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BIOMETRICS
TASK FORCE

**Biometrics Task Force
Biometric Standards Development
Status Update
August 2009 - January 2010
Version 1.0**

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1. Summary

This document contains a comprehensive update of the adoption and development status of biometric standards of high priority to the DoD. The first table in this document provides the status of approved and proposed national and international biometric standards that are either included, or are planned for inclusion, in the DoD Defense Information Technology Standards Registry (DISR). This document also lists the current status of all biometric standards development projects within various biometric standards development bodies and committees.

This document will be updated on a regular basis by the Biometrics Task Force (BTF) Standards Branch, as the information contained herein changes frequently. The document is intended for distribution within the DoD Biometric Standards Working Group (BSWG). All inquiries regarding this document and requests for additional information should be submitted to its editors.

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2. Biometric Standards Adoption Progress

The following table displays the status of approved and proposed national and international biometric standards that are either included or are planned for inclusion in the DoD Defense Information Technology Standards Registry (DISR). Submission of standards to the DISR is performed through the established change request (CR) process. Each CR is circulated to BSWG members for their review, comment, and vote.

Proposed Biometric Standards for DISR Baseline 10-1.0

During its 16 December meeting of the Biometric Standards Working Group (BSWG), the following 5 biometric standards were proposed for adoption within the DISR baseline cycle. The DISR Baseline 010-1.0 will be published and become effective 15 March 2010.

Standards Category	Standard Name	Description	Proposed DISR Status
Performance Testing	ISO/IEC 19795-3: Technical Report – Biometric Performance Testing and Reporting – Part 3: Modality-Specific Testing Methodologies	This technical report is intended to describe the variations in testing methodologies due to modality-dependent characteristics. The purpose of this document is to present and define methods for determining how to develop a technical performance test given a specific biometric modality.	Information Guidance
	ISO/IEC 19795-4: Biometric Performance Testing and Reporting – Part 4: Interoperability Performance Testing	This standard defines tests to specifically address absolute performance, sufficiency, and interoperability available from biometric data formatted to comply with established standards, particularly those developed in the various parts of ISO/IEC 19794. However, because this standard references interchange formats generically by referencing only their black box generation and use, it also applies to other open standards.	Information Guidance
	Registry of USG Recommended Biometric Standards Version 2.0	This Registry is based upon interagency consensus on biometric standards required to enable the interoperability of various Federal biometric applications, and to guide Federal agencies as they develop and implement related biometric programs. Registry of USG Recommended Biometric Standards Version 2.0 will allow DoD agencies and organizations to understand what standards are available for use within the U.S. Federal government.	Information Guidance

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Standards Category	Standard Name	Description	Proposed DISR Status
Normative Documents			
	DoD Electronic Biometric Transmission Specification (v2.0)	This standard contains modifications and updates for DoD EBTS 1.2 to align it with capabilities provided by the new ANSI/NIST-ITL 1-2007. This standard also defines a framework for application profile specific implementations, the DoD integrated data dictionary of DoD approved data elements, and it provides support for emerging modalities (DNA and Voice) via the Type-99 record.	Mandated
Transmission	DoD Electronic Biometric Transmission Specification (EBTS) (v1.2)	This specification is an extension of the FBI's EFTS that includes transaction types and codes that support requirements for DoD encounters and detainment circumstances. The DoD EBTS defines the transmission of biometric samples for face, fingerprint, and iris modalities. This standard is intended for those applications requiring the exchange of biometric samples and related biographic and contextual data with DoD repositories.	Retire

Biometric Standards in DISR Baseline 09-3.0

The current DISR Baseline 09-3.0, published on 04 November 2009, includes the following 33 biometric standards.

Standards Category	Standard Name	Description	DISR Status
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Standards Category	Standard Name	Description	DISR Status
Transmission	DoD Electronic Biometric Transmission Specification (EBTS) (v1.2)	This specification is an extension of the FBI's EFTS that includes transaction types and codes that support requirements for DoD encounters and detainment circumstances. The DoD EBTS defines the transmission of biometric samples for face, fingerprint, and iris modalities. This standard is intended for those applications requiring the exchange of biometric samples and related biographic and contextual data with DoD repositories.	Mandated
	DoD Electronic Biometric Transmission Specification (v2.0)	This standard contains modifications and updates for DoD EBTS 1.2 to align it with capabilities provided by the new ANSI/NIST-ITL 1-2007. This standard also defines a framework for application profile specific implementations, the DoD integrated data dictionary of DoD approved data elements, and it provides support for emerging modalities (DNA and Voice) via the Type-99 record.	Emerging
	FBI Electronic Fingerprint Transmission Specification (EFTS) (v7.1)	The purpose of this specification is to specify certain requirements to which agencies must adhere in order to communicate electronically with the FBI's IAFIS. This specification is based on ANSI/NIST ITL 1-2000 and covers IAFIS electronic transmissions involving fingerprints.	Information Guidance
	FBI Electronic Biometric Transmission Specification (v8.1)	The FBI's EBTS defines FBI-specific requirements for an ANSI/NIST ITL 1-2007 implementations to which agencies must adhere when electronically communicating with the FBI's IAFIS. The scope of the EBTS has been expanded over previous versions to include additional biometric modalities (e.g., palm print, face, and iris) in recognition of the rapidly developing biometric identification industry.	Emerging
	DoD Electronic Biometric Transmission Specification (v2.0)	This standard contains modifications and updates for DoD EBTS 1.2 to align it with capabilities provided by the new ANSI/NIST-ITL 1-2007. This standard also defines a framework for application-profile-specific implementations and the DoD integrated data dictionary of DoD-approved data elements. It also provides support for emerging modalities (DNA and Voice) via the Type-99 record.	Emerging
Multimodal	ANSI/NIST ITL 1-2000 Data Format for the Interchange of Fingerprint, Facial, and Scar Mark and Tattoo (SMT) Information	This standard defines the content, format, and units of measurement for the exchange of fingerprint, palm print, facial/mug shot, and SMT full-image information that may be useful in identifying a subject.	Mandated

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Standards Category	Standard Name	Description	DISR Status
Application Profiles	NIST SP 800-76.1: Biometric Data Specification for Personal Identity Verification (PIV)	This document is a companion document to FIPS-201. It describes technical acquisition and formatting specifications for the biometric credentials of the PIV system, including the PIV card itself. The primary design objective behind these particular specifications is high performance universal interoperability.	Mandated
Fingerprint Image	ISO/IEC 19794-4 Biometric Data Interchange Formats – Part 4: Finger Image Data	This international standard specifies a data record interchange format for storing, recording, and transmitting the information from one or more finger or palm image areas within an ISO/IEC 19785-1 CBEFF data structure. This can be used for the exchange and comparison of finger image data.	Emerging
	ANSI INCITS 381-2004 Finger Image-Based Data Interchange Format	This standard specifies an interchange format for the exchange of image-based fingerprint and palm print recognition data. It defines the content, format, and units of measurement for such information. This standard is intended for those identification and verification applications that require the use of raw or processed image data containing detailed pixel information.	Mandated
Fingerprint Template	ANSI INCITS 377-2004 Finger Pattern-Based Interchange Format	This standard specifies an interchange format for the exchange of pattern-based fingerprint recognition data. It describes the conversion of a raw fingerprint image to a cropped and down-sampled finger pattern, followed by the cellular representation of the finger-pattern image to create the finger-pattern interchange data.	Mandated
	ANSI INCITS 378-2004 Finger Minutiae Format for Data Interchange	This standard defines a method of representing fingerprint information using the concept of minutiae. It defines the placement of the minutiae on a fingerprint, a record format for containing the minutiae data, and optional extensions for ridge count and core/delta information.	Mandated
	ISO/IEC 19794-2 Biometric Data Interchange Formats – Part 2: Finger Minutiae Data	This international standard specifies a concept and data formats for representation of fingerprints using the fundamental notion of minutiae. It is generic in that it may be applied and used in a wide range of application areas where automated fingerprint recognition is involved. ISO/IEC 19794-2:2005 contains definitions of relevant terms, a description of how minutiae shall be determined, data formats for containing the data for both general use and for use with cards, and conformance information.	Emerging

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Standards Category	Standard Name	Description	DISR Status
Face	ISO/IEC 19794-5 w/ Amd 1:2007 Biometric Data Interchange Formats – Part 5: Face Image Data	This international standard specifies scene, photographic, digitization, and format requirements for images of faces to be used in the context of both human verification and computer-automated recognition. The format is designed to allow for the specification of visible information discernible by an observer pertaining to the face, such as gender, pose, and eye color.	Mandated
	ANSI INCITS 385-2004 Face Recognition Format for Data Interchange	This standard specifies definitions of photographic environment, subject pose, focus, properties, digital image attributes, and a face interchange format for relevant applications, including human examination and computer-automated face recognition.	Mandated
Iris	ISO/IEC 19794-6 Biometric Data Interchange Formats – Part 6: Iris Image Data	This international standard specifies two alternative image interchange formats for biometric authentication systems that use iris recognition. The first is based on a rectilinear image storage format, and the second is based on a polar image specification. DoD implementations should use the rectilinear format.	Mandated
Other Modalities	ANSI INCITS 395-2005 Biometric Data Interchange Formats – Signature/Sign Data	This standard specifies a data interchange format for representation of digitized sign or signature data for the purposes of biometric enrollment, verification, or identification through the use of raw signature/sign sample data or common-feature data. The data interchange format is generic in that it may be applied and used in a wide range of application areas where electronic signs or signatures are involved.	Mandated
Other Standards and Normative Documents	ISO/IEC 7816-11:2004 – Identification cards – Integrated circuit cards – Part 11: Personal Verification Through Biometric Methods	This international standard specifies the use of inter-industry commands and data objects related to personal verification through biometric methods in integrated circuit cards. The inter-industry commands used are defined in ISO/IEC 7816-4. The data objects are partially defined and partially imported from ISO/IEC 19785-1. This standard also presents examples for enrollment and verification and addresses security issues.	Mandated
Technical Interface	ANSI INCITS 358-2002 (R2007) BioAPI Specification (v1.1)	This standard provides a high-level generic biometric authentication model suited for any form of biometric technology. It covers the basic functions of enrollment, verification, and identification and includes a database interface to allow a BSP to manage the identification population for optimum performance.	Mandated

