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**Information technology –
Home electronic system (HES) architecture –**

Part 3-2:

Communication layers –

**Transport, network and general parts of data link
layer for network based control of HES Class 1**



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CONTENTS

FOREWORD.....	5
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references.....	7
3 Terms, definitions and abbreviations.....	7
3.1 Terms and definitions.....	7
3.2 Abbreviations.....	9
4 Conformance.....	9
5 Requirements for the physical layer and independent data link layer.....	9
5.1 Functions of the data link layer.....	9
5.2 Possible media and their impact on layer-2.....	10
5.3 Data link layer services.....	11
5.3.1 Data link layer modes.....	11
5.3.2 L_Data service.....	11
5.3.3 L_SystemBroadcast service.....	15
5.3.4 L_Poll_Data service and protocol.....	16
5.3.5 L_Busmon service.....	17
5.3.6 L_Service_Information service.....	17
5.4 Data link layer protocol.....	18
5.4.1 Protocol.....	18
5.4.2 Recommendations for duplication prevention.....	18
5.5 Parameters of layer-2.....	18
5.6 Specific devices.....	19
5.6.1 Layer-2 of a bridge.....	19
5.6.2 Layer-2 of a router.....	19
6 Requirements for the network layer.....	19
6.1 Functions of the network layer.....	19
6.2 Network layer services and protocol.....	21
6.2.1 Network layer protocol data unit (NPDU).....	21
6.2.2 Network layer services.....	21
6.3 Parameters of the network layer.....	27
6.4 Network layer state machines.....	27
6.4.1 Overview.....	27
6.4.2 State machine of network layer for normal devices.....	27
6.4.3 State machine of network layer for bridges.....	27
6.4.4 State machine of network layer for routers.....	28
7 Requirements for the transport layer.....	30
7.1 Functionality of the transport layer.....	30
7.2 Transport layer Protocol Data Unit (TPDU).....	30
7.3 Overview communication modes.....	31
7.3.1 Point-to-multipoint, connection-less (multicast) communication mode.....	31
7.3.2 Point-to-domain, connection-less (broadcast) communication mode.....	32
7.3.3 Point-to-all-points, connection-less (SystemBroadcast) communication mode.....	32
7.3.4 Point-to-point, connection-less communication mode.....	32

7.3.5	Point-to-point, connection-oriented communication mode	32
7.3.6	Algorithm for the identifier of communication	33
7.4	Transport layer services	33
7.4.1	General	33
7.4.2	T_Data_Group service	33
7.4.3	T_Data_Tag_Group service	34
7.4.4	T_Data_Broadcast service	36
7.4.5	T_Data_SystemBroadcast service	37
7.4.6	T_Data_Individual service	38
7.4.7	T_Connect service	39
7.4.8	T_Disconnect service	40
7.4.9	T_Data_Connected service	41
7.5	Parameters of transport layer	42
7.6	State machine of connection-oriented communication mode	43
7.6.1	General	43
7.6.2	States	43
7.6.3	Required actions	44
7.6.4	Transition table of the connection oriented transport layer state machine	46
7.6.5	State diagrams	53
Annex A (informative)	Examples of transport layer connection oriented state machine state diagrams	54
A.1	Connect and disconnect	54
A.1.1	Connect from a remote device	54
A.1.2	Connect from a remote device during an existing connection	54
A.1.3	Disconnect from a remote device	55
A.1.4	Connect from the local user to an existing device	55
A.1.5	Connect from the local user to a non existing device	55
A.1.6	Connect from the local user during an existing connection	56
A.1.7	Disconnect from the local user	56
A.1.8	Disconnect from the local user without an existing connection	56
A.1.9	Connection timeout	57
A.2	Reception of data	57
A.2.1	Reception of a correct N_Data_Individual	57
A.2.2	Reception of a repeated N_Data_Individual	58
A.2.3	Reception of data N_Data_Individual with wrong sequence number	58
A.2.4	Reception of data N_Data_Individual with wrong source address	58
A.3	Transmission of data	59
A.3.1	T_DATA-Request from the local user	59
A.3.2	Reception of a T_ACK_PDU with wrong sequence number	59
A.3.3	Reception of T_ACK_PDU with wrong connection address	60
A.3.4	Reception of T_NACK_PDU with wrong sequence number	60
A.3.5	Reception of T_NACK_PDU with correct sequence number	60
A.3.6	Reception of T_NACK_PDU and maximum number of repetitions is reached	61
A.3.7	Reception of T_NACK_PDU with wrong connection address	61
Bibliography	62

