# Sun Microsystems
## Sun Fire V240 (1.28GHz)

**SPEClicense #: 6**
**Tested by:** Sun Microsystems, Santa Clara
**Test date:** Sep-2003

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### Hardware
- **CPU:** UltraSPARC IIIi
- **CPU MHz:** 1280
- **FPU:** Integrated
- **CPU(s) enabled:** 1 core, 1 chip, 1 core/chip
- **CPU(s) orderable:** 1-2
- **Primary Cache:** 32KBI+64KBD on chip
- **Secondary Cache:** 1MB(I+D) on chip
- **Other Cache:** None
- **Memory:** 4GB 16-way interleaved
- **Disk Subsystem:** 1 x 36GB SEAGATE ST336607LSUN36G
- **Other Hardware:** None

### Software
- **Operating System:** Solaris 9 4/03
- **Compiler:** Sun ONE Studio 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:** `-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 -lmopt -lm`
- **176.gcc:** `-fast -xipo=2 -ll2amm`
- **181.mcf:** `-fast -xipo=2 -xprefetch_level=3 -Wc,-Qeps:enabled=1 -W2,-Apf:llist=3:noinnerllist`
- **186.crafty:** `-fast -xinline= -xipo=2 -xalias_level=strong -W2,-Ashort_ldst`
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SPECint2000 = 704
SPECint_base2000 = 613

Notes/Tuning Information (Continued)
Feedback adds -xlinkopt in PASS2
197.parser:  -fast -xipo=2 -xalias_level=strong
            -Wc,-Qgsched-T6,-Qipa:valuerediction
252.eon:    -fast -xipo=2 -xalias_level=compatible -noex
            -Qoption cg -Qeps:enabled=1,-Qeps:ws=32
253.perlbmk: -X05 -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,-Airline:recurson=1:cs=500:irs=6000
            -Wc,-Qeps:enabled=1,-Qdegraph-early_cross_call=1,
            -Qiselect-funcalign=32,-Qpeep-Sh0-112amm
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

System Settings:
2nd CPU physically removed from the system