



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®2006 = 21.6

PRIMERGY RX200 S4, Intel Xeon L5410, 2.33 GHz

SPECint_base2006 = 18.9

CPU2006 license: 22

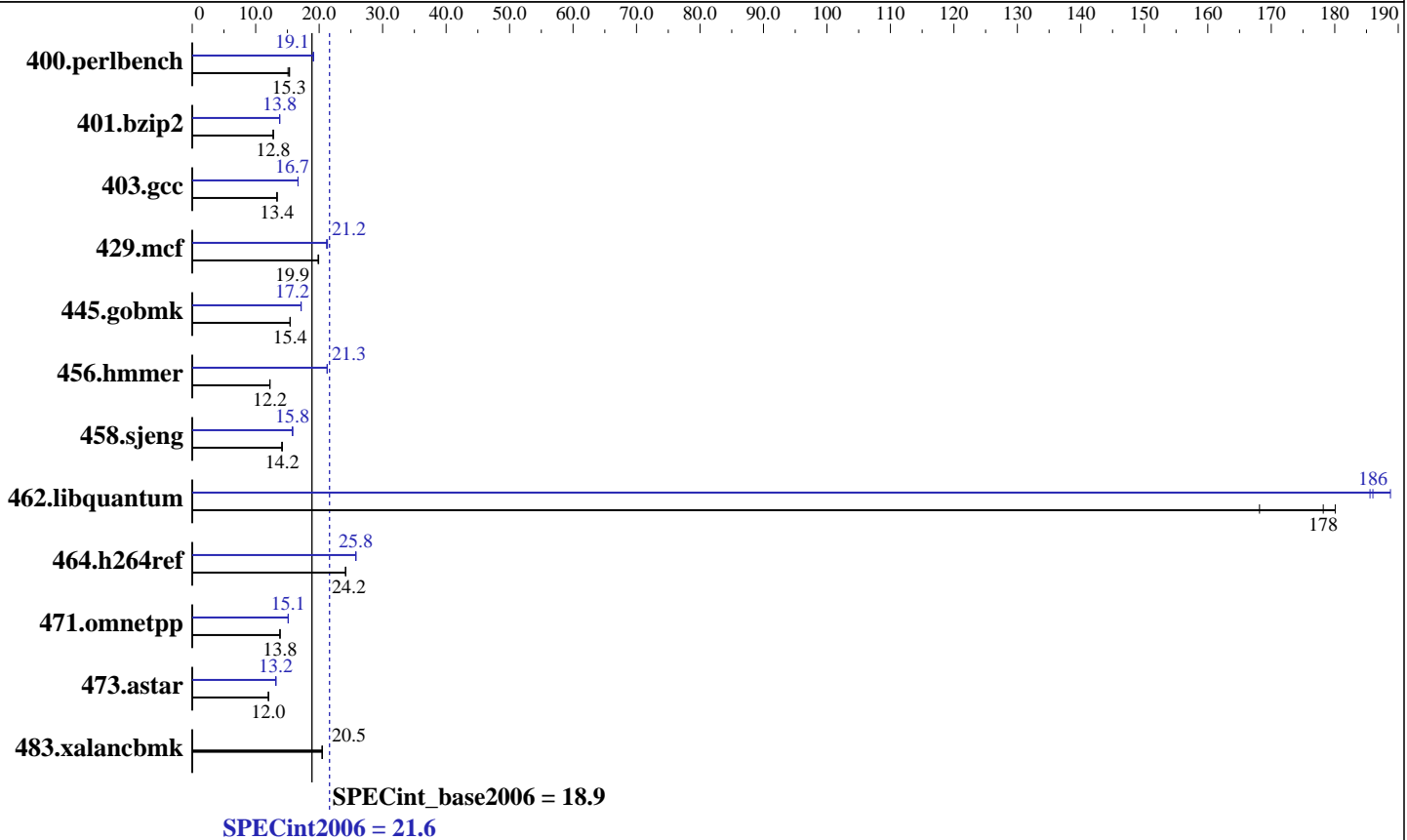
Test date: Jul-2008

Test sponsor: Fujitsu Siemens Computers

Hardware Availability: Dec-2007

Tested by: Fujitsu Siemens Computers

Software Availability: May-2008



Hardware

CPU Name: Intel Xeon L5410
 CPU Characteristics: 1333 MHz system bus
 CPU MHz: 2333
 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) with SP2, kernel 2.6.16.60-0.21-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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<u>639</u>	<u>15.3</u>	647	15.1	637	15.3	511	19.1	513	19.1	<u>511</u>	<u>19.1</u>
401.bzip2	755	12.8	<u>756</u>	<u>12.8</u>	756	12.8	700	13.8	701	13.8	<u>700</u>	<u>13.8</u>
403.gcc	604	13.3	601	13.4	<u>602</u>	<u>13.4</u>	<u>483</u>	<u>16.7</u>	483	16.7	483	16.7
429.mcf	460	19.8	<u>459</u>	<u>19.9</u>	458	19.9	<u>430</u>	<u>21.2</u>	428	21.3	430	21.2
445.gobmk	680	15.4	680	15.4	<u>680</u>	<u>15.4</u>	<u>611</u>	<u>17.2</u>	612	17.2	611	17.2
456.hmmer	762	12.2	<u>762</u>	<u>12.2</u>	763	12.2	439	21.3	<u>439</u>	<u>21.3</u>	439	21.3
458.sjeng	<u>852</u>	<u>14.2</u>	852	14.2	858	14.1	768	15.8	764	15.8	<u>766</u>	<u>15.8</u>
462.libquantum	115	180	<u>116</u>	<u>178</u>	123	168	112	186	110	189	<u>111</u>	<u>186</u>
464.h264ref	916	24.2	<u>915</u>	<u>24.2</u>	915	24.2	859	25.8	<u>858</u>	<u>25.8</u>	858	25.8
471.omnetpp	452	13.8	452	13.8	<u>452</u>	<u>13.8</u>	<u>413</u>	<u>15.1</u>	414	15.1	413	15.1
473.astar	583	12.0	<u>585</u>	<u>12.0</u>	585	12.0	<u>533</u>	<u>13.2</u>	531	13.2	534	13.1
483.xalancbmk	336	20.5	<u>337</u>	<u>20.5</u>	337	20.5	336	20.5	<u>337</u>	<u>20.5</u>	337	20.5

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

Compiler Invocation 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.

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 = Enable

General Notes

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

Base Compiler Invocation

C benchmarks:
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include

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Base Compiler Invocation (Continued)

C++ benchmarks:

```
/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

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):

```
/opt/intel/cc/10.1.008/bin/icc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```

```
401.bzip2: icc
```

```
456.hmmer: icc
```

C++ benchmarks:

```
/opt/intel/cc/10.1.008/bin/icpc -L/opt/intel/cc/10.1.008/lib
-I/opt/intel/cc/10.1.008/include
```



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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
 -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.hmmer: -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.xalancbmk: 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/flags-ic101-linux-intel64.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/flags-ic101-linux-intel64.xml>

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For other inquiries, please contact webmaster@spec.org.

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