BS IEC 63240-1:2024

BSI Standards Publication

Active assisted living (AAL) reference architecture and architecture model

Part 1: Reference architecture

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee ICT/2, ICT Accessibility.

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INTERNATIONAL STANDARD

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

Part 1: Reference architecture

FOREWORD

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

This second edition cancels and replaces the first edition published in 2020. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) clarifying the Introduction;
b) new terms and definitions have been added in 3.1;
c) adaption of terms according to the IEV in the whole document;

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d) reference to ethical considerations of AI when applied in the AAL context has been added in Clause 5;

e) clarifying the description of AAL reference architecture in 6.3.1;

f) process to identify the needs on BAN, edge and cloud computing in the architecture perspective has been added in 6.3.2 and 6.3.3;

g) new figures have been added in 6.3.2 and 6.3.3;

h) reference to standards inventory has been added in 7.1;

i) clarification of 7.5;

j) Annex A has been added;

k) updated bibliography.

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

Draft	Report on voting
SyCAAL/322/CDV	SyCAAL/362A/RVC

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

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INTRODUCTION

IEC Systems Committee for Active Assisted Living (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.

The first edition of IEC 63240-1 was published in 2020. Since the publication of IEC 63240-1:2020, IEC SyC AAL has been collecting issues from a variety of sources including comments from IEC National Committees. At the September 2021 online meeting of IEC SyC AAL, it was decided to set up a process to identify the needs of body area network (BAN), edge and cloud computing in the architecture perspective. These items are considered in this document.

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 device 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 systems and the related regulations.

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

Part 1: Reference architecture

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) and sets up a process to identify the needs on the body area network (BAN), edge and cloud computing in the architecture perspective.

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 terminology databases for use in standardization at the following addresses:

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

3.1.1
AAL device
device (IEV 151-11-20) used in an AAL system

EXAMPLE Examples are sensors and actuators that contain one or more components (functionality).

Note 1 to entry: External conditions and events include measurements of temperature, motion, and electrical conditions.

Note 2 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, wellbeing, personal comfort, and personal security and 3) devices that can serve as aggregators of personal data produced by the user of the device.

[SOURCE: IEC 60050-871:2023, 871-07-01]

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