC repository %1 does not exist. Inform Segment Administrator of possible SLC File Synchronization error.	1	NDR		
L0004	File image not available	The images for subject identifier %1 are not available from repository %2.	2	UCN	NDR	
L0005	High Penetration Search Rejected	Latent search penetration estimate of %1 percent exceeds the allowable limit of %2 percent.	2	Request Percent	Authorization Cap	
L0006	Invalid image type	The supplied image(s) could not be used for characterization of subject.	0			
L0007	Features not usable	The supplied features could not be used for requested search .	0			
L0008	Characteristics quality low	The quality of the characteristics is too low to be used.	0			
L0009	Image decompression error	Error occurred during decompression of the fingerprint images.	0			
L0010	Cannot search an empty SLC repository	A search request was made against SLC repository number %1 which currently contains no subjects. To differentiate from a search with no results, this error is being returned.	1	NDR		
L0011	Subject already exists, duplicates not allowed in Criminal or Civil Files	A request was made to add subject identifier %1 to Criminal or Civil File in which the subject already exists.	1	UCN		
L0012	ULF Delete Error	An error was encountered in processing The requested deletion from the Unsolved Latent File.	0			
L0013	General Logic Error	A general logic error was detected that is not currently defined. Optional	0-3	Free Text	Free Text	Free Text



Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		error message: %1 %2 %3				
L0014	ULF Delete Subject Missing	Cannot perform the ULF delete request for %1 because the subject is not present in the ULF.	1	SCNA		
L0015	Attempt to remove last arrest, court, or custody component	An attempt has been made to remove the last %1 from subject record %2.	2	Filed Name	FNU	
L0016	Latent Search Penetration Estimate	NOTICE ONLY, NOT AN ERROR – Latent search penetration estimate is %1. Your limit is currently %2.	2	Request Percentage	Authorization Cap	
L0017	Attempt to modify SCHF with improper TYS	Attempt to change the Criminal History File with an improper TYS of %1.	1	TYS		
L0018	Latent search queue full	The requested search exceeds the allocation for your organization or	0			
L0019	Subject already exists, duplicate identifiers not allowed in SLC file	A request was made to add subject identifier %1 to SLC repository %2 in which the subject already exists. Subjects may NOT be duplicated within this repository.	2	UCN	NDR	
L0020	Subject does not exist in SLC file	A request was made to delete or update subject identifier %1 to SLC repository %2. The subject does not exist in this repository.	2	UCN	NDR	
L0021	Restorability Mismatch	FNU %1 with restorability code of RST %2 does not match that provided in message.	2	FNU	RST value of FNU	
L0022	FNU Not Restorable	FNU %1 has not undergone a restorable action.	1	FNU		
L0023	SID required	NFF participants must provide a SID on a criminal retain ten print submission.	0			
L0024	SID already exists for NFF submission	The SID provided in the criminal ten print submission, %1, is already associated with the subject with FBI number %2 and could not be established for a new NFF subject.	2	SID	FNU	
L0025	SID Already Exists	The SID provided in the criminal ten	2	SID	FNU	

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		print submission, %1, is already associated with the subject with FBI number %2 and could not be established for a new subject.				
L0026	PUR not allowed for subject	Purpose code not allowed for subject %1.	1	FNU		
L0027	SPCs not allowed	A manual record cannot be established with additional SPC codes.	0			
L0028	Exceeded ICO maximum length	Cannot add data because the maximum length of ICO field would be exceeded. There are only %1 characters remaining in the ICO field.	1		Number of unused bytes remaining in ICO field (ASCII representation).	
L0029	Invalid update of subject with AUD C	Cannot update subject record %1 because it contains an AUD=C.	1	FNU		
L0030	Invalid update of subject with AUD T	Cannot update subject record %1 because it contains an AUD=T	1	FNU		
L0031	Invalid update of subject record	Cannot update subject record %1 because of its AUD value.	1	FNU		
L0032	Duplicate DOA and DOS	Cannot update subject's record because DOA %1 and corresponding DOS already exist.	1	DOA	FNU	
L0033	Element Entry Limit Exceeded	Update of record would cause the maximum number of entries of the %1 field to be exceeded.	1	Field Name		
L0034	Existing identification comments	Cannot overwrite existing ICO.	0			
L0035	DOD prior to DOA	Date of arrest in submission is after date of death in subject's record.	0			
L0036	Conversion anomaly	Cannot add a conversion cycle for an NFF participating state.	0			
L0037	DOA not later than existing DOB	Date of arrest in submission is prior to existing date of birth in the subject's record.	0			
L0038	SID already exists from NFF state	Cannot establish new SID %1 for this subject because your state has already	2	SID from submission	Existing SID	

