

National Biometric Security Project

Emerging 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
ISO 24761	Security Techniques – Authentication Context for Biometrics	Defines a methodology for remotely exchanging information about the devices and process (the context) used in biometric authentication to allow security evaluation by remote authenticators.	Committee Draft	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299784/JTC001-SC37-N-1932.pdf?nodeid=6153516&vernum=0	
ISO 19792	Security Techniques - Security Evaluation of Biometrics	Framework for evaluating security of biometric technology when used for physical or logical access to put it on a similar footing to other security techniques	Committee Draft	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299784/JTC001-SC37-N-1746.pdf?nodeid=5581427&vernum=0	
INCITS M1 STANDARDS					
M1.2 Standards					
INCITS 1622-D	Conformance Testing Methodology for Common Biometric Exchange Formats Framework (CBEFF) Data Structures Specified in INCITS 398-200x Revision	Standardized methods of determining whether a data record or system producing a data record conforms to the expected revision of CBEFF	Project Proposal	http://www.incits.org/tc_home/m1htm/2006docs/m1060484.pdf	

INCITS 1823-D	Biometric Identity Assurance Services (BIAS)	Defines a framework for deploying and invoking identity assurance capabilities that can be readily accessed using services-based frameworks (e.g. Web services)	Advanced Draft	http://www.incits.org/tc_home/m1htm/2007docs/m1070198.pdf	
INCITS 1829-D	Biometric application programming interface – Java (BioAPI Java)	Defines a BioAPI specification that mirrors the international BioAPI standard 19784-1, but using the Java language	Draft	http://www.incits.org/tc_home/m1htm/2007docs/m1070207.pdf	
INCITS 1832-D	Tenprint Capture using BioAPI	Specifies how to use BioAPI for capturing tenprints, as commonly practiced by law enforcement and other government agencies	Public Review	http://www.incits.org/tc_home/m1htm/2007docs/m1070237.pdf	
INCITS 1853-D	Information Technology - Conformance Testing Methodology Standard for Patron Formats Conforming to INCITS 398-200x (Revision of INCITS 398:2005), Information Technology – Common Biometric Exchange Formats Framework (CBEFF)	specifies the concepts, test types and conformance testing methodologies to test conformance of SBH implementations to their standardized patron format specifications	Project Proposal	http://www.incits.org/tc_home/m1htm/2007xdocs/m1070357.pdf	
M1.3 Standards					
INCITS 378-2004 Revision	Revision of Finger Minutiae Format for Data Interchange	Technical clarifications to improve interoperability	Approved Proposal	http://www.incits.org/tc_home/m1htm/2007docs/m1070014.pdf	
INCITS 377-2004 Revision	Revision of Finger Pattern Data Interchange Format	Technical clarifications to improve interoperability and harmonize this standard with other data format standards	Advanced Draft	http://www.incits.org/tc_home/m1htm/2007docs/m1070127.pdf	
INCITS 381-2004 Revision	Revision of Finger Image Based Data Interchange Format	Technical clarifications to improve interoperability and make minor corrections	Draft	http://www.incits.org/tc_home/m1htm/2006docs/m1061081.pdf	
INCITS 385-2004 Revision	Revision of Face Recognition Format for Data Interchange	Technical clarifications to improve interoperability and make minor corrections	Approved Proposal	http://www.incits.org/tc_home/m1htm/2007docs/m1070139.pdf	
INCITS 379-2004 Revision	Revision of Iris Image Interchange Format	A revision to make minor technical corrections and to rewrite the standard to simplify conformance testing and improve clarity	Draft	http://www.incits.org/tc_home/m1htm/2006docs/m1060991.pdf	

