

ADMINISTRATIVE GUIDELINE

IANA MIME Type Registration



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Foreword

The Society of Motion Picture and Television Engineers (SMPTE) is an internationally-recognized standards developing organization. Headquartered and incorporated in the United States of America, SMPTE has members in over 80 countries on six continents. SMPTE's Engineering Documents, including Standards, Recommended Practices, and Engineering Guidelines, are prepared by SMPTE's Technology Committees. Participation in these Committees is open to all with a bona fide interest in their work. SMPTE cooperates closely with other standards-developing organizations, including ISO, IEC and ITU. SMPTE Engineering Documents are drafted in accordance with the rules given in its Standards Operations Manual. For more information, please visit www.smpite.org.

This Standards Administrative Guideline forms an adjunct to the use and interpretation of the SMPTE Standards Operations Manual. In the event of a conflict, the Operations Manual shall prevail.

1 Scope

This Administrative Guideline provides the process of registering a MIME Type that is based on a SMPTE Engineering Document.

2 Conformance

The following keywords have a specific meaning in the context of this document:

- *shall* and *shall not* express a requirement from which no deviation is permitted;
- *should* and *should not* express a strong recommendation without necessarily mentioning or excluding other choices;
- *may* expresses explicit liberty (or opportunity) to do something;
- *Note* and *informative* indicates that the associated prose is not indispensable, and can be removed, changed, or added editorially without affecting the scope, or the document's usage.

3 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

SMPTE Standards Operations Manual url: <https://www.smpte.org/about/policies-and-governance>

IETF RFC 6838 – Media Type Specifications and Registration Procedures, 1/2013.

url: <https://datatracker.ietf.org/doc/html/rfc6838>

4 Terms and definitions

No terms and definitions are listed in this document.

5 Process for Registering a MIME Type

5.1 General

Listed below are the steps to register with IANA a new MIME Type based on a SMPTE Engineering Document using their Standards Tree registration described in [IETF RFC 6838](#). If a corresponding MIME Type already exists, then there is no need to go through this process.

IANA, in accordance with [IETF RFC 6838](#), requires the final registration template to be published in an Engineering Document. The template should be published as an Annex of the document that defines the media type (either as part of the original publication, as an amendment, or as a revision). In most cases, the Engineering Document type should be a Standard. An RP may be used if the defining document is an RP. If the registration applies to multiple standards, the registration may be published as an Amendment to any of the referenced Standards or as a separate RP.

An example of the body text for an Amendment that specifies a MIME Type Registration Template is shown in [Annex B](#).

The following steps in this section shall be performed.

5.2 Preparation

The Editor should read the following RFCs (or RFCs that have obsoleted them) before proceeding with an application for a MIME Type. It is important to understand the application process and requirements completely. These documents are the standards for Media Types:

- [IETF RFC 2045](#) – MIME formats and encodings
- [IETF RFC 2046](#) – Definition of media types
- [IETF RFC 2077](#) – Model top-level media type
- [IETF RFC 6657](#) – Update to MIME regarding “charset” Parameter Handling in Textual Media Types
- [IETF RFC 6838](#) – Media type specifications and registration procedures
- [IETF RFC 7303](#) – XML Media Types

After completing the research and verifying that there is not an existing MIME Type that can be referenced, the Editor should collect the information required in [IETF RFC 6838](#) to register the MIME Type and populating a draft registration template, such as the one in [Annex A](#).

5.3 Draft Registration

The Engineering Document follows the due process defined in the [SMPTE Standards Operations Manual](#). If desired, the Editor may request that the TC Chair submit a provisional registration request once the project is approved to hold the type name. Once the CD has been finalized, the Editor shall request that the TC Chair submit the draft registration request to IANA.

5.4 Online Application

5.4.1 Overview

The TC Chair shall submit the draft registration by filling out the application (<https://www.iana.org/form/media-types>) with the following information from the approved template. Any items that are not applicable shall be filled out with N/A. Do not use words like “none” that might be interpreted incorrectly.

5.4.2 Your Full Name (Required)

This shall be the name of the TC chair submitting the registration for review.

5.4.3 Your E-mail (Required)

This shall be the Teams email address (@m.smp.te.org) of the TC Chair submitting the registration for review.

5.4.4 Type Name (Required)

What is the media type name? This should be copied from the approved template.

5.4.5 Subtype Name (Required)

What is the media subtype name? This should be copied from the approved template.

5.4.6 Required Parameters (Required)

Describe the required parameters. This should be copied from the approved template.

5.4.7 Optional Parameters (Required)

Describe the optional parameters. This should be copied from the approved template.

5.4.8 Encoding Considerations (Required)

Select between; 7-bit text, 8-bit text, binary, or framed. Provide additional notes if necessary. This should be copied from the approved template.

