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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 41782.4-2024

**Internet of things - Interoperability for systems - Part 4:
Syntactic interoperability**

物联网 系统互操作性 第4部分：语法互操作性

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is part 4 of GB/T 41782 "Interoperability of Internet of Things Systems". GB/T 41782 has published the following parts.

- Part 1: Framework;
- Part 2: Network connectivity;
- Part 3: Semantic interoperability;
- Part 4: Syntactic interoperability.

This document is equivalent to ISO/IEC 21823-4:2022 Internet of Things Internet of Things system interoperability Part 4: Syntax interoperability sex".

The following minimal editorial changes were made to this document.

- To coordinate with the existing standards, the name of the standard is changed to "Internet of Things System Interoperability Part 4: Syntax Interoperability".

Introduction

GB/T 41782 "Internet of Things System Interoperability" aims to specify the Internet of Things system interoperability framework, network connectivity, data semantics, the requirements of syntax and entity behavior make the Internet of Things system more widely used. GB/T 41782 is planned to consist of five parts.

constitute.

- Part 1: Framework. The purpose is to guide the design of a framework for the interaction between IoT systems and their internal entities.

- Part 2: Network connectivity. The purpose is to guide the internal network of the Internet of Things system and the different networks of the Internet of Things system.

interoperability and interconnection.

- Part 3: Semantic interoperability. The purpose is to specify the interoperability requirements for implementing data semantics in IoT systems.

- Part 4: Syntax interoperability. The purpose is to specify the interoperability requirements for data syntax in IoT systems.

- Part 5: Behavioral interoperability. The purpose is to guide the behavioral specifications of entities in interoperable systems of the Internet of Things.

IoT system interoperability Part 4: Syntactic Interoperability

1 Scope

This document specifies the interoperability of the Internet of Things from a grammatical point of view. The Internet of Things grammatical interoperability of this document contains the following.

- Principles for syntactic interoperability between IoT systems;
- IoT device information requirements related to syntax interoperability;
- A process framework for formulating information exchange rules between IoT devices from a grammatical perspective.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

ISO/IEC 20924 Internet of Things (IoT) and digital twin Vocabulary lary]

3 Terms and definitions

For this document, the terms and definitions defined in ISO/IEC 20924 and the following apply.

instance

A single entity with its own values and possible characteristics.

[Source. ISO 19103:2015, 4.20] 3.2 metamodel A special type of model that specifies the abstract syntax of a modeling language.

Note 1 to entry. A model is an instance of a metamodel (3.1).

NOTE 2 IoT syntactic interoperability is achieved by information exchange rules using the structures, data formats and constraints of the metamodel grammar.

[Source. ISO/IEC 19506:2012, modified --- the description after the definition was deleted and a note was added] 3.3 Model an abstraction of some aspect of reality.

[Source. ISO 19109:2015, 4.15] 3.4 property Specific properties of an object type.

[Source. ISO 16484-5:2017, 3.2.74]