

English version

Interoperability framework requirements specification for service to the home (IFRS)

This CENELEC Workshop Agreement has been drafted by a Workshop of representatives of interested parties and was approved on 2010-06-01.

The formal process followed by the Workshop in the development of this Workshop Agreement has been endorsed by the national members of CENELEC but neither the national members of CENELEC nor the CENELEC Central Secretariat can be held accountable for the technical content of this CENELEC Workshop Agreement or possible conflicts with standards or legislation.

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CENELEC

European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Preface

The objective of this CENELEC Workshop Agreement (CWA) for an Interoperability Framework Requirements Specification (IFRS) is to provide a methodology that will give consumers the confidence to install home and building automation products from different companies, both now and in the future, knowing that they will operate together and interact effectively with each other.

The work, sponsored by The Application Home Initiative (TAHI), has been prepared by a team of experts drawn from the TAHI membership and then reviewed and approved by experts drawn from industry and Standardisation Bodies following the procedures of a CENELEC Workshop. The secretariat of the Workshop was provided by the Netherlands Standardization Institute / Netherlands Electrotechnical Committee. Overall, 27 registered members took part in the four open meetings and approved the CWA for publication.

This CWA states necessary requirements that devices, objects and systems must comply with in order for them to be capable of interoperability and introduces new concepts for measuring the level of interoperability in conformant systems. Four basic levels of interoperability have been identified that correspond to the current state-of-the-art, from none at all to the interoperability supported by present-day, largely custom designed and engineered, systems. The IFRS establishes three further levels of "open" interoperability that enable systems to be constructed and installed dynamically, by both professionals and consumers.

The CWA additionally provides an Interoperability Implementation Conformance Statement (IICS) proforma for the Conformance Clauses in the IFRS specification (Annex B). The IICS is based on ICS approaches established by ISO for protocols and services, and extends models used already by the home and building automated control industry. It details in tabular form the implementation options additional to those that are mandatory to implement.

Overall, this document will support interoperability for the stakeholders implementing systems in the Home Systems market. CWA 50560 will bring understanding of the issues and in particular allow the designer of interoperable applications for the Smart Home to work more effectively and with clear understanding of the wider issues.

As managing editor, I would like to thank the team of experts for the help and support they have given me in writing this CWA for Interoperability together. The experts were:

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Xi Chen – DeMontfort University

Stephen Pattenden - Telemetry Associates Limited

The work would not have been possible without the vision of the TAHI Board and TAHI Working Groups, in particular the Interoperability Working Group, and the team thanks them for their support.

The Industry and Standards Body Experts attending the meetings of the CWA are listed in Annex C.

Alistair Munro – The Application Home Initiative Limited

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Contents

| | |
|--|----|
| Foreword | 6 |
| Introduction..... | 7 |
| 1.1 General..... | 7 |
| 1.2 How to use this specification | 8 |
| 2 Scope..... | 8 |
| 3 Normative References | 9 |
| 4 Definitions and Abbreviations | 11 |
| 4.1 Definitions | 11 |
| 4.1.1 Security Definitions..... | 11 |
| 4.1.2 Process Definition | 13 |
| 4.1.3 Interoperability | 14 |
| 4.2 Abbreviations | 14 |
| 5 The Interoperability Framework | 16 |
| 5.1 The Function Steps | 16 |
| 5.1.1 General | 16 |
| 5.1.2 Discovery | 16 |
| 5.1.3 Configuration..... | 16 |
| 5.1.4 Operation | 16 |
| 5.1.5 Management..... | 17 |
| 5.2 The Levels | 17 |
| 6 Conformance clauses | 18 |
| 6.1.1 General | 18 |
| 6.1.2 Identifier | 18 |
| 6.1.3 Object Description | 18 |
| 6.1.4 Object Discovery | 18 |
| 6.1.5 Object Configuration..... | 19 |
| 6.1.6 Object Operation | 19 |
| 6.1.7 Object Management | 19 |
| 6.1.8 Object Access and Safety Requirements | 19 |
| 6.2 Conformance sub-clauses | 19 |
| 6.2.1 Object Identifier Description Requirements | 19 |
| 6.2.2 Object Functional Description Requirements | 20 |
| 6.2.3 Discovery Process Requirements | 20 |
| 6.2.4 Configuration Process Requirements | 21 |
| 6.2.5 Operation Requirements..... | 22 |
| 6.2.6 Management Requirements | 22 |
| 6.2.7 Object Security, Safety and Priority and Access Requirements | 22 |
| Annex A (informative) | 23 |
| A.1 General Methodology | 23 |
| A.1.1 Objectives | 23 |
| A.1.2 Assumptions..... | 23 |
| A.2 Approach..... | 23 |
| A.3 The Function Steps | 24 |
| A.3.1 General | 24 |
| A.3.2 Discovery | 24 |
| A.3.3 Configuration..... | 26 |

