CFP2000 Result

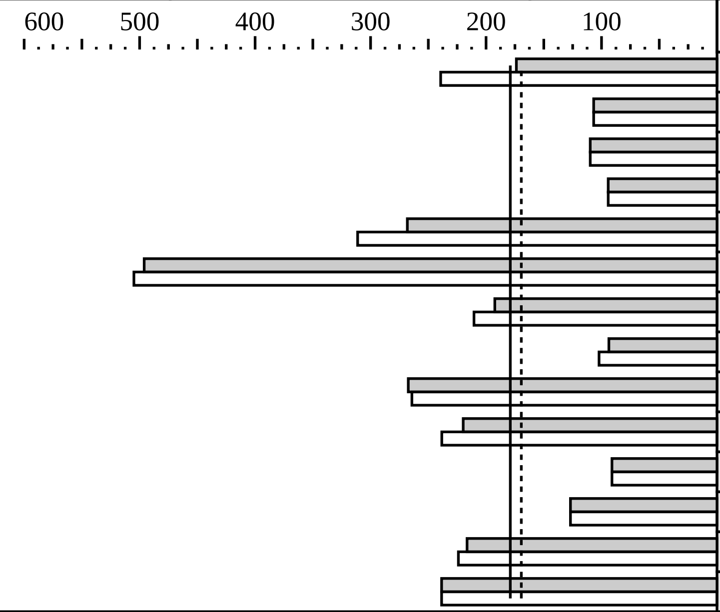
Hewlett-Packard Company

HP 9000 rp8420-32 (1000MHz PA-8800, 4 cells)

SPECfp_rate2000 = 179

SPECfp_rate_base2000 = 169

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	32	342	174	32	248	239
171.swim	32	1077	107	32	1077	107
172.mgrid	32	609	110	32	609	110
173.applu	32	827	94.2	32	827	94.2
177.mesa	32	194	268	32	167	311
178.galgel	32	217	496	32	213	505
179.art	32	502	192	32	459	210
183.equake	32	515	93.6	32	472	102
187.facerec	32	264	267	32	267	264
188.ammp	32	372	220	32	343	238
189.lucas	32	816	91.0	32	816	91.0
191.fma3d	32	614	127	32	614	127
200.sixtrack	32	189	216	32	182	224
301.apsi	32	405	238	32	405	238

Hardware

CPU:	PA-8800
CPU MHz:	1000
FPU:	Integrated
CPU(s) enabled:	32 cores, 16 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:	32GB (64 * 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
```

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 4 cells and
      4 PA-8800 modules (each with 2 processors) per cell

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