NCITS J3 ANSI Fortran Standards Committee
Asterisks as I/O Units

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1 NUMBER: 000068
2 TITLE: Asterisks as I/O units
3 KEYWORDS: Asterisk, I/O, unit
4 DEFECT TYPE: Erratum
5 STATUS: Submitted

6 Question:

7 1. Does the Fortran 95 standard require the external unit corresponding to the I/O unit identified by an asterisk
8   for input or output to be the same as the external unit identified by some fixed nonnegative integer value?

9 2. Can the I/O unit identified by an asterisk for input or output correspond to more than one external unit?

10 3. If the external unit identified by an integer value that corresponds to the I/O unit identified by an asterisk
11   for input or output is closed, does that cause the I/O unit identified by an asterisk to become disconnected?

12 Answer:

13 1. No.

14 2. No.

15 3. Yes.

16 Discussion:

17   The submitter states: At least one Fortran 95 implementation uses -1 as the value of the I/O unit identified
18 by an asterisk. A carefully constructed INQUIRE statement can expose this value to the user. Many users expect
19 I/O to the units identified by asterisks to continue to work even after the corresponding units identified by integer
20 values have been closed.

21 1. There is no requirement in the standard that the asterisk correspond to an *external-file-unit*.

22 2. For the units identified by the asterisk, the text of section 9.3.2 does not allow two or more units to be
23   connected simultaneously to the same external device or file [139:8-9]. An edit is supplied to clarify this
24   situation.

25 3. There might not be an *external-file-unit* that corresponds to the *io-unit* specified by an asterisk, as clarified
26   by the edit below. If there is, it is permissible to execute a CLOSE statement on them as on any other unit.

27 REFERENCES: ISO/IEC 1539-1:1997(E), Sections 9.3 and 9.4.4.2

28 EDITS:
29 For Fortran 95:
30   Add the following text to the end of the last paragraph before section 9.3.1 [138:34+]:
31   "An asterisk used in an input statement may identify the same *io-unit* as a particular
32   *external-file-unit*. An asterisk used in an output statement may identify the same *io-unit* as another
33   particular *external-file-unit*. "

34 There are no edits required for Fortran 2000.

35 SUBMITTED BY: Robert Corbett
36 HISTORY:
37 99-192   m150   Submitted
38 99-215   m150   Proposed response.
39 [End of J3 / 99-215r1]