STATUS	Final Text
Date of Last Update	2024/03/17
Person Assigned	David Clunie <dclunie@dclunie.com>
Submitter Name	Jörg Riesmeier <dicom@jriesmeier.com>
Submission Date	2023-03-31

Correction Number	CP-2306
Log Summary: Fix inconsistencies regarding "Status"-related terms	
Name of Standard	
PS3.4 2024a	
Rationale for Correction: In PS3.4, the use and spelling of terms such as "Failure status" or "Failure Status Code" is rather inconsistent. Also, when referring to a particular Failure Status Code the notation varies through this Part of the Standard. It is, therefore, proposed to make this more consistent. *Editorial changes:* • Use "Failure Status Code" and "Status Code" (i.e., with capital initials) throughout PS3.4. • Use "Failure status", "Error status", "Warning status" and "Success status" (i.e., without the "Code" suffix) throughout PS3.4. • Use "AE Title" instead of "AE-Title[s]" or "AE-TITLE" throughout PS3.4. • If the word "value" refers to the Value of a Data Element (see PS3.5), it should be written with a capital initial letter.	
Correction Wording:	

Change PS3.4 Section 5.4.2.1

5.4.2.1 DIMSE Service N-CREATE, N-SET, N-ACTION

The following Requirements apply when specifying the use of DIMSE services N-CREATE, N-SET, N-ACTION.

The convention used in the table below are as follows:

SCU Behaviour

Mandatory The SCU shall provide the Attribute.

Optional The SCU may or may not provide the Attribute.

Undefined The SCU's usage of the Attribute is undefined.

SCP Behaviour

Mandatory The SCP shall support receiving the Attribute.

Mandatory with Default The SCP shall support receiving the Attribute. Upon receiving zero-length values, the SCP shall assign values as defined by the specification of the Service Class.

Optional The SCP may or may not support receiving the Attribute.

Undefined The SCP's support of the Attribute is undefined.

	SCU			SCP
Usage	Requirement	Zero Length		Requirement
1/1	Mandatory	Not Permitted		Mandatory
2/1	Mandatory	Permitted		Mandatory with Default
2/2	Mandatory	Permitted		Mandatory
3/1	Optional	Not Permitted		Mandatory
3/2	Optional	Not Permitted		Optional
3/3	Optional	Not Permitted		Optional
-/-	Undefined	Undefined		Undefined

If the SCU does not provide an Attribute that is Mandatory for the SCU, the SCP shall respond with ~~the~~a ~~e~~**Failure Status** ~~c~~**C**ode **of 0120H** "Missing Attribute" ~~(0120H)~~.

If the SCU provides a zero-length value for a Mandatory Attribute when zero length is not permitted, the SCP shall respond with ~~the~~a **Failure Status** ~~c~~**C**ode **of 0121H** "Missing Attribute Value" ~~(0121H)~~.

Change PS3.4 Section 5.4.2.2

5.4.2.2 DIMSE Service N-GET, N-EVENT-REPORT

The following Requirements apply when specifying the use of DIMSE services N-GET, N-EVENT-REPORT.

The convention used in the table below are as follows:

SCU Behavio~~u~~r

Optional   The SCU may retrieve the Attribute.

Undefined   The SCU's usage of the Attribute is undefined.

SCP Behavio~~u~~r

Mandatory   The SCP shall support retrieval of the Attribute.

Optional   The SCP may or may not support retrieval of the Attribute.

Undefined   The SCP's support of the Attribute is undefined.

	SCU	SCP	
Usage	Requirement	Requirement	Zero Length
3/1	Optional	Mandatory	Not Permitted
3/2	Optional	Mandatory	Permitted
3/3	Optional	Optional	Not Permitted
-/1	Undefined	Mandatory	Not Permitted
-/2	Undefined	Mandatory	Permitted

	SCU		SCP	
Usage	**Requirement**		**Requirement**	**Zero Length**
-/3	Undefined		Optional	Not Permitted

If support of an Attribute by the SCP is optional and the SCP does not support the Attribute and the Attribute is requested by the SCU, the SCP shall respond with ~~with the~~an ~~e~~**Failure Status** ~~c~~**C**ode **of 0106H** "Invalid Attribute Value" ~~(0106H)~~ or **a Warning Status Code of 0116H** "Attribute Value out of range" ~~(0116H)~~.

