

Terrorist Watchlist Person Data Exchange Standard (TWPDES)
Version 3.0

Package Description Document

December 2009

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1 Document Revision History

Revision	Revised By	Date	Summary of Change
3.0 R0C0	C. J. Lee	12/17/2009	<ul style="list-style-type: none">• Removed “Sensitive But Unclassified // For Official Use Only” markings in the document.• Updated Section 6 “TWPDES 1.2b Package Change Log”.• Updated Version from 1.2b to Version 3.0

2 Introduction

This document provides an overall description of the artifacts that comprise the Terrorist Watchlist Person Exchange Standard (TWPDES) 3.0. The document contains a summary of the changes to TWPDES 1.2a, a list of the artifacts and their locations, known issues, and the TWPDES 3.0 package change log.

The documentation directory houses each of the Information Exchange Package Documentations (IEPDs) which provide additional details regarding specific application domain. Sample XML instances are provided in the IEPDs as well as in the “sample” folder of the package.

To help you navigate the 100 plus files of the TWPDES standard, please be sure to first read this document as well as the Master Document (TWPDES3.0-Master-Document.pdf), found in the documentation directory. The TWPDES 3.0 Master Document provides an overview of the organizational structure of the TWPDES document standards as well as information regarding TWPDES context-settings for the schema design.

As an overview, TWPDES 3.0 includes support for biometric identifiers at the person level, support for encounter reporting, including biometrics gathered in an encounter and a more robust watchlisting support. In addition, it is backwards compatible with TWPDES 1.2a and TWPDES 1.2b.

The specification contains the following major constructs:

1. Ability to describe person and biometric identities; the biometric sections of TWPDES 3.0 are compliant with the current ANSI/NIST ITL 2-2008 biometric standard as approved on August 12, 2008.
2. Encounter management subschema, including support for biometric based encounters.
3. Watchlisting subschema, including new support for watchlist nominations, along with biometric nominations and watchlist designations.
4. Message Transaction Specification (MTS) subschema including the Logical Entity Exchange Specification (LEXS) 3.1 standard.

3 Summary of Changes between TWPDES 1.2a, 1.2b and 3.0

TWPDES 1.2a to 1.2b

- Added the TWPDES Person concept.
- Added biometric data to TWPDES Person as well as to the TWPDES Identity.
- Adopted the American National Standards Institute (ANSI)/National Institute of Standards and Technology (NIST) Information Technology Laboratory (ITL) Biometric XML Standard 2-2008.
- Supported DNA data exchange in the biometric list.
- Added encounter subschema, which includes biometric support, encounter management and encounter analysis.
- Added biometric and additional nomination support to the watchlisting subschema.
- Adapted the existing TWPDES Core as an external standard for use in the National Information Exchange Model (NIEM) framework.
- Updated names and the structures of properties and types in the Watchlist and Encounter schemas to be NIEM-conformant.
- Added the Logical Entity Exchange Specification (LEXS) 3.1 standard as a supported TWPDES Message Transaction Specification (MTS).

TWPDES 1.2b to 3.0

- Implemented Security markings at the field level for not only identity fields, but also encounter and watchlist fields.
- Fixed a few issues in the TWPDES core schema (see Section 6 for more information)
- Fixed a few issues in the TWPDES encounter schema (see Section 6 for more information)
- TWPDES 3.0 is an unclassified, non-FOUO standards package.

4 TWPDES Package Contents

The following is a list of the artifacts that comprise the TWPDES 3.0 technical package archive, along with respective descriptions and relative locations within the archive:

Item	Description	Location
TWPDES3.0-Package-Description.pdf	This document provides an overall description of the TWPDES technical package archive contents.	.
TWPDES3.0-BiometricTWPDESCore-IEPD.pdf	The IEPD artifact for the TWPDES 3.0 Biometric Data.	./documentation
TWPDES3.0-Encounter-IEPD.pdf	The IEPD artifact for the TWPDES 3.0 Encounter specification.	./documentation
TWPDES3.0-Master-Document.pdf	The overview documentation for TWPDES 3.0.	./documentation
TWPDES3.0-MTS-IEPD.pdf	The IEPD artifact for the	./documentation

