# OMPM2001 Result

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## IBM

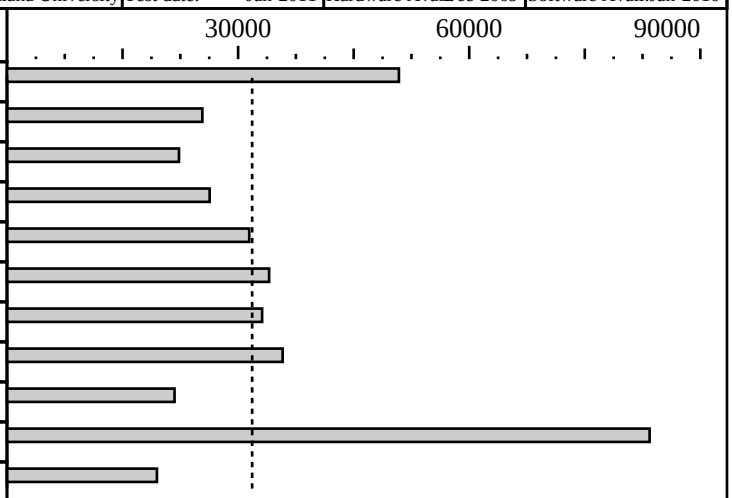
IBM System x iDP dx360 M2 (XEN virtual machine)

SPECompMpeak2001 = --

SPECompMbase2001 = 31824

| SPEC license #12 | Tested by: | Test site: | Test date: | Hardware Avail: | Software Avail: |
|---|---|---|---|---|---|
| HPG3440A | Indiana University | Indiana University | Jan-2011 | Dec-2009 | Jan-2010 |

| Benchmark | Reference Time | Base Runtime | Base Ratio | Peak Runtime | Peak Ratio |
|---|---|---|---|---|---|
| 310.wupwise_m | 6000 | 118 | 50874 | | |
| 312.swim_m | 6000 | 237 | 25355 | | |
| 314.mgrid_m | 7300 | 327 | 22324 | | |
| 316.applu_m | 4000 | 152 | 26306 | | |
| 318.galgel_m | 5100 | 162 | 31443 | | |
| 320.equake_m | 2600 | 76.4 | 34024 | | |
| 324.apsi_m | 3400 | 103 | 33116 | | |
| 326.gafort_m | 8700 | 243 | 35779 | | |
| 328.fma3d_m | 4600 | 212 | 21748 | | |
| 330.art_m | 6400 | 76.7 | 83416 | | |
| 332.ammp_m | 7000 | 360 | 19463 | | |




### Hardware

| | |
|---|---|
| CPU: | Intel Xeon E5570 |
| CPU MHz: | 2934 |
| FPU: | Integrated |
| CPU(s) enabled: | 8 cores, 2 chips, 4 cores/chip (HT off) |
| 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); 16 GB Xen DomU allocated |
| Disk Subsystem: | Single 500GB SATA hosting a 10GB Xen image |
| Other Hardware: | None |

### Software

| | |
|---|---|
| OpenMP Threads: | 8 |
| Parallel: | -- |
| Operating System: | RHEL5.5 (x86_64) Kernel 2.6.18-194.26.1.el5xen<br>Xen DomU Kernel 2.6.18-194.26.1.el5<br>XEN Version 3.0.3 Release 105.el5_5.5 |
| Compiler: | Intel C/C++ Compiler 11.1.072<br>Intel Fortran Compiler 11.1.072 |
| File System: | ext3; XEN ext3 |
| System State: | Multi-user, run level 3 |

## Notes/Tuning Information

```
VM Configuration details:
    1 VM for OMP2001 with 8 VCPUS
    Only one VM per node
    Host and guest OS installed using default parameters
    XEN installed using default parameters
Intel Turbo Boost Technology (Turbo)  : Disabled
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 -xSSE3 -ipo -no-prec-div -unroll-loops0 -openmp
    FOPTIMIZE : -O3 -xSSE3 -ipo -no-prec-div -unroll-loops0 -openmp
    F77OPTIMIZE : -O3 -xSSE3 -ipo -no-prec-div -unroll-loops0 -openmp
Environment:
    KMP_AFFINITY=enabled
     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.
```

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## Notes/Tuning Information (Continued)

```
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
 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=8
 Sets  the maximum number of threads to use for OpenMP* parallel
 regions if no other value is specified in the  program  itself.
```