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Standards Category	Standard Name	Description	DISR Status
	ISO/IEC Project 19784-1: BioAPI – Biometric Application Programming Interface – Part 1: BioAPI Specification, Amendment 1: BioGUI Specification	The functionality specified in this amendment enables an application to control the display of graphics at enrollment, verification, and identification as an alternative to using the GUI provided by BSPs. It is expected to better meet the needs of users of biometric applications who wish to have full control of the user interface during enrollment, verification, and identification.	Mandated
	ISO/IEC 19784-2 Biometric Application Programming Interface (BioAPI) – Part 2: Biometric Archive Function Provider Interface	This part of the BioAPI international standard specifies the interface to an archive Biometric Function Provider (BFP). An archive BFP is responsible for the storage and management of BIRs.	Mandated
	ISO/IEC 19785-1:2006 Common Biometric Exchange Formats Framework – Part 1: Data Element Specification	The CBEFF promotes interoperability of biometric-based applications and systems by specifying standard structures for BIRs and a set of abstract data elements and values that can be used to create the header part of a CBEFF-compliant BIR. The primary purpose of Part 1 of this international standard is to define these abstract data elements.	Mandated
	ISO/IEC 19785-2:2006: Common Biometric Exchange Formats Framework – Part 2: Procedures for the Operation of the Biometrics Registration Authority	This part of the CBEFF international standard supports such exchanges by providing unambiguous identification of biometric organizations, formats, and products. It specifies the procedures to be followed by the Biometric Registration Authority in preparing, maintaining, and publishing registries of identifiers for biometric organizations, CBEFF patron formats, biometric data block formats, security block formats, and biometric products.	Mandated
	ANSI INCITS 398-2008 (INCITS Project 1622-R): Common Biometric Exchange Formats Framework (CBEFF) (Revision of ANSI INCITS 398-2008)	This revision to ANSI INCITS 398-2008 will add support to CBEFF for more detailed biometric quality information. The proposed revision will also correct technical errors and incorporate modifications noted by users and implementers of the standard, as well as clarifications to further help new users and developers of these data structures.	Revision Project Withdrawn
	ISO/IEC 24709-1: Conformance Testing for BioAPI – Part 1: Methods and Procedures	This international standard defines a conformance testing methodology for BioAPI as specified in ISO 19784-1. It specifies three conformance testing models that enable conformance testing of each component of BioAPI (an application, a framework, or a BSP). It also specifies a test assertion language used for the definition of test assertions. Actual test assertions for each of the BioAPIs are defined in subsequent parts of this international standard.	Emerging

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Standards Category	Standard Name	Description	DISR Status
	ISO/IEC Project 24709-2: Conformance Testing for BioAPI – Part 2: Test Assertions for Biometric Service Providers	This part of ISO/IEC 24709 defines a number of test assertions written in the assertion language specified in ISO/IEC 24709-1. These assertions enable a user of this part of ISO/IEC 24709 (such as a testing laboratory) to test the conformance to ISO/IEC 19784-1 (BioAPI 2.0) of any BSP that claims to be a conforming implementation of that international standard.	Emerging
Performance Testing	ANSI INCITS 409.1-2005: Biometric Performance Testing and Reporting – Part 1: Principles and Framework	This standard addresses testing the accuracy of identification and verification devices, algorithms, and systems. This part is intended to summarize the other parts of the standard. An overview of the primary testing protocols, biometric applications, and performance metrics is presented. It also provides guidance on data analysis techniques, recording of results, and performance reporting measures available.	Mandated
	ISO/IEC 19795-1: Biometric Performance Testing and Reporting – Part 1: Principles and Framework	This part of ISO/IEC 19795 is applicable to empirical performance testing of biometric systems and algorithms through analysis of the matching scores and decisions output by the system without detailed knowledge of the system's algorithms or the underlying distribution of biometric characteristics in the population of interest.	Information Guidance
	ISO/IEC 19795-2: Biometric Performance Testing and Reporting – Part 2: Biometric Testing Methodologies.	This part of ISO/IEC 19795 provides requirements and recommendations on data collection, analysis, and reporting specific to two primary types of evaluation: technology and scenario. It specifies requirements for development and descriptions of protocols for technology and scenario evaluations.	Information Guidance
	ANSI INCITS 409.2-2005: Biometric Performance Testing and Reporting – Part 2: Technology Testing and Reporting	This standard specifies methods for performance testing of biometric systems and devices. It constitutes a specialization of a biometric testing framework standard in that it is concerned only with the offline use of stored (<i>i.e.</i> , previously captured) biometric samples and not the interaction of human subjects with a biometric sensor. The standard covers comparative or absolute testing of performance of biometric algorithms, components, or systems, comparison of biometric data sets, prediction of elements of deployed online performance, and assessment of performance available from complex data samples including repeated sample and multimodal data.	Mandated

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Standards Category	Standard Name	Description	DISR Status
	ANSI INCITS 409.3-2005: Biometric Performance Testing and Reporting – Part 3: Scenario Testing and Reporting	This standard specifies the requirements for scenario-based biometric testing and reporting. The goal of scenario testing is to determine the overall system performance in a prototype or simulated application. Testing is carried out on a complete system in an environment that models a real-world target application of interest.	Mandated
	ANSI INCITS 409.4: Biometric Performance Testing and Reporting – Part 4: Operational Testing Methodologies	This standard provides the test planning, test execution, and test reporting requirements that must be followed during the biometric systems operational test. The goal is to determine if the performance of the complete biometric system meets the requirements of that specific application.	Mandated
Web Services	ANSI INCITS 442-2008: Biometric Identity Assurance Services (BIAS)	This project defines biometric services used for identity assurance and is invoked over a services-based framework. It is intended to provide a generic set of biometric (and related) functions and associated data definitions to allow remote access to biometric services.	Emerging
Multi-Biometrics and Data Interchange Frameworks	ANSI/NIST ITL 1-2007 Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information – Part 1	This standard defines the content, format, and units of measurement for the exchange of fingerprint, palm print, facial/mugshot, SMT, iris, and other biometric sample information that may be used in the identification or verification process of a subject. This project is a revision of the ANSI/NIST ITL 1-2000 standard. Included in this revision is work to include additional modalities and align the standard with INCITS M1 and international IT and biometric standards.	Information Guidance
	ANSI/NIST-ITL 2-2008: Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information – Part 2: XML Version	This standard defines an XML encoding of the content, format, and units of measurement for the exchange of fingerprint, palm print, facial/mugshot, SMT, iris, and other biometric sample information that may be used in the identification or verification process of a subject.	Information Guidance

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2. Current Status of Biometric Standards

The following table lists the status of national and international biometric standards, both approved and those under development. The status of development projects changes frequently, and this table is updated regularly based primarily on the outcomes of biometric standards body meetings. High-priority standards have a proposed priority of 1; medium-priority standards are assigned a 2; and lower-priority standards are assigned a 3. Standards projects assigned an asterisk (*) have not been assigned a priority by the DoD BSWG, and projects marked “N/A” are not a priority for the DoD.

Standards Category	Standard Name	Description	Proposed Priority	Status
Fingerprint Image	ANSI/NIST ITL 1-2000: Data Format for the Interchange of Fingerprint, Facial, and Scar Mark and Tattoo (SMT) Information	This standard defines the content, format, and units of measurement for the exchange of fingerprint, palm print, facial/mug shot, and SMT full-image information that may be useful in identifying a subject.	1	Published
	INCITS 381-2004 Revision 1: Finger Image-Based Data Interchange Format	Implementers working with INCITS 381-2004 have raised concerns that it is not sufficiently precise regarding its conformance requirements. One objective of this project will be to evaluate such concerns and develop revisions in the standard to resolve them. Test results of initial interoperability of biometric data that conform to INCITS 381-2004 have suggested that the degree of interoperability may, at least in certain situations, be less than was intended by the original standard. A second objective of this project will be to evaluate such test results and possibly develop technical changes that may result in higher levels of interoperability.	1	In Publication
	INCITS 381-2004 Revision 1 Amendment 1	This amendment contains resolution of several defects found in the base standard.	1	Public Review (PR)

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Standards Category	Standard Name	Description	Proposed Priority	Status
	INCITS 381-2004: Finger Image-Based Data Interchange Format	This standard specifies an interchange format for the exchange of image-based fingerprint and palm print recognition data. It defines the content, format, and units of measurement for such information. This standard is intended for those identification and verification applications that require the use of raw or processed image data containing detailed pixel information.	1	Published
	ISO/IEC 19794-4: Biometric Data Interchange Formats – Part 4: Finger Image Data	This standard specifies a data record interchange format for storing, recording, and transmitting the information from one or more finger or palm image area within an ISO/IEC 19785-1 Common Biometric Exchange Formats Framework (CBEFF) data structure. This can be used for the exchange and comparison of finger image data.	1	Published
	ISO/IEC 19794-4:2005/Cor.1:2007 – Information technology – Biometric data interchange formats – Part 4: Finger image data TECHNICAL CORRIGENDUM 1	This corrigendum contains resolution of several defects found in the base standard.	1	Published
	ISO/IEC 19794-4 Revision 1	This revision of ISO/IEC 19794-4 will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	1	Final Committee Draft (FCD)
	ISO/IEC 19794-4 Revision 1 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of conformance testing methodology that could be adapted to validate Finger Image-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-4 Revision 1 standard.	1	Working Draft (WD)
	INCITS 423.4: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards – Part 4: Conformance Testing Methodology for INCITS 381, Finger Image Data Interchange Format	This standard, when completed, will present an overview of conformance testing methodology that could be adapted to validate Finger Image-Based Data Interchange Format-conformant files as specified per ANSI INCITS 381-2004.	1	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC 29109-4: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 4: Finger Image Data	This standard, when completed, will present an overview of conformance testing methodology that could be adapted to validate Finger Image-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-4 standard.	*	FDIS
Fingerprint Template	INCITS 378-2004: Finger Minutiae Format for Data Interchange	This standard defines a method of representing fingerprint information using the concept of minutiae. It defines the placement of the minutiae on a fingerprint, a record format for containing the minutiae data, and optional extensions for ridge count and core/delta information.	1	Published
	INCITS 378-2004 Revision 1: Finger Minutiae Format for Data Interchange	This revision of INCITS 378-2004 will resolve concerns that it is not sufficiently interoperable or precise regarding its conformance requirements. One objective of this project will be to evaluate such concerns and develop revisions in the standard that will resolve them. A second objective of this project will be to develop technical changes that may result in higher levels of interoperability.	1	Published
	INCITS 378-2004 Revision 1 Amendment 1	This amendment contains resolution of several defects found in the base standard.	1	Public Review (PR)

