



CINT2000 Result

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Sun Microsystems
Sun Fire V890(8 processor)

SPECint_rate2000 = 131
SPECint_rate_base2000 = 120

SPEC license #: 6 Tested by: Sun Microsystems Test date: Dec-2004 Hardware Avail: Feb-2005 Software Avail: Jan-2005

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	283	91.8	16	248	105
175.vpr	16	247	105	16	240	108
176.gcc	16	174	117	16	154	132
181.mcf	16	294	114	16	255	131
186.crafty	16	149	124	16	122	153
197.parser	16	307	109	16	272	123
252.eon	16	150	161	16	150	161
253.perlbnk	16	274	122	16	264	127
254.gap	16	256	79.7	16	213	95.8
255.vortex	16	167	211	16	162	218
256.bzip2	16	213	131	16	203	137
300.twolf	16	476	117	16	459	121

Hardware

CPU: UltraSPARC IV
CPU MHz: 1350
FPU: Integrated
CPU(s) enabled: 16 cores, 8 chips, 2 cores/chip
CPU(s) orderable: 2,4,8 (order by # of chips)
Parallel: No
Primary Cache: 32KBI+64KBD per core on chip (64KBI+128KBD on chip)
Secondary Cache: 8MB(I+D) per core off chip (16MB(I+D) off chip)
L3 Cache: None
Other Cache: None
Memory: 32GB 8-way interleaved
Disk Subsystem: 1 x 73GB
Other Hardware: None

Software

Operating System: Solaris 10
Compiler: Sun Studio 9
File System: ufs
System State: Multi-User

Notes/Tuning Information

Compiler invocation:

C: cc
CXX: CC

Integer base flags:

-fast -xipo=2 with ONESTEP=yes and feedback

Integer peak flags:

ONESTEP=yes and feedback for all benchmarks

164.gzip: -xO4 -xbuiltin=%all -xtarget=native -xalias_level=std
-xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=30,
-Qeps:do_spec_load=1

175.vpr: -fast -xalias_level=std -xipo=2
-Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100,
-Qeps:do_spec_load=1, -lmopt -lm

176.gcc: -fast -xipo=2 -l12amm

181.mcf: -fast -xipo=2 -xprefetch_level=2 -Wc,-Qeps:enabled=1

186.crafty: -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
Feedback adds -xlinkopt in PASS2



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Notes/Tuning Information (Continued)

```

197.parser: -fast -xipo=2 -xalias_level=strong
            -Wc,-Qgsched-T6,-Qipa:valueprediction
252.eon: basepeak = yes
253.perlbmk: -xO5 -xtarget=ative -xmemalign=4s -xipo -Wc,-Qeps:enabled=1
            -Qeps:ws=8, -xalias_level=std -xsafe=mem -Wc,
            -Qiselect-funcalign=32
            -Qicache-chbab=1, -Wc,-Qiselect-sw_pf_tbl_th=20,
            -Qeps:do_spec_load=1 -xprefetch=no
254.gap: -fast -xipo=2 -xalias_level=strong -xvector
         -xprefetch_level=3 -W2,-Abcopy
255.vortex: -fast -xrestrict -xipo=2
           -W2,-crit,-Ainline:recursion=1:cs=500:irs=6000
           -Wc,-Qeps:enabled=1,-Qdepgraph-early_cross_call=1,
           -Qiselect-funcalign=32,-Qpeep-Sh0 -ll2amm
256.bzip2: -fast -xipo -xalias_level=strong -xrestrict
           -Wc,-Qeps:enabled=1 -xsafe=mem -Qeps:rp_filtering_margin=99
300.twolf: -fast -xalias_level=strong -xsafe=mem -xipo=2
           -xprefetch=no%auto -Wc,-Qms_pipe+intdivusefp

```

Feedback is done as follows, unless otherwise noted:

```

fdo_pre0: rm -rf ./feedback.profile ./SunWS_cache
PASS1:    -xprofile=collect:./feedback
PASS2:    -xprofile=use:./feedback

```

Portability:

```

176.gcc: -Dalloca=__builtin_alloca -DHOST_WORDS_BIG_ENDIAN
186.crafty: -DSUN
252.eon: -library=iostream
        srcalt=fmax_errno
253.perlbmk: -DSPEC_CPU2000_SOLARIS
254.gap: -DSYS_IS_USG -DSYS_HAS_TIME_PROTO -DSYS_HAS_SIGNAL_PROTO
        -DSYS_HAS_CALLOC_PROTO -DSYS_HAS_IOCTL_PROTO

```

Shell Environments:

```

Stack size set to unlimited via "ulimit -s unlimited"
MPSSHEAP=512K
MPSSSTACK=512K
LD_PRELOAD=mpss.so.1

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```

Processes were bound to CPUs using submit=pbind