

DICOM Correction Item

Correction Number	CP-601
Log Summary: Add extended negotiation for query matching behavior	
Type of Modification	Name of Standard
Addition	PS 3.4 2006 + CP 620
Rationale for Correction	
<p>Several aspects of matching during queries are either left unspecified, or are explicitly specified but are not terribly useful. In particular, range matching of paired date and time attributes (which is explicitly supported for worklist queries), is not useful in composite queries since they are required to be matched independently, and person name matching is required to be literal (though case insensitivity is permitted), which strictly speaking prevents the use of more flexible phonetic and similar “fuzzy” semantic matching schemes.</p> <p>It is proposed that extended negotiation be extended to allow for the explicit specification of additional forms of matching.</p> <p>The capability to negotiate and perform fuzzy semantic name matching is added for worklists also.</p>	
Sections of documents affected	
PS 3.4 C.2.2.2, C.5.1, C.6.2.2, K.1.4, K.2.2.2, K.5, K.6	
Correction Wording:	

Amend Section C.2.2.2:

C.2.2.2 Attribute Matching

The following types of matching may be performed on Key Attributes in the Query/Retrieve Service Class:

- Single Value Matching
- List of UID Matching
- Universal Matching
- Wild Card Matching
- Range Matching
- Sequence Matching

Matching requires special characters (i.e. “*”, “?”, “-”, and “\”) which need not be part of the character repertoire for the VR of the Key Attributes.

- Notes:
1. For example, the “-” character is not valid for the DA, DT and TM Vrs but is used for range matching.
 2. When character sets other than the default character repertoire are used, then the rules in PS 3.5 apply, such as with respect to the use of the 05/12 “\” (BACKSLASH) (in ISO IR 6) or 05/12 “¥” (YEN SIGN) (in ISO IR 14).

The total length of the Key Attribute may exceed the length as specified in the VR in PS 3.5. The Value Multiplicity (VM) may be larger than the VM specified in PS 3.6 for the Key Attribute, as defined for particular Matching Type.

The Specific Character Set (0008,0005) Attribute may be present in the Identifier but is never matched. Rather, it specifies how other Attributes are encoded in the Request and Response Identifiers.

It may influence how matching of other Attributes is performed. If Specific Character Set (0008,0005) is absent, then the default character repertoire shall be used. Specific Character Set (0008,0005) shall not have a zero length value.

Specific Character Set (0008,0005) may have multiple values if escape sequences are used to switch between character repertoires within values.

If the SCP does not support the value(s) of Specific Character Set (0008,0005) in the Request Identifier, then the manner in which matching is performed is undefined and shall be specified in the conformance statement.

Note: If an SCU sends a Request Identifier with a single byte character set not supported by the SCP, then it is likely, but not required, that the SCP will treat unrecognized characters as wildcards and match only on characters in the default repertoire, and return a response in the default repertoire.

C.2.2.2.1 Single Value Matching

If the value specified for a Key Attribute in a request is non-zero length and if it is:

- a) not a date or time or datetime, contains no wild card characters
- b) a date or time or datetime, contains a single date or time or datetime with no “-“

then single value matching shall be performed. Except for Attributes with a PN Value Representation, only entities with values which match exactly the value specified in the request shall match. This matching is case-sensitive, i.e., sensitive to the exact encoding of the key attribute value in character sets where a letter may have multiple encodings (e.g., based on its case, its position in a word, or whether it is accented).

For Attributes with a PN Value Representation (e.g., Patient Name (0010,0010)), an application may perform **literal** matching that is either case-sensitive, or that is insensitive to some or all aspects of case, position, accent, or other character encoding variants.

If extended negotiation of fuzzy semantic matching rather than literal matching of PN Value Representation is successful, not only may matching be insensitive to case, position, accent, and character encoding, but in addition other techniques such as phonetic matching may be applied.

The manner in which ~~such~~ matching is performed is implementation dependent and shall be specified in the conformance statement.