Change PS3.4 Section F.7.2.1.3

F.7.2.1.3 Service Class Provider

The N-CREATE operation allows the SCU to provide to the SCP selected Attribute Values for a specific Modality Performed Procedure Step SOP Instance. This operation shall be invoked through the use of the DIMSE N-CREATE Service used in conjunction with the appropriate Modality Performed Procedure Step SOP Instance.

The SCP shall return, via the N-CREATE response primitive, the N-CREATE Response Status Code applicable to the associated request.

The SCP shall accept N-CREATE request primitives only if the value of ~~the Attribute "~~Performed Procedure Step Status~~"~~ (0040,0252) is "IN PROGRESS". If ~~the~~ Performed Procedure Step Status **(0040,0252)** ~~Attribute~~ has another value, the SCP shall set ~~the~~a ~~f~~**F**ailure ~~s~~**S**tatus ~~c~~**C**ode **of 0106H** "Invalid Attribute Value" ~~(Code: 0106H)~~ with an Attribute List.

> Note
>
> The SCP may update the scheduling information on which the Modality Worklist is based, including the values of Study Date (0008,0020) and Study Time (0008,0030) using the earliest corresponding values of Performed Procedure Step Date (0040,0244) and Performed Procedure Step Time (0040,0245), in order to achieve consistency of Study level Attributes when multiple procedure steps are performed on different devices.

Change PS3.4 Section F.7.2.2.3

F.7.2.2.3 Service Class Provider

The N-SET operation allows the SCU to request that the SCP update selected Attribute Values for a specific Modality Performed Procedure Step SOP Instance. This operation shall be invoked through the use of the DIMSE N-SET Service used in conjunction with the appropriate Modality Performed Procedure Step SOP Instance. The N-SET value for Specific Character Set (0008,0005) does not replace the previous value. The SCP shall appropriately modify its internal representation so that subsequent operations reflect the combination of the character sets in use by the Attributes in this N-SET and those used by Attributes that have not been modified.

> Note
>
> The SCP may need to convert the text for instance to the Unicode character set. If the SCP is not able to perform a necessary conversion it may return ~~the~~a **Failure Status** Code of 0106H "Invalid Attribute Value" ~~error code (0106H)~~.

The SCP shall return, via the N-SET response primitive, the N-SET Response Status Code applicable to the associated request. Contingent on the N-SET Response Status, the SCP shall update the Referenced Performed Procedure Step Attributes.

The SCP shall accept N-SET request primitives only if the value of the already existing ~~Attribute "~~Performed Procedure Step Status~~"~~ (0040,0252) is "IN PROGRESS". If the already existing Performed Procedure Step Status **(0040,0252)** ~~Attribute~~ has another value, the SCP shall set ~~the~~a ~~f~~**F**ailure ~~s~~**S**tatus ~~c~~**C**ode **of 0110H** "Processing failure" ~~(Code: 0110H)~~ with a Specific Error Comment (see Section F.7.2.2.4).

The SCP may itself modify any Attributes of the Modality Performed Procedure Step SOP Instance only after ~~the "~~Performed Procedure Step Status~~"~~ (0040,0252) has been set to **a value of** "COMPLETED" or "DISCONTINUED".

Note

1. Such coercion of Attributes by the SCP may be necessary to correct, for example, patient identification information or incorrectly selected scheduling information. Such an operation is not permitted to the SCU by the requirements described in Table F.7.2-1, which might create a new Modality Performed Procedure Step SOP Instance to achieve the same objective.

2. Under exceptional circumstances, it may be necessary for the SCP to itself set the Performed Procedure Step Status (0040,0252) to **a value of** COMPLETED or DISCONTINUED, for example if the Modality has failed. When the Modality recovers, subsequent N-SETs may fail.

Change PS3.4 Section F.8.1

F.8.1 DIMSE Service Group

The DIMSE Services shown in Table F.8.1-1 are applicable to the Modality Performed Procedure Step IOD under the Modality Performed Procedure Step Retrieve SOP Class.

Table F.8.1-1. DIMSE Service Group Applicable to Modality Performed Procedure Step Retrieve

DICOM Message Service Element	Usage SCU/SCP
N-GET	M/M

The DIMSE Services and Protocols are specified in PS3.7. If the Modality Performed Procedure Step Object is no longer available**,** the Request Primitive will be answered with a Failure Status **Code of 0112H** ~~message~~ "No such ~~Object~~**SOP** Instance".

