



CINT2000 Result

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Hewlett-Packard Company
ProLiant DL145 (AMD Opteron (TM) 250)

SPECint_rate2000 = 18.1
SPECint_rate_base2000 = 16.4

SPEC license #: 3 Tested by: Hewlett-Packard Company Test date: Sep-2004 Hardware Avail: Sep-2004 Software Avail: Sep-2004

| Benchmark | Base Copies | Base Runtime | Base Ratio | Copies | Runtime | Ratio |
|-------------|-------------|--------------|------------|--------|---------|-------|
| 164.gzip | 1 | 95.6 | 17.0 | 1 | 95.3 | 17.0 |
| 175.vpr | 1 | 122 | 13.3 | 1 | 121 | 13.5 |
| 176.gcc | 1 | 66.7 | 19.1 | 1 | 66.7 | 19.1 |
| 181.mcf | 1 | 273 | 7.64 | 1 | 171 | 12.2 |
| 186.crafty | 1 | 48.2 | 24.1 | 1 | 47.9 | 24.2 |
| 197.parser | 1 | 156 | 13.4 | 1 | 141 | 14.8 |
| 252.eon | 1 | 63.6 | 23.7 | 1 | 52.9 | 28.5 |
| 253.perlbnk | 1 | 120 | 17.4 | 1 | 113 | 18.5 |
| 254.gap | 1 | 75.3 | 17.0 | 1 | 75.3 | 17.0 |
| 255.vortex | 1 | 95.5 | 23.1 | 1 | 89.0 | 24.8 |
| 256.bzip2 | 1 | 115 | 15.1 | 1 | 115 | 15.1 |
| 300.twolf | 1 | 237 | 14.7 | 1 | 180 | 19.3 |

Hardware

CPU: AMD Opteron (TM) 250
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 1 core, 1 chip, 1 core/chip
 CPU(s) orderable: 1,2
 Parallel: No
 Primary Cache: 64KBI + 64KBD on chip
 Secondary Cache: 1024KB(I+D) on chip
 L3 Cache: N/A
 Other Cache: N/A
 Memory: 4x2048MB PC2700 CL2.5
 Disk Subsystem: 1x40GB ATA100
 Other Hardware:

Software

Operating System: SuSE Linux Enterprise Server 8 for AMD64 (SP3)
 SuSE kernel 2.4.21-143-numa
 Compiler: PathScale EKO Compiler Suite, Release 1.3
 File System: Linux/ext2
 System State: Multi-user run level 3

Notes/Tuning Information

```
+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata
Base tuning for C programs: -O3 -ipa +FDO
Base tuning for C++ programs: -Ofast +FDO
Portability flags:
175.vpr: -DSPEC_CPU2000
181.mcf: -DWANT_STDC_PROTO
186.crafty: -DLINUX_i386 -DSPEC_CPU2000
252.eon: -DHAS_ERRLIST -DSPEC_CPU2000_LP64 srcalt=fmax_errno
253.perlbnk: -DSPEC_CPU2000_LINUX_I386 -DSPEC_CPU2000_NEED_BOOL
-DSPEC_CPU2000_GLIBC22 -DSPEC_CPU2000_LP64
254.gap: -DSYS_IS_USG -DSYS_HAS_IOCTL_PROTO -DSYS_HAS_TIME_PROTO
-DSYS_HAS_SIGNAL_PROTO -DSYS_HAS_ANSI -DSYS_HAS_CALLOC_PROTO
-DSPEC_CPU2000_LP64
255.vortex: -DSPEC_CPU2000_LP64
300.twolf: -DSPEC_CPU2000 -DHAVE_SIGNED_CHAR
Peak tuning:
164.gzip: -Ofast +FDO
175.vpr: -O2 -ipa -OPT:alias=disjoint -CG:p2align_freq=500000 -INLINE:aggressive=on
-IPA:space=300:plimit=10000:callee_limit=5000:linear=on +FDO
176.gcc: basepeak=yes
```



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Notes/Tuning Information (Continued)

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181.mcf:          -O3 -ipa -IPA:field_reorder=on -m32 +FDO
186.crafty:      -Ofast +FDO
197.parser:      -O3 -ipa -m32 -IPA:ctype=on +FDO
252.eon:         -Ofast -CG:gcm=off:p2align_freq=1:prefetch=off -OPT:treeheight=on
                -TENV:X=4:frame_pointer=off -fno-exceptions -LNO:fu=10:full_unroll_outer=1
                +FDO -IPA:plimit=4000:pu_reorder=1
253.perlbnk:     -O3 -ipa -TENV:X=3 +FDO -IPA:min_hotness=5:plimit=20000
254.gap:         basepeak=yes
255.vortex:      -Ofast -IPA:space=70:plimit=3000 -LNO:opt=0 -TENV:X=4
                -OPT:goto=off:unroll_analysis=off:unroll_size=0:unroll_times_max=8 +FDO
    256.bzip2:    basepeak=yes
300.twolf:       -O2 -OPT:unroll_times_max=8:unroll_size=256:alias=disjoint:Ofast
                -CG:gcm=off:p2align_freq=100000 -WOPT:mem_opnds=on -m32 +FDO

```

BIOS Configuration Notes
Node Interleaving Disabled

Other Configuration Notes
Taskset utility used to bind process to CPU(s)