Digital Imaging and Communications in Medicine (DICOM)

Supplement 52: General Purpose Worklist

DICOM Standards Committee, Working Group 6 Base Standard

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Foreword

ACR (the American College of Radiology) and NEMA (the National Electrical Manufacturers Association) formed a joint committee to develop a Standard for Digital Imaging and Communications in Medicine. This DICOM Standard was developed according to the DICOM Operating Procedures.

This Supplement to the Standard is developed in liaison with other standardization organizations including CEN TC251 in Europe and JIRA in Japan, with review also by other organizations including IEEE, HL7 and ANSI in the USA.

The DICOM standard is structured as a multi-part document using the guidelines established in the following document:

- ISO/IEC Directives, 1989 Part 3 - Drafting and Presentation of International Standards.

This document is a Supplement to the DICOM Standard. It is an extension to Parts 3, 4 and 6 of the published DICOM Standard which consists of the following parts:

Part 1	Introduction and Overview
Part 2	Conformance
Part 3	Information Object Definitions
Part 4	Service Class Specifications
Part 5	Data Structures and Encoding
Part 6	Data Dictionary
Part 7	Message Exchange
Part 8	Network Communication Support for Message Exchange
Part 9	Point-to-Point Communication Support for Message Exchange
Part 10	Media Storage and File Format
Part 11	Media Storage Application Profiles
Part 12	Media Format and Physical Media for Media Interchange
Part 13	Print Management Point-to-Point Communication Support
Part 14	Grayscale Standard Display Function
Part 15	Security Profiles

These Parts are independent but related documents.

Scope and Field of Application

This supplement defines the services and information model for a new General Purpose Worklist Service Class, based on the model of the Modality Worklist Management SOP Class and the Modality Performed Procedure Step SOP Class.
Two arguments are given to support the notion for a General Purpose Worklist:

1. There will always be a need for specialized dedicated workstations from independent vendors, which would like to be included in the General Purpose workflow .

2. Some postprocessing or General Purpose workstations will be more close to the modalities than to the PACS. Also for these workstations having a schedule of what processing to do, with the relevant Patient/Request info, is important.

A performer in a scheduled workflow environment requires to receive the list of scheduled tasks in a certain time period, and the priority of these tasks, in order to take informed decisions about which task should be performed next.
It is assumed that there will be a workflow mangement system that schedules the tasks to be executed by the various performers, and this system needs to be informed about the status of the task, to monitor the progression towards completion.

In general, a worklist is the structure to present information related to a particular set of tasks. It specifies particular details for each task. The information may support the selection of the task to be performed first and may support the performance of that task. One example is the worklist used to present information about scheduled imaging procedures at an imaging modality and to the operator of that modality. The type of worklist related to this example is provided by the Modality Worklist Management SOP Class of DICOM.

Other worklists may be used to communicate/request a set of tasks to any other kind of DICOM systems, especially computer applications used for image processing, image review and reporting.
This supplement defines a service for communicating such worklists:
the General Purpose Worklist SOP Class.
According to the specifications of the Worklist Service Class, the following characteristics apply to this SOP Class:

- The General Purpose Worklist has to be queried by the Application Entity (AE) associated to the application on which, or by which, the tasks included in the worklist have to be performed. In this query, a number of search keys can be used, specifically defined for the General Purpose Worklist SOP Class.

- The General Purpose Worklist consists of worklist items, each item representing one task. A worklist item contains attributes which denote different real-world entities related to the task.

This Supplement includes a number of revisions to existing Parts of DICOM:

1. Part 3 Addenda (Information model)

2. Part 4 Addenda (Worklist Management, Study management)

3. Part 6 Addenda

Part 3 Addendum

Item #1
Add the following paragraph after the third paragraph in Section 5.4

When Attribute Macros are invoked in the definition of Normalized Objects in PS3.3 the specified Requirement Types and Conditions do not apply. In PS3.4 Requirement Types and Conditions have to be specified for both SCU and SCP with each invocation of an Attribute Macro.

Item #2
Add to Part 3 the following Section 7.3 "Extension of the DICOM model of the real-world":

7.3 EXTENSION OF THE DICOM MODEL OF THE REAL-WORLD FOR THE GENERAL PURPOSE WORKLIST

For the purpose of the General Purpose Worklist SOP Class in the Worklist Management Service Class an extension of the DICOM Model of the Real-World is made, as depicted in Figures 7.4.a and 7.4.b.

This subset of the real-world model covers the requirements for the General Purpose Worklist SOP Class in the Worklist Management Service Class.

Figures 7.4.a and 7.4.b are an abstract description of the real world objects involved in Workflow Management.

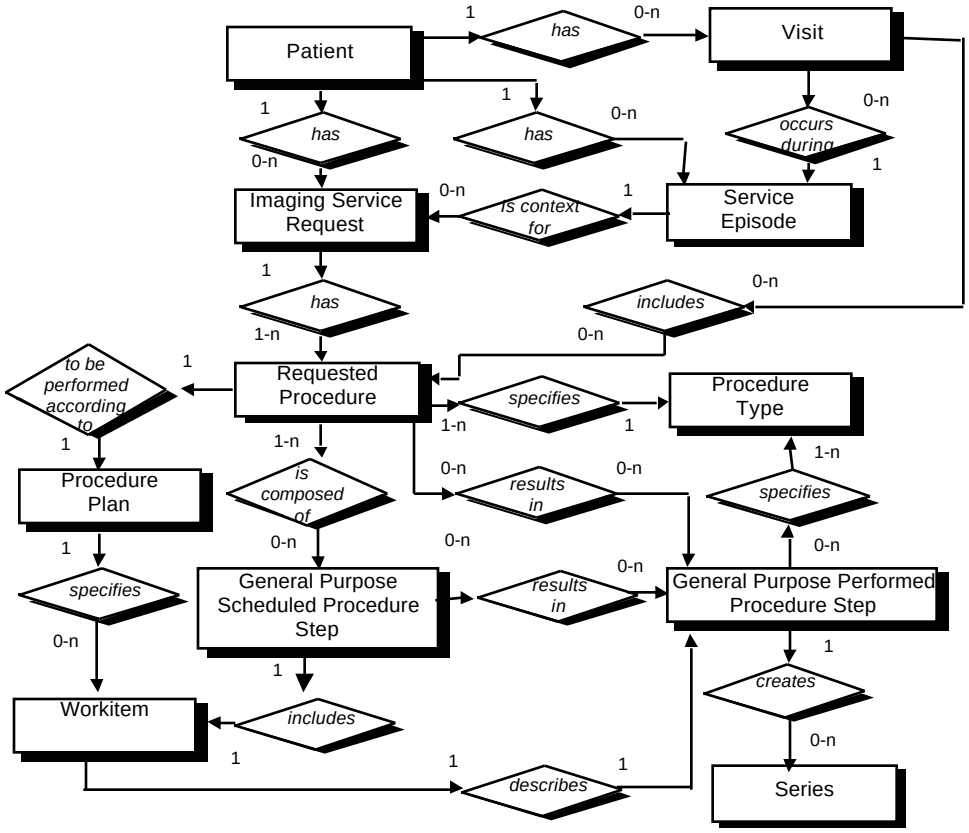

Figure 7.4.a
Model of the real world for the purpose of General Purpose Worklist interface

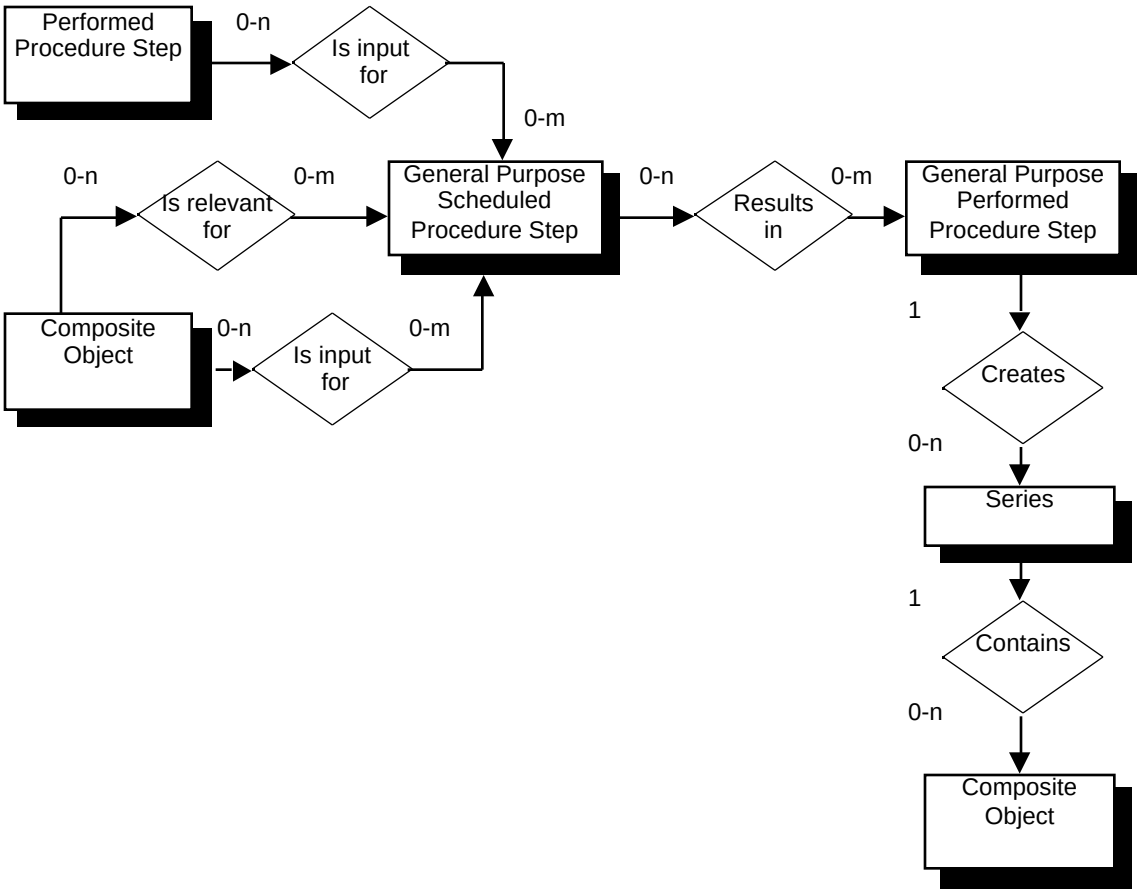

Figure 7.4.b
Model of the real world for the purpose of General Purpose Worklist interface

Item #3
Add the following to 7.3.1.3 IMAGING SERVICE REQUEST:

In the context of the Modality Worklist the information provided by the Imaging Service Request aims at performing one or more imaging procedures, i.e. at acquiring new images. In the context of the General Purpose Worklist the information provided by the Imaging Service Request supports a more general kind of request, e.g. reporting, requesting an image processing procedure on an existing examination, etc.

Item #4
Restrict the existing paragraph 7.3.1.6. to MODALITY Scheduled Procedure Step

7.3.1.6 MODALITY SCHEDULED PROCEDURE STEP

A Modality Scheduled Procedure Step is an arbitrarily defined scheduled unit of service, that is specified by the Procedure Plan for a Requested Procedure. A Modality Scheduled Procedure Step prescribes one or more Action Items (events). A Modality Scheduled Procedure Step involves equipment (e.g. imaging Modality equipment, anesthesia equipment, surgical equipment, transportation equipment), human resources, consumable supplies, location, and time (e.g. start time, stop time, duration). While in the context of imaging services the scheduling of a Modality Scheduled Procedure Step might include only a general designation of imaging Modality that could be satisfied by multiple pieces of the same equipment type, the performance of one instance of a Modality Scheduled Procedure Step involves one and only one piece of imaging Modality equipment.

The performance of a Modality Scheduled Procedure Step may result in the creation of zero or more Modality Performed Procedure Step instances.

Notes: 1. The Procedure Step entity is provided to support management of the logistical aspects of procedures (e.g. materials management, human resources, scheduling). The full definition of the contents of Procedure Steps and their constituent action items (events) is implementation dependent and is beyond the scope of this Standard. A single Action Item (event) contained within a given Modality Scheduled Procedure Step might or might not be schedulable in a given facility.

2. A Modality Scheduled Procedure Step may contribute to more than one Requested Procedure (e.g. a Modality Scheduled Procedure Step requiring an intravenous iodine contrast injection might be shared by an intravenous pyelogram and a CT examination). However, for billing purposes an instance of a Modality Scheduled Procedure Step is typically considered to be a part of only one Requested Procedure.

3. Typically each Modality Scheduled Procedure Step contains at least one Action Item (event) of a magnitude that would justify an entry in the medical record.

Item #5
Add the following Section 7.3.1.10 GENERAL PURPOSE SCHEDULED PROCEDURE STEP:

7.3.1.10 GENERAL PURPOSE SCHEDULED PROCEDURE STEP

A General Purpose Scheduled Procedure Step is an arbitrarily defined scheduled unit of service, that is specified by the Procedure Plans of one or more Requested Procedures. A General Purpose Scheduled Procedure Step prescribes one Workitem that describes the procedure step to be performed. A General Purpose Scheduled Procedure Step involves applications, human resources, location, and time resources (e.g. start time, stop time, duration).

Notes:

1. In this section, application is the generic term used to designate software applications and pieces of devices.

2. The status of a general Purpose Scheduled Procedure Step must not be confused with the status of the Requested Procedure or Imaging Service Request to which it belongs. One General Purpose Scheduled Procedure Step may be completed, but that does not imply that also the related Requested Procedure has reached its completion.

A General Purpose Scheduled Procedure Step contains references to Composite SOP Instances or Performed Procedure Steps, which denote the information to be used for the performance of the General Purpose Scheduled Procedure Step.

