



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®_rate2006 = 54.4

PRIMERGY RX200 S4, Intel Xeon E5405, 2.0 GHz

SPECint_rate_base2006 = 46.1

CPU2006 license: 22

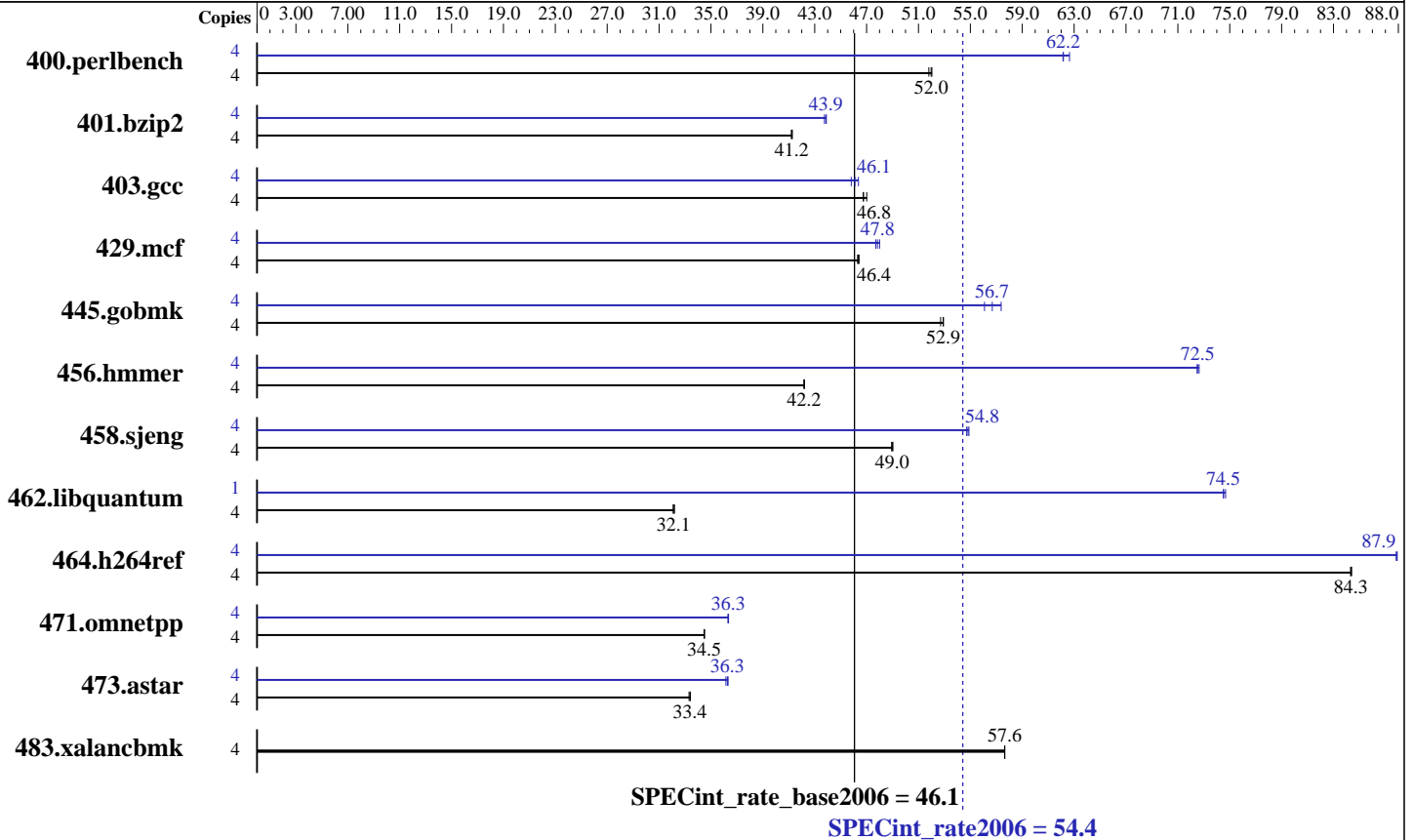
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: May-2008

Hardware Availability: Dec-2007

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5405
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 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: 16 GB (8x2 GB PC2-5300F, 2 rank, CL 5-5-5, ECC)
 Disk Subsystem: 1x SAS, 73 GB, 15000 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: ext2
 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 | 4 | <u>752</u> | <u>52.0</u> | 751 | 52.0 | 754 | 51.8 | 4 | 629 | 62.1 | <u>629</u> | <u>62.2</u> | 624 | 62.6 |
| 401.bzip2 | 4 | 937 | 41.2 | 935 | 41.3 | <u>936</u> | <u>41.2</u> | 4 | 882 | 43.8 | 879 | 43.9 | <u>880</u> | <u>43.9</u> |
| 403.gcc | 4 | <u>689</u> | <u>46.8</u> | 689 | 46.7 | 685 | 47.0 | 4 | 703 | 45.8 | 694 | 46.4 | <u>698</u> | <u>46.1</u> |
| 429.mcf | 4 | 788 | 46.3 | <u>787</u> | <u>46.4</u> | 786 | 46.4 | 4 | 760 | 48.0 | 765 | 47.7 | <u>763</u> | <u>47.8</u> |
| 445.gobmk | 4 | <u>793</u> | <u>52.9</u> | 793 | 52.9 | 796 | 52.7 | 4 | 731 | 57.4 | <u>740</u> | <u>56.7</u> | 748 | 56.1 |
| 456.hammer | 4 | 884 | 42.2 | 885 | 42.2 | <u>885</u> | <u>42.2</u> | 4 | 514 | 72.6 | <u>515</u> | <u>72.5</u> | 515 | 72.5 |
| 458.sjeng | 4 | 987 | 49.0 | <u>988</u> | <u>49.0</u> | 989 | 48.9 | 4 | 885 | 54.7 | <u>883</u> | <u>54.8</u> | 882 | 54.9 |
| 462.libquantum | 4 | <u>2580</u> | <u>32.1</u> | 2583 | 32.1 | 2575 | 32.2 | 1 | 278 | 74.5 | 277 | 74.7 | <u>278</u> | <u>74.5</u> |
| 464.h264ref | 4 | <u>1049</u> | <u>84.3</u> | 1050 | 84.3 | 1049 | 84.4 | 4 | 1007 | 87.9 | <u>1008</u> | <u>87.9</u> | 1008 | 87.8 |
| 471.omnetpp | 4 | <u>725</u> | <u>34.5</u> | 725 | 34.5 | 725 | 34.5 | 4 | 688 | 36.4 | <u>688</u> | <u>36.3</u> | 689 | 36.3 |
| 473.astar | 4 | <u>841</u> | <u>33.4</u> | 843 | 33.3 | 840 | 33.4 | 4 | 773 | 36.3 | <u>774</u> | <u>36.3</u> | 777 | 36.2 |
| 483.xalancbmk | 4 | 479 | 57.7 | 479 | 57.6 | <u>479</u> | <u>57.6</u> | 4 | 479 | 57.7 | 479 | 57.6 | <u>479</u> | <u>57.6</u> |

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:
Hardware Prefetch = Enable, Adjacent Sector Prefetch = Disable

General Notes

All binaries were built with 32-bit Intel compiler except:
401.bzip2 and 456.hammer 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

C++ benchmarks:
icpc



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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.hmmr: /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.hmmr: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX

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Peak Portability Flags (Continued)

483.xalanbmk: -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
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine
-Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmarheap

483.xalanbmk: basepeak = yes

Peak Other Flags

C benchmarks:

Continued on next page



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Peak Other Flags (Continued)

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.20090713.01.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.20090713.01.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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