



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®2006 = 12.4

CELSIUS V840, AMD Opteron 2346 HE (1.8 GHz)

SPECint_base2006 = 10.9

CPU2006 license: 22

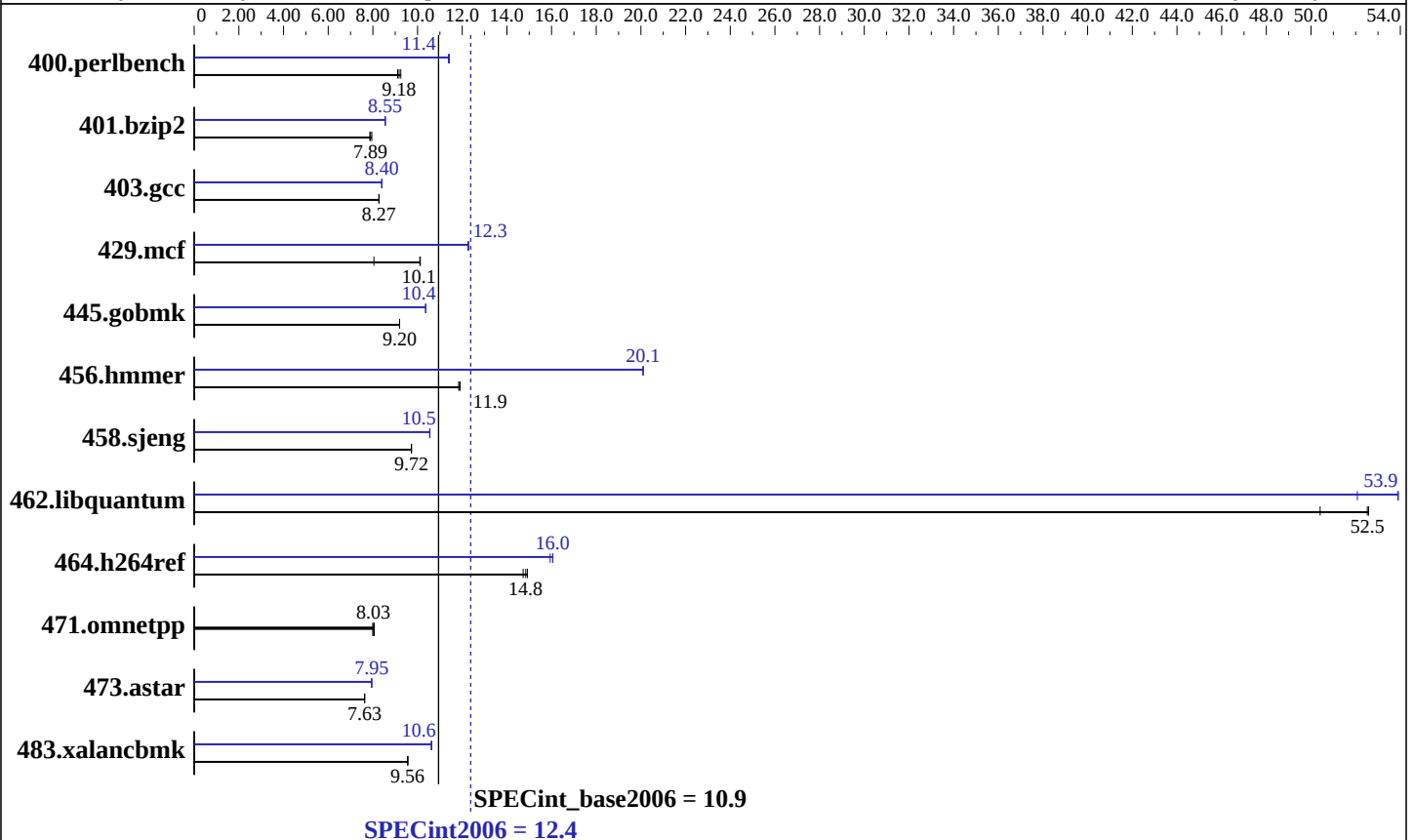
Test sponsor: Fujitsu Siemens Computers

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
Auto Parallel: Yes
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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	1073	9.11	1056	9.25	1065	9.18	<u>856</u>	<u>11.4</u>	858	11.4	855	11.4
401.bzip2	1222	7.89	1227	7.86	1214	7.95	<u>1128</u>	<u>8.55</u>	1128	8.56	1129	8.55
403.gcc	973	8.27	973	8.27	973	8.28	958	8.40	<u>958</u>	<u>8.40</u>	959	8.40
429.mcf	901	10.1	1133	8.05	903	10.1	742	12.3	<u>743</u>	<u>12.3</u>	744	12.3
445.gobmk	1141	9.20	1141	9.19	1141	9.20	<u>1012</u>	<u>10.4</u>	1012	10.4	1012	10.4
456.hmmer	784	11.9	<u>785</u>	<u>11.9</u>	788	11.8	464	20.1	464	20.1	<u>464</u>	<u>20.1</u>
458.sjeng	1245	9.72	1244	9.72	1243	9.73	<u>1147</u>	<u>10.5</u>	1146	10.6	1148	10.5
462.libquantum	395	52.5	411	50.4	394	52.6	398	52.1	384	53.9	<u>385</u>	<u>53.9</u>
464.h264ref	1484	14.9	1491	14.8	1503	14.7	1378	16.1	1389	15.9	<u>1379</u>	<u>16.0</u>
471.omnetpp	782	7.99	775	8.06	<u>778</u>	<u>8.03</u>	782	7.99	775	8.06	<u>778</u>	<u>8.03</u>
473.astar	920	7.63	919	7.64	921	7.62	<u>883</u>	<u>7.95</u>	883	7.95	884	7.94
483.xalancbmk	722	9.56	722	9.56	721	9.57	650	10.6	<u>650</u>	<u>10.6</u>	649	10.6

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

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:896 -Mloop32 -Mconcur=innermost
-Mfpelaxed -Mipa=jobs:4 -Mipa=fast -Mipa=inline -tp barcelona-64
-Bstatic_pgi

C++ benchmarks:

-fastsse -Msmartalloc=huge:896 -Mloop32 -Mfpelaxed --zc_eh
-Mipa=jobs:4 -Mipa=fast -Mipa=inline -tp barcelona -Bstatic_pgi

Peak Compiler Invocation

Same as Base Compiler Invocation

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

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Peak Optimization Flags (Continued)

400.perlbench: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=jobs:4(pass 2)
