# SPEC® CINT2006 Result

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## Fujitsu Siemens Computers

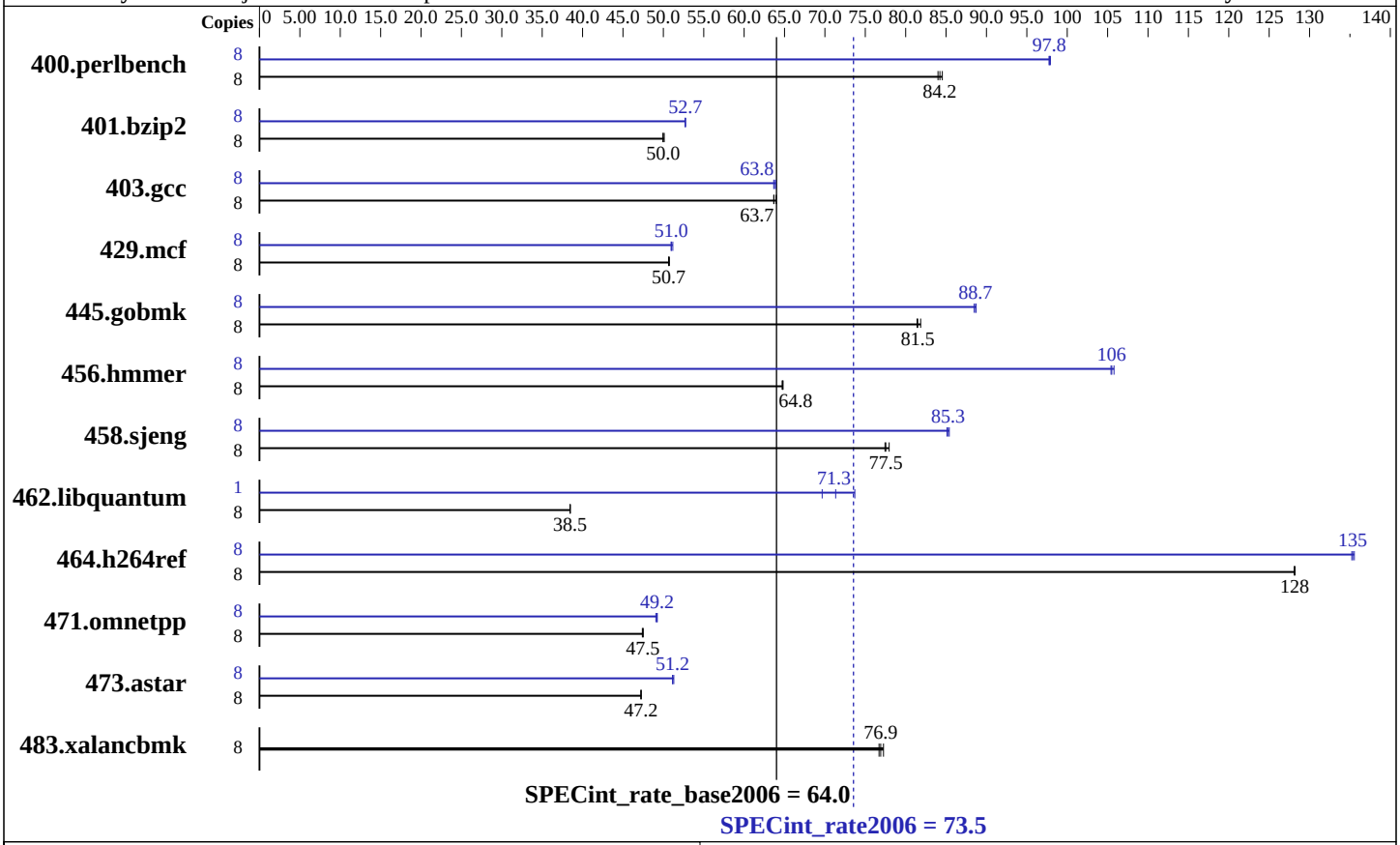
PRIMERGY TX300 S4, Intel Xeon L5310, 1.60 GHz