INCITS 1790-D	Fusion Information Format for Data Interchange	A data interchange format to pass score level information to any fusion algorithm	Advanced Draft	http://www.incits.org/tc_home/m1htm/2006docs/m1060999.pdf	
INCITS 1672-D	Biometric Sample Quality Standard	A standard to define quality metrics for biometrics and recommend how to include them in data interchange formats	Advanced Draft	http://www.incits.org/tc_home/m1htm/2007docs/m1070123.pdf	
INCITS 1821-D	Speaker Recognition Format for Raw Data Interchange (SIVR)	A standard to define a data interchange format for speaker data	Advanced Draft	http://www.incits.org/tc_home/m1htm/2007docs/m1070124.pdf	
INCITS 1749-D	Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards				
Part 2	Conformance Testing Methodology for INCITS 378-2004, Finger Minutia Format for Data Interchange	Standardized methods of determining whether a biometric system conforms to the finger minutiae data interchange format	Public Review	http://www.incits.org/tc_home/m1htm/xm1docs/m1061007.pdf	Project 1563
Part 3	Conformance Testing Methodology for INCITS 377-2004, Finger Pattern Data Interchange Format	Standardized methods of determining whether a biometric system conforms to the finger pattern data interchange format	Advanced Draft	http://www.incits.org/tc_home/m1htm/2006docs/m1061010.pdf	Project 1564
Part 4	Conformance Testing Methodology for INCITS 381, Finger Image-Based Data Interchange Format	Standardized methods of determining whether a biometric system conforms to the finger image data interchange format	Public Review	http://www.incits.org/tc_home/m1htm/xm1docs/m1061014.pdf	
Part 5	Conformance Testing Methodology for INCITS-385, Face Recognition Format for Data Interchange	Standardized methods of determining whether a biometric system conforms to the face recognition data interchange format	Draft	http://www.incits.org/tc_home/m1htm/2006docs/m1061039.pdf	
Part 6	Conformance Testing Methodology for INCITS 379-2004, Iris Image Interchange Format	Standardized methods of determining whether a biometric system conforms to the iris image data interchange format	Draft	http://www.incits.org/tc_home/m1htm/2006docs/m1060462.pdf	
Part 10	Conformance Testing Methodology for INCITS 396-2005, Information Technology - Hand Geometry Interchange Format	Standardized methods of determining whether a biometric system conforms to the hand geometry data interchange format	Approved Proposal	http://www.incits.org/tc_home/m1htm/docs/m1050312.pdf	
M1.4 Standards					

INCITS 1575-D	Biometric Profile - Point-of-Sale Biometrics-Based Verification and Identification	Profile for Using Other Biometric Standards in Applications Involving Point-of-Sale Transactions	Public Review	http://www.incits.org/tc_home/m1htm/2007docs/m1070182.pdf	
INCITS 1860-D	Study Report on Biometrics in E-Authentication	Shows how biometrics can and should be used for the various OMB assurance levels in E-Authentication	Final Approved Report and NP	http://www.incits.org/tc_home/m1htm/2007docs/m1070185.pdf	A new application profile project has recently been approved to formalize the results of this report
M1.5 Standards					
INCITS 1602-D	Biometric Performance Testing and Reporting				
Part 5	Framework for Testing and Evaluation of Biometric Systems for Access Control	Specific standards for testing performance of biometric access control systems	Advanced Draft	http://www.incits.org/tc_home/m1htm/2007docs/m1070158.pdf	
Part 7	Framework for Testing Methodologies for Specific Environments of Biometric Systems	Describes modifications to general test guidelines required for testing of specific biometric modalities in specific environments	WD	http://www.incits.org/tc_home/m1htm/2008xdocs/m1080052.pdf	
Part 8	Statistical methods for decision making	This TR deals with the final two stages of the Biometric Testing Life-Cycle	WD	http://www.incits.org/tc_home/m1htm/2007docs/m1070504.pdf	This TR will fill a gap where 19795-1 stops short of being what is needed for use by decision makers
ISO/IEC JTC 1 SC 37 STANDARDS					
WG 1 Standards					
SC 37 SD 2	Harmonized Biometric Vocabulary	Definitions of biometric terms	SD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1978.pdf?nodeid=6181365&vernum=0	Version 7
WG 2 Standards					
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 4	Security Block Format Specifications	Provides information on the specific techniques that can be used to define a CBEFF security block	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1949.pdf?nodeid=6164479&vernum=0	

ISO 19784	Biometric Application Programming Interface (BioAPI)	Defines an Application Programming Interface for biometric software			
Part 1 Amendment 2	Framework Free BioAPI	Adds support for BioAPI on some limited capacity devices by leaving out the overhead of the framework	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299731/JTC001-SC37-N-1967.pdf?nodeid=6172292&vernum=0	
Part 1 Amendment 3	Support for the interchange of certificates and security assertions, and other security aspects	Adds support for encryption and digital signatures to BioAPI	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1731.pdf?nodeid=5571881&vernum=0	
Part 3	BioAPI Lite	A reduced version of BioAPI for small embedded devices	NP	http://isotc.iso.org/livelink/livelink/3960162/JTC001-SC37-N-991.pdf?func=doc.Fetch&nodeid=3960162	
Part 4	Biometric Sensor Function Provider Interface	Low level function calls for dealing with BioAPI compliant sensors	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1732.pdf?nodeid=5571884&vernum=0	
ISO 24708	BioAPI Interworking Protocol (BIP)	Protocol for Interworking Between BioAPI Systems and a Central Repository - Defines a communications protocol for exchanging information between BioAPI systems	FCD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299748/JTC001-SC37-N-1998.pdf?nodeid=6224234&vernum=0	
Amendment 1	Support for the interchange of certificates and security assertions, and other security aspects	Adds support for encryption and digital signatures to BIP	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1731.pdf?nodeid=5571881&vernum=0	
ISO 24709	Conformance Testing for BioAPI	Standardized methods of determining whether a software system conforms to the BioAPI standard above			
Part 3	Test Assertions for BioAPI Frameworks	Defines specific assertions that must be tested in order to verify conformance for BioAPI frameworks	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-957.pdf?nodeid=3958825&vernum=0	

