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**Email of Convenor:** young.L @ samsung . com

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**INTERNATIONAL ORGANIZATION FOR STANDARDIZATION**

**ORGANISATION INTERNATIONALE DE NORMALISATION**

**ISO/IEC JTC 1/SC 29/WG 03 MPEG SYSTEMS**

**ISO/IEC JTC 1/SC 29/WG 03 N1332**

**July 2024, Sapporo, JP**

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| **Title** | **Technologies under Consideration for ISO/IEC 23001-7** |
| **Source** | **WG 03, MPEG Systems** |
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ISO/IEC 23001-7 relies on ISO/IEC 14496-12 structures (e.g., boxes) for signaling various aspects of encryption. As ISO/IEC 14496-12 evolves and adds versions/flags to boxes used by ISO/IEC 23001-7, the File Format group considers defining brand(s) for signaling the exact support required. A first attempt at describing this exact support is given in this document. The intent is to describe what is currently supported in the field. Additional brands may be defined in the future to cover recent tools that are not yet widely deployed or future tools. Experts’ feedback is encouraged either through [GitHub](https://github.com/MPEGGroup/FileFormat/issues) or through MPEG contributions.

1. The brand 'coen'
   1. Overview

The requirements for files and readers compliant to the brand 'coen' are defined in the following subclause. It is meant to be independent of the actual encryption scheme ('cenc', 'cens', 'cbc1', 'cbcs' …).

* 1. Requirements on files

Files containing the brand 'coen' in the compatible brands array of the FileTypeBox shall conform to the constraints defined in this subclause.

The following boxes are required in a file under the 'coen' brand. The Version column in the following table lists the versions of the boxes allowed by this brand. Other versions of the boxes shall not be present. The Flags column in the following table lists the flags that may be present in files of this brand and are required to be supported by the readers of this brand. If other flags of the boxes have been specified, they may be present but are not required to be supported by the readers of this brand.

NOTE A '-' in the Version and Flags column indicates that the box is a container box or does not support versioning.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Hierarchy of boxes** | | | | **Version** | **Flags** | **Box description** |
| encv  enca  encs  enct  encu  encf  enc3  encm  encp |  |  |  | - | - | Protected Sample Entry. At least one of these entry needs to be present. |
|  | sinf |  |  | - | - |  |
|  |  | frma |  | - | - |  |
|  |  | schm |  | 0 | 0x000001 |  |
|  |  | schi |  | - | - |  |
|  |  |  | tenc | 0,1 | 0 |  |

* 1. Requirements on readers

Support for the following boxes is required under the 'coen' brand. The Version column in the following table specifies the versions of the boxes that shall be supported by the readers of the 'coen' brand.

NOTE A '-' in the Version and Flags column indicates that the box is a container box or does not support versioning nor flagging.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Hierarchy of boxes** | | | | **Version** | **Flags** | **Box description** |
| encv  enca  encs  enct  encu  encf  enc3  encm  encp |  |  |  | - | - | Readers may support only some Protected Sample Entry types. Derived specifications may require specific support. |
|  | sinf |  |  | - | - |  |
|  |  | frma |  | - | - |  |
|  |  | schm |  | 0 | 0x000001 |  |
|  |  | schi |  | - | - |  |
|  |  |  | tenc | 0,1 | 0 |  |
| moov  moof |  |  |  | - | - |  |
|  | pssh |  |  | 0,1 | 0 |  |
| sbtl  traf |  |  |  | - | - |  |
|  | sbgp |  |  | 0,1 |  |  |
|  | sgpd |  |  | 0,1,2 | 0 |  |
|  |  | seig |  | - | - |  |
|  | saiz |  |  | 0 | 0x000001 |  |
|  | saio |  |  | 0,1 | 0x000001 |  |
| trak  traf |  |  |  | - | - |  |
|  | senc |  |  | 0 | 0x000002 |  |

Open questions:

* Is one brand sufficient to represent today’s support of “old tools”? For example, some devices only support ‘saio’/’saiz’, others only support ‘senc’. Should we define 2 different brands?
* Similarly, use of ‘seig’ is specific to some use cases (e.g. multi-key support). Should this be in a separate brand?