

# NAG Fortran Library Routine Document

## E04VRF

**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 get the value of an INTEGER optional parameter. This routine can be used before or after calling E04VHF.

### 2 Specification

```
SUBROUTINE E04VRF (STRING, IVALUE, CW, IW, RW, IFAIL)
INTEGER           IVALUE, IW(*), IFAIL
double precision RW(*)
CHARACTER*(*)    STRING
CHARACTER*8      CW(*)
```

### 3 Description

E04VRF obtains the current value of an integer option. For example

```
CALL E04VRF ('Major Iterations', ITNLIM, CW, IW, RW, IFAIL)
```

will result in the value of the optional parameter **Major Iterations** being output in ITNLIM.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 11 of the document for E04VHF.

### 4 References

None.

### 5 Parameters

- |    |                                                                                                                                                                                                        |                            |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| 1: | STRING – CHARACTER*(*)                                                                                                                                                                                 | <i>Input</i>               |
|    | <i>On entry:</i> a single valid keyword of an INTEGER optional parameter (as described in Section 11 of the document for E04VHF).                                                                      |                            |
| 2: | IVALUE – INTEGER                                                                                                                                                                                       | <i>Output</i>              |
|    | <i>On exit:</i> the 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(*) – <b>double precision</b> array                                                                                                                                                                  | <i>Communication Array</i> |
|    | The arrays CW, IW and RW are defined in the document for E04VGF and <b>must not</b> be altered between calls to any of the routines E04VGF, E04VHF, E04VKF, E04VLF, E04VMF, E04VNF, E04VRF and E04VSF. |                            |
| 6: | IFAIL – INTEGER                                                                                                                                                                                        | <i>Input/Output</i>        |
|    | <i>On entry:</i> IFAIL must be set to 0, -1 or 1. Users who are unfamiliar with this parameter should refer to Chapter P01 for details.                                                                |                            |
|    | <i>On exit:</i> 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 E04VGF 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

None.

## 9 Example

See Section 9 of the document for E04VKF.

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