Notes: 1. This definition implies that dates or times or datetimes are matched by their meaning, not as literal strings. For example:

- the DT “19980128103000.0000” matches “19980128103000”
- the DT “19980128103000” matches “19980128073000-0300”
- the TM “2230” matches “223000”
- the TM “223000” matches the deprecated ACR/NEMA 2.0 form “22:30:00”

— the DA “19980128” matches the deprecated ACR/NEMA 2.0 form “1998.01.28”

2. If an application is concerned about how single value matching of dates and times is performed by another application, it may consider using range matching instead, which is always performed by meaning, with both values in the range the same.
3. Exclusion of the “-” character for single value matching implies that a Key Attribute with DT Value Representation may not contain a negative offset from Universal Coordinated Time (UTC) if single value matching is intended. Use of the “-” character in date, time or datetime indicates range matching.
4. If an application is in a local time zone that has a negative offset then it cannot perform single value matching using a local time notation. Instead, it can convert the Key Attribute value to UTC and use an explicit suffix of “+0000”.
5. Matching of PN Attributes may be accent-insensitive, as specified in the conformance statement. Accent-insensitive matching would successfully match, for instance, a query character “SMALL LETTER a” (06/01 in the default ISO-IR 6) with
 - “SMALL LETTER a WITH GRAVE ACCENT” (14/00 in ISO-IR 100),
 - “SMALL LETTER a WITH TILDE” (14/03 in ISO-IR 100),
 - “SMALL LETTER a WITH BREVE” (14/03 in ISO-IR 101), and
 - “CAPITAL LETTER a WITH ACUTE ACCENT” (12/01 in ISO-IR 100) (if matching is also case-insensitive),

but would not match 14/00 in ISO-IR 101, which is “SMALL LETTER r WITH ACUTE ACCENT”. Matching to particular bit-combinations is specific to each supported character set (note the difference in meaning of 14/00), and should be described in the conformance statement.

6. An SCU application may elect to perform additional filtering of the responses by applying the matching rules itself. In the event that both the SCU and SCP are applying the matching rules, this process will be successful as long as literal matching is performed by both, and any additional SCU filtering is insensitive to case, position, accent, or other character encoding variants.

However if fuzzy semantic matching of PN Attributes has been negotiated, matching by the SCP may result in responses that are not obviously related to the request, hence care should be taken if any additional filtering of responses is performed by the SCU. For example, if phonetic matching is performed, a query for “Swain” might well return “Swayne”, or if name component order insensitive matching is performed, a query for “Smith^Mary” might well return “Mary^Smith” or “Mary Smith” or “Smith, Mary”.

C.2.2.2.2 List of UID Matching

A List of UIDs is encoded by using the value multiplicity operator, backslash (“\”), as a delimiter between UIDs. Each item in the list shall contain a single UID value. Each UID in the list contained in the Identifier of the request may generate a match.

Note: A list of single values is encoded exactly as a VR of UI and a VM of Multiple (see PS 3.5).

C.2.2.2.3 Universal Matching

If the value specified for a Key Attribute in a request is zero length, then all entities shall match this Attribute. An Attribute which contains a Universal Match specification in a C-FIND request provides a mechanism to request the selected Attribute value be returned in corresponding C-FIND responses.

C.2.2.2.4 Wild Card Matching

If the Attribute is not a date, time, signed long, signed short, unsigned short, unsigned long, floating point single, floating point double, other byte string, other word string, unknown, attribute

tag, decimal string, integer string, age string or UID and the value specified in the request contains any occurrence of an "*" or a "?", then "*" shall match any sequence of characters (including a zero length value) and "?" shall match any single character. This matching is case sensitive, except for Attributes with an PN Value Representation (e.g., Patient Name (0010,0010)).

For attributes with a PN value representation, including the case of extended negotiation of fuzzy semantic matching, wild card matching in which case it is implementation dependent and shall be specified in the conformance statement. See PS 3.5 for Value Representations.

- Notes:
1. Wild card matching on a value of "*" is equivalent to universal matching.
 2. The wild card matching method specified by DICOM might not be supported by some non-DICOM multi-byte character text processors.

C.2.2.2.5 Range Matching

In the absence of extended negotiation, if the Attribute is a date, then:

- a) A string of the form "<date1> - <date2>", where <date1> is less or equal to <date2>, shall match all occurrences of dates which fall between <date1> and <date2> inclusive
- b) A string of the form "- <date1>" shall match all occurrences of dates prior to and including <date1>
- c) A string of the form "<date1> -" shall match all occurrences of <date1> and subsequent dates

In the absence of extended negotiation, if the Attribute is a time, then:

- a) A string of the form "<time1> - <time2>", where <time1> is less or equal to <time2>, shall match all occurrences of times which fall between <time1> and <time2> inclusive
- b) A string of the form "- <time1>" shall match all occurrences of times prior to and including <time1>
- c) A string of the form "<time1> -" shall match all occurrences of <time1> and subsequent times

If the Attribute is a datetime, then:

- a) A string of the form "<datetime1> - <datetime2>", where <datetime1> is less or equal to <datetime2>, shall match all moments in time which fall between <datetime1> and <datetime2> inclusive
- b) A string of the form "- <datetime1>" shall match all moments in time prior to and including <datetime1>
- c) A string of the form "<datetime1> -" shall match all moments in time subsequent to and including <datetime1>
- d) The offset from Universal Coordinated Time, if present in the Value of the Attribute, shall be taken into account for the purposes of the match.

