Subject: Specs, syntax and edits for pointer function reference as assignment LHS
From: Van Snyder
Reference: WG5/N1626-UK-008, 05-211

1 Detailed specification

Allow the left-hand side of an assignment statement to be a function reference whose result is an associated pointer. The value of the expression is assigned to the target of the pointer.

2 Syntax

Add *expr* as an alternative left-hand side for an assignment statement.

3 Edits

Edits refer to 04-007. Page and line numbers are displayed in the margin. Absent other instructions, a page and line number or line number range implies all of the indicated text is to be replaced by associated text, while a page and line number followed by + (-) indicates that associated text is to be inserted after (before) the indicated line. Remarks are noted in the margin, or appear between [and] in the text.

[Editor: In **4.5.5.2 When finalization occurs**, in the paragraph beginning "When an intrinsic assignment . . . ," replace both instances of "*variable*" by "assigned variable".]   59:33-34

[Editor: Near the end of **6.3.3.1 Deallocation of allocatable variables**, in the paragraph beginning "When an intrinsic assignment . . . ," replace "*variable*" by "assigned variable ".]   116:12

[Editor: Replace *assignment-stmt* (R734) and its associated constraint:]   138:12-13

R734	*assignment-stmt*	**is**	*assigned-variable* $=$ *expr*
R734$\frac{1}{2}$	*assigned-variable*	**is**	*variable*
		or	*expr*

C715   (R734$\frac{1}{2}$) The *variable* shall not be a whole assumed-size array.

C715$\frac{1}{2}$ (R734$\frac{1}{2}$) The *expr* shall be a reference to a function whose result is a pointer.

[Editor: Add a final paragraph in **7.4.1.1 General form**:]   138:15+

The **assigned variable** in an assignment statement is *variable* or the target of the result of *expr*. The result of the function reference shall be an associated pointer.

[Editor: At the end of the first paragraph and in item (1) in the numbered list in **7.4.1.2 Intrinsic assignment statement**, "*variable*" $\Rightarrow$ "*assigned-variable*" twice.]   138:18-19

[Editor: Replace the second "*variable*" in item (2) in the numbered list in **7.4.1.2 Intrinsic assignment statement** by "*assigned-variable*".]   138:21

[Editor: In item (3) in the numbered list in **7.4.1.2 Intrinsic assignment statement** and the heading of Table 7.8, "*variable*" $\Rightarrow$ "*assigned-variable*" twice.]   139:1-2

[Editor: In the three paragraphs immediately following Table 7.8 in **7.4.1.2 Intrinsic assignment statement** replace every instance of "*variable*" by "*assigned-variable*".]   139:3-12

[Editor: In the heading for Table 7.9 and every normative paragraph in **7.4.1.3 Interpretation of intrinsic assignment statements** other than the third and last ones, replace every instance of "*variable*" by "*assigned-variable*".]   139:14-21, 140:1-141:27

[Editor: In the second paragraph in **7.4.1.5 Interpretation of defined assignment statements** replace every instance of "*variable*" by "*assigned-variable*".]   142:27-30

[Editor: Near the end of **7.4.3.2 Interpretation of masked array assignments**, in the paragraph beginning "When a *where-assignment-stmt*. . . ," replace "*variable*" by "assigned variable".]   148:5

1 [Editor: Immediately after C739, insert] 149:12+

2 R739$\frac{1}{2}$ (R757) The *assigned-variable* in the *assignment-stmt* shall be a *variable*.

3 [Editor: In the third item in the enumerated list in C1272 — the one beginning "In a pure subpro- 286:31
4 gram..." — in **12.6 Pure procedures**, replace "*variable*" by "*assigned-variable*".]

5 [Editor: In the first item in the numbered list in **16.5.5 Events that cause variables to become defined** 420:11-13
6 replace both instances of "variable that precedes the equals" by "assigned variable".]

7 [Editor: In Note 16.19 at the end of **16.5.6 Events that cause variables to become undefined** replace 423:28+2-3
8 "variable that precedes the equals" by "assigned variable".]

9 [Editor: Add the following glossary item:] 425:26+

10 **assigned variable** (7.4.1.1): The variable on the left side of an assignment statement, or the target of
11 the pointer result of the function reference on the left side of an assignment statement.

12 [Editor: Revise the glossary item for **assignment statement**:] 425:27

13 **assignment statement** (7.4.1.1): A statement that evaluates an expression and assigns its value to a
14 variable.

15 4 Conflict resolution with 05-014

16 In the edits from paper 05-198r1:

17 • for [138:18] "<variable>" $\Rightarrow$ "<assigned-variable>" in both source and replacement.

18 • for [139:1] "<variable>" $\Rightarrow$ "<assigned-variable>".

19 • for [139:3-] "<variable>" $\Rightarrow$ "<assigned-variable>" thrice.