CFP2000 Result

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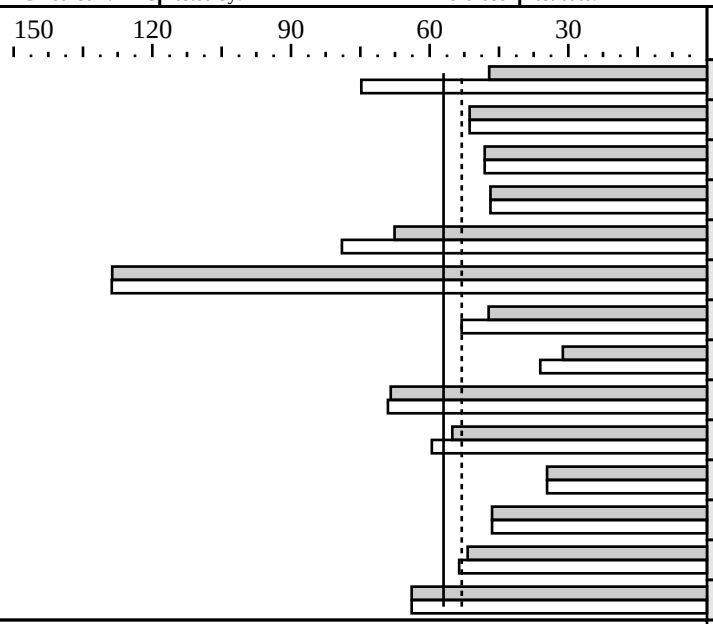
Hewlett-Packard Company

HP 9000 rp7420-16 (1000MHz PA-8800, 1 cell)

SPECfp_rate2000 = 57.0

SPECfp_rate_base2000 = 53.1

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	8	315	47.1	8	199	74.8
171.swim	8	560	51.4	8	560	51.4
172.mgrid	8	347	48.1	8	347	48.1
173.applu	8	416	46.8	8	416	46.8
177.mesa	8	192	67.6	8	164	79.0
178.galgel	8	209	129	8	209	129
179.art	8	511	47.2	8	455	53.1
183.equake	8	387	31.2	8	334	36.1
187.facerec	8	258	68.4	8	255	69.0
188.ammp	8	371	55.1	8	343	59.5
189.lucas	8	536	34.6	8	536	34.6
191.fma3d	8	419	46.5	8	419	46.5
200.sixtrack	8	197	51.8	8	190	53.6
301.apsi	8	378	63.9	8	378	63.9

Hardware

CPU:	PA-8800
CPU MHz:	1000
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip
CPU(s) orderable:	4,8,12,16 (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 (16 * 1024MB DIMMs)
Disk Subsystem:	1x36GB 10K 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:	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 1 cell and
    4 PA-8800 modules (each with 2 processors) per cell

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