



SPEC[®] CINT2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

SPECint[®]_rate2006 = 92.4

CELSIUS V840, AMD Opteron 2350 (2.0 GHz)

SPECint_rate_base2006 = 79.3

CPU2006 license: 22

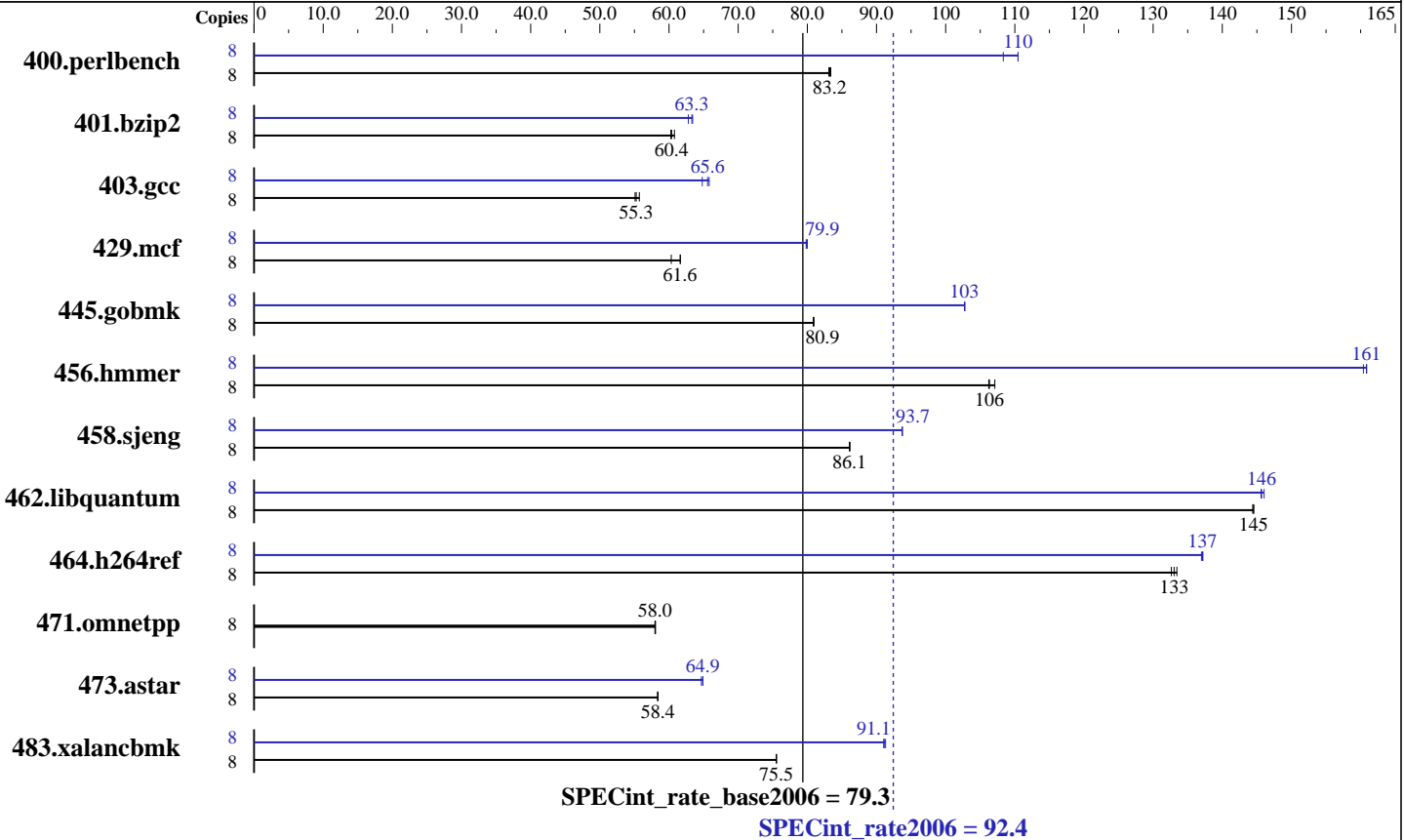
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Jun-2008

