DICOM Correction Proposal

STATUS	Assigned
Date of Last Update	2024-11-02
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Correction Number	CP-2442
Log Summary: Harmonize the meaning of Failure Reasons	
Name of Standard PS3.3	
Rationale for Correction:	

It is proposed to harmonize the meaning of the Failure Reasons used for Storage Commitment and Media Creation Management, i.e. use the meanings that are defined for the DIMSE Status Codes in PS3.7 (if available and appropriate). If the meaning is identical, the same wording should be used.

It is also proposed to make the following editorial changes to the standard text:

- Use a consistent spelling (capitalization) throughout the standard text for the terms "SOP Class", "Transaction UID", "Storage Commitment request" and "Storage Commitment response". This also includes PS3.4 and PS3.18.

- Use "Media Storage Application Profile" or "Application Profile" throughout the standard text since these terms are defined in PS3.11 and PS3.10, respectively. "Media Application Profile" is not defined, but apparently used at various places as a synonym.

Correction Wording:

Change PS3.3 Section C.14.1 as follows

C.14.1 Storage Commitment Attribute Description

C.14.1.1 Failure Reason

The following ~~v~~Values and semantics shall be used for Failure Reason (0008,1197):

Enumerated Values:

0110H Processing ~~f~~Failure

A general failure in processing the operation was encountered.

0112H No such ~~object~~**SOP** ~~i~~Instance

The specified SOP Instance was not available.

0213H Resource ~~l~~Limitation

The SCP does not currently have enough resources to store the requested SOP Instance(s).

0122H Referenced SOP Class not supported

The specified SOP Class is not supported by the SCP.

0119H Class~~/~~-Instance conflict

The specified SOP Class of the given SOP Instance did not correspond to the SOP ~~e~~Class registered for this SOP Instance at the SCP.

0131H   Duplicate ~~t~~Transaction UID

The Transaction UID of the Storage Commitment ~~R~~request is already in use.

Change PS3.3 Section C.22.1 as follows

C.22.1 Media Creation Management Module

C.22.1.1 Barcode Symbology

The following Values and semantics may be used for Barcode Symbology (2200,0006):

Defined Terms:

CODE128   ISO/IEC 15417:2000 Information technology - Automatic identification and data capture techniques - Bar code symbology specification - Code128
CODE39   ISO/IEC 16388:1999 Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - Code 39
INTER_2_5   ISO/IEC 16390:1999 Information technology - Automatic identification and data capture techniques - Bar code symbology specifications - Interleaved 2 of 5 (also known as USS ITF 2/5, I-2/5, ITF 2of5)
HIBC   ANSI/HIBC 1-1996 Health Industry Bar Code (HIBC) Provider Applications Standard

Note

This doesn't list all the bar code symbologies in use (there are currently more than 400). Implementations supporting other symbologies can extend this list. Implementation-specific code values shall be defined in the Conformance Statement.

C.22.1.2 Execution Status

The following Values and semantics shall be used for Execution Status (2100,0020):

Enumerated Values:

IDLE   The SCP has created the ~~m~~Media ~~c~~Creation ~~m~~Management Instance, but it has not **yet** been ~~yet~~ scheduled.
PENDING   This ~~mM~~edia ~~cC~~reation ~~mM~~anagement Instance is still scheduled for processing.
CREATING   This ~~m~~Media ~~c~~Creation ~~m~~Management Instance is being processed.
DONE   This ~~m~~Media ~~c~~Creation ~~m~~Management Instance has been successfully processed.
FAILURE   This ~~m~~Media ~~c~~Creation ~~m~~Management Instance failed to be processed.

Note

IDLE describes the status of a new ~~m~~Media ~~c~~Creation ~~m~~Management Instance (N-CREATE operation performed) for which the N-ACTION action has not been yet issued.

