

National Biometric Security Project

Published Standards Relevant to Biometrics



Standard Number or Project Code	Official Name of Standard	Purpose	Current Status	Link to Latest Document (Note that documents are not necessarily available to everyone. Where a direct link is unavailable, follow the link and look for the document number. A password or payment may be required.)	Remarks
Non M1 US Standards					
AAMVA DL/ID-2005	AAMVA International Specification — DL/ID Card	Voluntary standard for drivers' licenses that includes recommended guidelines for biometric data to be stored on the license	Published	http://www.aamva.org/KnowledgeCenter/Standards/Current/DL-IDStandard2005.htm	Drivers' Licenses
ANSI / NIST ITL 1-2000	Data Format for the Interchange of Fingerprint, Facial, & Scar Mark & Tattoo (SMT) Information	Format for exchanging information in a criminal justice environment	Published	http://it.ojp.gov/servlet/ShowDocument?attachment_id=106	Law Enforcement
CJIS / FBI IAFIS-IC-0110	IAFIS WSQ Gray-Scale Fingerprint Image Compression Specification	Compression standard for fingerprint images	Published	ftp://ftp.c3.lanl.gov/pub/WSQ/documents/	Law Enforcement

FBI IAFIS-DOC-01078-7.1 Replaces CJIS-RS-0010 (v)7	FBI Electronic Fingerprint Transmission Specification	Definitions for ensuring reliability and quality of fingerprints submitted to the FBI	Published	http://www.fbi.gov/hq/cjisd/iafis/efits71/efits71.pdf	Law Enforcement
FIPS PUB 201	Federal Information Processing Standards Publication 201 - Personal Identity Verification (PIV) of Federal Employees and Contractors	Standard for Implementing Smart Card Based Personal Identification in the US Government, including biometrics on the cards	Published	http://www.csrc.nist.gov/publications/fips/fips201-1/FIPS-201-1-chng1.pdf	Federal Government ID
NIST SP 800-73-1	NIST Special Publication 800-73-1 - Interfaces for Personal Identity Verification	Standard for Interfacing with a FIPS 201 Smart Card. Includes data objects for biometrics and a means of calling a match on card.	Published	http://csrc.nist.gov/publications/nistpubs/800-73-1/sp800-73-1v7-April20-2006.pdf	Federal Government ID
NIST SP 800-76	NIST Special Publication 800-76-1 - Biometric Specification for Personal Identity Verification	Detailed technical specifications for the biometrics used in FIPS PUB 201	Published	http://csrc.nist.gov/publications/nistpubs/800-76-1/SP800-76-1_012407.pdf	Note that a very important errata sheet is also available at http://csrc.nist.gov/piv-program/fips201-support-docs.html
ICAO Standards					

ICAO Document 9303 Part 1 Volume 1	Passports with Machine Readable Data Stored in Optical Character Recognition Format	General specification for physical characteristics and layout of passports. Should be used in conjunction with Volume 2 for biometric enabled passports	Published	http://icaodsu.openface.ca/documentItemView.ch2?ID=7986	
ICAO Document 9303 Part 1 Volume 2	Specifications for Electronically Enabled Passports with Biometric Identification Capability	Defines the logical data structure, security and other elements related to biometric enabled electronic passports	Published	http://icaodsu.openface.ca/documentItemView.ch2?ID=9749	
Other Standards					
OASIS XCBF 1.1	OASIS XML Common Biometric Format	Provides an XML encoding of CBEFF patron formats	Published	http://www.oasis-open.org/committees/download.php/3353/oasis-200305-xcbf-specification-1.1.doc	
X9.84 - 2003	ANSI X9.84-2003 Biometric Information Management and Security for the Financial Services Industry	Security standards for the collection, distribution and processing of biometric data within the financial services industry	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+X9%2E84%3A2003	

ISO 19092-1:2006	ISO 19092-1:2006 Financial Services - Biometrics - Part 1 - Security Framework	Describes the security framework for using biometrics for authentication of individuals in financial services	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=40559&ICS1=35&ICS2=240&ICS3=40	
ISO 7816-11:2004	ISO / IEC 7816-11:2004 Identification Cards – Integrated circuit cards – Part 11: Personal verification through biometric methods	Biometrics commands and data objects to use with smartcards	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ISO%2FIEC+7816%2D11%3A2004	Produced by ISO/IEC JTC 1 SC 17 WG 4.
SIA BIO-01-1993.02(R2000.06)	Biometric Standard - Vocabulary for Testing	Defines terminology to be used with biometric technology testing and evaluation	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=SIA+BIO%2D01%2D1993%2E02%28R2000%2E06%29	This standard is being rapidly outdated by work in M1, SC 27 and SC 37
ILO SID-0002	Seafarers' Identity Documents Convention (Revised), 2003 (No. 185) - The standard for the biometric template required by the Convention	Standard for using fingerprints in a two dimensional bar code in a Seafarers' Identity Document for verification of seafarers. Includes draft versions of ISO 19794-2 and 19794-4	Published	http://www.ilo.org/public/english/dialogue/sector/papers/maritime/sid0002.pdf	Uses a specific form of ISO 19794-2 to store a two finger minutiae template
INCITS M1 STANDARDS					
M1.2 Standards					

