



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®\_rate2006 = 90.5

PowerEdge 2900 III (Intel Xeon X5270, 3.50 GHz)

SPECint\_rate\_base2006 = 85.3

CPU2006 license: 55

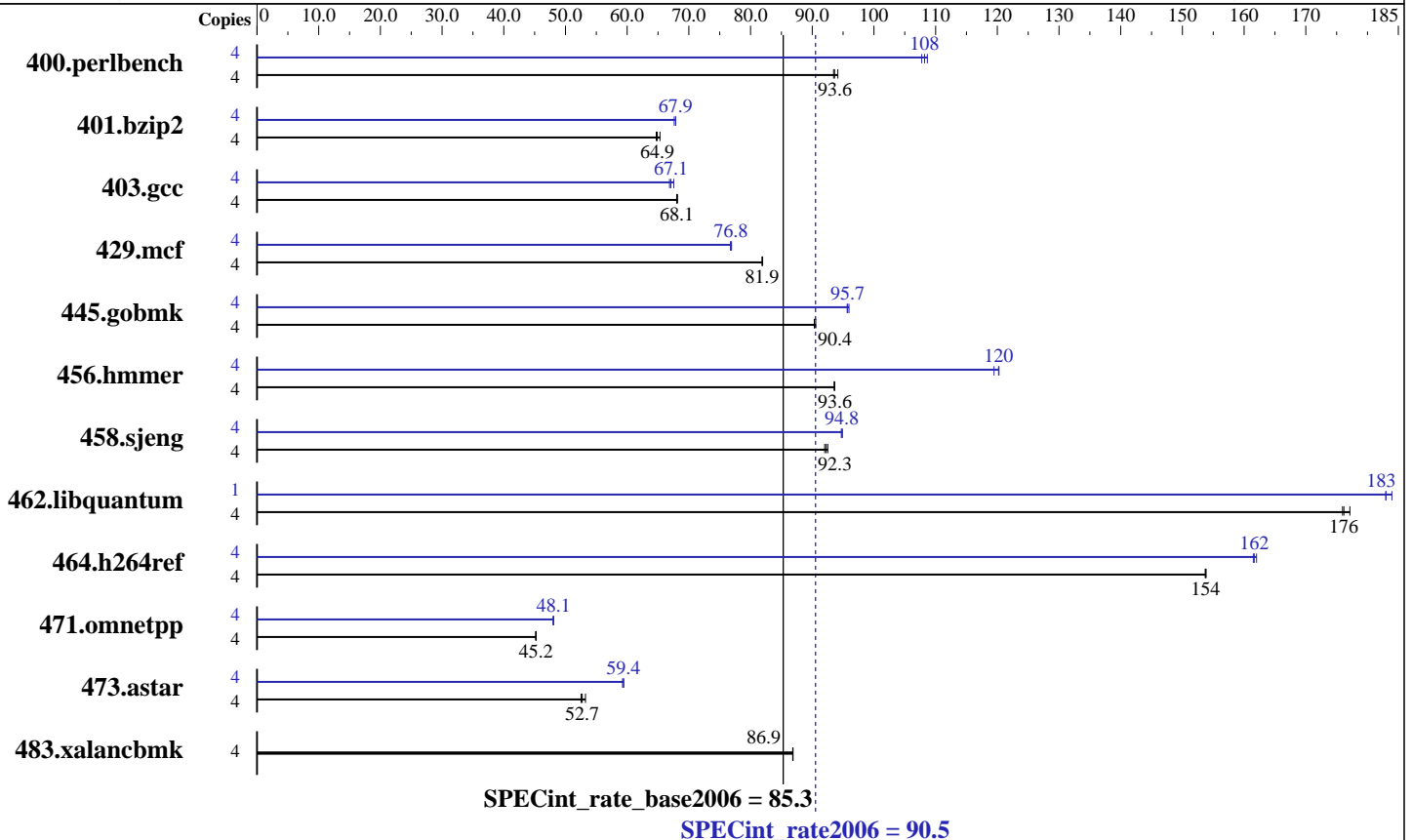
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