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		established SID %2 for this subject.				
L0039	Purpose Code Required	Purpose code is required to modify this record.	0			
L0040	No Matching DOA/DOS	There is no matching DOA/DOS in the subject's record.	0			
L0041	Cannot Update Due to Inactive Data	The subject's cycle cannot be updated due to inactive status.	0			
L0042	No Matching Court Data	Matching court data does not exist.	0			
L0043	No Corresponding Court Count	Cannot add supplemental court data - no corresponding count.	0			
L0044	No Update Of NFF Record	Cannot update NFF record.	0			
L0045	Data Already On File	Cannot update this cycle - data already exist in record.	0			
L0046	TPTP Notify Error	AFIS Search number %1 or candidate number %2 cannot be associated with previous search.	2	SCNA	UCN	
L0047	ULF Add Confirm Error	Cannot perform the ULF add confirm request for %1 because the subject is not present in the ULF.	1	SCNA		
L0049	No Matching Data Found	No data found to match input value %1 with record value %2.	2	Name of field	field value	
L0050	Invalid Request for Segment Type	This maintenance request cannot be applied because of the SGT value contained in the record.	0			
L0051	Cycle is not sealed.	Cannot apply unseal request because cycle has not previously been sealed.	0			
L0052	Submitter is not Authorized to Update Record	Requestor is not authorized to perform the requested file maintenance.	0			
L0057	Improper Finger Specified	Latent searches cannot process %1 possible finger positions for %2 supplied search fingers.	2	FGN_CNT	AFV_CNT	
L0058	UCN and NDR format incompatible	The designated repository (%1) does not correlate to the provided record	2	NDR	UCN	

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		format number (%2).				
L0059	Duplicate fingers	Ten finger information supplied for field %1 (%2) is incorrect.	2	Name of field	Field Value	
L0060	Death is already recorded for this subject.	An indication that this subject is deceased is currently present in this record.	0			
L0061	Non-matching DOB	DOB on submission document does not match DOB in record.	0			
L0062	Reference Element Name Mismatch	The element %1 provided for reference in this maintenance request is not present in this record.	1	Name of Field		
L0063	Existing Data Condition	Data cannot be added to this field, %1, because data is already present.	1	Name of Field		
L0064	Duplicate Data Condition	An attempt to add or modify data that duplicates existing data in field %1.	1	Name of Field		
L0065	SID/ORI Mismatch	The SID in the maintenance request is not consistent with the ORI in the arrest.	0			
L0066	SID/Pointer Mismatch	The SID in the maintenance request does not match the state pointer in the MF-IDENTIFICATION-DATA set.	0			
L0067	Illegal Add to AUD N Record	An attempt has been made to add data to a deceased record.	0			
L0068	Illegal Add to Non-AUD N Record	An attempt has been made to post microform data to a record containing an AUD other than N.	0			
L0069	Invalid SPF Request	Existing SPF code precludes addition of this code.	0			
L0070	Illegal Sequence Count	A request has been made for a value in %1 that is not the next available after %2 in the sequence.	2	Filed Name	Current last value	
L0071	Illegal Delete Request for AUD W Record	A request has been made for deletion of data from a field other than ANA from an AUD W record.	0			

<b>Code</b>	<b>Error Condition</b>	<b>MDD Error Description</b>	<b>Count</b>	<b>Insert %1</b>	<b>Insert %2</b>	<b>Insert %3</b>
L0072	No Match for Data	Cannot match data in field %1 in this maintenance request with any data in field %2 the record.	2	Field Name	Field Name	
L0073	Cannot Delete SID	Cannot delete SID because record contains a matching state pointer.	0			
L0074	Illegal Request to Delete Primary Data	Cannot delete primary data while secondary data is still present.	0			
L0075	Illegal Request to Remove Custody Data	Attempt has been made to remove a custody segment while corresponding arrest data remains.	0			
L0076	Illegal SCH Modification Request	AN SCH Modification request has attempted to perform a maintenance action against a record awaiting expungement.	0			
L0077	Invalid Modify Request Because of Code Value Set	Cannot modify field %1 because of the value of %2 code contained in record.	2	Field Name	Either AUD or SGT	
L0078	Field Value Mismatch	Cannot find match in the database for %1 containing value %2.	2	Field Name	Field Value	
L0079	Invalid SID	The SID %1 failed III edit check.	1	SID value		
L0080	Pointer/Data Mismatch	Cannot update data associated with active state pointer because of mismatch with %1 field.	1	Field Name		
L0081	Attempt to Modify Empty Field	A maintenance request has been made against empty field %1.	1	Field Name		
L0089	Year of Birth out of range	The year of birth in the maintenance request is not within ten years of the DOB(s) contained in the subject.	0			
L0090	No Name Match	The name in the maintenance request does not match any name contained in the indicated subject.	0			
L0091	NIC Number Match	The maintenance request contains a NIC number already contained in the SCH.	0			
L0092	DOW Matches DOB	The DOW contained in the maintenance request matches a DOB in the subject record.	0			

