CINT2000 Result

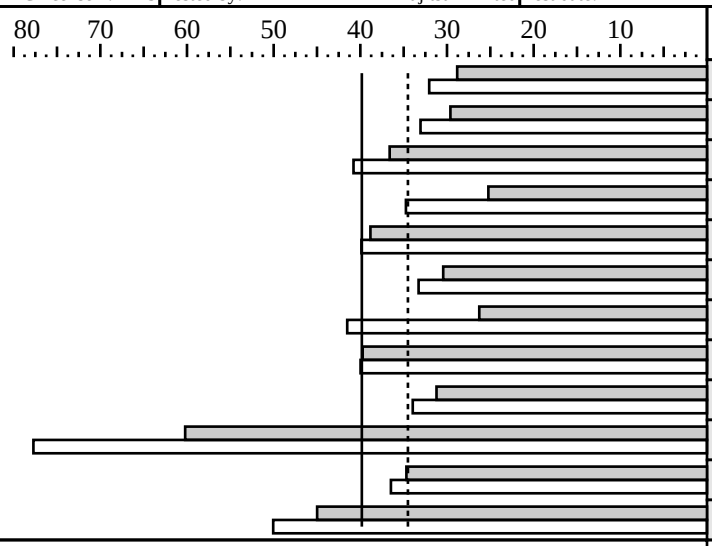
Copyright ©1999-2004, Standard Performance Evaluation Corporation

Fujitsu Limited
PRIMEPOWER450 (1320MHz)

SPECint_rate2000 = 39.8

SPECint_rate_base2000 = 34.5

SPEC license #: 19 | Tested by: Fujitsu Limited | Test date: Dec-2003 | Hardware Avail: Feb-2004 | Software Avail: Dec-2003



Benchmark	Base Copies	Base Runtime	Base Ratio	Copies	Runtime	Ratio
164.gzip	4	225	28.8	4	203	32.1
175.vpr	4	219	29.6	4	197	33.1
176.gcc	4	139	36.6	4	125	40.8
181.mcf	4	331	25.2	4	240	34.7
186.crafty	4	119	38.8	4	116	39.9
197.parser	4	274	30.4	4	251	33.3
252.eon	4	230	26.3	4	145	41.5
253.perlbmk	4	210	39.7	4	209	40.0
254.gap	4	164	31.2	4	150	34.0
255.vortex	4	146	60.2	4	113	77.7
256.bzip2	4	201	34.7	4	191	36.5
300.twolf	4	309	45.0	4	278	50.1

Hardware

CPU:	SPARC64 V
CPU MHz:	1320
FPU:	Integrated
CPU(s) enabled:	4 cores, 4 chips, 1 core/chip
CPU(s) orderable:	1 to 4 (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:	8192MB (512MB x 16)
Disk Subsystem:	1 x 36.4GB SCSI (10000rpm)
Other Hardware:	None

Software

Operating System:	Solaris 8 2/02 with current patches (see notes)
Compiler:	Fujitsu Parallelnavi 2.3 Sun ONE Studio 8 Sun Performance Library 8
File System:	ufs
System State:	multi user

Notes/Tuning Information

```
FDO: (for Parallelnavi 2.3)
fdo_pre0=rm -rf ‘pwd‘/*.f.d
PASS1=-Kpg
PASS2=-Kpu=$(EXEBASE).fbk
FDO: (for Sun ONE Studio 8)
fdo_pre0=rm -rf ./feedback.profile ./SunWS_cache
PASS1=-xprofile=collect:./feedback
PASS2=-xprofile=use:./feedback

Integer base flags:
(using C compiler of Sun ONE Studio 8)
-fast -xtarget=ultra3cu -xipo=2 ONESTEP=yes FDO
(using C++ compiler of Sun ONE Studio 8)
-fast -xchip=ultra3cu -xarch=v8plusb -xipo=2 ONESTEP=yes

Integer peak flags:
(using C compiler of Parallelnavi 2.3)
300.twolf:    -Kfast_GP2=3 -O5 -KGREG,largepage,memalias,cfunc,
              use_rodata,xi=20 ONESTEP=yes FDO
```

