



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®2006 = 14.6

CELSIUS V840, AMD Opteron 2354 (2.2 GHz)

SPECint_base2006 = 12.8

CPU2006 license: 22

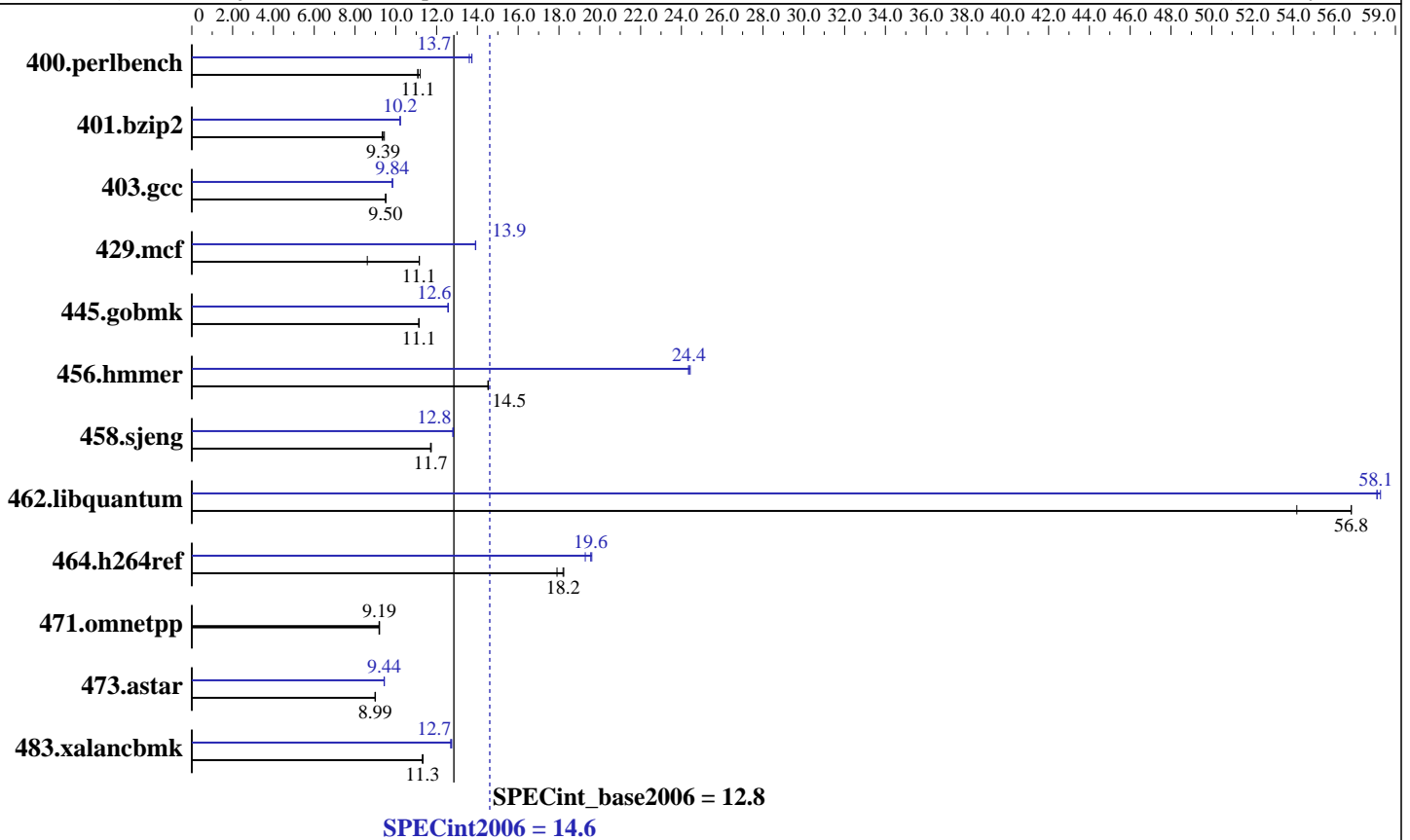
Test date: May-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: May-2008

Tested by: Fujitsu Siemens Computers

Software Availability: May-2008



Hardware

CPU Name: AMD Opteron 2354
 CPU Characteristics:
 CPU MHz: 2200
 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	882	11.1	881	11.1	872	11.2	718	13.6	712	13.7	712	13.7
401.bzip2	1034	9.33	1022	9.44	1027	9.39	944	10.2	945	10.2	945	10.2
403.gcc	847	9.50	846	9.52	848	9.50	818	9.84	818	9.84	819	9.83
429.mcf	1060	8.60	817	11.2	818	11.1	655	13.9	656	13.9	655	13.9
445.gobmk	942	11.1	942	11.1	942	11.1	834	12.6	835	12.6	835	12.6
456.hammer	643	14.5	642	14.5	642	14.5	383	24.4	383	24.3	382	24.4
458.sjeng	1031	11.7	1033	11.7	1033	11.7	945	12.8	945	12.8	944	12.8
462.libquantum	365	56.8	365	56.8	383	54.2	357	58.1	356	58.3	357	58.1
464.h264ref	1216	18.2	1236	17.9	1214	18.2	1147	19.3	1129	19.6	1132	19.6
471.omnetpp	681	9.18	680	9.19	679	9.20	681	9.18	680	9.19	679	9.20
473.astar	780	9.00	781	8.99	782	8.98	745	9.43	744	9.44	744	9.44
483.xalancbmk	610	11.3	610	11.3	609	11.3	543	12.7	542	12.7	544	12.7

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.xalancbmk: -DSPEC_CPU_LINUX

```

Base Optimization Flags

C benchmarks:

```

-fastsse -Msmartalloc=huge:896 -Mloop32 -Mconcur=innermost
-Mfprelaxed -Mipa=jobs:4 -Mipa=fast -Mipa=inline -tp barcelona-64
-Bstatic_pgi

```

C++ benchmarks:

```

-fastsse -Msmartalloc=huge:896 -Mloop32 -Mfprelaxed --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.xalancbmk: -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.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>

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For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.0.
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