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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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This redline version of the official IEC Standard allows the user to identify the changes made to the previous edition IEC 63240-1:2020. A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text.

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;
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,
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- revised.

IMPORTANT – The "colour inside" logo on the cover page of this document 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

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.

~~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 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.

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.

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IEC 63240-1:2024-11(en)

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