Change PS3.4 Section F.8.2.1.3

F.8.2.1.3 Service Class Provider

The N-GET operation allows the SCU to request from the SCP selected Attribute Values for a specific Modality Performed Procedure Step SOP Instance via a Modality Performed Procedure Step Retrieve SOP Instance. This operation shall be invoked through the use of the DIMSE N-GET Service used in conjunction with the appropriate Modality Performed Procedure Step Retrieve SOP Instance that equals the Modality Performed Procedure SOP Instance. The SCP shall retrieve the selected Attribute Values from the indicated Modality Performed Procedure Step SOP Instance.

The SCP shall return, via the N-GET response primitive, the N-GET Response Status Code applicable to the associated request. A Failure ~~Code~~**status** shall indicate that the SCP has not retrieved the SOP Instance. Contingent on the N-GET Response Status, the SCP shall return, via the N-GET response primitive, Attribute Values for all requested Attributes maintained by the SCP.

Change PS3.4 Section H.2.4

H.2.4 Usage Specifications

The building blocks of SOP Classes are Modules and DIMSE Services. The Modules contain related Attributes, which are Mandatory (M) or Optional (U). The usage may be different for the SCU and SCP. The usage is specified as a pair of letters: the former indicating the SCU usage, the latter indicating the SCP usage.

DIMSE Service Group may be Mandatory (M) or Optional (U) as specified in Section 5.4 of this Part.

The meaning and behavior of the usage specification for Attributes for the Print Management Service Class are:

M/M The SCU shall provide a value for the Attribute. If the SCU does not supply a value, the SCP shall return a Failure ~~s~~**S**tatus **Code of 0120H** (~~"~~Missing Attribute~~,"~~ ~~code 0120H)~~. The SCP shall support at least one value of the Attribute. If the SCP does not support the value specified by the SCU, it shall return a Failure ~~s~~**S**tatus **Code of 0106H** (~~"~~Invalid Attribute Value~~,"~~ ~~code 0106H)~~.

-/M The SCU's usage of the Attribute is undefined. The SCP shall support at least one value of the Attribute.

U/M The SCU may provide a value for the Attribute. If the SCP does not support the value specified by the SCU, it shall return either a Failure ~~sS~~tatus **Code of 0106H** ~~(~~"Invalid Attribute Value"~~, code 0106H)~~ or return a Warning ~~sS~~tatus **Code of 0116H** ~~(~~"Attribute Value out of range"~~, code 0116H)~~. In the case of Warning status, the SCP will apply the default value as defined in the SCP Conformance Statement.

U/U The SCU may provide a value for the Attribute. If the SCP does not support the value specified by the SCU, but does support the Attribute, it shall return either a Failure ~~sS~~tatus **Code of 0106H** ~~(~~"Invalid Attribute Value"~~, code 0106H)~~ or a Warning ~~sS~~tatus **Code of 0116H** ~~(~~"Attribute Value out of range"~~, code 0116H)~~. In the case of Warning status, the SCP will apply the default value as defined in the SCP Conformance Statement.

If the SCP does not support the Attribute specified by the SCU, it shall return either a Failure ~~sS~~tatus **Code of 0105H** ~~(~~"No such Attribute"~~, code 0105H)~~ or return a Warning ~~sS~~tatus **Code of 0107H** ~~(~~"Attribute list error"~~, code 0107H)~~. In the case of Warning status, the behavior of the SCP is defined in the SCP Conformance Statement.

If the usage type designation is modified by a "C" (e.g., MC/M) the specification stated above shall be modified to include the requirement that the Attribute shall be supported if the specified condition is met.

Change PS3.4 Section CC.2.1.3

CC.2.1.3 Service Class Provider Behavior

The SCP shall perform the submitted state change for the identified UPS instance by setting the Procedure Step State (0074,1000) to the requested value, or shall report the appropriate failure response code.

Upon successfully changing the state of a UPS instance to IN PROGRESS, the SCP shall record the Transaction UID provided by the SCU in the Transaction UID (0008,1195) of the UPS instance.

Upon completion of the N-ACTION request, the SCP shall return, via the N-ACTION response primitive, the N-ACTION Status Code applicable to the associated request as shown in Table CC.2.1-2.

