



CINT2000 Result

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Sun Microsystems
Sun Fire V440 (1600MHz)

SPECint2000 = 845
SPECint_base2000 = 743

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

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	198	707	177	793	
175.vpr	1400	219	638	212	660	
176.gcc	1100	146	751	116	945	
181.mcf	1800	480	375	284	634	
186.crafty	1000	115	873	95.9	1043	
197.parser	1800	275	655	245	736	
252.eon	1300	126	1034	126	1034	
253.perlbnk	1800	227	791	206	875	
254.gap	1100	170	647	154	715	
255.vortex	1900	137	1388	129	1473	
256.bzip2	1500	226	664	222	675	
300.twolf	3000	374	802	351	854	

Hardware

CPU: UltraSPARC IIIi
CPU MHz: 1600
FPU: Integrated
CPU(s) enabled: 1 core, 1 chip, 1 core/chip
CPU(s) orderable: 2,4
Parallel: No
Primary Cache: 32KBI+64KBD on chip
Secondary Cache: 1MB(I+D) on chip
L3 Cache: None
Other Cache: None
Memory: 4GB 16-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: -xO5 -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,
-Qeps:do_spec_load=1 -lmopt -lm
176.gcc: -fast -xipo=2 -l12amm
181.mcf: -fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1
-W2,-Apf:l1list=3:noinnerl1list



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Notes/Tuning Information (Continued)

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
-Wc,-Qgsched-T6,-Qipa:valueprediction

252.eon: basepeak = yes

253.perlbnk: -x05 -xtarget=native -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=2 -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
186.crafty: -DSUN
252.eon: -library=iostream
srcalt=fmax_errno
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=512K
MPSSSTACK=512K
LD_PRELOAD=mpss.so.1

Kernel Parameters (/etc/system):

autoup=900
tune_t_fsflushr=1

System Settings:

Other CPUs disabled at boot time by using /etc/system
parameter "cpu_bringup_set"
Used asr to disable the memories on unused CPUs.