

To: WG5
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ISO/IEC JTC1/SC22/WG5 - N811

Proposals for Development of Fortran

25-Jul-92

- 1 There are a number of errors and ambiguities in Fortran 90 which should be fixed now before a significant number of implementations exist and before there are many user programs in the field. Corrections for these errors could be published by the rapid corrigendum procedure and this would greatly improve the effectiveness of the language and its utility for users. If we delay many of these errors will become embedded in both implementations and applications and the cost of subsequent correction will be vastly increased.
N.B. A corrigendum could be published in under six months.
- 2 A number of necessary corrections to the standard have already been drafted and are proposed for a first corrigendum (see documents N784, N786, and N786a). This should be completed at this meeting and forwarded for publication by the rapid publication procedure.
- 3 To this document should be added the following changes to correct the serious error caused by the undefined initial status of pointers (see N778 and N779). This feature of the pointer facility was a late change added ostensibly to increase efficiency. Subsequent analysis of the effect indicates that the change results in dramatic inefficiencies, and what is more important makes it impossible to implement the language with a "safe" garbage collector. This error can be put right by the following edits,
 - 3.1 P48L10 and P51L20 After "defined." add
"Prior to being associated with a target by one of these means, a pointer may appear as the argument of the ASSOCIATED function. In which case the result will be the value false."
 - 3.2 P68L19-21 Replace "undefined" by "disassociated"
Replace the next sentence by
"If the object being allocated is of a derived type containing a pointer component, these pointer components of the target are created in a disassociated state."
 - 3.3 P246L25 Replace "undefined" by "disassociated"
 - 3.4 P246L40-P247L1 Delete items (a) and (b) and renumber
 - 3.5 P247L12-13 Replace "but undefined." by
"with a target that is definable but currently undefined."