-Mipa=inline(pass 2) -fastsse -O4 -Msmartalloc=huge:896
-Mnovect -Mnounroll -Mfprelaxed -tp barcelona-64
-Bstatic_pgi

401.bzip2: -Mpfi=indirect(pass 1) -Mpfo=indirect(pass 2) -fastsse -O4
-Msmartalloc=huge:896 -Mprefetch=t0 -Mnounroll
-tp barcelona-64 -Bstatic_pgi

403.gcc: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=jobs:4(pass 2)
-Mipa=fast(pass 2) -Mipa=inline(pass 2) -fastsse
-Msmartalloc=huge:896 -Mprefetch=t0 -Mnodalign -Mloop32
-Mfprelaxed -tp barcelona -Bstatic_pgi

429.mcf: -fastsse -Msmartalloc=huge:896 -Mipa=jobs:4 -Mipa=fast
-Mipa=inline:1 -tp barcelona -Bstatic_pgi

445.gobmk: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=jobs:4(pass 2)
-Mipa=fast(pass 2) -fastsse -O4 -Msmartalloc=huge:896
-Mnovect -Mfprelaxed -tp barcelona-64 -Bstatic_pgi

456.hmmer: -fastsse -Mvect=partial -Munroll=n:8 -Msmartalloc=huge:896
-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:896
-Mfprelaxed -tp barcelona-64 -Bstatic_pgi

462.libquantum: -fastsse -Munroll=m:8 -Msmartalloc=huge:896
-Mprefetch=distance:8 -Mconcur=innermost -Mconcur=noaltcode
-Mfprelaxed -Mipa=jobs:4 -Mipa=fast -Mipa=inline
-Mipa=noarg -tp barcelona-64 -Bstatic_pgi

464.h264ref: -Mpfi=indirect(pass 1) -Mpfo=indirect(pass 2)
-Mipa=jobs:4(pass 2) -Mipa=fast(pass 2)
-Mipa=inline(pass 2) -fastsse -Msmartalloc=huge:896
-Mfprelaxed -tp barcelona-64 -Bstatic_pgi

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: -Mpfi(pass 1) -Mpfo(pass 2) -Mipa=jobs:4(pass 2)
-Mipa=fast(pass 2) -Mipa=inline:6(pass 2) -fastsse -O4
-Msmartalloc=huge:896 -Msafeptr=global -Mloop32
-Mfprelaxed --zc_eh -tp barcelona -Bstatic_pgi

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Peak Optimization Flags (Continued)

483.xalancbmk: --zc_eh -fastsse -O4 -Mfprelaxed -Msmartalloc
-Mipa=jobs:4 -Mipa=fast -Mipa=inline -tp barcelona
-Bstatic_pgi -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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For other inquiries, please contact webmaster@spec.org.

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