5.4.9 Security Considerations (Required)

Provide a discussion of the security considerations. This should be copied from the approved template.

5.4.10 Interoperability Considerations (Required)

Provide a discussion of the interoperability considerations. This should be copied from the approved template.

5.4.11 Published specification (Required)

If the Standard has already been published (e.g., if the registration is being published as an Amendment), provide references to the published specification. If applicable, this should be copied from the approved template.

5.4.12 Application Usage (Required)

Describe applications which use this media type. This should be copied from the approved template.

5.4.13 Fragment Identifier Considerations (Optional)

This should be copied from the approved template.

5.4.14 Restrictions on Usage

This should be copied from the approved template.

5.4.15 Provisional Registrations (Optional)

Check Yes. After the document is published, the Director of Standards will check No when the final registration is submitted.

5.4.16 Additional Information (Required)

There are subcategories here to be copied from the approved template.

- Deprecated alias names of this type
- Magic number(s)
- File extension(s)
- Macintosh File Type Code(s)

- Object Identifier(s) or OID(s) – See [IETF RFC 1494](#)

5.4.17 Intended Usage (Required)

These three categories and detail to be copied from the approved template. Note that at the time this AG is published, there is a free-form text box below the pull-down menu that is required and can simply match the contents of the pulldown if no further text is provided by the Editor.

- Common
- Limited Use
- Obsolete

5.4.18 Other Information & Comments (Optional)

This shall be filled out with the following text:

IMPORTANT: This is a draft presented as a request for feedback from IANA experts.
We respectfully request a provisional registration while the document is in process.

5.4.19 Contact Person

The contact person shall “Director of Standards” and the contact email shall be standards-support@smpte.org.

5.5 IANA Response to Application

IANA is generally responsive and will likely send a confirmation that the draft registration has been received and in some cases might request additional information. For instance, if the referenced standard is behind a paywall, the TC chair should be prepared to supply a liaison copy of the referenced standard. The TC Chair should ensure that the IANA representative understands that SMPTE is requesting expert feedback on the submission. The submitting TC chair shall submit any feedback received as one or more comments against the FCD ballot.

The SMPTE Engineering Document development process is then followed. Further changes may be made as a result of document reviews or comment resolution according to the due process defined by the [SMPTE Standards Operations Manual](#).

5.6 Publication

Once the document has been published, the Editor should notify the Director of Standards to submit the final registration. The registration template information should be copied directly from the published document, and the Provisional Registrations field is set to No, as the request represents the final registration, and with the Other Information & Comments field filled as follows:

This registration request corresponds to a previously accepted provisional registration request.
The related SMPTE document has since been formally published as represented herein.
Final publication of this registration is respectfully requested.

The Director of Standards should forward the tracking number back to the Editor for tracking the progress of the request to Acceptance.

Annex A

Draft Application Template

The following template may be used to fulfill the requirements of [5.2](#). This template is based on the template provided in [IETF RFC 6838](#) and this annex can be updated as necessary as that document is superseded. Further information on each field in the registration template is available in [IETF RFC 6838](#).

Table A.1 – Registration Template

Author (name and email):	Name and email address of the TC chair corresponding to 5.4.2 and 5.4.3
Type name:	What is the media type name?
Subtype name:	What is the media subtype name?
Required Parameters:	Describe the required parameters.
Optional Parameters:	Describe the optional parameters.
Encoding considerations:	[7-bit text, 8-bit text, binary, framed] Provide additional notes as necessary.
Security considerations:	Provide a discussion of security considerations.
Interoperability considerations:	Provide a discussion of the interoperability considerations.
Published Specification:	Provide references to the published specification, if any. Otherwise, N/A.
Applications that use this media type:	Describe applications which use this media type.
Fragment identifier considerations:	See IETF RFC 3986
Restrictions on usage:	N/A except where intended usage is LIMITED USE.
Provisional Registration?	YES
Additional information:	Optional (use N/A as needed where these fields are not supplied)
Deprecated alias names for this type:	
Magic number(s):	
File extension(s):	
Macintosh file type code(s):	
Object Identifier(s) or OID(s)	See IETF RFC 1494
Intended usage:	[COMMON, LIMITED USE, OBSOLETE]
Other information & Comments	IMPORTANT: This is a draft presented as a request for feedback from IANA experts. We respectfully request a provisional registration while the document is in process.
Contact Person:	Director of Standards, Society of Motion Picture and Television Engineers (SMPTE) standards-support@smpte.org

Annex B

Example Registration

The following is the body text of an example Amendment (Amd1:2022 to ST 268-2:2018), which specifies the registration template used for the image/dpx MIME type.

1 Scope

This amendment contains the registration template for the image/dpx MIME type.

