Subject: Misplaced syntax rule and constraint about type aliases
From: Van Snyder

1 Background

The seventh alternative of R503 (69:35) is "TYPE (*derived-type-spec*)". The eighth alternative of R503 (69:36) is "TYPE (*type-alias-name*)". Therefore, the second alternative for R448, *viz. derived-type-spec* **is** *type-alias-name* (57:39), is already provided by R503. It is not needed in both places.

Because R448 *derived-type-spec* is used in R503 *type-spec*, the constraint on R448 "*type-alias-name* shall be the name of an accessible type alias that is an alias for a derived type" applies to every *type-spec* in which the form TYPE (*type-alias-name*) is used. There is no such constraint in chapter 5, and such a constraint would be undesirable. The desired effect is probably something like "if *type-alias-name* is used where a derived type name is required, the *type-alias-name* shall be the name of an accessible type alias that is an alias for a derived type." The only place where this appears to make a difference is in a structure constructor. The constraint shouldn't be on R448, because constraints on R448 apply by induction to R503. The second alternative of R448, and the constraint at 57:45-46 should be incorporated into R452 (61:4+).

2 Edits

Edits refer to 99-007r1. Page and line numbers are displayed in the margin. Absent other instructions, a page and line number or line number range implies all of the indicated text is to be replaced by immediately following text, while a page and line number followed by + indicates that immediately following text is to be inserted after the indicated line. Remarks for the editor are noted in the margin, or appear between [and] in the text.

[Editor: Delete.] 57:39, 45-46

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or *type-alias-name* ([*component-spec-list*]) 61:4+

Constraint: The *type-alias-name* shall be the name of an accessible type alias that is an alias for a derived type.

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or *type-alias-name* ([argument-list]) 63:1+

Constraint: The *type-alias-name* shall be the name of an accessible type alias that is an alias for a derived type.

[Editor: Add the following after *derived-type-spec*: " or *type-alias-name*". 76:24

I don't think this change is adequate, but I'm not sure what is. At minimum, there should be a qualifier that derived-type objects are created only if the *type-alias-name* is the name of an alias for a derived type. I think a section 5.1.1.9 is needed to describe creation of objects using TYPE(*type-alias-name*). *Note to J3*