STANDARDS AND INFORMATION DOCUMENTS

AES70-3-2023
(Rev. AES70-3-2018)

STANDARDS

AES standard for audio applications of networks - Open Control Architecture - Part 3: OCP.1: Protocol for IP Networks

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AES standard for audio applications of networks - Open Control Architecture - Part 3: Binary protocol for IP Networks

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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 3: Binary protocol for IP Networks,* defines a binary protocol for using AES70 over IP networks. Other standards in the AES70 suite specify concepts and mechanisms, control and monitoring functional repertoire, 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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Foreword

This foreword is not part of this document, *AES standard for audio applications of networks - Open Control Architecture -Part 3: Binary protocol for IP Networks*.

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Review and revision. This document is subject to periodic review and possible revision. Users are cautioned to obtain the latest edition.

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 3: Binary protocol for IP Networks*, is a Core Standard.

AES70-3 Version history

Original standard (AES70-3-2015). 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, S. van Tienen, P. Stevens, 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.

This revision (2023). 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.

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

Morten Lave
Chair, AES SC-02-12, *Working Group on Audio Applications of Networks*
2023-09-28

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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0. Introduction

0.1. General

This document contains the technical specification of the OCP.1 protocol of AES70, the Open Control Architecture. OCP.1 supports AES70-compliant remote control and monitoring of media devices over IP networks.

AES70 is a standards suite for system control and monitoring. It may be integrated with streaming media transport protocol schemes, as long as the underlying communication network is capable of carrying AES70 control and monitoring traffic. AES70 itself does not define a standard for streaming media transport.

AES70 models the control and monitoring functions of a Device, not its internal implementation. A Device's AES70 protocol interface represents only elements chosen to be exposed for AES70 control and monitoring.

1. Scope

The AES70 standards suite has a number of separate parts. This standard (Part 3) specifies a binary protocol for IP networks. It should be read in conjunction with [AES70-1], the framework, and [AES70-2], the class structure.

This standard is a part of the 2023 version of AES70 suite. When using earlier revisions of AES70 (AES70-2018, AES70-2015), please refer to the versions of this standard in those revisions.

2. References

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

3. Terms, definitions, and abbreviations

For this standard, the definitions in [AES70-1(Terms, definitions and abbreviations)], plus the following additional definitions, apply.

1. Control Session
Session for the exchange of AES70 Commands, Responses, and Notifications between a Controller and a Device.

2. Device Discovery
mechanism by which Devices connected to the network make themselves known to each other

3. IPv4 Device
Device that uses IP version 4 for its OCP.1 traffic