使用 Intel 编译器

上海交通大学高性能计算中心

http://hpc.sjtu.edu.cn

2013 年 9 月 24 日更新

Contents

Here is how to use intel compiler (impi). First of all, add the following lines in the bashrc file:

```
source /lustre/utility/intel/composer_xe_2013.3.163/bin/compilervars.sh intel64
source /lustre/utility/intel/mkl/bin/intel64/mklvars_intel64.sh
source /lustre/utility/intel/impi/4.1.1.036/bin64/mpivars.sh
```

He may add this line if he wants to use fftw3 libraries:

```
export LD_LIBRARY_PATH=/lustre/software/fftw3/fftw-3.3.3_impi/FLOAT/lib:$LD_LIBRARY_PATH
```

and this one to use cuda

```
export PATH=/lustre/utility/cuda-5.0/bin:$PATH
```

Then source it.

Now, to compile a program you need to know the location of the libraries and include directories:

- impi : /lustre/utility/intel/impi/4.1.1.036/intel64/
- bin : mpiicc, mpiifort,mpicpc, mpirun
- include
- lib : libmpi.so
- mkl : lustre/utility/intel/mkl/lib/intel64/

Typically, to use mkl you will need to set the following variables:

```
MKL=/lustre/utility/intel/mkl/lib/intel64/
BLAS_LIBS=$(MKL)/libmkl_blas95_lp64.a
LAPACK_LIBS=$(MKL)/libmkl_lapack95_lp64.a
BLACS_LIBS=$(MKL)/libmkl_blacs_lp64.a
SCALAPACK_LIBS=$(MKL)/libmkl_scalapack_lp64.a #-lmkl_scalapack_lp64
MKL_LIBS = $(MKL)/libmkl_solver_lp64.a -Wl,--start-group $(MKL)/libmkl_intel_lp64.a $(MKL)/libmkl_
```