



OMPL2001 Result

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IBM

IBM HS22 Blade servers (Intel Xeon X5570, 2.93 GHz)

SPECompLpeak2001 = 237854

SPECompLbase2001 = 235331

SPEC license #PG3440A Tested by: Indiana University Test site: -- Test date: Apr-2009 Hardware Avail: Apr-2009 Software Avail: Jan-2009

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
311.wupwise_l	9200	461	319474	455	323292
313.swim_l	12500	1320	151547	1320	151537
315.mgrid_l	13500	1118	193198	1118	193234
317.applu_l	13500	1599	135060	1665	129735
321.quake_l	13000	869	239456	856	242970
325.apsi_l	10500	703	239119	701	239601
327.gafort_l	11000	644	273343	654	269297
329.fma3d_l	23500	1969	190967	1941	193750
331.art_l	25000	682	586260	612	653173

Hardware

CPU: Intel Xeon X5570
CPU MHz: 2934
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip (HT on)
CPU(s) orderable: 1-2 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 8 MB I+D on chip per chip
Other Cache: None
Memory: 24 GB (6*4GB DDR3-1333 RDIMMs)
Disk Subsystem: Raid 1 2x41 GB IBM drives, ext3
Other Hardware: None

Software

OpenMP Threads: 16
Parallel: OpenMP
Operating System: RHEL5.3 (x86_64) 2.6.18-128.1.6.el5
Kernel 2.6.18-128.1.6.el5
Compiler: Intel C/C++ Compiler 11.0.074
Intel Fortran Compiler 11.0.074
File System: ext3
System State: Multi-user, run level 3

Notes/Tuning Information

```
ulimit -s unlimited
```

Removes limits on the maximum size of the automatically-extended stack region of the current process and each process it creates.

Compiler flags for base level optimization

```
COPTIMIZE : -O3 -xhost -ipo -no-prec-div -unroll-loops0 -openmp
```

```
FOPTIMIZE : -O3 -xhost -ipo -no-prec-div -unroll-loops0 -openmp
```

```
F77OPTIMIZE : -O3 -xhost -ipo -no-prec-div -unroll-loops0 -openmp
```

Environment:

```
KMP_AFFINITY=disabled
```

controls the binding of OpenMP threads to the physical processing units

```
KMP_SCHEDULE=static,balanced
```

used to fine tune the load balancing of parallel loops that are statically scheduled under OpenMP with no chunk size specification

```
KMP_BLOCKTIME=infinite
```

Sets the time, in milliseconds, that a thread should wait, after completing the execution of a parallel region, before sleeping.

```
KMP_LIBRARY=throughput
```

Selects the OpenMP run-time library

```
KMP_STACKSIZE=31m
```

Sets the number of bytes to allocate for each parallel thread to use as to use as its private stack

```
OMP_NESTED=TRUE
```

Enables (TRUE) or disables (FALSE) nested parallelism.

```
OMP_DYNAMIC=FALSE
```

Enables (true) or disables (false) the dynamic adjustment of the number of threads.

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Notes/Tuning Information (Continued)

```

OMP_NUM_THREADS=16
  Sets the maximum number of threads to use for OpenMP* parallel
  Hyperthreading and turbo mode enabled.
318.galgel_m portability flags:
  FFLAGS=-fixed -extend-source 132
Flags for peak level optimization
  regions if no other value is specified in the program itself.
311.wupwise_l peak flags:
  fdo_pre0      = rm -rf ./*.dyn
  PASS1_FFLAGS  = -prof-gen
  PASS2_FFLAGS  = -prof-use
  PASS1_LDFLAGS = -prof-gen
  PASS2_LDFLAGS = -prof-use
313.swim_l peak flags:
  fdo_pre0      = rm -rf ./*.dyn
  PASS1_FFLAGS  = -prof-gen
  PASS2_FFLAGS  = -prof-use
  PASS1_LDFLAGS = -prof-gen
  PASS2_LDFLAGS = -prof-use
317.applu_l peak flags:
  COPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
  FOPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
  F77OPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
321.quake_l peak flags:
  ENV_OMP_NUM_THREADS=8
  srcalt:ompl.32
325.apsi_l peak flags:
  COPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
  FOPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
  F77OPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
329.fma3d_l peak flags:
  srcalt:ompl.32
  fdo_pre0      = rm -rf ./*.dyn
  PASS1_FFLAGS  = -prof-gen
  PASS2_FFLAGS  = -prof-use
  PASS1_LDFLAGS = -prof-gen
  PASS2_LDFLAGS = -prof-use
331.art_l peak flags:
  COPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
  FOPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
  F77OPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp -mcmmodel large -shared-intel
For a description of the flags used, please see
Indiana-ic11.0-intel64-linux-flags-file-20090428.html in the flags directory

```