



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®_rate2006 = 84.5

CELSIUS V840, AMD Opteron 2346 HE (1.8 GHz)

SPECint_rate_base2006 = 72.5

CPU2006 license: 22

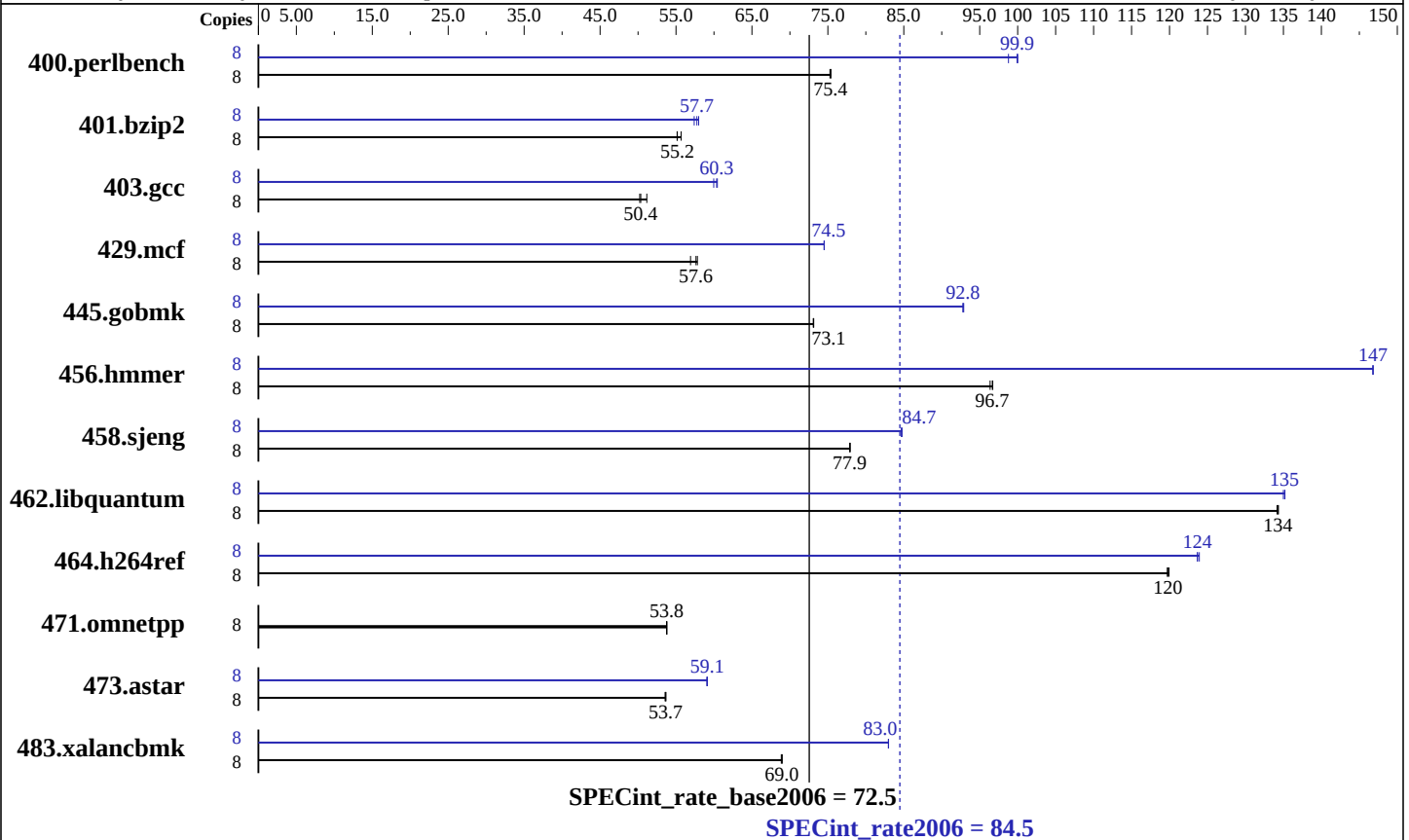
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008



Hardware

CPU Name: AMD Opteron 2346 HE
CPU Characteristics:
CPU MHz: 1800
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable: 1,2 chips
Primary Cache: 64 KB I + 64 KB D on chip per core
Secondary Cache: 512 KB I+D on chip per core
L3 Cache: 2 MB I+D on chip per chip
Other Cache: None
Memory: 16 GB (8x2GB PC2-5300P, CL5, dual rank ECC)
Disk Subsystem: 1 x 400 GB SATA II, 7200 rpm
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64) SP1, Kernel 2.6.16.46-0.12-smp
Compiler: PGI Workstation Complete Version 7.2-1 PathScale Compiler Suite, Release 3.2 Beta
Auto Parallel: No
File System: ext3
System State: Multi-User SuSE Run Level 3
Base Pointers: 32/64-bit
Peak Pointers: 32/64-bit
Other Software: binutils 2.18.50
Microquill SmartHeap 8.1 32-bit Library for Linux



