



CINT2000 Result

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Hewlett-Packard Company
HP 9000 Superdome (1000MHz PA-8800, 8 cells)

SPECint_rate2000 = 542
SPECint_rate_base2000 = 519

SPEC license #: 3 Tested by: HP Richardson Test date: Jan-2004 Hardware Avail: Mar-2004 Software Avail: Feb-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.zip	64	235	441	64	230	451
175.vpr	64	198	524	64	198	524
176.gcc	64	119	687	64	119	687
181.mcf	64	333	401	64	333	401
186.crafty	64	112	662	64	112	662
197.parser	64	295	452	64	282	474
252.eon	64	179	540	64	158	610
253.perlbnk	64	270	496	64	234	570
254.gap	64	343	238	64	338	241
255.vortex	64	133	1061	64	126	1124
256.bzip2	64	242	461	64	220	506
300.twolf	64	347	642	64	341	654

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	File System:	HP C/ANSIC B.11.11.08
CPU(s) enabled:	64 cores, 32 chips, 2 cores/chip	System State:	OnLineJFS
CPU(s) orderable:	4-128 cores (up to 64/partition)		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:	128GB (256 * 512MB DIMMs)		
Disk Subsystem:	10x36GB 10K rpm SCSI (striped)		
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.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
maxdsiz=3221225472
maxssiz=401604608
maxdsiz_64bit=4396972761584
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)

```

System was configured with all memory interleaved

System configured as a single partition with 8 cells and 4 PA-8800 modules (each with 2 processors) per cell

Filesystem used for spec runs mounted "tmplog"