

Subject: Comments arising from subgroup review of C interoperability.

To: WG5

From: Van Snyder

1 Introduction

The following concerns arose from reviewing C interoperability.

Although subgroup has given some attention to each of these concerns, there has not been time to give them all of the attention that they may need. Therefore, the revisions proposed below may not actually be practical.

2 Technical comments

This seems to be a restriction that is not technically necessary.	65:16
Check whether “extern” is the correct term. We agree that C uses the extern keyword. We recollect, but cannot verify (because of lack of a copy of the C standard), that the C standard uses the term “external linkage”, not “extern linkage”.	363:32,34
This seems to be a restriction that is not technically necessary.	360:36
It would be clearer to mention shape reversal up front.	360:38-42
The term “referenced type” should not be in bold-face type. It gives the appearance that there is a definition in a note! Surely we cannot do this. Since the term is defined in the C standard, we shouldn’t define it here (or elsewhere).	361:19
This is too big a hammer, in that it prohibits the VALUE attribute for BIND(C) procedures! In any case, it would be clearer to enumerate the prohibitions as normative text, instead of in a note, and it may be desirable to list them as constraints in place of [258:36-37]. The existing organization refers ones attention from Section 15 to Section 12, and back to Section 15.	362:1-8
There appears to be no use for BINDNAME that goes beyond what a processor can do on its own, given that it needs to know the properties of its companion processor(s). C interoperability cannot possibly work if the processor does not know many characteristics of its companion processor(s), especially the details of calling sequences! It therefore ought to be an insignificant additional burden for the processor to generate the name(s); it is a significant burden on the author of a program that the current draft of the standard expects the author to conduct whatever research is necessary to construct these names, and to specify them by using BINDNAME. WG5 wishes that the need for this facility be examined more closely.	70:22, 24-25, 258:26-27, 258:33-35, 264:18-31, 363:35-37
It would be useful to have an example showing that the data in an allocated allocatable array can be referenced in C, and the data in an array allocated in C can be referenced in Fortran. It would also be useful to put a rank-2 assumed-size array in the examples, so as to illustrate that one is not restricted to rank-1 arrays.	C.12 / 445-447

3 Typos and quibbles

“interopability” ⇒ “interoperability”	362:10
Delete “a”	362:33
Insert “a” after “is”.	363:35

Consider adding “(e.g. by negative values)” to the sentence.	358:11-12
Either strike “of” or insert “the” after “for”.	358:21
Add commas around ellipses. Perhaps change the brackets to parentheses (see e.g. [282:18]).	360:23,32
“an” ⇒ “of an”.	360:36