Item #6
Add the following Sections
Section 7.3.1.11 GENERAL PURPOSE PERFORMED PROCEDURE STEP:
Section 7.3.1.12 WORKITEM

7.3.1.11 GENERAL PURPOSE PERFORMED PROCEDURE STEP

A general Purpose Performed Procedure step is an arbitrarily defined unit of service that has actually been performed (not just scheduled). Normally it corresponds to one General Purpose Scheduled Procedure step, but real-world conditions may dictate that what is actually performed does not correspond exactly with what was requested or scheduled.

Note: For example, two or more General Purpose Scheduled Procedure Steps, Requested Procedures or Imaging Service Requests may have been generated by different Referring Physicians but may be satisfied by a single General Purpose Performed Procedure Step at the discretion of a Performing Physician or Operator. Alternatively, a single General Purpose Scheduled Procedure step may need to be satisfied by multiple General Purpose Performed Procedure Steps on different types or instances of equipment, due to clinical need or failure conditions, or over extended periods of time.

It contains information describing the type of procedure actually performed.

A Requested Procedure results in the creation of zero or more General Purpose Performed Procedure Steps.

A general Purpose Scheduled Procedure Step results in the creation of zero or more General Purpose Performed Procedure Steps.

The General Purpose Performed Procedure Step contains information about its state.

It contains information describing the performance of the general purpose procedure step of a procedure.

The General Purpose Performed Procedure step contains references to zero or more Composite SOP Instances that have been created as part of the procedure step.

7.3.1.12 WORKITEM

A Workitem is one of the tasks prescribed by a Procedure Plan to perform an instance of a Requested Procedure. Each General Purpose Scheduled Procedure Step will contain exactly one Workitem. The code identifying a Workitem instance would be selected from a catalog of workitem types, for example with the value of Image Processing or Interpretation.

Item #7: Insert the following sections in Part 3, Annex B

B.20 GENERAL PURPOSE SCHEDULED PROCEDURE STEP INFORMATION OBJECT DEFINITION

B.20.1 IOD Description

A "General Purpose Scheduled Procedure Step Information Object Definition" is an abstraction of the information that describes the scheduled activities, conditions and status of a scheduled procedure step. It contains information about the General Purpose Scheduled Procedure Step (GP-SPS) and its relations to other Information Entities of the DICOM real-world model as introduced in PS 3.3.

A General Purpose Scheduled Procedure Step is related to one of the steps to be performed in response to the Requested Procedure.

B.20.2 IOD Modules

Table B.20.2-1 lists the modules which make up the General Purpose Scheduled Procedure Step IOD.

Table B.20.2-1
GENERAL PURPOSE SCHEDULED PROCEDURE STEP IOD MODULES

Module	Reference	Module Description
SOP Common	C.12.1	Contains SOP common information
General Purpose Scheduled Procedure Step Relationship	C.4.18	References the related SOPs and IEs.
General Purpose Scheduled Procedure Step Information	C.4.19	Includes identifying and status information as well as place and time

B.21 GENERAL PURPOSE PERFORMED PROCEDURE STEP INFORMATION OBJECT DEFINITION

B.21.1 IOD Description

A "General Purpose Performed Procedure Step Information Object Definition" is an abstraction of the information that describes the activities, conditions and results of a procedure step performed on a performing device. It contains information about the General Purpose Performed Procedure Step (GP-PPS) and its relations to other Information Entities of the DICOM real-world model as introduced in PS 3.3.

A General Purpose Performed Procedure Step is related to the procedure scheduled to be performed. The information gathered at the performing device includes data about the performance of the procedure step itself and the results. The General Purpose Performed Procedure Step IOD includes general GP-PPS modules and a specific one for the created results, the General Purpose Results.

B.21.2 IOD Modules

Table B.21.2-1 lists the modules, which make up the General Purpose Performed Procedure Step IOD.

Table B.21.2-1
GENERAL PURPOSE PERFORMED PROCEDURE STEP IOD MODULES

Module	Reference	Module Description
SOP Common	C.12.1	Contains SOP common information
General Purpose Performed Procedure Step Relationship	C.4.20	References the related SOPs and IEs.
General Purpose Performed Procedure Step Information	C.4.21	Includes identifying and status information as well as place and time
General Purpose Results	C.4.22	Identifies Results related to this GP-PPS.

Item #8
Add to Part 3, Section C.4 the following Sections C.4... "Module Definitions":

C.4.18 General Purpose Scheduled Procedure Step Relationship Module

Table C.4-18 General Purpose Scheduled Procedure Step Relationship Module Attributes

Attribute Name	Tag	Attribute Description
Patient's Name	(0010,0010)	Patient's full legal name.
Patient ID	(0010,0020)	Primary hospital identification number or code for the patient.
Patient's Birth Date	(0010,0030)	Date of birth of the named patient.
Patient's Sex	(0010,0040)	Sex of the named Patient. Enumerated Values: M = male F = female O = other
Referenced Request Sequence	(0040,A370)	The list of Requested Procedures the Procedure Step shall contribute to. One or more Items may be included in the sequence.
>Study Instance UID	(0020,000D)	Unique identifier for the Study.
>Referenced Study Sequence	(0008,1110)	Uniquely identifies the Detached Study Management SOP Instance that represents the Requested Procedure. Zero or one Item may be included in this sequence.
>>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the SOP Class.
>>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the SOP Instance.
>Accession Number	(0008,0050)	A departmental IS generated number which identifies the Imaging Service Request.
>Requested Procedure Code Sequence	(0032,1064)	A sequence that conveys the Procedure Type of the Requested Procedure. Zero or one Item may be included in this sequence.
>>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
>Placer Order Number / Imaging Service Request	(0040,2016)	The order number assigned to the Imaging Service Request by the party placing the order.
>Filler Order Number / Imaging Service Request	(0040,2017)	The order number assigned to the Imaging Service Request by the party filling the order.
>Requested Procedure ID	(0040,1001)	Identifier which identifies the Requested Procedure in the Imaging Service Request.
>Requested Procedure Description	(0032,1060)	Institution-generated description or classification of the Requested Procedure.

>Reason for the Requested Procedure	(0040,1002)	Reason for requesting this procedure.
>Requested Procedure Comments	(0040,1400)	User-defined comments on the Requested Procedure.
>Confidentiality Code	(0040,1008)	Confidentiality Constraints on the Requested Procedure by the party filling the order.
>Names of Intended Recipients of Results	(0040,1010)	Names of the physicians, who are intended recipients of results.
>Reason for the Imaging Service Request	(0040,2001)	Reason for the Imaging Service Request.
>Imaging Service Request Comments	(0040,2400)	User-defined comments on the Imaging Service Request.
>Requesting Physician	(0032,1032)	Physician who requested the Imaging Service Request.
>Requesting Service	(0032,1033)	Institutional department where the request initiated.
>Issue Date of Imaging Service Request	(0040,2004)	Date on which the Imaging Service Request was issued by the requester.
>Issue Time of Imaging Service Request	(0040,2005)	Time at which the Imaging Service Request was issued by the requester.
>Referring Physician's Name	(0008,0090)	Patient's primary physician for this Imaging Service Request.

Editor's note: when folded into standard PS3.3 the attributes in this table must be grouped per Imaging Service Request and Requested Procedure level.

C.4.19 General Purpose Scheduled Procedure Step Information Module

Table C.4-19 General Purpose Scheduled Procedure Step Information Module Attributes

Attribute Name	Tag	Attribute Description
General Purpose Scheduled Procedure Step Status	(0040,4001)	A status that informs the operator and the worklist management system about the progress of the scheduled General Purpose procedure step. Enumerated values are: SCHEDULED, IN PROGRESS, SUSPENDED, COMPLETED, DISCONTINUED. See PS 3.4 for a detailed description of the meaning and usage of these values.
General Purpose Scheduled Procedure Step Priority	(0040,4003)	Scheduled Procedure Step priority. Enumerated values are: HIGH: used to indicate an urgent or emergent Workitem, equivalent to a STAT request. MEDIUM: used to indicate a Workitem that has a priority less than HIGH and higher than LOW. It can be used to further stratify Workitems. LOW: used to indicate a routine or non-urgent Workitem.
Scheduled Procedure Step ID	(0040,0009)	Identifier which identifies the Scheduled General Purpose Procedure Step.
Scheduled Processing Applications Code Sequence	(0040,4004)	The list of processing application instances and/or application types on which the General Purpose Procedure Step is scheduled. Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Scheduled Station Name Code Sequence	(0040,4025)	Identifying name within the enterprise of the equipment for which the General Purpose Scheduled Procedure Step is scheduled. The name conveyed in the Code Value (0008,0100) may be the same as the AE Title, but does not have to be. Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Scheduled Station Class Code Sequence	(0040,4026)	Class of the equipment for which the General Purpose Scheduled Procedure Step is scheduled. Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*

Scheduled Station Geographic Location Code Sequence	(0040,4027)	Geographic location of the equipment for which the General Purpose Scheduled Procedure Step is scheduled. Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Scheduled Human Performers Sequence	(0040,4034)	The list of human performers that are scheduled to be involved or responsible for performing the Workitem in the General Purpose Scheduled Procedure Step. Zero or more Items may be included in this sequence.
>Human Performer Code Sequence	(0040,4009)	Human performer that is involved or responsible for performing the Workitem. Only a single Item shall be permitted in this sequence.
>>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
>Human Performer's Name	(0040,4037)	Name of the human performer.
>Human Performer's Organization	(0040,4036)	Organization to which the human performer is accountable for the activities in the Workitem.
Scheduled Procedure Step Start Date and Time	(0040,4005)	Date and time on which the General Purpose Scheduled Procedure Step is scheduled to start.
Expected Completion Date and Time	(0040,4011)	Date on which the Procedure Step is expected to be completed.
Scheduled Workitem Code Sequence	(0040,4018)	A sequence that conveys the code for the Workitem. Only a single Item shall be permitted in this sequence.
>Include Code Sequence Macro Table 8.8-1		*Baseline Context ID is CID 9231.*
Comments on the Scheduled Procedure Step	(0040,0400)	User-defined comments on the Scheduled Procedure Step.

Referenced Study Component Sequence	(0008,1111)	List of any Modality or General Purpose Performed Procedure Steps, or other Study Components, that may be used to perform the procedure step. This sequence may contain references to performed procedure steps resulting from previous contributions to the performance of the procedure step (e.g. an image processing procedure step interrupted, and completed later). Zero or more Items may be included in this sequence.
>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the SOP Class.
>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the SOP Instance.
Input Availability Flag	(0040,4020)	Flag that indicates the availability of Composite SOP Instances in the Attribute “Input Information Sequence” (0040,4021) of the General Purpose Scheduled Procedure Step. Enumerated values are: PARTIAL COMPLETE The value PARTIAL denotes that the list of Composite SOP Instances may not yet be complete, and additional ones may be added at a later time. The value COMPLETE denotes that all Composite SOP Instances are available and listed. Note: It may happen that the list of Composite SOP Instances is empty when the value of the Input Availability Flag is COMPLETE. In such a case a Workitem has been scheduled that does not require input information.

Input Information Sequence	(0040,4021)	List of Composite SOP Instances that forms the input information needed to perform the scheduled procedure step. See also Input Availability Flag (0040,4020). The same Composite SOP Instance shall not be included in both the Input Information Sequence (0040,4021) and the Relevant Information Sequence (0040,4022). Zero or more Items may be included in this sequence.
>Include 'SOP Instance Reference Macro' Table C.17-3		
Relevant Information Sequence	(0040,4022)	List of Composite SOP Instances that refers to relevant information that is considered pertinent for the performance of the scheduled procedure step. The same Composite SOP Instance shall not be included in both the Input Information Sequence (0040,4021) and the Relevant Information Sequence (0040,4022). Zero or more Items may be included in this sequence.
>Include 'SOP Instance Reference Macro' Table C.17-3		
Study Instance UID	(0020,000D)	Unique Study identification that shall be used for the created Composite SOP Instances resulting from this General Purpose Scheduled Procedure Step. Note: In most cases this will be the same Study Instance UID as for the images in the Input Information Sequence (0040,4021).
Multiple Copies Flag	(0040,4006)	This flag indicates that multiple copies have to be made of a Composite SOP Instance that supports the notion of multiple copies. This includes the SR SOP Class. If set the Study Instance UIDs in the Referenced Request Sequence (0040,A370) shall be used for the created multiple copies. Enumerated Values: Y= Yes N= No

Resulting General Purpose Performed Procedure Steps Sequence	(0040,4015)	List of all General Purpose Performed Procedure Steps that result from the performance of the procedure step. Zero or more Items may be included in this sequence. Note: Initially this list will be empty. New entries will be added when General Purpose Performed Procedure Steps are created by performing devices which are related to this Scheduled Procedure Step. E.g, this sequence may contain the partial results in case a General Purpose Scheduled Procedure Step is discontinued.
>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the SOP Class.
>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the SOP Instance.
Actual Human Performers Sequence	(0040,4035)	The list of current human performers that are actually involved or responsible for performing the Workitem. Zero or more Items may be included in this sequence. Note: Initially this list will be empty. A list of entries may be created at the status transition of the General Purpose Scheduled Procedure Step Status (0040,4001) to "IN PROGRESS"
>Human Performer Code Sequence	(0040,4009)	Human performer that is involved or responsible for performing the Workitem. Only a single Item shall be permitted in this sequence.
>>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
>Human Performer's Name	(0040,4037)	Name of the human performer.
>Human Performer's Organization	(0040,4036)	Organization to which the human performer is accountable for the activities in the Workitem.

C.4.19.1 Codes for Worklist Item

Table C.4.19-2 lists the codes to define the worklist category in the General Purpose Scheduled Procedure Step IOD and the General Purpose Performed Procedure Step IOD. These codes are used in the attributes Scheduled Workitem Code Sequence (0040,4018), Performed Workitem Code Sequence (0040,4019) and Requested Subsequent Workitem Code Sequence (0040,4031).

