

NAG Fortran Library Routine Document

E04NTF

Note: before using this routine, please read the Users' Note for your implementation to check the interpretation of *bold italicised* terms and other implementation-dependent details.

1 Purpose

To supply individual INTEGER optional parameters to E04NQF. The initialization routine E04NPF **must** have been called prior to calling E04NTF.

2 Specification

```
SUBROUTINE E04NTF (STRING, IVALUE, CW, IW, RW, IFAIL)
INTEGER           IVALUE, IW(*), IFAIL
double precision RW(*)
CHARACTER*(*)    STRING
CHARACTER*8      CW(*)
```

3 Description

E04NTF may be used to supply values for INTEGER optional parameters to E04NQF. It is only necessary to call E04NTF for those parameters whose values are to be different from their default values. One call to E04NTF sets one parameter value.

Each INTEGER optional parameter is defined by a single character string in STRING and the corresponding value in IVALUE. For example, the following allows the iteration limit to be defined:

```
ITNLIM = 1000
IF (M > 500) ITNLIM = 500
CALL E04NTF ('Iterations', ITNLIM, CW, IW, RW, IFAIL)
```

Optional parameter settings are preserved following a call to E04NQF and so the keyword **Defaults** is provided to allow you to reset all the optional parameters to their default values prior to a subsequent call to E04NQF.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 11 of the document for E04NQF.

4 References

None.

5 Parameters

- 1: STRING – CHARACTER*(*) *Input*
On entry: a single valid keyword of an INTEGER optional parameter (as described in Section 11 of the document for E04NQF).
- 2: IVALUE – INTEGER *Input*
On entry: an INTEGER value associated with the keyword in STRING.

- | | | |
|----|---------------------------------------|----------------------------|
| 3: | CW(*) – CHARACTER*8 array | <i>Communication Array</i> |
| 4: | IW(*) – INTEGER array | <i>Communication Array</i> |
| 5: | RW(*) – <i>double precision</i> array | <i>Communication Array</i> |

The arrays CW, IW and RW are defined in the document for E04NPF and **must not** be altered between calls to any of the routines E04NPF, E04NQF, E04NRF, E04NSF, E04NTF, E04NUF, E04NXF and E04NYF.

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|----|-----------------|---------------------|
| 6: | IFAIL – INTEGER | <i>Input/Output</i> |
|----|-----------------|---------------------|

On entry: IFAIL must be set to 0, -1 or 1. Users who are unfamiliar with this parameter should refer to Chapter P01 for details.

On exit: IFAIL = 0 unless the routine detects an error (see Section 6).

For environments where it might be inappropriate to halt program execution when an error is detected, the value -1 or 1 is recommended. If the output of error messages is undesirable, then the value 1 is recommended. Otherwise, for users not familiar with this parameter the recommended value is 0. **When the value -1 or 1 is used it is essential to test the value of IFAIL on exit.**

6 Error Indicators and Warnings

If on entry IFAIL = 0 or -1, explanatory error messages are output on the current error message unit (as defined by X04AAF).

Errors or warnings detected by the routine:

IFAIL = 1

The initialization routine E04NPF has not been called.

IFAIL = 2

The supplied option is invalid. Check that the keywords are neither ambiguous nor misspelt.

7 Accuracy

Not applicable.

8 Further Comments

E04NRF or E04NSF may also be used to supply INTEGER optional parameters to E04NQF.

9 Example

See Section 9 of the documents for E04NQF and E04NRF.