Part 4	Test Assertions for Biometric Applications	Defines specific assertions that must be tested in order to verify conformance for Biometric Applications	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1951.pdf?nodeid=6168672&vernum=0	
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 Revision	Framework	Provides supplementary guidance on the definition of minutiae points in a fingerprint image	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299779/JTC001-SC37-N-1988.pdf?nodeid=6213111&vernum=0	
Part 2 - Amendment 1	Detailed Description of Finger Minutiae Location, Direction and Type	Provides supplementary guidance on the definition of minutiae points in a fingerprint image	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1656.pdf?nodeid=5381682&vernum=0	
Part 2 Revision	Finger Minutiae Data	Revision to deal with common headers, better specification of conformance and other areas for improvement	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299779/JTC001-SC37-N-1988.pdf?nodeid=6213111&vernum=0	
Part 3 Revision	Finger Pattern Spectral Data	Revision to deal with common headers, better specification of conformance and other areas for improvement	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299779/JTC001-SC37-N-1988.pdf?nodeid=6213111&vernum=0	
Part 4 Revision	Finger Image Data	Revision to deal with common headers, better specification of conformance and other areas for improvement	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299779/JTC001-SC37-N-1988.pdf?nodeid=6213111&vernum=0	

Part 5 Amendment 2	3 Dimensional Face Image Data Interchange Format	Supports face image data in the third dimension (z-axis) in addition to the current two dimensional data (x-axis and y-axis)	PDAM	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300191/JTC001-SC37-N-1953.pdf?nodeid=6170216&vernum=0	
Part 5 Revision	Face Image Data	Revision to deal with common headers, better specification of conformance and other areas for improvement	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299779/JTC001-SC37-N-1988.pdf?nodeid=6213111&vernum=0	
Part 6 Revision	Iris Image Data	Revision to deal with common headers, better specification of conformance and other areas for improvement	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299779/JTC001-SC37-N-1988.pdf?nodeid=6213111&vernum=0	
Part 11	Signature/Sign Dynamic Data	Uses dynamic data extracted from the raw time series data from a signature or sign	WD	http://isotc.iso.org/livelink/livelink/3959378/JTC001-SC37-N-981.pdf?func=doc.Fetch&nodeid=3959378	
Part 12	Technical Report on Face Identity Data	Uses MPEG-7 face descriptions and other face recognition technologies	NP	http://isotc.iso.org/livelink/livelink/4109333/JTC001-SC37-N-1135.pdf?func=doc.Fetch&nodeid=4109333	
Part 13	Speech Data Interchange Format for Speaker Recognition	Defines speech data interchange format(s) for speaker recognition. One data interchange format will support raw speech; other possibilities include formats for interchange at the feature vector level.	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299731/JTC001-SC37-N-1973.pdf?nodeid=6172387&vernum=0	
Part 14	DNA Data Interchange Format	Defines a format for the exchange of DNA information for human identification	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1956.pdf?nodeid=6169558&vernum=0	
ISO 29109	Conformance Testing Methodology for Biometric Data Interchange Records as defined in ISO/IEC 19794 Biometric Data Interchange Format Standard	Defines a conformance testing methodology, including test procedures, test assertions and in some cases, test data, for testing conformance to each of the data interchange formats defined in ISO 19794			

Part 1	Generalized Conformance Testing Methodology	Provides overall guidance on test methodology and a syntax for defining test assertions	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2262568/2299258/JTC001-SC37-N-2044.pdf?nodeid=6383709&vernum=0
Part 2	Finger Minutiae Data	Conformance assertions and specific tests for ISO 19794-2	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0
Part 3	Finger Pattern Spectra Data	Conformance assertions and specific tests for ISO 19794-3	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0
Part 4	Finger Image Data	Conformance assertions and specific tests for ISO 19794-4	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0
Part 5	Face Image Data	Conformance assertions and specific tests for ISO 19794-5	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0
Part 6	Iris Image Data	Conformance assertions and specific tests for ISO 19794-6	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0
Part 7	Signature/Sign Time Series Data	Conformance assertions and specific tests for ISO 19794-7	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0
Part 8	Finger Pattern Skeletal Data	Conformance assertions and specific tests for ISO 19794-8	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0