Table C.4.19-2
Context ID 9231 – General Purpose Workitem Definition

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	110001	Image Processing
DCM	110002	Quality Control
DCM	110003	Computer Aided Diagnosis
DCM	110004	Computer Aided Detection
DCM	110005	Interpretation
DCM	110006	Transcription
DCM	110007	Report Verification
DCM	110008	Print
DCM	110009	No subsequent Workitems

Editor's note: This table will move to PS 3.16.

C.4.20 General Purpose Performed Procedure Step Relationship Module

Table C.4.20-1 specifies the Attributes used to reference other SOP Classes and other Information Entities of the DICOM real-world model as defined in PS 3.3 Section 7.3.1.11.

Table C.4.20-1
GENERAL PURPOSE PERFORMED PROCEDURE STEP RELATIONSHIP MODULE ATTRIBUTES

Attribute Name	Tag	Attribute Description
Patient's Name	(0010,0010)	Patient's full legal name.
Patient ID	(0010,0020)	Primary hospital identification number or code for the patient.
Patient's Birth Date	(0010,0030)	Date of birth of the named patient.
Patient's Sex	(0010,0040)	Sex of the named Patient. Enumerated Values: M = male F = female O = other
Referenced Request Sequence	(0040,A370)	The list of Requested Procedures the Procedure Step shall contribute to. Zero or more Items may be included in the sequence.
>Study Instance UID	(0020,000D)	Unique identifier for the Study.
>Referenced Study Sequence	(0008,1110)	Uniquely identifies the Study SOP Instance associated with this Scheduled Procedure Step. Only a single Item shall be permitted in this sequence.
>>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the SOP Class.

>>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the SOP Instance.
>Accession Number	(0008,0050)	A departmental IS generated number which identifies the order for the Study.
>Requested Procedure Code Sequence	(0032,1064)	A sequence that conveys the Procedure Type of the Requested Procedure. Zero or one Item may be included in this sequence.
>>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
>Placer Order Number/Imaging Service Request	(0040,2016)	The order number assigned to the Imaging Service Request by the party placing the order.
>Filler Order Number/Imaging Service Request	(0040,2017)	The order number assigned to the Imaging Service Request by the party filling the order.
>Requested Procedure ID	(0040,1001)	Identifier of the related Requested Procedure.
>Requested Procedure Description	(0032,1060)	Institution-generated administrative description or classification of Requested Procedure.
Referenced General Purpose Scheduled Procedure Step Sequence	(0040,4016)	Uniquely identifies the General Purpose Scheduled Procedure Step SOP Instance associated with this General Purpose Performed Procedure Step. Zero or more Items may be included in this sequence.
>Referenced SOP Class UID	(0008,1150)	Uniquely identifies the SOP Class.
>Referenced SOP Instance UID	(0008,1155)	Uniquely identifies the SOP Instance.
>Referenced General Purpose Scheduled Procedure Step Transaction UID	(0040,4023)	Transaction UID (0008,1195) used in the N-ACTION transaction that requested the transition to the IN PROGRESS state for the referenced General Purpose Scheduled Procedure Step.

Editor's note: when folded into standard PS3.3 the attributes in this table must be grouped per Imaging Service Request and Requested Procedure level.

C.4.21 General Purpose Performed Procedure Step Information Module

Table C.4.21-1
GENERAL PURPOSE PERFORMED PROCEDURE STEP INFORMATION MODULE ATTRIBUTES

Attribute Name	Tag	Attribute Description
Actual Human Performers Sequence	(0040,4035)	The list of human performers that were actually involved in or responsible for performing this General Purpose Performed Procedure Step. Zero or more Items may be included in this sequence.
>Human Performer Code Sequence	(0040,4009)	Human performer that is actually involved or responsible for performing the General Purpose

		Performed Procedure Step. Only a single Item shall be permitted in this sequence.
>>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
>Human Performer's Name	(0040,4037)	Name of the human performer.
>Human Performer's Organization	(0040,4036)	Organization to which the human performer is accountable for the activities in the General Purpose Performed Procedure Step.
Performed Station Name Code Sequence	(0040,4028)	Name within the enterprise of the equipment that created the General Purpose Performed Procedure Step. This name may be the same as the AE Title, but does not have to be. Zero or one Item may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Performed Station Class Code Sequence	(0040,4029)	Class of the equipment that created the General Purpose Performed Procedure Step. Zero or one Item may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Performed Station Geographic Location Code Sequence	(0040,4030)	Geographic location of the equipment that created General Purpose Performed Procedure Step. Zero or one Item may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Performed Processing Applications Code Sequence	(0040,4007)	The list of processing application instances and/or application types on which the General Purpose Performed Procedure Step is executed. Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*No Baseline Context ID is defined.*
Performed Procedure Step Start Date	(0040,0244)	Date on which the General Purpose Performed Procedure Step started.
Performed Procedure Step Start Time	(0040,0245)	Time at which the General Purpose Performed Procedure Step started.
Performed Procedure Step ID	(0040,0253)	User or equipment generated identifier of that part of a Procedure that has been carried out within this procedure step.
Performed Procedure Step End Date	(0040,0250)	Date on which the General Purpose Performed Procedure Step ended.
Performed Procedure Step End Time	(0040,0251)	Time at which the General Purpose Performed Procedure Step ended.
General Purpose Performed Procedure Step Status	(0040,4002)	Contains the state of the Performed Procedure Step. Enumerated Values: IN PROGRESS = Started but not complete DISCONTINUED = Canceled or unsuccessfully terminated COMPLETED = Successfully completed

Performed Procedure Step Description	(0040,0254)	Institution-generated description or classification of the Procedure Step that was performed.
Comments on the Performed Procedure Step	(0040,0280)	User-defined comments on the Performed Procedure Step. This attribute shall not be used as a substitute for the code meaning in the Performed Workitem Code Sequence (0040,4019).
Performed Workitem Code Sequence	(0040,4019)	A sequence that conveys the (single) type of procedure performed. Only a single Item shall be permitted in this sequence.
>Include Code Sequence Macro Table 8.8-1		*Baseline Context ID is CID 9231.*

C.4.22 General Purpose Results

Table C.4.22-1 specifies attributes that describe the creation of results during the performance of the General Purpose Procedure Step and that provide references to the Results and Structured Reporting SOP Instances associated with this General Purpose Performed Procedure Step.

Table C.4.22-1
GENERAL PURPOSE RESULTS MODULE ATTRIBUTES

Attribute Name	Tag	Attribute Description
Output Information Sequence	(0040,4033)	A Sequence that provides reference to one or more Composite SOP instances, that identify the Structured Reports or other results created. Zero or more Items may be included in this sequence.
>Include 'SOP Instance Reference Macro' Table C.17-3		
Requested Subsequent Workitem Code Sequence	(0040,4031)	A Sequence that provides suggested next Workitems, based on the produced results. Note: This Attribute may also be used in case a step has been done incorrectly and should be redone. Zero or more Items may be included in this sequence
>Include Code Sequence Macro Table 8.8-1		*Baseline Context ID is CID 9231.*
Non-DICOM Output Code Sequence	(0040,4032)	A Sequence that describes any non-DICOM output produced as results. Zero or more Items may be included in this sequence.
>Include Code Sequence Macro Table 8.8-1		*Baseline Context ID is CID 9232.*

C.4.22.1 Codes for Non-DICOM Output

Table C.4.22-2 lists the codes to define the additional results in the General Purpose Performed Procedure Step IOD. These codes are used in the attribute Non-DICOM Output Code Sequence (0040,4032).

Table C.4.22-2
Context ID 9232 – Non-DICOM Output Type

Coding Scheme Designator (0008,0102)	Code Value (0008,0100)	Code Meaning (0008,0104)
DCM	110010	Film
DCM	110011	Dictation
DCM	110012	Transcription

Editor's note: This table will move to PS 3.16.

Part 4 Addendum

Item #9
Change Section K.3 " Worklist Information Model" as follows:

K.3 WORKLIST INFORMATION MODELS

Each Worklist Information Model is associated with one SOP Class. The following Worklist Information Models are defined:

- Modality Worklist Information Model
- General Purpose Worklist Information Model

Item #10
Add Section K.6.2 "General Purpose Worklist Sop Class":

K.6.2 General Purpose Worklist SOP Class

K.6.2.1 General Purpose Worklist SOP Class Overview

The General Purpose Worklist SOP class defined within the Basic Worklist Management Service Class defines an application-level class of service which facilitates the communication of information to any application or piece of equipment about General Purpose Scheduled Procedure Steps and related entities. As will be detailed below, part of the information carried by the worklist mechanism is intended to be used by the application itself, and much of the information is intended to be presented to the person performing the task. In automated applications all information will go to the application.

The worklist is a list of General Purpose Scheduled Procedure Steps, i.e. each worklist item focuses on a single procedure step and the related entities. The General Purpose Worklist SOP Class covers a wide range of tasks, and the related entities may differ dependent upon the specifics of the procedure step to be performed. For example, the General Purpose Worklist may be used to schedule procedure steps for the following tasks:

- Image Processing
- Quality Control
- Computer Aided Diagnosis
- Computer Aided Detection
- Interpretation
- Transcription
- Report Verification
- Print

The detailed actions for the specific task will be conveyed by means of Workitem Codes. The related entities, i.e. the input information the performer needs to do the task and the output information the performer has to produce, may be conditionally present based on the specific Workitem Code.

Examples of these entities are: Images, Historic Images, (Structured) Reports, Films, Presentation States, Audio recordings, Requested Procedure text.

The General Purpose Worklist SOP Class is not intended to provide access to all IS information and services which may be of interest to an application operator. Its primary focus is the efficient operation of the processing application. Other DICOM SOP Classes such as the Performed Procedure Step SOP Classes, as well as non-DICOM services may be needed in conjunction with this SOP Class.

The General Purpose Worklist SOP Class does not support the communication of information from the application to the worklist provider. The General Purpose Scheduled Procedure Step, General Purpose Performed Procedure Step and other DICOM services in the Study Management Service Class section are defined to support that communication.

K.6.2.2 General Purpose Worklist Information Model

K.6.2.2.1 E/R Model

In response to a given C-FIND request, the General Purpose Worklist SCP might have to send several C-FIND responses, (i.e. one C-FIND response per matching worklist item). Each worklist item focuses on a single General Purpose Scheduled Procedure Step and the related information. The E-R diagram presented in Figure K.6-2 depicts the content of one C-FIND request, that is:

- the matching General Purpose Scheduled Procedure Step, the list of Requested Procedures to which the General Purpose Scheduled Procedure Step contributes, the Imaging Service Request(s) in which the associated Requested Procedures are ordered, and the Patient of interest.

Therefore, for a given C-FIND request, a given General Purpose Scheduled Procedure Step will appear in only one of the resulting C-FIND responses. Obviously, information about the Requested Procedures, Imaging Service Requests, and Patients may be mentioned in several of these C-FIND responses.

In the Entity-Relationship Model, one Attribute shall be defined as the Unique Key for the General Purpose Scheduled Procedure Step. A single value in a Unique Key Attribute shall uniquely identify a single entity. That is, two entities may not have the same Unique Key value.

Note: The Unique Key in this case is the SOP Instance UID of the General Purpose Scheduled Procedure Step Instance. See Table K.6-2

The worklist provider shall support existence and matching of the Unique Key defined by the General Purpose Worklist Information Model. All entities managed by the worklist provider shall have a specific non-zero length Unique Key value.

Unique Keys may be contained in the Identifier of a C-FIND request.

The General Purpose Worklist Information Model is represented by the Entity Relationship diagram shown in figure K.6-2.

The entry point of the General Purpose Worklist is the General Purpose Scheduled Procedure Step entity.

