



# CINT2000 Result

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Hewlett-Packard Company  
hp server rp7410 (875MHz PA-8700+)

SPECint\_rate2000 = 55.8  
SPECint\_rate\_base2000 = 53.1

SPEC license #: 3 Tested by: HP Test date: Jun-2002 Hardware Avail: Aug-2002 Software Avail: Jun-2002

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	8	247	52.6	8	246	52.7
175.vpr	8	245	53.1	8	245	53.1
176.gcc	8	130	78.4	8	130	78.4
181.mcf	8	700	23.9	8	700	23.9
186.crafty	8	133	69.8	8	133	69.8
197.parser	8	388	43.0	8	364	45.9
252.eon	8	223	54.1	8	193	62.5
253.perlbnk	8	297	56.2	8	258	64.9
254.gap	8	357	28.6	8	339	30.1
255.vortex	8	174	101	8	165	107
256.bzip2	8	320	43.5	8	285	48.9
300.twolf	8	330	84.5	8	325	85.7

### Hardware

CPU: PA-8700+  
CPU MHz: 875  
FPU: Integrated  
CPU(s) enabled: 8 cores, 8 chips, 1 core/chip  
CPU(s) orderable: 2 to 8 by 2  
Parallel: No  
Primary Cache: 0.75MB(I) + 1.5MB(D) on chip  
Secondary Cache: None  
L3 Cache: None  
Other Cache: None  
Memory: 16GB (32x512MB DIMMs total)  
Disk Subsystem: 2x18 GB SCSI  
Other Hardware: None

### Software

Operating System: HP-UX 11i TCOE B.11.11.0206.5  
Compiler: HP ANSI C compiler B.11.11.04  
HP aC++ compiler C.03.33.01  
PHCO\_24402 libc cumulative header file patch  
PHCO\_26124 libc cumulative patch  
PHSS\_24207 libm patch  
PHSS\_25719 libCCL patch  
PHSS\_26263 ld(1) and linker tools cumulative patch  
PHSS\_26264 linker startup code / SLLIC ELF support  
PHSS\_26792 Ansi C compiler cumulative patch  
PHSS\_26793 +O4/PBO optimizer cumulative patch  
PHSS\_26952 aC++ cumulative patch (A.03.35)  
File System: OnLine JFS  
System State: Multi-user

## Notes/Tuning Information

### Portability:

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 +O3 +Ostatic\_prediction -Wl,-a,archive

### Peak compile flags:

164.gzip: +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 +ESfic +Oinline_budget=400
            +Owhole_program_mode -Wl,-a,archive +Ostatic_prediction
252.eon:    +I/+P +noeh +O4 +Optrs_strongly_typed +Olibcalls +Oentrysched
            +A +ESfic -Wl,-a,archive +Ostatic_prediction
253.perlbnk: +I/+P +Oall +ESlit +ESfic +Optrs_strongly_typed
            +Opromote_indirect_calls -Wl,-a,archive +Ostatic_prediction
            linked with /opt/langtools/lib/fastmem.o
254.gap:    +I/+P +Oall +ESlit +ESfic +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
```

### Hardware configuration notes:

System was configured as a single partition with 2 cells  
boot time firmware tunable DataPrefetch enabled (default)

### Operating system configuration notes:

PHKL\_25778 LVM cumulative patch  
PHKL\_25886 Filesystem buffercache performance fix

vps\_pagesize 4096, vps\_ceiling 16384  
dbc\_min\_pct=20, dbc\_max\_pct=20  
maxssiz=0x10000000

filesystem used for spec runs mounted delaylog