



# CFP2000 Result

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Hewlett-Packard Company  
HP 9000 Model N4000

SPECfp2000 = 369  
SPECfp\_base2000 = 338

SPEC license #: 3 Tested by: HP Richardson, TX Test date: Mar-2000 Hardware Avail: Apr-2000 Software Avail: Apr-2000

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
168.wupwise	1600	588	272	423	378	
171.swim	3100	571	543	524	591	
172.mgrid	1800	429	420	429	419	
173.applu	2100	412	510	412	510	
177.mesa	1400	480	291	481	291	
178.galgel	2900	607	477	610	475	
179.art	2600	748	348	557	467	
183.earthquake	1300	583	223	408	319	
187.facerec	1900	809	235	765	248	
188.amp	2200	627	351	574	383	
189.lucas	2000	694	288	694	288	
191.fma3d	2100	872	241	868	242	
200.sixtrack	1100	375	293	354	310	
301.apsi	2600	598	435	598	435	

### Hardware

CPU: 552 MHz PA-RISC 8600  
 CPU MHz: 552  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
 CPU(s) orderable: 1-8  
 Parallel: --  
 Primary Cache: 512KBI+1MBD (on chip)  
 Secondary Cache: None  
 L3 Cache: None  
 Other Cache: None  
 Memory: 8GB  
 Disk Subsystem: 1x9GB FC 10,000 rpm  
 Other Hardware: --

### Software

Operating System: HP-UX B.11.00  
 Compiler: HP92453-01 A.11.01.02 HP C Compiler  
 HP-UX f90 19990722 (140507) B.11.01.08  
 HP-UX f77 971027 (162928) B.11.00.01  
 File System: HP-UX VxFS  
 System State: Multi-user

## Notes/Tuning Information

### Portability flags:

cc: -Ae  
 168.wupwise: -K  
 178.galgel: +source=fixed

### Base Flags:

f90: +O3 +Onofltacc -Wl,-a,archive -Wl,+FPD  
 cc: +Oall +Odataprefetch -Wl,-a,archive +I/+P

### Peak flags:

168.wupwise: f77 +DA2.0 +DS2.0 +O4 +Odataprefetch +Onofltacc  
 171.swim: f77 +DA2.0 +DS2.0 +O4 +Odataprefetch +Ocacheпадcommon +Oloop\_unroll  
 172.mgrid: +O3 +Odataprefetch +Onofltacc -Wl,+FPD -Wl,-a,archive  
 173.applu: +O3 +Odataprefetch +Onofltacc -Wl,+FPD -Wl,-a,archive  
 177.mesa: +I/+P +Oall +Odataprefetch -Wl,+FPD -Wl,-a,archive  
 178.galgel: +O3 +Odataprefetch +Onofltacc -Wl,+FPD -Wl,-a,archive  
 179.art: +Oall +Odataprefetch +Onofltacc +Optrs\_strongly\_typed -Wl,+FPD -Wl,-a,archive +I/+P



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## Notes/Tuning Information (Continued)

```
183.quake: +Oall +Odataprefetch +Optrs_strongly_typed
187.facerec: +O2 +Ofastaccess +Omultiprocessor -Wl,+FPD -Wl,-a,archive -Wl,/opt/langtools/lib/fastmem.o
188.ammp: +Oall +Odataprefetch +Optrs_strongly_typed +I/+P
189.lucas: +O3 +Odataprefetch +Onofltacc +Omultiprocessor
191.fma3d: +O3 +Odataprefetch +Onofltacc -Wl,+FPD -Wl,-a,archive
200.sixtrack: f90 +Oall +Ofastaccess +Oloop_block +Omultiprocessor +Onofltacc
           LIBS = -Wl,+FPD -Wl,-a,archive -Wl,/opt/langtools/lib/fastmem.o
301.apsi: +O3 +Odataprefetch +Onofltacc -Wl,+FPD -Wl,-a,archive
Kernel Tunables:
vps_pagesize=256, vps_ceiling=256
```