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC 19794-2: Biometric Data Interchange Formats – Part 2: Finger Minutiae Data	This standard specifies a concept and data formats for representation of fingerprints using the fundamental notion of minutiae. It is generic in that it may be applied and used in a wide range of application areas where automated fingerprint recognition is involved. ISO/IEC 19794-2 contains definitions of relevant terms, a description of how minutiae shall be determined, data formats for containing the data for both general use and for use with cards, and conformance information.	1	Published
	ISO/IEC 19794-2:2005/Cor.1:2007 Information Technology – Biometric Data Interchange Formats – Part 2: Finger Minutiae Data TECHNICAL CORRIGENDUM 1	This contains resolution of several defects found in the base standard.	1	Published
	ISO/IEC 19794-2 AM 1: Detailed description of finger minutiae location, direction, and type	This amendment to the base standard will provide detailed clarifications regarding the finger minutiae location, direction, and type.	1	In publication
	ISO/IEC 19794-2 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	1	FCD
	ISO/IEC 19794-2 Revision 1 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of conformance testing methodology that could be adapted to validate Finger Minutiae-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-2 Revision 1 standard.	1	WD
	INCITS 423.2: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards – Part 2: Fingerprint Minutiae Conformance Testing Methodology	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ANSI INCITS 378-2004 standard.	3	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC 29109-2: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 2: Finger Minutiae Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-2 standard.	*	FDIS
	ISO/IEC 29109-2 AMD 1: Level 3 Conformance Testing for Finger Minutiae Data	This amendment is dedicated to the development of a methodology for the conformance testing standard on Level 3 conformance testing to account for minutiae placement and selection semantic conformance.	*	New Project
	INCITS 377-2004: Finger Pattern Based Interchange Format	This standard specifies an interchange format for the exchange of pattern-based fingerprint recognition data. It describes the conversion of a raw fingerprint image to a cropped and down-sampled finger pattern followed by the cellular representation of the finger-pattern image to create the finger-pattern interchange data.	3	Published
	INCITS 377-2004 Revision 1: Finger Pattern Based Interchange Format	This revision to INCITS 377-2004 will resolve concerns that the existing standard is not sufficiently interoperable. One objective of this project will be to evaluate such concerns and develop interpretive and technical changes as an amendment to the standard.	3	Published
	ISO/IEC Project 19794-3: Biometric Data Interchange Formats – Part 3: Finger Pattern Spectral Data	This part of ISO/IEC 19794 specifies the interchange format for the exchange of spectral (pattern)-based fingerprint data. This proposed standard allows the exchange of local or global spectral data derived from a fingerprint image without the exchange of the entire image.	3	Published
	ISO/IEC 19794-3 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	3	Withdrawn
	INCITS 423.3: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards – Part 3: Conformance Testing for INCITS 377, Finger Pattern-Based Data Interchange Format	This document describes a two-step conformance test with the ANSI-INCITS 377-2004 Finger Pattern Data Interchange Format standard. It provides some general guidelines for conformance testing and then defines the specific assertions that must be checked in each step.	3	Published

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	ISO/IEC 29109-3: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 3: Finger Pattern Spectral Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-3 standard.	*	Withdrawn
	ISO/IEC Project 19794-8: Biometric Data Interchange Formats – Part 8: Finger Pattern Skeletal Data	This standard specifies the interchange format for the exchange of pattern-based skeletal fingerprint recognition data. It allows for the extraction of both spectral information (orientation, frequency, phase, etc.) and features (minutiae, core, ridge count, etc.).	3	Published
	ISO/IEC 19794-8 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	3	FCD
	ISO/IEC 29109-8: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 8: Finger Pattern Skeletal Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-8 standard.	3	FCD
Face	INCITS 385-2004: Face Recognition Format for Data Interchange	This standard specifies definitions of photographic environment, subject pose, focus, properties, digital image attributes, and a face interchange format for relevant applications, including human examination and computer-automated face recognition.	1	Published
	INCITS (Project 1565-D) 385-2004: Amendment 1 – Information Technology – Face Recognition Format for Data Interchange Amendment 1 – 3D-Face	This is an amendment to INCITS 385-2004, Information Technology – Face Recognition Format for Data Interchange. The amendment defines a new version of the data format that enables optional storage of 3D face data in addition to regular 2D photo image. Backward compatibility is provided.	1	Withdrawn
	INCITS Project 1565-M: Information Technology – Face Recognition Format for Data Interchange, Revision 1	This proposed revision is intended to incorporate changes to the face recognition format standard that were developed in the course of work on the 3D-Face amendment project 1565-D. The changes that have been developed as a separate document should now be incorporated in the text of the standard to produce version	2	Withdrawn

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Standards Category	Standard Name	Description	Proposed Priority	Status
		2.0.		
	ISO/IEC 19794-5: Biometric Data Interchange Formats – Part 5: Face Image Data	This standard specifies scene, photographic, digitization, and format requirements for images of faces to be used in the context of both human verification and computer-automated recognition. The format is designed to allow for the specification of visible information discernible by an observer pertaining to the face, such as gender, pose, and eye color.	1	Published
	ISO/IEC 19794-5: Biometric Data Interchange Formats – Part 5: Face Image Data – Amendment 1 – Conditions for Taking Photographs for Face Image Data	This amendment provides expert guidance for the design of photographic studios and photo booths and, as such, it supplements the information provided in the standard and Annex A. It also provides guidance on printing quality and on scanning printed face photographs.	1	Published
	ISO/IEC 19794-5: Biometric Data Interchange Formats – Part 5: Face Image Data – Amendment 2: 3-Dimensional Face Image Data Interchange Format	This amendment of ISO/IEC 19794-5 is intended to establish a data interchange format for storing 3D human face images. To achieve this, several new image types are introduced that are a combination of 2D facial images and associated 3D range information.	2	In Publication
	ISO/IEC 19794-5:2005/Cor.3:2007 Information Technology – Biometric Data Interchange Format – Part 5: Face Image Data – Technical Corrigendum 2	This contains resolution of several defects found in the base standard.	1	Published
	ISO/IEC 19794-5 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	1	FCD

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	INCITS Project 1749 D: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards—Part 5: Conformance Testing Methodology for INCITS 385-2004 Face Image Interchange Format	This project would establish the specifications of the framework, concepts, methodology for testing, and criteria to be achieved to claim conformance to INCITS 385-2004, Information Technology—Face Image Interchange Format. The proposed standard will include specification conformance test procedures and a critical set of test assertions useful to test the conformity requirements of INCITS 385-2004.	1	Withdrawn
	ISO/IEC 29109-5: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 5: Face Image Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-5 standard.	*	FCD
	ISO/IEC Proposed Draft Technical Report 19794-12: Biometric Data Interchange Formats—Part 12: Feature-Based Face Recognition	This proposed work item will develop a feature-based interchange format for face identity data that can contain the face identity data extracted by, not only MPEG-7 (video), but also other face recognition technologies.	3	Withdrawn
Iris	INCITS Project 1576 D: Revision of INCITS 379-2004—Iris Image Format for Data Interchange	This standard describes a format for exchange of iris image information. It contains a definition of attributes, a data record format, sample records, and conformance criteria. Two alternative formats for iris image data are described, one based on a Cartesian coordinate system and the other on a polar coordinate system.	N/A	Withdrawn
	INCITS 379-2004: Iris Image Interchange Format	This standard describes a format for the exchange of iris image information. It contains a definition of attributes, a data record format, sample records, and conformance criteria. Two alternative formats for iris image data are described, one based on a Cartesian coordinate system and the other on a polar coordinate system.	N/A	Withdrawn
	ISO/IEC 19794-6: Biometric Data Interchange Formats – Part 6: Iris Image Data	This standard specifies two alternative image interchange formats for biometric authentication systems that use iris recognition. The first format is based on a rectilinear image storage format, and the second is based on a polar image specification.	1	Published

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	ISO/IEC 19794-6 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	1	FCD
	ISO/IEC 19794-6 Revision 1 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of conformance testing methodology that could be adapted to validate Iris Image-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-6 Revision 1 standard.	1	WD
	INCITS Project 1749 D: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards – Part 6: Conformance Testing Methodology for INCITS 379-2004: Iris Image Interchange Format	This proposed standard would establish the specifications of the framework, concepts, methodology for testing, and criteria to be achieved to claim conformance to INCITS 379-2004, Information Technology – Iris Image Interchange Format.	N/A	Withdrawn
	ISO/IEC 29109-6: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 6: Iris Image Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-6 standard.	1	FCD
Other Modalities	INCITS 396-2005: Hand Geometry Format for Data Interchange	This standard specifies an interchange format for the exchange of hand geometry data in a silhouette format. It defines the content, format, and units of measurement for such information. This standard is intended for those identification and verification applications that require the use of an interoperable hand geometry template.	N/A	Withdrawn
	ISO/IEC Project 19794-10: Biometric Data Interchange Formats – Part 10: Hand Geometry Silhouette Data	This standard specifies a data-record interchange format for storing, recording, and transmitting the information from a hand silhouette within a CBEFF data structure. This proposed standard could be used for the exchange of hand geometry data.	2	Published

