OMPM2001 Result

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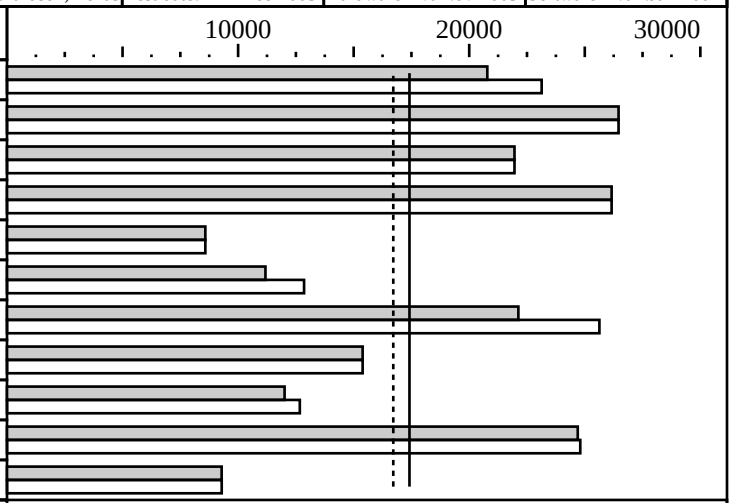
Hewlett-Packard Company
hp server rx8620 (1300 MHz Itanium 2)

SPECompMpeak2001 = 17415

SPECompMbase2001 = 16714

SPEC license #: HPG2116 | Tested by: Hewlett-Packard Company | Test site: Richardson, Texas | Test date: Dec-2003 | Hardware Avail: Nov-2003 | Software Avail: Jan-2004

Benchmark	Reference Time	Base Runtime	Base Ratio	Peak Runtime	Peak Ratio
310.wupwise_m	6000	289	20783	259	23134
312.swim_m	6000	227	26462	227	26462
314.mgrid_m	7300	332	21959	332	21959
316.applu_m	4000	153	26162	153	26162
318.galgel_m	5100	594	8582	594	8582
320.equake_m	2600	232	11183	202	12854
324.apsi_m	3400	154	22127	133	25633
326.gafort_m	8700	565	15388	565	15388
328.fma3d_m	4600	383	12011	363	12670
330.art_m	6400	259	24696	258	24805
332.ammp_m	7000	754	9287	753	9290



Hardware

CPU:	Intel Itanium 2
CPU MHz:	1300
FPU:	Integrated
CPU(s) enabled:	16
CPU(s) orderable:	2 to 16 by 2
Primary Cache:	L1 Inst/Data: 16 KB, associativity = 4
Secondary Cache:	L2 Unified: 256 KB, associativity = 8
L3 Cache:	L3 Unified: 3072 KB, associativity = 12
Other Cache:	None
Memory:	32GB (64 * 512MB DIMMs)
Disk Subsystem:	root disk 1x36 SCSI
Other Hardware:	--

Software

OpenMP Threads:	16
Parallel:	OpenMP
Operating System:	HPUX11i-TCOE B.11.23
Compiler:	HP C/ANSI C Compiler C.05.55 HP aC++ Compiler C.05.55 HP Fortran 90 Compiler B.11.23.03 HP LIBF90 PHSS_29620 HP F90 Compiler PHSS_29663
File System:	vxfs
System State:	Multi-user

Notes/Tuning Information

```
User environment:
   MP_IDLE_THREADS_WAIT=-1
   OMP_FIRST_USE=0

Portability Flags:
  318.galgel: +source=fixed +extend_source

Base:
   F90  +Ofaster +Oopenmp
        +Oinfo +DD64 -minshared
   cc   +Ofaster +Oopenmp +DD64 +Oinfo
        -minshared -AOe +Onofltacc
  submit = chatr -s +id disable +pd 256k +pi 256k


       _M_CACHE_OPTS=32768:256:1024  mpsched -T FILL $command

Peak:
  310.wupwise_m:  +Ofaster +cat +O3  +Oopenmp
    +Oinfo +DD64 -minshared -Wl,+pd64k -Wl,+pi64k
    ONESTEP = true
    submit = chatr -s +id disable $commandexe;
        _M_ARENA_OPTS=64:32 mpsched -T FILL $command
```

Notes/Tuning Information (Continued)

```
    312.swim_m:  basepeak=true

    314.mgrid_m: basepeak=true

    316.applu_m: basepeak=true

    318.galgel_m: basepeak=true

    320.equake_m:  +Ofaster +Oopenmp  +DD64  +Oinfo -minshared -AOe
      +Onofltacc +Onoparmsoverlap  +Odataprefetch=direct +Otype_safety=strong
      submit  = chatr -s +id disable +pd 64k +pi 64k $commandexe;
       _M_ARENA_OPTS=64:32  _M_CACHE_OPTS=32768:256:1024
       mpsched -T FILL $command

    324.apsi_m: +Ofast -ipo +Oopenmp +Oinfo +DD64 -minshared
       ONESTEP = true
       submit = chatr -s +id enable +pd 4m +pi 4m
         $commandexe;  _M_ARENA_OPTS=64:32
         _M_CACHE_OPTS=32768:256:1024
          mpsched -T FILL $command

    326.gafort_m: basepeak=true

    328.fma3d_m: +Ofaster +Oopenmp +Oinfo +DD64
      -minshared  +Oinline_budget=75
      ONESTEP=true
       submit = chatr -s +id disable +pd 1m +pi 1m
         $commandexe;  _M_ARENA_OPTS=64:32
         _M_CACHE_OPTS=32768:256:1024
          mpsched -T FILL $command

    330.art_m: +Ofaster +Oopenmp  +DD64  +Oinfo
     +DSitanium2 -minshared -AOe  +Onofl tacc   +Otype_safety=strong
     submit = chatr -s +id disable  +pd 256k +pi 256k $commandexe;
    _M_ARENA_OPTS=64:32 _M_SBA_OPTS=16348:150:256 mpsched -T FILL $command


    332.ammp_m: +Ofaster +Oopenmp  +DD64  +Oinfo
      -minshared -AOe +Onofltacc +Otype_safety=strong
       submit = chatr -s +id enable +pd 4m +pi 4m
         $commandexe;  _M_ARENA_OPTS=64:32
         _M_CACHE_OPTS=32768:256:1024
          mpsched -T FILL $command

  Alternate Sources:
    ompl.32 OMPL 32 bit compatible sources
    from SPEC Web site ompm2001-srcl32bit-20020822.tar.gz
      used for Peak  328.fma3d_m

   Kernel Paramters (/stand/system):
      maxdsiz         0xc0000000
      maxdsiz_64bit   0x3ffbfffffff
      maxssiz         0x17f00000
      maxssiz_64bit   0x40000000
      maxtsiz         0x40000000
```

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Notes/Tuning Information (Continued)

```
        maxtsiz_64bit   0x40000000
        vps_pagesize    4096
        vps_ceiling     16384
        dbc_min_pct     20
        dbc_max_pct     20
        swapmem_on      0

  Notes:

    System was configured with 1/2 of memory interleaved and
      1/2 of memory local to each cell

    System configured as a single partition with 4 cells and
      4 processors per cell

    Threads were assigned to cpus using the FILL strategy
      from the HP-UX mpsched utility

    Memory tuning is documented in man page malloc(3C)
      _M_ARENA_OPTS=64:32
        64 malloc arenas, 32 4k pages expansion

      _M_SBA_OPTS=16348:150:256
        16384 maxfast size, 150 small blocks, 256 grain size

      _M_CACHE_OPTS=32768:256:1024
        32768 bucket_size: 256 buckets:1024 retirement_age
```