| | | |
|---------|--|----|
| A.3.4 | Operation | 27 |
| A.3.5 | Management..... | 28 |
| A.4 | The Levels | 28 |
| A.4.1 | Level 0 | 28 |
| A.4.2 | Level 1 | 29 |
| A.4.3 | Level 2 | 30 |
| A.4.4 | Level 3 | 31 |
| A.4.5 | Level 4 | 32 |
| A.4.6 | Level 5 | 34 |
| A.4.7 | Level 6 | 35 |
| A.4.8 | Combinations of Different Levels in the Same Installation | 36 |
| A.5 | Use Cases | 38 |
| A.5.1 | Use Case Methodology..... | 38 |
| A.5.2 | Scenarios to Illustrate Interoperability Levels..... | 39 |
| A.6 | IFRS OSI Communications Model..... | 41 |
| A.6.1 | General | 41 |
| A.6.2 | Physical Layer Pathways and Media (PHY) | 42 |
| A.6.3 | Data Link Control (DLC) | 42 |
| A.6.4 | Network Layer and Routing (NWK) | 43 |
| A.6.5 | Transport and Session (TRS) | 45 |
| A.6.6 | Presentation and Application (APP) | 45 |
| A.6.7 | IFRS Issues – A Summary..... | 45 |
| A.6.8 | Working Assumptions | 46 |
| A.6.9 | Rationale for the Function Steps and Associated Processes | 48 |
| A.7 | Security, Safety, Access and Priority Considerations | 49 |
| A.7.1 | Introduction to Security Considerations | 49 |
| A.7.2 | References and Standards | 52 |
| Annex B | (normative) Interoperability Implementation Conformance Statement Proforma | 53 |
| B.1 | Scope..... | 53 |
| B.2 | References..... | 53 |
| B.3 | Definitions and abbreviations | 53 |
| B.3.1 | Definitions | 53 |
| B.4 | Requirements for Conformance to this IICS | 64 |
| B.4.1 | General | 64 |
| B.4.2 | Object Identifier Description Requirements | 64 |
| B.4.3 | Object Functional Description Requirements | 64 |
| B.4.4 | Discovery Requirements | 65 |
| B.4.5 | Configuration Requirements | 66 |
| B.4.6 | Operation Requirements | 67 |
| B.4.7 | Management Requirements | 67 |
| B.5 | Instructions for Completion of the IICS | 68 |
| B.5.1 | General | 68 |
| B.5.2 | Key to the Table Entries | 68 |
| B.6 | Global Statement of IICS Conformance | 69 |
| B.7 | Specific Statements of IICS Conformance | 69 |
| B.7.1 | General | 69 |
| B.7.2 | Object Catalogue..... | 69 |
| B.7.3 | Operation Catalogue..... | 70 |

| | | |
|-----------------------|---|----|
| B.7.4 | Object and Operation Interoperability Catalogue | 71 |
| B.7.5 | Upper Layer PICS (APP) | 72 |
| B.7.6 | Network Layer and Routing PICS (NWK) | 73 |
| B.7.7 | Data Link Control and MAC PICS (DLC/MAC) | 74 |
| B.7.8 | Media and PHY PICS (PHY) | 76 |
| Annex C (informative) | Registered Members CENELEC Workshop 4 IFRS | 77 |
| Bibliography | | 78 |

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Foreword

The production of this CWA (CENELEC Workshop Agreement) specifying Interoperability Framework Requirements for electronic systems in homes and buildings, was formally accepted at the Workshop's kick-off meeting on 2009-07-07.

The document has been developed through the collaboration of a number of contributing partners in the Workshop. This CWA has received the support of representatives of each of these contributing partners. Information on who have supported the document's contents may be obtained from the CENELEC Management Centre.

CWA approval was obtained at the Workshop's meeting on 2009-07-07.

