



OMPM2001 Result

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HP

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

SPECompMpeak2001 = --

SPECompMbase2001 = 80989

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	37.3	160774			
312.swim_m	6000	74.2	80847			
314.mgrid_m	7300	87.7	83222			
316.applu_m	4000	26.1	153288			
318.galgel_m	5100	114	44802			
320.earthquake_m	2600	47.9	54295			
324.apsi_m	3400	46.5	73134			
326.gafort_m	8700	109	79651			
328.fma3d_m	4600	92.8	49543			
330.art_m	6400	32.9	194318			
332.ammp_m	7000	161	43469			

Hardware

CPU: Intel Xeon L7555
 CPU MHz: 1866
 FPU: Integrated
 CPU(s) enabled: 32 cores, 4 chips, 8 cores/chip (HT on)
 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 -xSSE4.1 -no-prec-div -openmp -ipo
FOPTIMIZE : -O3 -xSSE4.1 -no-prec-div -openmp -ipo
F77OPTIMIZE : -O3 -xSSE4.1 -no-prec-div -openmp -ipo

Environment:
KMP_AFFINITY=compact,1
  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
```



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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=32
Sets the maximum number of threads to use for OpenMP* parallel regions if no other value is specified in the program itself.

Portability Flags:
318.galgel_m=default=default=default:
FFLAGS=-fixed -extend-source 132

BIOS settings notes:
Intel Hyper-Threading Technology (SMT): Enabled
Intel Turbo Boost Technology (Turbo) : Enabled (Max 2.533GHz)

For compiler/openmp flags description please refer:
Intel-ic12.0-intel64-linux-flags-file.html