



# CINT2000 Result

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Fujitsu Limited  
PRIMEPOWER900 (1350MHz)

SPECint\_rate2000 = 147  
SPECint\_rate\_base2000 = 127

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Mar-2003 Hardware Avail: Jun-2003 Software Avail: Feb-2003

Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	16	228	114	16	209	125
175.vpr	16	234	111	16	187	139
176.gcc	16	196	104	16	129	159
181.mcf	16	373	89.6	16	368	90.9
186.crafty	16	122	152	16	116	160
197.parser	16	286	117	16	252	133
252.eon	16	224	108	16	167	145
253.perlbnk	16	213	157	16	209	160
254.gap	16	200	102	16	197	104
255.vortex	16	160	221	16	122	289
256.bzip2	16	207	135	16	197	142
300.twolf	16	342	163	16	292	191

### Hardware

CPU: SPARC64 V  
 CPU MHz: 1350  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 16 chips, 1 core/chip  
 CPU(s) orderable: 1 to 16 (increments of 1)  
 Parallel: None  
 Primary Cache: 128KBI+128KBD on chip  
 Secondary Cache: 2MB(I+D) on chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 64GB  
 Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
 Other Hardware: System with one PPAR, see Notes

### Software

Operating System: Solaris8 2/02 with current patches (see notes)  
 Compiler: Fujitsu Parallelnavi 1.0.2  
 Sun ONE Studio 7 with current patches (see notes)  
 Sun Performance Library 7  
 File System: ufs  
 System State: multi user

## Notes/Tuning Information

Baseline (except 252.eon, for Sun ONE Studio 7): -fast -xtarget=ultra3 -xcrossfile  
 fdo\_pre0=rm -rf `pwd`/../feedback.profile `pwd`/SunWS\_cache  
 PASS1=-xprofile=collect:`pwd`/../feedback  
 PASS2=-xprofile=use:`pwd`/../feedback  
 (252.eon, for Sun ONE Studio 7): -fast -xchip=ultra3 -xarch=v8plus -xcrossfile  
 Peak  
 (for Sun ONE Studio 7)  
 fdo\_pre0=rm -rf `pwd`/../feedback.profile `pwd`/SunWS\_cache  
 PASS1=-xprofile=collect:`pwd`/../feedback  
 PASS2=-xprofile=use:`pwd`/../feedback  
 164.gzip: -x05 -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plusb -xalias\_level=std  
 -W2,-whole -xcrossfile -W2,-Ainline -xprefetch -xprefetch\_level=2  
 175.vpr: -fast -xchip=ultra2 -xcache=128/64/2:2048/64/4 -xarch=v8plusb  
 -xalias\_level=std -xipo=1 -xsfpconst -xdepend -W2,-whole  
 -Wc,-Qeps:enabled=1,-Qeps:do\_spec\_load=1,-Qeps:rp\_filtering\_margin=100  
 176.gcc: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plusb  
 -xcrossfile -W2,-whole -Wc,-Qgsched-trace\_late=1,-Qgsched-T4 -xprefetch -l12amm  
 181.mcf: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plusb  
 -xcrossfile -xprefetch -xdepend -Wc,-Qms\_pipe-pref,-Qlp=1-fa=1-av=256-t=2-fl=1  
 186.crafty: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4



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## Notes/Tuning Information (Continued)

```

-xarch=v8plusb -xinline=%auto -Wc,-Qgsched-trace_late=1,-Qgsched-T4
-xalias_level=strong -xregs=syst -W2,-Ashort_ldst,-Aivel:duplicate_loops -xipo=1
197.parser: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plusb
-xdepend -xcrossfile -xregs=syst -Wc,-Qgsched-trace_late=1,-Qgsched-T4
-xalias_level=strong -Wc,-Qipa:valueprediction -lprism32
252.eon: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4 -xarch=v8plus
-xcrossfile -xregs=syst -xsafe=mem -Qoption iropt -Mt2000 -Qoption cg
-Qgsched -trace_late=1,-Qgsched-trace_spec_load=1,-Qgsched-T4
-xunroll=3 -lmopt
253.perlbnk: -dn -x05 -xchip=ultra3 -xcache=128/64/2:2048/64/2
-xarch=v8plus -xcrossfile
254.gap: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4
-xarch=v8plusb -xcrossfile -xalias_level=std -xprefetch
-W2,-whole -Wc,-Qgsched-trace_late=1,-Qgsched-T4
255.vortex: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4
-xarch=v8plusb -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1
-W2,-Aheap,-reroll=1,-Aunroll,-Ms15,-Mt300,-Mr6000,-crit
-Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=64
-Wc,-Qpeep-Sh0 -xrestrict -xdepend -xcrossfile -ll2amm -lprism32
256.bzip2: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4
-xarch=v8plusb -W2,-Abopt -xcrossfile -xalias_level=strong
-Wc,-Qiselect-funcalign=64 -xdepend -xregs=syst -xsafe=mem

```

(for Parallelnavi 1.0.2)

```

300.twolf: -Kfast_GP=5,GREG,popt,cfunc,staticclump,use_rodata,xi=10,nounroll,largepage,bcopy,prefetch=4 -dy
PASS1=-Kpg
PASS2=-Kpu=$(EXEBASE).fbk

```

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

Note:

System Tunables: (for /etc/system)

consistent\_coloring=1,

shmsys:shminfo\_shmmax=8589934592, shmsys:shminfo\_shmmni=256,

shmsys:shminfo\_shmseg=400,shminfo\_shmmin=1

set tune\_t\_fsflushr = 86400

set autoup = 86400

(for /etc/opt/FJSVpnm/lpg.conf)

TSS=4096M, SHMSEGSIZE=256M

Shell Environments:

LD\_LIBRARY\_PATH="/opt/SUNWspro/prod/lib/v8plusb"

PRISM\_HEAP=268435456

PRISM\_MODE=2

ONESTEP=yes was set for all baseline and peak benchmarks.

Feedback directed optimization (FDO) was used for all baseline and peak benchmarks except 252.eon(base).

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

All patches of Sun ONE Studio 7 posted at URL <http://access1.sun.com/sundev/s1s7-patches.html>

as of date 2003/02/21 were applied: 111704-06, 111706-04, 111709-02, 111715-04, 111718-01  
111705-03, 111708-03, 111714-04, 111716-02, 111723-02

All patches for Sun ONE Studio 7 SPARC SunOS 5.8 posted at

[http://access1.sun.com/patch.public/cgi-bin/show\\_list.cgi/wrk/Sun\\_ONE\\_Studio\\_7\\_SPARC\\_SunOS\\_5.8](http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_7_SPARC_SunOS_5.8)

as of date 2003/02/21 were applied: 108434-10, 108435-10, 111697-04, 111721-02

System configured at installation time in PPAR(Physical PARTitioning) mode.

One partition used, extending over the whole system.

Standard Performance Evaluation Corporation

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<http://www.spec.org>



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## Notes/Tuning Information (Continued)

8 CPUs and 32 GB installed on each of the two system boards.