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Architecture for a distributed real-time access system

Architecture d'un système d'accès temps réel distribué

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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.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Ecma International (as ECMA-417) and drafted in accordance with its editorial rules. It was assigned to Joint Technical Committee ISO/IEC JTC 1, *Information technology*, and adopted under the "fast-track procedure".

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

Technology for real-time access control is widely used in many situations such as facility entrance systems in a building, payments at a hotel, ATM operations or e-voting in an election, etc. These services benefit from real-time access control systems connected via networks and using database information.

Sophisticated cloud, virtualization, database, networking technology and services and the evolution of authentication technology such as biometrics, NFC, QR codes used in distributed and modular access control systems enable previously underserved users and operators to innovate around new use cases.

For realizing such real-time access system, an Ecma standard ECMA-412 (also published as International Standard ISO/IEC 20933) "Framework for distributed real-time access systems" was first introduced in 2016 with a 2nd edition following in 2018. That standard specifies the reference model and common control functions. It gives direction for ongoing innovation and development of technology and the system integration of distributed real-time access control systems.

This Standard specifies the architecture for a distributed real-time access system taking into account the many technologies and the framework of ECMA-412. The architecture specifies the function group concept of the system, the functionalities of each function group and the interfaces. Protocols between function group and functions are out of the scope of this Standard.

This 2nd edition introduces some clarifications and editorial improvements to the text.

This Ecma Standard was developed by Technical Committee 51 and was adopted by the General Assembly of June 2019.

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Architecture for a distributed real-time access system

1 Scope

This Standard specifies the architecture for a distributed real-time access system. The architecture specifies the function group concept of the system, functionalities of each function group, and interfaces. Communication between function group and functions are not in the scope of this Standard.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ECMA-412, *Framework for distributed real-time Access systems*

ISO/IEC 20933, *Information technology — Distributed application platforms and services (DAPS) — Framework for distributed real-time access systems*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

3.1
access ID
identifier of an access request

3.2
access object
physical entity which access the access system

3.3
access object ID
identifier of an access object

3.4
access point
object ID receiver from access object for starting access system activities and an access system activity final result receiver for completion of the activities

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