

NAG Library Function Document

nag_glopt_bnd_mcs_init (e05jac)

1 Purpose

nag_glopt_bnd_mcs_init (e05jac) is used to initialize communication data for the suite of multi-level coordinate search functions: nag_glopt_bnd_mcs_solve (e05jbc), nag_glopt_bnd_mcs_optset_file (e05jcc), nag_glopt_bnd_mcs_optset_string (e05jdc), nag_glopt_bnd_mcs_optset_char (e05jec), nag_glopt_bnd_mcs_optset_int (e05jfc), nag_glopt_bnd_mcs_optset_real (e05jgc), nag_glopt_bnd_mcs_option_check (e05jhc), nag_glopt_bnd_mcs_optget_int (e05jkc) and nag_glopt_bnd_mcs_optget_real (e05jlc).

2 Specification

```
#include <nag.h>
#include <nage05.h>

void nag_glopt_bnd_mcs_init (Integer n_r, Nag_E05State *state,
                             NagError *fail)
```

3 Description

nag_glopt_bnd_mcs_init (e05jac) initializes the structure **state** for the solver nag_glopt_bnd_mcs_solve (e05jbc) and the optional-argument handlers nag_glopt_bnd_mcs_optset_file (e05jcc), nag_glopt_bnd_mcs_optset_string (e05jdc), nag_glopt_bnd_mcs_optset_char (e05jec), nag_glopt_bnd_mcs_optset_int (e05jfc), nag_glopt_bnd_mcs_optset_real (e05jgc), nag_glopt_bnd_mcs_option_check (e05jhc), nag_glopt_bnd_mcs_optget_int (e05jkc) and nag_glopt_bnd_mcs_optget_real (e05jlc).

4 References

None.

5 Arguments

- 1: **n_r** – Integer
This argument is no longer accessed by nag_glopt_bnd_mcs_init (e05jac).
- 2: **state** – Nag_E05State * *Communication Structure*
state contains information required by other functions in this suite. You must not modify it directly in any way.
- 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 2.3.1.2 in How to Use the NAG Library and its Documentation for further information.

NE_BAD_PARAM

On entry, argument *<value>* had an illegal value.

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 2.7.6 in How to Use the NAG Library and its Documentation for further information.

NE_NO_LICENCE

Your licence key may have expired or may not have been installed correctly.
See Section 2.7.5 in How to Use the NAG Library and its Documentation for further information.

7 Accuracy

Not applicable.

8 Parallelism and Performance

nag_glopt_bnd_mcs_init (e05jac) is threaded by NAG for parallel execution in multithreaded implementations of the NAG Library.

Please consult the x06 Chapter Introduction for information on how to control and interrogate the OpenMP environment used within this function. Please also consult the Users' Note for your implementation for any additional implementation-specific information.

9 Further Comments

The time taken by nag_glopt_bnd_mcs_init (e05jac) is negligible.

10 Example

See Section 10 in nag_glopt_bnd_mcs_solve (e05jbc) and nag_glopt_bnd_mcs_optset_file (e05jcc).
