



# CINT2000 Result

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Fujitsu Siemens Computers  
PRIMEPOWER650 (810MHz)

SPECint2000 = 624  
SPECint\_base2000 = 512

SPEC license #: 22 Tested by: Fujitsu Limited Test date: Jun-2002 Hardware Avail: Sep-2002 Software Avail: May-2002

Benchmark	Reference Time	Base Runtime	Base Ratio	Runtime	Ratio	
164.gzip	1400	300	467	255	549	
175.vpr	1400	302	463	260	539	
176.gcc	1100	422	261	201	547	
181.mcf	1800	302	595	271	664	
186.crafty	1000	194	516	149	673	
197.parser	1800	333	541	298	604	
252.eon	1300	204	636	184	706	
253.perlbmk	1800	303	594	251	716	
254.gap	1100	343	320	335	328	
255.vortex	1900	235	809	166	1145	
256.bzip2	1500	269	558	246	610	
300.twolf	3000	473	634	439	684	

### Hardware

CPU: SPARC64 GP  
CPU MHz: 810  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 2 to 8  
Parallel: None  
Primary Cache: 128KBI+128KBD on chip  
Secondary Cache: 8MB(I+D) off chip, per CPU  
L3 Cache: None  
Other Cache: None  
Memory: 8192MB  
Disk Subsystem: 36GB SCSI  
Other Hardware: Ethernet

### Software

Operating System: Solaris 8 2/02 with patches 108434-07 and 108435-07.  
Compiler: Fujitsu Parallelnavi 1.0.2 with patches 911403-01 and 911746-01, Sun ONE Studio 7 with patches 111704-01, 111705-01, 111706-01, 111708-01, 111709-01, 111715-01 and 111716-01, Sun Performance Library 7  
File System: ufs  
System State: single user

## Notes/Tuning Information

Baseline (except 252.eon, for Parallelnavi 1.0.2): -Kfast\_GP=3,largepage

fdo\_pre0=rm -rf `pwd`/\*.fbk

PASS1=-Kpg

PASS2=-Kpu=\$(EXEBASE).fbk

(252.eon, for Sun ONE Studio 7): -fast -xcrossfile -xtarget=ultra3

fdo\_pre0=rm -rf `pwd`/../feedback.profile `pwd`/SunWS\_cache

PASS1=-xprofile=collect:`pwd`/../feedback

PASS2=-xprofile=use:`pwd`/../feedback

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 -xtarget=ultra3 -xalias\_level=std -W2,-whole -xcrossfile -W2,-Ainline -xprefetch -Wc,-Qgsched-trace\_late=1,-Qgsched-spec\_load=1 -l12amm

175.vpr: -fast -xarch=v8plusb -xalias\_level=std -xcrossfile -xsfpcnst -xdepend -W2,-whole,-Mt600,-Mr4000 -Wc,-Qeps:enabled=1,-Qeps:do\_spec\_load=1,-Qeps:rp\_filtering\_margin=100 -xregs=syst -lprism32 -lmopt -lm

176.gcc: -fast -xtarget=ultra3 -xcrossfile -W2,-whole -Wc,-Qgsched-trace\_late=1,-Qgsched-T4 -l12amm



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## Notes/Tuning Information (Continued)

```

186.crafty: -fast -xtarget=ultra3 -xarch=v8plus -xF -xinline= -xcrossfile -Wc,-Qgsched-spec_load=1,-Qiselect-funcalign=64
           -xalias_level=strong -xregs=syst -W2,-Ashort_ldst,-Aivel:duplicate_loops -xprefetch=auto,latx:5.0
197.parser: -fast -xarch=v8plusb -xdepend -xprefetch=no%auto
           -xcrossfile -xregs=syst -Wc,-Qgsched-trace_late=1,-Qgsched-T4
           -xalias_level=strong -Wc,-Qipa:valueprediction
           -W2,-Ashort_ldst,-Mt5000 -Wc,-Qiselect-funcalign=32 -lprism32
252.eon: -fast -xtarget=ultra3 -xcrossfile -xalias_level=compatible -xsafe=mem -Qoption iropt
          -Mt2000,-xrestrict -Qoption cg -Qgsched-trace_spec_load=1,-Qgsched-trace_late=1
253.perlbnk: -xO5 -xtarget=ultra3 -xarch=v8plusb -xcrossfile -xalias_level=strong -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 -W2,-Adata_access -xprefetch=auto,latx:5.0 -l12amm -dn
255.vortex: -fast -xtarget=ultra3 -xcrossfile -W2,-Aheap,-reroll=1,-Aunroll,-Ms1,-Mt600,-Mr13000,-crit
            -Wc,-Qdepgraph-early_cross_call=1 -Wc,-Qiselect-funcalign=32 -Wc,-Qpeep-Sh0
            -xrestrict -xdepend -W2,-Amemopt
            -l12amm -lprism32
256.bzip2: -fast -xtarget=ultra3 -W2,-whole,-crit
           -xcrossfile -xalias_level=strong -Wc,-Qiselect-funcalign=32
           -xdepend -xregs=syst -xsfpcnst -Wc,-Qgsched-trace_spec_load=1 -xsafe=mem -l12amm -lprism32

```

(for Parallelnavi 1.0.2):

fdo\_pre0=rm -rf `pwd`/\*.fbk

PASS1=-Kpg

PASS2=-Kpu=\$(EXEBASE).fbk

181.mcf: -Kfast\_GP=2,GREG,eval,preex,popt,unroll=2,prefetch=4,largepage,preload -x-

254.gap: -Kfast\_GP=3,popt,eval,cfunc,largepage,xi=10

300.twolf: -Kfast\_GP=5,eval,GREG,popt,cfunc,staticclump,use\_rodata,xi=10,largepage,bcopy,nounroll,prefetch=4

### 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

### Note:

System Tunables: (for /etc/system)

consistent\_coloring=1, tune\_t\_fsflushr=86400, autoup=86400,

shmsys:shminfo\_shmmax=1477846784, shmsys:shminfo\_shmnni=1024, shmsys:shminfo\_shmseg=1024,shminfo\_shmmin=1

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

TSS=512M, SHMSEGSIZE=256M

### Shell Environments:

LD\_LIBRARY\_PATH="/usr/lib:/opt/FD7/SUNWspro/lib/v8plusb:/opt/FD7/SUNWspro/prod/lib/v8plusb:/opt/FSUNf90/lib"

LD\_LIBRARY\_PATH\_64="/usr/lib/64:/opt/FD7/SUNWspro/lib/v9:/opt/FD7/SUNWspro/prod/lib/v9"

PRISM\_HEAP=268435456

PRISM\_MODE=2

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

Feedback directed optimization was used for all baseline and peak benchmarks.

Small configuration memory system mode used ("4cpu mode", enabled via front panel).

System board used with only one CPU present.