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Part 9: Networking of everything

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Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Abbreviated terms **4**
5 Overview of Networking of Everything (NoE) **4**
6 Problem statement **6**
6.1 User's perception 6
6.1.1 Static network selection 6
6.1.2 Inconvenient network change 7
6.1.3 Reconnection to network 7
6.1.4 Separate accounting 7
6.1.5 Thing-user centric communications 7
6.2 Network's perception 7
6.2.1 Cooperation among ISPs 7
6.2.2 Inter-services between different types of networks 7
6.2.3 Reliable data transmission after path setup 7
6.2.4 Different accounting policy 8
6.2.5 Thing-user centric networks 8
7 Related standardization and research activities **8**
7.1 ISO JTC1 8
7.1.1 JTC1 WG10 8
7.2 ITU-T 8
7.2.1 Next Generation Network (NGN) 8
7.2.2 Future Networks 9
7.2.3 Smart Ubiquitous Networking (SUN) 10
7.2.4 ITU-T SG 20 11
7.3 Internet Engineering Task Force (IETF) 11
7.4 IEEE 12
7.5 oneM2M 13
8 General requirements for NoE **14**
8.1 Network transparency 14
8.2 Optimized network performance 14
8.3 One universal accounting 14
8.4 Security and privacy 14
8.5 Instantaneous integration of networks for the thing-user 14
9 Technical requirements for NoE **15**
9.1 Agent functions for NoE 15
9.2 Network functions for NoE 15
9.3 Integrated functions of NoE 16
Annex A (informative) **U-health use case in NoE** **18**
Annex B (informative) **Spatial collaborative work use case in NoE** **20**
Bibliography **22**

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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).

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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.

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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.

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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.

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TECHNICAL REPORT **ISO/TR 29181-9:2017(E)**

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]

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