The attributes of a General Purpose Worklist can be found in

– PS 3.3 "Patient Relationship Module"
– PS 3.3 "Patient Identification Module"
– PS 3.3 "Patient Demographic Module"
– PS 3.3 "Patient Medical Module"

– PS 3.3 "General Purpose Scheduled Procedure Step Relationship Module"
– PS 3.3 "General Purpose Scheduled Procedure Step Information Module"

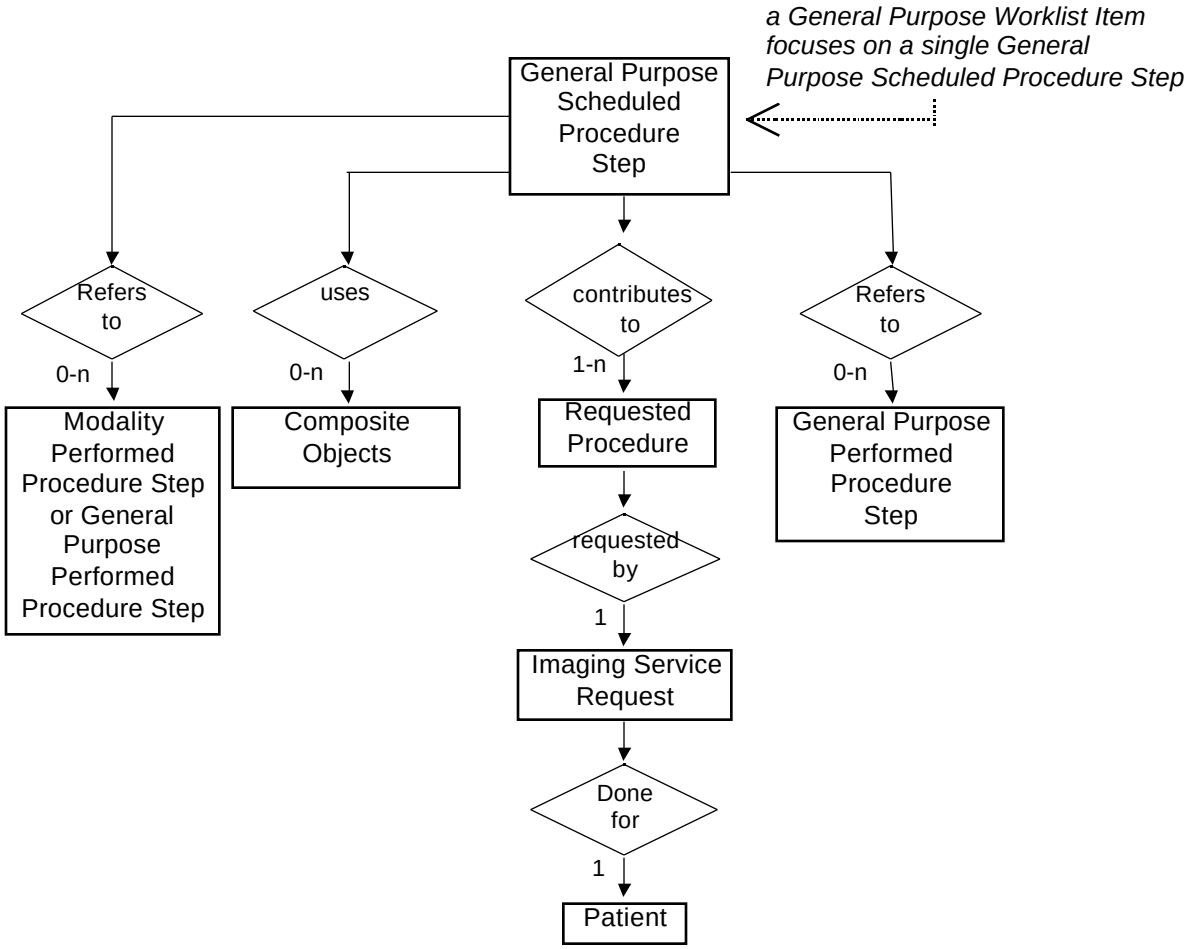

Figure K.6-2. General Purpose Worklist Information Model E-R Diagram

K.6.2.2.2 General Purpose Worklist Attributes

Table K.6-2 defines the Attributes of the General Purpose Worklist Information Model:

Table K.6-2 Attributes for the General Purpose Worklist Information Model

Description / Module	Tag	Matching Key Type	Return Key Type	Remark / Matching Type
SOP Common				
Specific Character Set	(0008,0005)	O	1C	This attribute is required if expanded or replacement character sets are used.
SOP Class UID	(0008,0016)	O	1	Uniquely identifies the SOP Class of the General Purpose Scheduled Procedure Step. See Section K.6.2.2.3 for further explanation.
SOP Instance UID	(0008,0018)	U	1	Uniquely identifies the SOP Instance of the General Purpose Scheduled Procedure Step. See Section K.6.2.2.3 for further explanation. SOP Instance UID shall be retrieved with Single Value Matching.
General Purpose Scheduled Procedure Step Information				
General Purpose Scheduled Procedure Step Status	(0040,4001)	R	1	General Purpose Scheduled Procedure Step Status shall be retrieved with Single Value Matching.
Input Availability Flag	(0040,4020)	R	1	Input Availability Flag shall be retrieved with Single Value Matching.
General Purpose Scheduled Procedure Step Priority	(0040,4003)	R	1	General Purpose Scheduled Procedure Step Priority shall be retrieved with Single Value Matching.
Scheduled Procedure Step ID	(0040,0009)	O	1	
Scheduled Workitem Code Sequence	(0040,4018)	R	1	The Attributes of the Scheduled Workitem Code Sequence shall only be retrieved with Sequence Matching. The Scheduled Workitem Code Sequence shall contain only a single Item.
>Code Value	(0008,0100)	R	1	Code Value shall be retrieved with Single Value Matching.

>Coding Scheme Designator	(0008,0102)	R	1	Coding Scheme Designator shall be retrieved with Single Value Matching.
>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
Scheduled Processing Applications Code Sequence	(0040,4004)	O	2	
>Code Value	(0008,0100)	O	1	
>Coding Scheme Designator	(0008,0102)	O	1	
>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
Scheduled Station Name Code Sequence	(0040,4025)	R	2	The Attributes of the Scheduled Station Name Code Sequence shall only be retrieved with Sequence Matching.
>Code Value	(0008,0100)	R	1	Code Value shall be retrieved with Single Value Matching.
>Coding Scheme Designator	(0008,0102)	R	1	Coding Scheme Designator shall be retrieved with Single Value Matching.
>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
Scheduled Station Class Code Sequence	(0040,4026)	R	2	The Attributes of the Scheduled Station Class Code Sequence shall only be retrieved with Sequence Matching.
>Code Value	(0008,0100)	R	1	Code Value shall be retrieved with Single Value Matching.
>Coding Scheme Designator	(0008,0102)	R	1	Coding Scheme Designator shall be retrieved with Single Value Matching.
>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
Scheduled Station Geographic Location Code Sequence	(0040,4027)	R	2	The Attributes of the Scheduled Station Geographic Location Code Sequence shall only be retrieved with Sequence Matching.
>Code Value	(0008,0100)	R	1	Code Value shall be retrieved with Single Value Matching.
>Coding Scheme Designator	(0008,0102)	R	1	Coding Scheme Designator shall be retrieved with Single Value Matching.
>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.

Scheduled Procedure Step Start Date and Time	(0040,4005)	R	1	Scheduled Procedure Step Start Date and Time shall be retrieved with Single Value Matching or Range Matching.
Expected Completion Date and Time	(0040,4011)	R	2	Expected Completion Date and Time shall be retrieved with Single Value Matching or Range Matching.
Scheduled Human Performers Sequence	(0040,4034)	R	2	The Attributes of the Scheduled Human Performers Sequence shall only be retrieved with Sequence Matching.
>Human Performer Code Sequence	(0040,4009)	R	1	The Attributes of the Scheduled Human Performers Code Sequence shall only be retrieved with Sequence Matching.
>>Code Value	(0008,0100)	R	1	Code Value shall be retrieved with Single Value Matching.
>>Coding Scheme Designator	(0008,0102)	R	1	Coding Scheme Designator shall be retrieved with Single Value Matching.
>>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
>Human Performer's Name	(0040,4037)	O	3	
>Human Performer's Organization	(0040,4036)	O	3	
Referenced Study Component Sequence	(0008,1111)	O	2	
>Referenced SOP Class UID	(0008,1150)	O	1	
>Referenced SOP Instance UID	(0008,1155)	O	1	
Input Information Sequence	(0040,4021)	O	2	
>Study Instance UID	(0020,000D)	O	1	
>Referenced Series Sequence	(0008,1115)	O	1	
>>Series Instance UID	(0020,000E)	O	1	
>>Retrieve AE Title	(0008,0054)	O	2C	Shall not be present if Storage Media File-Set ID (0088,0130) or Storage Media File-Set UID (0088,0140) is present.
>>Storage Media File-Set ID	(0088,0130)	O	2C	Shall not be present if Retrieve AE Title (0008,0054) is present.

>>Storage Media File-Set UID	(0088,0140)	O	2C	Shall not be present if Retrieve AE Title (0008,0054) is present.
>>Referenced SOP Sequence	(0008,1199)	O	1	
>>>Referenced SOP Class UID	(0008,1150)	O	1	
>>>Referenced SOP Instance UID	(0008,1155)	O	1	
Relevant Information Sequence	(0040,4022)	O	2	
>Study Instance UID	(0020,000D)	O	1	
>Referenced Series Sequence	(0008,1115)	O	3	
>>Series Instance UID	(0020,000E)	O	1	
>>Retrieve AE Title	(0008,0054)	O	2C	Shall not be present if Storage Media File-Set ID (0088,0130) or Storage Media File-Set UID (0088,0140) is present.
>>Storage Media File-Set ID	(0088,0130)	O	2C	Shall not be present if Retrieve AE Title (0008,0054) is present.
>>Storage Media File-Set UID	(0088,0140)	O	2C	Shall not be present if Retrieve AE Title (0008,0054) is present.
>>Referenced SOP Sequence	(0008,1199)	O	1	
>>>Referenced SOP Class UID	(0008,1150)	O	1	
>>>Referenced SOP Instance UID	(0008,1155)	O	1	
Resulting General Purpose Performed Procedure Step Sequence	(0040,4015)	O	2	This sequence shall be updated when related General Purpose Performed Procedure Step SOP Instances are created.
>Referenced SOP Class UID	(0008,1150)	O	1	
>Referenced SOP Instance UID	(0008,1155)	O	1	
Actual Human Performers Sequence	(0040,4035)	O	2	This sequence shall be updated when this information is included in the Modify General Purpose Scheduled Procedure Step Information N-ACTION Request.
>Human Performer Code Sequence	(0040,4009)	O	1	
>>Code Value	(0008,0100)	O	1	

>>Coding Scheme Designator	(0008,0102)	O	1	
>>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
>Human Performer's Name	(0040,4037)	O	3	
>Human Performer's Organization	(0040,4036)	O	3	
Study Instance UID	(0020,000D)	O	1	This is the Study Instance UID that shall be used to identify the Composite SOP Instances resulting from this worklist item.
Multiple Copies Flag	(0040,4006)	O	1	This Attribute shall be used to determine if multiple copies of Composite SOP Instances have to be created.
All other Attributes from the General Purpose Scheduled Procedure Step Information Module		O	3	
General Purpose Scheduled Procedure Step Relationship				
Referenced Request Sequence	(0040,A370)	O	1	
>Study Instance UID	(0020,000D)	O	1	This is the Study Instance UID that shall be used to identify an identical copy of an SR Object, in case multiple copies are created.
>Referenced Study Sequence	(0008,1110)	O	2	
>>Referenced SOP Class UID	(0008,1150)	O	1	
>>Referenced SOP Instance UID	(0008,1155)	O	1	
>Requested Procedure ID	(0040,1001)	O	1	
>Requested Procedure Description	(0032,1060)	O	1C	The Requested Procedure Description (0032,1060) or the Requested Procedure Code Sequence (0032,1064) or both shall be supported by the SCP.

>Requested Procedure Code Sequence	(0032,1064)	O	1C	The Requested Procedure Description (0032,1060) or the Requested Procedure Code Sequence (0032,1064) or both shall be supported by the SCP. The Requested Procedure Code Sequence shall contain only a single Item.
>>Code Value	(0008,0100)	O	1	
>>Coding Scheme Designator	(0008,0102)	O	1	
>>Code Meaning	(0008,0104)	-	1	Code Meaning shall not be used as Matching Key.
>Accession Number	(0008,0050)	R	2	Accession Number shall be retrieved with Single Value Matching.
>Requesting Physician	(0032,1032)	O	2	
>All other Attributes relating to the Requested Procedure and the Imaging Service Request in the General Purpose Scheduled Procedure Step Relationship Module		O	3	
Patient Relationship				
All Attributes from the Patient Relationship Module		O	3	
Patient Identification				
Patient's Name	(0010,0010)	R	1	Patient's Name shall be retrieved with Single Value Matching or Wild Card Matching.
Patient ID	(0010,0020)	R	1	Patient ID shall be retrieved with Single Value Matching.
All other Attributes from the Patient Identification Module		O	3	
Patient Demographic				
Patient's Birth Date	(0010,0030)	O	2	
Patient's Sex	(0010,0040)	O	2	
All other Attributes from the Patient Demographic Module		O	3	

Patient Medical				
All Attributes from the Patient Medical Module		O	3	

K.6.2.2.3 Unique Identification of the General Purpose Worklist Item

The SOP Class UID and SOP Instance UID Attributes are defined for all DICOM IODs. For Normalized IODs they are not encoded in the IOD, but contained in the respective Attributes in the DIMSE Services. The General Purpose Scheduled Procedure Step SOP Instance is a persistent object, and the SOP Class UID and SOP Instance UID are included in the General Purpose Worklist. The value for this attribute originates from the SOP Instance UID assigned to the corresponding object at the time of creation by the SCP.

K.6.2.3 Conformance Requirements

An implementation may conform to the General Purpose Worklist SOP Class as an SCU and/or as an SCP.

An implementation which conforms to the General Purpose Worklist SOP Class shall also support the General Purpose Worklist Management Meta SOP Class.

The Conformance Statement shall be in the format defined in Annex A of PS 3.2.

K.6.2.3.1 SCU Conformance

An implementation which conforms to the General Purpose Worklist SOP Class shall support queries against the Worklist Information Model described in Section K.6.2.2 of this Annex using the baseline C-FIND SCU Behavior described in Section K.4.1.2 of this Annex.

An implementation which conforms to the General Purpose Worklist SOP Class as an SCU shall state in its Conformance Statement whether it requests matching on Optional Matching Key Attributes. If it requests Type 3 Return Key Attributes, then it shall list these Optional Return Key Attributes.

K.6.2.3.2 SCP Conformance

An implementation which conforms to the General Purpose Worklist SOP Class shall support queries against the Worklist Information Model described in Section K.6.2.2 of this Annex using the C-FIND SCP Behavior described in Section K.4.1.3 of this Annex.

An implementation which conforms to the General Purpose Worklist SOP Class as an SCP shall state in its Conformance Statement whether it supports matching on Optional Matching Key Attributes. If it supports Type 3 Return Key Attributes, then it shall list all Optional Return Key Attributes which it supports.

K.6.2.4 SOP Classes

The General Purpose Worklist SOP Class in the General Purpose Worklist Service Class identifies the General Purpose Worklist Information Model, and the DIMSE-C operations supported. The following Standard SOP Class is identified:

SOP Class Name	SOP Class UID
General Purpose Worklist Information Model - FIND	1.2.840.10008.5.1.4.32.1

K.6.2.5 General Purpose Worklist Management Meta SOP Class

The General Purpose Worklist Management Meta SOP Class is defined by the following set of supported SOP Classes.

