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J3/02-313r1

Date: October 2002
To: J3
From: Aleksandar Donev
Subject: Corrections to C_LOC and C_F_POINTER
Reference: J3-007R3, J3/02-230r2

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Summary

Richard had some objections to the edits made in 02-230r2 in the section on the C_LOC and C_F_POINTER intrinsics, which I address in this paper, and propose some edits. Also some questions which need to be addressed by all of J3 are given.

Nontrivial issues

Some of the comments are not directly resolved or addressed:

Richard thought the current Result explanations on C_LOC were vague and lacked the clarity needed for an independent reader to understand them. While I agree that they are far less then perfect, I believe they are adequate.

384: 17-19
Richard thinks we need to determine whether we really mean to impose the requirement that the target of PX "shall not have been deallocated". With ordinary pointer to pointer assignment PX=>PY, PY can be undefined and the assignment is legal but the results are not. We could do the same here, since we are now pointing a Fortran pointer to a Fortran pointer, FTPR=>PX, indirectly (i.e., via a C pointer CPTR).

However, since we have a very strong requirement on CPTR in Case (i), i.e., we do not allow the C pointer to be invalid or null or anything like that, I think we ought to keep the same strong requirement here. Of course, no compiler will ever be able to check any of this anyway...

474: 31, 35
This example uses deferred bindings, which are at present not in the draft. Depending on what we do with them and how we adopt the syntax, line 31 should be updated accordingly.

Edits

Most of these edits are organizational and correct punctuation and lack of conditionals. They do not at all change any contents.

383: 3 Add
Result Characteristics. Scalar of type C_PTR.
and replace
"Result"
with
"Result Value".

Note 15.3
Replace
C "base" address of the argument
with
hardware address of the storage associated with the argument

384: 16

Replace "were made. The association"
with
"were made and the association"

384: 6 Move the SHAPE paragraph to the end (i.e., right before NOTE 15.5)

384: 5-6 Richard, please see if this is OK with you. I still do not want to split the CPTR and FPTR paragraphs alltogether. They are related and I find the current version easier to understand then repeating the same thing twice.

Make a heading
CPTR and FTPR
and make the current lines 5-6 into regular sentences. Something like:
"CPTR shall be a scalar... FPTR shall be a pointer..."

384: 8-
Add
Either,
Case(i)..., or
Case(ii)...

and also add a few more conditionals in the text of case (i) and (ii):
384: 11 Add:
"In this case, FPTR shall..."
384: 20
"In this case, FPTR shall..."

474:2
Replace
"real numbers, not supported"
with
"real numbers, which may not be supported"

474:23-24 Replace
"modern OO random number generator"
with
"modern OO uniform random number generator (URNG)"

474: Add:
as follows:
to the end of the sentence instead of just a colon

! EOF