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

1 Number

2 TBD

3 Title

4 Allow a polymorphic allocatable *variable* in intrinsic assignment.

5 Submitted By

6 J3

7 Status

8 For consideration.

9 Basic Functionality

10 Allow a polymorphic allocatable *variable* in intrinsic assignment.

11 Rationale

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

16 Estimated Impact

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

18 Detailed Specification

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

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

24 [Replace "*variable* shall not be polymorphic" by "if *variable* is polymorphic it shall be allocatable".]   138:18

25 [Replace the first line of the "derived type" row and "Type of *expr*" column of Table 7.8 with "if *variable*   139:2+8
26 is polymorphic it shall be TKR compatible (5.1.1.2) with *expr*; if *variable* is not polymorphic *expr* shall
27 have the same declared type and same kind type parameter values as *variable*;".]

28 [Replace "or" by a comma; insert ", or if *variable* has a dynamic type different from the dynamic type   139:23
29 of *expr*" after "differ".]

30 [Delete "and".]   139:25

31 [Insert ", and with the same dynamic type as *expr* if *variable* is polymorphic" after "LBOUND(*expr*)".]   139:26

32 History