The SCP shall only perform legal state changes as described in Table CC.1.1-2.

The SCP shall refuse requests to change the state of an IN PROGRESS UPS unless the Transaction UID of the UPS instance is provided in the request.

The SCP shall refuse requests to change the state of an IN PROGRESS UPS to COMPLETED or CANCELED if the Final State requirements described in Table CC.2.5-3 have not been met.

After the state of the UPS instance has been changed to COMPLETED or CANCELED, the SCP shall not delete the instance until all deletion locks have been removed.

> Note
>
> See Section CC.2.3.2 for a description of how SCUs place and remove deletion locks and see Section GGG.1 "Introduction" in PS3.17 Reliable Watchers and Deletion Locks for further discussion.

The SCP may also modify the Procedure Step State (0074,1000) of a UPS instance independently of an N-ACTION request, e.g., if the SCP is performing the procedure step itself, or if it has been determined that the performing SCU has been disabled.

> Note
>
> If the SCP is not performing the procedure step, this should be done with caution.

Upon successfully changing the state of a UPS instance, the SCP shall carry out the appropriate N-EVENT-REPORT behavior as described in Section CC.2.4.3 if it supports the UPS Event SOP Class as an SCP.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized" ~~error code~~. Further requiring or documenting authentication and/or authorization features from the SCU or SCP is beyond the scope of this SOP Class.

Change PS3.4 Section CC.2.2.3

CC.2.2.3 Service Class Provider Behavior

The SCP shall send appropriate "UPS Cancel Requested" N-EVENT-REPORT messages, as described in Section CC.2.4.3 or shall report the appropriate failure response code.

> Note
>
> If provided, the Reason For Cancellation, a proposed Procedure Step Discontinuation Reason Code Sequence, a Contact Display Name and a Contact URI of someone responsible for the Cancel request might be useful in deciding to cancel the UPS or might be displayed to an operator so they can make contact for the purpose of clarifying or confirming the Cancel request. If the SCP is the performer and chooses to actually Cancel the UPS, it may at its own discretion set the Procedure Step Discontinuation Reason Code Sequence in the UPS instance based on the corresponding values provided.

If the Procedure Step State (0074,1000) of the UPS instance is still SCHEDULED, the SCP shall change the Procedure Step State, as described in Section CC.2.1.3, first to IN PROGRESS and then to CANCELED, ensuring that the Final State requirements, described in Section CC.2.5.1.1, are met.

If the Procedure Step State (0074,1000) of the UPS instance is IN PROGRESS, and the SCP is itself the performer of the UPS, the SCP may, at its own discretion, choose to cancel the UPS as described in Section CC.2.1.3.

If the SCP is the performer of the UPS and chooses not to cancel, or if there is no possibility that the performing SCU will be informed of the cancel request (e.g., the subscription list for the UPS is empty, or the SCP has determined that the performing SCU has been disabled), the SCP may return a failure.

Upon completion of the N-ACTION request, the SCP shall return, via the N-ACTION response primitive, the N-ACTION Status Code applicable to the associated request as shown in Table CC.2.2-2.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized" ~~error code~~. Further requiring or documenting authentication and/or authorization features from the SCU or SCP is beyond the scope of this SOP Class.

Change PS3.4 Section CC.2.3.3

CC.2.3.3 Service Class Provider Behavior

Upon receipt of the N-ACTION request, the SCP shall attempt to update the Global Subscription State and/or UPS Subscription State of the specified AE with respect to the specified SOP Instance UID as described in Table CC.2.3-2 and then return, via the N-ACTION response primitive, the appropriate N-ACTION Response Status Code.

The SCP may optionally allow an Application Entity to subscribe globally to a filtered set of UPS Instances. In this case, the Application Entity will only be subscribed to existing and future UPS Instances that match the search criteria specified by the Matching Keys of the N-ACTION request (see Section CC.2.3.3.1). If the SCP does not support Filtered Global Subscription it will return a Failure **Status** ~~response with a~~ Code of C307**H "Failed: Specified SOP Instance UID does not exist or is not a UPS Instance managed by this SCP"** (see Table CC.2.3-3).

