TECHNICAL REPORT

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Information technology — Mobile item identification and management — Reference architecture for Mobile AIDC services

Technologies de l'information — Gestion et identification d'élément mobile — Architecture de référence pour les services AIDC mobile

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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.

In exceptional circumstances, when the joint technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide to publish a Technical Report. A Technical Report is entirely informative in nature and shall be subject to review every five years in the same manner as an International Standard.

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 29172 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

Introduction

This Technical Report aims at supporting Mobile AIDC (automatic identification and data capture) services that provide information content to end-users via radio frequency identification (RFID) and optically readable media (ORM) technologies (e.g. ISO/IEC 18004, ISO/IEC 15424, ISO/IEC 29143, ISO/IEC 18000-3 Mode 3, ISO/IEC 18000-6, ISO/IEC 29173, ISO/IEC 29174, ISO/IEC 29175, ISO/IEC 29176, ISO/IEC 29177, ISO/IEC 29178, ISO/IEC 29179, ISO/IEC 29168, and ISO/IEC 9834-9). This Technical Report describes an overall service architecture to provide Mobile AIDC services that are enabled by a set of standards and may be developed by various architectural configurations according to market needs. While each standard in the set focuses only on its specified scope, this Technical Report describes an overall description in relation to relevant standards, and their roles and positions in various implementations.

The overall service architecture deals with all of the relevant standards, their interface relationships and how to incorporate them to develop Mobile AIDC services based on resulting Mobile AIDC technologies.

This Technical Report is presented in terms of the generic reference architecture for Mobile AIDC services and includes the following: descriptions of Mobile AIDC services, reference architecture and service components, service operation procedures, and the relationship among relevant standards to enable the reference architecture.

Information technology — Mobile item identification and management — Reference architecture for Mobile AIDC services

1 Scope

Consisting of Mobile RFID and Mobile ORM services, Mobile AIDC services refer to consumer-oriented information services provided via telecommunication networks and triggered by AIDC technologies such as RFID, linear bar code or two-dimensional (2D) symbol. Although Mobile AIDC services are provided mainly to ordinary consumers, they do not limit other types of end-users such as sales persons and repairpersons. The Mobile RFID services are those triggered by RFID and the Mobile ORM services are those triggered by linear bar code or 2D symbol.

This Technical Report describes a reference architecture for Mobile AIDC services. For example, an RFID tag or a linear bar code or 2D symbol called a “data carrier” is affixed to a movie poster; a Mobile RFID interrogator or a symbol capturing camera, i.e. a Mobile ORM reader, is built into a cell phone; an end-user aims or touches the cell phone to the data carrier on the movie poster; and the corresponding information content is retrieved via the network. This reference architecture does not restrict exploitation of other service architectures and aims at supporting the Mobile AIDC service models described in Clause 5.

This Technical Report includes

- descriptions of Mobile AIDC services,
- reference architecture and service components,
- service operation procedures, and
- relationship among relevant standards to enable the reference architecture.

2 Conformance

This Technical Report does not specify any conformance issue.

3 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 29143, *Information technology — Automatic identification and data capture techniques — Air interface specification for Mobile RFID interrogators*

ISO/IEC 29168-1, *Information technology — Open systems interconnection — Part 1: Object identifier resolution system*

ISO/IEC 29173-1, *Information technology — Mobile item identification and management — Mobile RFID interrogator device protocol for ISO/IEC 18000-6 Type C*[1)]

ISO/IEC 29174 (all parts), *Information technology — UII scheme and encoding format for Mobile AIDC services*[1)]

ISO/IEC 29175, *Information technology — Mobile item identification and management — User data for Mobile AIDC services*[1)]

ISO/IEC 29176, *Information technology — Mobile item identification and management — Consumer privacy-protection protocol for Mobile RFID services*

ISO/IEC 29177, *Information technology — Mobile item identification and management — Object Directory Service for Mobile AIDC services*[1)]

ISO/IEC 29178, *Information technology — Mobile item identification and management — Service broker for Mobile AIDC services*[1)]

ISO/IEC 29179, *Information technology — Mobile item identification and management — Mobile AIDC application programming interface*[1)]

1) To be published.