



# OMP2001 Result

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**Bull SAS**  
**bullx B510**

SPECompMpeak2001 = 98332

SPECompMbase2001 = 84991

SPEC license #HPG0015 | Tested by: Bull SAS | Test site: -- | Test date: Aug-2012 | Hardware Avail: Mar-2012 | Software Avail: Apr-2012

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	38.4	156135	37.0	162039	
312.swim_m	6000	80.9	74208	73.9	81229	
314.mgrid_m	7300	105	69618	94.1	77600	
316.applu_m	4000	44.4	90021	42.4	94263	
318.galgel_m	5100	74.4	68513	57.3	89077	
320.quake_m	2600	40.4	64346	25.2	103109	
324.apsi_m	3400	38.8	87571	37.4	90851	
326.gafort_m	8700	92.7	93889	83.1	104747	
328.fma3d_m	4600	79.0	58197	68.8	66823	
330.art_m	6400	33.6	190268	24.8	257709	
332.ammp_m	7000	122	57350	122	57350	

### Hardware

CPU: Intel(R) Xeon(R) Processor E5-2680  
 CPU MHz: 2700  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 cores/chip, 2 thread/core  
 CPU(s) orderable: 1,2  
 Primary Cache: 32KB(I)+32KB(D)/core on chip  
 Secondary Cache: 256KB/core (I+D) on chip  
 L3 Cache: 20MB (I+D) on chip  
 Other Cache: N/A  
 Memory: 64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC)  
 Disk Subsystem: 1 x 64GB SSD disk  
 Other Hardware:

### Software

OpenMP Threads: 32  
 Parallel: OpenMP  
 Operating System: Red Hat EL 6.2, 2.6.32-220.el6.x86\_64  
 Compiler: Intel C/C++ Compiler XE 12.1.4.319 for Linux Build 20120410  
 Intel FORTRAN Compiler XE 12.1.4.319 for Linux Build 20120410  
 GNU C Compiler 4.4.6 20110731  
 File System: Linux ext4  
 System State: Run level 3 (multi-user)

## Notes/Tuning Information

### BIOS settings notes:

Intel Hyper-Threading Technology (SMT): Enabled (default is Enabled)  
 Intel Turbo Boost Technology (Turbo) : Enabled (default is Enabled)

### Portability Flags:

318.galgel\_m: -FI -132

### Extra Flags:

330.art\_m: -DINTS\_PER\_CACHELINE=32 -DDBLS\_PER\_CACHELINE=16  
 all: -gcc-name=/usr/bin/gcc

### General Notes and Environment variables

export KMP\_LIBRARY=turnaround  
 export KMP\_STACKSIZE=31M  
 export KMP\_BLOCKTIME=infinite  
 export OMP\_DYNAMIC=FALSE  
 ONESTEP=yes

ulimit -s unlimited

Intel Turbo Boost Technology up to 3.50 GHz enabled

For compiler/openmp flags description please refer:

Intel-ic12.1-intel64-linux-flags-file.html

Base optimization flags and environment variables:

Medium:

OPTIMIZE = -O2 -xAVX -ipo -openmp

COPTIMIZE = -ansi-alias

export KMP\_AFFINITY=compact,0

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## Notes/Tuning Information (Continued)

Peak optimization flags and environment variables:

Medium:

```
OPTIMIZE = -O3 -xAVX -ipo -openmp
export KMP_AFFINITY=compact,0
```

Peak per-benchmark optimization flags and environment variables:

310.wupwise\_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp
```

312.swim\_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp -opt-streaming-stores always -align
srcalt = ompl.32
export KMP_AFFINITY=compact,1
export OMP_NUM_THREADS=16
```

314.mgrid\_m

```
OPTIMIZE=-O3 -xSSE4.2 -ipo1 -openmp -opt-streaming-stores never -align -rcd
export KMP_AFFINITY=compact,1
export OMP_NUM_THREADS=16
```

316.applu\_m

```
export KMP_AFFINITY=compact,1
```

318.galgel\_m

```
export KMP_AFFINITY=compact,1
export OMP_NUM_THREADS=16
FOPTIMIZE=-mkl
RM_SOURCES=lapak.f90
```

320.equake\_m

```
export KMP_AFFINITY=compact,1
export OMP_NUM_THREADS=16
```

324.appsi\_m

```
OPTIMIZE=-O2 -xAVX -ipo -openmp
```

326.gafort\_m

```
srcalt = ompl.32
OPTIMIZE=-O3 -xSSE4.2 -ipo -openmp
export KMP_AFFINITY=scatter,0
```

328.fma3d\_m

```
FOPTIMIZE=-no-prec-sqrt -fp-model fast=2
srcalt = ompl.32
export KMP_AFFINITY=compact,1
```

330.art\_m

```
OPTIMIZE=-O2 -xSSE4.2 -ipo -openmp
COPTIMIZE=-ansi-alias
```

332.amp\_m

```
basepeak=yes
```