If extended negotiation of combined datetime matching is successful, then a pair of Attributes that are a date and a time, both of which specify the same form of range matching, shall have the concatenated string values of each range matching component matched as if they were a single datetime Attribute.

Note: For example, a Study Date of “20060705-20060707” and a Study Time of “1000-1800” will match the time period of July 5, 10am until July 7, 6pm, rather than the three time periods of 10am until 6pm on each of July 5, July 6 and July 7, as would be the case without extended negotiation.

Range matching is not defined for types of Attributes other than dates and times.

C.2.2.2.6 Sequence Matching

If a Key Attribute in the Identifier of a C-FIND request needs to be matched against an Attribute structured as a Sequence of Items (Value Representation of Type SQ), the Key Attribute shall be structured as a Sequence of Items with a single Item. This Item may contain zero or more Item Key Attributes. Each Item Key Attribute matching shall be performed on an Item by Item basis. The types of matching defined in Section C.2.2.2 shall be used: Single Value Matching, List of UID Matching, Universal Matching, Wild Card Matching, Range Matching and Sequence Matching (recursive Sequence matching)

If all the Item Key Attributes match, for at least one of the Items of the Attribute against which the match is performed, a successful match is generated. A sequence of matching Items containing only the requested attributes is returned in the corresponding C-FIND responses.

If the Key Attribute in the Identifier of a C-FIND request contains no Key Item Attribute (zero-length Item Tag), then all entities shall match this Attribute. This provides a universal matching like mechanism to request that the selected Key Attribute value (the entire Sequence of Items) be returned in corresponding C-FIND responses.

C.2.2.3 Matching Multiple Values

When matching an Attribute which has a value multiplicity of greater than one, if any of the values match, then all values shall be returned.

Amend Section C.5.1:

C.5.1 Association Negotiation for C-FIND SOP Classes

The following negotiation rules apply to DICOM SOP Classes and Specialized DICOM SOP Classes of the Query/Retrieve Service Class which include the C-FIND operation.

The Association-requester (query SCU role) shall convey in the A-ASSOCIATE request:

- one Abstract Syntax, in a Presentation Context, for each query based SOP Class supported
- optionally, one SOP Class Extended Negotiation Sub-Item, for each query based SOP Class

The Association-acceptor (query SCP role) of an A-ASSOCIATE request shall accept:

- one Abstract Syntax, in a Presentation Context, for each query based SOP Class supported
- optionally, one SOP Class Extended Negotiation Sub-Item, for each query based SOP Class

C.5.1.1 SOP Class Extended Negotiation

The SOP Class Extended Negotiation allows, at Association establishment, peer DICOM AEs to exchange application Association information defined by specific SOP Classes. This is achieved

by defining the Service-class-application-information field. The Service-class-application-information field is used to define support for relational-queries, **combined date time matching, and fuzzy semantic matching of person names.**

This negotiation is optional. If absent, the default conditions shall be:

- no relational-query support
- **separate (independent) range matching of date and time attributes**
- **literal matching of person names with case sensitivity unspecified**

The Association-requester, for each SOP Class, may use one SOP Class Extended Negotiation Sub-Item. The SOP Class is identified by the corresponding Abstract Syntax Name (as defined by PS 3.7) followed by the Service-class-application-information field. This field defines **either a single sub-field:**

- relational-query support by the Association-requester

or three sub-fields:

- **relational-query support by the Association-requester**
- **combined date and time range matching by the Association-requester**
- **literal or fuzzy semantic matching of person names by the Association-requester**

The Association-acceptor shall return a single byte field (single sub-field) if offered a single byte field (single sub-field) by the Association-requester. The Association-acceptor may return either a single byte field (single sub-field) or a three byte field (three sub-fields) if offered a three byte field (three sub-fields) by the Association-requester. A one byte response to a three byte request means that the missing sub-fields shall be treated as 0 values.