## Hardware

CPU Name: Intel Xeon X5270  
 CPU Characteristics:  
 CPU MHz: 3500  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 6 MB I+D on chip per chip  
 L3 Cache: None  
 Other Cache: None  
 Memory: 16 GB (8 x 2 GB 667 MHz CL5 DDR2 Dual Rank)  
 Disk Subsystem: 2 x 73 GB SAS 15000 RPM  
 Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP2, Kernel 2.6.16-60.0.21-smp  
 Compiler: Intel C++ Compiler 11.0 for Linux Build 20080730 Package ID: l\_cproc\_b\_11.0.042  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.18.50.0.7.20080502



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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	4	418	93.5	<b>417</b>	<b>93.6</b>	415	94.2	4	363	108	<b>361</b>	<b>108</b>	360	109
401.bzip2	4	596	64.7	591	65.3	<b>595</b>	<b>64.9</b>	4	<b>569</b>	<b>67.9</b>	571	67.6	569	67.9
403.gcc	4	472	68.2	473	68.0	<b>473</b>	<b>68.1</b>	4	482	66.9	<b>480</b>	<b>67.1</b>	477	67.6
429.mcf	4	<b>445</b>	<b>81.9</b>	446	81.9	445	82.0	4	<b>475</b>	<b>76.8</b>	475	76.7	474	76.9
445.gobmk	4	<b>464</b>	<b>90.4</b>	465	90.3	463	90.6	4	<b>438</b>	<b>95.7</b>	439	95.7	437	96.0
456.hammer	4	<b>399</b>	<b>93.6</b>	399	93.6	399	93.6	4	310	120	312	119	<b>310</b>	<b>120</b>
458.sjeng	4	<b>525</b>	<b>92.3</b>	526	92.0	523	92.5	4	<b>511</b>	<b>94.8</b>	511	94.7	510	94.9
462.libquantum	4	<b>470</b>	<b>176</b>	468	177	471	176	1	113	184	113	183	<b>113</b>	<b>183</b>
464.h264ref	4	575	154	576	154	<b>576</b>	<b>154</b>	4	548	161	<b>548</b>	<b>162</b>	546	162
471.omnetpp	4	<b>553</b>	<b>45.2</b>	554	45.1	552	45.3	4	<b>520</b>	<b>48.1</b>	520	48.1	521	48.0
473.astar	4	535	52.5	<b>533</b>	<b>52.7</b>	527	53.2	4	<b>473</b>	<b>59.4</b>	472	59.4	474	59.2
483.xalancbmk	4	318	86.9	<b>318</b>	<b>86.9</b>	318	86.8	4	318	86.9	<b>318</b>	<b>86.9</b>	318	86.8

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

## Submit Notes

The config file option 'submit' was used.  
taskset was used to bind processes to cores except  
for 462.libquantum peak

## Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run

## Platform Notes

BIOS Settings:  
Adjacent Cache Line Prefetch = Disabled (Default = Enabled)

## General Notes

OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"  
KMP\_STACKSIZE set to 64M

## Base Compiler Invocation

C benchmarks:  
icc

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## Base Compiler Invocation (Continued)

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:  
-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:  
-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/spec/cpu2006.1.1/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/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

456.hmmer: /opt/intel/Compiler/11.0/042/bin/intel64/icc  
-L/opt/intel/Compiler/11.0/042/ipp/em64t/lib  
-I/opt/intel/Compiler/11.0/042/ipp/em64t/include

C++ benchmarks:  
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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) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
 -opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo  
 -no-prec-div -ansi-alias

456.hmmer: -xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2  
 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -unroll4

462.libquantum: -xSSE4.1 -ipo -O3 -no-prec-div -static  
 -opt-malloc-options=3 -parallel -par-runtime-control  
 -opt-prefetch

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -static -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -ansi-alias -opt-ra-region-strategy=block  
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
 -no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmarheap

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## Peak Optimization Flags (Continued)

483.xalanbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.02.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.02.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090713.02.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.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).

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