OMPM2001 Result

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IBM

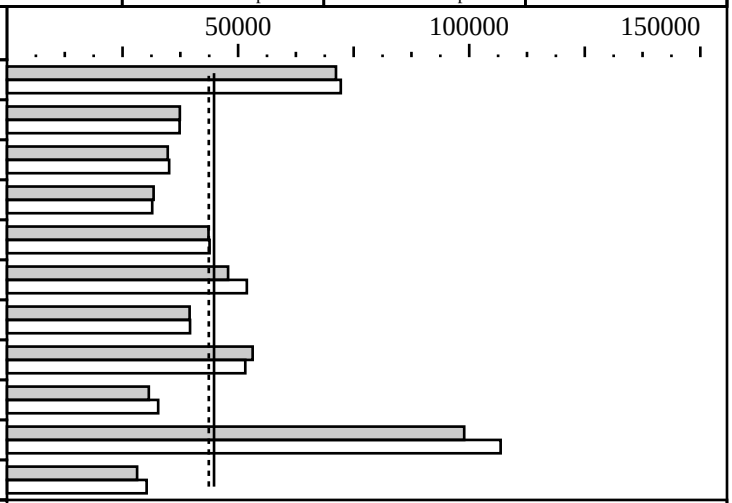
IBM HS22 Blade servers (Intel Xeon X5570, 2.93 GHz)

SPECompMpeak2001 = 44792

SPECompMbase2001 = 43657

SPEC license #: HPG3440A | 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
310.wupwise_m	6000	84.3	71175	83.1	72213
312.swim_m	6000	160	37393	161	37347
314.mgrid_m	7300	210	34777	208	35081
316.applu_m	4000	126	31718	127	31416
318.galgel_m	5100	117	43597	116	43825
320.equake_m	2600	54.4	47832	50.1	51888
324.apsi_m	3400	86.1	39508	85.9	39601
326.gafort_m	8700	164	53144	169	51553
328.fma3d_m	4600	150	30680	141	32707
330.art_m	6400	64.7	98915	59.9	106797
332.ammp_m	7000	249	28149	232	30210



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:	Shared Memory filesystem 12 GB, tmpfs
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:	tmpfs
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 provate stack
    OMP_NESTED=TRUE
```

Notes/Tuning Information (Continued)

```
      Enables (TRUE) or  disables  (FALSE)  nested  parallelism.
    OMP_DYNAMIC=FALSE
      Enables (true) or disables (false) the dynamic adjustment of the number of threads.
    OMP_NUM_THREADS=16
      Sets  the maximum number of threads to use for OpenMP* parallel
      regions if no other value is specified in the  program  itself.
Hyperthreading and turbo mode enabled.
318.galgel_m portability flags:
    FFLAGS=-fixed -extend-source 132
Flags for peak level optimization
310.wupwise_m peak flags:
    fdo_pre0       = rm -rf ./*.dyn
    PASS1_FFLAGS   = -prof-gen
    PASS2_FFLAGS   = -prof-use
    PASS1_LDFLAGS  = -prof-gen
    PASS2_LDFLAGS  = -prof-use
312.swim_m peak flags:
    fdo_pre0       = rm -rf ./*.dyn
    PASS1_FFLAGS   = -prof-gen
    PASS2_FFLAGS   = -prof-use
    PASS1_LDFLAGS  = -prof-gen
    PASS2_LDFLAGS  = -prof-use
316.applu_m peak flags:
    COPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
    FOPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
    F77OPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
318.galgel_m peak flags:
    ENV_OMP_NUM_THREADS=8
320.equake_m peak flags:
    ENV_OMP_NUM_THREADS=8
    srcalt:ompl.32
324.apsi_m peak flags:
    COPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
    FOPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
    F77OPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
328.fma3d_m 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
330.art_mpeak flags:
    COPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
    FOPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
    F77OPTIMIZE = -O2 -xhost -ipo -no-prec-div -openmp
332.ammp_m peak flags:
    COPTIMIZE = -O2 -xhost -openmp
    FOPTIMIZE = -O2 -xhost -openmp
    F77OPTIMIZE = -O2 -xhost -openmp
For a description of the flags used, please see
Indiana-ic11.0-intel64-linux-flags-file-20090428.html in the flags directory
```