

MODELING CICA SLOT CONSTRUCTS

REQUEST

You ask:

1. When creating Slots, as independent constructs in a CICA data model, should data modeling software enable users to create Modules as members to these Slots?
2. Additionally, do the following statements in Section 4.5 of X12.7 entitled Templates mean that data modeling software should support the creation of Modules as members to Slots as standalone constructs?

This is followed by a quoted section of BNF from section 4.5 of X12.7 starting with the production for slot type flag and ending with the production for context category value list, containing the production:

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slot_module_list ::= {module_entry}
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In the "Background" section of your letter, you further state, regarding your software product:

"Where specified by X12.7, users are also allowed to create members for the various constructs. As an example, a user can add Slots to Template constructs, or Primitive members to Abstract Components at the lower level of the model. At the Slot level, users are not permitted to create Modules as members to those slots. It is our understanding of X12.7, that Slots are abstract and Modules are concrete. For this reason, the software does not allow users to create Modules as members to Slots."

REFERENCED X12 STANDARDS

The following X12 Standards were reviewed in developing this interpretation:

X12.7 Context Inspired Component Architecture (CICA) Technical Specification AND XML Syntax Representation June 2004

X12.7 Context Inspired Component Architecture (CICA) Technical Specification AND XML Syntax Representation June 2005

You did not cite a specific version of X12.7, so we cite both versions. The interpretation applies to both versions, but we offer further discussion in regard to the June 2005 version.

INTERPRETATION:

In X12.7 Slots are only specified in relation to templates. They do not have an existence independent of templates. So long as templates are created correctly, whether the implementers of a data modeling tool choose to represent slots as dependent or independent entities is beyond the scope of the standard.

We understand the gist of the question you ask concerning the relationship between modules and slots is whether modules are members of slots in the same way that other CICA constructs are members of higher level constructs or whether they are something else. According to X12.7, modules are not members of slots in the same sense that, for example, primitives and components are members of blocks. However, as noted in the cited production for "slot module list", a slot does have a set of modules associated with it. These are the modules that may fill the slot in Documents created from the Template in which the slot is defined.

FURTHER DISCUSSION:

In addition, you note that “the software does not allow users to create Modules as members to Slots”. This may literally be correct. However, we note that when message designers are creating a new template, and therefore one or more new slots, it is likely that they may wish to associate one or more existing modules with the slot. Therefore, in a sense it seems that modeling software should offer an option for a Slot such as “New -> Associated Module” in the same way that it offers for Abstract Component “New -> Primitive Member”.

We also note that in the June 2005 version of X12.7, the concept of mutually exclusive modules in a slot in a document was introduced. While in the strictest sense the subject modules are still not “members” of the slot, a document built from the template may have a list of modules associated with a slot in a fashion similar to the way in which a slot in a template has a list of modules associated with it. For further information please refer to section 4.6 and the productions and text related to “module_node_list”.