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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	1037	75.4	1038	75.3	<u>1037</u>	<u>75.4</u>	8	791	98.8	781	100	<u>782</u>	<u>99.9</u>
401.bzip2	8	1387	55.7	1400	55.1	<u>1399</u>	<u>55.2</u>	8	1345	57.4	1331	58.0	<u>1337</u>	<u>57.7</u>
403.gcc	8	1282	50.2	<u>1279</u>	<u>50.4</u>	1259	51.2	8	<u>1067</u>	<u>60.3</u>	1074	60.0	1065	60.4
429.mcf	8	1282	56.9	1262	57.8	<u>1266</u>	<u>57.6</u>	8	979	74.5	<u>979</u>	<u>74.5</u>	979	74.5
445.gobmk	8	<u>1148</u>	<u>73.1</u>	1147	73.1	1148	73.1	8	<u>904</u>	<u>92.8</u>	903	92.9	904	92.8
456.hammer	8	<u>772</u>	<u>96.7</u>	772	96.7	775	96.4	8	508	147	509	147	<u>508</u>	<u>147</u>
458.sjeng	8	1243	77.9	<u>1243</u>	<u>77.9</u>	1242	77.9	8	1143	84.7	<u>1142</u>	<u>84.7</u>	1142	84.8
462.libquantum	8	1236	134	<u>1235</u>	<u>134</u>	1234	134	8	<u>1226</u>	<u>135</u>	1226	135	1228	135
464.h264ref	8	1479	120	1476	120	<u>1478</u>	<u>120</u>	8	1429	124	1432	124	<u>1431</u>	<u>124</u>
471.omnetpp	8	929	53.8	930	53.7	<u>930</u>	<u>53.8</u>	8	929	53.8	930	53.7	<u>930</u>	<u>53.8</u>
473.astar	8	1049	53.6	1047	53.7	<u>1047</u>	<u>53.7</u>	8	<u>950</u>	<u>59.1</u>	950	59.1	951	59.1
483.xalancbmk	8	800	69.0	<u>800</u>	<u>69.0</u>	802	68.9	8	665	83.0	665	83.0	<u>665</u>	<u>83.0</u>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

powersave -f is applied to set CPU to maximum frequency prior to run
 stacksize is set to unlimited prior to run
 ulimit -l 2457600
 PGI_HUGE_PAGES set to 150
 (Total number of huge pages available is 1200)

General Notes

The command numactl has been used to bind processes to CPUs

For information about Fujitsu Siemens Computers please see:
<http://www.fujitsu-siemens.com>

Base Compiler Invocation

C benchmarks:
pgcc

C++ benchmarks:
pgcpp



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Base Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalanbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:

-fastsse -Msmartalloc=huge:150 -Mfprelaxed -Mipa=jobs:4 -Mipa=fast
-Mipa=inline -tp barcelona-64 -Bstatic_pgi

C++ benchmarks:

-fastsse -Msmartalloc=huge:150 -Mfprelaxed --zc_eh -Mipa=jobs:4
-Mipa=fast -Mipa=inline -tp barcelona -Bstatic_pgi

Peak Compiler Invocation

C benchmarks (except as noted below):
pgcc

400.perlbench: pathcc

403.gcc: pathcc

445.gobmk: pathcc

464.h264ref: pathcc

C++ benchmarks (except as noted below):
pgcpp

483.xalanbmk: pathCC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

445.gobmk: -DSPEC_CPU_LP64
456.hmmr: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -march=barcelona -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -Ofast -IPA:plimit=20000 -LNO:opt=0
-WOPT:if_conv=0 -CG:local_sched_alg=1

401.bzip2: -Mpfi=indirect(pass 1) -Mpfo=indirect(pass 2) -fastsse -O4
-Msmartalloc=huge:150 -Mprefetch=t0 -Mnounroll
-tp barcelona-64 -Bstatic_pgi

403.gcc: -march=barcelona -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -O3 -OPT:Ofast -m32

429.mcf: -fastsse -Msmartalloc=huge:150 -Mipa=jobs:4 -Mipa=fast
-Mipa=inline:1 -tp barcelona -Bstatic_pgi

445.gobmk: -march=barcelona -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -O3 -OPT:alias=restrict
-LNO:prefetch=1 -LNO:ignore_feedback=off -CG:p2align=on

456.hmmr: -fastsse -Mvect=partial -Munroll=n:8 -Msmartalloc=huge:150
-Msafeptr -Mprefetch=t0 -Mfprelaxed -Mipa=jobs:4
-Mipa=const -Mipa=ptr -Mipa=arg -Mipa=inline
-tp barcelona-64 -Bstatic_pgi

458.sjeng: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=jobs:4(pass 2)
-Mipa=fast(pass 2) -Mipa=inline:1(pass 2)
-Mipa=noarg(pass 2) -fastsse -Msmartalloc=huge:150
-Mfprelaxed -tp barcelona-64 -Bstatic_pgi

462.libquantum: -fastsse -Munroll=m:8 -Msmartalloc=huge:150
-Mprefetch=distance:4 -Mfprelaxed -Mipa=jobs:4 -Mipa=fast
-Mipa=inline -Mipa=noarg -tp barcelona-64 -Bstatic_pgi

464.h264ref: -march=barcelona -fb_create fbdata(pass 1)
-fb_opt fbdata(pass 2) -O3 -IPA:plimit=20000
-OPT:alias=disjoint -LNO:prefetch=0 -CG:ptr_load_use=0
-CG:push_pop_int_saved_regs=off

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Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -Mpf(pass 1) -Mpfo(pass 2) -Mipa=jobs:4(pass 2)
-Mipa=fast(pass 2) -Mipa=inline:6(pass 2) -fastsse -O4
-Msmartalloc=huge:150 -Msafeptr=global -Mfprelaxed --zc_eh
-tp barcelona -Bstatic_pgi

483.xalancbmk: -march=barcelona -Ofast -OPT:unroll_times_max=8
-CG:push_pop_int_saved_regs=off -CG:ptr_load_use=0 -m32
-lsmartheap

Peak Other Flags

C++ benchmarks:

483.xalancbmk: -L/opt/SmartHeap_8.1/lib

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/fsc-mix-pgi-path.20080709.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/fsc-mix-pgi-path.20080709.xml>

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