



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

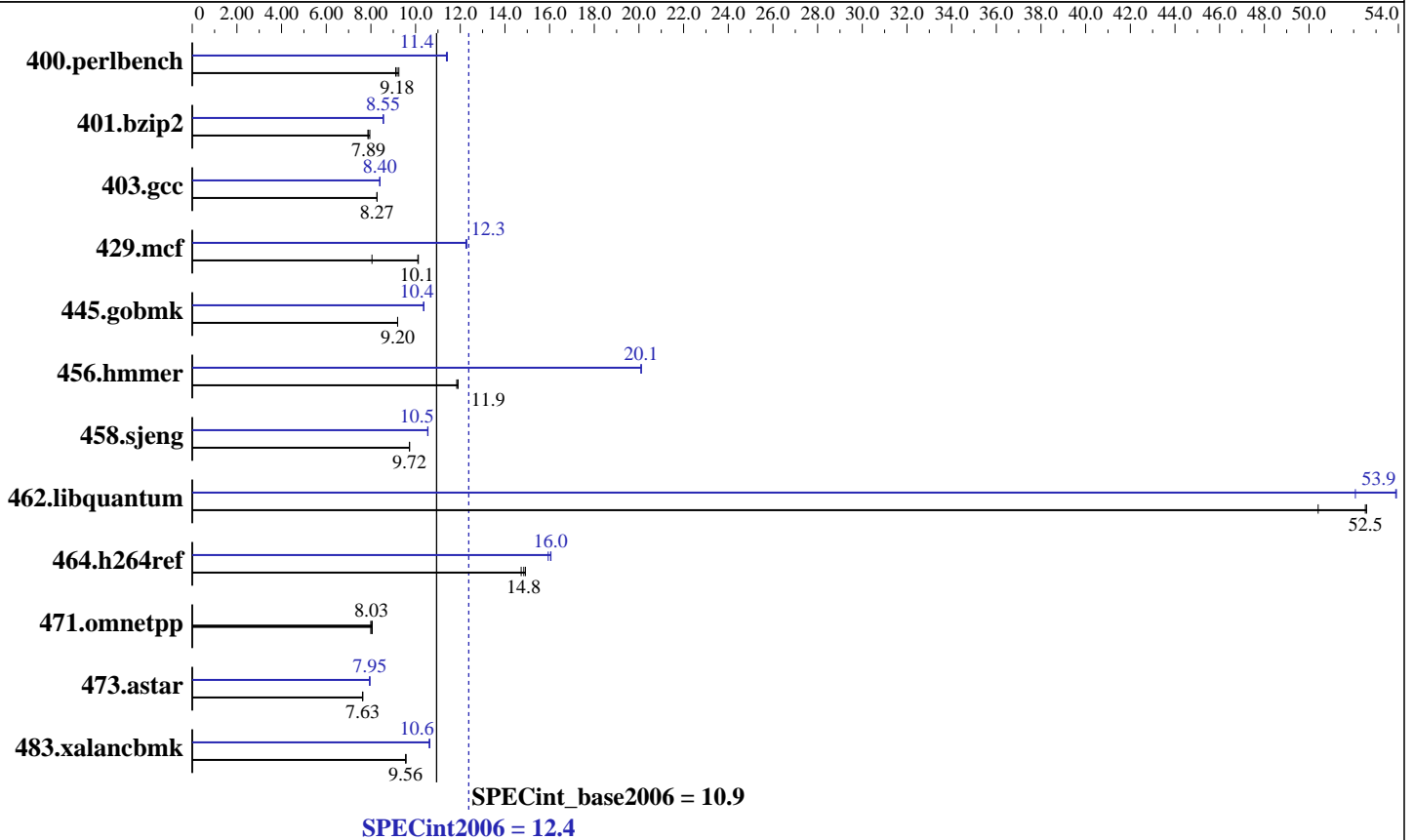
Test date: Jun-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: May-2008

Tested by: Fujitsu Siemens Computers

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