Item	Description	Location
	TWPDES 3.0 Message Transaction Specification (MTS).	
TWPDES3.0-WLS-IEPD.pdf	The IEPD artifact for the TWPDES 3.0 Watchlisting Specification (WLS).	./documentation
EncounterBiometricRequestSimple1.xml	Sample TWPDES encounter request message for an encounter with the watchlist entry from WatchlistBiometricRequestSimple1.xml. Message represents: <ul style="list-style-type: none"> • Name and photo from the screenee matched the name and photo of the watchlist entry. • The encounter added passport photo, passport number and physical description. 	./samples
EncounterBiometricRequestSimple3.xml	Sample TWPDES encounter request message for an encounter based on a latent fingerprint match with a watchlist entry. Message represents: <ul style="list-style-type: none"> • Message with a latent fingerprint matched a fingerprint of a watchlist entry; • There is no biographic information on the screenee; • This encounter message contains scanned notes in the tangible item list. 	./samples
EncounterNominationRequestLEXS.xml	Sample TWPDES encounter nomination request message using LEXS.	./samples
EncounterRequestNomination.xml	Sample TWPDES encounter nomination request message.	./samples
WatchlistBiometricRequestSimple1.xml	Sample TWPDES watchlist request message. Message represents: <ul style="list-style-type: none"> • Message with only a name for the biographic data and photo system identifier for the biometric data. 	./samples
WatchlistBiometricRequestSimple3.xml	Sample TWPDES watchlist request message. Message represents:	./samples

Item	Description	Location
	<ul style="list-style-type: none"> • Message with only a photo for the biometric data. There is no biographic data. 	
WatchlistDesignationRequestLEXS2.xml	Sample TWPDES watchlist designation request message using LEXS.	./samples
WatchlistRequestDoubleSample.xml	Sample TWPDES watchlist request message with two samples.	./samples
WatchlistRequestSimple.xml	Sample TWPDES watchlist request message. Message represents: <ul style="list-style-type: none"> • Message with only name and birthday for the biographic data; • There is no biometric data. 	./samples
WatchlistRequestSimpleSample.xml	Sample TWPDES watchlist designation request message with a single sample. Message represents: <ul style="list-style-type: none"> • Message with designation request that contains 4 watchlist entries from the identity data. 	./samples
WatchlistResponseDoubleSample.xml	The response message for WatchlistRequestDoubleSample.xml.	./samples
WatchlistResponseSimpleSample.xml	The response message for WatchlistRequestSimpleSample.xml.	./samples
LEXS	LEXS 3.1.3 schema files.	./schemas/LEXS
NIEM 2.0 Schema	NIEM 2.0 schema files (ansi-nist.xsd is replaced by ansi-nist_itl_constraint.xsd from ANSI/NIST ITL 2-2008).	./schemas/niem
ITL-2007-Package.xsd	ANSI/NIST ITL 2-2008. NIST Special Publication 500-275.	./schemas/niem/nist-itl/2.0
IC ISM schemas	The schemas were not included in NIEM 2.0 due to the “for official use only” (FOUO) security marking. However, the FOUO designation was recently removed from the IC-ISM schemas. Therefore, the schemas are added	./schemas/niem/ic-ism/2.0

Item	Description	Location
	separately.	
Encounter.xsd	TWPDES 3.0 Encounter XML schema definition file; which was first introduced in TWPDES 1.2b.	./schemas/twpdes/encounter/2.0
encounter-lexs-extension.xsd	TWPDES 3.0 Encounter LEXS extension schema definition file to be used with LEXS Publish and Discovery (LEXS-PD) framework.	./schemas/twpdes/encounter/LEXS-extension/2.0
TWPDES 3.0 Core Schema Files	TWPDES 3.0 XML schema files.	./schemas/twpdes/twpdes/3.0
twpdes-adaptor.xsd	TWPDES 3.0 adaptor for using the existing TWPDES Core Standard with NIEM. The schema is developed following the NIEM Naming and Design Rules.	./schemas/twpdes/twpdes-adaptor/3.0
Watchlist.xsd	TWPDES 3.0 Watchlist XML schema definition file.	./schemas/twpdes/watchlist/2.0
watchlisting-lexs-extension.xsd	TWPDES 3.0 Watchlisting LEXS extension schema definition file to be used with LEXS-PD framework.	./schemas\twpdes/watchlisting/LEXS-extension/2.0

5 Known Issues with .NET 2.0 XSD Class Generation Tool and Their Workarounds

.NET 2.0 XSD Class Generation Tool does not implement the rules for the default target namespace of data types from the included files.