C.22.1.3 Execution Status Info

The following Values and semantics may be used for Execution Status Info (2100,0030):

Defined Terms:

CHECK_MCD_OP   The media creation request could not be accomplished since the device is not ready at this time and needs to be checked by an operator (e.g., covers/doors opened or device jammed).
CHECK_MCD_SRV   The media creation request could not be accomplished since the device is not ready at this time and needs to be checked by a vendor service engineer (e.g., internal component failure).
DIR_PROC_ERR   The DICOMDIR building process failed for some unspecified reason (e.g., mandatory Attributes or values missing).
DUPL_REF_INST   Duplicated Instances in the Referenced SOP Sequence (0008,1199).
INST_AP_CONFLICT   One or more of the ~~elements~~Instances in the Referenced SOP Sequence (0008,1199) are in conflict (e.g., the SOP Class specified is not consistent with the requested Application Profile).
INST_OVERSIZED   **The size of a**~~A~~ single **SOP** Instance ~~size~~ exceeds the actual media capacity.
INSUFFIC_MEMORY   There is not enough memory available to complete this request.
MCD_BUSY   Media creation device is not available at this time, but should become ready without user intervention (e.g.~~,~~ the media creation device's buffer capacity is full); the SCU should retry later.

MCD_FAILURE	Media creation device fails to operate; this may depend on permanent or transient hardware failures (e.g., robot arm broken, DVD writer failed) or because it has been disabled by an operator.
NO_INSTANCE	One or more of the SOP Instances in the Referenced SOP Sequence (0008,1199) are not available.
NOT_SUPPORTED	One or more of the Application Profiles, and/or SOP Classes, referenced in the Referenced SOP Sequence (0008,1199) are not supported by the SCP.
OUT_OF_SUPPLIES	No more supplies (e.g., blank media, labeling ink) are available for the media creation device; operator intervention is required to replenish the supply.
PROC_FAILURE	A general processing failure was encountered.
QUEUED	This Media Creation Management Instance is still in queue.
SET_OVERSIZED	The file-set size exceeds the actual media capacity, and the device is not capable of splitting across multiple pieces of media.
UNKNOWN	There is an unspecified problem.

Note

1. With respect to INST_OVERSIZED, DICOM media does not support spanning of Instances across volumes.

2. With respect to OUT_OF_SUPPLIES, This service is not supposed to provide detailed device status information, however sophisticated media creating devices can extend this table to return more information about the supply to be replenished. Implementation-specific code values shall be defined in the Conformance Statement.

3. For most of the above statuses, the SCU can obtain more details about the processing errors (e.g., what are the SOP Instances not available) by using Failure Reason (0008,1197) within the Failed SOP Sequence (0008,1198).

C.22.1.4 Failure Reason

The following Values and semantics may be used for Failure Reason (0008,1197):

Defined Terms:

0110H	Processing fFailure; a general failure in processing the operation was encountered.
0112H	No such objectSOP iInstance; one or more of the **SOP** Instances listed in the Referenced SOP Sequence (0008,1199) was not available.
0122H	Referenced SOP Class not supported; a media creation has been requested for a SOP Instance with a SOP Class that is not supported by the SCP.
0119H	Class/Instance conflict; the SOP Class of an Instance in the Referenced SOP Instance Sequence **(0008,1199)** did not correspond to the SOP cClass of the SOP Instance stored at the SCP.
0201H	Media Application Profiles conflict; one or more of the Media Application Profiles referenced in the Reference SOP Sequence (0008,1199) are in conflict (e.g., for the same request a STD-GEN-CD and a STD-GEN-DVD is referenced).
0202H	Media Application Profile/Instance conflict; the SOP Class of an Instance in the Referenced SOP Sequence (0008,1199) did not correspond to a SOP cClass permitted for the requested or supported Media Application Profiles.
0203H	Media Application Profile/Compression conflict; the **Application** pProfile for an Instance in the Referenced SOP Sequence (0008,1199) specified lossy compression but Allow Lossy Compression (2200,000F) has a value of NO.
0204H	Media Application Profile not supported; media creation has been requested for an Application Profile that is not supported by the SCP.
0205H	Instance size exceeded; **the size of** a single **SOP** Instance size exceeds the actual media capacity.
0120H	Missing Attribute; a required Attribute (e.g., Patient ID) was not supplied; the missing Attribute(s) shall be listed in Failure Attributes (2200,000E).
0121H	Missing Attribute vValue; a required Attribute Value (e.g., the Content Date for a Structured Report) was not supplied; the Attribute(s) with missing vValues shall be listed in Failure Attributes (2200,000E).

Note

With respect to 0205H Instance size exceeded, DICOM media does not support spanning of **SOP** Instances across volumes.

See PS3.7 Section 9.1.5.1.4 for reference (unchanged)

9.1.5.1.4 Status

Commented [JR3]: Formatting of the following entries seems to differ from the entries in Section C.14.1.1 (see line breaks and vertical distances).

