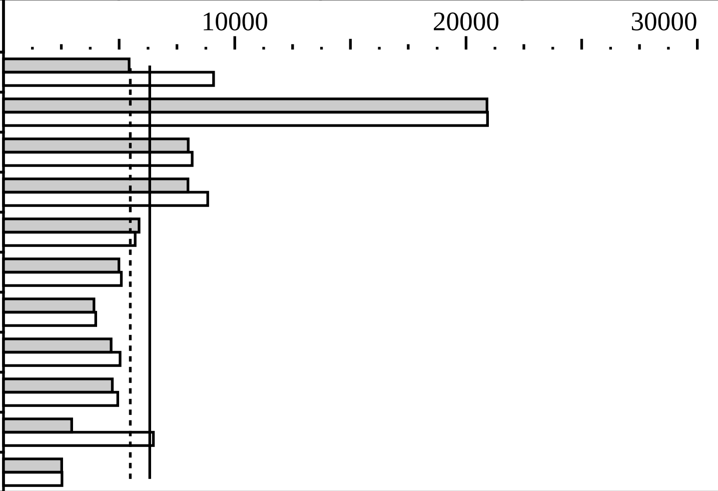
OMPM2001 Result

Hewlett-Packard Company
AlphaServer GS1280 Model M16

SPECompMpeak2001 = 6324
SPECompMbase2001 = 5482

SPEC license #:HPG2116	Tested by: Hewlett-Packard Company	Test site: Hewlett-Packard Company	Test date: Dec-2002	Hardware Avail: Jan-2003	Software Avail: Jan-2003

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	1105	5432	661	9083
312.swim_m	6000	287	20906	287	20928
314.mgrid_m	7300	914	7987	895	8158
316.applu_m	4000	501	7976	453	8831
318.galgel_m	5100	870	5862	896	5693
320.equake_m	2600	521	4990	510	5095
324.apsi_m	3400	869	3911	852	3988
326.gafort_m	8700	1870	4653	1726	5041
328.fma3d_m	4600	978	4705	931	4941
330.art_m	6400	2171	2948	988	6481
332.ammp_m	7000	2782	2516	2769	2528



Hardware

CPU:	Alpha 21364
CPU MHz:	1150
FPU:	Integrated
CPU(s) enabled:	16
CPU(s) orderable:	2 to 16 by 2
Primary Cache:	64KB(I)+64KB(D) on chip
Secondary Cache:	1.75MB on chip per CPU
L3 Cache:	None
Other Cache:	None
Memory:	64GB
Disk Subsystem:	36GB 10k rpm ufs
Other Hardware:	None

Software

OpenMP Threads:	4
Parallel:	OpenMP
Operating System:	Tru64 UNIX V5.1B (Rev 2650) + IPK
Compiler:	Compaq Fortran X5.5-2602-48C8L Compaq C V6.5-011-48C5K BETA DCPI - 3.9.6 (20020307 1815) SPIKE V5.2 (503DTK) GEM 48C5S LIBMLD 2.4 DATE APR 9 2002
File System:	ufs
System State:	Multi-user

Notes/Tuning Information

```
Base:
cc -arch ev7 -fast -omp -O4
f90 -arch ev7 -fast -omp -O5
Peak:
All use  -arch ev7 -omp ONESTEP
  Individual benchmark tuning:
   310.wupwise_m: f90 -call_shared -inline all -unroll 12 -align commons +PFB
   312.swim_m: f90 -arch ev7 -fast -omp -O5
   314.mgrid_m: f90 -O5 -transform_loops -tune ev7 -unroll 8 +PFB
   316.applu_m: f90 -fast -O5 -unroll 14 +PFB
   318.galgel_m: f90 -fast -O5 -unroll 5 -extend_source +PFB
  320.equake_m: cc -fast  -call_shared -O4 -ldensemalloc -assume restricted_pointers -inline speed -unroll 13 +PFB
   324.apsi_m: f90 -O5 -transform_loops -unroll 8 +PFB
   326.gafort_m: f90 -fast -O5 -arch ev67 -tune ev67
   328.fma3d: f90 -O4 -transform_loops
  330.art_m: cc -assume whole_program -ldensemalloc -call_shared -assume restricted_pointers -fast -O4 -unroll 16 -inline none +PFB
 332.ammp_m: cc  -O4 -ifo -assume nomath_errno -assume trusted_short_alignment -fp_reorder -readonly_strings -ldensemalloc -assume restricted_pointers -unroll 9

 Portability:
  318.galgel_m:  -exend_source used in base and peak.
 Peak Source:
   Available as SPEC OMPM source:ompm2001-srcl32bit-20020831.tar.gz
```

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Notes/Tuning Information (Continued)

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     For 310.wupwise_m, 312.swim_m, 314.mgrid_m, 316.applu_m, 320.equake_m
     324.apsi-m, 326.gafort_m, and 328.fma3d_m

      Available as SPEC OMPM source: ompm2001-isoc-20020619.tar.gz
     For 330.art_m

     User Environment:
       MP_STACK_SIZE = 10000000
       OMP_NUM_THREADS=4
       PTHREAD_CONFIG=feature=def-scs,d4-scs
       4 CPU processor set used (man processor_sets)
       Restricts memory accessible to 16 GB
       Cpus 0,1,2,3 used.

     System tunables:
       8Kb pages used - default

   Description of +PFB: Prefetches are improved by the post-link-time optimizer
    Spike, using feedback from a training run.  These
    commands are used (in phase "fdo_post_makeN"):
         rm -rf db
         mkdir db
         dcpid -no_palcode ./db
    A training run is carried out (in phase "fdo_runN"), and
    then these commands (in phase "fdo_postN"):
         dcpiquit
         dcpi2bb -make-bbdb -pm all -counts -conf_low -db ./db ${baseexe}
         spike ${baseexe} -feedback ${baseexe}  -o newexe
         rm ${baseexe}
         mv newexe ${baseexe}
    Information on UNIX V5.1 Patches can be found at
    http://www.support.compaq.com/patches

     Information on DCPI and SPIKE can be found at
     http://www.tru64unix.compaq.com/dtk
```