



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu Siemens Computers

**SPECint<sup>®</sup>2006 = 21.9**

## CELSIUS M460, Intel Core 2 Quad Q9450

**SPECint\_base2006 = 19.7**

CPU2006 license: 22

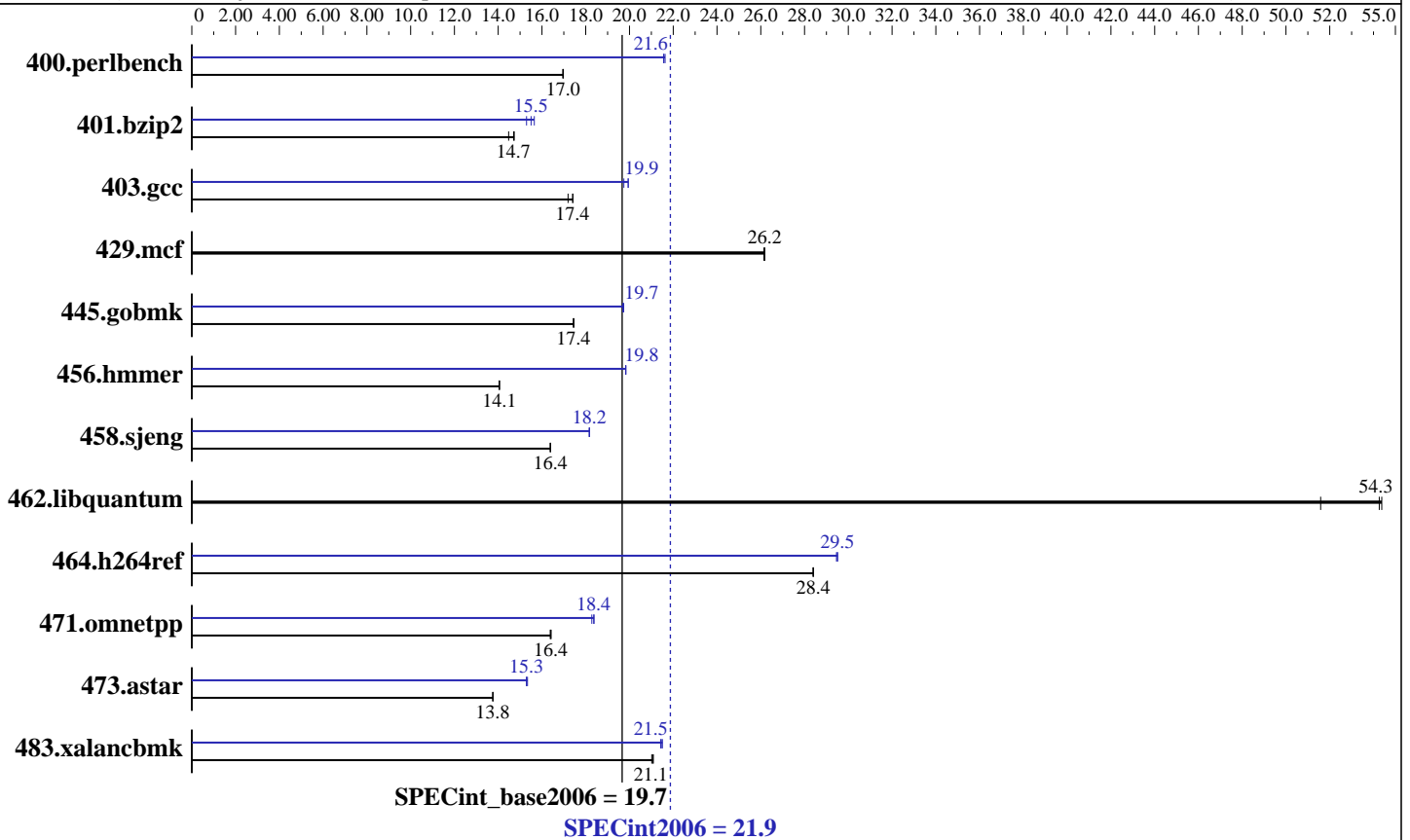
Test sponsor: Fujitsu Siemens Computers

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	<b>576</b>	<b>17.0</b>	452	21.6	453	21.6	<b>453</b>	<b>21.6</b>
401.bzip2	667	14.5	<b>656</b>	<b>14.7</b>	655	14.7	631	15.3	617	15.7	<b>622</b>	<b>15.5</b>
403.gcc	<b>463</b>	<b>17.4</b>	462	17.4	468	17.2	408	19.7	404	19.9	<b>404</b>	<b>19.9</b>
429.mcf	349	26.1	<b>348</b>	<b>26.2</b>	348	26.2	349	26.1	<b>348</b>	<b>26.2</b>	348	26.2
445.gobmk	<b>601</b>	<b>17.4</b>	601	17.4	601	17.5	532	19.7	532	19.7	<b>532</b>	<b>19.7</b>
456.hmmmer	664	14.1	<b>664</b>	<b>14.1</b>	664	14.1	<b>471</b>	<b>19.8</b>	471	19.8	470	19.8
458.sjeng	738	16.4	739	16.4	<b>738</b>	<b>16.4</b>	<b>666</b>	<b>18.2</b>	666	18.2	666	18.2
462.libquantum	<b>382</b>	<b>54.3</b>	402	51.6	381	54.4	<b>382</b>	<b>54.3</b>	402	51.6	381	54.4
464.h264ref	780	28.4	<b>779</b>	<b>28.4</b>	779	28.4	751	29.5	<b>750</b>	<b>29.5</b>	750	29.5
471.omnetpp	381	16.4	382	16.4	<b>381</b>	<b>16.4</b>	342	18.3	340	18.4	<b>340</b>	<b>18.4</b>
473.astar	<b>510</b>	<b>13.8</b>	510	13.8	510	13.8	459	15.3	<b>459</b>	<b>15.3</b>	458	15.3
483.xalancbmk	327	21.1	328	21.0	<b>328</b>	<b>21.1</b>	322	21.4	<b>322</b>	<b>21.5</b>	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.xalanbmk: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx-features
              -Qansi-alias -F512000000 libguide40.lib shlW32M.lib
              -link -FORCE:MULTIPLE
```

## Peak Other Flags

Same as Base Other Flags

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](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](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](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.  
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