Subject: Default initial values for absent optional dummy arguments
From: Van Snyder

1 Number

TBD

2 Title

Default initial values for absent optional dummy arguments.

3 Submitted By

J3

4 Status

For consideration.

5 Basic Functionality

Default initial values for absent optional dummy arguments.

6 Rationale

A frequently requested feature is to be able to specify a default initial value for absent optional dummy arguments.

7 Estimated Impact

Minor; most changes are in Section 12. Estimated at J3 meeting 169 to be at 4 on the JKR scale.

8 Detailed Specification

Provide a specification for a default initial value for an absent optional dummy scalar, or dummy array that is not an assumed-size array. The specification has exactly the same syntax as an initialization, but with a constraint that the expression shall be a restricted expression rather than an initialization expression. (The restrictions on specification expressions at [04-007:126:7-19] would need to be applied to restricted expressions in general instead of just to specification expressions.)

If an optional dummy argument has a default initialization specified and the associated actual argument is absent, the initializer is evaluated on entry to the procedure, and then becomes associated with the dummy argument. The VALUE attribute may be specified as well. Optional dummy arguments with initializers cannot have INTENT(INOUT) or INTENT(OUT). For an optional dummy argument that has default initialization:

(1) Its assumed nonkind type parameters and extents, and dynamic type if it is polymorphic, are taken from the initializer.
(2) If it is not a pointer the value is assigned as if by intrinsic assignment.
(3) If it is allocatable, it is assumed to be unallocated before initialization.
(4) If it is a pointer, the default initializer shall have the POINTER or TARGET attribute, and the association is established as if by pointer assignment.

9 History

03-258r1, section 2.4.3.2 m166
04-179 m167