INTERNATIONAL STANDARD

ISO/IEC 24791-2

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Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure —

Part 2: Data management

Technologies de l'information — Identification de radiofréquence (RFID) pour la gestion d'élément — Infrastructure de système de logiciel —

Partie 2: Gestion de données

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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.

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 24791-2 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 31, *Automatic identification and data capture techniques*.

ISO/IEC 24791 consists of the following parts, under the general title *Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure*:

— *Part 1: Architecture*

— *Part 2: Data management*

— *Part 3: Device management*

— *Part 5: Device interface*

Introduction

Radio frequency identification (RFID) air interface technology is based on non-contact electro-magnetic communication among interrogators and tags. RFID software systems are composed of RFID interrogators, intermediate software systems, and applications that provide control and coordination of air interface operation, tag information exchange, and health and performance management of system components. RFID technology is expected to increase effectiveness in many aspects of business by further advancing the capabilities of automatic identification and data capture (AIDC). To achieve this goal through the successful adoption of RFID technology into real business environments, RFID devices, software systems, and business applications must provide secure and interoperable services, interfaces, and technologies. This is the goal of ISO/IEC 24791.

Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure —

Part 2: Data management

1 Scope

This part of ISO/IEC 24791 defines the interface(s) that provide operations on RFID tag data including, but not limited to, reading, writing, collection, filtering, grouping, and event subscription and notification within the Software System Infrastructure (SSI).

Specifically, the interface(s) defined by this part of ISO/IEC 24791 provide the following features:

— full support for the commands and responses for air protocols supported by this part of ISO/IEC 24791 at an abstraction level appropriate for Data Management's position in the SSI architecture defined in ISO/IEC 24791-1;

— an abstract definition of commands and operations that can be applied to different network bindings and encoding mechanisms;

— support for the encoding mechanisms defined in ISO/IEC 15962;

— volume reduction, format or structure modification, data analysis, and data access appropriate for Data Management's position in the SSI architecture defined in ISO/IEC 24791-1;

— reporting of data to support application or data managing in formats controlled by the client, either inside or outside of SSI.

This part of ISO/IEC 24791 is composed of the EPCglobal *Application Level Events Standard*, in its entirety, with extensions to further support operation with ISO/IEC 15962 and the air protocols defined by ISO/IEC 18000.

2 Conformance

Conformance for this part of ISO/IEC 24791 shall satisfy the conformance requirements of the EPCglobal ALE Standard and the requirements defined in Clause 9 of this part of ISO/IEC 24791, which defines the required interpretation and extension of ALE to fully support the SSI architecture and its interaction with ISO/IEC 15962 and ISO/IEC 18000.

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 15962, *Information technology — Radio frequency identification (RFID) for item management — Data protocol: data encoding rules and logical memory functions*

ISO/IEC 19762-1, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 1: General terms relating to AIDC*

ISO/IEC 19762-3, *Information technology — Automatic identification and data capture (AIDC) techniques — Harmonized vocabulary — Part 3: Radio frequency identification (RFID)*

ISO/IEC 24791-1, *Information technology — Radio frequency identification (RFID) for item management — Software system infrastructure — Part 1: Architecture*

The Application Level Events Standard (latest version), EPCglobal, http://www.epcglobalinc.org/standards/ale