CFP2000 Result

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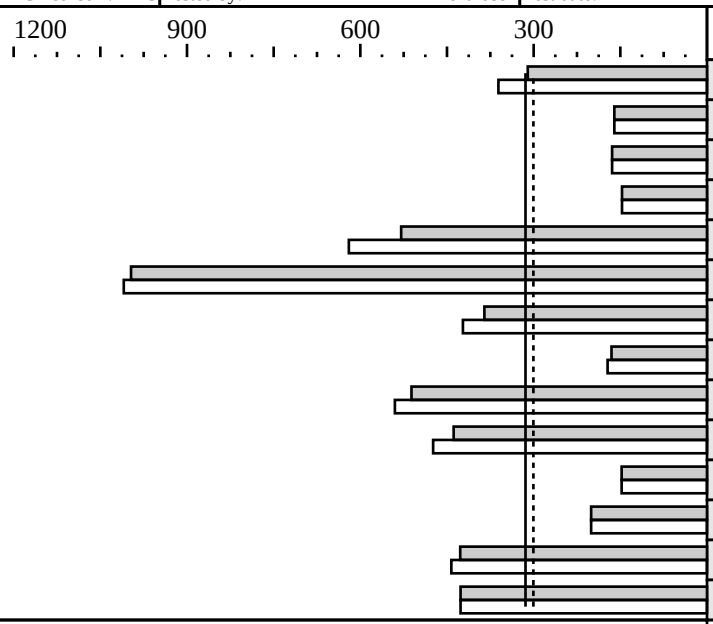
Hewlett-Packard Company

HP 9000 Superdome (1000MHz PA-8800, 8 cells)

SPECfp_rate2000 = 314

SPECfp_rate_base2000 = 300

SPEC license #: 3 | Tested by: HP Richardson | Test date: Jan-2004 | Hardware Avail: Mar-2004 | Software Avail: Feb-2004



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	64	383	310	64	329	361
171.swim	64	1435	160	64	1435	160
172.mgrid	64	814	164	64	814	164
173.applu	64	1060	147	64	1060	147
177.mesa	64	196	529	64	168	620
178.galgel	64	216	997	64	213	1009
179.art	64	501	385	64	457	422
183.equake	64	584	165	64	561	172
187.facerec	64	276	511	64	261	540
188.ammp	64	372	438	64	345	474
189.lucas	64	1005	148	64	1005	148
191.fma3d	64	777	201	64	777	201
200.sixtrack	64	191	427	64	185	442
301.apsi	64	453	427	64	453	427

Hardware

CPU:	PA-8800
CPU MHz:	1000
FPU:	Integrated
CPU(s) enabled:	64 cores, 32 chips, 2 cores/chip
CPU(s) orderable:	4-128 cores (up to 64/partition)
Parallel:	no
Primary Cache:	0.75MBI + 0.75MBD (on chip) per core
Secondary Cache:	32MB (off chip) shared by 2 cores
L3 Cache:	N/A
Other Cache:	N/A
Memory:	128GB (256 * 512MB DIMMs)
Disk Subsystem:	10x36GB 10K rpm SCSI (striped)
Other Hardware:	N/A

Software

Operating System:	HPUX11i-TCOE B.11.11.0312
Compiler:	HP C/ANSI C B.11.11.08 HP Fortran90 Compiler B.11.01.74
File System:	OnLineJFS
System State:	Multi-user

Notes/Tuning Information

```
Portability flags:
  178.galgel: +source=fixed

Baseline compile flags:
  Fortran: +Ofaster -Wl,-a,archive
  C      : +I/+P +Oall +Odataprefetch -Wl,-a,archive

Peak compile flags:
  168.wupwise: (ONESTEP) +cat +Ofaster -Wl,-a,archive
     171.swim: basepeak=true
    172.mgrid: basepeak=true
    173.applu: basepeak=true
     177.mesa: +I/+P +O4 +Odataprefetch -Wl,-a,archive
   178.galgel: +Ofaster +Oloop_unroll=6 -Wl,-a,archive
      179.art: +I/+P +Oall +Optrs_strongly_typed +Opromote_indirect_calls -Wl,-a,archive
   183.equake: +O4 +Olibcalls +Odataprefetch +Optrs_strongly_typed
```

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Notes/Tuning Information (Continued)

```
                +Opromote_indirect_calls -Wl,+FPD -Wl,-a,archive
  187.facerec: (ONESTEP) +cat +Ofaster +Ofastaccess -Wl,-a,archive
     188.ammp: +I/+P +Oall +Odataprefetch +Optrs_strongly_typed
                +Opromote_indirect_calls -Wl,-a,archive
    189.lucas: basepeak=true
    191.fma3d: basepeak=true
 200.sixtrack: (ONESTEP) +cat +O3 +Onolibcalls +Onolimit +Onoinline
                +Onodataprefetch -Wl,+FPD -Wl,-a,archive
     301.apsi: basepeak=true

Kernel Tunables:
  dbc_max_pct=20
  dbc_min_pct=20
  maxdsiz=3221225472
  maxssiz=401604608
  maxdsiz_64bit=4396972761584
  maxssiz_64bit=1073741824
  vps_pagesize=4096
  vps_ceiling=16384

Other notes:

  The system under test had the HP-UX 11i v1 December 2003
  Technical Computing Operating Environment (version 11.11.0312)
  and DART63 (December 2003) compilers installed, with the
  following patches applied:

  GOLDAPPS11i Gold Applications Patches for HP-UX 11i v1, December 2003
  GOLDBASE11i Gold Base Patches for HP-UX 11i v1, December 2003
  HWEnable11i Hardware Enablement Patches for HP-UX 11i v1, December 2003
  HWETEST1111 Hardware Enablement Patches for PA-8800 (prerelease)
  PHSS_29483  aC++ compiler cumulative patch (A.03.52)
  PHSS_30002  Fortran90 cumulative patch (B.11.01.74)

  System was configured with all memory interleaved

  System configured as a single partition with 8 cells and
    4 PA-8800 modules (each with 2 processors) per cell

  Filesystem used for spec runs mounted "tmplog"
```