SPEC® CINT2006 Result

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Fujitsu Siemens Computers

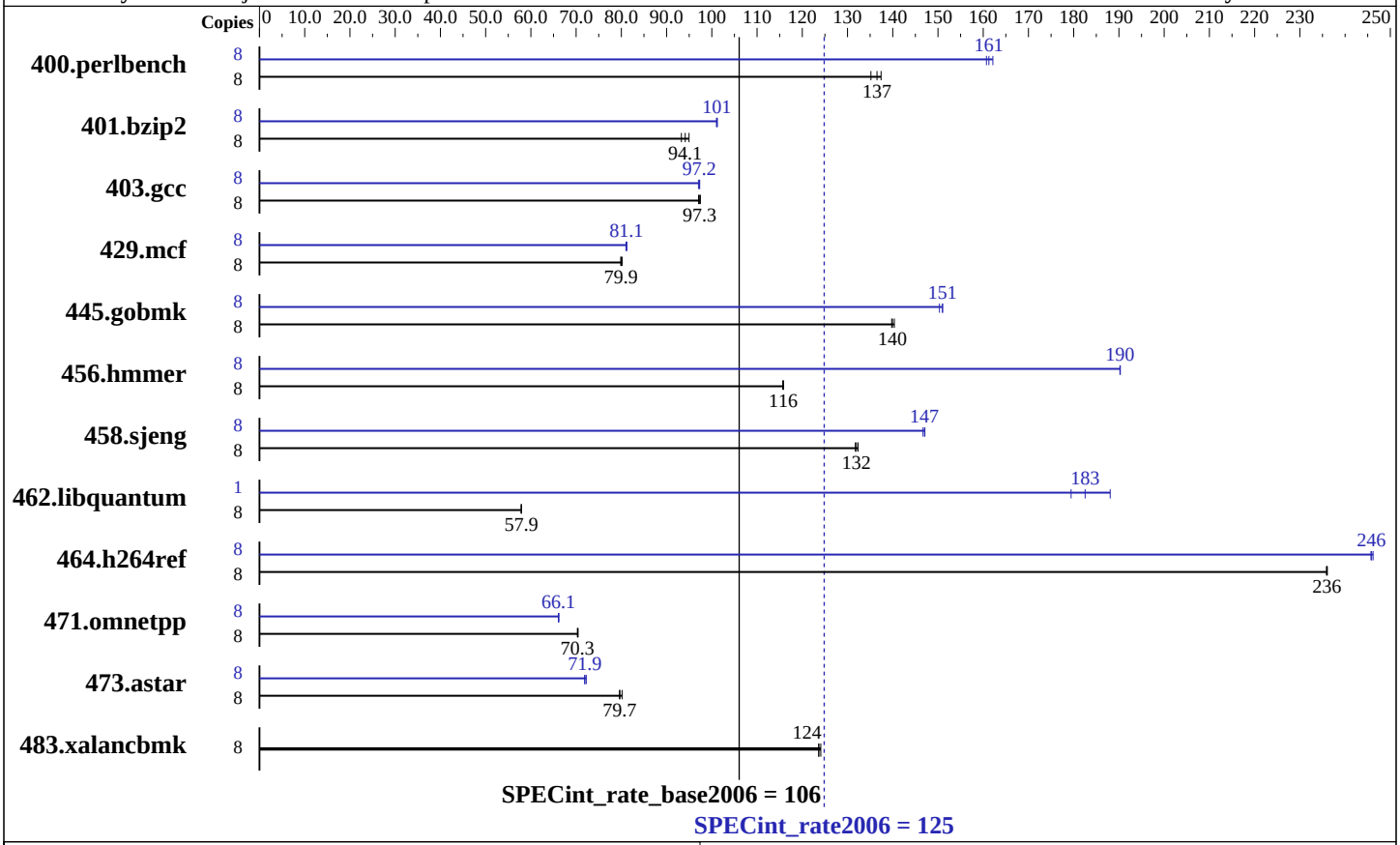
CELSIUS R650, Intel Xeon E5440 processor

SPECint®_rate2006 = 125

SPECint_rate_base2006 = 106

CPU2006 license: 22
Test sponsor: Fujitsu Siemens Computers
Tested by: Fujitsu Siemens Computers

Test date: Dec-2007
Hardware Availability: Nov-2007
Software Availability: Nov-2007



Hardware

CPU Name:	Intel Xeon E5440
CPU Characteristics:	
CPU MHz:	2833
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	12 MB I+D on chip per chip, 6 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (8x1 GB PC2-5300F, 2 rank, CL5-5-5, 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:	Intel C++ Compiler for Linux32 and Linux64, Version 10.1, Build 20070913
Auto Parallel:	Yes
File System:	ext3
System State:	Multi-User, Run Level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library, Version 8.1 binutils-2.17.50.0.5-0.1.x86_64

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Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	8	569	137	578	135	**573**	**137**	8	482	162	486	161	**485**	**161**
401.bzip2	8	813	95.0	828	93.3	**820**	**94.1**	8	763	101	**763**	**101**	764	101
403.gcc	8	664	97.1	**662**	**97.3**	661	97.5	8	**662**	**97.2**	664	97.0	662	97.3
429.mcf	8	913	79.9	**913**	**79.9**	910	80.2	8	900	81.0	898	81.2	**899**	**81.1**
445.gobmk	8	598	140	600	140	**600**	**140**	8	**556**	**151**	556	151	558	150
456.hmmer	8	**645**	**116**	644	116	645	116	8	392	190	**392**	**190**	392	190
458.sjeng	8	732	132	735	132	**734**	**132**	8	660	147	**658**	**147**	658	147
462.libquantum	8	**2864**	**57.9**	2863	57.9	2864	57.9	1	110	188	**114**	**183**	115	179
464.h264ref	8	750	236	751	236	**750**	**236**	8	720	246	719	246	**720**	**246**
471.omnetpp	8	710	70.4	**711**	**70.3**	711	70.3	8	**757**	**66.1**	755	66.2	757	66.1
473.astar	8	706	79.6	701	80.2	**705**	**79.7**	8	**781**	**71.9**	781	71.9	777	72.2
483.xalancbmk	8	446	124	445	124	**446**	**124**	8	446	124	445	124	**446**	**124**

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run OMP_NUM_THREADS set to number of cores (default).

Platform Notes

BIOS configuration:
Enhanced Speedstep Technology = Disable
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable
SnoopFilter = Enable

General Notes

All binaries were built with 32-bit Intel compiler except:
401.bzip2 and 456.hmmer in peak were built with 64-bit Intel compiler by changing the path for include and library files.

For information about Fujitsu Siemens Computers please see:
http://www.fujitsu-siemens.com

Base Compiler Invocation

C benchmarks:
icc

Continued on next page

Base Compiler Invocation (Continued)

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast -inline-calloc -opt-malloc-options=3

C++ benchmarks:
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/lib -lsmartheap

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias -prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo -no-prec-div -ansi-alias

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=block

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine

483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.03.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.03.xml`

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