2 Add New Annex D

The following text is added as Annex D:

Annex D IANA MIME Type Registration Template (informative)

This annex serves to register and document the MIME Type image/dpx, which is associated with files conforming to SMPTE ST 268-1 or SMPTE ST 268-2. The registration is intended to address the requirements of IETF RFC 6838.

D.1 Media type name

image

D.2 Media subtype name

dpx

D.3 Required parameters

N/A

D.4 Optional parameters

standard – If specified, the parameter indicates the version of the SMPTE standard with which the file complies. At the time of IANA registration, the possible values are st268-1 (for SMPTE ST 268-1) and st268-2 (for SMPTE ST 268-2).

If the standard parameter is absent, the file can comply with any version of the SMPTE standard.

D.5 Encoding considerations

binary

D.6 Security considerations

DPX files only encode images with corresponding metadata and do not employ executable content.

The header defines a "user-defined information" section that can contain arbitrary binary data. As such, a maliciously coded file could contain a binary blob comprising executable content. Therefore, the user-defined header must not contain executable content, and implementations that receive, display, or otherwise process images must preclude the execution of any executable content that might be received.

Some files also contain a "standards-based metadata" section that can include arbitrary XML. Such XML could include potentially harmful or malicious links to other resources. Implementations will need to ensure that a received file can be handled within the available memory. DPX allows run-length encoding, so decoders will need suitable bounds checks to ensure that memory locations outside the allocated decoded image buffer cannot be altered.

DPX files do not have integral encryption or authentication. A 32-bit "encryption key" field is defined in SMPTE ST 268-1, but the standard does not specify an encryption algorithm; therefore, utilizing the field for encrypting picture data will generally not be interoperable. Any file protection, privacy, or integrity requirements must be handled using an external mechanism.

D.7 Interoperability considerations

SMPTE ST 268-1 has been very widely used since it was standardized (initially as SMPTE 268M:1994) but has experienced some interoperability issues in practice. These issues have occurred primarily due to conflicting interpretations relating specifically to how the pixel data is ordered, packed, and padded. SMPTE ST 268-2 has improved interoperability due to the inclusion of metadata that

resolves ambiguities that are present in ST 268-1. However, ST 268-2 is a more recent standard, whereas ST 268-1 has been widely used for many years prior and is employed in voluminous archives.

Both ST 268-1 and ST 268-2 define core fields and values. Files must include all core fields, and reader or receiver implementations must interpret all core fields and values.

D.8 Published specification

SMPTE ST 268-1; SMPTE ST 268-2 (which incorporates ST 268-1 by reference)

D.9 Applications which use this media

DPX is derived from Kodak's Cineon format and is used primarily as a file format for digitization of camera-captured frames and as a digital intermediate file format.

D.10 Fragment identifier considerations

N/A

D.11 Restrictions on usage

N/A

D.12 Additional information

D.12.1 Deprecated alias names for this type

N/A

D.12.2 Magic number(s)

hex 53 44 50 58 (most-significant byte first file) or 58 50 44 53 (least-significant byte first file)

D.12.3 File extension(s)

dpx

D.12.4 Macintosh file type code

N/A

D.12.5 Object Identifiers

N/A

D.13 Person to contact for further information

Name: Director of Standards Development

Email: standards-support@smpete.org

D.14 Intended usage

Common

D.15 Author/Change controller

Society of Motion Picture and Television Engineers ("SMPTE")

3 Add new Bibliography item

The following text is added to the Bibliography:

IETF RFC 6838 – Media Type Specifications and Registration Procedures.

Bibliography

IETF RFC 1494 – Equivalences between 1988 X.400 and RFC-822 Message Bodies, 08/1993.

url: <https://datatracker.ietf.org/doc/html/rfc1494>

IETF RFC 2045 – Multipurpose Internet Mail Extensions (MIME) Part One: Format of Internet Message Bodies, 11/1996.

url: <https://datatracker.ietf.org/doc/html/rfc2045>

IETF RFC 2046 – Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types, 11/1996.

url: <https://datatracker.ietf.org/doc/html/rfc2046>

IETF RFC 2077 The Model Primary Content Type for Multipurpose Internet Mail Extensions, 1/1997.

url: <https://datatracker.ietf.org/doc/html/rfc2077>

IETF RFC 3986 Uniform Resource Identifier (URI): Generic Syntax, 1/2005. url: <https://datatracker.ietf.org/doc/html/rfc3986>

IETF RFC 6657 – Update to MIME regarding “charset” Parameter Handling in Textual Media Types, 7/2012.

url: <https://datatracker.ietf.org/doc/html/rfc6657>

IETF RFC 7303, XML Media Types, 7/2014. url: <https://datatracker.ietf.org/doc/html/rfc7303>