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

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**Internet of things - Interoperability for systems - Part 3:
Semantic interoperability**

物联网 系统互操作性 第3部分：语义互操作性

(English Translation)

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1 Scope

This document gives the basic concepts for semantic interoperability of IoT systems, as described in the aspect model of ISO/IEC 21823-1, including.

- Core ontology requirements for semantic interoperability;
- Best practices and guidelines on how to use ontologies and develop domain-specific applications, including allowing extensibility and connecting to external the needs of the entity;
- Formalization of cross-domain specifications and ontologies to uniformly leverage existing ontologies;
- Related IoT ontologies, as well as their modularity, extensibility, reusability, scalability, and interoperability with upper-level ontologies Confronted with comparative studies of characteristics and methods;
- Use cases and service scenarios that reflect the necessity and demand for semantic interoperability.

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) Vocabulary

3 Terms and definitions

For this document, the terms and definitions defined in ISO/IEC 20924 and the following apply. ISO and IEC maintain a Standardized terminology database.

Semantic interoperability Participating systems can understand what the data model means

in the context of the subject domain.

[Source. ISO/IEC.19941.2017, 3.1.5, modified to delete the term "data"] 3.2 metadata Data that defines and describes other data.

[Source. ISO/IEC 11179-3:2013, 3.2.74] 3.3 Ontology A description of concrete or abstract things and the relationships between them in a specified field of knowledge.