



# CINT2000 Result

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Hewlett-Packard Company  
HP 9000 rp3440-4 (1000MHz PA-8800)

SPECint\_rate2000 = 37.1  
SPECint\_rate\_base2000 = 35.5

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
164.zip	4	206	31.5	4	203	32.1
175.vpr	4	187	34.7	4	187	34.7
176.gcc	4	109	47.0	4	109	47.0
181.mcf	4	307	27.2	4	307	27.2
186.crafty	4	109	42.5	4	109	42.5
197.parser	4	290	28.8	4	278	30.0
252.eon	4	178	33.9	4	157	38.3
253.perlbnk	4	225	37.2	4	193	43.3
254.gap	4	244	20.9	4	241	21.2
255.vortex	4	123	71.6	4	116	75.9
256.bzip2	4	231	30.2	4	207	33.6
300.twolf	4	342	40.7	4	337	41.3

### Hardware

CPU: PA-8800  
CPU MHz: 1000  
FPU: Integrated  
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
CPU(s) orderable: 2,4 (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: 6GB (12 \* 512MB 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  
HP aC++ Compiler A.03.52  
File System: VxFS  
System State: Multi-user

## Notes/Tuning Information

### Portability flags:

```
176.gcc: -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DHP
252.eon: -DFMAX_IS_DOUBLE
253.perlbnk: -DSPEC_CPU2000_HP
254.gap: -DSPEC_CPU2000_HP -DSYS_IS_USG -DSYS_HAS_IOCTL_PROTO
        -DSYS_HAS_TIME_PROTO -DSYS_HAS_CALLOC_PROTO
```

### Baseline compile flags:

```
C      : +I/+P +Oall +Ostatic_prediction -Wl,-a,archive
C++    : +I/+P +Oall +Ostatic_prediction -Wl,-a,archive
```

### Peak compile flags:

```
164.zip: +I/+P +Oall +Optrs_strongly_typed +Oinline_budget=800
        -Wl,-a,archive +Ostatic_prediction
175.vpr: basepeak=true
176.gcc: basepeak=true
181.mcf: basepeak=true
186.crafty: basepeak=true
```



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## Notes/Tuning Information (Continued)

```
197.parser: +I/+P +Oall +Odataprefetch +ESficc +Oinline_budget=400
            +Owhole_program_mode -Wl,-a,archive +Ostatic_prediction
252.eon:    +I/+P +noeh +O4 +Optrs_strongly_typed +Olibcalls +Oentrysched
            +A +ESficc -Wl,-a,archive +Ostatic_prediction
253.perlbnk: +I/+P +Oall +ESlit +ESficc +Optrs_strongly_typed
            +Opromote_indirect_calls -Wl,-a,archive +Ostatic_prediction
            linked with /opt/langtools/lib/fastmem.o
254.gap:    +I/+P +Oall +ESlit +ESficc +Optrs_strongly_typed
            +Opromote_indirect_calls -Wl,-a,archive +Ostatic_prediction
255.vortex: +I/+P +Oall +Oinline_budget=800 +Optrs_strongly_typed
            -Wl,-a,archive +Ostatic_prediction
256.bzip2:  +I/+P +Oall +Odataprefetch +Optrs_strongly_typed +Owhole_program_mode
            +Onoptrs_to_globals +Oinline_budget=80 -Wl,-a,archive +Ostatic_prediction
300.twolf:  +I/+P +Oall +Optrs_strongly_typed -Wl,-a,archive +Ostatic_prediction
```

### Kernel Tunables:

```
dbc_max_pct=20
dbc_min_pct=20
maxssiz=401604608
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.