

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(9)
```

3 Data Distribution

3.1 Definitions

None.

3.2 Global and Local Arguments

The input arguments M, N, IA, JA the array elements IDESCA(1) and IDESCA(3),...,IDESCA(8) are all global and so must have the same values on entry to the routine on each processor; however this condition is not checked by this routine.

4 Arguments

- | | | |
|----|--|--------------|
| 1: | M — INTEGER | Global Input |
| | <i>On entry:</i> the number of rows in the matrix. | |
| 2: | N — INTEGER | Global Input |
| | <i>On entry:</i> the number of columns in the matrix. | |
| 3: | IA — INTEGER | Global Input |
| | <i>On entry:</i> the row index of the matrix that identifies the first row of the submatrix. | |
| 4: | JA — INTEGER | Global Input |
| | <i>On entry:</i> the column index of the matrix that identifies the first column of the submatrix. | |
| 5: | IDESCA(9) — INTEGER array | Local Input |
| | <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 the Example Program for F08AEFP (PDGEQRF), F08AFFP (PDORGQR), F08ASFP (PZGEQRF) or F08ATFP (PZUNGQR).