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	ISO/IEC 29109-10: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 10: Hand Geometry Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-10 standard.	2	FDIS
	INCITS Project 1749 D: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards – Part 10: Conformance Testing Methodology for INCITS 396:2005 – Hand Geometry Interchange Format	This proposed standard would establish the specifications of the framework, concepts, methodology for testing, and criteria to be achieved to claim conformance to INCITS 396:2005, Information Technology – Hand Geometry Interchange Format.	N/A	Withdrawn
	INCITS Project 1797 D: Keystroke Dynamics Format for Data Interchange	This standard defines a method of representing keystroke dynamics information for the purpose of identifying an individual. It defines the set of data elements used to describe a set of keystrokes or other data input and a record format for containing the keystroke dynamic data.	N/A	Withdrawn
	INCITS 395-2005: Biometric Data Interchange Formats – Signature/Sign Data	This standard specifies a data interchange format for representation of digitized sign or signature data for the purposes of biometric enrollment, verification, or identification through the use of raw signature/sign sample data or common feature data. The data interchange format is generic in that it may be applied and used in a wide range of application areas where electronic signs or signatures are involved. No application-specific requirements or features are addressed in this standard.	3	Recommended for Withdrawal
	ISO/IEC Project 19794-7: Biometric Data Interchange Formats – Part 7: Signature/Sign Time Series Data	This part of ISO/IEC 19794 specifies a concept and data-interchange format for dynamic signature/sign behavioral data captured in the form of a time series using devices such as digitizing tablets or advanced pen systems. This part of ISO/IEC 19794 contains definitions of relevant terms, a description of what data are captured, a data format for containing the data alongside examples of record contents, and best practice in capture.	3	Published

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	ISO/IEC Project 19794-7 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	3	WD
	ISO/IEC 29109-7: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 7: Signature/Sign Time Series Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-7 standard.	3	CD
	ISO/IEC Project 19794-11: Biometric Data Interchange Formats – Part 11: Signature/Sign Processed Dynamic Data	This standard specifies a concept and data interchange format for signature/sign dynamic data captured in the form of time series using digitizing tablets or advanced pen devices. The standard contains definitions of relevant terms, a description of what data are captured, a data format for containing the data alongside examples of record contents, and best practice in capture.	3	CD
	ISO/IEC Project 19794-11 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	3	CD
	ISO/IEC 19794-6 Revision 1 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of conformance testing methodology that could be adapted to validate Signature/Sign-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-11 Revision 1 standard.	3	WD
	ISO/IEC Project 19794-9: Biometric Data Interchange Formats – Part 9: Vascular Image Data	This part of the ISO/IEC 19794 standard specifies an image- interchange format for biometric person identification or verification technologies that use human vascular biometric images and may be used for the exchange and comparison of vascular image data.	3	Published
	ISO/IEC Project 19794-9 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	3	CD

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	ISO/IEC 29109-9: Conformance Testing Methodology for Biometric Data Interchange Formats defined in ISO/IEC 19794 – Part 7: Vascular Image Data	This standards project will establish a framework and define test requirements and guidelines for a conformance testing methodology to determine conformity of products and services that use the ISO/IEC 19794-9 standard.	3	FCD
	INCITS Project 1821-D: Speaker Biometrics Format for Data Interchange	This draft standard will define a speaker biometric data interchange format for the exchange of speaker data. The standard will contain a specific definition of the fields of information to be included in the format to effectively communicate about speaker recognition transactions, and a data record format for storing and transmitting the speaker information and data.	2	In Publication
	ISO/IEC Project 19794-13: Voice Data	The scope of this project is to generate two distinct speech data interchange formats for speech recognition. The first format will support raw speech data, and the second may include formats for interchange at the feature vector level. The standard specifies a data record interchange format for recording, storing, and transmitting voice information. It defines the content, format, and units of a model for the exchange of voice data that may be used in the verification or identification process of a subject/speaker. The standard also specifies interchange formats for biometric authentication systems that use speaker recognition techniques.	1	CD
	ISO/IEC 19794-13 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of conformance testing methodology that could be adapted to validate Voice Data-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-13 standard.	1	WD
	19794-14: Biometric Data Interchange Formats – Part 14: DNA Data	This part of ISO/IEC 19794 standard specifies a DNA Data (interchange format) for personal identification or verification technologies that use human DNA and may be used for the exchange and comparison of DNA data (interchange format). The target is to produce an interchange format that will be useful for forensic	1	CD

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		exchanges and databases, immigration, and paternity testing. It will provide the ability for DNA profiles produced by one conforming system to be used for comparison with other samples produced by any other conforming system, subject to privacy.		
	ISO/IEC 19794-14 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of conformance testing methodology that could be adapted to validate DNA-Based Data Interchange Format-conformant files as specified per ISO/IEC 19794-14 standard.	1	WD
Multi-Biometrics and Data Interchange Frameworks	INCITS 439:2008: Fusion Information Format for Data Interchange	This standard specifies several fusion information records that contain statistical information intended to facilitate interoperable, modular, score-level fusion of biometric systems.	2	Published
	ISO/IEC 29159-1: Biometric Calibration, Augmentation, and Fusion Data – Part 1 – Fusion Information Format	This standard will define a framework and data format for multi-biometric fusion and other calibration and augmentation data.	*	FDIS
	INCITS 358:2002 AMENDMENT 1:2007 BioAPI Specification (v1.1) – Amendment 1: Support for Multimodal Biometric Fusion	This amendment to INCITS 358 adds support for biometric fusion to the standard. It extends the API and the SPI by specifying new functions and new values of existing data types.	2	Published
	ISO/IEC TR24722:2007 – Technical Report – Multimodal and Other Multi-Biometric Fusion	This technical report contains a description and analysis of current practice on multimodal and other multi-biometric fusion, including (as appropriate) references to more- detailed descriptions. This technical report also contains a description and explanation of high-level multi-biometric concepts to aid in the explanation of multi-biometric fusion approaches, including multimodal, multi-instance, multi-sensorial, multi-algorithmic, decision-level, score-level, and alternative fusion logic.	2	Published

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	ISO/IEC Project 19794-1: Biometric Data Interchange Formats – Part 1: Framework	This part of ISO/IEC 19794 is intended to describe the general aspects and requirements for defining biometric data interchange formats. It defines what is commonly applied for biometric data formats, <i>i.e.</i> , the standardization of the common content, meaning, and representation of biometric data formats of biometric types considered in the specific parts of the multipart standard.	1	Published
	ISO/IEC 19794-1 Revision 1	This revised standard will include all changes (defect resolutions, amendments) to date as well as revised requirements developed as part of the revision process.	1	FCD
	ISO/IEC 19794-1 AMD 2 Framework for XML encoding	The scope of the proposal targets the revision of 19794-1 and will specify general aspects for XML encoding of biometric data interchange records. It will develop a suitable XML namespace (or adopt a suitable existing one) as well as an XML schema to be used in the parts of 19794 that apply XML encoding.	1	NWI
	ANSI/NIST ITL 1-2007 Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information – Part 1	This standard defines the content, format, and units of measurement for the exchange of fingerprint, palm print, facial/mugshot, SMT, iris, and other biometric sample information that may be used in the identification or verification process of a subject. This project is a revision of the ANSI/NIST ITL 1-2000 standard. Included in this revision is work to include additional modalities and align the standard with INCITS M1 and international IT and biometric standards.	1	Published
	ANSI/NIST-ITL 2-2008: Data Format for the Interchange of Fingerprint, Facial, and Other Biometric Information – Part 2: XML Version	This standard defines an XML encoding of the content, format, and units of measurement for the exchange of fingerprint, palm print, facial/mugshot, SMT, iris, and other biometric sample information that may be used in the identification or verification process of a subject.	*	Published

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	INCITS 423.1: Conformance Testing Methodology Standard for Biometric Data Interchange Format Standards – Part 1: Generalized Conformance Testing Methodology	This part of the multipart standard on data interchange formats conformance testing specifies the concepts, test types, and test methodologies for conformance testing of biometric systems claiming conformance to data interchange format standards produced by INCITS M1.	1	Published
	ISO/IEC 29109-1: Conformance Testing Methodology for Biometric Data Interchange Format Standards – Part 1: Generalized Conformance Testing Methodology	This Part 1 of the multipart international standard will specify conformance testing methods and procedures for implementations of ISO/IEC 19794, including procedures to be followed before, after, and during the test, test results reporting requirements, and a formal assertion language suitable for expressing the details of the conformance of implementations to the ISO/IEC 19794 requirements. Furthermore, this proposed international standard will provide a set of actual test cases written in that assertion language (test assertions), thus enabling the performance of automated testing and reporting activities the results of which are guaranteed to be repeatable and consistent over multiple implementations of this conformance testing standard (test suites).	1	Published
	ISO/IEC 19794-1 Amendment 1: Conformance Testing Methodology	This amendment, when completed, will present an overview of generalized conformance testing methodology framework that could be adapted to validate Data Interchange Format-conformant files as specified per ISO/IEC 19794 standard, independently of specific modality.	1	WD
Transmission	FBI Electronic Fingerprint Transmission Specification (v7.1)	The purpose of the FBI CJIS' EFTS is to specify certain requirements to which agencies must adhere in order to communicate electronically with the FBI's IAFIS. This specification is based on ANSI/NIST ITL 1-2000 and covers IAFIS electronic transmissions involving fingerprints.	1	Published

