



# OMPM2001 Result

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Sun Microsystems  
Sun Fire V40z

SPECompMpeak2001 = 11223

SPECompMbase2001 = 10862

SPEC license #HPG0010 | Tested by: Sun Microsystems, Santa Clara | Test site: Menlo Park | Test date: Feb-2005 | Hardware Avail: Apr-2005 | Software Avail: Apr-2005

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	432	13882	431	13924	
312.swim_m	6000	424	14142	401	14962	
314.mgrid_m	7300	622	11729	622	11729	
316.applu_m	4000	536	7463	419	9540	
318.galgel_m	5100	483	10561	481	10593	
320.quake_m	2600	240	10822	240	10822	
324.apsi_m	3400	297	11442	282	12046	
326.gafort_m	8700	869	10011	869	10011	
328.fma3d_m	4600	608	7566	608	7566	
330.art_m	6400	226	28323	226	28323	
332.ammp_m	7000	1359	5152	1359	5152	

### Hardware

CPU: AMD Opteron (TM) 852  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 4 chips, 1 core/chip  
 CPU(s) orderable: 1,2,4  
 Primary Cache: 64KBI + 64KBD on chip  
 Secondary Cache: 1024KB (I+D) on chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16GB (8x2GB, PC3200 CL3 DDR SDRAM ECC Registered)  
 Disk Subsystem: SCSI, 73GB, 10K RPM  
 Other Hardware: None

### Software

OpenMP Threads: 4  
 Parallel: OpenMP  
 Operating System: SUSE LINUX Enterprise Server 9  
 Compiler: PathScale EKOPath Compiler Suite, Release 2.1  
 File System: ufs  
 System State: Multi-User

## Notes/Tuning Information

### Baseline Optimization Flags:

```
Fortran : -Ofast -OPT:early_mp=on -mcmmodel=medium -mp
C       : -Ofast -mp
```

### Peak Optimization Flags:

```
310.wupwise_m : -mp -Ofast -mcmmodel=medium -LNO:prefetch Ahead=5:prefetch=3 -TENV:X=4
               -OPT:unroll_times_max=8:unroll_size=128:IEEE_NaN_Inf=off:ro=3
312.swim_m    : -mp -O3 -OPT:Ofast -m3dnow -mcmmodel=medium -LNO:simd=0
314.mgrid_m   : basepeak=yes
316.applu_m   : -mp -Ofast -mcmmodel=medium -CG:local_fwd_sched=on
               -LNO:fusion=2:fission=2:full_unroll_size=10000:prefetch=3 -TENV:X=3
318.galgel_m  : -Ofast -mp -OPT:early_mp=on
320.quake_m   : basepeak=yes
324.apsi_m    : -mp -O3 -OPT:Ofast -TENV:x=4 -LNO:fusion=2:prefetch=0
326.gafort_m  : basepeak=yes
328.fma3d_m   : basepeak=yes
330.art_m     : basepeak=yes
332.ammp_m    : basepeak=yes
```

### Alternate Source:

```
330.art_m : required srcalt purdue1 used for base and peak
316.applu_m: approved srcalt ompl.32 used for peak
324.apsi_m : approved srcalt ompl.32 used for peak
```



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## Notes/Tuning Information (Continued)

### Portability Flags:

```
318.galgel_m      : -fixedform -extend_source
330.art_m         : Extra Flag: -DINTS_PER_CACHELINE=16 -DDBLS_PER_CACHELINE=8
```

### Base and Peak User Environment:

```
export OMP_NUM_THREADS=4
export OMP_GUIDED_CHUNK_MAX=300
ulimit -s unlimited
```

Default BIOS settings used.

For a description of PathScale EKOPath Compiler Suite, Release 2.1 flags, portability flags and system parameters used to generate this result, please refer to SUN-20050302-PathScale2.1-SuSE-opteron.txt file in the flags directory.