Commented [JR4]: Not sure about this proposed change as the "/" is also used for other Failure Reason meanings, such as 0202H and 0203H.

Commented [JR5]: Use "SOP Instance" or "instance"? Same for the description of 0202H and 0203H.

Commented [JR6]: This is not the identifier of a Media Storage Application Profile but of a Media Storage Application Profile *Class* (see PS3.11).

Indicates the status of the response. It may have any of the following values (see also Annex C):

a. Success (0000H)

b. <mark>Refused: SOP Class not supported</mark> (0122H) - Indicates that a different SOP Class than the Verification SOP Class was specified, which was not supported.

c. Duplicate invocation (0210H) - Indicates that the Message ID (0000,0110) specified is allocated to another notification or operation.

d. Mistyped argument (0212H) - Indicates that one of the parameters supplied has not been agreed for use on the Association between the DIMSE Service Users.

e. Unrecognized operation (0211H) - Indicates that a different SOP Class than the Verification SOP Class was specified, which does not recognize a C-ECHO operation.

See PS3.7 Section 10.1.1.1.8 for reference (unchanged)

10.1.1.1.8 Status

This parameter contains the error or success notification for the operation. It shall be included by the performing DIMSE Service User in any response/confirmation. The following types of status may occur (see also Annex C):

• <mark>Class-Instance conflict</mark> (0119H) - the specified SOP Instance is not a member of the specified SOP class.

• Duplicate invocation (0210H) - the Message ID (0000,0110) specified is allocated to another notification or operation.

• Invalid argument value (0115H) - the event information value specified was out of range or otherwise inappropriate.

• Invalid SOP Instance (0117H) - the SOP Instance UID specified implied a violation of the UID construction rules.

• Mistyped argument (0212H) - one of the parameters supplied has not been agreed for use on the Association between the DIMSE Service Users.

• No such argument (0114H) - the event information specified was not recognized.

• No such Event Type (0113H) - the event type specified was not recognized.

• No such SOP Class (0118H) - the SOP Class was not recognized.

• <mark>No such SOP Instance</mark> (0112H) - the SOP Instance was not recognized.

• <mark>Processing Failure</mark> (0110H) - a general failure in processing the operation was encountered.

• <mark>Resource Limitation</mark> (0213H) - the operation was not performed due to resource limitation.

• Success (0000H) - successful notification.

• Unrecognized operation (0211H) - the operation is not one of those agreed between the DIMSE Service Users.

See PS3.7 Section 10.1.5.1.6 for reference (unchanged)

10.1.5.1.6 Status

This parameter contains the error or success notification for the operation. It shall be included by the performing DIMSE Service User in any response/confirmation. The following type of status may occur (see also Annex C):

• Duplicate invocation (0210H) - the Message ID (0000,0110) specified is allocated to another notification or operation.

• Duplicate SOP Instance (0111H) - the new managed SOP Instance Value supplied by the invoking DIMSE Service User was already registered for a managed SOP Instance of the specified SOP Class.

• Invalid Attribute Value (0106H) - the Attribute Value specified was out of range or otherwise inappropriate.

• Attribute Value out of range (0116H) - the Attribute Value specified was out of range or otherwise inappropriate. The SCP will apply a default value or will not include the attribute in the created instance.

- Invalid SOP Instance (0117H) - the SOP Instance UID specified implied a violation of the UID construction rules.

- Missing Attribute (0120H) - a required Attribute was not supplied.

- Missing Attribute Value (0121H) - a required Attribute Value was not supplied and a default value was not available.

- Mistyped argument (0212H) - one of the parameters supplied has not been agreed for use on the Association between the DIMSE Service Users.

- No such Attribute (0105H) - the Tag for the specified Attribute was not recognized.

- Attribute list error (0107H) - one or more specified Attributes were not recognized and not included in the created instance.

- No such SOP Class (0118H) - the SOP Class was not recognized.

- Processing Failure (0110H) - a general failure in processing the operation was encountered.

- Resource Limitation (0213H) - the operation was not performed due to resource limitation.

- Success (0000H) - successful operation.

- Unrecognized operation (0211H) - the operation is not one of those agreed between the DIMSE Service Users.

- Refused: Not authorized (0124H) - the DIMSE Service User was not authorized to invoke the operation.

- Failed (Status value is Service Class specific): no instance was created by the DIMSE Service User

- Warning (Status value is Service Class specific): the DIMSE Service User created an Instance but did not perform all specified operations