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	FBI Electronic Biometric Transmission Specification (v8.1)	The FBI's EBTS defines FBI-specific requirements for an ANSI/NIST ITL 1-2007 implementation to which agencies must adhere when electronically communicating with the FBI's IAFIS. The scope of the EBTS has been expanded over previous versions to include additional biometric modalities (e.g., palm print, face, and iris) in recognition of the rapidly developing biometric identification industry.	1	Published
	DoD Electronic Biometric Transmission Specification (v1.2)	This specification is an extension of the FBI's EBTS that includes transaction types and codes that support requirements for DoD encounters and detainment circumstances. The DoD EBTS defines the transmission of biometric samples for face, fingerprint, and iris modalities. This standard is intended for those applications requiring the exchange of biometric samples and related biographic and contextual data with DoD repositories.	1	Published
	Terrorist Watchlist Person Data Exchange (TWPDES) (v1.2b)	This standard provides a data exchange format with biometrics and XML for terrorist watch list data that supports the DOS, DOJ, intelligence community under the Director of Central Intelligence, and DHS. The purpose is to develop and maintain, to the extent permissible by law, the most thorough, accurate, and current information possible about individuals known or appropriately suspected to be or have been involved in activities constituting, in preparation for, in aid of, or related to terrorism.	*	Published
	DoD Electronic Biometric Transmission Specification (v2.0)	This standard contains modifications of DoD EBTS 1.2 to align it with capabilities provided by the new ANSI/NIST-ITL 1-2007 and provides a more flexible framework for multiple applications.	1	Published

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	Global Justice XML Data Model (Global JXDM) (v3.0.3)	The Global JXDM is an XML standard designed specifically for criminal justice information exchanges, providing law enforcement, public safety agencies, prosecutors, public defenders, and the Judicial Branch with a tool to effectively share data in a timely manner. The Global JXDM removes the burden from agencies to independently create exchange standards, and because of its extensibility, there is more flexibility to deal with unique agency requirements and changes.	1	Published
	National Information Exchange Model (NIEM) (v2.0)	NIEM is a partnership of DOJ and DHS designed to develop, disseminate, and support enterprise-wide information exchange standards and processes that can enable jurisdictions to effectively share critical information in emergency situations, as well as support the day-to-day operations of agencies throughout the nation. NIEM standardizes content (actual data exchange standards), provides tools, and manages processes. NIEM leverages the data exchange standards efforts successfully implemented by DOJ's Global Justice Information Sharing Initiative and extends the Global JXDM to facilitate timely, secure information sharing across the whole of the justice, public safety, emergency and disaster management, intelligence, and homeland security enterprise.	*	Published
	Terrorist Watchlist Person Data Exchange (TWPDES)	This standard provides a data exchange format for terrorist watch-list data that supports the DOS, DOJ, intelligence community under the Director of Central Intelligence, and DHS. The purpose is to develop and maintain, to the extent permissible by law, the most thorough, accurate, and current information possible about individuals known or appropriately suspected to be or have been involved in activities constituting, in preparation for, in aid of, or related to terrorism.	*	Published

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	IDENT eXchange Messaging (IXM)	This document provides detailed information on messaging operation and steps required to create an interface for external users to interact with US-VISIT/IDENT applications.	*	Published
Technical Interfaces	INCITS 358-2002: BioAPI Specification (v1.1)	This standard provides a high-level generic biometric authentication model suited for any form of biometric technology. It covers the basic functions of enrollment, verification, and identification and includes a database interface to allow a BSP to manage the identification population for optimum performance.	1	Published
	INCITS 358-2002 AM1: BioAPI Specification (v1.1) – Amendment 1: Support for Biometric Fusion	This amendment to INCITS 358 adds support for biometric fusion to the standard. This amendment extends the API and the SPI of BioAPI by specifying new functions and new values for existing data types.	*	Published
	ISO/IEC 19784-1: BioAPI – Biometric Application Programming Interface – Part 1: BioAPI Specification	This international standard provides a high-level generic biometric authentication model suited to most forms of biometric technology. No explicit support for multimodal biometrics is currently provided. An architectural model is described that enables components of a biometric system to be provided by different vendors and to interwork through fully defined APIs.	1	Published
	ISO/IEC 19784-1: BioAPI – Biometric Application Programming Interface – Part 1: BioAPI Specification, Amendment 1: BioGUI Specification	The functionality specified in this amendment enables an application to control the display of graphics at enrollment, verification, and identification as an alternative to using the GUI provided by BSPs. It is expected to better meet the needs of users of biometric applications who wish to have full control of the user interface during enrollment, verification, and	2	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
		identification.		
	ISO/IEC Project 19784-1: BioAPI – Biometric Application Programming Interface – Part 1: BioAPI Specification, Amendment 2: Framework Free BioAPI	This amendment will allow BioAPI to be applied where a system is to be built from conforming BSP components (without a BioAPI Framework module) using platform-specific system integration mechanisms.	2	FPDAM
	ISO/IEC Project 19784-1: BioAPI – Biometric Application Programming Interface – Part 1: BioAPI Specification, Amendment 3: Support for Interchange of Certificates and Security Assertions	This amendment will add functions or parameters to the BioAPI interfaces and to related standards to support security features identified in the ISO/IEC SC 27 work on ACBio and the ITU-T SG17 work on X.tsm and X.tai.	*	FPDAM
	ISO/IEC 19784-2: Biometric Application Programming Interface (BioAPI) – Part 2: Biometric Archive Function Provider Interface	This part of the BioAPI standard specifies the interface to an archive BFP. An archive BFP is responsible for the storage and management of BIRs.	3	Published w/ Draft Corrigendum
	ISO/IEC Project 19784-3: Biometric Application Programming Interface (BioAPI) – Part 3: BioAPI Lite	This international standard will specify a reduced (but BioAPI compatible) version of BioAPI. It will enable sensor devices to have a very simple interface to facilitate communication of embedded devices through a BioAPI-compatible interface.	2	Canceled
	ISO/IEC Project 29164: Embedded BioAPI	Embedded BioAPI is meant to provide a standard interface with hardware biometric modules, designed to be integrated in embedded systems, which may be constrained in memory and computational power.	2	CD
	ISO/IEC Project 19784-4: Biometric Application Programming Interface (BioAPI) – Part 4: Biometric Sensor Function Provider Interface	This project concerns standardizing the lowest level internal interfaces of BioAPI where it interfaces with the sensor device.	2	FCD
	INCITS 429: Conformance Testing Methodology for ANSI INCITS 358-2002, BioAPI Specification	This standard specifies the concepts, framework, test methods, and criteria to be achieved for BSPs to claim conformity to the BioAPI specification ANSI INCITS 358-2002.	1	Published

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	ISO/IEC 24709-1: Conformance Testing for BioAPI – Part 1: Methods and Procedures	This international standard defines a conformance testing methodology for BioAPI as specified in ISO 19784-1. It specifies three conformance testing models that enable conformance testing of each component of BioAPI (an application, a framework, or a BSP). It also specifies a test assertion language used for the definition of test assertions. Actual test assertions for each of the BioAPIs are defined in subsequent parts of this international standard.	1	Published
	ISO/IEC 24709-2: Conformance Testing for BioAPI – Part 2: Test Assertions for Biometric Service Providers	This part of ISO/IEC 24709 defines a number of test assertions written in the assertion language specified in ISO/IEC 24709-1. These assertions enable a user of this part of ISO/IEC 24709 (such as a testing laboratory) to test the conformance to ISO/IEC 19784-1 (BioAPI 2.0) of any BSP that claims to be a conforming implementation of that international standard.	1	Published
	ISO/IEC Project 24709-3: Conformance Testing for BioAPI – Part 3: Test Assertions for BioAPI Frameworks	This part of ISO/IEC 24709 will define a number of test assertions written in the assertion language specified in ISO/IEC 24709-1. These assertions enable a user of this part of ISO/IEC 24709 (such as a testing laboratory) to test the conformance to ISO/IEC 19784-1 (BioAPI 2.0) of any BioAPI frameworks that claim conformity to that standard.	2	FDIS
	ISO/IEC Project 24709-4: Conformance Testing for BioAPI – Part 4: Test Assertions for Biometric Applications	This part of ISO/IEC 24709 will define a number of test assertions written in the assertion language specified in ISO/IEC 24709-1. These assertions enable a user of this part of ISO/IEC 24709 (such as a testing laboratory) to test the conformance to ISO/IEC 19784-1 (BioAPI 2.0) of any BioAPI applications that claim conformity to that standard.	2	Withdrawn
	INCITS Project 1829-D: Biometric Application Programming Interface – Java Interfaces	This proposed standard will specify an interface of a Java BioAPI framework and Java BioAPI BSP that will mirror the corresponding components specified in ISO/IEC 19784-1. Therefore, the proposed standard will be nearly	3	WD

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		identical to ISO/IEC 19784-1, with the only difference being the programming language of the interfaces.		
	INCITS 434 – 2009 – Ten-print Capture Using BioAPI	This proposed standard provides a mechanism and supplemental guidance on the use of ISO/IEC 19784-1 BioAPI specification, a software interface standard, for the purpose of performing a ten-print fingerprint capture operation.	1	Published
	ISO/IEC Project 29141: Ten-print Capture for BioAPI	This is an ISO-formatted version of INCITS Project 1832-D. It will be registered at the accelerated status of CD, and an LB will be issued on this CD.	*	FDIS
	INCITS 398-2005 [NISTIR 6529-A]: Common Biometric Exchange Formats Framework (CBEFF)	This standard describes a set of data elements necessary to support biometric technologies in a common way. These data elements can be placed in a single file used to exchange biometric information between different system components or between systems. The result promotes interoperability of biometric-based application programs and systems developed by different vendors by allowing biometric data interchange.	1	Published
	INCITS 398-2008: Common Biometric Exchange Formats Framework (CBEFF)	This revision to ANSI INCITS 398-2005 corrects a number of alleged technical errors and contains other modifications noted by users of the standard, clarifications to further help users and developers, and new features such as nested data structures and new/redefined fields.	1	Published
	INCITS 398-20xx (INCITS Project 1622 R): Common Biometric Exchange Formats Framework (CBEFF) (Revision of ANSI INCITS 398-2008)	This revision to ANSI INCITS 398-2008 will add support to CBEFF for more detailed biometric quality information. The proposed revision will also correct technical errors and incorporate modifications noted by users and implementers of the standard, as well as clarifications to further help new users and developers of these data structures.	*	Withdrawn
	INCITS Project 1853-D: Conformance Testing Methodology for Common Biometric Exchange Formats Framework (CBEFF) Data	This proposed standard will establish the specification of a conformance testing methodology for the CBEFF data structures specified in INCITS 398:2008 (bit/byte	1	WD

