



# OMPM2001 Result

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Unisys  
ES7000/1

SPECompMpeak2001 = 9885

SPECompMbase2001 = 8426

SPEC license #PG0013A | Tested by: Intel Corporation | Test site: -- | Test date: Oct-2007 | Hardware Avail: Nov-2006 | Software Avail: Nov-2007

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	561	10697	495	12114	
312.swim_m	6000	1014	5917	763	7862	
314.mgrid_m	7300	1426	5120	1142	6391	
316.aplu_m	4000	219	18276	190	21000	
318.galgel_m	5100	555	9189	487	10475	
320.earthquake_m	2600	377	6895	287	9054	
324.apsi_m	3400	758	4484	508	6697	
326.gafort_m	8700	1117	7789	1059	8216	
328.fma3d_m	4600	620	7420	569	8081	
330.art_m	6400	481	13299	497	12869	
332.ammp_m	7000	595	11757	552	12688	

### Hardware

CPU: Dual-Core Intel(R) Xeon(R) Processor 7140M  
 CPU MHz: 3400  
 FPU: Integrated  
 CPU(s) enabled: 64 cores, 32 chips, 2 cores/chip  
 CPU(s) orderable: 1-32 chips  
 Primary Cache: 32KB(I)+32KB(D)/core on chip  
 Secondary Cache: 4096KB/chip (I+D) on chip  
 L3 Cache: 16MB/chip  
 Other Cache: N/A  
 Memory: 128 GB  
 Disk Subsystem: SCSI  
 Other Hardware:

### Software

OpenMP Threads: 16  
 Parallel: OpenMP  
 Operating System: SUSE Linux Enterprise Server 10 (x86\_64)  
 Compiler: GCC 4.1.0  
 File System: Linux ext3  
 System State: Default

## Notes/Tuning Information

Baseline optimization flags:

```
COPTIMIZE = -O3 --fopenmp -ansi -fwhole-program -combine
FOPTIMIZE = -O3 -fopenmp
```

```
export KMP_LIBRARY=turnaround
export KMP_STACKSIZE=31M
export KMP_BLOCKTIME=infinite
export OMP_DYNAMIC=FALSE
export KMP_STACKSIZE=31m
ONESTEP=yes
ulimit -s 1048576
```

base tuning

```
export KMP_AFFINITY=none
```

peak tuning

```
export KMP_AFFINITY=compact,1
export KMP_CPUINFO_FILE=/etc/cpuinfo
```

Portability Flags:

```
318.galgel_m: -ffixed-form -ffixed-line-length-132
```



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## Notes/Tuning Information (Continued)

Extra Flags:

330.art\_m: -DINTS\_PER\_CACHELINE=32 -DDBLS\_PER\_CACHELINE=16

New alternate sources

mgrid standard conformance to OpenMP 2.5; src.alt/intel

Intel replacement library for libgomp.so

-L/opt/intel/cce/10.1.008/lib -liomp5

Flags file: Intel-ic10.1-intel64-linux-flags-file-20071211.html