INCITS 358-2002	BioAPI Specification (Version 1.1)	Defines an application programming interface for biometric software	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+358%2D2002	
INCITS 358-2002 Amendment 1	BioAPI Specification (Version 1.1) - Amendment 1 - Support for Biometric Fusion	Adds support to BioAPI for multibiometrics or biometric fusion	Almost Published	http://www.incits.org/tc_home/m1htm/2006docs/m1060879.pdf	
INCITS 1703-D	Conformance Testing Methodology for INCITS 358:2002 BioAPI Specification	Standardized methods of determining whether a software system conforms to the BioAPI standard INCITS 358-2002	Almost Published	http://www.incits.org/tc_home/m1htm/xml1docs/m1061065.pdf	
INCITS 398-2005	Common Biometric Exchange Formats Framework (CBEFF)	Describes a set of data elements for describing biometric data in various file structures to support exchange of biometric data	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+398%2D2005	
M1.3 Standards					
INCITS 377-2004	Finger Pattern Based Interchange Format	A data interchange format for fingerprint systems using a pattern based approach	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+377%2D2004	

INCITS 378-2004	Finger Minutiae Format for Data Interchange	A data interchange format for fingerprint systems using a minutiae based approach	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+378%2D2004	
INCITS 379-2004	Iris Image Interchange Format	A data interchange format for iris recognition systems that standardizes a rectangular or polar image of the iris	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+379%2D2004	
INCITS 381-2004	Finger Image Based Data Interchange Format	A data interchange format for fingerprint images	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+381%2D2004	
INCITS 385-2004	Face Recognition Format for Data Interchange	A data interchange format for images of faces	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+385%2D2004	
INCITS 385-2004 Amendment (INCITS 1565-D)	Face Recognition Format for Data Interchange Amendment 1	Adds support for 3D range and pseudo-range images	Almost Published	http://www.incits.org/tc_home/m1htm/2006docs/m1060560.pdf	
INCITS 396-2005	Hand Geometry Interchange Format	A data interchange format for use with hand geometry verification	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+396%2D2005	
INCITS 395-2005	Biometric Data Interchange Formats - Signature/Sign Data	A data interchange format for signatures or signs when used in biometrics	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+395%2D2005	

INCITS 423	Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards				
INCITS 423.1-2007	Generalized Conformance Testing Methodology	Common elements and framework for conformance testing of data interchange format standards	Almost Published	http://www.techstreet.com/cgi-bin/detail?product_id=1312985	
M1.4 Standards					
INCITS 383-2004	Biometric Profile - Interoperability and Data Interchange Biometrics-Based Verification and Identification of Transportation Workers	Profile for Using Other Biometric Standards in Applications Involving Transportation Workers (primarily for TSA)	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+383%2D2004	
INCITS 394-2004	Application Profile for Interoperability, Data Interchange and Data Integrity of Biometric-Based Personal Identification for Border Management	Profile for Using Other Biometric Standards in Applications Involving Border Management (primarily for State Department and DHS)	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+394%2D2004	
INCITS 421-2006 Replaces INCITS 1676-D	Biometric Profile - Interoperability and Data Interchange - DoD Implementations	Profile for Using other Biometric Standards in Department of Defence Applications	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+421%2D2006	

INCITS 422-2007 Replaces INCITS 1706-D	Application Profile for Commercial Biometric Physical Access Control	Profile for Using other Biometric Standards in Applications Related to Physical Access Control	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+422%2D2007	
M1.5 Standards					
INCITS 409 Replaces INCITS 1602-D	Biometric Performance Testing and Reporting				
INCITS 409.1-2005	Principles and Framework	Defines the overall framework for performance testing and reporting, including definitions, general guidelines, etc.	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+409%2E1%2D2005	
INCITS 409.2-2005	Technology Testing and Reporting	Specific standards for testing a specific technology, usually involving exhaustive off-line tests	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+409%2E2%2D2005	
INCITS 409.3-2005	Scenario Testing and Reporting	Specific standards for tests that try to simulate specific usage scenarios and thus typically involve live capture, environmental issues , etc.	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+409%2E3%2D2005	