Hardware Availability: May-2008

Software Availability: May-2008



Hardware

CPU Name: AMD Opteron 2350
 CPU Characteristics:
 CPU MHz: 2000
 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
 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



SPEC CINT2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

SPECint_rate2006 = 92.4

CELSIUS V840, AMD Opteron 2350 (2.0 GHz)

SPECint_rate_base2006 = 79.3

CPU2006 license: 22

Test date: Jun-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: May-2008

Tested by: Fujitsu Siemens Computers

Software Availability: May-2008

Results Table

Benchmark	Base						Peak							
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	937	83.4	940	83.1	<u>939</u>	<u>83.2</u>	8	721	108	<u>708</u>	<u>110</u>	708	110
401.bzip2	8	1270	60.8	<u>1279</u>	<u>60.4</u>	1281	60.3	8	1229	62.8	1217	63.4	<u>1220</u>	<u>63.3</u>
403.gcc	8	1156	55.7	1169	55.1	<u>1165</u>	<u>55.3</u>	8	994	64.8	979	65.8	<u>982</u>	<u>65.6</u>
429.mcf	8	1209	60.3	1184	61.6	<u>1184</u>	<u>61.6</u>	8	912	80.0	914	79.8	<u>913</u>	<u>79.9</u>
445.gobmk	8	1038	80.9	1037	80.9	<u>1037</u>	<u>80.9</u>	8	<u>817</u>	<u>103</u>	817	103	817	103
456.hammer	8	<u>702</u>	<u>106</u>	697	107	703	106	8	464	161	465	160	<u>464</u>	<u>161</u>
458.sjeng	8	1124	86.2	1124	86.1	<u>1124</u>	<u>86.1</u>	8	1033	93.7	<u>1033</u>	<u>93.7</u>	1033	93.7
462.libquantum	8	1147	145	<u>1147</u>	<u>145</u>	1148	144	8	1135	146	1138	146	<u>1138</u>	<u>146</u>
464.h264ref	8	1327	133	1335	133	<u>1331</u>	<u>133</u>	8	1290	137	1292	137	<u>1291</u>	<u>137</u>
471.omnetpp	8	<u>862</u>	<u>58.0</u>	863	58.0	861	58.0	8	<u>862</u>	<u>58.0</u>	863	58.0	861	58.0
473.astar	8	962	58.4	<u>962</u>	<u>58.4</u>	962	58.4	8	868	64.7	865	64.9	<u>866</u>	<u>64.9</u>
483.xalancbmk	8	731	75.5	<u>731</u>	<u>75.5</u>	731	75.5	8	<u>606</u>	<u>91.1</u>	605	91.3	606	91.0

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



SPEC CINT2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

SPECint_rate2006 = 92.4

CELSIUS V840, AMD Opteron 2350 (2.0 GHz)

SPECint_rate_base2006 = 79.3

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

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.hmmmer: -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

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.xalancbmk: pathCC

Peak Portability Flags

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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

SPECint_rate2006 = 92.4

CELSIUS V840, AMD Opteron 2350 (2.0 GHz)

SPECint_rate_base2006 = 79.3

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

Peak Portability Flags (Continued)

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.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.hmmer: -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

Continued on next page



SPEC CINT2006 Result

Copyright 2006-2009 Standard Performance Evaluation Corporation

Fujitsu Siemens Computers

SPECint_rate2006 = 92.4

CELSIUS V840, AMD Opteron 2350 (2.0 GHz)

SPECint_rate_base2006 = 79.3

CPU2006 license: 22

Test date: Jun-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: May-2008

Tested by: Fujitsu Siemens Computers

Software Availability: May-2008

Peak Optimization Flags (Continued)

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -Mphi(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.html>

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

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

SPEC and SPECint are registered trademarks of the Standard Performance Evaluation Corporation. All other brand and product names appearing in this result are trademarks or registered trademarks of their respective holders.

For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
Report generated on Mon Jul 13 17:56:32 2009 by SPEC CPU2006 PS/PDF formatter v6323.