This CWA consists of a single part, this document, under the general title *Interoperability Framework Requirements Specification*.

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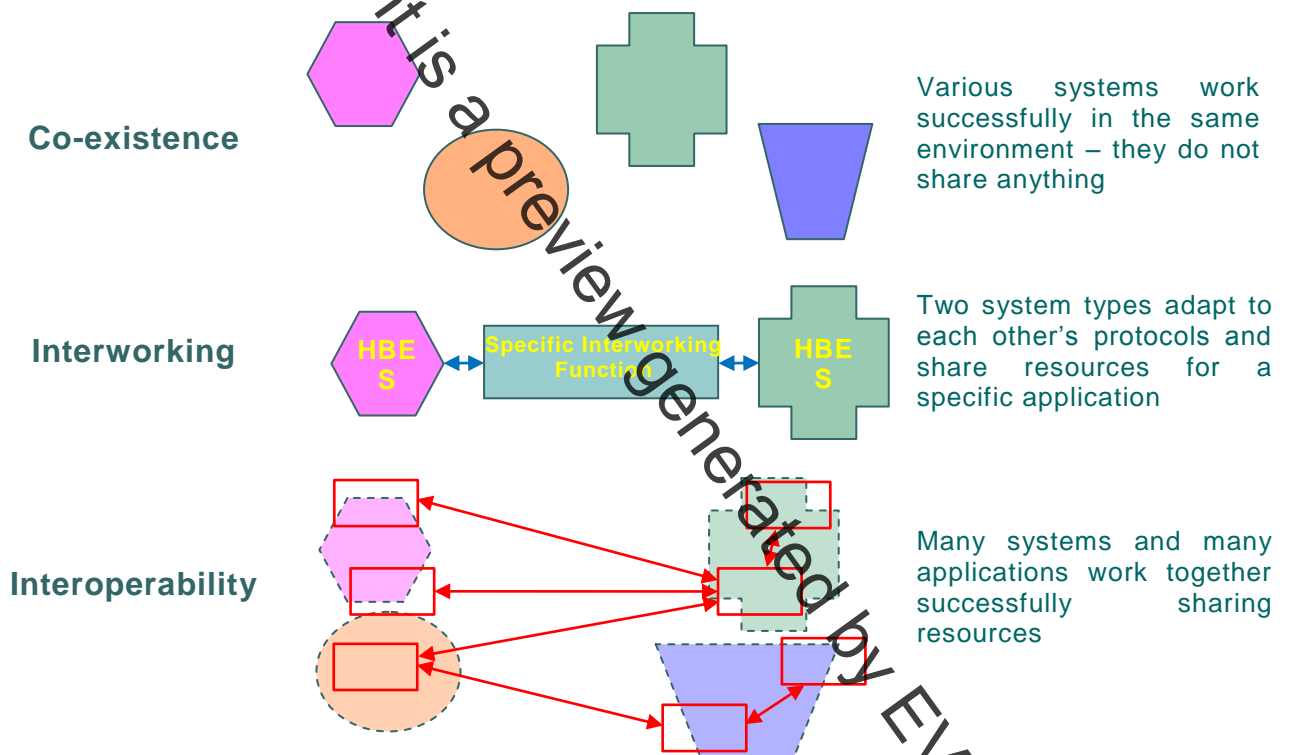
Introduction

1.1 General

The objective of this Framework, the IFRS, is to propose a methodology that will give consumers the confidence to buy products from different companies both now and in the future, knowing that they will operate together.

Achieving this requires several phases of standardisation to ensure integration from the physical connectors to the way systems function. There are three phases of integration:

- **Co-existence** - where different systems can operate in the same environment without hindering each others' operation;
- **Interworking** - where different technologies are connected together to transfer data end-to-end. It is primarily a technical solution encompassing connectors, protocols, bridges, etc. ;
- **Interoperability** - where different application functions are able use the shared information in a consistent way. This requires interworking as a building block as well as coexistence, and adds business rules, processes, and security provisions that enable applications to be joined together.



The Interoperability Framework Requirements Specification, IFRS, addresses the third of these terms. It provides a common set of rules to enable products that use different standards to interoperate when they are present in an installation..

The Framework covers four high level functional activities: discovery, configuration, operations and system management. It puts forward a common set of requirements that if complied with, and if coexistence and interworking are assured, will enable interoperability. It does not address co-existence or interworking on the basis that this is achieved by technology standards.