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	Structures Specified in INCITS 398-2008	encoding). This proposed standard will include a set of test cases that can determine whether data records or implementations producing them conform to the CBEFF standard requirements. It will also include general concepts, conformance testing methods and procedures, test data description and parameters, test results reporting requirements, and other criteria necessary to achieve claim of conformance to the CBEFF standard.		
	ISO/IEC 19785-1:2006: Common Biometric Exchange Formats Framework – Part 1: Data Element Specification	The CBEFF promotes interoperability of biometric-based applications and systems by specifying standard structures for BIRs and a set of abstract data elements and values that can be used to create the header part of a CBEFF-compliant BIR. The primary purpose of Part 1 of this international standard is to define these abstract data elements.	1	Published
	ISO/IEC Project 19785-1:2006, Amd. 1 Common Biometric Exchange Formats Framework – Part 1: Data Element Specification Amendment 1, Support for additional data elements	Addition of new data elements required by the parts of 19795.	*	FDAM
	ISO/IEC 19785-2:2006: Common Biometric Exchange Formats Framework – Part 2: Procedures for the Operation of the Biometrics Registration Authority	This part of the CBEFF international standard supports such exchanges by providing unambiguous identification of biometric organizations, formats, and products. It specifies the procedures to be followed by the Biometric Registration Authority in preparing, maintaining, and publishing registers of identifiers for biometric organizations, CBEFF patron formats, biometric data block formats, security block formats, and biometric products.	2	Published
	ISO/IEC Project 19785-2:2006, Amd. 1: Common Biometric Exchange Formats Framework – Part 2: Procedures for the Operation of the Biometrics Registration Authority Amendment 1, Additional	Addition of registrations required by the parts of 19795.	*	FDAM

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	Registrations			
	ISO/IEC 19785-3: Common Biometric Exchange Formats Framework – Part 3: Patron Format Specifications	This part of the CBEFF international standard specifies and publishes registered CBEFF patron formats (see ISO/IEC 19785-1) and specifies their registered CBEFF patron format identifiers (see ISO/IEC 19785-2) and resulting full ASN.1 object identifiers.	2	Published
	ISO/IEC Project 19785-3, Amd 1: Common Biometric Exchange Formats Framework – Part 3: Patron Format Specifications Amendment 1, Support for additional data elements	Representation of new data elements added by CBEFF Part 1, Amendment 1 in Patron Formats.	*	FDAM
	ISO/IEC Project 19785-4: Common Biometric Exchange Formats Framework – Part 4: Security Block Format Specification	This part of the CBEFF international standard defines Security Block (SB) formats much as Part 3-defined Patron Formats. CBEFF Part 1 defines the options for integrity and encryption and an SB to contain security information related to these options, but the format and detailed content of an SB is not specified.	*	FDIS
	ISO/IEC 24708: BioAPI Interworking Protocol (BIP)	This international project specifies the syntax, semantics, and encodings of a set of messages to enable communication of BioAPI-conformant components installed on different computers. These messages will allow a BioAPI-conforming application to request biometric operations in remote BioAPI-conforming BSPs and to be notified of events originating in those remote BSPs. It also specifies extensions to the architecture and behavior of the BioAPI framework (specified in ISO/IEC 19784-1) that support the creation, processing, sending, and reception of BIP messages.	1	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC Project 24708: BioAPI Interworking Protocol (BIP) – Amendment 1	This amendment will address addition of security requirements that become necessary because of ISO/IEC Project 19784-1 Amendment 3: BioAPI Part 1: BioAPI Specification, Amendment 3: Support for interchange of certificates and security assertions and other security aspects.	*	Under development
	OASIS XML Common Biometric Format (XCBF) 1.1	This specification defines a common set of secure XML encodings for the patron formats specified in CBEFF (NISTIR 6529). Much of the information included in this standard has been incorporated into a more recent standard, ANSI X9.84-2003.	3	Published
Application Profiles	NIST SP 800-76.1: Biometric Data Specification for Personal Identity Verification	This document is a companion document to FIPS-201. It describes technical acquisition and formatting specifications for the biometric credentials of the PIV system, including the PIV card itself. The primary design objective behind these particular specifications is high performance universal interoperability.	1	Published
	INCITS 383-2004: Biometric Profile – Interoperability and Data Interchange – Biometrics-Based Verification and Identification of Transportation Workers	This standard specifies a biometric profile for transportation workers. It defines a set of base standards and criteria for applying those standards in applications where tokens are used for access control and identification of employees. This standard is intended for use in the transportation industry and other industries where identification and verification of employees is necessary to ensure safety and integrity within the work environment.	3	Published
	INCITS 383-2008: Biometric Profile – Interoperability and Data Interchange – Biometrics-Based Verification and Identification of Transportation Workers – Revision 1	This revision will correct technical errors discovered during the publication cycle or during implementation and permit the extension of the existing standard to allow the addition of new technology for this application.	3	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
	INCITS 394-2004: Application Profile for Interoperability, Data Interchange and Data Integrity of Biometric Based Personal Identification for Border Management	This standard specifies a biometric profile for border-management applications. It defines a set of base standards and criteria for applying those standards in applications that use biometrics to authenticate the identity of non-citizens as they enter, stay in, and leave the United States.	3	Withdrawn
	INCITS 394-2004 Revision 1: Application Profile for Interoperability, Data Interchange and Data Integrity of Biometric Based Personal Identification for Border Management	A revision of INCITS 394 to reflect changes in the base standards and the border management application requirements	*	Withdrawn
	INCITS 421-2006: Biometric Profile – Interoperability and Data Interchange – DoD Implementations	This standard specifies a biometric profile for military applications. It defines a set of base standards and criteria for applying those standards in applications that process and store biometric data on enemy prisoners of war, detainees, internees, and persons of interest with respect to national security.	1	Published
	INCITS 422-2007: Application Profile for Commercial Biometric Physical Access Control	This standard specifies a biometric profile for access control applications. It defines a set of base standards and criteria for applying those standards in applications that use biometrics to authenticate the identity of users requesting access to a facility.	3	Published
	INCITS 420: Biometric Profile— Interoperability and Data Interchange— Point-of-Sale Biometrics Based Verification and Identification (ANSI INCITS 420-200x)	This standard specifies an application profile for support of identification and verification of consumers at the point of sale through the use of biometric data collected both during a prior enrollment process and at the time of the transaction. The biometric aspects of data formats, biometric enrollment, API and other protocols, and privacy and security are specified.	3	Withdrawn
	INCITS Project 1860-D: Application Profile – Interoperability and Data Interchange – Biometrics for E-Authentication	This standard is intended to support the deployment of biometric technologies in e-authentication applications. The standard's goals are interoperability, data interchange, and security for e-authentication systems based on a variety of authentication architectural	*	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
		configurations with differing storage, matching, and transmission characteristics. The unique aspects of e-authentication in the context of remote authentication are also considered. The standard describes biometric e-authentication functionality and profiles base standards for the most common architectural alternatives currently being deployed for biometric authentication.		
	ISO/IEC 24713-1: Biometric Profiles for Interoperability and Data Interchange – Part 1: Biometric System Reference Architecture	This part of ISO/IEC 24713 is intended to form the reference architecture part of the multipart standard on biometric profiles for interoperability and data interchange. It will describe a schema for the use of a number of biometric standards. This part of ISO/IEC 24713 is to be used as a reference guide for the implementation of a generic biometric system or a profile-standardized system.	1	Published
	ISO/IEC Project 24713-2: Biometric Profiles for Interoperability and Data Interchange – Part 2: Physical Access Control for Employees at Airports	This part of ISO/IEC 24713 specifies the application profile, including necessary parameters and interfaces between function modules (<i>i.e.</i> , BioAPI-based modules and an external interface) in support of token-based biometric identification and verification of employees at local access points (<i>i.e.</i> , doors or other controlled entrances) and across local boundaries within the defined area of control in an airport. The token is expected to contain one or more reference biometric and one or more operational biometric or both. This standard includes recommended practices for enrollment, watch-list checking, duplicate issuance prevention, and verification of the identity of employees at airports. It also describes architectures and business processes appropriate to the support of token-based identity management in the secure environment of an airport.	3	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC Project 24713-3: Biometric Profiles for Interoperability and Data Interchange – Part 3: Biometric-Based Verification and Identification of Seafarers	This international standard specifies a biometric profile including necessary parameters and interfaces between function modules (<i>i.e.</i> , BioAPI-based modules and an external interface) in support of biometric identification and verification of seafarers. The domain of applicability may extend to other situations where an interoperable biometrics-based identity document is required, but the main focus is on the use of biometrics on a Seafarers Identity Document (SID).	2	Published
	ILO SID-0002: Finger Minutiae-Based Biometric Profile for Seafarers Identity Documents	This document gives guidelines for incorporation of minutiae-based fingerprint biometric technology into the SID in accordance with the Seafarers Identity Documents Convention (Revised), 2003 (No. 185).	3	Published
Quality	ISO/IEC Project 29794-1: Biometric Sample Quality Standard – Part 1: Framework	This project will result in a multipart-international standard that specifies the derivation, expression, and interpretation of biometric sample quality scores, as well as data and interchange of these scores, and data via the multipart ISO/IEC 19794 Biometric Data Interchange Format Standard. In January 2007, WG3 agreed to change the scope of this project, with Part 1 progressing as an international standard and other parts progressing as technical reports. The editor of Part 1 was instructed to incorporate relevant texts from Parts 4 and 5 in the new WD of Part 1. New drafts of Parts 4 and 5 will be prepared by their respective editors.	1	Published
	ISO/IEC 29794-4: Biometric Sample Quality – Fingerprint Sample Quality (Technical Report)	The purpose of this part of ISO/IEC 29794 is to define and specify methodologies for objective, quantitative quality score expression, interpretation, and interchange for fingerprint images. The editor of Part 1 was instructed to incorporate relevant texts from Parts 4 and 5 in the new WD of Part 1.	1	In Publication

