Subject: Type parameter inquiries for disassociated pointers and unallocated allocatables
From: Van Snyder
Reference: 01-103

1 Discussion

At [96:14-15] we see "A deferred type parameter of a function procedure pointer, of a pointer that is not associated, or of an allocatable variable that is not currently allocated shall not be inquired about."

At [255:30-31] we see" If the dummy argument is not a pointer and the corresponding actual argument is a pointer, the actual argument shall be currently associated with a target...." We don't yet, however, see anything parallel to that for allocatable actual arguments that correspond to dummy arguments that are not allocatable – but an edit to implement one is proposed in 01-103.

At [311:14-15] we see "If it is an unallocated allocatable variable, it shall not have deferred length."

Interpretation 19 asks what is the result of the LEN intrinsic function when applied to a character pointer dummy argument with assumed length, if the associated actual parameter is not associated with a target? A proposed answer is that the associated actual argument shall in that case be a reference to the NULL intrinsic with the optional MOLD argument specified, presumably to provide a length.

2 Questions

1. Do we want to make any exceptions to the rule at [255:30-31] (and a parallel one for allocatable that is proposed in 01-103)?

2. If the answer to question 1 is NO, do we want type parameter inquiries that use the syntax in 6.1.3 to have the same requirements on the objects that are the subject of inquiry as those objects would have if they were arguments of intrinsic inquiry function references?

3 Edits

Edits refer to 01-007. 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 (before) the indicated line. Remarks are noted in the margin, or appear between [and] in the text.

3.1 If the answer to question 1 is NO

The answer to interpretation 19 should be that the program in question is not standard-conforming.

[Editor: Delete "If ... length".] 311:14-15

3.1.1 If the answer to question 2 is NO

No edits are required in subclause 6.1.3.

3.1.2 If the answer to question 2 is YES

A deferred type parameter of a function procedure pointer shall not be inquired about. A type parameter of a pointer that is not associated with a target, or of 96:14

3.2 If the answer to question 1 is YES

[Editor: "If" ⇒ "Except for references to several inquiry functions specified in section 13, if".] 255:30

[Do this instead of the one proposed for [255:32+] in 01-103:] 255:32+
Except for references to several inquiry functions specified in section 13, if the dummy argument is not allocatable and the actual argument is allocatable, the actual argument shall be currently allocated. New ¶

[Editor: Add the following sentence, without starting a new paragraph, at [293:36] (BIT_SIZE), [299:31] (DIGITS), [302:10] (EPSILON), [305:36] (HUGE), [310:21] (KIND), [315:34] (MAXEXPONENT), [318:37] (MINEXPONENT), [324:10] (PRECISION), [325:26] (RADIX), [326:42] (RANGE), and [336:5] (TINY).]

It may be a disassociated pointer or an unallocated allocatable variable.