Unlike XMLSpy and XMLBeans, .NET 2.0 XSD Class Generation Tool does not associate the data types in the included files to the target namespace of the schema that contains the include statement. Consequently, the user receives error messages like:

“The data type ‘urn:us:gov:ic:iceoi:FIPS10-4PrincipalAdministrativeDivisionCodeEnumeration_GeographicPolitical’ is missing.”

during TWPDES schema compilation using the XSD Class Generation Tool. Class generation fails. To resolve this problem, modify the schema definition file “twpdes\twpdes\3.0\IC-TWPDES-ValueDomains.xsd” and all of the schema definition files in the folder “twpdes\twpdes\3.0\ValueDomains”. In each of these schema definition files, add in the xsd:schema statement the xmlns attribute to define a unique default namespace for the current schema; and the targetNamespace attribute to specify that “urn:us:gov:ic:iceoi” be the target namespace. For example, the xsd:schema statement in the file “twpdes\twpdes\3.0\IC-TWPDES-ValueDomains.xsd” should be:

```
<xsd:schema xmlns="http://twpdes.gov/twpdes/twpdes/3.0/IC-TWPDES-ValueDomains"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" targetNamespace="urn:us:gov:ic:iceoi"
elementFormDefault="qualified" attributeFormDefault="unqualified">
```

The primary xsd and the subset xsd files cannot both be referenced in the command line of the Class Generation Tool.

When both the primary xsd file (the file that contains the include statements) and one or more subset xsd files (the files that are included) are referenced in the command line, the user receives warnings like:

```
“Schema validation warning: The simpleType
'urn:us:gov:ic:iceoi:UNECERec20DistanceUnitOfMeasureCodeEnumeration' has already been
declared. Line 10, position 3.”
```

during TWPDES schema compilation using the XSD Class Generation Tool. Class generation fails. To resolve this problem, include only the schema definition file “twpdes\twpdes\3.0\IC-TWPDES-ValueDomains.xsd” in the command line, and not any of the schema definition files in “twpdes\twpdes\3.0\ValueDomains”. For example, the XSD Class Generation Tool command line for TWPDES Watchlisting schema should be:

```
“xsd transaction/1.1/transaction-v1.1.xsd niem/appinfo/2.0/appinfo.xsd
niem/domains/intelligence/2.0/intelligence.xsd niem/structures/2.0/structures.xsd niem/ic-ism/2.0/IC-ISM-v2.xsd niem/niem-core/2.0/niem-core.xsd niem/proxy/xsd/2.0/xsd.xsd niem/fips_10-4/2.0/fips_10-4.xsd niem/twpdes/2.0/twpdes.xsd niem/fbi/2.0/fbi.xsd twpdes/watchlisting/2.0/watchlisting.xsd twpdes/twpdes-adaptor/3.0/twpdes-adaptor.xsd twpdes/action/1.0/action.xsd twpdes/twpdes/3.0/IC-TWPDES-v3.0.xsd twpdes/twpdes/3.0/XLINK-v1.1.xsd niem/nist-itl/2.0/ITL-2007-Package.xsd niem/ansi-nist/2.0/ansi-nist_itl_constraint.xsd twpdes/twpdes/3.0/IC-TWPDES-ValueDomains.xsd /classes”
```

6 TWPDES 3.0 Package Change Log

Changes in the December 2009 Baseline from the August 2008 Baseline

- Renamed all of TWPDES 1.2b Revision 1 IEPDs to 3.0 IEPDS:
 - TWPDES3.0-BiometricTWPDESCore-IEPD.pdf
 - TWPDES3.0-Encounter-IEPD.pdf
 - TWPDES3.0-Master-Document.pdf
 - TWPDES3.0-MTS-IEPD.pdf
 - TWPDES3.0-WLS-IEPD.pdf
- Globally changed all references, whenever appropriate, of “1.2b Revision 1”, “1.2b Rev 1”, “1.2b Rev. 1” and “1.2b” to “3.0” in all documents, schema definitions and sample files.
- Added the definition of backward compatibility in “TWPDES3.0-BiometricTWPDESCore-IEPD.pdf”, “TWPDES3.0-Encounter-IEPD.pdf”, and “TWPDES3.0-WLS-IEPD.pdf”
- In TWPDES Core Schema, “IC-TWPDES-v1.2b.xsd”
 - Added TWPDESSystemIdentifier as an extension of the NIEM Intelligence domain object SystemIdentifiers.
 - Changed the security markings (attribute group) to the optional one.
 - Added an optional “DNAIdentification” object to be consistent with the other biometric element names in TWPDES core. This object will replace DNA in the future.

