BS ISO/IEC 14543-4-3:2015

BSI Standards Publication

Information technology – Home electronic system (HES) architecture

Part 4-3: Application layer interface to lower communications layers for network enhanced control devices of HES Class 1

National foreword

This British Standard is the UK implementation of ISO/IEC 14543-4-3:2015.

The UK participation in its preparation was entrusted to Technical Committee IST/6/-/12, Home Electronic Systems.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2015

ISBN 978 0 580 83577 3

ICS 35.200

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 September 2015.

Amendments/corrigenda issued since publication

Date	Text affected

ISO/IEC 14543-4-3

Edition 1.0 2015-09

INTERNATIONAL STANDARD

colour inside

Information technology – Home electronic system (HES) architecture – Part 4-3: Application layer interface to lower communications layers for network enhanced control devices of HES Class 1

ISO/IEC 14543-4-3:2015-09(en)

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ISO/IEC 14543-4-3

Edition 1.0 2015-09

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 35.200

ISBN 978-2-8322-2868-5

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FOREWORD

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International Standard ISO/IEC 14543-4-3 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

The list of all currently available parts of the ISO/IEC 14543 series, under the general title *Information technology – Home electronic system (HES) architecture*, can be found on the IEC web site and ISO web site.

This International Standard has been approved by vote of the member bodies, and the voting results may be obtained from the address given on the second title page.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This part of ISO/IEC 14543 specifies the message structure, sequences and protocol of the application layer for use in the Home Electronic System. Some services are targeted for communications between devices. Other services are exclusively reserved for management purposes. Some services can be used for both management and run-time communications. This standard is applicable for energy management services, mobile access, remote appliance maintenance services, home healthcare services, home security services and comfort control. This standard focuses on the application layers (5^{th} layer to 7^{th} layer of the OSI reference model). This standard specifies a message structure that differs from the 12 message structures specified in ISO/IEC 14543-4-1. This standard allows the use of IP addressing or MAC addressing, while ISO/IEC 14543-4-1 specifies a different non-IP address structure. This part depends on routing functions provided by an external IP layer. ISO/IEC 14543-4-1 uses the routing functions specified in ISO/IEC 14543-4-2. Therefore Part 4-3 is an alternative to Part 3-1 plus Part 3-2.

ISO/IEC 14543, *Information technology – Home Electronic System (HES) architecture, provides*

an introduction to specifications for Home Electronic System (HES):

Part 2-1: Introduction and device modularity

and specifications for three types of HES devices:

Parts 3-x Specifications for network based control of HES Class 1

Parts 4-x Specifications for network enhanced control of HES Class 1

Parts 5-x Specifications for intelligent grouping and resource sharing for HES Class 2 and Class 3

INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

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1 Scope

This part of ISO/IEC 14543 specifies the message structure, sequences and protocol of the application layer for use in network enhanced control devices of the Home Electronic System (HES) Class 1. It provides the services and the interface for the user-level process. This application layer protocol is independent of lower communications layers, which support MAC addressing or IP addressing. The communications sequence is based on the application services.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 14543-2-1, *Information technology – Home electronic system (HES) architecture – Part 2-1: Introduction and device modularity*

ISO/IEC 14543-4-1, *Information technology – Home electronic system (HES) architecture – Part 4-1: Communication layers – Application layer for the network enhanced control devices of HES Class 1*

ISO/IEC 14543-4-2, *Information technology – Home electronic system (HES) architecture – Part 4-2: Communication layers – Transport, network and general parts of data link layer for network enhanced control devices of HES Class 1*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document the terms and definitions given in ISO/IEC 14543-2-1 and the following apply.

3.1.1
NECD communications middleware
middleware between the lower communications layers to the application layer that performs communications processing according to the protocol specified in this standard

3.1.2
NECD communications processing block
processing block for the communications middleware

Note 1 to entry: This block performs communications protocol processing to facilitate remote device control / monitoring processing for application software, stores information for the above and controls various data on the device as well as the status of other devices.