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** denoted by *assigned-variable* is the *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 its numbered list in **7.4.1.2 Intrinsic assignment statement**, "*variable*" ⇒ "the assigned variable" all five times.] 138:18-21 139:1

[Editor: In the heading and body of Table 7.8, "*variable*" ⇒ "the assigned variable" all four times.] 139:2+

[Editor: In the three paragraphs immediately following Table 7.8 in **7.4.1.2 Intrinsic assignment statement** "*variable*" ⇒ "the assigned variable" all seven times.] 139:3-12

[Editor: In the first paragraph in **7.4.1.3 Interpretation of intrinsic assignment statements**, replace] 139:15-19

- the first instance [139:15] of "*variable*" by "*assigned-variable*",
- the second and third instances [139:16] of "*variable*" by "the assigned variable".
- the fourth instance [139:17] of "*variable*" by "*assigned-variable*".
- the fifth instance [139:18] of "*variable*" by "the assigned variable" and the sixth instance [also 139:18] by "*assigned-variable*".
- the seventh and eight instances [139:19] of "*variable*" by "the assigned variable".

[Editor: In the second paragraph in **7.4.1.3 Interpretation of intrinsic assignment statements**, replace both instances of "*variable*" by "the assigned variable".] 139:21

[Editor: In the third paragraph in **7.4.1.3 Interpretation of intrinsic assignment statements**, replace all three instances of "*variable*" by "the assigned variable".] 139:22-23

[Editor: In the paragraph immediately after Note 7.35, replace the first instance of "*variable*" by "*assigned-variable*" and the second instance by "the assigned variable".] 140:1

[Editor: In the first paragraph after Note 7.36, replace both instances of "*variable*" by "the assigned variable".] 140:2-3

[Editor: In the second paragraph after Note 7.36, replace both instances of "*variable*" by "the assigned variable".] 140:4-5

[Editor: In the first paragraph after Note 7.38, replace both instances of "*variable*" by "the assigned variable".] 141:1-3

[Editor: In the heading of Table 7.9, replace "*variable*" by "assigned variable". In the body, replace "*variable*" by "*assigned-variable*" all three times.] 141:3+2-5

[Editor: In the first paragraph after Table 7.9, replace both instances of "*variable*" by "the assigned variable".] 141:4-5

[Editor: In the second paragraph after Table 7.9, and its numbered list, replace "*variable*" by "the assigned variable" six times.] 141:6-11

[Editor: In the third paragraph after Table 7.9, replace first two instances of "*variable*" by "the assigned variable".] 141:12-13

[Editor: In the third paragraph after Table 7.9, replace the third instance of "*variable*" by "*assigned-variable*".] 141:13

[Editor: In the first paragraph after Note 7.39, and its numbered list, replace "*variable*" by "the assigned variable" all four times.] 141:14-23

[Editor: In Note 7.41 replace "*variable*" by "the assigned variable".] 142:0+6

[Editor: In the first paragraph after Note 7.41, replace both instances of "*variable*" by "the assigned variable".] 142:1-2

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

[Editor: In the third paragraph after Note 7.46, replace the first instance [147:19] of "*variable*" by "*assigned-variable*" and the second [147:23] by "assigned variable,".] 147:19, 23

[Editor: In the fourth paragraph after Note 7.46, replace "*variable*" by "*assigned-variable*".] 147:24

[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 "the assigned variable".] 148:5

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

C739$\frac{1}{2}$ (R757) The *assigned-variable* in an *assignment-stmt* shall be a *variable*.

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

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

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

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

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

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

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

4 Conflict resolution with 05-014

In the edits from paper 05-198r1:

- for [138:18] "<variable>" ⇒ "the assigned variable" in the replacement.
- for [139:1] "<variable>" ⇒ "the assigned variable".
- for [139:3-] "<variable>" ⇒ "the assigned variable" four times.
- for [139:23] "<variable>" ⇒ "the assigned variable" in the replacement.