A **S**~~s~~uccess status conveys that the Global Subscription State and/or UPS Subscription State for the AE specified in Receiving AE (0074,1234) was successfully modified by the SCP. The AE ~~TITLE~~ **Title** in Receiving AE (0074,1234) may be different than the AE ~~TITLE~~ **Title** used by the SCU for the association negotiation. The SCP shall use the AE ~~TITLE~~ **Title** specified in Receiving AE (0074,1234). This allows systems to subscribe other systems they know would be interested in events for a certain UPS.

For all UPS instances managed by the SCP, the SCP shall send N-EVENT-REPORTS (as described in Section CC.2.4.3) to AEs that have a UPS Subscription State of "Subscribed with Lock" or "Subscribed w/o Lock". If the SCP also supports the HTTP CreateSubscription service as an Origin-Server, the SCP shall also send HTTP SendEventReport messages (see Section 8.10.5 "Send Event Report Transaction" in PS3.18).

Upon successfully processing a subscription action, the SCP shall send initial UPS State Report N-EVENT-REPORTs, as indicated in Table CC.2.3-2, providing the current status of the UPS Instance to the Receiving AE.

The SCP may also refuse both specific and global Subscription requests by returning a**n** ~~failure~~ N-ACTION **Failure**~~Response~~ Status Code ~~for~~**of 0124H** "Refused: ~~Refused:~~ Not authorized" if the refusal depends on permissions related to the tasks or the requestor, or **C315H** "~~Refused~~**Failed**: SCP does not support Event Reports" if the SCP does not support sending the events. The SCP ~~must~~**shall** document in its conformance statement if it might refuse Subscription requests.

The SCP may remove existing Deletion Locks by changing the UPS Subscription State for the AE from "Subscribed with Lock" to "Subscribed w/o Lock" and/or by changing the Global Subscription State for an AE from "Global

Subscription with Lock" to "Global Subscription w/o Lock". This is intended to allow the SCP to deal with SCU malfunctions. The SCP must document in its conformance statement if it might remove a Deletion Lock.

The SCP may also refuse the Deletion Lock portion of a specific or global Subscription request. For example, a request to modify the UPS Subscription State for the AE to "Subscribed with Lock" would instead result in a UPS Subscription State of "Subscribed w/o Lock" and a Warning status (see Table CC.2.3-3) returned to the requesting SCU. This is intended to deal with Security and related policy restrictions. The SCP must document in its conformance statement if it might refuse a Deletion Lock.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized" ~~error code~~. Further requiring or documenting authentication and/or authorization features from the SCU or SCP is beyond the scope of this SOP Class.

Change PS3.4 Section CC.2.5.3

CC.2.5.3 Service Class Provider Behavior

The SCP shall create and maintain UPS instances as instructed by creation requests and as specified by Table CC.2.5-3.

The SCP shall return, via the N-CREATE response primitive, the N-CREATE Response Status Code applicable to the associated request.

The SCP shall accept creation requests only if the value of the Procedure Step State (0074,1000) Attribute is "SCHEDULED". If the Procedure Step State Attribute has another value, the SCP shall fail the request.

The SCP may modify Attributes of a UPS instance, e.g., to correct invalid Attribute Values. A description of the modifications the SCP may perform shall be documented in the conformance statement of the SCP.

The SCP may also create and maintain UPS instances without receiving a UPS instance N-CREATE request, e.g., based on internal logic, operator inputs or HL7 messages. The contents of the instance created by the SCP must still comply with the N-CREATE requirements in Table CC.2.5-3.

Upon creating a new UPS Instance, the SCP shall update UPS Subscription Status of the Instance for each AE with a Global Subscription as described in Section CC.2.3. Optionally, the SCP may create a UPS Subscription for the N-CREATE SCU AE; such behavior shall be documented in the Conformance Statement.

Upon creating a new UPS Instance, the SCP shall send UPS State Reports (if it supports the UPS Event SOP Class) as described in Section CC.2.4.3 regardless of whether the creation was based on an N-CREATE or on internal logic.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized" ~~error code~~. There are no specific requirements to perform authorization.

Change PS3.4 Section CC.2.6.3

CC.2.6.3 Service Class Provider Behavior

The SOP Class UID of the specified UPS instance will always be the UPS Push SOP Class UID, which might not match the UPS SOP Class negotiated with the SCU. See Section CC.3.1 for further details.

The SCP shall support the Attribute changes to the UPS instance specified by the SCU in the set request as specified in Table CC.2.5-3.

