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

Number

TBD

Title

Reverse the outcome of Interp 31.

Submitted By

J3

Status

For consideration.

Basic Functionality

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

Rationale

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

Estimated Impact

Negligible.

Detailed Specification

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

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

History