



PLEASE DO NOT CHANGE THE SUBJECT LINE WHEN RESPONDING! Thank You!

To: DICOM Community

Cc: Chair of WG-06 – Robert Horn
DICOM Editor – David Clunie

From: DICOM Secretariat Office
Luiza Kowalczyk, Manager, DICOM Operations
Stephen Vastagh, General Secretary

Subject: Soliciting Public Comments on

Supplement 195: HEVC/H.265 Transfer Syntax

Submit comments as soon as possible but no later than: Friday, July 22, 2016

All interested persons are invited to comment. Recipients of this solicitation should feel free to forward it to anybody who may be interested in this topic but may not be included in DICOM e-mail lists.

There is no cost or obligation associated with commenting and no membership in any committee is required to comment but commenters are requested to include their contact information with their comments. The commenters are also invited to request to be added to the e-mail list of DICOM Working Group 06 (Base Standard) and DICOM WG-04/13 Ad Hoc-HEVC Compression Subgroup. The latter Group is the author of this Supplement. If added to the e-mail list, the persons will be kept apprised of further communications regarding this Supplement and other changes and updates of the DICOM Standard. (Visit the DICOM home page (<http://dicom.nema.org/>) and click on the pink button to request to be added. (Note: one may request to be removed from the e-mail list(s) at any time as job assignments or interests may change.)

The Members of Working Group 6 (Base [DICOM] Standard), who are reviewing this Supplement, would appreciate any comments that you might like to make regarding its technical merits.

To facilitate the readers' understanding of this new proposed addition to the DICOM Standard, the authors prepared a presentation, which describes the technical issues and use cases. The links to this Power Point description are also available in this document.

Scope and Field of Application
(Reproduced from the document for your convenience)

1 INTRODUCTION

This supplement describes two new Transfer Syntaxes to embed High Efficiency Video Coding (HEVC) / H.265 Main Profile / Level 5.1 and Main 10 Profile / Level 5.1 encoded pixel data in DICOM. It does not introduce any new SOP Classes or IODs.

2 IMPROVEMENT OF THE 4:2:0 CONTENT COMPRESSION EFFICIENCY

The use of video and still image data in the medical industry has increased and new technologies providing better colors or higher precision are available on the market. Meanwhile, the needs for reduced storage and media exchange cost remains important. To answer the related demand for higher 4:2:0 compression efficiency, this supplement proposes to add the following profiles.

Transfer Syntax HEVC/H.265 Main Profile /Level 5.1 will perform consistent with the ISO/IEC 23008-2:2016 HEVC Main Profile at Level 5.1. This will enable the storage of video files with a resolution of 4096x2160 at 50Hz/60Hz.

Transfer Syntax HEVC/H.265 Main 10 Profile /Level 5.1 will perform consistent with the ISO/IEC 23008-2:2016 HEVC Main 10 Profile at Level 5.1. This will notably enable the storage of video files with a higher dynamic range and a wider gamut space and a resolution of 4096x2160 at 50Hz/60Hz.

3 SCOPE OF THE SUPPLEMENT

This proposed supplement includes Addenda to existing Parts of DICOM:

- PS 3.3 Addendum: Information Object Definitions
- PS 3.4 Addendum: Service Class Specifications
- PS 3.5 Addendum: Data Structures and Encoding
- PS 3.6 Addendum: Data Dictionary
- PS 3.17 Addendum: Explanatory Information

4 LICENSING ISSUES (ADVISORY NOTE):

HEVC/H.265 has now two associated pools of patents which define royalties to pay for when buying or using HEVC/H.265 codecs:

- MPEG-LA patent pool (<http://www.mpeg-la.com/main/programs/HEVC/Documents/HEVCweb.pdf>)
- HEVC Advance (<http://www.hevcadvance.com/pdf/RoyaltyRatesSummary.pdf>)

While MPEG-LA requires a royalty based on the purchase of equipment, HEVC/H.265 Advance requires companies to pay royalties on the basis of HEVC/H.265 streams they produce which they sell to customers. Interested readers are encouraged to look for further information with the help of specialized professionals.

