



**International
Standard**

ISO/IEC 23001-11

**Information technology — MPEG
systems technologies —**

Part 11:
**Energy-efficient media consumption
(green metadata)**

**AMENDMENT 1: Energy-efficient
media consumption (green metadata)
for EVC**

**Third edition
2023-02**

**AMENDMENT 1
2024-07**

[ISO/IEC 23001-11:2023/Amd. 1:2024](https://standards.iteh.ai/catalog/standards/iso/d88bb285-d4a8-4e5e-8f95-aa7fa10a699b/iso-iec-23001-11-2023-amd-1-2024)

<https://standards.iteh.ai/catalog/standards/iso/d88bb285-d4a8-4e5e-8f95-aa7fa10a699b/iso-iec-23001-11-2023-amd-1-2024>

iTeh Standards
(<https://standards.iteh.ai>)
Document Preview

[ISO/IEC 23001-11:2023/Amd 1:2024](https://standards.iteh.ai/catalog/standards/iso/d88bb285-d4a8-4e5e-8f95-aa7fa10a699b/iso-iec-23001-11-2023-amd-1-2024)

<https://standards.iteh.ai/catalog/standards/iso/d88bb285-d4a8-4e5e-8f95-aa7fa10a699b/iso-iec-23001-11-2023-amd-1-2024>



COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2024

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives or www.iec.ch/members_experts/refdocs).

ISO and IEC draw attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO and IEC take no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO and IEC had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents and <https://patents.iec.ch>. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html. In the IEC, see www.iec.ch/understanding-standards.

This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 14496 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

Information technology — MPEG systems technologies —

Part 11:

Energy-efficient media consumption (green metadata)

AMENDMENT 1: Energy-efficient media consumption (green metadata) for EVC

6.2.1

Replace the following:

With respect to the functional architecture in Figure 1, the green-metadata generator provides CMs that indicate the picture-decoding complexity of an AVC, HEVC or VVC bitstream to the decoder.

with:

With respect to the functional architecture in Figure 1, the green-metadata generator provides CMs that indicate the picture-decoding complexity of an AVC, HEVC, VVC or EVC bitstream to the decoder.

6.2.2

Add the following at the end of the subclause:

The syntax for the EVC CMs is described in Table X.1:

Table X.1 — Syntax for the HEVC CMs

period_type	u(8)
if (profile_idc == 0) {	
if (period_type == 0 period_type == 2) {	
num_non_zero_4_cus	uk(v)
num_non_zero_8_cus	uk(v)
num_non_zero_16_cus	uk(v)
num_non_zero_32_cus	uk(v)
num_non_zero_64_cus	uk(v)
portion_fractional_prediction_sample	u(8)
} else if (period_type == 1 period_type == 3) {	
num_count	u(16)
for (t=0; t<num_count; t++) {	
num_non_zero_4_cus [t]	uk(v)
num_non_zero_8_cus [t]	uk(v)
num_non_zero_16_cus [t]	uk(v)
num_non_zero_32_cus [t]	uk(v)
num_non_zero_64_cus [t]	uk(v)

Table X.1 (continued)

<code>portion_fractional_prediction_sample [t]</code>	u(8)
<code>}</code>	
<code>}</code>	
<code>else if (profile_idc ==1) {</code>	
<code> if (period_type == 0 period_type == 2) {</code>	
<code> num_non_zero_samples</code>	uk(v)
<code> num_affine_samples</code>	uk(v)
<code> num_dmvr_samples</code>	uk(v)
<code> num_alf_samples</code>	uk(v)
<code> num_deblocking_filter_samples</code>	uk(v)
<code> num_htdf_samples</code>	uk(v)
<code> } else if (period_type == 1 period_type == 3) {</code>	
<code> num_count</code>	u(8)
<code> for (t=0; t<num_count; t++) {</code>	
<code> num_non_zero_samples [t]</code>	uk(v)
<code> num_samples [t]</code>	uk(v)
<code> num_dmvr_samples [t]</code>	uk(v)
<code> num_alf_samples [t]</code>	uk(v)
<code> num_deblocking_filter_samples [t]</code>	uk(v)
<code> num_htdf_samples [t]</code>	uk(v)
<code> }</code>	
<code> }</code>	
<code>}</code>	

iTech Standards
(<https://standards.iteh.ai>)
Document Preview

6.2.4.4

Add the following new subclause after subclause 6.2.4.3:

6.2.4.4 EVC Semantics

[ISO/IEC 23001-11:2023/Amd 1:2024](https://standards.iteh.ai/catalog/standards/iso/d88bb285-d4a8-4e5e-8f95-aa7fa10a699b/iso-iec-23001-11-2023-amd-1-2024)

6.2.4.4.1 General

As EVC Baseline profile and Main profile share almost no tools and the methods used for partition of the pictures are not same, the profile the CVS conforming to is used to decide the set of syntax elements to describe the complexity metrics to be applied to each CVS. In addition, As the largest size of picture is indicated by the level the CVS is conformed to, the length of the syntax elements indicating the number of pixels and coding units are decided by the level. In addition, the width and height of the coding units are also considered when the length of the syntax elements indicating the number of coding units for the CVS conforming to the baseline profile is decided.

6.2.4.4.2 Variable length syntax element for EVC Semantics

The maximum number of pixels and coding units depend on the size of the picture the complexity metric is applied to. As the largest size of picture is indicated by the level the CVS is conformed to the length of the syntax elements indicating the number of pixels and coding units are decided by the levels. In addition, the width and height of the coding units are also considered when the length of the syntax elements indicating the number of coding units for the CVS conforming to the baseline profile as the width and height of the coding units get larger than the maximum number of coding units get smaller.

– uk(v): the field is unsigned integer and the length is decided by the value of the level_idc field in the SPS used by the CVS this SEI message is applied to and the value of k assigned to each field based on the size of the units counted. The length of the field according to each value of both level_idc and k is shown in the Table X.2.