

**The
Connection Machine
System**

CMSSL Release Notes for the CM-5

Preliminary Documentation for Version 3.1 Beta 3

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**Thinking Machines Corporation
Cambridge, Massachusetts**

PRELIMINARY DOCUMENTATION

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CMSSL Release Notes for the CM-5

1 About These Release Notes

These release notes describe Version 3.1 Beta 3 of the CM Scientific Software Library (CMSSL) on the CM-5. They supplement *CMSSL for CM Fortran, CM-5 Edition*, Version 3.1 Beta 2.

2 About Version 3.1 Beta 3

Version 3.1 Beta 3 contains all the functionality of Version 3.1 Beta 2. It also supports CM Fortran programs that run in the single-node execution model (`-node`) and communicate with one another via calls to the CMMD library. Such programs use the hostless model of the CMMD library. For more information about CMMD, refer to the *CMMD User's Guide*, Version 3.0 Beta, and the *CMMD Reference Manual*, Version 3.0 Beta.

3 Software Dependencies

CMSSL Version 3.1 Beta 3 requires prior installation of the following software:

- CMOST Version 7.2 Beta, Patch 2 (or higher)
- CM Fortran Version 2.1 Beta 0.1
- CMMD Version 3.0 Beta

4 Linking with Version 3.1 Beta 3

After writing a CM Fortran program that calls CMSSL routines, compile it and link it with the library. To compile the program *program* on a CM-5 and link it with the CMSSL, issue one of the following command lines at the UNIX prompt:

- In the CM Fortran single-node model:

```
%cmf -cm5 -vu -node -o program program.fcm -cmmd_root  
/usr/cmmd/3.0 -lcmsslcm5vu-node
```

- In the CM Fortran vector-units model:

```
%cmf -cm5 -vu -o program program.fcm -lcmsslcm5vu
```

- In the CM Fortran (SPARC) nodes model:

```
%cmf -cm5 -sparc -o program program.fcm -lcmsslcm5
```

5 Known Software Problems

In Version 3.1 Beta 3, software problems occasionally occur in the *QR* factorization and solver routines in the single-node execution model. A resolution to these problems is planned for a future release.

6 Corrections to the CMSSL Manual

The following corrections apply to *CMSSL for CM Fortran*, Version 3.1 Beta 2:

- On page 37, the `-vu` and `-sparc` options are omitted from the two link lines. The link lines given in Section 4, above, are correct.
- On page 46, in the Syntax section of the inner product man page, the arguments *x* and *y* should appear in bold italics in all routines.
- On page 53, in the Arguments section of the 2-norm man page, the argument *x* should appear in bold italics.
- On page 75, in the Description section of the matrix multiplication man page, the formula for `gen_matrix_mult_noadd` should be $C = AB$, not $C = C + AB$.

7 Getting Help and Reporting Bugs

Field test software users are encouraged to communicate with Thinking Machines Corporation as fully as possible throughout the test period. Please report any errors you may find in this software and suggest ways to improve it.

When reporting an error, please provide as much information as possible to help us identify the problem. A code example that failed to execute, a session transcript, the record of a backtrace, or other such information is extremely helpful in this regard.

To report bugs and to communicate with the developers and internal users of the CMSSL Beta release, contact:

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