This Advisory Note is for information only and is not intended to constitute legal advice , and no representation is made about the comprehensiveness of this advisory note.

Final deadline for comments: All comments should be submitted as soon as possible but NO LATER than by midnight, Friday, July 22, 2016

Who can comment? All interested persons are invited to comment. Recipients of this solicitation should feel free to forward it to anybody who may be interested in this topic but not now on DICOM e-mail lists. There is no cost or obligation associated with commenting and no membership in any committee is required to comment but commenters will be requested to include their contact information with their comments.

What will happen to your comments? DICOM WG-06 and DICOM WG-04/13 Ad Hoc-HEVC Compression Subgroup will review the comments and discuss their resolution. WG-06 is authorized by the DICOM Standards Committee to decide on the technical merits of the comments.

Instructions for accessing the documents and submitting comments:

1. The DICOM Secretariat (MITA/NEMA) **uses a third party software, KAVI**, for the collection and management of the public comments.

2. **Download document(s) to local drives:**

Click on the links below to download the PDF, Word, and/or XML versions. If the PDF version is different from any other format the PDF governs.

3. **Enter and submit comment(s):**

When clicking on the “**Comment**” link below; the comment submission template appears. You may complete multiple comment templates and submit as a single comment (“Save and add another”) or you may submit a single comment (“Save”) and restart the process to submit another comment.

Forms of comments:

- You may enter free text, attach a document containing your comments, or mark-up parts or the whole of the document and attach same.
- If your comments relate to several specific sections you can combine them in a single comment entry or make separate comment entries.

Mandatory fields:

- Commenter’s name, affiliation, e-mails address.
- “Subject” (please enter ‘Sup195_PC’ – [additional, more specific description is optional])
- “Comment” – may be a higher level statement or may be detailed technical comment with tables, illustrations, ‘cut-and-paste from the draft, etc.
- “Proposed solution” - may be a higher level statement or may be marked up or new text, tables, illustrations, etc.
- “Save and add another” -you may complete multiple comment templates and submit as a single comment

- “Save” - you may submit a single comment and restart the process to submit additional comments.

Notes for optional fields/items:

- “Category” - would be most helpful, please complete!
- “Section” and “Item” very helpful for all comments. However; may not be applicable to high level comments.
- “Supporting File” - may attach a document to the comment

[END OF NOTES AND INSTRUCTIONS]

‘Download’ links:

Sup 195 _pc2 HEVC/H.265 Transfer Syntax PDF Document -

https://standards.nema.org/kws/public/document?document_id=15213&wg_abbrev=09-DICOM-2

Sup 195 _pc2 HEVC/H.265 Transfer Syntax WORD Document -

https://standards.nema.org/kws/public/document?document_id=15212&wg_abbrev=09-DICOM-2

Sup195_pc_overview_v2.pptx

https://standards.nema.org/kws/public/document?document_id=15214&wg_abbrev=09-DICOM-2

‘Comment’ link:

Sup 195 _pc2_ HEVC/H.265 Transfer Syntax Submit Comments –

https://standards.nema.org/kws/public/add_comment?document_id=15213

PLEASE NOTE:

The draft Supplement 195 and the accompanying Power Point presentation are also posted in <ftp://medical.nema.org/MEDICAL/Dicom/Supps/PC/>

If you still have questions and need assistance to complete and submit a comment, contact the NEMA web master (Victor.Carneiro@nema.org) or the undersigned DICOM staff.

Thank you for your participation.

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Announcement:

If anyone you know is interested in receiving e-mail information on the latest changes to the DICOM Standard or is interested in actively participating in any DICOM Working Group, please direct them to

<http://dicomconference.org/contact/participation-in-dicom-activities/>