<b>Code</b>	<b>Error Condition</b>	<b>MDD Error Description</b>	<b>Count</b>	<b>Insert %1</b>	<b>Insert %2</b>	<b>Insert %3</b>
L0099	CBL/DCA Error	An attempt has been made to add a CBL without a related DCA in either the request message or the SCH record.	0			
L0100	Court Segment Data Error	This maintenance request must include CCT, CON, COL, and CPL.	0			
L0101	Pointer/Date Mismatch	A request has been made to modify either %1 or %2 that would result in a DPE greater than the DDE.	2	DDE	DPE	
L0103	Photo SPF 'E' Error	A request has been made to either set or remove SPF of , 'E' that would be inconsistent with the state of CRIMINAL-SUBJECT-PHOTO-DATA.	0			
L0107	Incomplete SCT	A request has been made that is missing a required element from set SCT.	0			
L0109	Poor Image Quality	The quality of the fingerprint images is too poor to permit processing.				
L0110	MRD Merge Failure	Ten-print submission failed to merge with MRD data.	0			
L0111	Image Sequence Error	Submitted ten-print finger images are out of sequence.				
L0112	No statutory authority	The agency indicated by the ORI or CRI in this submission is not authorized to request this service.				
L0113	Non-serious charge	This submission references an arrest charge representing a non-criterion offense.				
L0114	TOT/Submission Data Error	The Type of Transaction is inconsistent with the Reason Fingerprinted.				
L0115	Other QC Error					
L0116	Fingerprint Pattern Quality Error	Fingerprint pattern(s) not discernible				
L0117	Fingerprint Pattern Area Error	Insufficient pattern area(s) recorded for identification purposes.				
L0118	ITN Image Quality/Sequence Error	Erroneous or incomplete fingerprint(s)				

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		on images: fingers or hands out of sequence; printed twice; missing and no reason given.				
L0119	Charge listed needs literal translation	The charge listed in the submission requires that a literal translation be provided.				
L0120	Invalid update of subject with AUD N	Cannot update subject record %1 because AUD = N.	1	FNU		
L0121	Invalid update of subject with AUD M	Cannot update record %1 because this record is currently contained in the manual file. Record must be converted.	1	FNU		
L0122	No SLC Add	Unable to complete SLC Add for identifier %1 in repository %2 and user %3.	3	UCN	NDR	EID
L0123	No SLC Delete	Unable to complete SLC Delete for identifier %1 in repository %2 and user %3.	3	UCN	NDR	EID
L0124	Unacceptable Criteria	The submission does not meet latent acceptance criteria.				
L0125	Invalid ORI	This ORI, %1, is not present in the CCA file.	1		ORI value from Maintenance Request	
L0126	Invalid CRI	This CRI, %1, is not present in the CCA file.	1		CRI value from Maintenance Request	
L0127	Invalid SCT	This file maintenance request contained an SCT with an invalid ORI of %1.	1		ORI value from Maintenance Request	
L0128	Missing SRE	This file maintenance request must contain a value for SRE.	0			
L0129	Missing PUR code	Subject record contains sealed data – this request for an IDRR requires a PUR code.	0			
L0130	File Maintenance element error	This file maintenance request contains invalid data, %1, in the field %2.	2		Field value from Field Maintenance Request	
L0131	Required element missing	Mandatory user-provided element %1 was not supplied in message.	1		Element Name	

