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**Information technology – Home electronic system (HES) architecture –
Part 5-11: Intelligent grouping and resource sharing for HES Class 2 and
Class 3 – Remote user interface**

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INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

Part 5-11: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Remote user interface

FOREWORD

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International Standard ISO/IEC 14543-5-11 was prepared by subcommittee 25: Interconnection of information technology equipment, of ISO/IEC joint technical committee 1: Information technology.

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.

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 and ISO websites.

In this document, the following print types are used:

- CAPITAL LETTERS: for special functions or terms
- *italics*: for abstract entity names in the IGRS RUI model

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

The ISO/IEC 14543-5 series of standards specifies the services and protocol of the application layer for Intelligent Grouping and Resource Sharing (IGRS) devices and services in the Home Electronic System.

The ISO/IEC 14543-5 series includes the following parts.

- IGRS Part 5-1: Core protocol
 - Specifies the TCP/IP protocol stack as the basis and the HTTP protocol as the message-exchange framework among devices.
 - Specifies a series of device and service interaction/invocation standards, including device and service discovery protocol, device and service description, service invocation, security mechanisms, etc.
 - Specifies core protocols for a type of home network that supports streaming media and other high-speed data transports within a home.
- IGRS Parts 5-2#: Application profile
 - Based on the IGRS Core Protocol.
 - Specifies a device and service interaction mechanism, as well as application interfaces used in IGRS basic applications.
 - Multiple application profiles are specified, including:
 - i) Part 5-21: AV profile
 - ii) Part 5-22: File profile
- IGRS Part 5-3: Basic application
 - Includes an IGRS basic application list.
 - Specifies a basic application framework.
 - Specifies operation details (device grouping, service description template, etc.), function definitions and service invocation interfaces.
- IGRS Part 5-4: Device validation
 - Defines a standard method to validate an IGRS-compliant device.
- IGRS Part 5-5: Device type
 - Specifies IGRS Device types used in IGRS applications.
- IGRS Part 5-6: Service type
 - Specifies basic service types used in IGRS applications.
- IGRS Part 5-7: Remote access system architecture
 - Specifies the architecture and framework for the remote access of IGRS devices and services in the Home Electronic System. The remote access communications protocol and application profiles are specified in the following parts of ISO/IEC 14543-5:
 - i) ISO/IEC 14543-5-8: Remote access core protocol
 - ii) ISO/IEC 14543-5-9: Remote access service platform
 - iii) ISO/IEC 14543-5-101: Remote media access profile
 - iv) ISO/IEC 14543-5-102: Remote universal management profile
 - v) ISO/IEC 14543-5-11: Remote user interface
 - vi) ISO/IEC 14543-5-12: Remote access test and verification
 - The relationships among these parts are specified in Part 5-7.

- IGRS Part 5-8: Remote access core protocol
 - Provides detailed system components, system function modules, basic concepts of IGRS remote access elements and their relationships, message exchange mechanisms and security related specifications.
 - Specifies interfaces between IGRS Remote Access (RA) client and service platforms. Defines co-operative procedures among IGRS RA clients.
- IGRS Part 5-9: Remote access service platform
 - Specifies the IGRS RA service platform (IRSP) architectures and interfaces among servers in the service platforms.
 - Based on Part 5-8: Remote access core protocol.
- IGRS Part 5-10#: Remote access application profiles
 - Defines a device and service interaction mechanism for various applications
 - Based on Part 5-8: Remote access core protocol
 - The following profile is under development:
 - i) Part 5-101: Remote media access profile. ¹ This part defines the common requirements for IGRS RA media users and devices in IGRS networks.
 - Remote universal management profile will form the subject of a future Part 5-102. This part will specify a mechanism for integrating devices with both relatively high and low processing capabilities into IGRS networks. It will also specify universal remote device discovery and a management framework.
 - Additional application profiles will be specified in the future.
- IGRS Part 5-11: Remote user interface
 - Specifies adaptive user interface generation and remote device control mechanisms suitable for different remote access applications and devices.
- IGRS Part 5-12: Remote access test and verification²
 - Defines a standard method to test and verify IGRS-RA compliant device and service interfaces.

¹ Under preparation. Stage at the time of publication: ISO/IEC DIS 14543-5-101:2017.

² Under preparation. Stage at the time of publication: ISO/IEC DIS 14543-5-12:2017.

INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

Part 5-11: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Remote user interface

1 Scope

This part of ISO/IEC 14543-5 specifies a remote user interface (RUI) for the ISO/IEC 14543-5 series on IGRS for HES Class 2 and Class 3. It defines the mechanisms necessary for allowing an adaptive user interface to be displayed on and controlled by devices or control points from a remote location.

This document is applicable to IGRS local and remote access (RA) devices.

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.

ISO/IEC 14543-5-1:2010, *Information technology – Home electronic system (HES) architecture – Part 5-1: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Core protocol*

ISO/IEC 14543-5-8, *Information technology – Home electronic system (HES) architecture – Part 5-8: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Remote access core protocol*

ISO/IEC 15045 (all parts), *Information technology – Home electronic system (HES) gateway*

IETF RFC 2045, *Multipurpose Internet Mail Extensions (MIME) – Part 1: Format of Internet Message Bodies*

IETF RFC 2616, *Hypertext Transfer Protocol – HTTP/1.1*

IETF RFC 4648, *The Base16, Base32, and Base64 Data Encodings*