SOP Class Name	Reference	Usage SCU/SCP
General Purpose Worklist SOP Class	K.6.2	M/M
General Purpose Scheduled Procedure Step SOP Class	F.10	M/M
General Purpose Performed Procedure Step SOP Class	F.11	M/M

The General Purpose Worklist Management Meta SOP Class is intended for those Application Entities which conform to all of the aforementioned SOP Classes.

All requirements specified for the General Purpose Worklist Information Model SOP Class, General Purpose Scheduled Procedure Step SOP Class, and General Purpose Performed Procedure Step SOP Class shall be met by Application Entities conforming to the General Purpose Worklist Management Meta SOP Class.

K.6.2.5.1 General Purpose Worklist Management Meta SOP Class UID

The General Purpose Worklist Management Meta SOP Class shall be uniquely identified by the General Purpose Worklist Management Meta SOP Class UID which shall have the value "1.2.840.10008.5.1.4.32".

Item #11
Add Section K.8 "General Purpose Worklist Example (Informative)":

K.8 GENERAL PURPOSE WORKLIST EXAMPLE (INFORMATIVE)

K.8.1 Introduction

This section provides an example of message sequencing when using the General Purpose Worklist SOP Classes. This section is not intended to provide an exhaustive set of use cases but rather an informative example. There are other valid message sequences that could be used to obtain an equivalent outcome and there are other valid combinations of actors that could be involved in the workflow management.

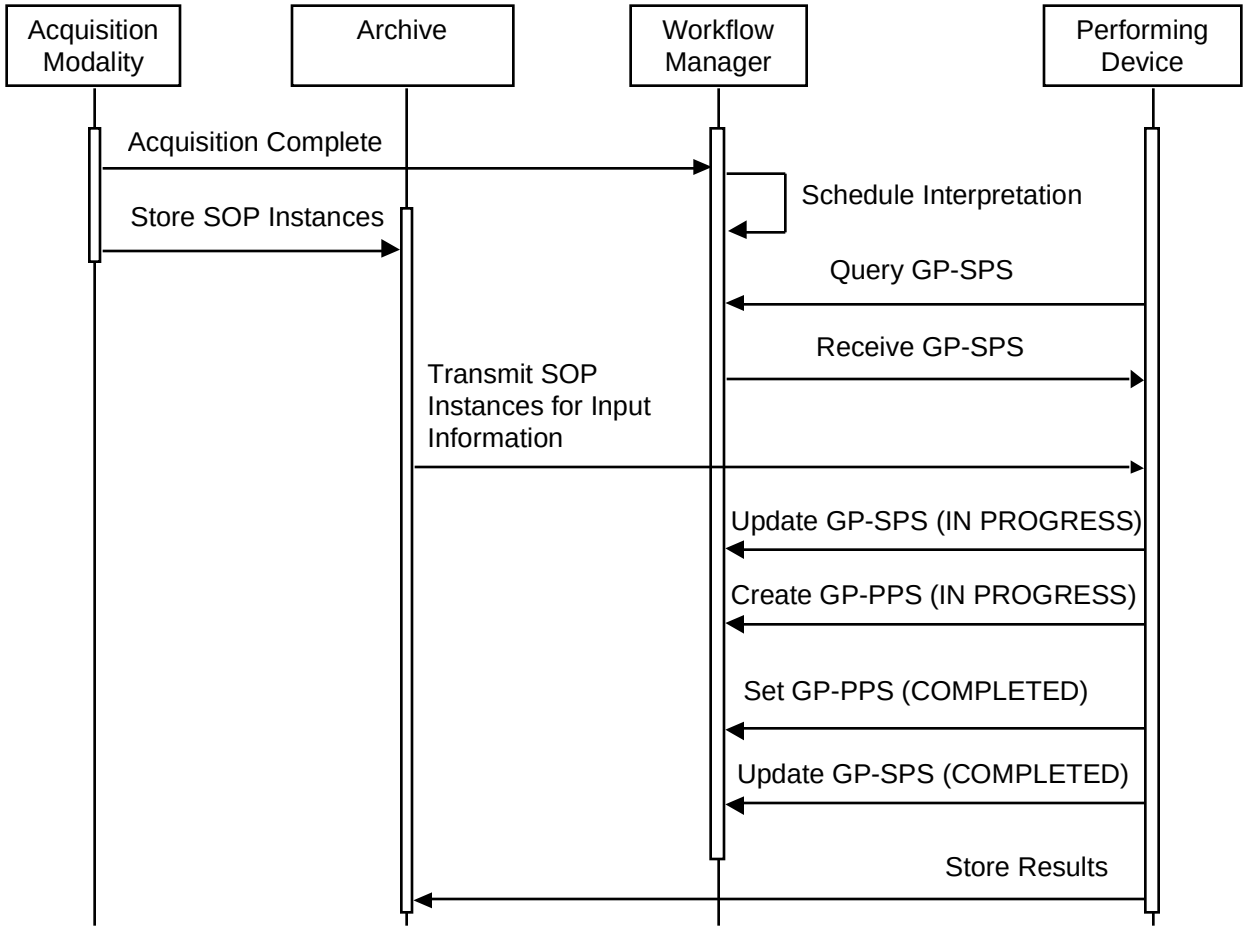

Figure K.8-1 Example of General Purpose Worklist Message Sequencing

Figure K.8-1 illustrates a message sequence example in the case where a General Purpose Scheduled Procedure Step (GP-SPS) is performed using a single General Purpose Performed Procedure Step (GP-PPS) that completes normally. Further examples could be constructed for discontinued, unscheduled, group, cooperative and other use cases but are not considered in this informative section. Italic text in Figure K.8-1 denote messages outside the scope of General Purpose Worklist that will typically be conveyed using other DICOM Services such as Storage, Storage Commitment and Query/Retrieve.

The Actors shown in Figure K.8-1 are:

Acquisition Modality: Acquires the images that are input for the General Purpose steps

Archive: Stores SOP Instances (images, structured reports, etc)

Workflow Manager: Manages worklists and tracks performance of procedures

Performing Device: Performs the tasks specified by the worklist and creates results

K.8.2 Transactions and message flow

In Figure K.8-1 the following transactions and messages are shown.

K.8.2.1Acquisition Complete

The Acquisition Modality reports that the acquisition is complete. This message would typically be conveyed using the Modality Performed Procedure Step SOP Class. Upon receiving this message the Workflow Manager can update its worklist of General Purpose Scheduled Procedure Steps to indicate that input is available and to identify these composite SOP instances.

K.8.2.2Store SOP Instances

The Acquisition Modality stores SOP Instances to the Archive. This message would typically be conveyed using the Storage and Storage Commitment Service Classes. This message could equally be transmitted prior to the Acquisition Complete message.

K.8.2.3Query GP-SPS

The Performing Device queries the Workflow Manager for General Purpose Scheduled Procedure Steps (GP-SPS) matching its search criteria. For example, all worklist items with General Purpose Scheduled Procedure Step Status (0040,4001) of “SCHEDULED”, Input Availability Flag (0040,4020) of “COMPLETE” and Scheduled Human Performers Sequence (0040,4034) of the currently active user. This message is conveyed using the C-FIND request primitive of the General Purpose Worklist SOP Class.

K.8.2.4Receive GP-SPS

The Performing Device receives the set of General Purpose Scheduled Procedure Steps (GP-SPS) resulting from the Query GP-SPS message. The Receive GP-SPS message is conveyed via one or more C-FIND response primitives of the General Purpose Worklist SOP Class, each response with status pending containing the requested attributes of a single GP-SPS worklist item.

K.8.2.5Transmit SOP Instances to be Used

The Archive transmits the SOP Instances to be used as input information during the task to the Performing Device. This message would typically be conveyed using the Storage Service Class which could be initiated by the Performing Device via the Query/Retrieve Service Class based on information contained in the GP-SPS, or could also be initiated by the Archive or Workflow Manager in order to ensure the necessary SOP Instances are available before use.

K.8.2.6Update GP-SPS (IN PROGRESS)

The Performing Device updates a General Purpose Scheduled Procedure Step (GP-SPS) managed by the Workflow Manager to have the status IN PROGRESS upon starting work on the item. The

SOP Instance UID of the GP-SPS will normally have been obtained via the Receive GP-SPS message as a worklist item. This message is conveyed using the N-ACTION primitive of the General Purpose Scheduled Procedure Step SOP Class with an action type “Request GP-SPS Status Modification”. This message allows the Workflow Manager to update its worklist and permits other Performing Devices to detect that the GP-SPS is already being worked on.

K.8.2.7Create GP-PPS (IN PROGRESS)

The Performing Device creates a new General Purpose Performed Procedure Step (GP-PPS) instance on the Workflow Manager upon starting work on a General Purpose Scheduled Procedure Step (GP-SPS). This message is conveyed using the N-CREATE primitive of the General Purpose Performed Procedure Step SOP Class. Upon creation, the GP-PPS must have a GP-PPS Status of IN PROGRESS, should contain references to the related GP-SPS and have values for any other attributes known when starting the GP-PPS.

K.8.2.8Set GP-PPS (COMPLETED)

The Performing Device sets the GP-PPS Status to COMPLETED upon completion of the performed step and includes details of the performed step and references to any results (results are themselves conveyed by the Store Results message). This message is conveyed using the N-SET primitive of the General Purpose Performed Procedure Step SOP Class. Upon completion, all mandatory attributes of the GP-PPS must have been assigned a value.

K.8.2.9Update GP-SPS (COMPLETED)

The Performing Device updates the GP-SPS Status to COMPLETED upon completion of the scheduled step. This message is conveyed using the N-ACTION primitive of the General Purpose Scheduled Procedure Step SOP Class with an action type “Request GP-SPS Status Modification”. This message informs the Workflow Manager that the GP-SPS is now complete and that further GP-PPS will not be created.

K.8.2.10 Store Results

The Performing Device stores any generated results to the Archive. This message would typically be conveyed using the Storage and Storage Commitment Service Classes and may contain Structured Reports, Images or other relevant Composite SOP Instances. This message could equally be transmitted prior to the Set GP-PPS (COMPLETED) message. References to the results are associated with the GP-PPS in the Set GP-PPS (COMPLETED) message.

Item #12: Modify the text of Annex F Section F.1.3 Study Management Information Model

Replace the second paragraph with the following text:

The data are modeled through the use of Information Object Definitions (IODs) which are defined in PS 3.3. Five IODs, the Study, Study Component, Modality Performed Procedure Step, General Purpose Scheduled Procedure Step, and General Purpose Performed Procedure Step IODs, are used by this Service Class. Reference PS 3.3 for more information on these IODs.

Item #13: Add text in Annex F Section F.1.4 Study Management States

In addition to these study states the states for the General Purpose Scheduled Procedure Step and General Purpose Performed Procedure Step are defined in Tables F.1-5 and F.1-7.

Item #14: Add the following section after Annex F Section F.1.5 Modality Performed Procedure Step Management States

F.1.6 General Purpose Scheduled Procedure Step Management States

Figure F.1-3 specifies how changes in the status of a General Purpose Scheduled Procedure Step shall be managed.

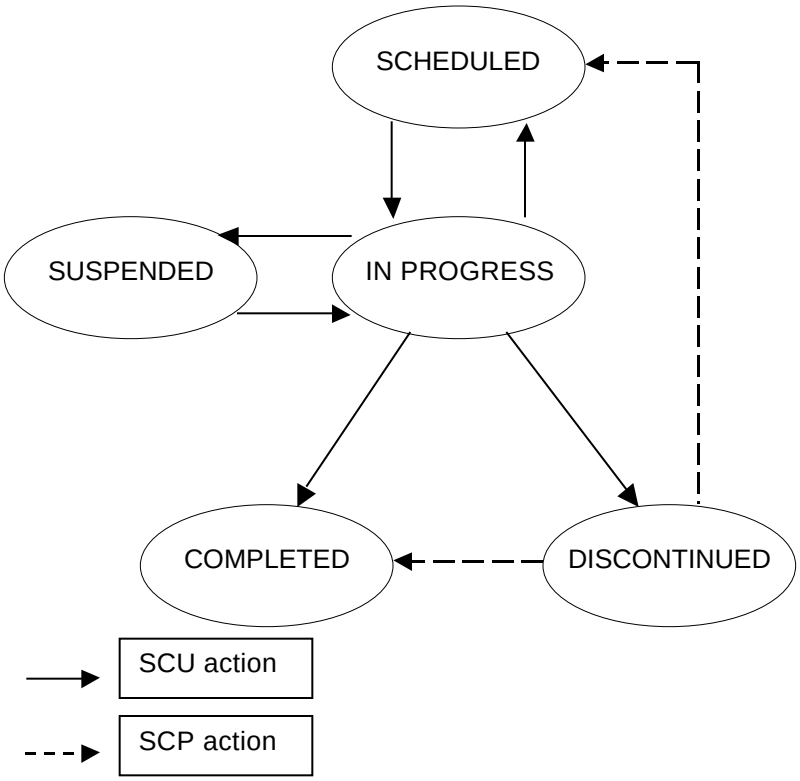

Figure F.1-3: Management of General Purpose Scheduled Procedure Step Status

The SCP will create the General Purpose Scheduled Procedure Step (GP-SPS) with an initial status of SCHEDULED. The availability of the input information is denoted by the Attribute "Input Availability Flag" (0040,4020). The SCU may start working on a GP-SPS which has the status SCHEDULED, regardless of the availability of the input information. As soon as an SCU starts working on the performance of a GP-SPS, a status modification to IN PROGRESS shall be requested by the SCU. If the status modification to IN PROGRESS is acknowledged, the SCU at the same time has an implicit exclusive lock on the GP-SPS, as long as the status is IN PROGRESS. When the status has a value other than IN PROGRESS, there is no implicit exclusive lock on the GP-SPS.

