Date: 15 February 1997
To: X3J3
From: Van Snyder
Subject: Access to status error messages

The capability advocated in Section 3.2 of X3J3/97-114r2, to access status
error messages, was added to the "B" list during X3J3 meeting 140. Illustra-
tive editorial changes that apply to ISO/IEC 1539:1991(E) were suggested
in X3J3/97-114r2, but are not reproduced here.

Section 3.2 of 97-114r2: Dealing with I/O trouble

When I try to write a robust, portable program that responds gracefully to
trouble with I/O, I put `IOSTAT=` and `ERR=` clauses in I/O statements. But
I can't do anything meaningful with the `IOSTAT` result except print it, and
admonish the user to look in the manuals. The implementor has graciously
provided explanatory error messages, but these are emitted only in the case
that I *don't* mention `IOSTAT=` or `ERR=` in the control list.

Can we have a standard intrinsic subroutine that takes an `IOSTAT` value
and a unit number, and prints a meaningful related message? Or, a standard
intrinsic function that takes an `IOSTAT` value and a unit number, and returns
a character variable in which there is a meaningful message related to the
`IOSTAT` value? It needn't be the same message that would be printed if
`IOSTAT=` or `ERR=` had been absent, because some vendors like to put extra
stuff in some messages, but almost *any* message is better than "Error 109.
Look in your manual to discover what that means," which is all I can print
now, if I want to maintain portability.

Modification at X3J3 meeting 140

It was pointed out at X3J3 meeting 140 that one also needs access to error
messages that would be produced by any abnormal condition that results
in returning an abnormal status. Specifically, one wants access to the error
message that would be printed if an error occurs during execution of an
`ALLOCATE` statement.