



SPEC® CINT2006 Result

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Fujitsu Siemens Computers

SPECint®2006 = 21.9

CELSIUS M460, Intel Core 2 Quad Q9450

SPECint_base2006 = 19.7

CPU2006 license: 22

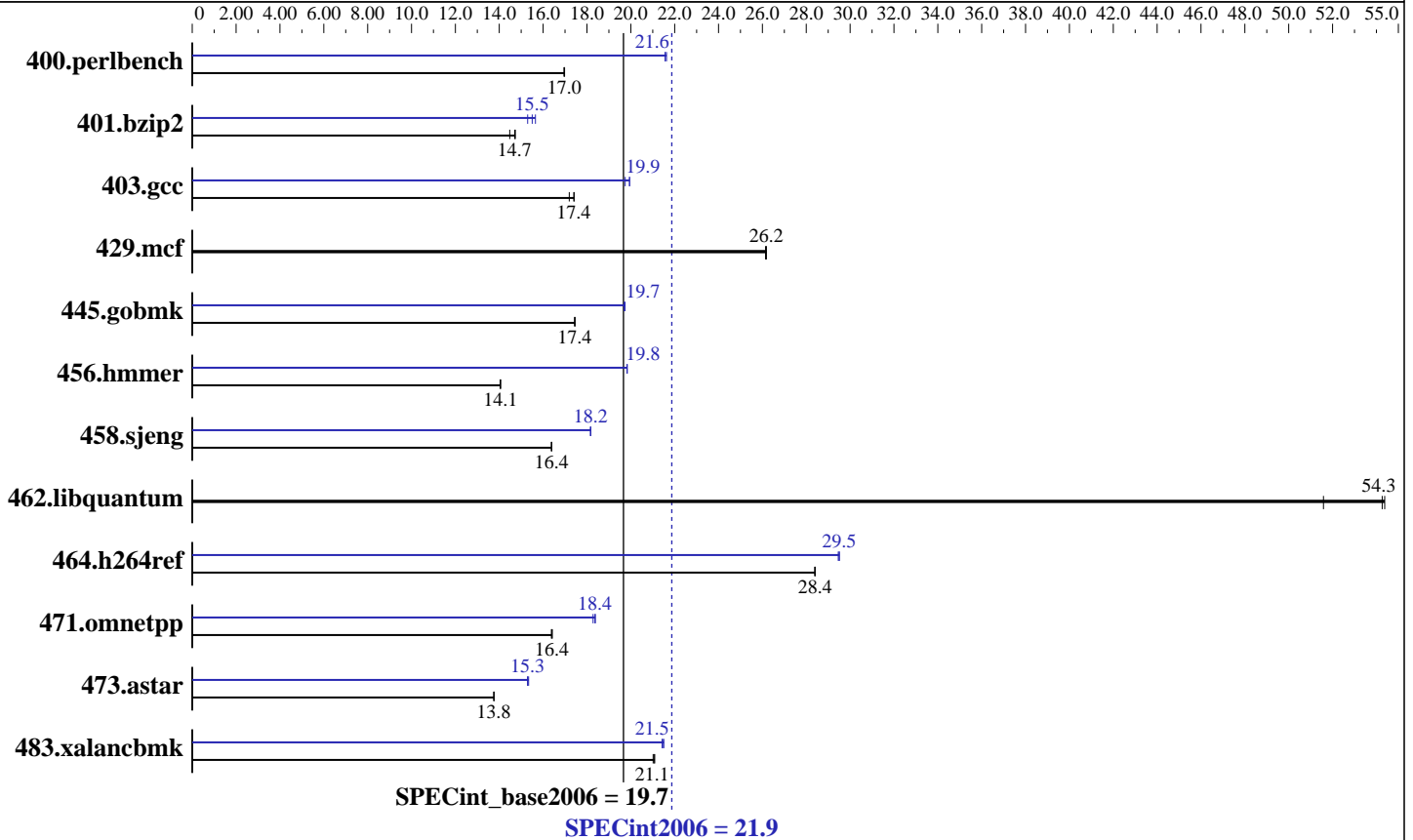
Test sponsor: Fujitsu Siemens Computers

Tested by: Fujitsu Siemens Computers

Test date: Mar-2008

Hardware Availability: Mar-2008

Software Availability: Nov-2007



Hardware

CPU Name: Intel Core 2 Quad Q9450
 CPU Characteristics:
 CPU MHz: 2667
 FPU: Integrated
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
 CPU(s) orderable: 1 chip
 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: 4 GB (4x1 GB PC2-6400 CL6 SDRAM)
 Disk Subsystem: 1 x 400 GB SATA 7200 RPM
 Other Hardware: None

Software

Operating System: Windows Vista Ultimate, 64 bit Version
 Compiler: Intel C++ Compiler for applications running on IA-32, Version 10.1, Build 20070913
 Intel C++ Compiler for applications running on Intel 64, Version 10.1, Build 20070913
 Microsoft Visual Studio 2005 with SP1 (for libraries)
 Auto Parallel: Yes
 File System: NTFS
 System State: Default
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: MicroQuill SmartHeap Library 8.1



