



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®2006 = 25.2

PRIMERGY RX300 S4, Intel Xeon E5440, 2.83 GHz

SPECint_base2006 = 22.0

CPU2006 license: 22

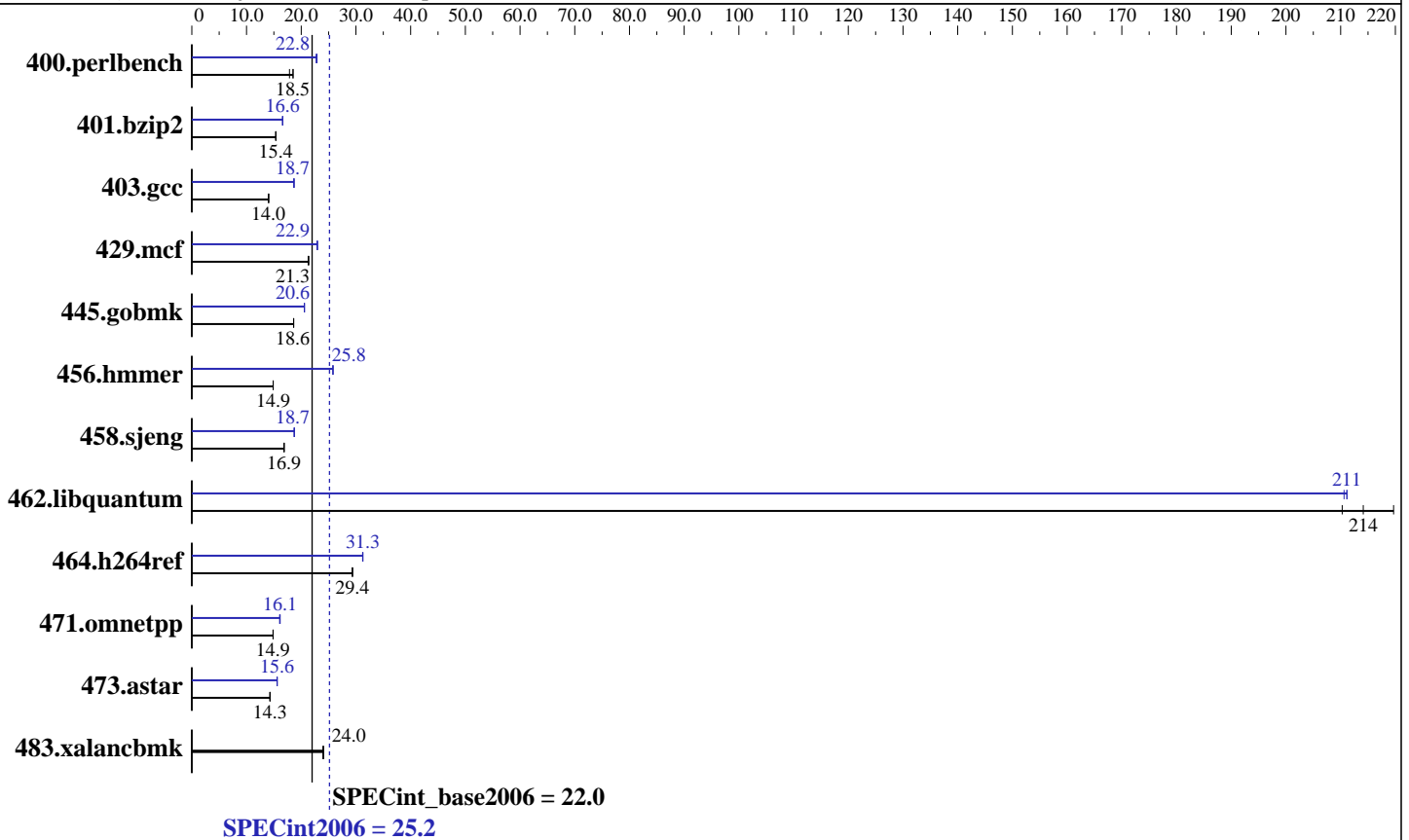
Test date: Jun-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Dec-2007

Tested by: Fujitsu Siemens Computers

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E5440
 CPU Characteristics: 1333 MHz system bus
 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: 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 | | | | | |
|----------------|-------------------|--------------------|-------------------|--------------------|--------------------|--------------------|--------------------|--------------------|-------------------|--------------------|-------------------|--------------------|
| | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio | Seconds | Ratio |
| 400.perlbench | <u>528</u> | <u>18.5</u> | 547 | 17.9 | 528 | 18.5 | <u>428</u> | <u>22.8</u> | 430 | 22.7 | 427 | 22.9 |
| 401.bzip2 | <u>627</u> | <u>15.4</u> | 627 | 15.4 | 630 | 15.3 | 582 | 16.6 | 580 | 16.6 | <u>581</u> | <u>16.6</u> |
| 403.gcc | 574 | 14.0 | <u>574</u> | <u>14.0</u> | 573 | 14.1 | 432 | 18.6 | 430 | 18.7 | <u>431</u> | <u>18.7</u> |
| 429.mcf | 429 | 21.3 | 426 | 21.4 | <u>428</u> | <u>21.3</u> | <u>398</u> | <u>22.9</u> | 398 | 22.9 | 397 | 23.0 |
| 445.gobmk | 564 | 18.6 | 563 | 18.6 | <u>564</u> | <u>18.6</u> | 510 | 20.6 | 510 | 20.6 | <u>510</u> | <u>20.6</u> |
| 456.hmmer | <u>627</u> | <u>14.9</u> | 627 | 14.9 | 628 | 14.9 | <u>361</u> | <u>25.8</u> | 361 | 25.8 | 362 | 25.8 |
| 458.sjeng | <u>718</u> | <u>16.9</u> | 717 | 16.9 | 718 | 16.8 | <u>646</u> | <u>18.7</u> | 645 | 18.8 | 648 | 18.7 |
| 462.libquantum | 94.3 | 220 | 98.5 | 210 | <u>96.8</u> | <u>214</u> | <u>98.1</u> | <u>211</u> | 98.4 | 211 | 98.1 | 211 |
| 464.h264ref | 754 | 29.3 | <u>754</u> | <u>29.4</u> | 753 | 29.4 | <u>708</u> | <u>31.3</u> | 708 | 31.3 | 709 | 31.2 |
| 471.omnetpp | <u>421</u> | <u>14.9</u> | 421 | 14.8 | 420 | 14.9 | 387 | 16.1 | 389 | 16.0 | <u>388</u> | <u>16.1</u> |
| 473.astar | <u>491</u> | <u>14.3</u> | 491 | 14.3 | 492 | 14.3 | 450 | 15.6 | <u>450</u> | <u>15.6</u> | 450 | 15.6 |
| 483.xalancbmk | 287 | 24.1 | <u>287</u> | <u>24.0</u> | 288 | 24.0 | <u>287</u> | <u>24.1</u> | <u>287</u> | <u>24.0</u> | 288 | 24.0 |

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

Hardware Prefetch = Enable, Adjacent Sector Prefetch = 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

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 -vec-guard-write -parallel -par-runtime-control

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

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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
-auto-ilp32

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.hmmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive
-auto-ilp32

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 -lsmartheap

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 -lsmartheap

483.xalanbmk: basepeak = yes



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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.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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