Once a GP-SPS is started and the status is IN PROGRESS (that is, with an implicit exclusive lock) all subsequent attempts by another SCU to set the status will fail. This failure to set the status will indicate that someone else has already set the status of the GP-SPS to IN PROGRESS and will perform tasks related to it. The SCU that has set the status of the GP-SPS to IN PROGRESS and wants to relinquish control of it before its completion may request a status modification to SUSPENDED or SCHEDULED.

There is no limit on the number of transactions in either direction between IN PROGRESS and SCHEDULED or IN PROGRESS and SUSPENDED.

Once an IN PROGRESS GP-SPS is completed, the SCU shall request a modification of its status to COMPLETED.

The SCU may discontinue an IN PROGRESS GP-SPS at any time, provided the GP-SPS is not completed. To do so, the SCU requests a modification of the GP-SPS status to DISCONTINUED.

The SCP is responsible for defining how long a GP-SPS persists (is visible in worklist) once its status is COMPLETED or DISCONTINUED.

The state information related to the General Purpose Scheduled Procedure Step is specified by the General Purpose Scheduled Procedure Step IOD in the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001).

Table F.1-5 describes the valid General Purpose Scheduled Procedure Step states, and Table F.1-6 the valid state transitions.

Table F.1-5
GENERAL PURPOSE SCHEDULED PROCEDURE STEP STATES

State	Description
Scheduled	General Purpose Scheduled Procedure Step created and scheduled to be performed
In Progress	General Purpose Scheduled Procedure Step created and execution in progress. This is the only state that implies an exclusive lock.
Suspended	Execution of the General Purpose Scheduled Procedure Step temporarily suspended.
Discontinued	Execution of General Purpose Scheduled Procedure Step canceled by SCU
Completed	General Purpose Scheduled Procedure Step completed by SCU

Table F.1-6
GENERAL PURPOSE SCHEDULED PROCEDURE STEP STATE TRANSITION DIAGRAM

	States				
Events	**Scheduled**	**In Progress**	**Suspended**	**Completed**	**Discontinued**
General Purpose Scheduled Procedure Step Started	In Progress (SCU)				
General Purpose Scheduled Procedure Step Completed		Completed (SCU)			
General Purpose Scheduled Procedure Step Suspended		Suspended (SCU)			
General Purpose Scheduled Procedure Step Resumed			In Progress (SCU)		

General Purpose Scheduled Procedure Step Discontinued		Discontinued (SCU)			
General Purpose Scheduled Procedure Step Completed					Completed (SCP)
General Purpose Scheduled Procedure Step Re-Scheduled		Scheduled (SCU)			Scheduled (SCP)

F.1.7 General Purpose Performed Procedure Step Management States

The General Purpose Performed Procedure Step Object represents only the "performed" segment of the real-world procedure step and not the "scheduled" segment.

As soon as a SCU starts working on the performance of a General Purpose Performed Procedure Step (GP-PPS), the GP-PPS object will be created and the initial status shall be set to IN PROGRESS.

Once an IN PROGRESS GP-PPS is completed, its status shall be set to COMPLETED.

The SCU may discontinue a GP-PPS at any time, provided the GP-PPS is not completed. To do so, the GP-PPS status shall be set to DISCONTINUED.

The state "DISCONTINUED" means canceled or unsuccessfully terminated which may happen when the performance of a General Purpose Procedure Step has been started but cannot be finished by the SCU. The state "COMPLETED" means that the step has been successfully completed and the SCU has provided all required attribute values for the General Purpose Performed Procedure Step.

The SCP is responsible for determining how long a GP-PPS persists once its status is COMPLETED or DISCONTINUED.

The state information related to the General Purpose Performed Procedure Step is specified by the General Purpose Performed Procedure Step IOD in the Attribute "General Purpose Performed Procedure Step Status" (0040,4002).

Table F.1-7 describes the valid General Purpose Performed Procedure Step states.

Table F.1-7
GENERAL PURPOSE PERFORMED PROCEDURE STEP STATES

State	Description
In Progress	Performed Procedure Step created and execution in progress
Discontinued	Execution of Performed Procedure Step canceled by SCU
Completed	Performed Procedure Step completed

Table F.1-8 defines the valid state transitions for the General Purpose Performed Procedure Steps. For each of the above-defined states the valid state resulting from the occurrence of events is specified. These state transitions are managed by the General Purpose Performed Procedure Step SOP Class.

Table F.1-8
GENERAL PURPOSE PERFORMED PROCEDURE STEP STATE TRANSITION DIAGRAM

Events	States		
	In Progress	**Discontinued**	**Completed**
Performed Procedure Step Discontinued	Discontinued (SCU)		
Performed Procedure Step Completed	Completed (SCU)		

Item #15: Modify the text of the first paragraph of Section F.2 Conformance Overview in Annex F

The application-level services addressed by this Service Class Definition are specified via ~~two~~ the following distinct SOP Classes:

a. Detached Study Management SOP Class

b. Study Component Management SOP Class

c. Modality Performed Procedure Step SOP Class

d. Modality Performed Procedure Step Notification SOP Class

e. Modality Performed Procedure Step Retrieve SOP Class

f. General Purpose Scheduled Procedure Step SOP Class

g. General Purpose Performed Procedure Step SOP Class

Item #16: Modify the text of the first sentence of the second paragraph of Section F.2 Conformance Overview in Annex F

Modified text

Each SOP Class operates on a subset of the Study IOD, Modality Performed Procedure Step IOD, Study Component IOD, General Purpose Scheduled Procedure Step IOD, or General Purpose Performed Procedure Step IOD and specifies the Attributes, operations, notifications, and behavior applicable to the SOP Class.

Item #17: Add the following sections into Annex F

F.10 GENERAL PURPOSE SCHEDULED PROCEDURE STEP SOP CLASS

F.10.1 DIMSE Service Group

The DIMSE Services shown in Table F.10.1-1 are applicable to the General Purpose Scheduled Procedure Step IOD under the General Purpose Scheduled Procedure Step SOP Class.

Table F.10.1-1
DIMSE SERVICE GROUP

DIMSE Service Element	Usage SCU/SCP
N-ACTION	M/M

The DIMSE Services and Protocols are specified in PS 3.7

F.10.2 Operations

The DICOM AEs which claim conformance to this SOP Class as an SCU shall invoke the N-ACTION operation. The DICOM AEs which claim conformance to this SOP Class as an SCP shall support the N-ACTION operation.

F.10.2.1 Modify General Purpose Scheduled Procedure Step Information Request

This operation allows an SCU to request the modification of Attribute Values of an instance of the General Purpose Scheduled Procedure Step SOP Class and provide information about a specific real-world General Purpose Scheduled Procedure Step that is under control of the SCP. This operation shall be invoked through the DIMSE N-ACTION Service.

F.10.2.1.1 Action Information

The Application Entity which claims conformance to this SOP Class as an SCU may choose to request the modification of a subset of the Attributes maintained by the SCP.

The DICOM AEs which claim conformance to this SOP Class as an SCU and/or an SCP shall support the Action Types and Action Information as specified in Table F.10.2-1.

Table F.10.2-1
MODIFY GP-SPS INFORMATION REQUEST - ACTION INFORMATION

Action Type Name	Action Type ID	Attribute	Tag	Requirement Type SCU/SCP
Request GP-SPS Status Modification	1	General Purpose Scheduled Procedure Step Status	(0040,4001)	1/1
		Transaction UID	(0008,1195)	1/1
		Actual Human Performers Sequence	(0040,4035)	3/1
		>Human Performer Code Sequence	(0040,4009)	1/1
		>>Code Value	(0008,0100)	1/1
		>>Coding Scheme designator	(0008,0102)	1/1
		>>Code Meaning	(0008,0104)	1/1
		>Human Performer's Name	(0040,4037)	3/3
		>Human Performer's Organization	(0040,4036)	3/3

F.10.2.1.2 Service Class User Behavior

The SCU shall specify in the Requested SOP Instance UID parameter of the N-ACTION request primitive the UID of the General Purpose Scheduled Procedure Step SOP Instance for which it wants to modify Action Information, as specified in Table F.10.2-1.

Note: In the usage described here, there is no explicit creation of a SOP Instance upon which an N-ACTION primitive may operate. Instead, the N-ACTION primitive operates upon a SOP Instance previously created by the SCP. The SCU will retrieve the value for the SOP Instance UID by means of the General Purpose Worklist C-FIND service.

The SCU shall specify the requested value for the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) in the Action Information.

The encoding rules for General Purpose Scheduled Procedure Step Action Information are specified in the N-ACTION request primitive specification in PS 3.7

The SCU shall not send N-ACTION request primitives for a General Purpose Scheduled Procedure Step SOP Instance when the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) of that SOP Instance is "COMPLETED" or "DISCONTINUED".

The SCU shall supply a "Transaction UID" Attribute (0008,1195) to identify the Modify GP-SPS Information Request that requests a modification of the value of the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) to "IN PROGRESS". The same Transaction UID shall be used to request a modification of the status from "IN PROGRESS" to: "SUSPENDED", "SCHEDULED", "COMPLETED" or "DISCONTINUED". Once the status has any other value than "IN PROGRESS" this Transaction UID shall no longer be used.

Note: This "Transaction UID" Attribute (0008,1195) is used to identify the single transition into the "IN PROGRESS" state, not the ownership of the General Purpose Procedure Step SOP Instance.

F.10.2.1.3 Service Class Provider Behavior

The N-ACTION operation allows the SCU to request that the SCP update selected Attribute values for a specific General Purpose Scheduled Procedure Step SOP Instance. This operation shall be invoked through the use of the DIMSE N-ACTION Service used in conjunction with the appropriate General Purpose Scheduled Procedure Step SOP Instance.

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

The SCP shall accept N-ACTION request primitives for a SOP Instance only if the value of the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) of that SOP Instance is "SCHEDULED" or "SUSPENDED" or "IN PROGRESS". If the General Purpose Scheduled Procedure Step Status attribute has a value of "COMPLETED" or "DISCONTINUED", the SCP shall send the failure status code as specified in Section F.10.2.1.4.

When the value of the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) of the SOP Instance is "IN PROGRESS", the SCP shall accept N-ACTION request primitives only if the Transaction UID of the request primitive equals the Transaction UID of the request primitive which has successfully requested the modification of the value of this Attribute to "IN PROGRESS". If another value is used, the SCP shall send the failure status code as specified in Section F.10.2.1.4.

F.10.2.1.4 Status Codes

The status values which are specific for this SOP Class are defined in Table F.10.2-2.

Table F.10.2-2
SOP CLASS STATUS VALUES

Status	Meaning	Code
Success	The requested modification of the attribute value is performed	0000
Failure	Refused because General Purpose Scheduled Procedure Step Object may no longer be updated	A501
	Refused because the wrong Transaction UID is used.	A502
	Refused because the General Purpose Scheduled Procedure Step SOP Instance is already in the "IN PROGRESS" state	A503

F.10.3 General Purpose Scheduled Procedure Step SOP Class UID

The General Purpose Scheduled Procedure Step SOP Class shall be uniquely identified by the General Purpose Scheduled Procedure Step SOP Class UID which shall have the value "1.2.840.10008.5.1.4.32.2".

F.10.4 Conformance Requirements

Implementations providing conformance to the General Purpose Scheduled Procedure Step SOP Class shall be conformant as described in the following sections and shall include within their Conformance Statement information as described below.

An implementation may conform to this SOP Class as an SCU or as an SCP. The Conformance Statement shall be in the format defined in Annex A of PS 3.2.

An implementation which conforms to the General Purpose Scheduled Procedure Step SOP Class shall also support the General Purpose Worklist Management Meta SOP Class.

F.10.4.1 SCU Conformance

An implementation, which is conformant to this SOP Class as an SCU, shall meet conformance requirements for the operations that it invokes.

F.10.4.1.1 Operations

The SCU Conformance Statement shall be formatted as defined in Annex A of PS 3.2.

An implementation, which conforms to this SOP Class as an SCU, shall specify under which conditions during the performance of the real-world Performed Procedure Step it will request the modification of the value of the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) to "IN PROGRESS", "SUSPENDED", "COMPLETED","DISCONTINUED", and "SCHEDULED".

F.10.4.2 SCP Conformance

An implementation which is conformant to this SOP Class as an SCP shall meet conformance requirements for the operations which it performs.

F.10.4.2.1 Operations

The SCP Conformance Statement shall be formatted as defined in Annex A of PS 3.2.

The SCP Conformance Statement shall provide information on the behavior of the SCP (the Workflow Manager) at the following occurrences:

— The creation of a new Instance of the General Purpose Scheduled Procedure Step SOP Class with the status “SCHEDULED". The result of that process on the scheduling

information and on the Attribute Values of the General Purpose Worklist SOP Class shall be specified.

— The conditions for the update of the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001), i.e. the change from the state "DISCONTINUED" to "COMPLETED", or to "SCHEDULED".

— Which Attributes the SCP may update after the state has been set to "IN PROGRESS" or "SUSPENDED" or "DISCONTINUED" or "COMPLETED".

— For how long the General Purpose Scheduled Procedure Step SOP Instance will persist on the SCP, once its state has been set to "COMPLETED" or "DISCONTINUED".

F.11 GENERAL PURPOSE PERFORMED PROCEDURE STEP SOP CLASS

F.11.1 DIMSE Service Group

The DIMSE Services shown in Table F.11.1-1 are applicable to the General Purpose Performed Procedure Step IOD under the General Purpose Performed Procedure Step SOP Class.

Table F.11.1-1
DIMSE SERVICE GROUP

DIMSE Service Element	Usage SCU/SCP
N-CREATE	M/M
N-SET	M/M
N-GET	U/M

The DIMSE Services and Protocols are specified in PS 3.7

F.11.2 Operations

The Application Entity which claims conformance to this SOP Class as an SCU shall be permitted to invoke the following operations and the Application Entity which claims conformance as an SCP shall be capable of providing the following operations.