The SCP shall refuse set requests on an IN PROGRESS UPS and not modify the UPS if the set request does not include the Transaction UID (0008,1195) Attribute with the same value as currently recorded in the UPS instance.

The SCP shall refuse set requests on a COMPLETED or CANCELED UPS.

The SCP shall use the Specific Character Set (0008,0005) value to appropriately modify its internal representation so that subsequent operations reflect the combination of the character sets in use by the Attributes in this request and those used by Attributes that have not been modified.

The SCP shall return, via the N-SET response primitive, the N-SET Response Status Code applicable to the associated request as specified in Section CC.2.6.4.

The SCP may itself modify any Attributes of a UPS instance independently of an N-SET request, e.g., if the SCP is performing the procedure step itself, if it has been determined that the performing SCU has been disabled, or if it is necessary to correct Attribute Values after completion of the procedure in order to carry out reconciliation of the data. A description of the coercions the SCP may perform shall be documented in the conformance statement of the SCP.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized"~~error code~~. There are no specific requirements to perform authorization.

Change PS3.4 Section CC.2.7.3

CC.2.7.3 Service Class Provider Behavior

The SOP Class UID of the specified UPS instance will always be the UPS Push SOP Class UID, which might not match the UPS SOP Classes negotiated with the SCU. See Section CC.3.1 for further details.

The SCP shall return, via the N-GET response primitive, the selected Attribute Values from the indicated Unified Procedure Step Instance to the SCU.

> Note
>
> The requirement for the SCP to respond to N-GET requests for UPS Instances that have moved to the COMPLETED or CANCELED state is limited. See Section CC.2.1.3 Service Class Provider Behavior.

The SCP shall not return the Transaction UID (0008,1195) Attribute. This is necessary to preserve this Attribute's role as an access lock.

The SCP shall return, via the N-GET response primitive, the N-GET Response Status Code applicable to the associated request. A Failure **status** ~~Code~~ shall indicate that the SCP has not retrieved the SOP Instance.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized"~~error code~~. Further requiring or documenting authentication and/or authorization features from the SCU or SCP is beyond the scope of this SOP Class.

Change PS3.4 Section CC.2.8.3

CC.2.8.3 Service Class Provider Behavior

All C-FIND SCPs shall be capable of processing queries that meet the requirements of the "Worklist" Search (see Section CC.2.8.3.1). This does not imply that an SCP that supports the UPS Watch SOP Class or the UPS Query SOP Class must also be an SCP of the UPS Pull SOP Class.

The SCP shall support Attribute matching as described in Section C.2.2.2.

An SCP conveys the following semantics using the C-FIND requests and responses:

• The SCP is requested to perform a match of all the keys specified in the Identifier of the request, against the information it possesses. Attribute matching is performed using the key values specified in the Identifier of the C-FIND request as defined in Table CC.2.5-3.

• The SCP generates a C-FIND response for each match using the "Worklist" Search method. All such responses shall contain an Identifier whose Attributes contain values from a single match. All such responses shall contain a status of Pending.

• When all matches have been sent, the SCP generates a C-FIND response that contains a status of Success. A status of Success shall indicate that a response has been sent for each match known to the SCP.

> Note
>
> 1. No Identifier is contained in a response with a status of Success. For a complete definition, see PS3.7.
>
> 2. When there are no matches, then no responses with a status of Pending are sent, only a single response with a status of Success.

• The SCP shall generate a response with a status of Failure if it is unable to process the request. A Failure response shall contain no Identifier.

- If the SCP receives C-FIND-CANCEL indication before it has completed the processing of the matches it shall interrupt the matching process and return a status of Cancel.

Bi-directional Authentication of machines/users/applications is possible at association time (see PS3.7 and PS3.15). PS3.7 provides a **Failure Status Code of 0124H** "Refused: ~~Refused:~~ Not authorized"~~error code~~. Further requiring or documenting authentication and/or authorization features from the SCU or SCP is beyond the scope of this SOP Class.

Change PS3.4 Section KK.2.2.3

KK.2.2.3 Service Class Provider Behavior

Upon receipt of the N-ACTION request, the SCP shall return, via the N-ACTION response primitive, the N-ACTION Response Status Code applicable to the associated request (see Table KK.2.2.3-1). A ~~s~~Success status conveys that the SCP has successfully received the request. A ~~w~~Warning status conveys that the SCP has successfully received the request, but might not process some of the requested parameters. A ~~f~~Failure status conveys that the SCP is not processing the request.