The Association-acceptor, for each **sub-field of the** SOP Class Extended Negotiation Sub-Item offered, either accepts the Association-requester proposal by returning the same value (1) or turns down the proposal by returning the value (0).

If the SOP Class Extended Negotiation Sub-Item is not returned by the Association-acceptor then relational-queries are not supported over the Association (default condition).

If the SOP Class Extended Negotiation Sub-Items do not exist in the A-ASSOCIATE indication they shall be omitted in the A-ASSOCIATE response.

C.5.1.1.1 SOP Class Extended Negotiation Sub-Item Structure (A-ASSOCIATE-RQ)

The SOP Class Extended Negotiation Sub-Item consists of a sequence of mandatory fields as defined by PS 3.7. Table C.5-1 defines the Service-class-application-information field for DICOM Query/Retrieve SOP Classes and Specialized DICOM Query/Retrieve SOP Classes which include the C-FIND operation. **This field may be either one or three bytes in length (i.e., item bytes 2 and 3 are optional).**

Table C.5-1 – SOP CLASS EXTENDED NEGOTIATION SUB-ITEM (service-class-application-information field) – A-ASSOCIATE-RQ

Item Bytes	Field Name	Description of Field
1	Relational-queries	This byte field defines relational-query support by the

		Association-requester. It shall be encoded as an unsigned binary integer and shall use one of the following values 0 – relational queries not supported 1 – relational queries supported
<u>2</u>	<u>Date-time matching</u>	<u>This byte field defines whether or not combined date and time attribute range matching is requested by the Association-requester. It shall be encoded as an unsigned binary integer and shall use one of the following values</u> <u>0 – combined matching not requested</u> <u>1 – combined matching requested</u>
<u>3</u>	<u>Fuzzy semantic matching of person names</u>	<u>This byte field defines whether or not fuzzy semantic person name attribute matching is requested by the Association-requester. It shall be encoded as an unsigned binary integer and shall use one of the following values</u> <u>0 – fuzzy semantic matching not requested</u> <u>1 – fuzzy semantic matching requested</u>

C.5.1.1.2 SOP Class Extended Negotiation Sub-Item Structure (A-ASSOCIATE-AC)

The SOP Class Extended Negotiation Sub-Item is made of a sequence of mandatory fields as defined by PS 3.7. Table C.5-2 defines the Service-class-application-information field for DICOM Query/Retrieve SOP Classes and Specialized DICOM Query/Retrieve SOP Classes which include the C-FIND operation. **This field may be either one or three bytes in length (i.e., item bytes 2 and 3 are optional).**

Table C.5-2—SOP CLASS EXTENDED NEGOTIATION SUB-ITEM (service-class-application-information field)—A-ASSOCIATE-AC

Item Bytes	Field Name	Description of Field
1	Relational-queries	This byte field defines relational-query support for the Association-acceptor. It shall be encoded as an unsigned binary integer and shall use one of the following values 0 – relational-queries not supported 1 – relational-queries supported
<u>2</u>	<u>Date-time matching</u>	<u>This byte field defines whether or not combined date and time attribute range matching will be performed by the Association-acceptor. It shall be encoded as an unsigned binary integer and shall use one of the following values</u> <u>0 – combined matching not performed</u> <u>1 – combined matching performed</u>
<u>3</u>	<u>Fuzzy semantic matching of person</u>	<u>This byte field defines whether or not fuzzy semantic person name attribute matching will be performed by the Association-acceptor. It shall be</u>

	<u>names</u>	<u>encoded as an unsigned binary integer and shall use one of the following values</u> <u>0 – fuzzy semantic matching not performed</u> <u>1 – fuzzy semantic matching performed</u>
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Amend Section C.6.1.2.1.1:

C.6.1.2.1.1 C-FIND SCU Conformance

An implementation which conforms to one of the SOP Classes of the Patient Root SOP Class Group shall support queries against the Query/Retrieve Information Model described in Section C.6.1.1 using the baseline C-FIND SCU Behavior described in Section C.4.1.2.

An implementation which conforms to one of the SOP Classes of the Patient Root SOP Class Group as an SCU shall state in its Conformance Statement whether it supports Optional Keys. If it supports Optional Keys, then it shall list the Optional Keys which it supports.

An implementation which conforms to one of the SOP Classes of the Patient Root SOP Class Group as an SCU shall state in its Conformance Statement whether it may generate Relational-queries. If it supports Relational-queries, then it shall also support extended negotiation **of relational-queries**.

