



# OMPM2001 Result

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Hewlett-Packard Company  
hp server rp8400 (875MHz PA-8700+)

SPECompMpeak2001 = 7566  
SPECompMbase2001 = 7221

SPEC license #HPG2116 | Tested by: Hewlett-Packard Company | Test site: Richardson, Texas | Test date: Jul-2002 | Hardware Avail: Jul-2002 | Software Avail: Jun-2002

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio	
310.wupwise_m	6000	701	8555	549	10932	
312.swim_m	6000	683	8782	683	8782	
314.mgrid_m	7300	928	7864	928	7864	
316.applu_m	4000	399	10035	400	10011	
318.galgel_m	5100	1134	4497	1134	4497	
320.earthquake_m	2600	398	6532	398	6532	
324.apsi_m	3400	855	3974	652	5212	
326.gafort_m	8700	1032	8426	1032	8426	
328.fma3d_m	4600	690	6664	690	6664	
330.art_m	6400	434	14757	434	14757	
332.ammp_m	7000	1443	4851	1443	4851	

### Hardware

CPU: PA-8700+  
 CPU MHz: 875  
 FPU: Integrated  
 CPU(s) enabled: 16  
 CPU(s) orderable: 2 to 16 by 2  
 Primary Cache: 0.75MB(I) + 1.5MB(D) on chip  
 Secondary Cache: None  
 L3 Cache: None  
 Other Cache: None  
 Memory: 64GB  
 Disk Subsystem: 5x9GB Fiberchannel (striped)  
 1x9GB SCSI disk (root), 28x9GB FC disks (swap)  
 Other Hardware: 4 cells

### Software

OpenMP Threads: 16  
 Parallel: OpenMP  
 Operating System: HP-UX 11i TCOE B.11.11.0206.5  
 Compiler: HP C/ANSI C Compiler v11.11.04  
 HP Fortran 90 Compiler v2.5.14  
 HP aC++ Compiler A.03.35

PHSS\_26263 ld(1) and linker tools patch  
 PHSS\_25719 LIBCL patch  
 PHSS\_26913 CPSlib patch  
 PHSS\_26792 ANSI C compiler patch  
 PHSS\_26793 +O4/PBO compiler patch  
 PHSS\_27072 Fortran90 compiler patch  
 PHSS\_26952 aC++ -AA runtime libraries  
 PHSS\_24207 libm patch  
 PHSS\_26264 linker startup code

File System: Online JFS  
 System State: Multi-user

## Notes/Tuning Information

User environment:  
 OMP\_NUM\_THREADS=16  
 CPS\_STACK\_SIZE=128

Kernel Parameters (/stand/system):  
 maxdsiz 3221225472  
 maxdsiz\_64bit 274877906944  
 maxssiz 0x10000000  
 maxssiz\_64bit 1073741824  
 maxtsiz 1073741824  
 maxtsiz\_64bit 4294967296  
 vps\_pagesize 4096  
 vps\_ceiling 16384  
 dbc\_min\_pct 10  
 dbc\_max\_pct 10

Base:  
 F90 +O3 +Oall +Onofltacc -Wl,+FPD +Oopenmp  
 -Wl,-aarchive +Oinfo +DA2.0 -N +Oloop\_unroll=2  
 aCC +Oall +DA2.0W +Oopenmp +Oinfo -Wl,-aarchive



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## Notes/Tuning Information (Continued)

```
PASS1_CFLAGS      +I
PASS1_LDCFLAGS    +I -Wl,-aarchive
PASS2_CFLAGS      +P +Ostatic_prediction
PASS2_LDCFLAGS    +P +Ostatic_prediction -Wl,-aarchive
```

Peak:

```
310.wupwise_m:    +O3 +Oall +Onofltacc -Wl,+FPD
                  +Oopenmp -Wl,-aarchive +Oinfo +DA2.0 -N
                  +Oloop_unroll=2 +cat +Oinline_budget=10000
                  ONESTEP = true
```

```
316.applu_m:      +O3 +Oall +Onofltacc -Wl,+FPD
                  +Oopenmp -Wl,-aarchive +Oinfo +DA2.0 -N
                  +Oloop_unroll=2 +Ono_ptrs_to_globals
```

```
318.galgel_m:     +O3 +Oall +Onofltacc -Wl,+FPD
                  +Oopenmp -Wl,-aarchive +Oinfo +DA2.0 -N
                  +Oloop_unroll=2 +Ono_ptrs_to_globals
```

```
324.apsi_m:       +O3 +Oall +Onofltacc -Wl,+FPD
                  +Oopenmp -Wl,-aarchive +Oinfo +DA2.0 -N
                  +Oloop_unroll=2 +Onodataprefetch
```

Alternate Sources

hpg.1 C++ compiler compatible sources  
from SPEC ompm2001-isoc-20020619.tar.gz