SPECint®_rate2006 = 73.5

SPECint_rate_base2006 = 64.0

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

**Test date:** Feb-2008
**Hardware Availability:** Dec-2007
**Software Availability:** Nov-2007




### Hardware

| | |
|---|---|
| CPU Name: | Intel Xeon L5310 |
| CPU Characteristics: | 1067 MHz system bus |
| CPU MHz: | 1600 |
| 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: | 8 MB I+D on chip per chip, 4 MB shared / 2 cores |
| L3 Cache: | None |
| Other Cache: | None |
| Memory: | 16 GB (8x2 GB PC2-5300F, 2 rank, CAS 5-5-5, with ECC) |
| Disk Subsystem: | Seagate ST973451SS (SAS, 73GB, 15000rpm) |
| 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 20070725 |
| Auto Parallel: | Yes |
| File System: | ext2 |
| System State: | Multiuser, Runlevel 3 |
| Base Pointers: | 32-bit |
| Peak Pointers: | 32/64-bit |
| Other Software: | MicroQuill SmartHeap Library, Version 8.1<br>binutils-2.17.tar.gz, Version 2.17 |

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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 | 925 | 84.5 | 930 | 84.0 | **928** | **84.2** | 8 | 800 | 97.7 | 798 | 97.9 | **799** | **97.8** |
| 401.bzip2 | 8 | 1546 | 49.9 | 1541 | 50.1 | **1544** | **50.0** | 8 | 1465 | 52.7 | 1464 | 52.7 | **1464** | **52.7** |
| 403.gcc | 8 | **1011** | **63.7** | 1012 | 63.7 | 1007 | 64.0 | 8 | **1010** | **63.8** | 1012 | 63.7 | 1008 | 63.9 |
| 429.mcf | 8 | 1440 | 50.7 | **1440** | **50.7** | 1438 | 50.7 | 8 | 1426 | 51.2 | **1431** | **51.0** | 1431 | 51.0 |
| 445.gobmk | 8 | **1030** | **81.5** | 1025 | 81.9 | 1031 | 81.4 | 8 | **947** | **88.7** | 946 | 88.7 | 948 | 88.5 |
| 456.hmmer | 8 | 1154 | 64.7 | 1152 | 64.8 | **1152** | **64.8** | 8 | 706 | 106 | **707** | **106** | 708 | 105 |
| 458.sjeng | 8 | 1250 | 77.4 | **1248** | **77.5** | 1242 | 78.0 | 8 | **1135** | **85.3** | 1134 | 85.4 | 1137 | 85.1 |
| 462.libquantum | 8 | 4311 | 38.5 | 4308 | 38.5 | **4310** | **38.5** | 1 | 297 | 69.7 | **290** | **71.3** | 281 | 73.7 |
| 464.h264ref | 8 | 1381 | 128 | 1382 | 128 | **1381** | **128** | 8 | **1308** | **135** | 1309 | 135 | 1306 | 136 |
| 471.omnetpp | 8 | 1055 | 47.4 | 1053 | 47.5 | **1053** | **47.5** | 8 | 1019 | 49.1 | **1016** | **49.2** | 1016 | 49.2 |
| 473.astar | 8 | 1189 | 47.3 | **1189** | **47.2** | 1189 | 47.2 | 8 | **1098** | **51.2** | 1095 | 51.3 | 1098 | 51.1 |
| 483.xalancbmk | 8 | 715 | 77.3 | 720 | 76.7 | **718** | **76.9** | 8 | 715 | 77.3 | 720 | 76.7 | **718** | **76.9** |

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

## Operating System Notes

'OMP_NUM_THREADS' set to number of cores (default)

## General Notes

This result has been produced with binaries provided and compiled by Intel.

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.

BIOS configuration:
Hardware Prefetch = Disable, Adjacent Sector Prefetch = Disable

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

## Base Compiler Invocation

C benchmarks:
icc

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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include

456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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

Continued on next page

## Peak Portability Flags (Continued)

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 -Wl,-z,muldefs -L/home/cmplr/usr3/alrahate/cpu2006.1.0/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

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-ic10.1-INT-ia32-linux-flags.20090714.04.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090714.04.xml`


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