Subject: Structured exception detection, raising and handling
From: Van Snyder
Reference: 03-258r1, section 1.9

Number

TBD

Title

Structured exception detection, raising and handling.

Submitted By

J3

Status

For consideration.

Basic Functionality

Provide a structured method to detect, raise and handle exceptions that does not require explicitly to invoke a procedure at every instant that an exceptional condition might exist or be detected.

Rationale

Robust software needs to detect and handle exceptional conditions instead of allowing the default handling — which is usually to halt execution. There are various different methods presently in Fortran to detect intrinsic exceptions. Some exceptions — such as integer overflow — cannot be detected at all. The only provision for user-defined exceptions — the alternate return — is deprecated and therefore in some danger of being removed. Fortran needs an unified and regular mechanism to detect, raise and handle exceptions.

Estimated Impact

Moderate.

Detailed Specification

Substantial work on exceptions was done during the previous revision cycle, mostly by John Reid. This work would be a reasonable starting point for consideration.

History