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INTERNATIONAL STANDARD

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Active assisted living (AAL) reference architecture and architecture model – Part 1: Reference architecture



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ACTIVE ASSISTED LIVING (AAL) REFERENCE ARCHITECTURE AND ARCHITECTURE MODEL –

Part 1: Reference architecture

FOREWORD

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International Standard IEC 63240-1 has been prepared by IEC systems committee AAL: Active Assisted Living.

The text of this International Standard is based on the following documents:

Draft	Report on voting
SyCAAL/176/CDV	SyCAAL/190/RVC

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

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A list of all parts in the IEC 63240 series, published under the general title *Active assisted living reference architecture and architecture model*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://webstore.iec.ch" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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INTRODUCTION

IEC SyC AAL is developing an architecture model and a reference architecture for AAL to guide the development and deployment of AAL services and technologies. IEC 63240 consists of the following parts, under the general title Active assisted living (AAL) reference architecture and architecture model:

- Part 1: Reference architecture;
- Part 2: Architecture model.

This document provides information to ensure usability and accessibility from the earliest stages of design and provides guidance to developers on how to incorporate these requirements. Additional requirements such as security, privacy, and trustworthiness are introduced and considered.

This document captures the results the work of SyC AAL on architecture and interoperability. This document reflects contributions and discussions by SyC AAL experts, mirror committees and liaison members. This document also contains material gathered from reports and group output from the SyC AAL meetings in November 2015 (Tokyo), April 2016 (Wellington), October 2016 (Frankfurt), April 2017 (Beijing), September 2017 (Cleveland), December 2017 (Eindhoven), May 2018 (Tokyo), October 2018 (Seoul), June 2019 (Frankfurt) and October 2019 (Shanghai), as well as information obtained during various web meetings.

Experts from liaison organizations and the following national committees have contributed: CA, CH, CN, DE, GB, IN, JP, KR, NL, NZ, SE, US.

The target audience for this document includes the following stakeholders who have an interest in the AAL system:

- AAL users and service provider personnel who can learn about AAL user needs and how to operate AAL systems;
- consumer electronics and information and communication technology device manufacturers who want to understand AAL devices and interface and interoperability requirements;
- stakeholders who are interested in the usability, accessibility and performance of the AAL system as well as AAL operators who need to understand the system requirements;
- regulators who are responsible for developing and supervising AAL and related regulations.

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ACTIVE ASSISTED LIVING (AAL) REFERENCE ARCHITECTURE AND ARCHITECTURE MODEL –

Part 1: Reference architecture

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1 Scope

This document specifies the AAL reference architecture.

This document defines concepts and introduces terminology. It provides generic rules for designers of AAL systems and services with the aim to facilitate systems design and enable interoperability between components.

This document identifies safety, security, privacy, and other requirements for AAL systems such as usability, accessibility, and trustworthiness (reliability, resilience).

2 Normative references

There are no normative references in this document.

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
AAL device
material element or assembly of such elements intended to perform a required function used in an AAL service (IEV 871-01-04)

Note 1 to entry: There are 1) medical devices (IEV 871-06-06), as defined by regulatory agencies, 2) personal health devices and sensors (IEV 871-04-29) for fitness, well-being, personal comfort and personal security and 3) devices which can serve as aggregators of personal data produced by the user of the device.

[SOURCE: IEC 60050-151:2001, 151-11-20, modified – The term "device" has been replaced by "AAL device". In the definition, "used in an AAL service" has been added.]

3.1.2
AAL gateway
functional unit that connects two computer networks with different network architectures and protocols used in an AAL service (IEV 871-01-04)

Note 1 to entry: The computer networks may be local area networks, wide area networks, or other types of networks.

Note 2 to entry: Examples of gateways are a LAN gateway, a mail gateway used in an AAL service.