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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	576	17.0	575	17.0	<u>576</u>	<u>17.0</u>	452	21.6	453	21.6	<u>453</u>	<u>21.6</u>
401.bzip2	667	14.5	<u>656</u>	<u>14.7</u>	655	14.7	631	15.3	617	15.7	<u>622</u>	<u>15.5</u>
403.gcc	<u>463</u>	<u>17.4</u>	462	17.4	468	17.2	408	19.7	404	19.9	<u>404</u>	<u>19.9</u>
429.mcf	349	26.1	<u>348</u>	<u>26.2</u>	348	26.2	349	26.1	<u>348</u>	<u>26.2</u>	348	26.2
445.gobmk	<u>601</u>	<u>17.4</u>	601	17.4	601	17.5	532	19.7	532	19.7	<u>532</u>	<u>19.7</u>
456.hmmmer	664	14.1	<u>664</u>	<u>14.1</u>	664	14.1	<u>471</u>	<u>19.8</u>	471	19.8	470	19.8
458.sjeng	738	16.4	739	16.4	<u>738</u>	<u>16.4</u>	<u>666</u>	<u>18.2</u>	666	18.2	666	18.2
462.libquantum	<u>382</u>	<u>54.3</u>	402	51.6	381	54.4	<u>382</u>	<u>54.3</u>	402	51.6	381	54.4
464.h264ref	780	28.4	<u>779</u>	<u>28.4</u>	779	28.4	751	29.5	<u>750</u>	<u>29.5</u>	750	29.5
471.omnetpp	381	16.4	382	16.4	<u>381</u>	<u>16.4</u>	342	18.3	340	18.4	<u>340</u>	<u>18.4</u>
473.astar	<u>510</u>	<u>13.8</u>	510	13.8	510	13.8	459	15.3	<u>459</u>	<u>15.3</u>	458	15.3
483.xalancbmk	327	21.1	328	21.0	<u>328</u>	<u>21.1</u>	322	21.4	<u>322</u>	<u>21.5</u>	321	21.5

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

Platform Notes

BIOS default settings have been used.

General Notes

All binaries were built with 32-bit Intel compiler except:
401.bzip2 and 456.hmmmer 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:
icl -Qvc8 -Qc99

C++ benchmarks:
icl -Qvc8



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Base Portability Flags

403.gcc: -DSPEC_CPU_WIN32
464.h264ref: -DSPEC_CPU_NO_INTTYPES -DWIN32
483.xalancbmk: -Qoption,cpp,--no_wchar_t_keyword

Base Optimization Flags

C benchmarks:

-fast -Qparallel -Qvec-guard-write -Qpar-runtime-control -F512000000
libguide40.lib

C++ benchmarks:

-fast -Qcxx-features -F512000000 libguide40.lib shlw32M.lib
-link -FORCE:MULTIPLE

Base Other Flags

C benchmarks:

403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):

icl -Qvc8 -Qc99

401.bzip2: C:\\DevelTools\\Intel\\Compiler\\C++\\10.1.011\\EM64T\\Bin\\icl.exe
-IC:\\DevelTools\\Intel\\Compiler\\C++\\10.1.011\\EM64T\\Include
-link -LIBPATH:C:\\DevelTools\\Intel\\Compiler\\C++\\10.1.011\\EM64T\\Lib
-link -LIBPATH:"C:\\Program Files\\Microsoft Visual Studio 8\\vc\\lib"
-link -LIBPATH:"C:\\Program Files\\Microsoft Visual Studio 8\\vc\\lib\\amd64"

456.hmmr: C:\\DevelTools\\Intel\\Compiler\\C++\\10.1.011\\EM64T\\Bin\\icl.exe
-IC:\\DevelTools\\Intel\\Compiler\\C++\\10.1.011\\EM64T\\Include
-link -LIBPATH:C:\\DevelTools\\Intel\\Compiler\\C++\\10.1.011\\EM64T\\Lib
-link -LIBPATH:"C:\\Program Files\\Microsoft Visual Studio 8\\vc\\lib"
-link -LIBPATH:"C:\\Program Files\\Microsoft Visual Studio 8\\vc\\lib\\amd64"

C++ benchmarks:

icl -Qvc8



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Peak Portability Flags

401.bzip2: -DSPEC_CPU_P64
 403.gcc: -DSPEC_CPU_WIN32
 456.hmmr: -DSPEC_CPU_P64
 464.h264ref: -DSPEC_CPU_NO_INTTYPES -DWIN32
 483.xalancbmk: -Qoption, cpp, --no_wchar_t_keyword

Peak Optimization Flags

C benchmarks:

400.perlbench: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qparallel
 -Qpar-runtime-control -Qansi-alias -Qprefetch -F512000000
 libguide40.lib shlw32m.lib -link -FORCE:MULTIPLE

401.bzip2: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qprefetch
 -F512000000 libguide40.lib

403.gcc: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -F512000000
 libguide40.lib

429.mcf: basepeak = yes

445.gobmk: -Qprof_gen(pass 1) -Qprof_use(pass 2) -O2 -Qipo -QxT
 -Qprec-div- -Qansi-alias -F512000000

456.hmmr: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2
 -Qansi-alias -Qopt-multi-version-aggressive -F512000000
 libguide40.lib

458.sjeng: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll4
 -F512000000 libguide40.lib

462.libquantum: basepeak = yes

464.h264ref: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2
 -Qansi-alias -F512000000 libguide40.lib

C++ benchmarks:

471.omnetpp: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
 -Qansi-alias -Qopt-ra-region-strategy=block -F512000000
 libguide40.lib shlw32m.lib -link -FORCE:MULTIPLE

473.astar: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
 -Qansi-alias -Qopt-ra-region-strategy=routine -F512000000
 libguide40.lib shlw32m.lib -link -FORCE:MULTIPLE

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Peak Optimization Flags (Continued)

```
483.xalancbmk: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
               -Qansi-alias -F512000000 libguide40.lib shlw32M.lib
               -link -FORCE:MULTIPLE
```

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/CPU2006_flags.20090713.02.html

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

http://www.spec.org/cpu2006/flags/CPU2006_flags.20090713.02.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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