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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 24708 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 37, *Biometrics*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. X.1083.

This Recommendation | International Standard, the BioAPI interworking protocol (BIP), specifies the syntax, semantics, and encodings of a set of messages ("BIP messages") that enable a BioAPI-conforming application to request biometric operations in BioAPI-conforming biometric service providers (BSPs) across node or process boundaries, and to be notified of events originating in those remote BSPs. It also specifies extensions to the architecture and behaviour of the BioAPI framework (specified in ISO/IEC 19784-1) that support the creation, processing, sending, and reception of BIP messages.

A scenario where this Recommendation | International Standard would be applicable is where a national government decides to establish a system of biometric enrolment and authentication that will involve a central database of all enrolled persons in the country, with access to that database from biometric devices in health-care, social services, immigration, and security services. This is one of several applications where the BIP would be of use.

The BIP protocol is designed so that a conforming implementation does not have to support the whole functionality of a BioAPI framework. Several conformance classes are defined in this Recommendation | International Standard to accommodate various degrees of support of such functionality. This makes it possible to create lightweight implementations of this Recommendation | International Standard in which support of BioAPI-conforming applications or BioAPI conforming BSPs is either not possible or not required.

This Recommendation | International Standard uses the ASN.1 notation (see ITU-T Rec. X.680 series | ISO/IEC 8824-1 multi-part standard) to specify the protocol messages.

Clauses 7 to 11 contain informative overview material. Clauses 12 onwards (and some annexes) provide the normative specification.

Clause 7 describes the architecture of BIP.

Clause 8 describes the mechanism of remote GUI event notifications.

Clause 9 presents some examples of possible system configurations using BIP.

Clause 10 describes the format of the biometric data transferred by BIP.

Clause 11 describes the identification of BIP endpoints, applications, and BSPs.

Clause 12 provides an overview of BIP message exchanges.

Clause 13 contains general provisions which are invoked by other clauses.

Clause 14 specifies the general syntax of a BIP message.

Clause 15 specifies the mapping between BioAPI types and the corresponding ASN.1 types that occur as components of BIP messages.

Clause 16 specifies the syntax of some individual BIP messages and the actions to be performed when receiving a BioAPI function call or a BIP message related to a BioAPI function call.

Clause 17 specifies the syntax of some individual BIP messages, and the actions to be performed when receiving a BioAPI callback or a BIP message related to a BioAPI callback.

Clause 18 specifies a number of conceptual tables to be used by an implementation.

Clauses 19 to 33 contain specific provisions which are invoked by other clauses.

Annex A is normative and specifies the TCP/IP binding of BIP.

Annex B is normative and specifies additional provisions for the TCP/IP binding of BIP.

Annex C is normative and specifies the SOAP/HTTP binding of BIP.

Annex D is informative and clarifies the minimal requirements for simple systems.

Annex E is informative and provides examples of scenarios in which the BIP might be employed.

Annex F is normative and contains the complete ASN.1 specification of BIP.