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	ISO/IEC 29794-5: Biometric Sample Quality – Part 5: Face Image Data (Technical Report)	The purpose of this part of ISO/IEC 29794 is to define and specify methodologies for objective quantitative quality score expression, interpretation, and interchange for face images. The editor of Part 1 was instructed to incorporate relevant text from Parts 4 and 5 into the new WD of Part 1.	1	In Publication
	ISO/IEC Project 29794-6: Biometric Sample Quality – Part 6: Iris Image Data	This part of ISO/IEC 29794 establishes terms and definitions that are useful in the specification, characterization and evaluation of iris image quality, methods used to characterize and assess the quality of iris images, normative requirements on software and hardware producing iris images, and normative requirements on software and hardware measuring utility of iris images. Outside the scope are performance assessment of specific quality algorithms, and standardization of specific quality algorithms.	1	WD
	INCITS Project 1672-D: Biometric Sample Quality Standard	This standard serves to establish terms and definitions that are useful in the specification, use, and test of quality metrics. It also defines the purpose, intent, and interpretation of biometric quality scores.	1	Withdrawn
Web Services	INCITS 422-2008: Biometric Identity Assurance Services (BIAS)	This project defines biometric services used for identity assurance and is invoked over a services-based framework. It is intended to provide a generic set of biometric (and related) functions and associated data definitions to allow remote access to biometric services.	1	Published
	INCITS 422-2008 Revision 1: Biometric Identity Assurance Services (BIAS)	This project will add support to BIAS for more detailed biometric transformations by improving the Transform Biometric Data service. The proposed revision will also incorporate modifications noted by users and implementers of the standard.	*	PR
	OASIS Biometric Identity Assurance Services (BIAS)	This project was initiated to define the Web services bindings (schema, messaging protocol, etc.) for INCITS Project 1823-D: BIAS.	1	PR

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Standards Category	Standard Name	Description	Proposed Priority	Status
Security	ANSI X9.84-2003: Biometric Information Management and Security for the Financial Services Industry	This standard specifies the minimum security requirements for effective management of biometric data. Within the scope of this standard, the following topics are addressed: security for the collection, distribution, and processing of biometric data encompassing data integrity, authenticity, and non-repudiation; management of biometric data across its life cycle; and application of biometric technology for internal and external as well as logical and physical access control.	2	Published
	ISO/TC68/SC 2 19092-1: Financial Services – Biometrics – Part 1: Security Framework	This international standard describes the security framework for using biometrics for authentication of individuals in financial services. It introduces the types of biometric technologies and addresses issues concerning their application. This part of ISO 19092 also describes the architectures for implementation, specifies the minimum security requirements for effective management, and provides control objectives and recommendations suitable for use by a professional practitioner.	2	Published
	ISO/TC68/SC 2 Project 19092-2: Financial Services – Biometrics – Part 2: Cryptographic Requirements	This part of the standard describes the syntax of biometric objects and the cryptographic requirements to protect those objects when implementing biometrics for authentication in financial services. Encoding examples are provided.	2	Withdrawn
	ISO/IEC Project 19792: Security Techniques – A Framework for Security Evaluation and Testing of Biometric Technology	This international standards project addresses the specific aspects that shall be considered during a security evaluation or testing process of a biometric verification system. This standard addresses only those aspects of a security evaluation that distinguish biometric systems from IT systems in general.	2	CD
	ISO/IEC Project 24745: Security Techniques – Biometric Template Protection	This international standard describes the security techniques for biometric template protection. This standard focuses on privacy-enhanced techniques for biometric template generation.	2	WD

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC Project 24761: Security Techniques – Authentication Context for Biometrics	This international standards project defines the structure and the data elements of authentication context for biometrics. The structure design is based on the five-sub-process model of biometric verification, which consists of data capture, signal processing, storage, comparison, and decision, as well as the concept of biometric process unit, the subject that executes a sub process(es) of a biometric verification with a uniform level of security performance. This project also specifies cryptographic syntax that can be used to give biometric enrollment and processing context information to the verifier of biometric verification.	2	CD
	ITU-T Recommendation X.1081: The Telebiometric Multimodal Model – A Framework for the Specification of Security Aspects of Telebiometrics	This is a framework for the specification of security aspects of telebiometrics.	2	Approved
	ISO/IEC Project 19784-1: BioAPI – Biometric Application Programming Interface – Part 1: BioAPI Specification, Amendment 3: Support for Interchange of Certificates and Security Assertions and other Security Aspects	This proposed amendment to ISO/IEC 19784-1 and related standards provides support for requirements identified in the ISO/IEC SC 27 work on ACBio and the ITU-T SG17 work on X.tsm and X.tai.	*	FDAM
Performance Testing	INCITS 409.1-2005: Biometric Performance Testing and Reporting – Part 1: Principles and Framework	This standard addresses testing the accuracy of identification and verification devices, algorithms, and systems. This part is intended to summarize the other parts of the standard. An overview of the primary testing protocols, biometric applications, and performance metrics is presented. It also provides guidance on data analysis techniques, recording of results, and performance reporting measures available.	3	Published
	INCITS 409.2-2005: Biometric Performance Testing and Reporting – Part 2: Technology Testing and Reporting	This standard specifies methods for performance testing of biometric systems and devices. It constitutes a specialization of a biometric testing framework standard in that it is concerned only with the offline use of stored (<i>i.e.</i> , previously captured) biometric samples and not the	3	Published

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Standards Category	Standard Name	Description	Proposed Priority	Status
		interaction of human subjects with a biometric sensor. The standard covers: comparative or absolute testing of performance of biometric algorithms, components, or systems; comparison of biometric data sets; prediction of elements of deployed online performance; assessment of performance available from complex data samples including repeated sample and multimodal data.		
	INCITS 409.3-2005: Biometric Performance Testing and Reporting – Part 3: Scenario Testing and Reporting	This standard specifies the requirements for scenario-based biometric testing and reporting. The goal of scenario testing is to determine the overall system performance in a prototype or simulated application. Testing is carried out on a complete system in an environment that models a real-world target application of interest.	3	Published
	INCITS 409.4-2006: Biometric Performance Testing and Reporting – Part 4: Operational Testing Methodologies	This standard provides the test planning, test execution, and test reporting requirements that must be followed during the biometric system's operational test. The goal is to determine if the performance of the complete biometric system meets the requirements of that specific application environment for a target population.	3	Published
	INCITS 409.5-20xx: Biometric Performance Testing and Reporting – Part 5: Biometric Device Performance Evaluation Access Control	This standard specifies a framework for testing and reporting of biometric subsystems used in applications supporting access control. It does not specify application requirements but only the biometric component of the access control system. It specifies the environment in which testing will be performed, including optional testing environments, and the means by which testing will be performed and how the results will be reported.	3	In Publication
	INCITS Project 1602-D: Part 7 – Biometric Performance Testing and Reporting – Part 7: Framework for Testing Methodologies for Specific Environments of Biometric Systems	This technical report will describe a framework for testing methodologies for specific environments of biometric systems.	*	In Publication

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Standards Category	Standard Name	Description	Proposed Priority	Status
	INCITS Project 1602-D: Biometric Performance Testing and Reporting – Part 8: Interpreting Biometric Performance Test Results Using Statistical Analyses	This technical report will provide guidance on interpreting test results from the standardized performance tests. It will concentrate on the significance of the statistical test results.	*	WD
	ISO/IEC 19795-1: Biometric Performance Testing and Reporting – Part 1: Principles and Framework	This part of ISO/IEC 19795 is applicable to empirical performance testing of biometric systems and algorithms through analysis of the matching scores and decisions output by the system without detailed knowledge of the system's algorithms or the underlying distribution of biometric characteristics in the population of interest.	3	Published
	ISO/IEC 19795-2: Biometric Performance Testing and Reporting – Part 2: Biometric Testing Methodologies.	This part of ISO/IEC 19795 provides requirements and recommendations on data collection, analysis, and reporting specific to two primary types of evaluation: technology and scenario. It specifies requirements for development and descriptions of protocols for technology and scenario evaluations.	3	Published
	ISO/IEC 19795-3: Technical Report – Biometric Performance Testing and Reporting – Part 3: Modality-Specific Testing Methodologies	This technical report is intended to describe the variations in testing methodologies due to modality-dependent characteristics. The purpose of this document is to present and define methods for determining how to develop a technical performance test given a specific biometric modality.	3	Published
	ISO/IEC 19795-4: Biometric Performance Testing and Reporting – Part 4: Interoperability Performance Testing	This standard defines tests to specifically address absolute performance, sufficiency, and interoperability available from biometric data formatted to comply with established standards, particularly those developed in the various parts of ISO/IEC 19794. However, because this standard references interchange formats generically by referencing only their black box generation and use, it also applies to other open standards.	2	Published
	ISO/IEC Project 19795-5: Biometric Performance Testing and Reporting – Part 5: Scenario Evaluation Biometric Access Control Systems	The purpose of this international standard is to present the requirements and best scientific practices for conducting scenario performance testing and evaluation of biometric devices for access control systems.	3	FCD

