

DICOM Correction Proposal Form

Correction Number	CP-341
Log Summary: Add Spectroscopic Data and Raw Data to Signature Profiles	
Type of Modification	Name of Standard
Enhancement	PS 3.15 2003
Rationale for Correction Supplement 49 adds new modules that are candidate to be added on the lists of attributes to be included for calculating the Digital Signature for the Creator RSA Digital Signature and Authorization RSA Digital Signature Profile. Examples are Multi-frame Functional Groups, Enhanced MR Image, MR Spectroscopy and Raw Data. Add the new modules to the list.	
Sections of documents affected PS 3.15 Sections C.2 and C.3	
Correction Wording:	

C.2 CREATOR RSA DIGITAL SIGNATURE PROFILE

The creator of a DICOM SOP Instance may generate signatures using the Creator RSA Digital Signature Profile. The Digital Signature produced by this Profile serves as a lifetime data integrity check that can be used to verify that the pixel data in the SOP instance has not been altered since its initial creation. An implementation that supports the Creator RSA Digital Signature Profile may include a Creator RSA Digital Signature with every SOP Instance that it creates; however, the implementation is not required to do so.

As a minimum, an implementation shall include the following attributes in generating the Creator RSA Digital Signature:

- a. the SOP Class and Instance UIDs
- b. the SOP Creation Date and Time, if present
- c. the Study and Series Instance UIDs
- d. any attributes of the General Equipment module that are present
- e. any attributes of the Overlay Plane, Curve or Graphic Annotation modules that are present
- f. any attributes of the General Image and Image Pixel modules that are present
- g. any attributes of the SR Document General and SR Document Content modules that are present
- h. any attributes of the Waveform and Waveform Annotation modules that are present
- i. **any attributes of the Multi-frame Functional Groups module that are present**
- j. **any attributes of the Enhanced MR Image module that are present**
- k. **any attributes of the MR Spectroscopy modules that are present**
- l. **any attributes of the Raw Data module that are present**

The Digital Signature shall be created using the methodology described in the Base RSA Digital Signature Profile. Typically the certificate and associated private key used to produce Creator RSA Digital Signatures are configuration parameters of the Application Entity set by service or installation engineers.

Creator RSA Digital Signatures bear no direct relationship to other Digital Signatures. However, other Digital Signatures, such as the Authorization Digital Signature, may be used to collaborate the timestamp of a Creator RSA Digital Signature.

C.3 AUTHORIZATION RSA DIGITAL SIGNATURE PROFILE

The technician or physician who approves a DICOM SOP Instance for use may request the Application Entity to generate a signature using the Authorization RSA Digital Signature Profile. The Digital Signature produced serves as a lifetime data integrity check that can be used to verify that the pixel data in the SOP instance is the same that the technician or physician saw when they made the approval.

As a minimum, an implementation shall include the following attributes in generating the Authorization RSA Digital Signature:

- a. the SOP Class and Instance UIDs
- b. the Study and Series Instance UIDs
- c. any attributes whose Values are verifiable by the technician or physician (e.g., their Values are displayed to the technician or physician)
- d. any attributes of the Overlay Plane, Curve or Graphic Annotation modules that are present
- e. any attributes of the General Image and Image Pixel modules that are present
- f. any attributes of the SR Document General and SR Document Content modules that are present
- g. any attributes of the Waveform and Waveform Annotation modules that are present
- h. any attributes of the Multi-frame Functional Groups module that are present**
- i. any attributes of the Enhanced MR Image module that are present**
- j. any attributes of the MR Spectroscopy modules that are present**
- k. any attributes of the Raw Data module that are present**

The Digital Signature shall be created using the methodology described in the Base RSA Digital Signature Profile. The Application Entity shall determine the identity of the technician or physician and obtain their certificate through a site-specific procedure such as a login mechanism or a smart card.

Authorization RSA Digital Signatures bear no direct relationship to other Digital Signatures. However, other Digital Signatures, such as the Creator RSA Digital Signature, may be used to collaborate the timestamp of an Authorization RSA Digital Signature.