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
L0132	STOT/NDR Discrepancy	The STOT, %1, for this request is not consistent with placing the images in the %2 file.	2	STOT value	Name of the target file (NDR)	
L0133	Fingerprint Image Submission Non-ident	The subject of this Fingerprint Image Submission contains FNU #%1, which is not contained in the FBI Subject Criminal History files.	1	FNU		
L0134	Ad Hoc Subject Search String Syntax Error	The submitted search string text contains a syntax error. The attachment includes the portion of the string up to the error, shown here: %1.	1	Insert %1 is the expanded query string up to point of error.		
L0141	STOT/RET Discrepancy	Retention code must equal Y for an STOT of CAN.	0			
L0142	SLC Copy Failed	SLC Copy failed. %1 %2 %3	0-3	Free Text	Free Text	Free Text
L0143	AFIS Storage Full for SLC Repository	SLC repository %1 is at max allotted storage capacity within AFIS; to add new subject, delete existing subject or contact the ITN Segment Administrator to allot more storage capacity.	1	NDR		
L0144	Field Relationship Error	The value of element %1 is inconsistent with the value of element %2.	2	Element Name	Element Name	
L0145	Invalid Ad Hoc Search Criterion	The Service Provider is not authorized to perform the type of Ad Hoc Subject Search requested, or the query contains a restricted item. Contact the ITN Segment Administrator to determine corrective action.	0			
L0146	SLC File Not Offline	COPY ALL SLC failed. To copy an entire SLC file, the source and destination SLC files must be offline. Contact the AFIS Segment Administrator to take the files offline.	0			
L0147	Contributor has remote capability	The contributing state has remote capability.				
L0148	Poor Latent Image Quality	The image quality is not adequate for conducting an AFIS search.				
L0149	Bad Search Criteria	The descriptive search criteria is not				



Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		adequate or is incomplete.				
L0150	Unassigned FBI Number	Subject %1 may be in the FBI manual files, but does not exist in the Subject Criminal History File.	1	FNU		
L0151	Photo Not Available	Photo Not Available	0			
L0152	Photo Action on Improper AUD Code	IAFIS cannot retrieve or delete the cited photo because the associated record is purged, expunged, not automated, deceased, or deleted.	0			
L0153	Photo Action on AUD C Record	IAFIS cannot retrieve or delete the cited photo with FBI %1 because it has been consolidated with FBI %2.	2	FNU	FNU	
R0001	Queue Full	A message queue is temporarily full.	0			
R0002	Undefined Segment Error	Internal segment error; retry message.	0			
R0003	Service Unavailable	The requested Tuxedo service %1 is not currently available.	1	SERV value		
S0001	Cannot match the response with a request	A response message type %1 indicating IAFIS transaction %2, with SCN2 = %3, could not be associated with its request.	3	MTY	ICN	SCN2
S0002	General segment error	A general segment error was detected that is not currently defined. Optional error message: %1 %2%3.	0-3	Free Text	Free Text	Free Text
S0003	Invalid Environment	The message environment does not match the current environment.	0			
S0004	Transaction in Progress	A repeated message was received for which the transaction has already been started.	0			
S0005	Tenprint Search Notification Error	An error occurred during the routing and reporting of AFIS tenprint search notification.	0			
S0006	Bitmap Generation Error	An error occurred during the generation or handling of the file comparison bitmap related to repository %1.	1	NDR		
S0007	Repository Statistics Error	The repository statistics file is corrupted	0			

Code	Error Condition	MDD Error Description	Count	Insert %1	Insert %2	Insert %3
		or unavailable.				
S0008	AFV Checksum Error	The Checksum provided with the AFV is wrong. Check for encoding or transmission error.	0			
W0001	Authorized High Penetration Search Submitted	A high penetration search estimated at %1 percent is within the allowable limit of %2 and is being processed.	2	Request Percent	Authorization Cap	
W0002	Manual Arrest Records	The Criminal History of subject %1 is contained in the FBI manual files.	1	FNU		
W0003	Unassigned FBI Number	Subject %1 may be in the FBI manual files, but does not exist in the Criminal History Files.	1	FNU		
W0004	Existing Post-Consolidation Information in Record	The consolidated record with kept FBI number %1 that was restored to unconsolidated records had information entered since the consolidation.	1	FBK		
W0005	Route to Wants	Route the document to Wants.	0			
W0006	AUD T Subject	Requested service involves an AUD T subject. Route transaction to Special Stops for review prior to further action.	0			
W0007	Ident Status Warning	Response for this submission may be non-Ident because this SCH record contains non-disseminable data.	0			
W0008	Sealed Record Ident Status Warning	Response for this submission included an NFF subject and may be a non-Ident because the record is sealed.	0			
W0009	Route to Dead Desk	The Subject Criminal History Record has been restored, however, the transaction requires further review. Route the hardcopy document to the Dead Desk.	0			
W0010	Route to Wants and Dead Desk	The Subject Criminal History Record has been restored, however, the transaction requires further review. Route the hardcopy document to the Wants Unit and then to the Dead Desk.	0			

\*NOTE: In the case of elements that are composites of two or more other element values (e.g., DATETIME), an additional error code may be returned to report the error in the subelement as long as the composite element is reported also.

Key	Error Class
A	Authorization – Security Errors
E	Element – Intersegment and External Message Element Errors
H	Header – Intersegment Message Header Errors
L	Logic – Operational Errors
R	Error with Retry allowed
S	Status – Segment Status Errors
W	Warning only