



BSI Standards Publication

Information technology — Future Network — Problem statement and requirements

Part 9: Networking of everything

National foreword

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requirements —**

Part 9:
Networking of everything

*Technologies de l'information — Réseaux du futur — Énoncé du
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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on 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 the following URL: www.iso.org/iso/foreword.html.

This document was prepared by ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

A list of all parts in the ISO/IEC 29181 series, published under the general title *Information technology — Future network — Problem statement and requirements*, is available on the ISO website.

Introduction

This document defines the problem statement and requirements for the future network in the networking of everything, which would be the Internet of Things (IoT) network aspects.

Considering that many standards-development organizations, including ITU-T, already produced their own IoT-related standards or recommendations (such as ITU-T Y.2060, Y.2061, and Y.2069), this document has a clear scope, with new terms and definitions that are consistent with those already in existence. This document focuses on providing the solutions to other standards-development organizations' requirements; discussing how various networking technologies should be integrated for users.

This document focuses on networking issues, excluding how virtual things can be associated with physical things or devices. The problems of current networks and requirements for Future Networks are discussed in other parts of ISO/IEC 29181. This document only discusses the problems of current networking technologies and policies, and the requirements for the networking of Future Networks, especially considering future super realistic services like IoT.

Use cases in the Network of Everything are provided in [Annexes A](#) and [B](#).

Information technology — Future Network — Problem statement and requirements —

Part 9: Networking of everything

1 Scope

This document describes the general characteristics of Networking of Everything (NoE), which can be applied to Future Networks, especially from an Internet of Things (IoT) perspective. This document specifies:

- a conceptual model of NoE and its definition;
- problem statements in conventional networking;
- standardization activities of other standards-development organizations;
- requirements for NoE from an IoT perspective;
- technical aspects.

NOTE Since networking issues are an integral part of IoT and Future Networks, while standards of IoT or Future Networks are under development in other standards-development organizations, this document focuses on networking issues to integrate diverse networking techniques to provide users' service and/or things requirement.

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.

There are no normative references in this document.

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:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1

actuator

device that triggers a physical action following stimulation by an input signal

[SOURCE: ITU-T Y.2061]