



# CINT2000 Result

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**Fujitsu Limited**  
**PRIMEPOWER200 (700MHz)**

SPECint2000 = **491**  
SPECint\_base2000 = **415**

SPEC license #: 19 Tested by: Fujitsu Limited Test date: Jun-2002 Hardware Avail: Aug-2002 Software Avail: May-2002

| Benchmark   | Reference Time | Base Runtime | Base Ratio | Runtime | Ratio |  |
|-------------|----------------|--------------|------------|---------|-------|--|
| 164.gzip    | 1400           | 346          | 404        | 303     | 463   |  |
| 175.vpr     | 1400           | 379          | 369        | 348     | 402   |  |
| 176.gcc     | 1100           | 386          | 285        | 250     | 440   |  |
| 181.mcf     | 1800           | 524          | 344        | 450     | 400   |  |
| 186.crafty  | 1000           | 242          | 413        | 175     | 571   |  |
| 197.parser  | 1800           | 418          | 431        | 379     | 474   |  |
| 252.eon     | 1300           | 244          | 532        | 220     | 591   |  |
| 253.perlbnk | 1800           | 367          | 491        | 324     | 556   |  |
| 254.gap     | 1100           | 412          | 267        | 406     | 271   |  |
| 255.vortex  | 1900           | 300          | 632        | 216     | 882   |  |
| 256.bzip2   | 1500           | 347          | 433        | 312     | 481   |  |
| 300.twolf   | 3000           | 565          | 531        | 508     | 590   |  |

### Hardware

CPU: SPARC64 GP  
CPU MHz: 700  
FPU: Integrated  
CPU(s) enabled: 1 core, 1 chip, 1 core/chip  
CPU(s) orderable: 1 to 2  
Parallel: None  
Primary Cache: 128KBI+128KBD on chip  
Secondary Cache: 4MB(I+D) off chip, per CPU  
L3 Cache: None  
Other Cache: None  
Memory: 8192MB  
Disk Subsystem: 1 x 36.4GB SCSI (10000rpm)  
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: -xO5 -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 -xprefetch=auto,latx:5.0 -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)

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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: -x05 -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,-Msl,-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\_roddata,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\_shmmani=1024, shmsys:shminfo\_shmseg=1024,shminfo\_shmmin=1

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

TSS=4G, SHMSEGSIZE=256M

Shell Environments:

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

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

System board used with only one CPU present.