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AES70-2-2024
(Rev. AES70-2-2023)

STANDARDS

AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure

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AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure

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Audio Engineering Society, Inc.
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Abstract

AES70 is a suite of standards for control and monitoring of devices in professional media networks. This standard, *AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure* defines AES70's control and monitoring functional repertoire. Other standards in the AES70 suite specify concepts and mechanisms, control protocols, and media transport management applications.

AES70 does not specify a media transport scheme. Rather, it is designed to operate with media transport schemes such as the one specified by AES67.

AES70's intended range of use spans networks of all sizes. This includes mission-critical applications, high-security applications, IP and non-IP networks, and local and wide-area applications. AES70 can control real or virtual devices located on premises or hosted by cloud services. AES70 consumes little computing power and uses network bandwidth lightly.

AES70 is based on the Open Control Architecture (OCA), originally developed by the OCA Alliance.

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2024-06-01

Foreword

This foreword is not part of this document, *AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure*.

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AES70 Structure

The AES70 standard is a suite of standards, classified into two divisions. The ***Core Standards*** division, contains standards essential to all implementations of AES70; the ***Adaptation Standards*** division contains application-specific standards. This standard, *AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure*, is a Core Standard.

AES70-2 Version history

Original standard (AES70-2-2015). The members of the writing group that developed this document in draft were: J. Berryman, K. Dalbjorn, H. Hamamatsu, T. Head, T. Holton, S. Jones, M. Lave, N. O'Neill, M. Renz, P. Stevens, S. van Tienen, E. Wetzell, and U. Zanghieri. Additional contributions were made by M. Smaak, and G. van Beuningen of the OCA Alliance.

2018 revision. The members of the writing group that developed this document in draft were: F. Bergholtz, J. Berryman, K. Dalbjorn, A. Gödeke, J. Grant, T. Holton, S. Jones, A. Kuzub, M. Lave, G. Linis, S. Price, M. Renz, A. Rosen, G. Shay, P. Stevens, P. Treleaven, S. van Tieneen, E. Wetzell, and U. Zanghieri. Additional contributions were made by T. de Brouwer and M. Smaak of the OCA Alliance.

2023 revision. The standards in this revision are collectively known as AES70-2023. For AES70-2023, all standards in the suite have been updated. New features in the Core Specification include: a new connection management architecture, large dataset storage and retrieval, documentation improvements, and numerous small additions and enhancements. More details can be found in Annex G of the AES70-1-2023 Standard.

The members of the writing group that developed this document in draft were: J. Berryman, B. Escalona Espinosa, A. Gödeke, E. Hoehn, S. Jones, M. Lave, G. Linis, M. Renz, A. Rosen, S. Scott, P. Stevens, P. Treleaven, S. van Tienen, M. Versteeg, and E. Wetzell.

2024 revision. The AES70-2024 suite comprises new releases of AES70-1, AES70-2, and AES70-3. It contains a number of adjustments, corrections, and enhancements to the AES70-2023 version. Notable new AES70 elements specified in AES70-2024 include a new class **OcaGroup** that replaces the previous **OcaGrouper**, a revised and simplified version of **OcaMatrix**, and a new class **OcaCommandSetAgent**.

The members of the writing group that developed this document in draft were: J. Berryman, B. Escalona Espinosa, A. Gödeke, E. Hoehn, S. Jones, M. Lave, G. Linis, M. Renz, A. Rosen, S. Scott, P. Stevens, P. Treleaven, S. van Tienen, M. Versteeg, and E. Wetzell.

J. Berryman led the task group for all four revisions.

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Chair, AES SC-02-12, *Working Group on Audio Applications of Networks*
2024-04-12

Note on normative language

In AES standards documents, sentences containing the word "shall" are requirements for compliance with the document. Sentences containing the verb "should" are strong suggestions (recommendations). Sentences giving permission use the verb "may". Sentences expressing a possibility use the verb "can".

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AES standard for audio applications of networks - Open Control Architecture - Part 2: Class structure

0. Introduction

0.1. General

This document defines the class structure of the Open Control Architecture (OCA), the technology underlying the AES70 standard for the control and monitoring of media networks. This class structure defines AES70's control and monitoring repertoire.

In what follows, the class structure is referred to as ***OCC***.

The elements of OCC are class definitions in the object-oriented design sense. Each class defines a particular control or monitoring interface element that is accessible over the media network via one or more communications protocols that AES70 defines. An AES70-controllable device may implement a set of these interface elements; the complete set constitutes the interface the device presents to the network for remote control and monitoring purposes. This interface is called the AES70 ***Device Model*** and is defined in [AES70-1].

To distinguish OCC classes from programming classes, this standard may where appropriate refer to OCC classes as ***Control Classes***, and their instances as ***Control Objects***, where it should be understood that "control" includes both control and monitoring functions.

AES70 does not define a complete device implementation model. For example, if a particular element of a product has no remotely controllable features, then that element does not appear in that product's AES70 Device Model.

AES70 specifies system control and monitoring only. It may be integrated with any streaming media transport scheme, as long as the underlying communication network is capable of carrying AES70 control and monitoring traffic.

1. Scope

AES70 defines a scalable control-protocol architecture for the control and monitoring of professional media networks. AES70 addresses device control and monitoring only; it does not define standards for transporting streaming media or for describing media content.

This Part 2 describes OCC, the Class Structure of the AES70 Open Control Architecture. OCC defines the standard control and monitoring functional repertoire of AES70. This document should be read in conjunction with AES70-1: Framework, and AES70-3: OCP.1 Binary Protocol.

2. References

- Normative references - see [AES70-1(Normative references)].
- Nonnormative references - see [AES70-1(Bibliography)].