Hewlett-Packard Company

hp server rx7620 (1500 MHz Itanium 2)

SPECompMpeak2001 = 11828
SPECompMbase2001 = 11098

Hardware

CPU: Intel Itanium 2
CPU MHz: 1500
FPU: Integrated
CPU(s) enabled: 8
CPU(s) orderable: 2 to 8 by 2
Primary Cache: L1 Inst/Data: 16 KB, associativity = 4
Secondary Cache: L2 Unified: 256 KB, associativity = 8
L3 Cache: L3 Unified: 6144 KB, associativity = 24
Other Cache: None
Memory: 16GB (32 * 512MB DIMMs)
Disk Subsystem: root disk 1x36 SCSI
Other Hardware: --

Software

OpenMP Threads: 8
Parallel: OpenMP
Operating System: HPUX11i-TCOE B.11.23
Compiler:
- HP C/ANSI C Compiler B.11.23
- HP aC++ Compiler B.11.23
- HP Fortran 90 Compiler B.11.23
- HP LIBF90 PHSS_29620
- HP F90 Compiler PHSS_29663
- HP aC++ Compiler PHSS_29655
- HP C Compiler PHSS_29656
- u2comp/be/plugin library PHSS_29657
File System: vxfs
System State: Single-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 +Openmp
 +Oinfo +DD64 -minshared
cc  +Ofaster +Openmp +DD64 +Oinfo
   -minshared -AOe +Onofltacc
submit = chatr -s +id disable +pd 256k +pi 256k +mergeseg $commandexe; \
   _M_ARENA_OPTS=64:32 _M_SBA_OPTS=16348:150:256 \
   _M_CACHE_OPTS=32768:256:1024  mpsched -T FILL $command

Peak:
310.wupwise_m:  +Ofaster +cat +O3 +Openmp
 +Oinfo +DD64 -minshared -Wl,+pd256k -Wl,+pi256k
ONESTEP = true
submit = chatr -s +id disable $commandexe;
Notes/Tuning Information (Continued)

312. swim_m: basepeak=true

314. mgrid_m: basepeak=true

316. applu_m: +Ofaster +Oopenmp +Oinfo +DD64 -minshared +DSitanium
ONESTEP=true
submit = chatr -s +id disable +pd 256k +pi 256k $commandexe;
  _M_ARENA_OPTS=64:32
  _M_CACHE_OPTS=32768:256:1024 mpsched -T FILL $command

318. galgel_m: +Ofaster +Oopenmp +Oinfo +DD64 -minshared +Onodataprefetch +Oloop_unroll=14
ONESTEP = true
submit = chatr -s +id disable +pd 256k +pi 256k $commandexe;
  _M_ARENA_OPTS=64:32
  _M_CACHE_OPTS=32768:256:1024 mpsched -T FILL $command

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

326. gafort_m: basepeak=true

328. fnma3d_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: basepeak=true

332. ammp_m: +Ofaster +Oopenmp +DD64 +Oinfo -minshared -AOe +Onofltacc
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:
hpg.1 C++ compiler compatible sources
from SPEC Web site ompm2001-isoc-20020619.tar.gz
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Notes/Tuning Information (Continued)

used for Base 320.equake_m 330.art_m 332.ammp_m
used for Peak 332.ammp_m

ompl.32 OMPL 32 bit compatible sources
from SPEC Web site ompm2001-src32bit-20020822.tar.gz
used for Peak 310.wupwise_m 328.fma3d_m

Kernel Parameters (/stand/system):
maxdsiz 0xc0000000
maxdsiz_64bit 0x3ffbfffffff
maxssiz 0x17f00000
maxssiz_64bit 0x40000000
maxtsiz 0x40000000
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 2 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