Subject: Abstract interfaces are unnecessary
From: Van Snyder

1 Introduction

Abstract interfaces are unnecessary. You may recall that abstract interfaces were introduced to give explicit interfaces to procedure pointers, and later used to give explicit interfaces to deferred type-bound procedure bindings.

Presumably, the reason to invent abstract interfaces was so as not to require a procedure of the same name as the interface to be a part of the program. It is, however, explicitly contemplated in the second paragraph of C.9.3 that one should be allowed to have interfaces for procedures that are not part of the program:

> A scoping unit is allowed to contain an interface body for a procedure that does not exist in the program, provided the procedure described is never referenced. The purpose of this rule is to allow implementations in which the use of a module providing interface bodies describing the interface of every routine in a library would not automatically cause each of those library routines to be a part of the program referencing the module. Instead, only those library procedures actually referenced would be a part of the program....

Therefore, it would be possible simply to use ordinary interface bodies, in ordinary interface blocks, to provide the explicit interfaces needed for procedure pointers and deferred type-bound procedure bindings. One could in fact go farther, and allow any entity with an explicit interface to provide interfaces for those entities.

This proposal depends on the proposal, in 02-107r1 or its successors, that makes interface bodies local entities.

2 Edits

Edits refer to 02-007. 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.

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(6) Procedure pointers, xiii, item(6)

2.2.3.5 Procedure entity 13:23+

A **procedure entity** is a dummy procedure, external procedure, interface body, internal procedure, intrinsic procedure, module procedure, procedure pointer, or statement function.

[Editor: "*abstract-interface-name*" ⇒ "*interface-name*" twice.] 44:13,16

[Editor: "*abstract-interface-name*" ⇒ "*interface-name*" twice.] 44:20,22

[Editor: "*abstract-interface-name*" ⇒ "*interface-name*".] 45:5

[Editor: "*abstract-interface-name*" ⇒ "*interface-name*".] 49:12

[Editor: Delete "abstract" twice.] 55:20,56:5

[Editor: "interface blocks" ⇒ "interfaces"; delete ", abstract interfaces".] 237:10

[Editor: Delete.]	244:13
[Editor: Delete "An interface ... **interface**.".]	245:12-13
[Editor: Delete "PROCEDURE() or"; delete "a generic . . . block".]	245:15-16
[Editor: Delete "or abstract interface".]	245:22
[Editor: Delete 12.3.2.1.4.]	249:4-7+
[Editor: "*abstract-interface-name*" ⇒ "*interface-name*" twice.]	250:6,15
C1212 (R1215) The *name* shall be the name of a procedure entity (2.2.3.5) that has explicit interface. If it is an entity declared by a PROCEDURE statement it shall be previously declared. If the entity is an intrinsic procedure the *name* shall be the specific name of an intrinsic procedure that is listed in 13.6 and not marked with a bullet (•). C1212$\frac{1}{2}$(R1215) The *name* shall not be the same as a keyword that specifies an intrinsic type.	250:16
[Editor: "*abstract-interface-name*" ⇒ "*interface-name*" thrice.]	250:26,28
`INTERFACE` [Editor: Move body of note 12.11 to here, while deleting "abstract" twice (at third and eighth lines).]	251, Note 12.15 line 1
C1236 (R1225) If a NAME= specifier appears in the *proc-language-binding-spec* in the *function-stmt* or *subroutine-stmt* of an interface body, the interface body name shall not be the name of a dummy procedure, the *interface-name* in a *procedure-declaration-stmt*, the *interface-name* in a *proc-component-def-stmt* (4.5.1), or the *interface-name* in a *specific-binding* (4.5.1).	264:15-17
[This instance of "abstract interfaces" is replaced by "interface bodies" in 02-107r1. No change is needed here.]	382:6
[Editor: "interface blocks" ⇒ "interfaces"; delete ", abstract interfaces".]	387:12
[This item is replaced by "The name of an interface body" in 02-107r1. No change is needed here.]	387:32
[Editor: "procedure, abstract interface" ⇒ "procedure entity,".]	405:8
procedure entity (2.2.3.5) : a dummy procedure, external procedure, interface body, internal procedure, intrinsic procedure, module procedure, procedure pointer, or statement function.	409:23+