Date: 4 March 1999
To: J3
From: Van Snyder
Subject: Edits to access standard unit numbers (unresolved issue 63)

1 Specifications

Provide an intrinsic module ISO_FORTRAN_ENV that makes public three scalar parameters of default integer type: OUTPUT_UNIT, ERROR_UNIT, and INPUT_UNIT.

2 Edits

Edits refer to 99-007. 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 immediately following text, while a page and line number followed by + indicates that immediately following text is to be inserted after the indicated line. Remarks for the editor are noted in the margin, or appear between [and] in the text.

If the value of a scalar integer expression that identifies an external file unit is negative, it shall be the same as the `unit` argument of a currently active user-defined derived-type input/output procedure, or one of the named constants INPUT_UNIT, OUTPUT_UNIT or ERROR_UNIT of the ISO_FORTRAN_ENV intrinsic module.	171:29

[Editor: Delete the J3 note and add the following:]   171:29 ... 172:3-6

[Editor: Delete the J3 note and add the following:]   `172:3-6`

A processor-dependent external unit, preconnected for sequential formatted output for the purpose of error reporting, is identified by this standard. If the processor does not support separate error reporting, this unit is the same as the external unit preconnected for sequential formatted output that is identified by asterisk.

The unit numbers of these units are given by public parameters in the ISO_FORTRAN_ENV intrinsic module (13.16).

[Editor: Change "*" to "an asterisk unit" for consistency with usage elsewhere in section 9.]   `194:38`

- If the parent data transfer statement is a WRITE statement with an asterisk unit or a PRINT statement, the `unit` argument shall have the same value as the OUTPUT_UNIT named constant of the ISO_FORTRAN_ENV intrinsic module (13.16).   `194:40`

- If the parent data transfer statement is a READ statement with an asterisk unit or a READ statement without a control list, the `unit` argument shall have the same value as the INPUT_UNIT named constant of the ISO_FORTRAN_ENV intrinsic module (13.16).

- Otherwise (the parent data transfer statement accesses an internal file), the `unit` argument shall have a processor- dependent negative value.

[Editor: Remove ", the "*" unit or no unit"]   `194:43+`

Section 13: Intrinsic procedures and modules.   `273:1`

There are three classes of intrinsic modules: system parameters, support for features of IEEE   `273:3+`

arithmetic, and support for interoperability with the C programming language. The latter two classes of modules are described in sections 15 and 16, respectively.

[Editor: Insert a new section 13.16.]   334:24+

13.16: Intrinsic module for standard processor-dependent constants

The intrinsic module ISO_FORTRAN_ENV provides public named constants giving processor-dependent values. A processor may provide more public entities in the ISO_FORTRAN_ENV intrinsic module than those listed here.

To avoid potential conflicts with program entities, it is recommended that a program use the "only" option in the USE statement that accesses the ISO_FORTRAN_ENV intrinsic module.

Note13.8

13.16.1 Standard input/output units

Three parameters giving processor-dependent values of preconnected units shall be provided by the processor (9.4).

13.16.1.1 INPUT_UNIT

The value of the default integer scalar parameter INPUT_UNIT identifies the processor-dependent preconnected external unit identified by an asterisk in a READ statement.

13.16.1.2 OUTPUT_UNIT

The value of the default integer scalar parameter OUTPUT_UNIT identifies the processor-dependent preconnected external unit identified by an asterisk in a WRITE statement.

13.16.1.3 ERROR_UNIT

The value of the default integer scalar parameter ERROR_UNIT identifies the processor-dependent preconnected external unit used for the purpose of error reporting.