An implementation that conforms to one of the SOP Classes of the Patient Root SOP Class Group as an SCU shall state in its Conformance Statement whether or not it supports extended negotiation of combined date-time matching and/or fuzzy semantic matching of person names.

An implementation which conforms to one of the SOP Classes of the Patient Root SOP Class Group 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.

Amend Section C.6.1.2.2.1:

C.6.1.2.2.1 C-FIND SCP Conformance

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An implementation which conforms to one of the SOP Classes of the Patient Root SOP Class Group as an SCP shall state in its Conformance Statement whether it supports Relational-queries. If it supports Relational-queries, then it shall also support extended negotiation **of relational-queries**.

An implementation that conforms to one of the SOP Classes of the Patient Root SOP Class Group as an SCP shall state in its Conformance Statement whether or not it supports extended negotiation of combined date-time matching and/or fuzzy semantic matching of person names. If fuzzy semantic matching of person names is supported, then the mechanism for fuzzy semantic matching shall be specified.

An implementation which conforms to one of the SOP Classes of the Patient Root SOP Class Group as an SCP shall state in its Conformance Statement whether it supports case-insensitive matching for PN VR attributes and list attributes for which this applies.

Amend Section C.6.2.2.1.1:

C.6.2.2.1.1 C-FIND SCU Conformance

An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group shall support queries against the Query/Retrieve Information Model described in Section C.6.2.1 using the C-FIND SCU behavior described in Section C.4.1.2.

An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCU shall state in its Conformance Statement whether it supports Optional Keys. If it supports Optional Keys, then it shall list the Optional Keys which it supports.

An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCU shall be capable of generating queries using the Hierarchical Search. It shall not generate queries using Relational-queries unless the Relational-queries option has been successfully negotiated.

An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCU shall state in its Conformance Statement whether it may generate Relational-queries. If it supports Relational Search, then it shall also support extended negotiation of relational-queries.

An implementation that conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCU shall state in its Conformance Statement whether or not it supports extended negotiation of combined date-time matching and/or fuzzy semantic matching of person names.

An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group 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.

Amend Section C.6.2.2.2.1:

C.6.2.2.2.1 C-FIND SCP Conformance

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An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCP shall state in its Conformance Statement whether it supports Relational Search. If it supports Relational Search, then it shall also support extended negotiation of relational-queries.

An implementation that conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCP shall state in its Conformance Statement whether or not it supports extended negotiation of combined date-time matching and/or fuzzy semantic matching of person names. If fuzzy semantic matching of person names is supported, then the mechanism for fuzzy semantic matching shall be specified.

An implementation which conforms to one of the SOP Classes of the Study Root SOP Class Group as an SCP shall state in its Conformance Statement whether it supports case-insensitive matching for PN VR attributes and list attributes for which this applies.

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Amend Section K.1.4:

K.1.4 Service Definition

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~~Only a baseline behavior of the DIMSE-C C-FIND is used in the Service Class.~~

Both a baseline and extended behavior are defined for the DIMSE-C C-FIND. Baseline behavior specifies a minimum level of conformance for all implementations to facilitate interoperability. Extended behavior enhances the baseline behavior to provide additional features which may be negotiated independently at Association establishment time.

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Amend Section K.2.2.2:

K.2.2.2 Attribute Matching

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Single value matching of Attributes with Person Name Value Representation may be affected by extended negotiation of fuzzy semantic matching of person names.

Amend Section K.5:

K.5 ASSOCIATION NEGOTIATION

Association establishment is the first phase of any instance of communication between peer DICOM AEs. The Association negotiation procedure specified in PS 3.7 shall be used to negotiate the supported SOP Classes or Meta SOP Classes.

Support for the SCP/SCU role selection negotiation is optional. The SOP Class Extended Negotiation ~~shall not be supported~~ is optional.

Add Section K.5.1:

K.5.1 SOP Class Extended Negotiation

The SOP Class Extended Negotiation allows, at Association establishment, peer DICOM AEs to exchange application Association information defined by specific SOP Classes. This is achieved by defining the Service-class-application-information field. The Service-class-application-information field is used to define support for relational-queries.