F.11.2.1 CREATE General Purpose Performed Procedure Step SOP Instance

This operation allows an SCU to create an instance of the General Purpose Performed Procedure Step SOP Class and provide information about a specific real-world Performed Procedure Step that is under control of the SCU. This operation shall be invoked through the DIMSE N-CREATE Service.

Note : Some of the attribute values are already known at the beginning of the General Purpose Performed Procedure Step. They are required to be sent in the N-CREATE command. Other mandatory attributes are known only at the end of the General Purpose Performed Procedure Step. They are assigned a value in the N-SET command.

F.11.2.1.1 General Purpose Performed Procedure Step Subset Specification

The Application Entity which claims conformance to this SOP Class as an SCU must provide all Required Attributes as specified in Table F.11.2-1. Optional Attributes maintained by the SCP may be provided as well. The Application Entity which claims conformance as an SCP to this SOP Class shall support the subset of the General Purpose Performed Procedure Step Attributes specified in Table F.11.2-1.

Table F.11.2-1
GENERAL PURPOSE PERFORMED PROCEDURE STEP SOP CLASS N-CREATE, N-SET AND FINAL STATE ATTRIBUTES

Attribute Name	Tag	Req. Type N-CREATE (SCU/SCP)	Req. Type N-SET (SCU/SCP)	Requirement Type Final State (See Note 1)
Specific Character Set	(0008,0005)	1C/1C (Required if an extended or replacement character set is used)	Not allowed	
General Purpose Performed Procedure Step Relationship				
Referenced Request Sequence	(0040,A370)	2/2	Not allowed	
>Study Instance UID	(0020,000D)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Referenced Study Sequence	(0008,1110)	2C/2 (Required if Sequence Item is present)	Not allowed	
>>Referenced SOP Class UID	(0008,1150)	1C/1 (Required if Sequence Item is present)	Not allowed	
>>Referenced SOP Instance UID	(0008,1155)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Accession Number	(0008,0050)	2C/2 (Required if Sequence Item is present)	Not allowed	
>Requested Procedure Code Sequence	(0032,1064)	2C/2 (Required if Sequence Item is present)	Not allowed	
>>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	
>>Coding Scheme designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	

>Placer Order Number/Imaging Service Request	(0040,2016)	3/3	Not allowed	
>Filler Order Number/Imaging Service Request	(0040,2017)	3/3	Not allowed	
>Requested Procedure ID	(0040,1001)	2C/2 (Required if Sequence Item is present)	Not allowed	
>Requested Procedure Description	(0032,1060)	2C/2 (Required if Sequence Item is present)	Not allowed	
Referenced General Purpose Scheduled Procedure Step Sequence	(0040,4016)	1C/1C Required if related General Purpose Scheduled Procedure Step exists	Not allowed	
>Referenced SOP Class UID	(0008,1150)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Referenced SOP Instance UID	(0008,1155)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Referenced General Purpose Scheduled Procedure Step Transaction UID	0040,4023)	1C/1 (Required if Sequence Item is present)	Not allowed	
Patient's Name	(0010,0010)	2/2	Not allowed	
Patient ID	(0010,0020)	2/2	Not allowed	
Patient's Birth Date	(0010,0030)	2/2	Not allowed	
Patient's Sex	(0010,0040)	2/2	Not allowed	
General Purpose Performed Procedure Step Information				
Actual Human Performers Sequence	(0040,4035)	2/2	Not allowed	
>Human Performer Code Sequence	(0040,4009)	1C/1 (Required if Sequence Item is present)	Not allowed	
>>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	

>>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Human Performer's Name	(0040,4037)	3/3	Not allowed	
>Human Performer's Organization	(0040,4036)	3/3	Not allowed	
Performed Procedure Step ID	(0040,0253)	1/1	Not allowed	
Performed Station Name Code Sequence	(0040,4028)	2/2	Not allowed	
>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	
Performed Station Class Code Sequence	(0040,4029)	2/2	Not allowed	
>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	

Performed Station Geographic Location Code Sequence	(0040,4030)	2/2	Not allowed	
>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	
Performed Processing Applications Code Sequence	(0040,4007)	2/2	Not Allowed	
>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	
Performed Procedure Step Start Date	(0040,0244)	1/1	Not allowed	
Performed Procedure Step Start Time	(0040,0245)	1/1	Not allowed	
General Purpose Performed Procedure Step Status	(0040,4002)	1/1	3/1	
Performed Procedure Step Description	(0040,0254)	2/2	3/2	
Comments on the Performed Procedure Step	(0040,0280)	3/3	3/3	
Performed Workitem Code Sequence	(0040,4019)	2/2	Not allowed	

>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	Not allowed	
>Coding Scheme Version	(0008,0103)	3/3	Not allowed	
>Code Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	Not allowed	
Performed Procedure Step End Date	(0040,0250)	2/2	3/1	1
Performed Procedure Step End Time	(0040,0251)	2/2	3/1	1
General Purpose Results				
Output Information Sequence	(0040,4033)	2/2	2/2	See F.11.2.2.2.
>Study Instance UID	(0020,000D)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>Referenced Series Sequence	(0008,1115)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>>Series Instance UID	(0020,000E)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>>Retrieve AE Title	(0008,0054)	2C/2 (Required if Sequence Item is present and Storage Media File-Set ID (0088,0130) or Storage Media File-Set UID (0088,0140) is not present)	2C/2 (Required if Sequence Item is present and Storage Media File-Set ID (0088,0130) or Storage Media File-Set UID (0088,0140) is not present)	
>>Storage Media File-Set ID	(0088,0130)	2C/2 (Required if Sequence Item is present and Retrieve AE Title (0008,0054) is not present)	2C/2 (Required if Sequence Item is present and Retrieve AE Title (0008,0054) is not present)	

>>Storage Media File-Set UID	(0088,0140)	2C/2 (Required if Sequence Item is present and Retrieve AE Title (0008,0054) is not present)	2C/2 (Required if Sequence Item is present and Retrieve AE Title (0008,0054) is not present)	
>>Referenced SOP Sequence	(0008,1199)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>>>Referenced SOP Class UID	(0008,1150)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>>>Referenced SOP Instance UID	(0008,1155)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
Requested Subsequent Workitem Code Sequence	(0040,4031)	2/2	2/2	
>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>Coding Scheme Version	(0008,0103)	3/3	3/3	
>Coding Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
Non-DICOM outputCode Sequence	(0040,4032)	2/2	2/2	
>Code Value	(0008,0100)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>Coding Scheme Designator	(0008,0102)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	
>Coding Scheme Version	(0008,0103)	3/3	3/3	

>Coding Meaning	(0008,0104)	1C/1 (Required if Sequence Item is present)	1C/1 (Required if Sequence Item is present)	

Notes: 1. The requirement for the final state is that which applies at the time that the General Purpose Performed Procedure Step Status (0040,4002) is N-SET to a value of COMPLETED or DISCONTINUED, as described in F.11.2.2.2. It is only described if it is different from the SCP requirement for the N-CREATE.

F.11.2.1.2 Service Class User

The SCU shall specify in the N-CREATE request primitive the SOP Class and SOP Instance UIDs of the General Purpose Performed Procedure Step SOP Instance which is created and for which Attribute Values are to be provided.

The SCU shall provide Attribute values for the General Purpose Performed Procedure Step SOP Class Attributes as specified in Table F.11.2-1. Additionally, values may be provided for optional General Purpose Performed Procedure Step IOD Attributes that are supported by the SCP. The encoding rules for General Purpose Performed Procedure Step Attributes are specified in the N-CREATE request primitive specification in PS 3.7.

The SCU shall be capable of providing all required Attribute values to the SCP in the N-CREATE request primitive. The SCU may provide Attribute values for optional Attributes which are not maintained by the SCP. In such case the SCU shall function properly regardless of whether the SCP accepts values for those Attributes or not.

All Attributes shall be created before they can be set. Sequence Attributes shall be created before they can be filled. Sequence Item Attributes shall not be created at zero length.

Note: Not all the attributes that can be created can be set afterwards (see Table F.11.2-1).

The SCU shall only send the N-CREATE request primitive with the value for the Attribute “General Purpose Performed Procedure Step Status” (0040,4002) set to “IN PROGRESS”.

F.11.2.1.3 Service Class Provider

The N-CREATE operation allows the SCU to provide to the SCP selected Attribute values for a specific General Purpose 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 General Purpose 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 "General Purpose Performed Procedure Step Status" (0040,4002) is "IN PROGRESS". If the General Purpose Performed Procedure Step Status attribute has another value, the SCP shall set the failure status code "Invalid attribute value" (Code: 0106H) with an Attribute List.

If the General Purpose Performed Procedure Step SOP Instance is related to a general Purpose Scheduled Procedure Step SOP Instance, then the SCP shall accept N-CREATE request primitives only if the value of the Attribute "General Purpose Scheduled Procedure Step Status" (0040,4001) has the value "IN PROGRESS". If the General Purpose Scheduled Procedure Step Status attribute has another value, the SCP shall send the failure status code as specified in Section F.11.2.1.4.

If a Referenced General Purpose Scheduled Procedure Step Sequence (0040,4016) item is present in the N-CREATE request, then the Referenced General Purpose Scheduled Procedure Step Transaction UID (0040,4023) contained therein shall be the same as the Transaction UID

(0008,1195) that identifies the transaction of the General Purpose Scheduled Procedure Step Status (0040,4001) to "IN PROGRESS". If the Transaction UIDs do not match, the SCP shall send the failure status code as specified in Section F.11.2.1.4.

Note: In the unscheduled case no related General Purpose Scheduled Procedure Step exists, so the rules for the Transaction UID do not apply.

If a Referenced General Purpose Scheduled Procedure Step Sequence (0040,4016) item is present in the N-CREATE request, the SCP shall update the Attribute Resulting General Purpose Performed Procedure Steps Sequence (0040,4015) in the identified General Purpose Scheduled Procedure Step SOP Instance.

F.11.2.1.4 Status Codes

The status values which are specific for this SOP Class are defined in Table F.11.2-2.

Table F.11.2-2
SOP CLASS STATUS VALUES

Status	Meaning	Code
Failure	Refused because the related General Purpose Scheduled Procedure Step SOP Instance is not in the "IN PROGRESS" state.	A504
	Refused because Referenced General Purpose Scheduled Procedure Step Transaction UID does not match the Transaction UID of the N-ACTION request.	A505

F.11.2.2 SET General Purpose Performed Procedure Step Information

This operation allows an SCU to set Attribute Values of an instance of the General Purpose Performed Procedure Step SOP Class and provide information about a specific real-world General Purpose Performed Procedure Step that is under control of the SCU. This operation shall be invoked through the DIMSE N-SET Service.

F.11.2.2.1 General Purpose Performed Procedure Step IOD Subset Specification

The Application Entity which claims conformance to this SOP Class as an SCU may choose to modify a subset of the Attributes maintained by the SCP. The Application Entity which claims conformance as an SCP to this SOP Class shall support the subset of the General Purpose Performed Procedure Step Attributes specified in Table F.11.2-1.

The character set used for Attribute Values updated using the N-SET shall be the same as that specified by the N-CREATE Request Primitive.

F.11.2.2.2 Service Class User

The SCU shall specify in the N-SET request primitive the UID of the General Purpose Performed Procedure Step SOP Instance for which it wants to set Attribute Values.

The SCU shall be permitted to set Attribute values for any General Purpose Performed Procedure Step SOP Class Attribute specified in Table F.11.2-1. The SCU shall specify the list of General Purpose Performed Procedure Step SOP Class Attributes for which it wants to set the Attribute Values. The SCU shall provide, with one or more N-SET request primitives, the attribute values specified in Table F.11.2-1. The encoding rules for General Purpose Performed Procedure Step

Attributes are specified in the N-SET request primitive specification in PS 3.7. The SCU shall only set Attribute Values which are already created with an N-CREATE request.

The SCU shall not send N-SET request primitives for a General Purpose Performed Procedure Step SOP Instance after a N-SET request primitive with a value for the attribute "General Purpose Performed Procedure Step Status" (0040,4002) is "COMPLETED" or “DISCONTINUED” has been sent.

Once the General Purpose Performed Procedure Step Status (0040,4002) has been set to "COMPLETED" or “DISCONTINUED” the SCU shall no longer modify the General Purpose Performed Procedure Step SOP Instance, and shall not create new Composite SOP Instances as part of the same General Purpose Performed Procedure Step SOP Instance.

If Sequences are included in a N-SET command, all Items of a Sequence are to be included in the command and not only the Items to be updated.

Before or when General Purpose Performed Procedure Step Status (0040,4002) is set to "COMPLETED" or “DISCONTINUED” the SCU shall have created or set all the Attributes according to the requirements in the Final State column of Table F.11.2-1.

Before or when General Purpose Performed Procedure Step Status (0040,4002) is set to "COMPLETED" or “DISCONTINUED” the SCU shall have sent to the SCP a list of all Composite SOP Instances created during the Procedure Step in Output Information Sequence (0040,4033).

Note: The intent is that a completed or discontinued General Purpose Performed Procedure Step entity will contain a complete list of all the Composite Instances that were created.

The General Purpose Performed Procedure Step Status (0040,4002) shall not be set to "COMPLETED" or “DISCONTINUED” if the list contains no Composite Instance references, unless no such Instances were created.

F.11.2.2.3 Service Class Provider

The N-SET operation allows the SCU to request that the SCP update selected Attribute values for a specific General Purpose 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 General Purpose Performed Procedure Step SOP Instance.

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 "General Purpose Performed Procedure Step Status" (0040,4002) is "IN PROGRESS". If the already existing General Purpose Performed Procedure Step Status attribute has another value, the SCP shall send the failure status code as specified in Section F.11.2.2.4.