For Action Type "Initiate" (Action Type ID = 11), the SCP shall return a ~~f~~Failure ~~s~~Status **Code of** 0212H **(**"Mistyped argument**)"** if the SCP does not support all of the character sets identified in Specific Character Set (0008,0005), or all of the matching mechanisms identified in Extended Matching Mechanisms (0008,040F), or the identified Inventory Level (0008,0403); additional explanation may be returned in Error Comment (0000,0902). The SCP shall return a ~~w~~Warning ~~s~~Status **Code of** B010H **"Attribute list error - One or more of Key Attributes are not supported for matching"** if one or more of the Key Attributes specified in the Scope of Inventory Sequence (0008,0400) are not supported for matching, and shall return the list of unsupported Attributes in Attribute Identifier List (0000,1005).

Table KK.2.2.3-1. N-ACTION Response Status Values

Service Status	Further Meaning	Status Codes	Related Fields
Failure	Processing Failure	0110	(0000,0902)
	Refused: Not authorized	0124	(0000,0902)
	Mistyped argument - ~~o~~One of the parameters supplied has not been agreed for use	0212	(0000,0902)
	Resource Limitation	0213	(0000,0902)
	Other ~~f~~Failure status~~es~~ as specified in -Section 10.1.4.1.10 "Status" in PS3.7		
Warning	Attribute list error - One or more of Key Attributes are not supported for matching	B010	(0000,1005)
Success	Success	0000	

Note

See Section E.1 "Registry of DICOM Command Elements" in PS3.7 for definition of the Related Fields.

If the SCP conveys a ~~s~~Success or ~~w~~Warning status for Action Type "Initiate" (Action Type ID = 11), it shall initiate production of an Inventory and periodic status reporting in accordance with the parameters of the Scope of Inventory Sequence (0008,0400) and Inventory Level (0008,0403) provided in the N-ACTION request. The Scope of Inventory in the produced Inventory SOP Instances shall include only those Key Attributes that were supported for matching. Any value provided by the SCU for Inventory Purpose (0008,0401) shall be included in the produced Inventory SOP Instances. The SCP shall produce at least one Inventory SOP Instance upon reaching the COMPLETE state.

If the SCP encounters a failure when producing the Inventory, it may attempt to complete the encoding into an Inventory SOP Instance of Study records already obtained, and set Inventory Completion Status (0008,0426) in that SOP Instance to "FAILURE".

If the SCP conveys a ~~s~~Success status for Action Type "Request Status" (Action Type ID = 12), it shall initiate sending an N-EVENT-REPORT with Event Type "Inventory Status" (Event Type ID = 12).

Note

The N-EVENT-REPORT may be sent on the same or a different Association as the N-ACTION request (see Section KK.1.3.1).

If the SCP conveys a sSuccess status for Action Type "Cancel" (Action Type ID = 13), it shall stop production of the Inventory associated with the Transaction UID (0008,1195). If the Cancel request includes Retain Instances (0008,0415) with value "N", the SCP may delete any Inventory SOP Instances associated with the Transaction UID (0008,1195). If the Cancel request includes Retain Instances (0008,0415) with value "Y", the SCP shall complete the encoding into an Inventory SOP Instance of Study records already obtained, and set Inventory Completion Status (0008,0426) to "CANCELED". Some Study records may be only partially complete at the time of the Cancel request, e.g., not all the subsidiary Series and Instance records had been compiled. Whether such partial Study records are completed and included in the Inventory SOP Instance is implementation specific. Partial Study records shall not be included in an Inventory.

If the SCP conveys a sSuccess status for Action Type "Pause" (Action Type ID = 14), it shall pause production of the Inventory associated with the Transaction UID (0008,1195). The SCP may complete any processing necessary to reach a stable state for pausing the Inventory production to allow efficient resumption.

If the SCP conveys a sSuccess status for Action Type "Resume" (Action Type ID = 15), it shall resume production of the Inventory associated with the Transaction UID (0008,1195).

Note

The SCP may return an errorFailure sStatus **Code of 0124H "**Refused: Not authorized**" (0124H)** or **0213H "**Resource Limitation**" (0213H)** if the conditions that caused the Pause have not been corrected and the production is not resumed.