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

```
(using C compiler of Sun ONE Studio 8)
164.gzip:     -xO5 -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xalias_level=std -xipo=2 -xprefetch -W2,-whole,-Ainline
              -Wc,-Qiselect-funcalign=64 ONESTEP=yes FDO
175.vpr:      -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plus -xchip=ultra -xalias_level=std -xdepend -xipo=2
              -xprefetch=latx:1.6 -xsfpconst -W2,-whole -Wc,-Qeps:do_spec_load=1
              -Wc,-Qeps:enabled=1,-Qeps:rp_filtering_margin=100,
              -Qiselect-funcalign=64 -lprism32 ONESTEP=yes FDO
176.gcc:      -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xipo=2 -xprefetch=latx:1.6 -W2,-whole
              -Wc,-Qgsched-T4,-Qgsched-trace_late=1,-Qiselect-funcalign=64
              -ll2amm ONESTEP=yes FDO
181.mcf:      -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xchip=ultra2 -xdepend -xipo=2 -W2,-Apf:llist=3:noinnerllist
              -Wc,-Qeps:enabled=1,-Qms_pipe-pref -lprism32 ONESTEP=yes FDO
186.crafty:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xarch=v8plusa -xalias_level=strong -xipo=2
              -xprefetch=latx:0.8 -W2,-Ashort_ldst -Wc,-Qiselect-funcalign=64
              ONESTEP=yes FDO
197.parser:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xalias_level=strong -xdepend -xipo=2 -xprefetch=latx:0.8
              -xregs=syst -Wc,-Qgsched-T6,-Qgsched-trace_late=1,
              -Qipa:valueprediction,-Qiselect-funcalign=64
              -lprism32 ONESTEP=yes FDO
253.perlbmk:  -dn -xO5 -xarch=v8plus -xchip=ultra3 -xcache=128/64/2:2048/64/4
              -xipo=2 -Wc,-Qiselect-funcalign=64
              ONESTEP=yes FDO
254.gap:      -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xalias_level=strong -xipo=2 -xprefetch_level=3 -xprefetch=latx:2.0
              -xvector -W2,-Abcopy,-whole -Wc,-Qgsched-T4,-Qgsched-trace_late=1,
              -Qiselect-funcalign=64 ONESTEP=yes FDO
255.vortex:   -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xchip=ultra -xdepend -xipo=2 -xrestrict -xprefetch=latx:1.6
              -W2,-Aheap,-Ainline:recursion=1:cs=500:irs=6000,-Aunroll,-crit
              -W2,-Ms15,-Mt300,-Mr6000,-reroll=1 -Wc,-Qdepgraph-early_cross_call=1
              -Wc,-Qeps:do_spec_load=1,-Qeps:enabled=1,-Qiselect-funcalign=64
              -Wc,-Qpeep-Sh0 -ll2amm -lprism32 ONESTEP=yes FDO
256.bzip2:    -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -xipo -xalias_level=strong -xdepend -xregs=syst -xrestrict
              -xprefetch=latx:0.8 -W2,-Abopt -Wc,-Qiselect-funcalign=64
              -Wc,-Qeps:enabled ONESTEP=yes FDO
(using C++ compiler of Sun ONE Studio 8)
252.eon:      -fast -xarch=v8plusb -xchip=ultra3cu -xcache=128/64/2:2048/64/4
              -noex -xalias_level=compatible -xipo=2
              -xprefetch=latx:0.8 -xregs=syst -xunroll=3
              -Qoption cg -Qeps:enabled=1,-Qeps:ws=32,-Qgsched-T4,
              -Qgsched-trace_late=1,-Qiselect-funcalign=64
              -Qoption iropt -Mt2000 -lmopt ONESTEP=yes FDO

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
```

Copyright ©1999-2004, Standard Performance Evaluation Corporation

Notes/Tuning Information (Continued)

-DSYS_HAS_CALLOC_PROTO -DSYS_HAS_IOCTL_PROTO

System Tunables:
(for /etc/system)
set consistent_coloring=1
set shmsys:shminfo_shmmax=2147483648, set shmsys:shmmni=256,
set shmsys:shminfo_shmseg=400, set shmsys:shmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=1024M, SHMSEGSIZE=256M
Shell Environments:
Stack size set to unlimited via "ulimit -s unlimited"
LD_LIBRARY_PATH="/opt/SUNWspro/prod/lib/v8plusb"
PRISM_HEAP=268435456
PRISM_MODE=2

Sun ONE Studio 8, posted at URL http://wwws.sun.com/software/sundev/suncc/
was used for this submission.
All patches for Solaris 8 posted at
http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/wrk/Sun_ONE_Studio_8_SPARC_SunOS_5.8
as of date 2003/12/17 were applied: 108434-13, 108435-13, 111697-04, 111721-04.
Processes were bound to CPUs using "submit=pbind"