# CFP2000 Result

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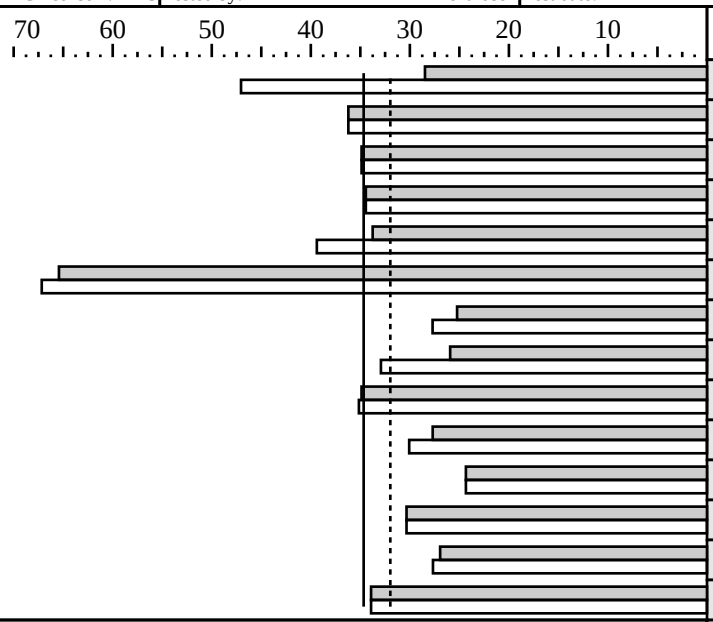
## Hewlett-Packard Company
## HP 9000 rp4440-8 (1000MHz PA-8800)

SPECfp_rate2000 = 34.7

SPECfp_rate_base2000 = 32.0

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 | 4 | 261 | 28.5 | 4 | 158 | 47.0 |
| 171.swim | 4 | 397 | 36.2 | 4 | 397 | 36.2 |
| 172.mgrid | 4 | 239 | 34.9 | 4 | 239 | 34.9 |
| 173.applu | 4 | 283 | 34.4 | 4 | 283 | 34.4 |
| 177.mesa | 4 | 192 | 33.8 | 4 | 165 | 39.4 |
| 178.galgel | 4 | 206 | 65.4 | 4 | 200 | 67.2 |
| 179.art | 4 | 478 | 25.2 | 4 | 435 | 27.7 |
| 183.equake | 4 | 233 | 25.9 | 4 | 183 | 32.9 |
| 187.facerec | 4 | 253 | 34.9 | 4 | 251 | 35.1 |
| 188.ammp | 4 | 369 | 27.7 | 4 | 340 | 30.1 |
| 189.lucas | 4 | 381 | 24.3 | 4 | 381 | 24.3 |
| 191.fma3d | 4 | 321 | 30.3 | 4 | 321 | 30.3 |
| 200.sixtrack | 4 | 189 | 26.9 | 4 | 184 | 27.7 |
| 301.apsi | 4 | 356 | 33.9 | 4 | 356 | 33.9 |

### Hardware

| | |
|---|---|
| CPU: | PA-8800 |
| CPU MHz: | 1000 |
| FPU: | Integrated |
| CPU(s) enabled: | 4 cores, 2 chips, 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<br>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.
```