



CINT2000 Result

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IBM
eServer 326, 2.4 GHz AMD Opteron (TM)

SPECint_rate2000 = 35.3

SPECint_rate_base2000 = 31.4

SPEC license #: 11 | Tested by: IBM Corporation | Test date: Oct-2004 | Hardware Avail: Oct-2004 | Software Avail: Oct-2004

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	98.4	33.0	2	98.9	32.8
175.vpr	2	121	26.9	2	124	26.2
176.gcc	2	70.3	36.3	2	70.3	36.3
181.mcf	2	371	11.3	2	216	19.3
186.crafty	2	48.9	47.5	2	48.6	47.7
197.parser	2	156	26.8	2	138	30.2
252.eon	2	64.0	47.1	2	52.7	57.2
253.perlbnk	2	121	34.6	2	109	38.2
254.gap	2	80.1	31.9	2	72.5	35.2
255.vortex	2	98.7	44.7	2	92.9	47.4
256.bzip2	2	113	30.8	2	113	30.8
300.twolf	2	249	27.9	2	183	38.0

Hardware

CPU: AMD Opteron 250
 CPU MHz: 2400
 FPU: Integrated
 CPU(s) enabled: 2 cores, 2 chips, 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: 8x512MB, DDR400
 Disk Subsystem: SCSI, 36GB 10K RPM
 Other Hardware: None

Software

Operating System: SuSE Linux 8.0 SLES 64 bit Kernel 2.4.21-143-smp (SP3)
 Compiler: PathScale EKO Compiler Suite, Release 1.4
 File System: Linux/reiserfs
 System State: Multi-user, run level 3

Notes/Tuning Information

Tested by IBM Corporation

+FDO: PASS1= -fb_create fbdata PASS2= -fb_opt fbdata

Baseline optimization flags:

C programs: -O3 -ipa +FDO
 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 -DFMAX_IS_DOUBLE -DSPEC_CPU2000_LP64
 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



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Notes/Tuning Information (Continued)

Peak Tuning:

```

164.gzip: -Ofast +FDO
175.vpr: -O2 -ipa -OPT:alias=disjoint
-CG:p2align_freq=500000 -INL:INE:aggressive=on
-IPA:space=300:plimit=10000:callee_limit=5000:linear=on
+FDO

176.gcc: basepeak = true
181.mcf: -O3 -ipa -IPA:field_reorder=on -m32
186.crafty: -Ofast +FDO
197.parser: -O3 -ipa -m32 -IPA:c_type=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=on
+FDO -IPA:plimit=4000:pu_reorder=1

253.perlbnk: -O3 -ipa +FDO -IPA:plimit=10000
254.gap: -O3 -ipa -OPT:transform_to_memlib=on +FDO
255.vortex: -Ofast -IPA:space=70:plimit=3000
-OPT:goto=off:unroll_analysis=off:unroll_size=0:unroll_times_max=8
-LNO:opt=0 -TENV:X=4 +FDO

256.bzip2: basepeak=TRUE
300.twolf: -O2 -OPT:unroll_times=8:unroll_size=256:alias=disjoint:Ofast
-CG:gcm=off:p2align_freq=100000 -WOPT:mem_opnds=on -m32 +FDO

```

BIOS Settings:

ChipKill was DISABLED

Compiler Flags File:

IBM-PathScale-20041025