Subject: More little problems with procedure pointers
From: Van Snyder
References: 00-180r2(or a later revision)

1 Introduction

This document has been completely reorganized. The change bars in the margin reflect only the changes of substance. Changes of organization are not indicated by change bars.

There are several problems with procedure pointers that are separately described in the *Edits* subsections.

Also, The description of structure constructors does not adequately account for procedure pointer components. This issue is addressed in 00-180r2 (or a later revision).

2 Edits

Edits refer to 00-007r1. 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 immediately following text, while a page and line number followed by + indicates that immediately following text is to be inserted after the indicated line. Remarks for the editor are noted in the margin, or appear between [and] in the text.

2.1 Edits – Item 1

It ought to be allowed to specify intent for dummy procedure pointers.

Constraint: The INTENT attribute shall not be specified for a dummy procedure that is not a dummy procedure pointer.   71:11-12

2.2 Edits – Item 2

Whether a dummy procedure is a pointer ought to be a characteristic.

[Editor: After "explicit," insert "whether it is a pointer,".]   244:23

2.3 Edits – Item 3

There are dueling constraints in section 7.5.2 concerning the types of *pointer-object* and *target* if *pointer-object* is a procedure pointer.

[Editor: Insert "If *pointer-object* is not a procedure pointer" at the beginning of the constraint.   136:14
Otherwise this constraint and the one at [136:22-25] conflict.]

2.4 Edits – Item 4

It ought to be possible to assign a procedure to a procedure pointer with explicit interface from within itself. It's not always possible because the only procedures that have explicit interfaces

from within themselves are recursive subroutines and recursive functions that have a result variable different from their names.

Malcolm doesn't like this proposal because prohibiting nonrecursive procedures to have explicit interfaces from within themselves makes it difficult to use them as dummy arguments from within themselves, and therefore difficult to cause an erroneous recursion by mistake. Maybe there is also another subtle reason for the status quo.

[Editor: Delete "recursive" twice.]	245:4-5

2.5   Edits – Item 5

A procedure is neither an *expr* nor a *variable*. Therefore, the *target* in a pointer assignment can't be a procedure!

or *procedure-name*	136:7+
[Editor: Replace "If ... *target*" by "The *procedure-name*" and see item 6.]	136:28

2.6   Edits – Item 6

There is no constraint or other prohibition against pointer-assigning a procedure to a pointer that is not a procedure pointer.

Constraint: If and only if *pointer-object* is a procedure pointer, the *target* shall be a *procedure-name*.	136:30+