



# OMPM2001 Result

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**SGI**  
**SGI 2800 32X 400MHz R12k**

SPECompMpeak2001 = 7123  
SPECompMbase2001 = 6804

SPEC license #HPG0014 | Tested by: SGI | Test site: | Test date: Jun-2001 | Hardware Avail: Sep-2000 | Software Avail: Mar-2001

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	582	10308	577	10395	
312.swim_m	6000	804	7463	806	7449	
314.mgrid_m	7300	795	9186	793	9207	
316.applu_m	4000	420	9533	319	12533	
318.galgel_m	5100	1009	5055	942	5415	
320.earthquake_m	2600	416	6250	410	6345	
324.apsi_m	3400	515	6599	475	7152	
326.gafort_m	8700	1499	5804	1471	5914	
328.fma3d_m	4600	752	6118	744	6185	
330.art_m	6400	956	6692	957	6688	
332.ammp_m	7000	1615	4336	1571	4457	

### Hardware

CPU: R12000  
 CPU MHz: 400  
 FPU: Integrated  
 CPU(s) enabled: 32  
 CPU(s) orderable: 2-256  
 Primary Cache: 32KBI + 32KBD on chip  
 Secondary Cache: 8MB(I+D) off chip  
 L3 Cache: N/A  
 Other Cache: N/A  
 Memory: 32 GB  
 Disk Subsystem: 1x 18 GB SCSI, 8x 36 GB (striped) SCSI  
 Other Hardware: None

### Software

OpenMP Threads: 32  
 Parallel: --  
 Operating System: IRIX 6.5.12m  
 Compiler: MIPSpro 7.3.1.2m C, Fortran90  
 File System: xfs  
 System State: Multi-user

## Notes/Tuning Information

Baseline flags: -64 -mp -Ofast=ip35 -LNO:fusion=2

Portability Flags:

318.galgel\_m: -fixedform -extend\_source

Peak flags:

310.wupwise\_m: -64 -mp -Ofast=ip27 -LNO:fusion=2:prefetch Ahead=5 -INLINE:aggressive=on

. -IPA:space=1000:linear=on:plimit=10000:callee\_limit=5000 -OPT:Olimit=0

312.swim\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2

314.mgrid\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2

316.applu\_m: -64 -mp -Ofast=ip35 -LNO:ou\_max=5:ou\_prod\_max=10:prefetch=0:fusion=2

. -CG:ld\_latency=3

318.galgel\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2

320.earthquake\_m: -64 -mp -Ofast=ip35 -OPT:goto=off:unroll\_size=160:unroll\_times\_max=4

. -CG:ld\_latency=3

324.apsi\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2 -TENV:X=4 -LNO:prefetch=0:blocking=off

326.gafort\_m: -64 -mp -Ofast=ip35

328.fma3d\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2 -CG:ld\_latency=3

. -IPA:linear=on:use\_intrinsic

330.art\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2

332.ammp\_m: -64 -mp -Ofast=ip35 -LNO:fusion=2:prefetch=0

Baseline user environment:

limit stacksize 512m

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## Notes/Tuning Information (Continued)

```
OMP_NUM_THREADS=32
OMP_DYNAMIC=FALSE
MPC_GANG=OFF
_DSM_MUSTRUN=
_DSM_WAIT=SPIN
```

Peak user environment:

```
316.applu_m: PAGESIZE_DATA=4096, PAGESIZE_STACK=4096, _DSM_PLACEMENT=ROUND_ROBIN
318.galgel_m: _DSM_PLACEMENT=ROUND_ROBIN
324.apsi_m: PAGESIZE_DATA=4096, PAGESIZE_STACK=4096
332.ampm_m: PAGESIZE_DATA=1024, PAGESIZE_STACK=1024, _DSM_PLACEMENT=ROUND_ROBIN
```

The following O/S parameters were set via systune:

```
percent_totalmem_4m_pages = 25 ; percent_totalmem_1m_pages = 25
percent_totalmem_256k_pages = 10 ; percent_totalmem_64k_pages = 10
```