CFP2000 Result

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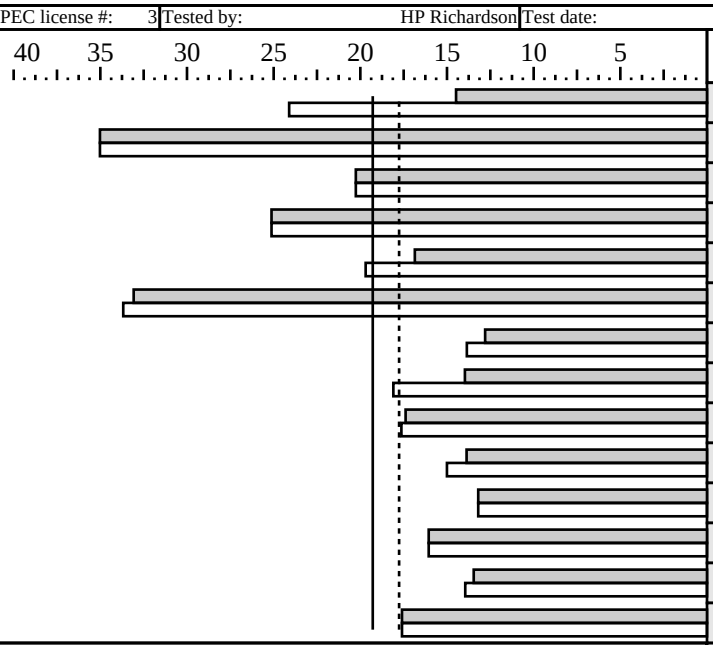
Hewlett-Packard Company
HP 9000 rp4440-8 (1000MHz PA-8800)

SPECfp_rate2000 = 19.3

SPECfp_rate_base2000 = 17.8

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	2	256	14.5	2	154	24.1
171.swim	2	205	35.0	2	205	35.0
172.mgrid	2	206	20.3	2	206	20.3
173.applu	2	194	25.1	2	194	25.1
177.mesa	2	193	16.9	2	165	19.7
178.galgel	2	203	33.1	2	200	33.7
179.art	2	471	12.8	2	435	13.9
183.equake	2	216	14.0	2	167	18.1
187.facerec	2	254	17.4	2	250	17.6
188.ammp	2	368	13.9	2	340	15.0
189.lucas	2	352	13.2	2	352	13.2
191.fma3d	2	303	16.1	2	303	16.1
200.sixtrack	2	190	13.5	2	183	13.9
301.apsi	2	343	17.6	2	343	17.6

Hardware

CPU:	PA-8800
CPU MHz:	1000
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	2,4,6,8 (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:	64GB (32 * 2GB DIMMs)
Disk Subsystem:	1x73GB 15K rpm SCSI
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:	VxFS
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=268435456
  maxdsiz_64bit=274877906944
  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)

  BCH shell utility command 'co cpu' (configure cpu)
     used to deconfigure processors if necessary.
```