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| **Question(s):** | 6/16 | | **Meeting, date:** | Virtual, 22-25 January 2024 | |
| **Study Group:** | **16** | **Working Party:** | **3** | | |
| **Source:** | Rapporteur Q6/16 | | | | |
| **Title:** | LS on selecting a DICOM biomedical waveform codec [to DICOM WG32 (Neurophysiology Data)] | | | | |
| **LIAISON STATEMENT** | | | | | |
| **For action to:** | | DICOM WG32 (Neurophysiology Data) | | | |
| **For information to:** | | - | | | |
| **Agreement:** | | ITU-T Q6/16 meeting (Teleconference, 25 January 2024) | | | |
| **Deadline:** | | 12 July 2024 | | | |
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| **Abstract:** | This document is a liaison statement from ITU-T Q6/16 to DICOM WG32 (Neurophysiology Data). It follows up on prior replies to a liaison statement discussing the availability and possible development of a waveform codec suitable for compressing biomedical data and use in DICOM systems. It reports on further work that has been conducted by Q6/16 on the evaluation of the response for a Call for Evidence for the compression of biomedical waveform data issued by ITU-T Q6/16 and the subsequent issuance of a Call for Proposals toward standardization of such a codec as a new ITU-T Recommendation. |

Question 6 of ITU-T Study Group 16 (known as VCEG) is pleased to provide you with updated status information about our possible development of a waveform coding standard suitable for compressing biomedical waveform data and possibly other waveform signals, as previously discussed with you since receiving your 2022 liaison letter on the subject (your [[DICOM-WG32-LS20221107](https://www.itu.int/ifa/t/2022/ls/dicom/sp17-dicom-iLS-00001.docx)](https://www.itu.int/ifa/t/2022/ls/isoiecjtc1sc29wg1/sp17-iso_iecjtc1_sc29_wg1-iLS-00050.pdf), our [SG16-TD103/Gen](http://www.itu.int/md/meetingdoc.asp?lang=en&parent=T22-SG16-230710-TD-GEN-0103)).

In response to our previously issued Call for Evidence (CfE) on the subject, Q6/16 has evaluated evidence that technology exists that is capable of superior results relative to the MPEG-D Extended HE-AAC selected benchmark technology (with MSE-optimized encoding) for the considered biomedical applications in the near-lossless range of quality. This is based on test results for a set of three datasets containing examples of Electroencephalography (EEG), Electrocardiography (ECG) and Electromyography (EMG) signals provided by DICOM WG32.

Following the discussions and a review of the submitted evidence, Q6/16 has therefore issued a Call for Proposals (CfP) on the compression of biomedical waveform data. Respondents to the CfP are requested to submit responses for consideration at the Q6/16 meeting of 12-19 July 2024 in Sapporo, Japan. Moreover, it is also possible for ITU-T members to submit initial responses for consideration at the SG16 meeting of 15-26 April 2024 in Rennes, France. Additional information submitted beyond July 2024 may also be considered.

The issued Call for Proposals is attached to this document as document **VCEG-BU04**. Further information about the Call and the potential standardization development of a new standard for the coding of such signals can be found in the CfP itself and its Annex A, which contains a draft justification for a potential new ITU-T Recommendation on biomedical and waveform signal coding. Upon assessing the status of the studies and the draft justification, ITU-T SG16 may add the development of such a planned new Recommendation to its work programme at its meeting of 15-26 April 2024, and upon evaluation of responses to the CfP, Q6/16 is likely to begin drafting a new waveform coding standard suitable for biomedical signal coding applications. This is expected to include capabilities for both lossless and near-lossless compression.

Q6/16 would very much welcome your feedback and future collaboration in the design of a coding standard for the compression of biomedical waveform data. This applies in particular to your assessment of proposed technology with respect to its suitability for the targeted medical applications and its integration into the DICOM framework.

Attachments: (TSB: Please attach before dispatch)

[VCEG-BU04](https://www.itu.int/en/ITU-T/studygroups/2022-2024/16/Documents/docs/VCEG-BU04-v1.pdf) Call for Proposals on the coding of biomedical waveform data

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