CFP2000 Result

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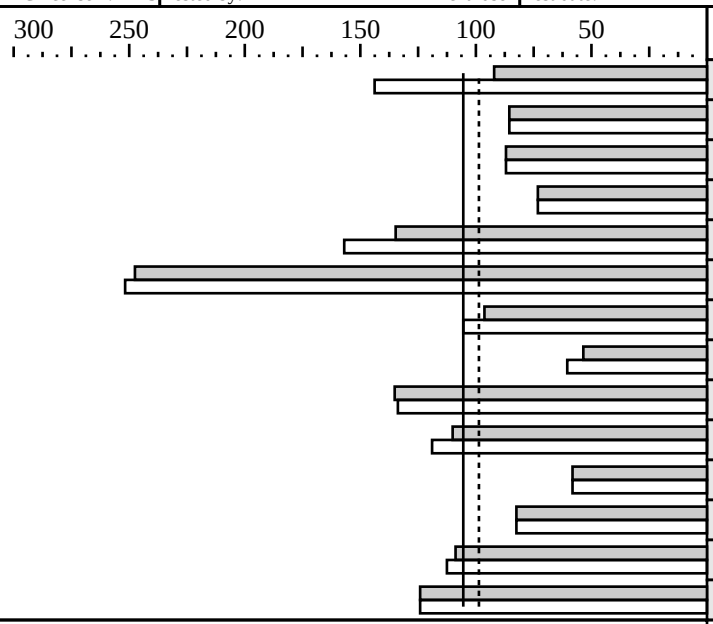
Hewlett-Packard Company

HP 9000 rp8420-32 (1000MHz PA-8800, 2 cells)

SPECfp_rate2000 = 105

SPECfp_rate_base2000 = 98.7

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
168.wupwise	16	322	92.1	16	206	144
171.swim	16	673	85.5	16	673	85.5
172.mgrid	16	384	87.0	16	384	87.0
173.applu	16	533	73.2	16	533	73.2
177.mesa	16	193	135	16	166	157
178.galgel	16	217	248	16	214	252
179.art	16	501	96.3	16	458	105
183.equake	16	451	53.5	16	399	60.5
187.facerec	16	261	135	16	264	134
188.ammp	16	371	110	16	343	119
189.lucas	16	638	58.2	16	638	58.2
191.fma3d	16	473	82.5	16	473	82.5
200.sixtrack	16	188	109	16	181	113
301.apsi	16	389	124	16	389	124

Hardware

CPU:	PA-8800
CPU MHz:	1000
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip
CPU(s) orderable:	4,8,12,16,20,24,28,32 (order by # cores)
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:	16GB (32 * 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 2 cells and
    4 PA-8800 modules (each with 2 processors) per cell

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