

Z01CBFP

NAG Parallel Library Routine Document

Note: before using this routine, please read the Users' Note for your implementation to check for implementation-dependent details. You are advised to enclose any calls to NAG Parallel Library routines between calls to Z01AAFP and Z01ABFP.

1 Description

Z01CBFP may be used in conjunction with the *QR* factorization routines F08AEFP (PDGEQRF) and/or F08AFFP (PDORGQR) and F08ASFP (PZGEQRF) and/or F08ATFP (PZUNGQR) to return the minimum size of the workspace (LWORK) required.

2 Specification

```
INTEGER FUNCTION Z01CBFP(M, N, IA, JA, IDESCA)
INTEGER          M, N, IA, JA, IDESCA(*)
```

3 Usage

3.1 Definitions

None.

3.2 Global and Local Arguments

The following global **input** arguments must have the same value on entry to the routine on each processor and the global **output** arguments will have the same value on exit from the routine on each processor:

Global input arguments: M, N, IA, JA, and the array elements IDESCA(1) and IDESCA(3),...,IDESCA(8)

The remaining arguments are local.

4 Arguments

- | | | |
|-----------|--|---------------------|
| 1: | M — INTEGER | <i>Global Input</i> |
| | <i>On entry:</i> the number of rows in the matrix. | |
| 2: | N — INTEGER | <i>Global Input</i> |
| | <i>On entry:</i> the number of columns in the matrix. | |
| 3: | IA — INTEGER | <i>Global Input</i> |
| | <i>On entry:</i> the row index of the matrix that identifies the first row of the submatrix. | |
| 4: | JA — INTEGER | <i>Global Input</i> |
| | <i>On entry:</i> the column index of the matrix that identifies the first column of the submatrix. | |
| 5: | IDESCA(*) — INTEGER array | <i>Local Input</i> |
| | Note: the dimension of the array IDESCA must be at least 9. | |
| | <i>Distribution:</i> the array elements IDESCA(1) and IDESCA(3),...,IDESCA(8) must be global to the processor grid and the elements IDESCA(2) and IDESCA(9) are local to each processor. | |
| | <i>On entry:</i> the descriptor array. | |

5 Errors and Warnings

Not applicable.

6 Further Comments

Not applicable.

7 References

None.

8 Example

See Section 8 of the document for F08AEFP (PDGEQRF), Section 8 of the document for F08AFFP (PDORGQR), Section 8 of the document for F08ASFP (PZGEQRF) or Section 8 of the document for F08ATFP (PZUNGQR).
