

## NAG Library Function Document

### nag\_opt\_nlp\_option\_set\_integer (e04wgc)

#### 1 Purpose

nag\_opt\_nlp\_option\_set\_integer (e04wgc) may be used to supply individual Integer optional arguments to nag\_opt\_nlp\_solve (e04wdc). The initialization function nag\_opt\_nlp\_init (e04wcc) **must** have been called before calling nag\_opt\_nlp\_option\_set\_integer (e04wgc).

#### 2 Specification

```
#include <nag.h>
#include <nage04.h>

void nag_opt_nlp_option_set_integer (const char *string, Integer ivalue,
    Nag_E04State *state, NagError *fail)
```

#### 3 Description

nag\_opt\_nlp\_option\_set\_integer (e04wgc) may be used to supply values for Integer optional arguments to nag\_opt\_nlp\_solve (e04wdc). It is only necessary to call nag\_opt\_nlp\_option\_set\_integer (e04wgc) for those arguments whose values are to be different from their default values. One call to nag\_opt\_nlp\_option\_set\_integer (e04wgc) sets one argument value.

Each Integer optional argument 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;
e04wgc ("Iterations", itnlim, &state, &fail);
```

Optional argument settings are preserved following a call to nag\_opt\_nlp\_solve (e04wdc) and so the keyword **Defaults** is provided to allow you to reset all the optional arguments to their default values before a subsequent call to nag\_opt\_nlp\_solve (e04wdc).

A complete list of optional arguments, their abbreviations, synonyms and default values is given in Section 12 in nag\_opt\_nlp\_solve (e04wdc).

#### 4 References

None.

#### 5 Arguments

- 1: **string** – const char \* *Input*  
*On entry:* a single valid keyword of an Integer optional argument (as described in Section 12 in nag\_opt\_nlp\_solve (e04wdc)).
- 2: **ivalue** – Integer *Input*  
*On entry:* an Integer value associated with the keyword in **string**.
- 3: **state** – Nag\_E04State \* *Communication Structure*  
**state** contains internal information required for functions in this suite. It must not be modified in any way.

4: **fail** – NagError \*

*Input/Output*

The NAG error argument (see Section 3.6 in the Essential Introduction).

## 6 Error Indicators and Warnings

### NE\_BAD\_PARAM

On entry, argument  $\langle value \rangle$  had an illegal value.

### NE\_E04\_OPTION\_INVALID

The supplied option is invalid. Check that the keywords are neither ambiguous nor misspelt. The option string is ' $\langle value \rangle$ ' and **ivalue** =  $\langle value \rangle$ .

### NE\_E04WCC\_NOT\_INIT

Initialization function `nag_opt_nlp_init` (e04wcc) has not been called.

### NE\_INTERNAL\_ERROR

An internal error has occurred in this function. Check the function call and any array sizes. If the call is correct then please contact NAG for assistance.

## 7 Accuracy

Not applicable.

## 8 Parallelism and Performance

Not applicable.

## 9 Further Comments

`nag_opt_nlp_option_set_file` (e04wec) or `nag_opt_nlp_option_set_string` (e04wfc) may also be used to supply Integer optional arguments to `nag_opt_nlp_solve` (e04wdc).

## 10 Example

See Section 10 in `nag_opt_nlp_solve` (e04wdc) and `nag_opt_nlp_option_set_file` (e04wec).

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