



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®2006 = 13.6

CELSIUS V840, AMD Opteron 2350 (2.0 GHz)

SPECint_base2006 = 12.0

CPU2006 license: 22

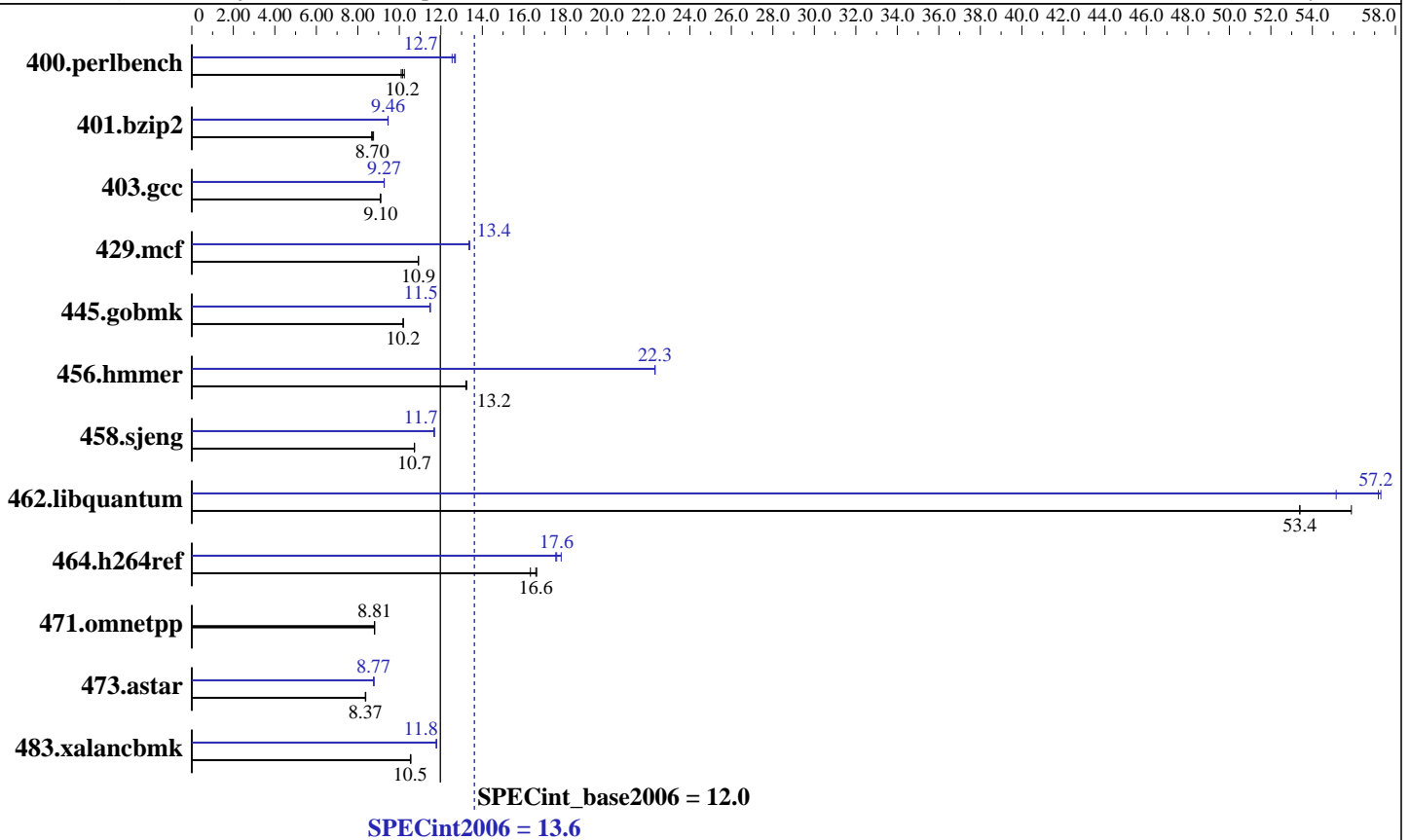
Test date: Apr-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: May-2008

Tested by: Fujitsu Siemens Computers

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, 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	<u>962</u>	<u>10.2</u>	968	10.1	954	10.2	769	12.7	<u>771</u>	<u>12.7</u>	779	12.5
401.bzip2	<u>1109</u>	<u>8.70</u>	1102	8.76	1114	8.67	1020	9.46	1021	9.45	<u>1020</u>	<u>9.46</u>
403.gcc	885	9.09	<u>885</u>	<u>9.10</u>	885	9.10	<u>868</u>	<u>9.27</u>	869	9.27	868	9.27
429.mcf	835	10.9	836	10.9	<u>835</u>	<u>10.9</u>	681	13.4	683	13.4	<u>682</u>	<u>13.4</u>
445.gobmk	1029	10.2	<u>1030</u>	<u>10.2</u>	1030	10.2	913	11.5	<u>913</u>	<u>11.5</u>	913	11.5
456.hammer	<u>705</u>	<u>13.2</u>	707	13.2	704	13.2	418	22.3	418	22.3	<u>418</u>	<u>22.3</u>
458.sjeng	<u>1128</u>	<u>10.7</u>	1129	10.7	1127	10.7	1036	11.7	<u>1036</u>	<u>11.7</u>	1036	11.7
462.libquantum	371	55.9	388	53.4	<u>388</u>	<u>53.4</u>	362	57.3	<u>362</u>	<u>57.2</u>	376	55.1
464.h264ref	<u>1335</u>	<u>16.6</u>	1356	16.3	1331	16.6	1243	17.8	<u>1259</u>	<u>17.6</u>	1262	17.5
471.omnetpp	710	8.80	709	8.81	<u>710</u>	<u>8.81</u>	710	8.80	709	8.81	<u>710</u>	<u>8.81</u>
473.astar	839	8.36	837	8.38	<u>839</u>	<u>8.37</u>	800	8.78	801	8.77	<u>801</u>	<u>8.77</u>
483.xalancbmk	653	10.6	655	10.5	<u>655</u>	<u>10.5</u>	585	11.8	<u>586</u>	<u>11.8</u>	586	11.8

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

C benchmarks:

pgcc

C++ benchmarks:

pgcpp

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

```



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Peak Optimization Flags

C benchmarks:

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.

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