



ISO/IEC 14543-5-22

Edition 1.0 2010-02

INTERNATIONAL STANDARD

**Information technology – Home electronic system (HES) architecture –
Part 5-22: Intelligent grouping and resource sharing for HES Class 2 and
Class 3 – Application profile – File profile**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE



ICS 35.200

ISBN 2-8318-1076-1

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Abbreviations	6
4 Conformance.....	6
5 System	7
5.1 Application scenario	7
5.2 Design criteria	7
5.2.1 Relationship between file profile and IGRS	7
5.2.2 Relationship between file profile and transport protocols	7
5.2.3 Relationship between file profile and existing file sharing system	7
5.2.4 Relationship between file profile and file format.....	8
5.2.5 Device supported by file profile.....	8
5.3 Interaction model.....	8
6 Interaction flow of IGRS file profile	8
6.1 Overview	8
6.2 Simple Interaction Flow	9
6.3 Complete interaction flow	10
7 FileServer.....	13
7.1 General.....	13
7.2 FileAccessManagement Service	14
7.2.1 General	14
7.2.2 FileAccessManagement Service Type.....	14
7.2.3 FileAccessManagement Service Attribute	14
7.2.4 Data Types of FileAccessManagement Service.....	15
7.2.5 Invocation interface of FileAccessManagement Service	15
7.2.6 FileAccessManagement Service error codes definition	25
7.3 FileConnectionManagement Service.....	25
7.3.1 General	25
7.3.2 FileConnectionManagement Service Type	25
7.3.3 FileConnectionManagement Service Attribute	26
7.3.4 FileConnectionManagement Service Data Type.....	26
7.3.5 Invocation Interface of FileConnectionManagement Service	26
7.3.6 FileConnectionManagement Service error codes definition	28
8 FileClient.....	28
8.1 General.....	28
8.2 FileClient Engine.....	29
9 Session	29
9.1 Session setup.....	29
9.1.1 General	29
9.1.2 Session setup condition.....	29
9.1.3 Session setup process.....	29
9.2 Session termination.....	29
10 Service invocation message format	30

10.1	General	30
10.2	Service invocation request message	30
10.3	Service invocation response message	31
10.4	Content directory object update notification message	32
10.5	Service attribute update notification message	33
Annex A (normative)	Description of data type generation rules	35
Annex B (normative)	Information device – IGRS – File profile message format	38
Annex C (normative)	File profile – FileAccessManagement Service description.wsdl	59
Annex D (normative)	File profile – FileConnectionManagement Service description.wsdl	69
	Bibliography	72
Figure 1	– IGRS file profile interaction model	8
Figure 2	– Simple interaction flow model	10
Figure 3	– Complete Interaction Flow of Shared File	13
Table 1	– FileAccessManagement Service Attribute List	14
Table 2	– FileAccessManagement Service Data Type	15
Table 3	– FileConnectionManagement Service Attribute	26
Table 4	– FileConnectionManagement Service Data Type	26
Table 5	– Service invocation request message	30
Table 6	– Service invocation response message	31
Table 7	– Content directory object update notification message	32
Table 8	– Service attribute update notification message	34
Table B.1	– IGRS file profile service invocation request message	38
Table B.2	– Service invocation response message	39
Table B.3	– File/Directory object update notification message	40
Table B.4	– Service attribute update notification message	42

INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

Part 5-22: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Application profile – File profile

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 member body 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.
- 2) In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.
- 3) The formal decisions or agreements of IEC and ISO on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC and ISO member bodies.
- 4) IEC, ISO and ISO/IEC publications have the form of recommendations for international use and are accepted by IEC and ISO member bodies in that sense. While all reasonable efforts are made to ensure that the technical content of IEC, ISO and ISO/IEC publications is accurate, IEC or ISO cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 5) In order to promote international uniformity, IEC and ISO member bodies undertake to apply IEC, ISO and ISO/IEC publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any ISO/IEC publication and the corresponding national or regional publication should be clearly indicated in the latter.
- 6) ISO and IEC provide no marking procedure to indicate their approval and cannot be rendered responsible for any equipment declared to be in conformity with an ISO/IEC publication.
- 7) All users should ensure that they have the latest edition of this publication.
- 8) No liability shall attach to IEC or ISO or its directors, employees, servants or agents including individual experts and members of their technical committees and IEC or ISO member bodies for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication of, use of, or reliance upon, this ISO/IEC publication or any other IEC, ISO or ISO/IEC publications.
- 9) Attention is drawn to the normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 10) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 14543-5-22 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 ISO/IEC 14543 series, under the general title *Information technology – Home electronic system (HES) architecture*, can be found on the IEC 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.

INTRODUCTION

ISO/IEC 14543-5, *Intelligent Grouping and Resource Sharing for HES (IGRS)*, is divided into seven parts:

➤ **Part 5-1: Core protocol**

- Specifies the TCP/IP protocol stack as the basis and the HTTP protocol as the message-exchanging framework among devices.
- Defines 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 transport within a home.

➤ **Part 5-21: Application profile – AV profile**

- Based on the IGRS Core Protocol.
- Defines a device and service interaction mechanism, as well as application interfaces used in IGRS Basic Applications.

➤ **Part 5-22: Application profile – File profile**

- Based on the IGRS Core Protocol.
- Defines a device and service interaction mechanism, as well as application interfaces used in IGRS Basic Applications.

➤ **Part 5-3: Basic application**

- Includes an IGRS basic application list.
- Defines a basic application framework.
- Addresses operation specifics (device grouping, service description template, etc.), function definitions, and service invocation interfaces.

➤ **Part 5-4: Device validation**

- Defines a standard method to validate an IGRS-compliant device.

➤ **Part 5-5: Device types**

- Defines IGRS Device types used in IGRS applications.

➤ **Part 5-6: Service types**

- Defines basic service types used in IGRS applications.

INFORMATION TECHNOLOGY – HOME ELECTRONIC SYSTEM (HES) ARCHITECTURE –

Part 5-22: Intelligent grouping and resource sharing for HES Class 2 and Class 3 – Application profile – File profile

1 Scope

This part of ISO/IEC 14543 specifies the file data streaming application profile, device interaction flow model, the request and response messages in the device interaction process, and the service description format of the devices based on Intelligent Grouping and Resource Sharing (IGRS), ISO/IEC 14543-5-1.

This standard is applicable to resource sharing and service collaboration of file data stream among computers, consumer electronics, and communication devices in a Local Area Network (LAN) or Personal Area Network (PAN) environment, especially in a wireless dynamic network.

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.

The provisions of the referenced specifications other than ISO/IEC, IEC, ISO and ITU documents, as identified in this clause, are valid within the context of this International Standard. The reference to such a specification within this International Standard does not give it any further status within ISO or IEC. In particular, it does not give the referenced specification the status of an International Standard.

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

W3C SOAP 1.2: *Simple Object Access Protocol Version 1.2*
<http://www.w3.org/2002/12/soap-envelope>