# CFP2000 Result

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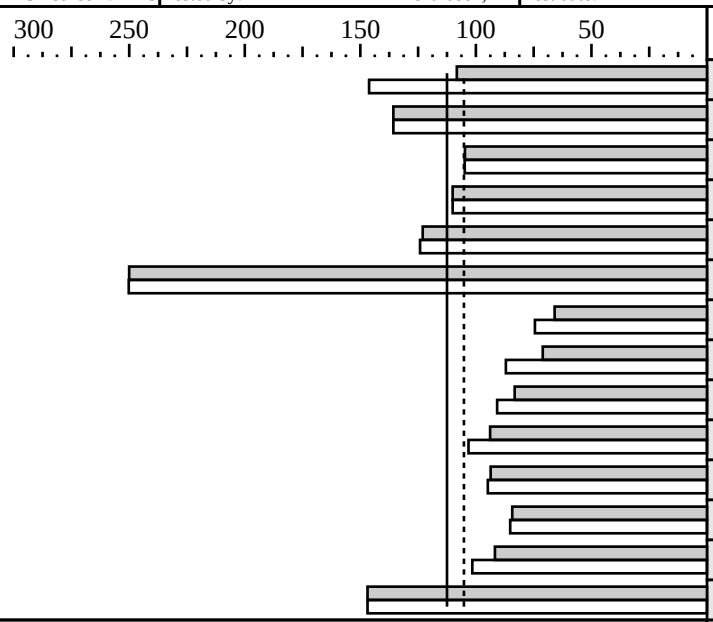
## Hewlett-Packard Company

HP9000 Superdome 32-way (552MHz PA-8600)

SPECfp_rate2000 = 112

SPECfp_rate_base2000 = 105

SPEC license #: 3 | Tested by: HP Richardson, TX | Test date: Mar-2001 | Hardware Avail: May-2001 | Software Avail: Jul-2001




| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|---|---|---|---|---|---|---|
| 168.wupwise | 32 | 549 | 108 | 32 | 406 | 146 |
| 171.swim | 32 | 848 | 136 | 32 | 848 | 136 |
| 172.mgrid | 32 | 638 | 105 | 32 | 637 | 105 |
| 173.applu | 32 | 708 | 110 | 32 | 708 | 110 |
| 177.mesa | 32 | 422 | 123 | 32 | 419 | 124 |
| 178.galgel | 32 | 431 | 250 | 32 | 430 | 250 |
| 179.art | 32 | 1464 | 65.9 | 32 | 1296 | 74.5 |
| 183.equake | 32 | 679 | 71.1 | 32 | 555 | 87.0 |
| 187.facerec | 32 | 848 | 83.2 | 32 | 777 | 90.8 |
| 188.ammp | 32 | 870 | 93.8 | 32 | 791 | 103 |
| 189.lucas | 32 | 793 | 93.6 | 32 | 783 | 94.8 |
| 191.fma3d | 32 | 925 | 84.3 | 32 | 915 | 85.2 |
| 200.sixtrack | 32 | 445 | 91.8 | 32 | 402 | 102 |
| 301.apsi | 32 | 657 | 147 | 32 | 657 | 147 |

### Hardware

| | |
|---|---|
| CPU: | PA-8600 |
| CPU MHz: | 552 |
| FPU: | Integrated |
| CPU(s) enabled: | 32 cores, 32 chips, 1 core/chip |
| CPU(s) orderable: | 4-32 |
| Parallel: | No |
| Primary Cache: | 0.5MBI + 1.0MBD on chip |
| Secondary Cache: | none |
| L3 Cache: | N/A |
| Other Cache: | N/A |
| Memory: | 128GB |
| Disk Subsystem: | 5x9GB Fiberchannel (striped)<br>1x9GB SCSI disk (root), 15x9GB FC disks (swap) |
| Other Hardware: | 8 cells, 500MHz CEC |

### Software

| | |
|---|---|
| Operating System: | HP-UX 11i Technical Computing OE |
| Compiler: | HP ANSI C 11.11.02<br>Fortran90 11.01.40 |
| File System: | hfs |
| System State: | Multi-user |

## Notes/Tuning Information

```
Portability Flags:
  178.galgel:  +source=fixed

Base Flags:
  f90: +O3 +Onofltacc -Wl,-a,archive -Wl,+FPD
  C:   +I/+P +O4 +Odataprefetch -Wl,-a,archive

Peak Flags:

  all:         -Wl,+FPD -Wl,-a,archive
  168.wupwise: +cat +O3 +Odataprefetch +Onofltacc
  171.swim:    +O3 +Onolimit +Oinline_budget=1000
  172.mgrid:   +O3 +Ocache_pad_common +Oloop_unroll=6
               +Oinline_budget=10
  173.applu:   basepeak=true
```

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## Notes/Tuning Information (Continued)

```
  177.mesa:    +I/+P +Oall +Odataprefetch +Opromote_indirect_calls
  178.galgel:  +O3 +Oloop_unroll=2
  179.art:     +I/+P +Oall +Onodataprefetch +Onofltacc
               +Optrs_strongly_typed +Opromote_indirect_calls
  183.equake:  +O4 +Olibcalls +Odataprefetch +Optrs_strongly_typed
               +Opromote_indirect_calls
  187.facerec: +cat +O3 +Ofastaccess
  188.ammp:    +I/+P +Oall +Odataprefetch +Optrs_strongly_typed
               +Opromote_indirect_calls
  189.lucas:   +O3 +Onoinline
  191.fma3d:   +O3 +Onolimit
  200.sixtrack: +cat +O3 +Onolibcalls +Onolimit +Onoinline
                +Onodataprefetch
  301.apsi:    basepeak=true
  ONESTEP=true for 168.wupwise, 187.facerec, 200.sixtrack

System tunables:
vps_pagesize 4096, vps_ceiling 16384
dbc_min_pct 20, dbc_max_pct 20
maxdsiz 0x7b03a000, maxssiz 256000000
DataPrefetch enabled (boot time firmware tunable)
```