

## NAG Toolbox

### nag\_opt\_nlp2\_option\_integer\_get (e04wk)

#### 1 Purpose

nag\_opt\_nlp2\_option\_integer\_get (e04wk) is used to get the value of an integer optional parameter. nag\_opt\_nlp2\_option\_integer\_get (e04wk) can be used before or after calling nag\_opt\_nlp2\_solve (e04wd).

#### 2 Syntax

```
[ivalue, iw, rw, ifail] = nag_opt_nlp2_option_integer_get(string, iw, rw)
[ivalue, iw, rw, ifail] = e04wk(string, iw, rw)
```

#### 3 Description

nag\_opt\_nlp2\_option\_integer\_get (e04wk) obtains the current value of an integer option. For example

```
[itnlim, iw, rw, ifail] = e04wk('Iterations', iw, rw);
```

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

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 12 in nag\_opt\_nlp2\_solve (e04wd).

#### 4 References

None.

#### 5 Parameters

##### 5.1 Compulsory Input Parameters

1: **string** – CHARACTER(\*)

A single valid keyword of an integer optional parameter (as described in Section 12 in nag\_opt\_nlp2\_solve (e04wd)).

2: **iw**(:) – INTEGER array

The dimension of the array **iw** must be at least **leniw** (see nag\_opt\_nlp2\_init (e04wc))

3: **rw**(:) – REAL (KIND=nag\_wp) array

The dimension of the array **rw** must be at least **lenrw** (see nag\_opt\_nlp2\_init (e04wc))

##### 5.2 Optional Input Parameters

None.

##### 5.3 Output Parameters

1: **ivalue** – INTEGER

The integer value associated with the keyword in **string**.

- 2: **iw**(:) – INTEGER array  
The dimension of the array **iw** will be **leniw** (see nag\_opt\_nlp2\_init (e04wc))
- 3: **rw**(:) – REAL (KIND=nag\_wp) array  
The dimension of the array **rw** will be **lenrw** (see nag\_opt\_nlp2\_init (e04wc))
- 4: **ifail** – INTEGER  
**ifail** = 0 unless the function detects an error (see Section 5).

## 6 Error Indicators and Warnings

Errors or warnings detected by the function:

**ifail** = 1

The initialization function nag\_opt\_nlp2\_init (e04wc) has not been called.

**ifail** = 2

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

**ifail** = -99

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

**ifail** = -399

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

**ifail** = -999

Dynamic memory allocation failed.

## 7 Accuracy

Not applicable.

## 8 Further Comments

None.

## 9 Example

### 9.1 Program Text

```
function e04wk_example

fprintf('e04wk example results\n\n');

string = 'Iterations';
itmax = nag_int(100);

% Initialize
[iw, rw, ifail] = e04wc;
% Set option
[iw, rw, ifail] = e04wg( ...
    string, itmax, iw, rw);
% Get option value
[ivalue, iw, rw, ifail] = e04wk( ...
    string, iw, rw);

fprintf('%s has been set to %5d\n', string, ivalue);
```

## **9.2 Program Results**

e04wk example results

Iterations has been set to 100

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