

## QIBA fMRI-DICOM Work Group Update Call

Wednesday, October 12, 2011

10 AM CDT

Call Summary

### In attendance

James L. Reuss, PhD (chair)

Paul L. Carson, PhD

Barbara Croft, PhD

Cathy Elsinger, PhD

Brian Lenoski, MS

James T. Voyvodic, PhD

### RSNA

Julie Lisiecki

### General discussion

- Discussion of Dr. Reuss's proposal document, "Incorporation of Imaging-Based Functional Assessment Procedures into the DICOM Standard," in preparation for the WG-16 DICOM meeting; tags have been added
- Group discussed the workflow and how to incorporate new DICOM tags
  - Want to show standard that is being used and data associated with the workflow
  - Immediate, basic, and extended goals have been identified
  - e.g., Immediate goal: distinguishing between temporal and hardware synchronization
    - To what degree has DICOM synchronization been adopted among MR scanner vendors?
    - Would Siemens consider MR multi-frame as part of its "Mosaic" program?
    - An update of the multi-frame is important; working to inform the scanner manufacturers.

### Other considerations

- New DICOM tags proposed – scale measurement and threshold would be helpful.
- Want to synchronize the first emitted pulse from the scanner to the presentation management software
  - Important variable: the time between synchronization pulses (first-trigger pulse emitted) and the time to the first image being stored; common ID for paradigm execution and imaging needed
  - In a scan session with multiple data acquisitions, the series is unknown, as the data is not synchronized; some common identification for paradigm execution is needed
  - Datasets can get lost or are incomplete – a tag to differentiate between datasets is needed.
  - A UID within a session, associated with the "start scan" button would be ideal, because the "series ID" is *not* consistent across scanners
  - The proposed ID associated with the "start scan" button would also need to be the start of a physical series *not* a prescribed series
  - A consistent number used in the DICOM header would be helpful – even if no button on the console is possible

### Next steps:

- Consider "real-time" clocks on each of the software pieces being used with help from the fMRI Tech Ctte; look at time sync issue.
- Follow up on immediate considerations: What has been adopted? What future recommendations may be made to WG-16?
- Drs. Reuss and Elsinger to report back to the QIBA fMRI Tech Ctte regarding the WG-16 meeting.

Next call: TBD