



OMPL2001 Result

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HP

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

SPECompLpeak2001 = --

SPECompLbase2001 = 504788

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
311.wupwise_l	9200	211	697727		
313.swim_l	12500	628	318338		
315.mgrid_l	13500	528	409378		
317.applu_l	13500	590	366221		
321.equake_l	13000	542	383513		
325.apsi_l	10500	286	587380		
327.gafort_l	11000	359	490814		
329.fma3d_l	23500	941	399786		
331.art_l	25000	277	1445765		

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: 64
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 -shared-intel -mcmmodel=medium -ipo`
`FOPTIMIZE : -O3 -xSSE4.2 -xHost -no-prec-div -openmp -shared-intel -mcmmodel=medium -ipo`
`F77OPTIMIZE : -O3 -xSSE4.2 -xHost -no-prec-div -openmp -shared-intel -mcmmodel=medium -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`

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=64

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