

6.37 Fault Tolerance and Failure Strategies [REW]

6.37.1 Applicability to language

Fortran distinguishes between normal termination (`stop` or `end program`) and error termination (`error stop`). For a normal termination there are three stages, initiation, synchronization, and completion. This allows images that are still executing to access data on images that have finished and are awaiting synchronization. Error termination on one image causes error termination on the other images.

Therefore, there are three options available to a Fortran program. First, it can detect an error locally and handle it; second, it can detect an error and halt one image; and third, it can detect an error and signal all images to halt.

6.37.2 Guidance to language users

Decide upon a strategy for handling errors, and consistently use it across all portions of the program.

Use `stop` or `error stop` as appropriate.