Proposed Clarification to the Address Class Syntaxes

A. SUMMARY

Where a class syntax includes a complex element (for example, Complete Address Number), does it mandate that the address record include the constructed complex element? Or can the complex element be replaced by its parsed-out component elements? The standard does not say, explicitly, one way of the other.

This brief proposal recommends adding a paragraph to Classification Section 3.1.3 ("Formatting Conventions", p. 227):

> Within an address record, where the class syntax specifies a complex element, the record must include the complex element. The record may include the complex element alone, or the complex element together with its component elements. Thus, for example, Numbered Thoroughfare Address records might include the Complete Street Name alone, or the Complete Street Name along with the component elements that comprise it.

Section F below shows the proposed addition in context.

B. CURRENT STANDARD

In Part 3, the class syntaxes list the names of the complex elements included in a class, but they do not show the component elements that comprise the complex element. For example:

> *3.2.1.1 Numbered Thoroughfare Address*
>
> *Syntax: { Complete Landmark Name or Complete Place Name } + { Complete Address Number * } + { Complete Street Name * } + { Complete Subaddress } + { Complete Place Name * } + { State Name * } + { Zip Code } + { Zip Plus 4 } + { Country Name }*

The reason is given in Section 3.1.3, p.227:

> ***Complex Elements Include All Combinations of Their Component Elements.*** *To avoid a multiplicity of insignificant permutations and combinations, complex elements are used to represent the various combinations of the simple elements that comprise them. Thus, for example, {CompleteAddressNumber} includes all of the following combinations:*
>
> 1. *{ Address Number *}*
> 2. *{ Address Number* } + { Address Number Suffix }*
> 3. *{ Address Number Prefix } + { Address Number *}*
> 4. *{ Address Number Prefix } + { Address Number *} + { Address Number Suffix }*

C. REASONS FOR RECOMMENDING REVISION

To clarify a point of ambiguity in the Classification standard.

D. TOWARDS A SOLUTION

Proposed solution: add a new paragraph to section 3.1.3, immediately following the quoted passage in Section B above:

> Within an address record, where the class syntax specifies a complex element, the record must include the complex element. The record may include the complex element alone, or the complex element together with its component elements. Thus, for example, Numbered Thoroughfare Address records might include the Complete Street Name alone, or the Complete Street Name along with the component elements that comprise it.

Section F shows the proposed addition in the context of the rest of Section 3.1.3.

The proposed paragraph permits two possible cases and prohibits one:
Permitted:

- **Permitted Case 1:** A record includes only the complex element, unparsed. The phrase "may include the parsed element alone" makes clear that parsing is not required. By inclusion of the complex element, the syntax requirements are satisfied.
- **Permitted Case 2:** A record includes both the parsed component elements, and the constructed complex element. The phrase "may include…the complex element together with its component elements" makes clear that the complex element and its component elements may appear together in the same record. By inclusion of the complex element, the syntax requirements are satisfied. Inclusion of the component elements does not introduce contradiction, because by definition the complex element contains the same information as its components.
- **Prohibited Case:** A record includes only the component elements, parsed, without the complex element. Prohibited. It is not required that a complex element be parsed into its component elements, but if it is parsed, then both the complex element and its component elements are required. Both are required in order to run data quality test 4.5.25 (Pattern Sequence Measure). This test traps instances where the component elements, recombined, do not match the complex element.

E. STEPS TO COMPLETION

Add the proposed paragraph to Section 3.1.3, as shown in Section F below.

3.1.3 Formatting Conventions

Syntax and Formatting. The following notation is used to show how classes are constructed from elements:

{} enclose the name of an element.
* indicates that the element is **required** in addresses of that class. Otherwise the element

may be omitted when desired.

+ indicates "and" (concatenation), with a space implied between each component unless stated otherwise.

Example: { Complete Address Number *}+{ Complete Street Name *}+{ Complete Subaddress }

Complex Elements Include All Combinations of Their Component Elements. To avoid a multiplicity of insignificant permutations and combinations, complex elements are used to represent the various combinations of the simple elements that comprise them. Thus, for example, {CompleteAddressNumber} includes all of the following combinations:

1. { Address Number *}
2. { Address Number* } + { Address Number Suffix }
3. { Address Number Prefix } + { Address Number *}
4. { Address Number Prefix } + { Address Number *} + { Address Number Suffix }

[Beginning of proposed insertion]
Within an address record, where the class syntax specifies a complex element, the record must include the complex element. The record may include the complex element alone, or the complex element together with its component elements. Thus, for example, Numbered Thoroughfare Address records might include the Complete Street Name alone, or the Complete Street Name along with the component elements that comprise it.
[End of proposed insertion]

Place State ZIP **is Shown in Parsed Form.** In each class syntax pattern, the Complete Place Name, State Name, Zip Code, Zip Plus 4, and Country Name. are shown separately. They could also be shown in their unparsed form as the Place State ZIP element. However, the elements are shown separately in each syntax pattern, to emphasize the importance of each separate element in the address.

XML Notation and Formatting. XML models and examples conform to the W3C XML Core Working Group's "Extensible Markup Language (XML) 1.0" (see Part 6 for a complete citation).