INCITS 409.4-2006	Operational Testing Methodologies	Specific standards for tests conducted under operational conditions when the biometric system is being used in the field	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ANSI+INCITS+409%2E4%2D2006	
ISO/IEC JTC 1 SC 37 STANDARDS					
WG 2 Standards					
ISO 19784	Biometric Application Programming Interface (BioAPI)	Defines an Application Programming Interface for biometric software			
Part 1	BioAPI Specification	Defines the architecture and all of the API/SPI calls	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=33922&ICS1=35&ICS2=40&ICS3=	
Part 2	Biometric Archive Function Provider Interface	Augments BioAPI to define function calls for interfacing with an archiving module that stores biometric data	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=43303&ICS1=35&ICS2=40&ICS3=	
ISO 19785	Common Biometric Exchange Formats Framework (CBEFF)	To allow biometric data to be exchanged with clearly understood header elements defined in a registry of formats			

Part 1	Data Element Specification	Defines the elements permitted in CBEFF structures and which ones are mandatory and which optional	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=41047&ICS1=35&ICS2=40&ICS3=	
Part 2	Procedures for the Operation of the Biometric Registration Authority	Explains how the registration authority will operate, how to register a new format, etc	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=41048&ICS1=35&ICS2=40&ICS3=	IBIA will serve as the registration authority
ISO 24709	Conformance Testing for BioAPI	Standardized methods of determining whether a software system conforms to the BioAPI standard above			
Part 1	Methods & Procedures	Defines overall test methodology and a test assertion language	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=38819&ICS1=35&ICS2=40&ICS3=	
Part 2	Test Assertions for Biometric Service Providers	Defines specific assertions that must be tested in order to verify conformance for BSPs	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=43352&ICS1=35&ICS2=40&ICS3=	
WG 3 Standards					

ISO 19794	Biometric Data Interchange Formats	Data interchange formats to allow exchange of biometric data and interoperability between different biometric systems using a particular modality or, in some cases, a specific sub-type of a modality (e.g. finger minutiae, finger pattern spectral, finger image, finger pattern skeletal). Many modalities are supported.			
Part 1	Framework	Describes overall framework, including parts of a biometric system and other generalities	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=38745&ICS1=35&ICS2=40&ICS3=	
Part 2	Finger Minutiae Data	Uses minutiae points from a fingerprint	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=38746&ICS1=35&ICS2=40&ICS3=	See INCITS 378-2004
Part 3	Finger Pattern Spectral Data	Uses spectral analysis (Fourier components, Gabor wavelets, etc.) of a fingerprint	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=38747	
Part 4	Finger Image Data	Uses an image of a fingerprint	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ISO%2FIEC+19794%2D4%3A2005	

Part 5	Face Image Data	Uses an image of a face	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ISO%2FIEC+19794%2D5%3A2005	
Part 6	Iris Image Data	Uses a rectilinear or polar image of an iris	Published	http://webstore.ansi.org/ansidocstore/product.asp?sku=ISO%2FIEC+19794%2D6%3A2005	
Part 7	Signature/sign time series data	used for both acquired signature/sign samples	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=38751&ICS1=35&ICS2=40&ICS3=	
Part 8	Finger Pattern Skeletal Data	Uses a skeletal decomposition of a finger (based on thinned ridges)	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=40715&ICS1=35&ICS2=40&ICS3=	
Part 9	Vascular Image Data	Uses an image of sub-surface veins	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=43637&ICS1=35&ICS2=40&ICS3=	
Part 10	Hand geometry silhouette data	Used for identification or verification purposes based on the information from hand geometry measurements.	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=43638&ICS1=35&ICS2=40&ICS3=	
WG 5 Standards					
ISO 19795	Biometric Performance Testing & Reporting				
Part 1	Principles & Framework	Defines the scientific philosophies and principles that are fundamental to biometric testing	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=41447&ICS1=35&ICS2=40&ICS3=	

Part 2	Testing Methodologies for Technology and Scenario Evaluation	Gives specific details on methods and techniques for conducting a scenario or technology test	Published	http://www.iso.org/iso/en/CatalogueDetailPage.CatalogueDetail?CSNUMBER=41448&ICS1=35&ICS2=40&ICS3=	
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RED FONT INDICATES A CHANGE (normally an addition) FROM PREVIOUS REPORT.

"Almost Published" denotes standards that have been approved for publication. Pending publication by ANSI, INCITS documents can be purchased directly from INCITS.

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