

NEC Numeric Library Collection 2.3.0 Release Notes

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NEC Corporation

Enhancements in NEC Numeric Library Collection 2.3.0

Problem Fixes

- BLAS
 - Fixed a problem of [dszc]gemm, which occurs segmentation fault when a stack extension for work area is very rarely failed.
- SBLAS
 - Fixed a problem of sparse matrix-vector multiplication functions/routines for ELL format, which may return an error indicator `ierr=SBLAS_ERROR_INPUT`.

Functions of NEC Numeric Library Collection 2.3.0

NEC Numeric Library Collection consists of the following componets:

Component	Functions	RPM File Name
ASL Native Interface ASL Unified Interface	Scientific library with a wide variety of algorithms for numerical/statistical calculations	nec-asl-ve-2.3.0-2.4-1.el7.x86_64.rpm nec-asl-ve-devel-2.3.0-2.4-1.el7.x86_64.rpm nec-asl-ve-2.3.0-2.4-1.el8.x86_64.rpm nec-asl-ve-devel-2.3.0-2.4-1.el8.x86_64.rpm
FFTW3 Interface	Interface library to use Fourier Transform functions of ASL with FFTW (version 3.x) API	nec-aslfftw-ve-2.3.0-2.1-1.el7.x86_64.rpm nec-aslfftw-ve-devel-2.3.0-2.1-1.el7.x86_64.rpm nec-aslfftw-ve-2.3.0-2.1-1.el8.x86_64.rpm nec-aslfftw-ve-devel-2.3.0-2.1-1.el8.x86_64.rpm
BLAS	Basic Linear Algebra Subprograms	nec-blas-ve-2.3.0-2.5-2.el7.x86_64.rpm nec-blas-ve-devel-2.3.0-2.5-2.el7.x86_64.rpm nec-blas-ve-2.3.0-2.5-2.el8.x86_64.rpm nec-blas-ve-devel-2.3.0-2.5-2.el8.x86_64.rpm
LAPACK	Linear Algebra PACKage Simultaneous linear equations, Eigenvalue equations, and Singular value decomposition	nec-lapack-ve-2.3.0-2.1-2.el7.x86_64.rpm nec-lapack-ve-devel-2.3.0-2.1-2.el7.x86_64.rpm nec-lapack-ve-2.3.0-2.1-2.el8.x86_64.rpm nec-lapack-ve-devel-2.3.0-2.1-2.el8.x86_64.rpm
ScaLAPACK	Scalable Linear Algebra PACKage Simultaneous linear equations, Eigenvalue equations, and Singular value decomposition (for distributed memory parallel programs)	nec-scalapack-ve-2.3.0-2.0-1.el7.x86_64.rpm nec-scalapack-ve-devel-2.3.0-2.0-1.el7.x86_64.rpm nec-scalapack-ve-2.3.0-2.0-1.el8.x86_64.rpm nec-scalapack-ve-devel-2.3.0-2.0-1.el8.x86_64.rpm
SBLAS	Sparse BLAS Basic operations of sparse matrices	nec-sblas-ve-2.3.0-3.0-2.el7.x86_64.rpm nec-sblas-ve-devel-2.3.0-3.0-2.el7.x86_64.rpm nec-sblas-ve-2.3.0-3.0-2.el8.x86_64.rpm nec-sblas-ve-devel-2.3.0-3.0-2.el8.x86_64.rpm
HeteroSolver	Simultaneous linear equations (Direct sparse solver)	nec-heterosolver-ve-2.3.0-2.1-3.el7.x86_64.rpm nec-heterosolver-ve-devel-2.3.0-2.1-3.el7.x86_64.rpm nec-heterosolver-ve-2.3.0-2.1-3.el8.x86_64.rpm nec-heterosolver-ve-devel-2.3.0-2.1-3.el8.x86_64.rpm
Stencil Code Accelerator	Stencil Code Acceleration	nec-sca-ve-2.3.0-3.3-2.el7.x86_64.rpm nec-sca-ve-devel-2.3.0-3.3-2.el7.x86_64.rpm nec-sca-ve-2.3.0-3.3-2.el8.x86_64.rpm nec-sca-ve-devel-2.3.0-3.3-2.el8.x86_64.rpm
NEC Numeric Library Collection User's Guide	Manuals of NEC Numeric Library Collection	nec-nlc-doc-2.3.0-2.11-1.el7.noarch.rpm nec-nlc-doc-2.3.0-2.11-1.el8.noarch.rpm
Basic scripts	Compiling environment setup scripts	nec-nlc-base-2.3.0-2.1-2.el7.noarch.rpm nec-nlc-base-2.3.0-2.1-2.el8.noarch.rpm

System Requirements

- When using the following functions, NEC MPI Library is required:
 - MPI or Hybrid parallel functions of ASL Unified Interface
 - Hybrid parallel functions of HeteroSolver
 - ScaLAPACK

License

- Please check "Copyrights and Trademarks" of the user's guide.
Here, the user's guide is located in the following directory.

`/opt/nec/ve/nlc/2.3.0/doc/UsersGuide/`

