



# OMPL2001 Result

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## HP

HP Proliant DL580 G7 Server Series, Intel Xeon L7555, 1.87 GHz

SPECompLpeak2001 = --

SPECompLbase2001 = 493152

SPEC license #PG3440A | Tested by: Indiana University | Test site: Indiana University | Test date: Apr-2011 | Hardware Availun-2010 | Software Avail:Jan-2011

| Benchmark     | Reference Time | Base Runtime | Base Ratio | Peak Runtime | Peak Ratio |
|---------------|----------------|--------------|------------|--------------|------------|
| 311.wupwise_l | 9200           | 203          | 723729     |              |            |
| 313.swim_l    | 12500          | 602          | 331955     |              |            |
| 315.mgrid_l   | 13500          | 518          | 416695     |              |            |
| 317.applu_l   | 13500          | 562          | 384230     |              |            |
| 321.equake_l  | 13000          | 575          | 361456     |              |            |
| 325.apsi_l    | 10500          | 271          | 620871     |              |            |
| 327.gafort_l  | 11000          | 391          | 450003     |              |            |
| 329.fma3d_l   | 23500          | 1166         | 322462     |              |            |
| 331.art_l     | 25000          | 290          | 1377258    |              |            |

### Hardware

CPU: Intel Xeon L7555  
 CPU MHz: 1866  
 FPU: Integrated  
 CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip (HT off)  
 CPU(s) orderable: 1-4 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: 24 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 512 GB (64 x 8 GB 2Rx4 PC3-10600R, ECC, running at 1066 MHz and CL9)  
 Disk Subsystem: Two 500 GB 7200 RPM 2.5" SAS hard drives, in RAID 1 mirror  
 Other Hardware: None

### Software

OpenMP Threads: 32  
 Parallel: OpenMP  
 Operating System: RHEL6.0 (x86\_64) 2.6.32-71.14.1.el6  
 Kernel 2.6.32-71.14.1.el6  
 Compiler: Intel(R) C/C++ Composer XE 2011 for Linux, version 12.0.2, Build 20110112  
 Intel(R) Fortran Composer XE 2011 for Linux, version 12.0.2, Build 20110112  
 File System: NFSv3 (IBM N5500 NAS) over Gb ethernet  
 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 -xSSE4.2 -xHost -no-prec-div -openmp -ipo
FOPTIMIZE : -O3 -xSSE4.2 -xHost -no-prec-div -openmp -ipo
F77OPTIMIZE : -O3 -xSSE4.2 -xHost -no-prec-div -openmp -ipo
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=32

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

BIOS settings notes:

Intel Hyper-Threading Technology (SMT): Disabled

Intel Turbo Boost Technology (Turbo) : Enabled (Max 2.533GHz)

For compiler/openmp flags description please refer:

Intel-ic12.0-intel64-linux-flags-file.html