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

1 Number

2 TBD

3 Title

4 Structured exception detection, raising and handling.

5 Submitted By

6 J3

7 Status

8 For consideration.

9 Basic Functionality

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

12 Rationale

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

19 Estimated Impact

20 Moderate.

21 Detailed Specification

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

24 History