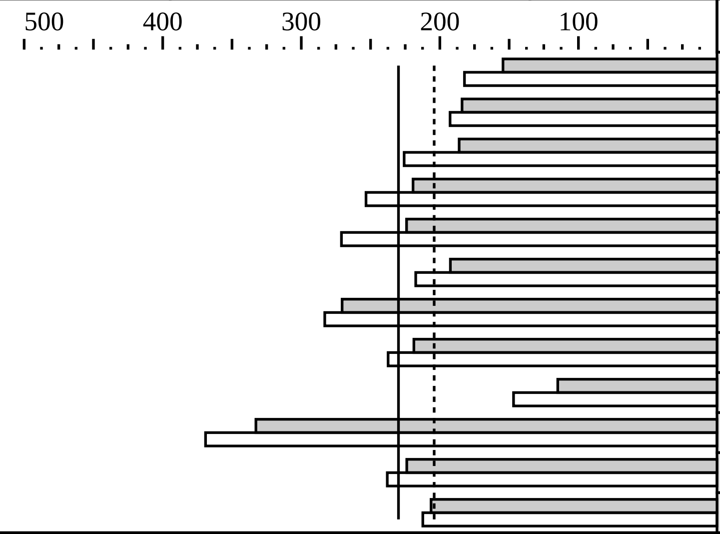
CINT2000 Result

Sun Microsystems
Sun Fire E6900 (16 processor)

SPECint_rate2000 = 230
SPECint_rate_base2000 = 204

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



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	32	336	154	32	285	182
175.vpr	32	282	184	32	270	193
176.gcc	32	219	186	32	181	226
181.mcf	32	305	219	32	264	253
186.crafty	32	166	224	32	137	271
197.parser	32	347	192	32	307	217
252.eon	32	178	271	32	170	283
253.perlbmk	32	305	219	32	282	237
254.gap	32	355	115	32	278	147
255.vortex	32	212	333	32	191	369
256.bzip2	32	249	224	32	234	238
300.twolf	32	540	206	32	525	212

Hardware

CPU:	UltraSPARC s400
CPU MHz:	1200
FPU:	Integrated
CPU(s) enabled:	32 cores, 16 chips, 2 cores/chip
CPU(s) orderable:	4, 8, 12, 16, 20, 24 (order by # 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:	64GB 16-way interleaved
Disk Subsystem:	Sun StorEdge S1 Disk Array (2x36GB) Sun StorEdge T3 Array for the Workgroup (9x36GB)
Other Hardware:	None

Software

Operating System:	Solaris 9 04/04
Compiler:	Sun ONE Studio 8 Sun Performance Library 8
File System:	ufs with ufs logging
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=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 -ll2amm
  181.mcf:     -fast -xipo=2 -xprefetch_level=2 -Wc,-Qeps:enabled=1
  186.crafty:  -fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst
```

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Notes/Tuning Information (Continued)

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                 Feedback adds -xlinkopt in PASS2
    197.parser:  -fast -xipo=2 -xalias_level=strong
                 -Wc,-Qgsched-T6,-Qipa:valueprediction
    252.eon:     -fast -xipo=2 -xalias_level=compatible -noex
                 -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
    253.perlbmk: -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
    186.crafty:  -DSUN
    252.eon:     -library=iostream
    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=4M
    MPSSSTACK=4M
    LD_PRELOAD=mpss.so.1

  Kernel Parameters (/etc/system):
    autoup=900
    tune_t_fsflushr=1

  Processes were bound to CPUs using submit=pbind

  The system was configured with multiple file systems.
  The O/S was installed on one disk of the Sun StorEdge S1
  Disk Array (ufs, ufs w/logging).  The benchmark was run on
  the Sun StorEdge T3 Array, using H/W Raid 5 and ufs with
  ufs logging file system.
```