# OMPL2001 Result



## IBM Corporation

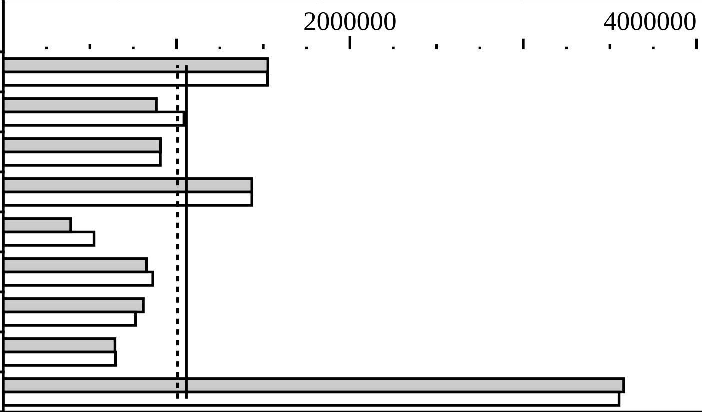
IBM System p5 595 (2300 MHz, 64 CPU)

SPECompLpeak2001 = 1056459

SPECompLbase2001 = 1005583

| SPEC license #: HPG0005 | Tested by: IBM Austin | Test site: Austin, TX | Test date: Jul-2006 | Hardware Avail: Aug-2006 | Software Avail: Aug-2006 |
|---|---|---|---|---|---|

| Benchmark | Reference Time | Base Runtime | Base Ratio | Peak Runtime | Peak Ratio |
|---|---|---|---|---|---|
| 311.wupwise_l | 9200 | 96.4 | 1526710 | 96.5 | 1524700 |
| 313.swim_l | 12500 | 226 | 883307 | 192 | 1042300 |
| 315.mgrid_l | 13500 | 238 | 906926 | 238 | 906150 |
| 317.applu_l | 13500 | 151 | 1434136 | 151 | 1434136 |
| 321.equake_l | 13000 | 534 | 389228 | 397 | 523692 |
| 325.apsi_l | 10500 | 203 | 826038 | 195 | 862658 |
| 327.gafort_l | 11000 | 218 | 808117 | 230 | 763663 |
| 329.fma3d_l | 23500 | 583 | 644540 | 581 | 647645 |
| 331.art_l | 25000 | 112 | 3579341 | 113 | 3552658 |




### Hardware

| | |
|---|---|
| CPU: | POWER5+ |
| CPU MHz: | 2300 |
| FPU: | Integrated |
| CPU(s) enabled: | 64 cores, 32 chips, 2 cores/chip (SMT on) |
| CPU(s) orderable: | 16,32,48,64 cores |
| Primary Cache: | 64 KB I + 32 KB D on chip per core |
| Secondary Cache: | 1920 KB I+D on chip per chip |
| L3 Cache: | 36 MB I+D off chip per chip, 32 chips per SUT |
| Other Cache: | None |
| Memory: | 256 GB (64x4 GB) |
| Disk Subsystem: | 2x73GB SCSI, 15K RPM |
| Other Hardware: | None |

### Software

| | |
|---|---|
| OpenMP Threads: | 128 |
| Parallel: | OpenMP |
| Operating System: | AIX 5L V5.3 |
| Compiler: | XL C/C++ Enterprise Edition Version 8.0 for AIX<br>XL Fortran Enterprise Edition Version 10.1 for AIX<br>Other Software: ESSL 4.2.0.4 |
| File System: | AIX/JFS2 |
| System State: | Multi-user |

## Notes/Tuning Information

```
Portability Flags & Environment Variables
  -qfixed used in: 311.wupwise_l, 313.swim_l, 315.mgrid_l, 317.applu_l, 325.apsi_l
  -qsuffix=f=f90 used in: 327.gafort_l, 329.fma3d_l

Base Flags
  C:       -q64 -O5 -qsmp=omp -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K -qalign=natural
  FORTRAN: -q64 -O5 -qsmp=omp -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K

Base & Peak User Environment:
  MEMORY_AFFINITY=MCM
  OMP_DYNAMIC=TRUE
  XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=1
  OMP_NUM_THREADS=128
  XLFRTEOPTS=intrinthds=1
  MALLOCMULTIHEAP=1

Peak Flags:
  -qsmp=omp used in all cases
  311.wupwise_l:     -q64 -O5 -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
                     OMP_DYNAMIC = FALSE
  313.swim_l:        -O5 -qipa=noobject -qmaxmem=-1 -q64 -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
                     OMP_DYNAMIC = FALSE
                     OMP_NUM_THREADS=64
                     XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
  315.mgrid_l:       -q64 -O5 -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
```

# OMPL2001 Result



IBM Corporation
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|---|---|---|---|---|---|

## Notes/Tuning Information (Continued)

```
                         ENV_OMP_DYNAMIC = FALSE
     317.applu_l:        basepeak=1
     321.equake_l:       -q64 -O5 -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
                         OMP_DYNAMIC = FALSE
                         OMP_NUM_THREADS=64
                      XLSMPOPTS=SPINS=0:YIELDS=0:STACK=8000000:SCHEDULE=STATIC:STARTPROC=0:STRIDE=2
     324.apsi_l:         -q64 -O5 -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
                         OMP_DYNAMIC = FALSE
     327.gafort_l:       -q64 -O5 -lmass
                         OMP_DYNAMIC = FALSE
     329.fma3d_l:        -q64 -O5 -lmass -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
                         OMP_DYNAMIC = FALSE
     330.art_m:       -O5 -qipa=noobject -qmaxmem=-1 -q64 -btextpsize:64K -bdatapsize:64K -bstackpsize:64K
                         EXTRA_CFLAGS= -DINTS_PER_CACHELINE=32 -DDBLS_PER_CACHELINE=16
                         OMP_DYNAMIC = FALSE
```

The installed OS level is AIX 5L for POWER version 5.3 with the 5300-04 Recommended Maintenence package.
The installed C/C++ compiler is XL C/C++ Enterprise Edition Version 8.0 for AIX with the August 2006 PTF.
The installed Fortran copiler is XL Fortran Enterprise Edition Version 10.1 with the August 2006 AIX PTF.

```
SMT:  Acronym for "Simultaneous Multi-Threading". A processor technology that allows
      the simultaneous execution of multiple thread contexts within a single processor
      core. (Enabled by default)
SUT:  Acronym for "System Under Test"
ESSL: Engineering and Scientific Subroutine Library
PTF:  IBM identifier for "Program Fix Level"

C:        IBM XL C for AIX invoked as xlc_r
Fortran:  IBM XL Fortran for AIX invoked as xlf_r

ulimits set to unlimited.
Large page mode and memory affinity were set as follows:
    vmo -r -o lgpg_regions=8192 -o lgpg_size=16777216
    chuser capabilities=CAP_BYPASS_RAC_VMM,CAP_PROPAGATE $USER
    bosboot -aD
    shutdown -rF
    export MEMORY_AFFINITY=MCM
```