The SCP may itself modify any Attributes of the General Purpose Performed Procedure Step SOP Instance only after the "General Purpose Performed Procedure Step Status" (0040,4002) has been set to “COMPLETED” or “DISCONTINUED”, or when error conditions require such a modification.

Note: Under exceptional circumstances, it may be necessary for the SCP to itself set the Performed Procedure Step Status (0040,0252) to COMPLETED or DISCONTINUED, for example if the performing device has failed. When the SCU recovers, subsequent N-SETs may fail.

F.11.2.2.4 Status Codes

The status values which are specific for this SOP Class are defined in Table F.11.2-3.

Table F.11.2-3
SOP CLASS STATUS VALUES

Status	Meaning	Code
Failure	Refused because the General Purpose Performed Procedure Step SOP Instance is not in the "IN PROGRESS" state	A506

F.11.2.3 GET General Purpose Performed Procedure Step Information

This operation allows an SCU to get information about a specific real-world Performed Procedure Step which is represented as a General Purpose Performed Procedure Step SOP Instance by a General Purpose Performed Procedure Step SCP. The operation is performed on a General Purpose Performed Procedure Step IOD. This operation shall be invoked through the DIMSE N-GET Service used in conjunction with the appropriate General Purpose Performed Procedure Step SOP Instance.

F.11.2.3.1 General Purpose Performed Procedure Step IOD Subset Specifications

The Application Entity which claims conformance to this SOP Class as an SCU may choose to interpret the Attribute values maintained by the SCP which the SCU receives via the operation of this SOP Class. The Application Entity which claims conformance as an SCP to this General Purpose Performed Procedure Step SOP Class shall support the subset of the General Purpose Performed Procedure Step Attributes specified in Table F.11.2-3.

Table F.11.2-3
GENERAL PURPOSE PERFORMED PROCEDURE STEP SOP CLASS N-GET ATTRIBUTES

Attribute Name	Tag	Requirement Type (SCU/SCP)
Specific Character Set	(0008,0005)	3/1C (Required if an extended or replacement character set is used)
General Purpose Performed Procedure Step Relationship		
Referenced Request Sequence	(0040,A370)	3/2
>Study Instance UID	(0020,000D)	-/1
>Referenced Study Sequence	(0008,1110)	-/2
>>Referenced SOP Class UID	(0008,1150)	-/1
>>Referenced SOP Instance UID	(0008,1155)	-/1
>Accession Number	(0008,0050)	-/2
>Requested Procedure Code Sequence	(0032,1064)	-/2
>>Code Value	(0008,0100)	-/1
>>Coding Scheme Designator	(0008,0102)	-/1
>>Coding Scheme Version	(0008,0103)	-/3
>>Code Meaning	(0008,0104)	-/1
>Placer Order Number/Imaging Service Request	(0040,2016)	-/3
>Filler Order Number/Imaging Service Request	(0040,2017)	-/3
>Requested Procedure ID	(0040,1001)	-/2

>Requested Procedure Description	(0032,1060)	-/2
Referenced General Purpose Scheduled Procedure Step Sequence	(0040,4016)	3/2
>Referenced SOP Class UID	(0008,1150)	-/1
>Referenced SOP Instance UID	(0008,1155)	-/1
>Referenced General Purpose Scheduled Procedure Step Transaction UID	(0040,4023)	-/1
Patient's Name	(0010,0010)	3/2
Patient ID	(0010,0020)	3/2
Patient's Birth Date	(0010,0030)	3/2
Patient's Sex	(0010,0040)	3/2
General Purpose Performed Procedure Step Information		
Actual Human Performers Sequence	(0040,4035)	-/2
>Human Performer Code Sequence	(0040,4009)	-/1
>>Code Value	(0008,0100)	-/1
>>Coding Scheme Designator	(0008,0102)	-/1
>>Coding Scheme Version	(0008,0103)	-/3
>>Code Meaning	(0008,0104)	-/1
>Human Performer's Name	(0040,4037)	-/3
>Human Performer's Organization	(0040,4036)	-/3
Performed Procedure Step ID	(0040,0253)	3/1
Performed Station Name Code Sequence	(0040,4028)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3
>Code Meaning	(0008,0104)	-/1
Performed Station Class Code Sequence	(0040,4029)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3
>Code Meaning	(0008,0104)	-/1
Performed Station Geographic Location Code Sequence	(0040,4030)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3

>Code Meaning	(0008,0104)	-/1
Performed Processing Applications Code Sequence	(0040,4007)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3
>Code Meaning	(0008,0104)	-/1
Performed Procedure Step Start Date	(0040,0244)	3/1
Performed Procedure Step Start Time	(0040,0245)	3/1
General Purpose Performed Procedure Step Status	(0040,4002)	3/1
Performed Procedure Step Description	(0040,0254)	3/2
Comments on the Performed Procedure Step	(0040,0280)	3/3
Performed Workitem Code Sequence	(0040,4019)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3
>Code Meaning	(0008,0104)	-/1
Performed Procedure Step End Date	(0040,0250)	3/2
Performed Procedure Step End Time	(0040,0251)	3/2
General Purpose Results		
Output Information Sequence	(0040,4033)	-/2
>Study Instance UID	(0020,000D)	-/1
>Referenced Series Sequence	(0008,1115)	-/1
>>Series Instance UID	(0020,000E)	-/1
>>Retrieve AE Title	(0008,0054)	-/2C Shall not be present if Storage Media File-Set ID (0088,0130) or Storage Media File-Set UID (0088,0140) is present.
>>Storage Media File-Set ID	(0088,0130)	-/2C Shall not be present if Retrieve AE Title (0008,0054) is present.
>>Storage Media File-Set UID	(0088,0140)	-/2C Shall not be present if Retrieve AE Title (0008,0054) is present.
>>Referenced SOP Sequence	(0008,1199)	-/1
>>>Referenced SOP Class UID	(0008,1150)	-/1
>>>Referenced SOP Instance UID	(0008,1155)	-/1

Requested Subsequent Workitem Code Sequence	(0040,4031)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3
>Code Meaning	(0008,0104)	-/1
Non-DICOM output Code Sequence	(0040,4032)	3/2
>Code Value	(0008,0100)	-/1
>Coding Scheme Designator	(0008,0102)	-/1
>Coding Scheme Version	(0008,0103)	-/3
>Code Meaning	(0008,0104)	-/1

F.11.2.3.2 Service Class User

The SCU uses the N-GET Service Element to request the SCP to get a General Purpose Performed Procedure Step SOP Instance. The SCU shall specify the UID of the SOP Instance to be retrieved. The SCU shall be permitted to request that Attribute Values be returned for any General Purpose Performed Procedure Step SOP Class Attribute specified in Table F.11.2-3. Additionally values may be requested for optional General Purpose Performed Procedure Step IOD Attributes.

The SCU shall specify the list of General Purpose Performed Procedure Step SOP Class Attributes for which values are to be returned. The encoding rules for General Purpose Performed Procedure Step Attributes are specified in the N-GET request primitive specification in PS 3.7.

In an N-GET operation, the values of Attributes which are defined within a Sequence of Items shall not be requested by an SCU.

The SCU shall be capable of receiving all requested Attribute Values provided by the SCP in response to the N-GET indication primitive. The SCU may request Attribute Values for optional Attributes which are not maintained by the SCP. In such a case, the SCU shall function properly regardless of whether the SCP returns values for those Attributes or not. This Service Class Specification places no requirements on what the SCU shall do as a result of receiving this information.

Note: In order to accurately interpret the character set used for the Attribute Values returned, it is recommended that the Attribute Value for the Specific Character Set (0008,0005) be requested in the N-GET request primitive.

F.11.2.3.3 Service Class Provider

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

F.11.2.3.4 Status Codes

The status values which are specific for this SOP Class and DIMSE Service are defined in Table F.11.2-4. See PS 3.7 for additional response status codes.

Table F.11.2-4
N-GET STATUS

Service Status	Further Meaning	Response Status Code
Warning	Requested optional Attributes are not supported	0001

F.11.3 General Purpose Performed Procedure Step SOP Class UID

The General Purpose Performed Procedure Step SOP Class shall be uniquely identified by the General Purpose Performed Procedure Step SOP Class UID which shall have the value "1.2.840.10008.5.1.4.32.3".

F.11.4 Conformance Requirements

Implementations providing conformance to the General Purpose Performed Procedure Step SOP Class shall be conformant as described in the following sections and shall include within their Conformance Statement information as described below.

An implementation may conform to this SOP Class as an SCU or as an SCP. The Conformance Statement shall be in the format defined in Annex A of PS 3.2.

An implementation which conforms to the General Purpose Performed Procedure Step SOP Class shall also support the General Purpose Worklist Management Meta SOP Class.

F.11.4.1 SCU Conformance

An implementation which is conformant to this SOP Class as an SCU shall meet conformance requirements for the operations which it invokes.

F.11.4.1.1 Operations

Any Attributes for which Attribute Values may be provided (using the N-CREATE Service) by the SCU shall be enumerated in the SCU Conformance Statement. The SCU Conformance Statement shall be formatted as defined in Annex A of PS 3.2.

Any Attributes for which Attribute Values may be provided (using the N-SET Service) by the SCU shall be enumerated in the SCU Conformance Statement.

An implementation which conforms to this SOP Class as an SCU shall specify under which conditions during the performance of the real-world Performed Procedure Step it will create the SOP Class Instance and under which conditions it will set the General Purpose Performed Procedure Step Status (0040,4002) value to COMPLETED and DISCONTINUED.

Any Attributes for which Attribute Values may be requested (using the N-GET Service) by the SCU shall be enumerated in the SCU Conformance Statement.

F.11.4.2 SCP Conformance

An implementation which is conformant to this SOP Class as an SCP shall meet conformance requirements for the operations which it performs.

F.11.4.2.1 Operations

Any Attributes for which Attribute Values may be provided (using the N-CREATE Service) by the SCU shall be enumerated in the SCP Conformance Statement. The SCP Conformance Statement shall be formatted as defined in Annex A of PS 3.2.

Any Attributes for which Attribute Values may be updated (using the N-SET Service) by the SCU shall be enumerated in the SCP Conformance Statement.

Any Attributes for which Attribute Values may be requested (using the N-GET Service) by the SCU shall be enumerated in the SCP Conformance Statement.

The SCP Conformance Statement shall also provide information on the behavior of the SCP (the Information System) at the following occurrences:

- The creation of a new Instance of the General Purpose Performed Procedure Step SOP Class with the status "IN PROGRESS". The result of that process on the scheduling information and on the attributes values of the General Purpose Worklist SOP Class shall be specified.
- The update of the Attribute "Performed Procedure Step Status", i.e. the change from the state "IN PROGRESS" to "DISCONTINUED" or to "COMPLETED".
- Which Attributes the SCP may coerce after the state has been set to "IN PROGRESS" or "DISCONTINUED" or to "COMPLETED".
- For how long the General Purpose Performed Procedure Step SOP Instance will persist on the SCP.

Part 6 Addendum

Item #18
Add the following Data Elements to Part 6 Section 6:

Tag	Name	VR	VM
(0040,4001)	General Purpose Scheduled Procedure Step Status	CS	1
(0040,4002)	General Purpose Performed Procedure Step Status	CS	1
(0040,4003)	General Purpose Scheduled Procedure Step Priority	CS	1
(0040,4004)	Scheduled Processing Applications Code Sequence	SQ	1
(0040,4005)	Scheduled Procedure Step Start Date and Time	DT	1
(0040,4006)	Multiple Copies Flag	CS	1
(0040,4007)	Performed Processing Applications Code Sequence	SQ	1
(0040,4009)	Human Performer Code Sequence	SQ	1
(0040,4011)	Expected Completion Date and Time	DT	1
(0040,4015)	Resulting General Purpose Performed Procedure Steps Sequence	SQ	1
(0040,4016)	Referenced General Purpose Scheduled Procedure Step Sequence	SQ	1
(0040,4018)	Scheduled Workitem Code Sequence	SQ	1
(0040,4019)	Performed Workitem Code Sequence	SQ	1
(0040,4020)	Input Availability Flag	CS	1
(0040,4021)	Input InformationSequence	SQ	1
(0040,4022)	Relevant Information Sequence	SQ	1
(0040,4023)	Referenced General Purpose Scheduled Procedure Step Transaction UID	UI	1
(0040,4025)	Scheduled Station Name Code Sequence	SQ	1

(0040,4026)	Scheduled Station Class Code Sequence	SQ	1
(0040,4027)	Scheduled Station Geographic Location Code Sequence	SQ	1
(0040,4028)	Performed Station Name Code Sequence	SQ	1
(0040,4029)	Performed Station Class Code Sequence	SQ	1
(0040,4030)	Performed Station Geographic Location Code Sequence	SQ	1
(0040,4031)	Requested Subsequent Workitem Code Sequence	SQ	1
(0040,4032)	Non-DICOM Output Code Sequence	SQ	1
(0040,4033)	Output Information Sequence	SQ	1
(0040,4034)	Scheduled Human Performers Sequence	SQ	1
(0040,4035)	Actual Human Performers Sequence	SQ	1
(0040,4036)	Human Performer's Organization	LO	1
(0040,4037)	Human Performer's Name	PN	1

Item #19
Add the following UID to Part 6 Annex A:

UID Value	UID Name	UID Type	Part
1.2.840.10008.5.1.4.32.1	General Purpose Worklist Information Model - FIND	SOP Class	Part 4
1.2.840.10008.5.1.4.32.2	General Purpose Scheduled Procedure Step SOP Class	SOP Class	Part 4
1.2.840.10008.5.1.4.32.3	General Purpose Performed Procedure Step SOP Class	SOP Class	Part 4
1.2.840.10008.5.1.4.32	General Purpose Worklist Management Meta SOP Class	Meta SOP Class	Part 4