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Standards Category	Standard Name	Description	Proposed Priority	Status
	ISO/IEC Project 19795-6: Biometric Performance Testing and Reporting – Part 6: Testing Methodologies for Operational Evaluation	This standard provides the test planning, test execution, and test reporting requirements that must be followed during the biometric system's operational test. The goal is to determine if the performance of the complete biometric system meets the requirements of a specific application environment for a target population. A secondary goal is to document the uncontrolled population and environmental parameters that affect system performance (that could be introduced into scenario evaluations to reduce the need for performing costly operational tests).	2	CD
	ISO/IEC Project 19795-7: Biometric Performance Testing and Reporting – Testing of On-Card Biometric Comparison Algorithms	This standard establishes a mechanism for measuring the core algorithmic capabilities of biometric comparison algorithms running on ISO/IEC 7816 integrated circuit cards.	*	FDIS
	ISO/IEC Project 29120-1: Machine-Readable Test Data for Biometric Testing and Reporting – Part 1: Framework and Components	This part of a multipart standard will establish elemental components of machine-readable test data for use in subsequent parts of this standard. This part now contains the content of Part 3. This part will establish machine-readable records for documenting the output of a biometric test. This will include structures for documenting elements that tests conformant to the parts ISO/IEC 19795 are required to report.	*	CD
	ISO/IEC Project 29120-2: Machine-Readable Test Data for Biometric Testing and Reporting – Part 2: Test Input Data	This part of a multipart standard will establish a mark up for bodies of archival sample data. This could support offline replay of online user-system interactions.	*	WD
	ISO/IEC Project 29120-3: Machine-Readable Test Data for Biometric Testing and Reporting – Part 3: Test Certificates	This part of a multipart standard will enhance the usability of biometric test certification reporting by providing them in a common and machine-readable form. Part 4, previously named "Biometric Test Certificates" has been renamed Part 3. The previous Part 3 has been merged into Part 1.	*	CD

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	ISO/IEC Project 29120 4: Machine Readable Test Data for Biometric Testing and Reporting – Part 4: Biometric Test Certificates	This part of a multipart standard will enhance the usability of biometric test certification reporting by providing them in a common and machine readable form.	*	Cancelled
	INCITS Technical Report 1627-S: Evaluating Multi-Modal Biometric Systems	Although this was approved as a study project, it has not progressed as a technical report or standard. That work has been rolled in to various other standards, including the SC 37 technical report on multimodal fusion.	2	N/A
	ISO/IEC Project 29156: Guidance for specifying performance requirements to meet security and usability needs in applications using biometrics	Technical Report provides guidance for users of biometric recognition on specifying requirements for performance, security, and usability. Guidance extends to the use of biometric recognition with and without other authentication mechanisms such as passwords and physical tokens.	*	WD
	ISO/IEC Project 29189: Operational evaluation of operator-led biometric systems	Explains the need to adopt a different approach to the evaluation of systems which include operator interaction such as forensic AFIS applications.	*	Base
	ISO/IEC Project 29197: Evaluation methodology for environmental influence in biometric systems	Provides a generic methodology to evaluate the environmental influence in biometric systems. This evaluation is intended for testing biometric systems performance when these systems are working under different environments.	*	WD
	ISO/IEC Project 29198: Characterization and measurement of difficulty for fingerprint databases for technology evaluation	Technical Report provides guidance on determining how “challenging“ or “stressing“ is an evaluation database for fingerprint recognition, based on factors such as sample quality, template ageing, relative rotation, deformation, overlap between impressions, and mixed impression types. In other words, this Technical Report defines the relative level of difficulty of a fingerprint database collected for technology evaluation of fingerprint recognition algorithms.	*	WD

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Standards Category	Standard Name	Description	Proposed Priority	Status
Other Standards and Normative Documents	TR 29196 on Guidance for Biometric Enrollment	This report consolidates information relating to successful, secure and usable implementation of biometric enrolment processes, while indicating areas of uncertainty which organizations proposing to use biometric technologies will need to address during procurement, design, deployment and operation.	*	WD
	TR 29195 on Passenger Processes for Biometric Recognition in Automated Border Crossing Systems	There currently is little standardization of the passenger experience when interfacing with voluntary automated systems. There is little in the way of standards regarding signage or prompts for user interaction with the biometric components of the system, including instructions to begin or repeat the biometric presentation and indication that the process was successful or unsuccessful. There are no standards regarding the prompting of users to move forward through the gates or kiosks or to refer users to the primary (or secondary) manual process. Some systems issue passengers receipts after successful processing, but there are no standards for prompting users to take their receipts or instructing users if or how receipts will be used upon exiting the immigration halls. Uptake, throughput and error rates are negatively impacted by the lack of a standardized user experience.	*	WD
	ISO/IEC Project 24714-1: Technical Report on Cross-Jurisdictional and Societal Aspects of Implementation of Biometric Technologies – Part 1: Guide to the Accessibility, Privacy and Health and Safety Issues in the Deployment of Biometric Systems for Commercial Application	This technical report offers guidance on the design and development of systems using biometrics with regard to societal norms and legal requirements in the use of biometric data between different jurisdictions, in particular regarding privacy and personal data protection and the usability of biometrics by the population with regard to health and safety.	3	Published
	ISO/IEC Project 24714 2: Cross Jurisdictional and Societal Aspects of Implementation of Biometric Technologies – Part 2: Practical	This document is based on ISO/IEC 24714 1 but provides a more detailed approach to cross-jurisdictional and societal aspects of biometrics. It identifies and analyzes	3	Withdrawn

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	Application to Specific Contexts	issues with reference to a specified selection of biometric applications. It also attempts to analyze real world applications on the basis of the same parameters selected for the technologies description.		
	ISO/IEC TR24741:2007 Technical Report – Biometrics Tutorial	This technical report provides a tutorial on biometrics. It contains a description of the architecture of biometric processes and defines those processes. An annex provides further details of the areas of biometric standardization that are being progressed by the ISO. Another annex provides a list of vocabulary terms and definitions used in these standards.	2	Published
	ISO/IEC Project 24779: Pictograms, Icons and Symbols for use with Biometric Systems – Part 1: Overview	This standard specifies a family of icons and symbols used in association with devices for biometric registration, verification, and/or identification. The purpose of the specified icons is for display on visual display screens. Symbols are printed on signs and on cases or key tops and buttons of terminal equipment.	3	WD
	ISO/IEC Project 24779: Pictograms, Icons and Symbols for use with Biometric Systems – Part 2: Fingerprint Applications	This part of the standard describes the specifies the icons to be used in conjunction with fingerprint biometric technology. The icons are intended both to alert (data) subjects to the presence and use of fingerprint recognition and to assist data subjects and other operational personnel in efficient use of biometric systems.	3	WD
	ISO/IEC Project 24779: Pictograms, Icons and Symbols for use with Biometric Systems – Part 3: Vascular Applications	This part of the standard describes the specifies the icons to be used in conjunction with vascular biometric technology.	3	WD
	ISO/IEC SC 37 Standing Document 2, (v8): Harmonized Biometric Vocabulary	The purpose of this document is to provide a systematic description of the concepts in the subject field of biometrics and to clarify the use of the terms in this subject field. The compilation of this vocabulary provides a forum for analyzing, discussing, and coordinating key concepts found in ISO/IEC JTC 1/SC 37 standards.	2	WD

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	INCITS M1 Standing Document 4 (SD4): Report on Issues for Harmonizing Conformity Assessment to Biometric Standards	This report identifies and defines the types of activities that may occur in conformity assessment schemes. It also discusses various kinds of biometric standards that M1 could develop for use in biometric-standards-based conformance testing programs. It provides guidance on a generalized taxonomy for conformance testing methodology standards, recommendations to M1 on best practices for supporting conformance testing to biometric standards, and suggestions for harmonizing biometric-standards-based conformance testing programs.	2	SD
	ISO/IEC 7816-11:2004: Identification Cards – Integrated Circuit Cards – Part 11: Personal Verification through Biometric Methods	This international standard specifies the use of inter-industry commands and data objects related to personal verification through biometric methods in integrated circuit cards. The inter-industry commands used are defined in ISO/IEC 7816-4. The data objects are partially defined and partially imported from ISO/IEC 19785-1. This standard also presents examples for enrollment and verification and addresses security issues.	3	Published
	ISO/IEC Project 18013-2: Personal Identification – ISO-Compliant Driving License – Part 2: Machine-Readable Technologies	The purpose of this project is to produce a standard for an ISO-compliant, machine-readable driving license. Most of SC 37 comments from the New Zealand meetings were related to terminology used in the draft standard.	3	FCD

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3. List of Acronyms Used in this Document

ABIS – Automated Biometric Identification System
ANSI – American National Standards Institute
API – Application Programming Interface
ASN – Abstract Syntax Notation
BFP – biometric function provider
BIAS – Biometric Identity Assurance Services
BIP – BioAPI Interworking Protocol
BIR – biometric identification record
BSP – biometric service provider
BSWG – Biometric Standards Working Group
BTF – Biometrics Task Force
CBEFF – Common Biometric Exchange File Format
CD – committee draft
CIRDIF – Conformance Issues Related to Data Interchange Formats
CJIS – Criminal Justice Information Services Division (FBI)
COI – Community of Interest
CORVET - Coordinate Operational Resources for Voice Exploitation and Technology
CR – change request
DCOR - Draft Corrigendum
DHS – Department of Homeland Security
DISR – DoD Information Technology Standards Registry
DoD – Department of Defense
DTR – draft technical report
EBTS – Electronic Biometric Transmission Specification
EFTS – Electronic Fingerprint Transmission Specification
FaceQM – Face Image Quality Measurement
FBI – Federal Bureau of Investigation
FCD – final committee draft
FDAM – final draft amendment
FDIS – final draft international standard
FIPS – Federal Information Processing Standard
FIQM – Finger Image Quality Measurement
FOS – Family of Systems
FRVT – Face Recognition Vendor Test
GUI – graphical user interface
IA – information assurance
IAFIS – Integrated Automated Fingerprint Identification System
ICE – Iris Challenge Evaluation
ICP – interagency coordination plan
iDSM – interim data sharing model

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US-VISIT – U.S. Visitor and Immigrant Status Indicator Technology

WDAM – working draft amendment

WD – working draft

WG – working group

WIPT – working integrated product team

XCBF – XML Common Biometric Format

XML – eXtensible Markup Language