Figure 1 – Individual address.....	8
Figure 2 – Group address.....	8
Figure 3 – Interaction of the data link layer.....	10
Figure 4 – Exchange of primitives for the L_Data-Service.....	11
Figure 5 – Frame_format Parameter.....	14
Figure 6 – Coding of Extended Frame Format.....	14
Figure 7 – Interaction of the network layer (not for Bridges or Routers).....	20
Figure 8 – General functionality of a router or a bridge.....	20
Figure 9 – Format of the NPDU (Example).....	21
Figure 10 – Interaction of the transport layer.....	30
Figure 11 – Format of the TPDU (Example).....	31
Figure 12 – Transport control field.....	31
Table 1 – Usage of priority.....	13
Table 2 – Actions of the connection oriented state machine.....	44
Table 3 – Transition table – Style 1.....	46
Table 4 – Transition table – Style 1-rationalized.....	48
Table 5 – Transition table – Style 2.....	50
Table 6 – Transition table – Style 3.....	52

INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

Part 3-2: Communication layers – Transport, network and general parts of data link layer for network based control of HES Class 1

FOREWORD

- 1) ISO (International Organization for Standardization) and IEC (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. Their preparation is entrusted to technical committees; any ISO and IEC National Committee interested in the subject dealt with may participate in this preparatory work. International governmental and non-governmental organizations liaising with ISO and IEC also participate in this preparation.
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International Standard ISO/IEC 14543-3-2 was prepared by subcommittee 25, Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

This International Standard together with ISO/IEC 14543-3-1 cancels and replaces ISO/IEC TR 14543-3, published in 2000. It constitutes a complete revision of the principles outlined in ISO/IEC TR 14543-3 and provides the specifications essential for an international standard.

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 title page.

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

INTRODUCTION

This standard specifies the Media independent requirements for the data link layer and the requirements for the network layer and the transport layer for Home Electronic Systems.

This standard provides the communication stack targeted for providing the services specified in ISO/IEC 14543-3-3 (EN 50090-3-2) "User Process" and ISO/IEC 14543-3-1 "Application Layer for networked based control of HES Class 1". It can be used as communication stack on the physical layers as specified in ISO/IEC 14543-3-5, ISO/IEC 14543-3-6 and ISO/IEC 14543-3-7 (EN 50090-5-x).

Currently, ISO/IEC 14543, *Information technology – Home Electronic System (HES) architecture*, consists of the following parts:

Part 2-1:	<i>Introduction and device modularity</i>
Part 3-1:	<i>Communication layers – Application layer for network based control of HES Class 1</i>
Part 3-2:	<i>Communication layers – Transport, network and general parts of data link layer for network based control of HES Class 1</i>
Part 3-3:	<i>User process for network based control of HES Class 1 (under consideration)</i>
Part 3-4:	<i>System management – Management procedures for network based control of HES Class 1 (under consideration)</i>
Part 3-5:	<i>Media and media dependent layers – Power line for network based control of HES Class 1 (under consideration)</i>
Part 3-6:	<i>Media and media dependent layers – Twisted pair for network based control of HES Class 1 (under consideration)</i>
Part 3-7:	<i>Media and media dependent layers – Radio frequency for network based control of HES Class 1 (under consideration)</i>
Part 4:	<i>Home and building automation in a mixed-use building (technical report)</i>
Part 5-1:	<i>Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Core protocol</i>
Part 5-2:	<i>Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Device certification</i>
	<i>Additional parts may be added later.</i>

INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

Part 3-2: Communication layers – Transport, network and general parts of data link layer for network based control of HES Class 1

1 Scope

This part of ISO/IEC 14543 specifies the services and protocol in a physical layer independent way for the data link layer and for the network layer and the transport layer for usage in Home Electronic Systems.

2 Normative references

The following referenced documents are indispensable for the application 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.

ISO/IEC 7498 (all parts), *Information technology – Open Systems Interconnection – Basic reference model*

ISO/IEC 14543-2-1, *Information technology – Home Electronic System (HES) Architecture – Part 2-1: Introduction and device modularity*

ISO/IEC 14543-3-1 *Information technology – Home Electronic System (HES) Architecture – Part 3-1: Communication layers – Application layer for network based control of HES Class 1*

NOTE 1 The provisions of the referenced specifications, as identified in this subclause, are valid within the context of this International Standard. The reference to a specification within this International Standard does not give it any further status within ISO/IEC; in particular, it does not give the referenced specification the status of an International Standard.

EN 50090-5 (all parts), *Home and Building Electronic Systems (HBES) – Part 5: Media and media dependent layers*

NOTE 2 Reference to EN 50090-5-x is to be considered as deleted as soon as ISO/IEC 14543-3-5, ISO/IEC 14543-3-6 and ISO/IEC 14543-3-7 are approved.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1

individual address

IA

unique identifier for every device in a network

NOTE The individual address is a 2-octet value that consists of an 8-bit subnetwork address and an 8-bit device address.