CFP2000 Result

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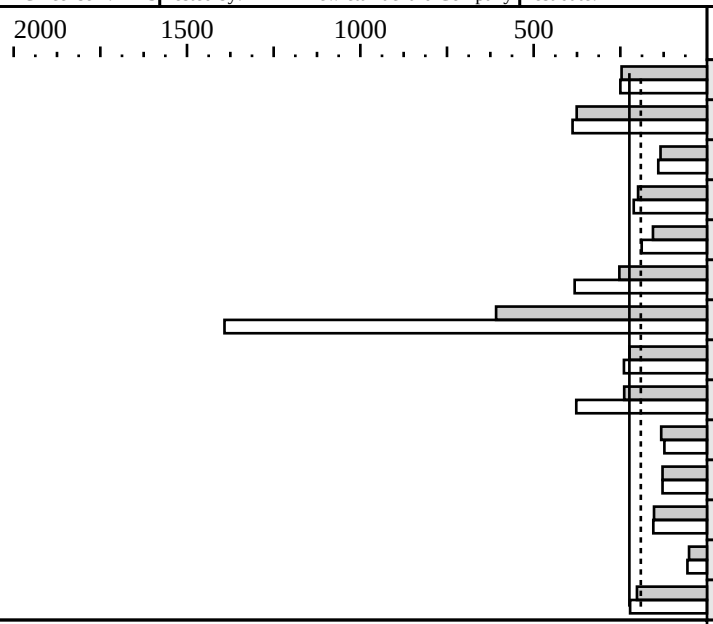
Hewlett-Packard Company

ProLiant BL685c (AMD Opteron (TM) 8220)

SPECfp_rate2000 = 224

SPECfp_rate_base2000 = 191

SPEC license #: 3 | Tested by: Hewlett-Packard Company | Test date: Feb-2007 | Hardware Avail: Feb-2007 | Software Avail: Jan-2007



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	8	60.3	246	8	59.4	250
171.swim	8	76.5	376	8	74.2	388
172.mgrid	8	125	134	8	119	141
173.applu	8	98.0	199	8	92.2	211
177.mesa	8	83.4	156	8	69.0	188
178.galgel	8	106	253	8	70.5	382
179.art	8	39.7	608	8	17.3	1392
183.equake	8	54.0	224	8	50.4	240
187.facerec	8	73.8	239	8	46.8	377
188.ammp	8	155	132	8	166	123
189.lucas	8	145	128	8	145	128
191.fma3d	8	128	153	8	126	155
200.sixtrack	8	197	51.8	8	181	56.4
301.apsi	8	119	202	8	109	222

Hardware

CPU:	AMD Opteron (TM) 8220
CPU MHz:	2800
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	2,4 chips
Parallel:	No
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	N/A
Other Cache:	N/A
Memory:	32 GB (16x2 GB PC2-5300P CL5)
Disk Subsystem:	1x72 GB 10K SAS
Other Hardware:	None

Software

Operating System:	Solaris 10 6/06
Compiler:	Sun Studio 11 with Patches
File System:	ufs
System State:	Multi-user

Notes/Tuning Information

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Compiler invocation:
  C: cc
  F90: f90
  F77: f90

FDO:  PASS1= -xprofile=collect:./feedback PASS2= -xprofile=use:./feedback
      fdo_pre0:  rm -rf ./feedback.profile


Floating point base flags:
  F90:   -fast -xipo=2 -xarch=amd64 -xprefetch_level=3 ONESTEP=yes
    C:   -fast -xipo=2 -xalias_level=std -xpagesize=2m ONESTEP=yes

Floating point peak flags:
 ONESTEP=yes for all benchmarks

 168.wupwise:   -fast -xautopar -xpad=common:3969 -xipo=2 -xarch=amd64 -xprefetch_level=3  -xpagesize_heap=2m
```

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Notes/Tuning Information (Continued)

171.swim: -fast -xpad=common:3969 -xipo=2 -xvector=simd -xprefetch_level=3 -Qoption iropt -Atile:skewp,-Ainline:cs=700 -xarch=amd64 -Qoption ube_ipa -inl_alt -xpagesize_stack=2m

172.mgrid: -fast -xautopar -stackvar -xpad=common:900 -xipo=2 -xarch=amd64 -xprefetch_level=3 -xvector -xpagesize=2m -Qoption ld -M,/usr/lib/ld/map.bssalign

173.applu: -fast -xautopar -unroll=5 -stackvar -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a -qoption iropt -Rloop_dist -xpagesize_heap=2m

177.mesa: -fast -xautopar -xO4 -xipo=2 -Wd,-iropt-prof -xarch=amd64 -xalias_level=strong -xpagesize=2m +FDO

178.galgel: -fast -xcache=64/32/4:1024/64/4 -xipo=2 -xpagesize_heap=2m -xvector=simd -xarch=amd64 -xprefetch_level=3 RM_SOURCES=lapak.f90 EXTRALIBS=-xlic_lib=sunperf

179.art: -fast -xipo=2 -xalias_level=strong -xprefetch -Wd,-iropt-prof -xpagesize=2m +FDO

183.equake: -fast -Wd,-iropt-prof -xipo=2 -xprefetch -xalias_level=strong -xpagesize=2m -lmopt -lm +FDO

187.facerec: -fast -xO4 -xipo=2 -xprefetch_level=3 -xpagesize=2m RM_SOURCES=cfftb.f90 cffti.f90 cfftf.f90 EXTRALIBS=-xlic_lib=sunperf

188.ammp: -fast -xcache=64/32/4:1024/64/4 -xO4 -xipo=2 -xarch=amd64a -xalias_level=std -xpagesize_heap=2m -lmopt -lm

189.lucas: -fast -Qoption ube_ipa -inl_alt -xipo=2 -xarch=amd64 -xprefetch_level=3

191.fma3d: -fast -xcache=64/32/4:1024/64/4 -unroll=5 -fsimple=1 -xipo=2 -xprefetch_level=3 -xarch=amd64 -xpagesize_heap=2m +FDO

200.sixtrack: -fast -xipo=2 -O -xprefetch_level=3 -xarch=amd64 -xpagesize_heap=2m -Qoption ld -M,/usr/lib/ld/map.bssalign +FDO

301.apsi: -fast -xO4 -xipo=2 -xprefetch_level=3 -xarch=amd64a -xpagesize=2m

Portability:
178.galgel: -fixed

Shell Environments:
Stack size set to unlimited via "ulimit -s unlimited"

The following patches were applied to Sun Studio 11 compiler:
120759-09 : x86/x64
121016-05 : x86 C
121018-08 : x86 C++
121020-04 : x86 F90
121022-02 : x86 F90

Kernel Parameters (/etc/system):
autoup=900
tune_t_fsflushr=1

Processes were bound to CPUs using submit=pbind

Node Interleaving disabled in BIOS