Subject: Reverse the outcome of Interp 31
From: Van Snyder

1 Number

2 TBD

3 Title

4 Reverse the outcome of Interp 31.

5 Submitted By

6 J3

7 Status

8 For consideration.

9 Basic Functionality

10 The decision of interpretation 31 was that an invocation of a function that has a pointer result is not
11 permitted to appear in a variable-definition context. This decision should be reversed, and can be
12 reversed without invalidating any program that conforms to the 1997 or 2004 standard.

13 Rationale

14 Many other languages find it useful to allow what Alfred Aho calls an "lvalue function," that is, a function
15 that returns a pointer result, and which can be invoked in what the Fortran standard calls a variable
16 definition context. During the debate on interpretation 31 it was observed that the decision to prohibit
17 lvalue functions could be reversed without invalidating a standard-conforming program. Removing a
18 prohibition simplifies the language, simplifies its description, simplifies teaching it, and enlarges the
19 space of valid programs.

20 Estimated Impact

21 Negligible.

22 Detailed Specification

23 Allow functions that have pointer results to be invoked in variable-definition contexts. Make it clear
24 that the variable that becomes defined is the target of the pointer that is the result of the function, and
25 that the association status of the pointer shall not be undefined or disassociated.

26 This is not a substitute for the proposal in 04-141, entitled "Accessor procedures."

27 History