

Revisions of the DICOM Conformance Statement Template (Work Item 2016-12-C) Status Update

June 4, 2018

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Agenda

- **Background**
- **Deliverables**
- **Publication Mechanism**

Goal of Work Item

- **Improve content and structure of DCS to**
 - **Better meet needs of all user groups (service, R&D, testing, sales ...)**
 - **Better facilitate comparability of different product's DICOM functionality**
 - **Avoid ambiguities/inconsistencies between different vendor documentation**

Structure and Content of new DICOM Conformance Statement was approved during January WG6 meeting.

Goal for this meeting

- **Confirm concept and general direction of subgroup**

Plan is to provide two deliverables

- Extensive template as a tool for vendors to develop their product DCS
 - Template provides detailed guidance on content and structure of the DCS including guidance on how to use the document and detailed pre-filled tables for message content/IOD Definitions/configuration...
 - User can use the template and only needs to fill in product specific information or remove content not supported by the system
 - Current working document
- Updated DICOM Part PS 3.2 (and others as needed) containing normative requirements for the content and structure of a DCS
 - As Part of Part PS3.2 provide a “cookbook-like” instructions on how to use the template for specific product types (e.g. for a typical modality, PACS, VNA, RIS, Viewer, ...)

Advantages

- Achieve greater consistency across different vendors and products through use of template
- Ensure completeness of information
- Ease creation of DCS
- Consistent definition of tables allows use of tooling and is in alignment with creating a machine readable DCS

Proof points from Survey

- **“DICOM committee can perhaps provide templates not just guidelines.”**
- **Inconsistent and Incomplete documentation**
 - “Frequently incomplete listed by manufacturer”
 - “Variability in DCS content from author to author; difficulty establishing the correct (or latest version); difficulty identifying private tags and their use.”
 - “Inconsistent vendor implementation. Some vendors could be 4 pages, other 13. Makes it difficult to compare side by side.”
 - “The DCS looks very different even if the content is the same when comparing different products.”
 - “Standard formatted tables that are easily compared for differences”
- **Table Representation**
 - “Should be tabular (reduce text, improve to structured information)”
 - “More information in tables and less in narrative - this would allow for faster reading and more compact reference when comparing/matching.”
 - “Standard formatted tables that are easily compared for differences”
 - “Current structure tends the DCS to become a long blabla text. It would make more sense to have a predefined table structure where each participant would only have to do:
 - tick-marks for options available, like for "SOP classes"
 - parameter fields, like "Implementation Version Name"
 - number fields, like for "Maximum number of simultaneous Associations"This would allow to "compare" similar devices in an easy way.
 - “Every last one of the sections is required to be written in a obscure way that no vendors understand, and can't easily be rationalized even by the standards writers. Therefore almost all DCS are 90% meaningless gobbledegook. If there is any useful information at all in the DCS, it is contained in a couple of tables.”

Observation

- Delivering a template is out of the scope of the current DICOM publication process

As a separate „editable“ document in word/odt format

- This document could be used as is, to generate product documentation

As part of one of the existing DICOM parts

- Would be in alignment with current documentation process
- Would require user to cut and past form „editable“ version and adjust to appropriate chapter numbering

How much Detail is needed

Currently there are huge numbers of documentation requirements for the DSC split/hidden across most of the DICOM Parts.

- Some of them are very detail oriented addressing a lot of edge cases
- Some of them are hidden in between of other normative text and difficult to find
- Some documentation requirements are inconsistent between different services

⇒ **Inconsistent/incomplete documentation across vendors**

- **From the survey:**

“My biggest area of concern is that vendors seem to have given up on the process of writing DCS. And I don't blame them. *The current standard imposes requirements that no one understands, and requires documenting things that don't really apply to most implementations (i.e. a lot of blank sections).*”

How much Detail is needed

- **Examples from the standard**

- Section B.4.1.2: „An SCP that claims conformance to Level 2 (Full) support of the Storage Service Class may accept any Presentation Context negotiation of a SOP Class that specifies the Storage Service Class during the SOP Class Common Extended Negotiation (see Section B.3.1.3), without asserting conformance to that SOP Class in its Conformance Statement.”
- Section B.4.3.2: “The behavior of the SCP in the case of a successful C-STORE operation shall be described. This includes the following:
 - * Access to stored instances
 - * duration of storage”
- Section H.2.5: “Failure - indicates that the SCP is unable to perform the request. The request will not be processed unless it is repeated by the SCU at a later time. The exact behavior of the SCP is described in the Conformance Statement.”
- Section J.1.1: “The SCP implementation defines how it provides its commitment to storage. Certain SCPs may commit to permanently store the SOP Instances (e.g., an archive system) while other SCPs may commit to provide storage of the SOP Instances for a limited amount of time. The SCP is required to document in its Conformance Statement the nature of its commitment to storage (e.g., duration of storage, retrieve capabilities and latency, capacity).”

- **Proposal**

- Focus on the 80% use cases and remove these detailed requirements

Backup Slides



- 1. Overview**
- 2. Table of Contents**
- 3. Introduction/Disclaimer**
- 4. Product Description**
- 5. Service and Interoperability Description**
- 6. DICOM Configuration**
- 7. Network Communication Details**
- 8. Security**

Proof Points from Survey

- Information about errors are hard to find, most of the time. Sometimes the codes repeat in several sessions, but the possible causes are never explained.
- The heading levels are way too deep. The most important content is buried in an inefficient hierarchy of sections.
- not user oriented (sales, service, R&D) and I miss information about application specific behaviour
- For example if you want to see an object, you have to find in several parts of the document.
- Info should group based on their function. Example, put all relevant info for storage scu service in one section.
- Grouping by AE often leads to multiple redundancies. Would prefer to group by Service Classes (Worklist & PS management, Storage & Commitment, Query & Retrieve, ...)
- As these sections are usually very short (see example in PS3.2, chapter B) it does not make sense to have these in separate chapters with miniature-like tables. Lot of blabla.