



CINT2000 Result

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

SPECint_rate2000 = 37.0
SPECint_rate_base2000 = 35.4

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	4	206	31.6	4	203	32.1
175.vpr	4	189	34.4	4	189	34.4
176.gcc	4	108	47.2	4	108	47.2
181.mcf	4	308	27.1	4	308	27.1
186.crafty	4	110	42.3	4	110	42.3
197.parser	4	292	28.6	4	279	29.9
252.eon	4	179	33.8	4	158	38.2
253.perlbnk	4	225	37.2	4	193	43.3
254.gap	4	239	21.3	4	235	21.7
255.vortex	4	123	71.4	4	116	75.8
256.bzip2	4	231	30.1	4	209	33.3
300.twolf	4	343	40.5	4	338	41.2

Hardware	Software
CPU: PA-8800	Operating System: HPUX11i-TCOE B.11.11.0312
CPU MHz: 1000	Compiler: HP aC++ Compiler A.03.52
FPU: Integrated	HP C/ANSI C B.11.11.08
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip	File System: VxFS
CPU(s) orderable: 2,4,6,8 (order by # cores)	System State: Multi-user
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	

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)

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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
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.