Hpl-2.0配置过程

0.操作系统：ubuntu x64（在虚拟机内运行）

1.下载hpl2.0安装包并解压

命令：tar –xvf hpl.tar

2.利用模板创建文件Make.Linux

2.1 修改arch=Linux

2.2 下载mpich软件包并安装，修改

MPinc = -I/usr/include/mpich/

MPlib = /usr/lib/x86\_64-linux-gnu/libmpich.so

2.3 下载GotoBlas2软件包并安装，修改

LAdir = $(HOME)/桌面/GotoBLAS2

LAinc =

LAlib = $(LAdir)/libgoto2\_nehalem-r1.13.so $(LAdir)/driver/others/xerbla.o

2.4 下载gcc、gfortran编译器并安装，修改

CC = /usr/bin/gcc

CCNOOPT = $(HPL\_DEFS)

CCFLAGS = $(HPL\_DEFS) -fomit-frame-pointer -O3 -funroll-loops -W -Wall –lgfortran

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LINKER = /usr/bin/gfortran

LINKFLAGS = $(CCFLAGS)

3.进行make

命令：make arch=Linux

产生文件 bin/Linux/xhpl.

4.运行测试

命令：cd bin/Linux

mpirun -np 4 ./xhpl

测试数据：

N : 5000

NB : 128

PMAP : Row-major process mapping

P : 1

Q : 1

PFACT : Left Crout Right

NBMIN : 2 4

NDIV : 2

RFACT : Left Crout Right

BCAST : 1ring

DEPTH : 0

SWAP : Mix (threshold = 64)

L1 : transposed form

U : transposed form

EQUIL : yes

ALIGN : 8 double precision words

测试结果：

An explanation of the input/output parameters follows:

T/V : Wall time / encoded variant.

N : The order of the coefficient matrix A.

NB : The partitioning blocking factor.

P : The number of process rows.

Q : The number of process columns.

Time : Time in seconds to solve the linear system.

Gflops : Rate of execution for solving the linear system.

T/V N NB P Q Time Gflops

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WR00L2L2 5000 128 1 1 16.05 5.196e+00

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||Ax-b||\_oo/(eps\*(||A||\_oo\*||x||\_oo+||b||\_oo)\*N)= 0.0056126 ...... PASSED

Hpcg配置过程

0.操作系统：ubuntu x64（在虚拟机内运行）

1.下载hpcg-master安装包并解压

命令： gunzip hpcg.tar.gz; tar -xvf hpcg.tar

2.下载并安装mpich软件包后，直接使用hpcg-master/setup文件夹中的make.Linux\_MPI文件

3.进行build，make 和make install

命令（在hpcg-master文件夹下）：

mkdir build\_Linux\_MPI

cd build\_Linux\_MPI

../configure Linux\_MPI

make

产生文件build\_Linux\_MPI/bin/xhpcg

4.运行测试

命令：

cd bin/xhpcg

mpirun -np 4 ./xhpcg 32 24 16

测试结果：

Final Summary=

Final Summary::HPCG result is VALID with a GFLOP/s rating of=1.75077

Final Summary::HPCG 2.4 rating for historical reasons is=1.80865

Final Summary::Reference version of ComputeDotProduct used=Performance results are most likely suboptimal

Final Summary::Reference version of ComputeSPMV used=Performance results are most likely suboptimal

Final Summary::Reference version of ComputeMG used=Performance results are most likely suboptimal

Final Summary::Reference version of ComputeWAXPBY used=Performance results are most likely suboptimal

Final Summary::Results are valid but execution time (sec) is=0.474

Final Summary::You have selected the QuickPath option=Results are official for legacy installed systems with confirmation from the HPCG Benchmark leaders.

Final Summary::After confirmation please upload results from the YAML file contents to=http://hpcg-benchmark.org