**CINT2000 Result**

**Fujitsu Limited**

**PRIMEPOWER900 (1350MHz)**

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

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

**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
- **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
164.gzip: -xO5 -xchip=ultra3cu -xcache=128/64/2:2048/64/4 -xarch=v8plusb -xalias_level=std
-W2,-whole -xcrossfile -W2,-Aline -xprofile -xprefetch -xprefetch_level=2
175.vpr: -fast -xchip=ultra2 -xcache=128/64/2:2048/64/4 -xarch=v8plusb
-xalias_level=std -xipo=1 -xsfconst -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 -112amm
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-f1=1
186.crafty: -fast -xchip=ultra3cu -xcache=128/64/2:2048/64/4
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Fujitsu Limited

PRIMEPOWER900 (1350MHz)

SPECint_rate2000 = 147
SPECint_rate_base2000 = 127

Notes/Tuning Information (Continued)

-xarch=v8plusb -xinline=%auto -Wc,-Qgsched-trace_late=1,-Qgsched-T4
-xalias_level=strong -xregs=syst -W2,-Ashopt,ldst,-Agivel: 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=v8plusb
-xcrossfile -xregs=syst -xsafe=mem -option iropt -Mt2000 -option cg
-Qgsched -trace_late=1,-Qgsched-trace_spec_load=1,-Qgsched-T4
-xunroll=3-lmopt
253.perlbmk: -dn -xO5 -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=v8plus -Wc,-Qeps:enabled=1,-Qeps:do_spec_load=1
-W2,-Aheap,-reroll=1,-Aunroll,-Ms15,-Mt300,-Mr6000,-crit
-Wc,-Qdegraph-early_cross_call=1 -Wc,-Qselect-funcalign=64
-Wc,-Qnoop-parallel=1 -xregas=mem -loption cg
-W2,-whole -Wc,-Qgsched-trace_late=1,-Qgsched-T4
256.bzip2: -fast -xchip=ultra3 -xcache=128/64/2:2048/64/4
-xarch=v8plusb -W2,-Abpect -xcrossfile -xalias_level=strong
-Wc,-Qselect-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.crafter: -DSUN
252.eon: -library=iostream
253.perlbmk: -DSPEC_CPU2000_SOLARIS
254.gap: -DSYS_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_shmmni=8589934592, shmsys:shminfo_shmmax=256,
shmsys:shminfo_shmseg=400,shminfo_shmmin=1
set tune_t_fsflushr = 86400
set autoup = 86400
(for /etc/opt/FJSVpnrm/lpg.conf)
TSS=4096M, SHMSEG_SIZE=256M
Shell Environments:
LD_LIBRARY_PATH="/opt/SUNWpro/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/sls7-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 pubblic/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.
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Notes/Tuning Information (Continued)

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