Part 9	Vascular Biometric Image Data	Conformance assertions and specific tests for ISO 19794-9	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0	
Part 10	Hand Geometry Silhouette Data	Conformance assertions and specific tests for ISO 19794-10	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0	
Part 11	Signature/Sign Processed Dynamic Data	Conformance assertions and specific tests for ISO 19794-11	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0	
Part 13	Speech Data Interchange Format for Speaker Recognition	Conformance assertions and specific tests for ISO 19794-13	NP	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-1734.pdf?nodeid=5573505&vernum=0	
ISO 29794	Biometric Sample Quality	Methods for use of ISO/IEC 19794 Biometric Data Interchange Format Standards for interchange and interpretation of biometric sample quality scores			
Part 1	Framework	Defines aspects of biometric sample quality that are not modality specific.	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1718.pdf?nodeid=5567334&vernum=0	
Part 4	Technical Report on Fingerprint Sample Quality	Defines specific methods for developing quality scores for fingerprint images.	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1954.pdf?nodeid=6169460&vernum=0	
Part 5	Technical Report on Face Image Data Sample Quality	Defines specific methods for developing quality scores for face images.	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1977.pdf?nodeid=6180976&vernum=0	

WG 4 Standards					
ISO 24713	Biometric Profiles for Interoperability and Data Interchange	Biometric Profiles for different applications give information about using biometrics in the application and explain specifically how to use other standards to support that application			
Part 2	Physical Access Control for Employees at Airports	Designed for employees in a highly secure workplace such as the airside of an airport	FCD	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/2262372/2263034/2299748/JTC001-SC37-N-1997.pdf?nodeid=6222620&vernum=0	
Part 3	Biometric-Based Verification and Identification of Seafarers	Designed for seafarers in their unique environment on ships and at ports where they may use a Seafarers' Identity Document (International Labour Organization is the main client)	WD	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-2019.pdf?nodeid=6277912&vernum=0	
WG 5 Standards					
ISO 19795	Biometric Performance Testing & Reporting				
Part 4	Interoperability Performance Testing	Specifies how to conduct performance based interoperability testing for biometric systems	FCD	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/2262372/2263034/2299748/JTC001-SC37-N-2009.pdf?nodeid=6255390&vernum=0	
Part 5	Scenario Evaluation of Biometric Access Control Systems	Defines how to test biometric performance in an access control system	CD	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/2262372/2263034/2300191/JTC001-SC37-N-1948.pdf?nodeid=6165205&vernum=0	
Part 6	Testing Methodologies for Operational Evaluation	Gives specific details and requirements for conducting an operational test	WD	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1762.pdf?nodeid=5618977&vernum=0	
Part 7	Machine Readable Test Data for Biometric Testing and Reporting	Defines a machine readable format for biometric test reports and test databases to facilitate automated evaluation of biometric products and comparison of test results	NP	http://isotc.iso.org/livelink/livelink/fetch/2000/2122/327993/2262372/2263034/2300192/JTC001-SC37-N-2004.pdf?nodeid=6227066&vernum=0	
WG 6 Standards					

ISO 24714	Technical Report on Cross Jurisdictional and Societal Aspects of Implementations of Biometric Technologies	A complex report that defines guidelines for data privacy, providing support for those with disabilities, and similar societal or legal issues related to biometrics			
Part 1	Guide to the accessibility, privacy and health and safety issues in the deployment of biometric systems for commercial applications		PDTR	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2300193/JTC001-SC37-N-1985.pdf?nodeid=6212341&vernum=0	
Part 2	Practical application to specific contexts		WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1979.pdf?nodeid=6194924&vernum=0	
ISO 24779	Pictograms, Icons and symbols for Use with Biometric Systems	Defines pictograms, icons and symbols that are recommended for use in the human interface with biometric technology	WD	http://isotc.iso.org/livelink/livelink/etch/2000/2122/327993/2262372/2263034/2299802/JTC001-SC37-N-1962.pdf?nodeid=6183802&vernum=0	

Note on Current Status: ISO standard progression typically follows the following steps:

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|--|---|
| 1) NP - New Project Proposal | 2) WD - Working Draft |
| 3) CD - Committee Draft (Technical Content Should be Relatively Stable) | 4) FCD - Final Committee Draft (No Significant Changes Should Occur) |
| 5) FDIS - Final Draft International Standard (No Changes Permitted) | 6) ISO Standard |
| 7) SD - Standing Document - A special document maintained by SC 37 | |

Note that status in this spreadsheet refers to the latest version of a document available. In some cases, the ballot to approve that version of the document may not yet have taken place.

There is also the special category of standing document (**SD**), which reflects a document that the technical committee believes is technically useful and should be maintained on the committee web site, but which is not a formal standard

