



CINT2000 Result

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Sun Microsystems
Sun Fire E2900 (12 processor)

SPECint_rate2000 = 171
SPECint_rate_base2000 = 153

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

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.zip	24	337	116	24	279	140
175.vpr	24	292	133	24	274	142
176.gcc	24	232	132	24	176	174
181.mcf	24	308	163	24	308	163
186.crafty	24	173	161	24	141	197
197.parser	24	351	143	24	308	163
252.eon	24	180	201	24	172	211
253.perlbnk	24	299	167	24	282	177
254.gap	24	321	95.3	24	258	119
255.vortex	24	215	246	24	192	276
256.bzip2	24	249	168	24	234	178
300.twolf	24	525	159	24	541	154

Hardware	Software
CPU: UltraSPARC s400	Operating System: Solaris 9 04/04
CPU MHz: 1200	Compiler: Sun ONE Studio 8
FPU: Integrated	Sun Performance Library 8
CPU(s) enabled: 24 cores, 12 chips, 2 cores/chip	File System: ufs with ufs logging
CPU(s) orderable: 4,8,12 (order by # chips)	System State: Multi-User
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: 48GB 16-way interleaved	
Disk Subsystem: 1 x 73GB	
Other Hardware: None	

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.zip: -xO4 -xbuiltin=%all -xtarget=native -xalias_level=std
-xipo=2 -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100

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

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

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

197.parser: -fast -xipo=2 -xalias_level=strong



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Notes/Tuning Information (Continued)

```

-Wc,-Qgsched-T6,-Qipa:valueprediction
252.eon: -fast -xipo=2 -xalias_level=compatible -noex
-Qoption cg -Qeps:enabled=1,-Qeps:ws=32
253.perlbnk: -xO5 -xtarget=native -xipo -xalias_level=std -xsafe=mem
-Wc,-Qeps:enabled=1,-Qeps:ws=8,-Qiselect-sw_pf_tbl_th=20,
-Qiselect-funcalign=32,-Qicache-chbab=1
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
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
181.mcf: basepeak=yes
186.crafty: -DSUN
252.eon: -library=iostream
253.perlbnk: -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=4M
MPSSSTACK=4M
LD_PRELOAD=mpss.so.1

```

Kernel Parameters (/etc/system):

```

autoup=900
tune_t_fsflushr=1

```