



CINT2000 Result

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Sun Microsystems
Sun Fire 280R (1.015GHz)

SPECint_rate2000 = 13.2
SPECint_rate_base2000 = 11.7

SPEC license #: 6 Tested by: Sun Microsystems, Santa Clara Test date: Oct-2002 Hardware Avail: Sep-2002 Software Avail: Sep-2002

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	2	353	9.21	2	319	10.2
175.vpr	2	325	9.99	2	292	11.1
176.gcc	2	208	12.3	2	182	14.0
181.mcf	2	343	12.2	2	286	14.6
186.crafty	2	183	12.7	2	154	15.0
197.parser	2	395	10.6	2	321	13.0
252.eon	2	232	13.0	2	222	13.6
253.perlbnk	2	347	12.0	2	322	13.0
254.gap	2	310	8.23	2	315	8.11
255.vortex	2	273	16.1	2	206	21.4
256.bzip2	2	257	13.5	2	245	14.2
300.twolf	2	566	12.3	2	504	13.8

Hardware

CPU: UltraSPARC III Cu
CPU MHz: 1015
FPU: Integrated
CPU(s) enabled: 2 cores, 2 chips, 1 core/chip
CPU(s) orderable: 1-2
Parallel: No
Primary Cache: 32KBI+64KBD on chip
Secondary Cache: 8MB(I+D) off chip
L3 Cache: None
Other Cache: None
Memory: 8GB
Disk Subsystem: 2 x 18GB
Other Hardware: None

Software

Operating System: Solaris 8 02/02
Compiler: Sun ONE Studio 7 and Sun Performance Library 7
File System: ufs
System State: Single-User

Notes/Tuning Information

Portability:

```
176.gcc: -Dalloca=__builtin_alloca -DHOST_WORDS_BIG_ENDIAN
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
```

Profile Feedback (-xprofile):

```
fdo_pre0: rm -rf ./feedback.profile ./SunWS_cache
Pass 1: -xprofile=collect:./feedback
Pass 2: -xprofile=use:./feedback
```

Base Flags:

```
Base C flags: -fast -xcrossfile -l12amm -xprofile
Base C++ flags: -fast -xcrossfile -xprofile
```

Peak Flags:

```
164.gzip: -xO5 -xtarget=native -xalias_level=std -W2,-whole -xcrossfile -W2,-Ainline -xprofile
175.vpr: -fast -xalias_level=std -xcrossfile -xsfpcnst -W2,-whole
```



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Notes/Tuning Information (Continued)

```

-Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1,-Qeps:rp_filtering_margin=100
-xregs=syst -lmopt -xprofile
176.gcc: -fast -xcrossfile -W2,-whole -Wc,-Qgsched-trace_late=1,-Qgsched-T4 -ll2amm -xprofile
181.mcf: -fast -xcrossfile -Wc,-Qms_pipe-pref,-Qlp=1-fa=1-av=64-t=3-fl=1
-lprism32 -xprofile
186.crafty: -fast -xF -xinline= -xcrossfile -Wc,-Qgsched-trace_late=1,-Qgsched-T4
-xalias_level=strong -xregs=syst -W2,-Ashort_ldst,-Aivel:duplicate_loops
-xprofile
197.parser: -fast -xprefetch=no%auto -xcrossfile -xregs=syst
-Wc,-Qgsched-trace_late=1,-Qgsched-T4 -xalias_level=strong -Wc,-Qipa:valueprediction -xprofile
252.eon: -fast -xcrossfile -xalias_level=compatible -xsafe=mem -Qoption iropt -Mt500,-xrestrict
-Qoption cg -Qgsched-trace_late=1,-Qgsched-T4 -dn -lmopt -xprofile
253.perlbnk: -xO5 -xtarget=native -xcrossfile -xalias_level=std -xsafe=mem
-Wc,-Qgsched-trace_late=1,-Qgsched-T4,-Qgsched-trace_spec_load=1
-Wc,-Qinline_memcpy=32 -Wc,-Qiselect-funcalign=32,-Qicache-chbab=1
-Wc,-Qiselect-sw_pf_tbl_th=20 -xprofile
254.gap: -fast -xcrossfile -xalias_level=std -xprefetch -W2,-whole -lprism32 -xprofile
255.vortex: -fast -xcrossfile -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1
-Wc,-Qinline_memcpy=32 -W2,-Aheap,-reroll=1,-Aunroll,-Msl,-Mt500,-Mr6000,-crit
-Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=32
-Wc,-Qpeep-Sh0 -xrestrict -ll2amm -lprism32 -xprofile
256.bzip2: -fast -W2,-Abopt -xcrossfile -xalias_level=strong
-Wc,-Qiselect-funcalign=32 -xregs=syst -xprofile
300.twolf: -fast -xalias_level=strong -xsafe=mem -xcrossfile -xprefetch=no%auto
-Wc,-Qms_pipe+intdivusefp -xprofile
ONESTEP=yes for all benchmarks in base and peak

```

Shell Environments:

```

LD_LIBRARY_PATH=/usr/lib:/opt/SUNWspro/lib/v8plusb:/opt/SUNWspro/prod/lib/v8plusb
PRISM_HEAP=268435456
PRISM_MODE=2

```

Stack size set to unlimited via "ulimit -s unlimited"

Kernel Parameters (/etc/system):

```

set shmsys:shminfo_shmmin=1
set shmsys:shminfo_shmmax=1477846784
set shmsys:shminfo_shmmni=256
set shmsys:shminfo_shmseg=400

```

Software Patches: All patches for the Sun ONE Studio 7 Compiler (Product Patches and OS Patches) as recommended by <http://access1.sun.com/sundev/sls7-patches.html> on Oct 9th, 2002 were installed (111704-04, 111705-03, 111706-02, 111708-01, 111709-02, 111714-02, 111715-01, 111716-02, 111718-01, 111723-01, 108434-08, 108435-09, 111697-03, 111721-02)