**Dicom Correction Item**

- **Correction Number**: CP-870
- **Log Summary**: Add Hanging Protocol Information Model – GET SOP Class
- **Type of Modification**: Addition
- **Name of Standard**: PS 3.4, 3.6, 3.17 - 2008
- **Rationale for Correction**: Retrieve of HP Instances by C-GET facilitates access through firewalls and outperforms retrieve by C-MOVE (initiation time of the TCP connection for C-STORE sub-operations becomes significant compared to the transfer time of relative small HP instances)
- **Sections of documents affected**
  - PS 3.6 Annex A
  - PS 3.17 Annex V

**Correction Wording:**

**Add C-GET in Part 4 Annex U.1.4**

**U.1.4 Service Definition**

Two peer DICOM AEs implement a SOP Class of the Hanging Protocol Query/Retrieve Service Class with one serving in the SCU role and one serving in the SCP role. SOP Classes of the Hanging Protocol Query/Retrieve Service Class are implemented using the DIMSE-C C-FIND, **and C-MOVE and C-GET** services as defined in PS 3.7.

The semantics of the C-FIND service are the same as those defined in the Service Definition of the Basic Worklist Management Service Class.

The semantics of the C-MOVE and **C-GET** services are the same as those defined in the Service Definition of the Query/Retrieve Service Class, with the exception that there is only one level of retrieval.

**Add C-GET in Part 4 Annex U.4**

**U.4 DIMSE-C Service groups**

**U.4.1 C-FIND Operation**

See the C-FIND Operation definition for the Basic Worklist Management Service Class (K.4.1), and substitute “Hanging Protocol” for “Worklist. The “Worklist” Search Method shall be used.

**U.4.2 C-MOVE Operation**

See the C-MOVE Operation definition for the Query/Retrieve Service Class (C.4.2). No Extended Behavior or Relational-Retrieve is defined for the Hanging Protocol Query/Retrieve Service Class.
Query/Retrieve Level (0008,0052) is not relevant to the Hanging Protocol Query/Retrieve Service Class, and therefore shall not be present in the Identifier. The only Unique Key Attribute of the Identifier shall be SOP Instance UID (0008,0018). The SCU shall supply one UID or a list of UIDs.

Note: More than one entity may be retrieved, using List of UID matching.

**U.4.3 C-GET Operation**

See the C-GET Operation definition for the Query/Retrieve Service Class (C.4.3). No Extended Behavior or Relational-Retrieve is defined for the Hanging Protocol Query/Retrieve Service Class.

Query/Retrieve Level (0008,0052) is not relevant to the Hanging Protocol Query/Retrieve Service Class, and therefore shall not be present in the Identifier. The only Unique Key Attribute of the Identifier shall be SOP Instance UID (0008,0018). The SCU shall supply one UID or a list of UIDs.

Note: More than one entity may be retrieved, using List of UID matching.

Add C-GET in Part 4 Annex U.6.1.3

**U.6.1.3 Conformance Requirements**

An implementation may conform to one of the Hanging Protocol Information Model SOP Classes as an SCU, SCP or both. The Conformance Statement shall be in the format defined in PS 3.2.

**U.6.1.3.1 SCU Conformance**

**U.6.1.3.1.1 C-FIND SCU Conformance**

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes shall support queries against the Hanging Protocol Information Model using the C-FIND SCU Behavior described for the Basic Worklist Management Service Class (see K.4.1.2 and U.4.1).

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCU shall state in its Conformance Statement whether it requests Type 3 Return Key Attributes, and shall list these Optional Return Key Attributes.

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCU shall state in its Conformance Statement how it makes use of Specific Character Set (0008,0005) when encoding queries and interpreting responses.

**U.6.1.3.1.2 C-MOVE SCU Conformance**

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCU shall support transfers against the Hanging Protocol Information Model using the C-MOVE SCU baseline behavior described for the Query/Retrieve Service Class (see C.4.2.2.1 and U.4.2).

**U.6.1.3.1.3 C-GET SCU Conformance**

An implementation that conforms to the Hanging Protocol Information Model – GET SOP Class as an SCU shall support transfers against the Hanging Protocol Information Model using the C-GET SCU baseline behavior described for the Query/Retrieve Service Class (see C.4.3.2.1 and U.4.3).

