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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 29268.4-2012

**Information technology -- Biometric performance testing and
reporting -- Part 4: Interoperability performance testing**

信息技术 生物特征识别性能测试和报告 第4部分：互操作性性能测试

(English Translation)

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Foreword

GB/T 29268 "Information technology - Biometric performance testing and reporting" is divided into the following seven sections.

- Part 1. Principles and Framework;
- Part 2. Test methods and technology scene evaluation;
- Part 3. Modal specific tests;
- Part 4. Interoperability performance testing;
- Part 5. biometric access control system scene evaluation;
- Part 6. Test methods of performance evaluation;
- Part 7. biometric identification card alignment algorithm testing.

This section GB/T Part of 429,268.

This section drafted in accordance with GB/T 1.1-2009 given rules.

This section uses the translation method identical with the international standard ISO/IEC 19795-4:2008 "Information technology - Biometric performance testing and Part 4 of the report. Interoperability performance testing. " Consistency correspondence between this part of international documents and normative references of our files are as follows.

--- GB/T 26237.2-2011 Information technology - Biometric data interchange formats - Part 2. Finger minutiae data (ISO/IEC 19794-2:2009, NEQ)

--- GB/T 26237.3-2011 Information technology - Biometric data interchange formats - Part 3. Finger pattern spectral data (ISO/IEC 19794-3:2009, MOD)

--- GB/T 28826.1-2012 Information technology Utilities Biometric Exchange Formats Framework - Part 1. Data element Regulation Fan (ISO/IEC 19785-1:2006, MOD) Please note that some of the content of this section may involve patents. This part of the release mechanism does not assume the responsibility to identify these patents.

This part of the National Information Technology Standardization Technical Committee (SAC/TC28) and focal points.

This section drafted by. China Electronics Standardization Institute, Beijing Institute of Computer Technology and Application.

Introduction

ISO/IEC 19794 "Information technology - Biometric data interchange format" has been the biometric data of the interoperable exchange Dien A foundation. The standard is defined by an open container image, signal, characteristic data, and limit certain characteristics of the sample, while the implementation of the requirements A party capable of handling a limited subset of all possible biometric sample collection, thereby improving interoperability performance. The sample is in line with Fingerprint template standards embedded in the image data compression process ISO/IEC 19794-2 and ISO/IEC 19794-8. Only the same kind of format Samples (some samples defined in ISO/IEC 19794 in the same part) can be interchanged.

In ISO/IEC JTC1/SC37 publicity before the data exchange standards, because dedicated instance is important, dedicated, with intellectual property rights Product of the process, it is usually considered special recognition template may provide better performance than any possible criteria. For emerging standards whether in question is competent. they encoded data (features, images, etc.) indicate whether we can achieve compared to proprietary solutions to match prospective Correctness.

Secondly, interoperability, appear in the following applications, the standard data is

generated by the different agencies and systems and matching. If a the company's feature extraction processing subsystem collect samples to generate ISO/IEC 19794- x appropriate instance, the ratio of other companies Subsystem can get the original than the company's own performance subsystems have it? A further problem is that third-party company's ability to successfully identify Two different sources, and user registration sample samples.

This section defines the test to be described in detail by the absolute performance has become the standard format of biometric data, adequacy and interoperability, in particular the standard ISO/IEC 19794 each section. However, due to the present standard exchange format usually cited reference only black box generation and make to use, it is also applicable to other open standards. As described above to launch a conclusion that the test of success is based on low-level data elements and basic accuracy and suitability of the above values, for example. in line with their own standards. Therefore, the requirements of compliance testing as a major test section. This is a reference to the standard formal been published compliance testing or outline obtained. For example, ISO/IEC 19794-5 Face Interoperability performance testing part of its application profile may reference marker images, and mark images on the contrary may depend on ISO/IEC 15444-1.

This section includes the following three types of tests.

- Online. scenario testing that volunteers registered suppliers of products, followed by the use of supply-side authentication or identification tools for real and fake try;
- Offline. technical testing, the collected sample archive collection, no need to simulate specific application in accordance with the operating conditions of the collection, but input to register for the party, verification or identification products for real and counterfeit attempts;
- Mixed. the sample set in an attempt to simulate a particular application operating conditions collected online, then later offline processing.

In each case, interoperability testing is required to embed a standard exchange format for multiple samples generated above, exchange and comparison. If the biometric Levy collection device identification, and/or object and device interaction is considered when there is a real impact on the intended application interoperability performance, fitness Used in combination from the online test on the crowd gathered. If the typical sample set is already available (for example, passes the photo is converted into ISO/IEC 19794-5 identify the instance), the appropriate use of off-line test. If the typical data collection is neither practical nor can a specific subsystem when interoperability performance play a decisive role, offline testing may be appropriate, such as. feature extraction and/or features comparison.

In all tests, the interoperability test objects must be registered in one or more products, and verify one or more other products or identification. It should include the transaction as its own (I test) and as one or more other people (impostor test) objects. If there is Big enough

crowd, you can use an impostor crowd irrelevant. Because you need to try a variety of products and counterfeiting, online testing becomes more complex Weight, mixed testing and offline testing allow for zero effect spoofing attempt.

Interoperability performance testing, the standard biometric data block (BDBs) generator J is suitable for testing or offline testing of mixed income Sample set. In the case of each subsystem are in line with ISO/IEC 19794-2 under standard BDBs use than subsystems K, until KJ2 verification or identification tests. Wherein, BDB may be an image, signal, or a standard template. Optional coding standard exchange format should allow the End Full details of the encoding may be referred to by a normative ISO/IEC 24713-1 outline obtained. If the problem is in the format of the image, then Using its subsequent internal template (usually proprietary), but this form shall be classified in the given format between two instances of a black box than of the concept.

Tests in this section are presented in ISO/IEC 19794- x the specific biometric identification format associated with interoperability a General principle.

Information technology - Biometric performance testing and reporting Part 4. Interoperability performance testing

1 Scope

This section GB/T 29268 specifies the requirements needed for the assessment.

Available performance --- the standard interchange format (SIF) consistent with the sample;

--- Available consistent performance and SIF sample exchange time;

--- Consistent with the SIF and proprietary data formats associated with the samples available properties;

--- SIF by quantifying the relative performance of a single product and cross-product performance obtained interoperability performance;

--- Available properties consistent with one or more SIF multi-sampling and multi-modal data;

--- Biometric acquisition device (BCD) interoperability performance.

In addition, this section.

--- Including the establishment of a set of interoperable procedures;

--- Defined using the device to test interoperability program;

--- Given measure of interoperability performance testing procedures.

This section applies to multi-party biometric system for testing methods and technical evaluation of the scene, the biometric data exchange format Data format standards are