

NAG Library Function Document

nag_opt_handle_opt_set_file (e04zpc)

1 Purpose

nag_opt_handle_opt_set_file (e04zpc) is an option setting function for solvers from the NAG optimization modelling suite, namely nag_opt_handle_solve_ipopt (e04stc) and nag_opt_handle_solve_pennon (e04svc). It can set one or more optional parameters from an external file.

2 Specification

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

void nag_opt_handle_opt_set_file (void *handle, Nag_FileID fileid,
    NagError *fail)
```

3 Description

nag_opt_handle_opt_set_file (e04zpc) may be used to supply values for optional parameters to the solver from an external file. It can only be called on handles which have been initialized by nag_opt_handle_init (e04rac) and before the call to the solver. nag_opt_handle_opt_set_file (e04zpc) looks in the file for a specific section containing the optional parameters. The section must start with a line `Begin` and must finish with a line `End`. Anything outside the section is ignored. If there is more than one section like this, only the first one is processed. Any line within the section is either blank or a comment which is ignored or defines a single optional parameter as if it had been set by nag_opt_handle_opt_set (e04zmc). The implied data type (character, integer or real) of each value to be set **must** match that expected by the corresponding optional parameter. It is only necessary to supply values for those arguments whose values are to be different from their default values. A comment begins with an asterisk (*) and all subsequent characters to the end of the line are ignored. Comments can also be placed after the optional parameter. The file is case insensitive.

Note that the optional parameters printed by the solver or by nag_opt_handle_print (e04ryc) are in the compatible format. An example of a valid options file is:

```
Begin * Example options file
    Print Level = 3
    Monitoring Level = 5 * output all details
    Monitoring File = 42 * to this file
End
```

4 References

None.

5 Arguments

- 1: **handle** – void * *Input*
On entry: the handle to the problem. It needs to be initialized by nag_opt_handle_init (e04rac) and **must not** be changed.
- 2: **fileid** – Nag_FileID *Input*
On entry: the file identifier associated with the argument data file. **Note:** that the file needs to be opened in read mode by nag_open_file (x04acc) with **mode** = 0.

- 3: **fail** – NagError * *Input/Output*
The NAG error argument (see Section 2.7 in How to Use the NAG Library and its Documentation).

6 Error Indicators and Warnings

NE_ALLOC_FAIL

Dynamic memory allocation failed.
See Section 3.2.1.2 in How to Use the NAG Library and its Documentation for further information.

NE_HANDLE

The supplied **handle** does not define a valid handle to the data structure for the NAG optimization modelling suite. It has not been initialized by `nag_opt_handle_init` (e04rac) or it has been corrupted.

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.

An unexpected error has been triggered by this function. Please contact NAG.
See Section 3.6.6 in How to Use the NAG Library and its Documentation for further information.

NE_INVALID_FORMAT

The expected delimiter ‘=’ was not found on line $\langle value \rangle$.

The *optval* provided on line $\langle value \rangle$ could not be converted to the expected numerical type.

NE_INVALID_OPTION

The *option* provided on line $\langle value \rangle$ was not recognized.

NE_INVALID_VALUE

The *optval* provided on line $\langle value \rangle$ for the character optional parameter is not valid.

The *optval* provided on line $\langle value \rangle$ for the integer optional parameter is out of bounds.

The *optval* provided on line $\langle value \rangle$ for the real optional parameter is out of bounds.

NE_NO_LICENCE

Your licence key may have expired or may not have been installed correctly.
See Section 3.6.5 in How to Use the NAG Library and its Documentation for further information.

NE_NOT_READ_FILE

BEGIN found, but end-of-file found before END. *All optional parameters that were set from the file before this error was encountered will remain set on exit.*

End-of-file or read error detected before BEGIN was found.

NE_PHASE

The options cannot be modified in this phase.

7 Accuracy

Not applicable.

8 Parallelism and Performance

nag_opt_handle_opt_set_file (e04zpc) is not threaded in any implementation.

9 Further Comments

None.

10 Example

See Section 10 in nag_opt_handle_init (e04rac) for links to all examples in the suite.
