

ISO/IEC 19795-5:2011-02 (E)

Information technology - Biometric performance testing and reporting - Part 5: Access control scenario and grading scheme

Contents		Page
Foreword		v
Introduction		vi
1	Scope	1
2	Conformance	2
3	Normative references	2
4	Terms and definitions	2
5	Definition of testing scenario	3
5.1	Overview	3
5.2	Relationship of biometric system / subsystem to access control system	3
5.3	Evaluation metrics overview	5
5.4	Evaluation approach	5
5.4.1	Tests	5
5.4.2	Universality of the test	6
5.4.3	Levels of effort and decision policies	6
5.4.4	Controlled Indoor Environment	6
5.5	Crew characteristics and management	7
5.5.1	Crew demographics	7
5.5.2	Crew size	8
5.5.3	Test crew selection	8
5.5.4	Test crew training	9
5.5.5	Operator - crew member interaction	9
5.5.6	Habituation	9
5.6	Privacy	9
5.6.1	General	9
5.6.2	Crew identity protection	9
5.6.3	Data protection	10
5.6.4	Proprietary information	10
6	Testing approach and conduct	10
6.1	Planning	10
6.1.1	General	10
6.1.2	Test objectives	10
6.1.3	Inputs to and outputs from the test process	10
6.1.4	Concept of operations	10
6.1.5	Adherence to native system operations	11
6.2	General test approach	11
6.2.1	General	11
6.2.2	Pre-test activities	12
6.2.3	System operability verification	14
6.2.4	Data collection	14
6.2.5	Problem reporting and tracking	15
6.2.6	Post-test briefing	16
6.3	Testing methodology	16
6.3.1	Introduction	16
6.3.2	Enrolment transactions and results generation	17

6.3.3	Verification attempts, transactions, and results generation	17
6.3.4	Enrolment and verification temporal separation	18
6.3.5	Impostor tests	20
6.4	Errors and exception cases	20
6.5	Incremental performance evaluations	21
7	Grading and reporting	21
7.1	Grading	21
7.1.1	Data analysis	21
7.1.2	Using statistical analysis methods	21
7.1.3	Performance measures	21
7.1.4	Grading of matching performance illustration	25
7.1.5	Uses (of grading)	25
7.2	Documentation requirements and control	26
7.2.1	General	26
7.2.2	Test control	26
7.3	Reporting performance results	27
7.3.1	Reporting requirements	27
7.3.2	Report structure	28
	Annex A (informative) Grading information	29
A.1	Equivalence of tests	29
A.2	Comparison of test results	29
A.3	Grading values for enrolment performance	29
A.4	Grading values for matching performance	30
A.5	Grading illustration shown in Figure A.1	30
A.6	Grading values for transaction time performance	31
A.7	Defining system requirements as in Table 7	31
	Annex B (normative) Statistical methods for estimation of confidence bounds graded test metrics	33
B.1	Correlated binary method	33
B.2	Beta distribution method	34
B.3	Z-statistic	35
	Bibliography	36