



CINT2000 Result

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

SPECint_rate2000 = 73.2
SPECint_rate_base2000 = 70.3

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.gzip	8	208	62.4	8	205	63.3
175.vpr	8	190	68.4	8	190	68.4
176.gcc	8	109	93.6	8	109	93.6
181.mcf	8	314	53.2	8	314	53.2
186.crafty	8	110	84.6	8	110	84.6
197.parser	8	292	57.3	8	279	59.8
252.eon	8	179	67.6	8	158	76.2
253.perlbnk	8	225	74.1	8	194	86.2
254.gap	8	250	40.8	8	246	41.5
255.vortex	8	124	142	8	117	151
256.bzip2	8	232	59.9	8	217	64.2
300.twolf	8	344	80.9	8	338	82.3

Hardware

CPU: PA-8800
CPU MHz: 1000
FPU: Integrated
CPU(s) enabled: 8 cores, 4 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: HPUNIX11i-TCOE B.11.11.0312
Compiler: HP aC++ Compiler A.03.52
HP C/ANSI C B.11.11.08
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.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 +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
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
HWTEST1111 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.