

## NAG Toolbox

### nag\_opt\_nlp2\_sparse\_option\_double\_get (e04vs)

#### 1 Purpose

nag\_opt\_nlp2\_sparse\_option\_double\_get (e04vs) is used to get the value of a double optional parameter. nag\_opt\_nlp2\_sparse\_option\_double\_get (e04vs) can be used before or after calling nag\_opt\_nlp2\_sparse\_solve (e04vh).

#### 2 Syntax

```
[rvalue, cw, iw, rw, ifail] = nag_opt_nlp2_sparse_option_double_get(string, cw,
iw, rw)
[rvalue, cw, iw, rw, ifail] = e04vs(string, cw, iw, rw)
```

#### 3 Description

nag\_opt\_nlp2\_sparse\_option\_double\_get (e04vs) obtains the current value of a double option. For example

```
[featol, cw, iw, rw, ifail] = e04vr('Feasibility Tolerance', cw, iw, rw);
```

will result in the value of the optional parameter **Feasibility Tolerance** being output in featol.

A complete list of optional parameters, their abbreviations, synonyms and default values is given in Section 12 in nag\_opt\_nlp2\_sparse\_solve (e04vh).

#### 4 References

None.

#### 5 Parameters

##### 5.1 Compulsory Input Parameters

1: **string** – CHARACTER(\*)

A single valid keyword of a double optional parameter (as described in Section 12 in nag\_opt\_nlp2\_sparse\_solve (e04vh)).

2: **cw(:)** – CHARACTER(8) array

The dimension of the array **cw** must be at least **lencw** (see nag\_opt\_nlp2\_sparse\_init (e04vg))

3: **iw(:)** – INTEGER array

The dimension of the array **iw** must be at least **leniw** (see nag\_opt\_nlp2\_sparse\_init (e04vg))

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

The dimension of the array **rw** must be at least **lenrw** (see nag\_opt\_nlp2\_sparse\_init (e04vg))

##### 5.2 Optional Input Parameters

None.

### 5.3 Output Parameters

- 1: **rvalue** – REAL (KIND=nag\_wp)  
The double value associated with the keyword in **string**.
- 2: **cw(:)** – CHARACTER(8) array  
The dimension of the array **cw** will be **leniw** (see nag\_opt\_nlp2\_sparse\_init (e04vg))
- 3: **iw(:)** – INTEGER array  
The dimension of the array **iw** will be **leniw** (see nag\_opt\_nlp2\_sparse\_init (e04vg))
- 4: **rw(:)** – REAL (KIND=nag\_wp) array  
The dimension of the array **rw** will be **lenrw** (see nag\_opt\_nlp2\_sparse\_init (e04vg))
- 5: **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\_sparse\_init (e04vg) 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 e04vs_example

fprintf('e04vs example results\n\n');

featol = 1e-6;
string = 'Feasibility Tolerance';

% Initialize
[cw, iw, rw, ifail] = e04vg;

% Set option
[cw, iw, rw, ifail] = e04vn( ...
    string, featol, cw, iw, rw);

% Get option
[rvalue, cw, iw, rw, ifail] = e04vs( ...
    string, cw, iw, rw);

fprintf('%s has been set to %10.2e\n', string, rvalue);
```

### 9.2 Program Results

```
e04vs example results
Feasibility Tolerance has been set to 1.00e-06
```

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