This negotiation is optional. If absent, the default conditions shall be:

- literal matching of person names with case sensitivity unspecified

The Association-requester, for each SOP Class, may use one SOP Class Extended Negotiation Sub-Item. The SOP Class is identified by the corresponding Abstract Syntax Name (as defined by PS 3.7) followed by the Service-class-application-information field. This field defines:

- literal or fuzzy semantic matching of person names by the Association-requester

The meaning of fuzzy semantic person name matching is as defined in K.2.2.2 and C.2.2.2.1.

The Association-acceptor, for each sub-field of the SOP Class Extended Negotiation Sub-Item offered, either accepts the Association-requester proposal by returning the same value (1) or turns down the proposal by returning the value (0).

If the SOP Class Extended Negotiation Sub-Item is not returned by the Association-acceptor then relational-queries are not supported over the Association (default condition).

If the SOP Class Extended Negotiation Sub-Items do not exist in the A-ASSOCIATE indication they shall be omitted in the A-ASSOCIATE response.

K.5.1.1 SOP Class Extended Negotiation Sub-Item Structure (A-ASSOCIATE-RQ)

The SOP Class Extended Negotiation Sub-Item consists of a sequence of mandatory fields as defined by PS 3.7. This field shall be three bytes in length.

Table K.5.1-1 – SOP CLASS EXTENDED NEGOTIATION SUB-ITEM (service-class-application-information field) – A-ASSOCIATE-RQ

Item Bytes	Field Name	Description of Field
1	reserved	This byte field shall always be 1
2	reserved	This byte field shall always be 1
3	Fuzzy semantic matching of person names	This byte field defines whether or not fuzzy semantic person name attribute is requested by the Association-requester. It shall be encoded as an unsigned binary integer and shall use one of the following values 0 – fuzzy semantic matching not requested 1 – fuzzy semantic matching requested

Note: This Sub-Item is identical to Extended Negotiation Sub-Items as used by the Query/Retrieve SOP Classes. However, relational queries (Byte 1) are not relevant since the worklist information models are single level, and date-time matching (Byte 2) is already required by the worklist information models.

K.5.1.2 SOP Class Extended Negotiation Sub-Item Structure (A-ASSOCIATE-AC)

The SOP Class Extended Negotiation Sub-Item is made of a sequence of mandatory fields as defined by PS 3.7. This field shall be three bytes in length.

Table K.5.1-2 – SOP CLASS EXTENDED NEGOTIATION SUB-ITEM (service-class-application-information field) – A-ASSOCIATE-AC

Item Bytes	Field Name	Description of Field
1	reserved	This byte field shall always be 1
2	reserved	This byte field shall always be 1
3	Fuzzy semantic	This byte field defines whether or not fuzzy semantic

	matching of person names	person name attribute matching will be performed by the Association-acceptor. It shall be encoded as an unsigned binary integer and shall use one of the following values 0 – fuzzy semantic matching not performed 1 – fuzzy semantic matching performed
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Amend Section K.6.1.3.1:

K.6.1.3.1 SCU Conformance

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An implementation which conforms to the Modality 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. It shall identify any Templates it supports for the Protocol Context Sequence.

An implementation that conforms to the Modality Worklist SOP Class as an SCU shall state in its Conformance Statement whether or not it supports extended negotiation of fuzzy semantic matching of person names.

An implementation which conforms to the Modality Worklist SOP Class 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.

Amend Section K.6.1.3.2:

K.6.1.3.2 SCP Conformance

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An implementation that conforms to the Modality Worklist SOP Class as an SCP shall state in its Conformance Statement whether or not it supports extended negotiation of fuzzy semantic matching of person names. If fuzzy semantic matching of person names is supported, then the mechanism for fuzzy semantic matching shall be specified.

An implementation which conforms to the Modality Worklist SOP Class as an SCP shall state in its Conformance Statement whether it supports case-insensitive matching for PN VR attributes and list attributes for which this applies.

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Amend Section K.6.2.3.1:

K.6.2.3.1 SCU Conformance

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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.

An implementation that conforms to the General Purpose Worklist SOP Class as an SCU shall state in its Conformance Statement whether or not it supports extended negotiation of fuzzy semantic matching of person names.

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Amend Section K.6.2.3.2:

K.6.2.3.2 SCP Conformance

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An implementation which conforms to the General Purpose Worklist SOP Class 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.

An implementation that conforms to the General Purpose Worklist SOP Class as an SCP shall state in its Conformance Statement whether or not it supports extended negotiation of fuzzy semantic matching of person names. If fuzzy semantic matching of person names is supported, then the mechanism for fuzzy semantic matching shall be specified.

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