

# NAG Library Routine Document

## E04WCF

**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

E04WCF is used to initialize the routine E04WDF.

### 2 Specification

```
SUBROUTINE E04WCF (IW, LENIW, RW, LENRW, IFAIL)
  INTEGER          IW(LENIW), LENIW, LENRW, IFAIL
  REAL (KIND=nag_wp) RW(LENRW)
```

### 3 Description

E04WCF initializes the arrays IW and RW for the routine E04WDF.

### 4 References

None.

### 5 Arguments

- 1: IW(LENIW) – INTEGER array *Communication Array*  
 2: LENIW – INTEGER *Input*

*On entry:* the dimension of the array IW as declared in the (sub)program from which E04WCF is called.

*Constraint:*  $LENIW \geq 600$ , see routine E04WDF.

- 3: RW(LENRW) – REAL (KIND=nag\_wp) array *Communication Array*  
 4: LENRW – INTEGER *Input*

*On entry:* the dimension of the array RW as declared in the (sub)program from which E04WCF is called.

*Constraint:*  $LENRW \geq 600$ , see routine E04WDF.

- 5: IFAIL – INTEGER *Input/Output*

*On entry:* IFAIL must be set to 0, -1 or 1. If you are unfamiliar with this argument you should refer to Section 3.4 in How to Use the NAG Library and its Documentation for details.

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, if you are not familiar with this argument, the recommended value is 0. **When the value -1 or 1 is used it is essential to test the value of IFAIL on exit.**

*On exit:* IFAIL = 0 unless the routine detects an error or a warning has been flagged (see Section 6).

## 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:

$IFAIL = 1$

One or more of the communication array lengths  $LENIW$  or  $LENRW$  is less than 600.

$IFAIL = -99$

An unexpected error has been triggered by this routine. Please contact NAG.

See Section 3.9 in *How to Use the NAG Library and its Documentation* for further information.

$IFAIL = -399$

Your licence key may have expired or may not have been installed correctly.

See Section 3.8 in *How to Use the NAG Library and its Documentation* for further information.

$IFAIL = -999$

Dynamic memory allocation failed.

See Section 3.7 in *How to Use the NAG Library and its Documentation* for further information.

## 7 Accuracy

Not applicable.

## 8 Parallelism and Performance

E04WCF is not threaded in any implementation.

## 9 Further Comments

The time taken by E04WCF is negligible.

## 10 Example

See Section 10 in E04WDF and E04WEF.

---