- Fixed TWPDES Location object.
- Added DocumentReferenceID element in TWPDESDefinedFieldsType so that biometric images can now reference, via idref, where they came from, e.g., passport, driver's license, etc.
- Added <NonExpiring> element in Identification_Person so that one doesn't have to set an expiration date far into the future in order to indicate that a document never expires.
- Changed <Color> element in Transport_TWPDES to be unbounded allowing for multiple colors.
- Added <Type> element so that one can indicate vehicle type such as bus, motorcycle, car, etc.
- In TWPDES Core Adaptor Schema, "twpdes-adaptor.xsd"
 - Added SubjectTypeCode to centralize the definition of subject type.
 - Extended Entity to include optional security markings.
 - Created ta:TWPDESSystemIdentifier to allow an optional attribute to specify the identifier's name.
 - Added "ClassifiableComments" and "ClassifiableCommentsType" to extend "nc:TextType" with optional security markings.
- In action.xsd, added Refresh to DesignatedActionCodeSimpleType.
- In Encounter Schema, "encounter.xsd"
 - Extended DispositionComments to classifiable comments.
 - Added SubjectTypeCode from TWPDES core to Encounter ID Check.
 - Changed SearchPerformedBy and SearchDate from required fields to optional fields.
 - Extended ConnectingFlight to the substitution group ConnectingTravelMode.
 - Added optional AssociatesInfoIndicator, FamilyMemberInfoIndicator, UnknownAssociationInfoIndicator, and NoAssociationPersonInfoIndicator to the PersonIdentityComments to show the category of the comments.
 - Extended EncounterActivity to include the optional element "PersonPresentIndicator". Added the optional element "nc:Vehicle" in VehicleTravelInformation.
 - Expanded ReceiverInfo and SenderInfo from AddressType to ContactInformationType.
 - Extended nc:Vessel to include the optional VesselCMVIndicator.
 - Added optional elements "intel:AgencyInterestCategoryText" in EncounterActivityType.
 - Added an optional (0 to many) enc:DispositionComments to enc:AgencyDisposition that contains author, date, and ta:ClassifiableComments.
 - Added an optional ta:ClassifiableComments to enc:AlertNotification.
 - Changed maximum occurrence of ActivityReportingEntity from the default (i.e. 1) to unbounded.
 - Converted all elements and types to global entities.
 - Corrected the tag name in from TrainName to RailCompany.
 - Added SupportInformation and its associated data elements to track Visa information in EncounterPersonIdentityType.
 - Added the optional security marking attribute "ism:SecurityAttributesOptionGroup" to encounter fields.
 - Replaced existing "ism:SecurityAttributesGroup" by the optional security marking attribute "ism:SecurityAttributesOptionGroup".
 - Added "ClassifiableComments" or "ClassifiableCommentsType" for classifiable comment text in TWPDES adaptor.
 - Extended ip:AssetType to TWPDESAssetType to include location for the RailLineInformation.
- In DNA Schema, "TWPDES_DNA.xsd"

- Added element “DNAInformationPackage” to be consistent with the NIEM/ANSI-NIST naming convention.
- Added element “PackageDNARecord” to be consistent with the NIEM/ANSI-NIST naming convention.
- Added element “DNASampleCategory”.
- Added element “DNASampleCategoryText”.
- Added element “DNASampleCellularType”.
- Added simple type “DNASampleCellularTypeCodeSimpleType”.
- Added element abstract element “SampleSourceStatus”.
- Added element “nc:DNAImage”.
- Added elements by “nc:Biometric”.
- Removed maximum constraint for the number of STR alleles and Y STR alleles.
- Added comment field to SampleSourceType.
- Removed references to specific databases of government agencies.
- Removed all of the special handling/caveat markings (e.g. SBU/FOUO) from all of the IEPD documents, XML schemas and sample files in the package. DNI Information Management Office has determined on 04/16/2009 that TWPDES Version 1.2b is fully unclassified and available for public release.
- Renamed sample file names to be project/program-independent.
- Corrected name spaces in the sample file in Section 2.5.3 “Request Sample Message Content” of “TWPDES1.2B-MTS-IEPD.pdf” and WatchlistRequestDoubleSample.xml.
- Replaced agency-specific test data by generic test data in the sample files in Sections 2.5.3 “Request Sample Message Content” and 2.6.3 “Response Sample Message Content” of “TWPDES1.2B-MTS-IEPD.pdf”; WatchlistBiometricRequestSimple3.xml; WatchlistRequestSimple.xml; WatchlistResponseDoubleSample.xml; and WatchlistDesignationRequestLEXS2.xml.
- Removed agency-specific comments from sample files EncounterNominationRequestLEXS.xml and EncounterRequestNomination.xml.