**U.6.1.3.2 SCP Conformance**

**U.6.1.3.2.1 C-FIND SCP Conformance**

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCP shall support queries against the Hanging Protocol Information Model using the C-FIND SCP Behavior described for the Basic Worklist Management Service Class (see K.4.1.3).

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCP shall state in its Conformance Statement whether it supports Type 3 Return Key Attributes, and shall list these Optional Return Key Attributes.
An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCP shall state in its Conformance Statement how it makes use of Specific Character Set (0008,0005) when interpreting queries, performing matching and encoding responses.

U.6.1.3.2.2 C-MOVE SCP Conformance

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCP shall support transfers against the Hanging Protocol Information Model using the C-MOVE SCP baseline behavior described for the Query/Retrieve Service Class (see C.4.2.3.1).

An implementation that conforms to one of the Hanging Protocol Information Model SOP Classes as an SCP, which generates transfers using the C-MOVE operation, shall state in its Conformance Statement the Hanging Protocol Storage Service Class SOP Class under which it will support the C-STORE sub-operations generated by the C-MOVE.

U.6.1.3.2.3 C-GET SCP Conformance

An implementation that conforms to the Hanging Protocol Information Model – GET SOP Class as an SCP shall support transfers against the Hanging Protocol Information Model using the C-GET SCP baseline behavior described for the Query/Retrieve Service Class (see C.4.3.3.1).

An implementation that conforms to the Hanging Protocol Information Model – GET SOP Class as an SCP, which generates transfers using the C-GET operation, shall state in its Conformance Statement the Hanging Protocol Storage Service Class SOP Class under which it will support the C-STORE sub-operations generated by the C-GET.

U.6.1.4 SOP Classes

The SOP Classes of the Hanging Protocol Information Model in the Hanging Protocol Query/Retrieve Service Class identify the Hanging Protocol Information Model, and the DIMSE-C operations supported. The following Standard SOP Classes are identified:

<table>
<thead>
<tr>
<th>SOP Class Name</th>
<th>SOP Class UID</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hanging Protocol Information Model - FIND</td>
<td>1.2.840.10008.5.1.4.38.2</td>
</tr>
<tr>
<td>Hanging Protocol Information Model - MOVE</td>
<td>1.2.840.10008.5.1.4.38.3</td>
</tr>
<tr>
<td><strong>Hanging Protocol Information Model - GET</strong></td>
<td><strong>1.2.840.10008.5.1.4.38.4</strong></td>
</tr>
</tbody>
</table>

Add the following UID to Part 6 Annex A Registry of DICOM Unique Identifiers (UID):

<table>
<thead>
<tr>
<th>UID Value</th>
<th>UID Name</th>
<th>UID Type</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.840.10008.5.1.4.38.1</td>
<td>Hanging Protocol Storage</td>
<td>SOP Class</td>
<td>PS 3.4</td>
</tr>
<tr>
<td>1.2.840.10008.5.1.4.38.2</td>
<td>Hanging Protocol Information Model – FIND</td>
<td>SOP Class</td>
<td>PS 3.4</td>
</tr>
<tr>
<td>1.2.840.10008.5.1.4.38.3</td>
<td>Hanging Protocol Information Model – MOVE</td>
<td>SOP Class</td>
<td>PS 3.4</td>
</tr>
<tr>
<td><strong>1.2.840.10008.5.1.4.38.4</strong></td>
<td><strong>Hanging Protocol Information Model – GET</strong></td>
<td>SOP Class</td>
<td><strong>PS 3.4</strong></td>
</tr>
</tbody>
</table>

Add C-GET to Part 17 Annex V
Annex V Hanging Protocols (Informative)

The Hanging Protocol Composite IOD contains information about user viewing preferences, related to image display station (workstation) capabilities. The associated Service Classes support the storage (C-STORE), query (C-FIND) and retrieve (C-MOVE and C-GET) of Hanging Protocol Instances between servers and workstations. The goal is for users to be able to conveniently define their preferred methods of presentation and interaction for different types of viewing circumstances once, and then to automatically layout image sets according to the users’ preferences on workstations of similar capability.