Subject: Allow a polymorphic allocatable *variable* in intrinsic assignment
From: Van Snyder

Number

TBD

Title

Allow a polymorphic allocatable *variable* in intrinsic assignment.

Submitted By

J3

Status

For consideration.

Basic Functionality

Allow a polymorphic allocatable *variable* in intrinsic assignment.

Rationale

We allow intrinsic assignment to change the extent or length type parameters of an allocatable *variable* in an assignment. Why not the type if it's also polymorphic? Surely that would be equally valuable. After all, it can be done with a DEALLOCATE statement followed by an ALLOCATE statement with a SOURCE= specifier. Why not allow the clearer intrinsic assignment statement?

Estimated Impact

Trivial for the standard, probably in the trivial-to-small range for processors.

Detailed Specification

Allow a polymorphic allocatable *variable* in intrinsic assignment. Require *expr* to have the same rank as a polymorphic *variable*. If *variable* is allocated and polymorphic, deallocate it (as we do now if any bounds or length type parameters differ). Then allocate it with the same dynamic type, type parameters and bounds as *expr*.

Here are illustrative edits, to give an idea of the effect on the standard.

[Replace "*variable* shall not be polymorphic" by "if *variable* is polymorphic it shall be allocatable".]	138:18
[Replace the first line of the "derived type" row and "Type of *expr*" column of Table 7.8 with "if *variable* is polymorphic it shall be TKR compatible (5.1.1.2) with *expr*; if *variable* is not polymorphic *expr* shall have the same declared type and same kind type parameter values as *variable*;".]	139:2+8
[Replace "or" by a comma; insert ", or if *variable* has a dynamic type different from the dynamic type of *expr*" after "differ".]	139:23
[Delete "and".]	139:25
[Insert ", and with the same dynamic type as *expr* if *variable* is polymorphic" after "LBOUND(*expr*)".]	139:26

History