



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®\_rate2006 = 77.4

PowerEdge T100 (Intel Xeon X3350, 2.66 GHz)

SPECint\_rate\_base2006 = 72.4

CPU2006 license: 55

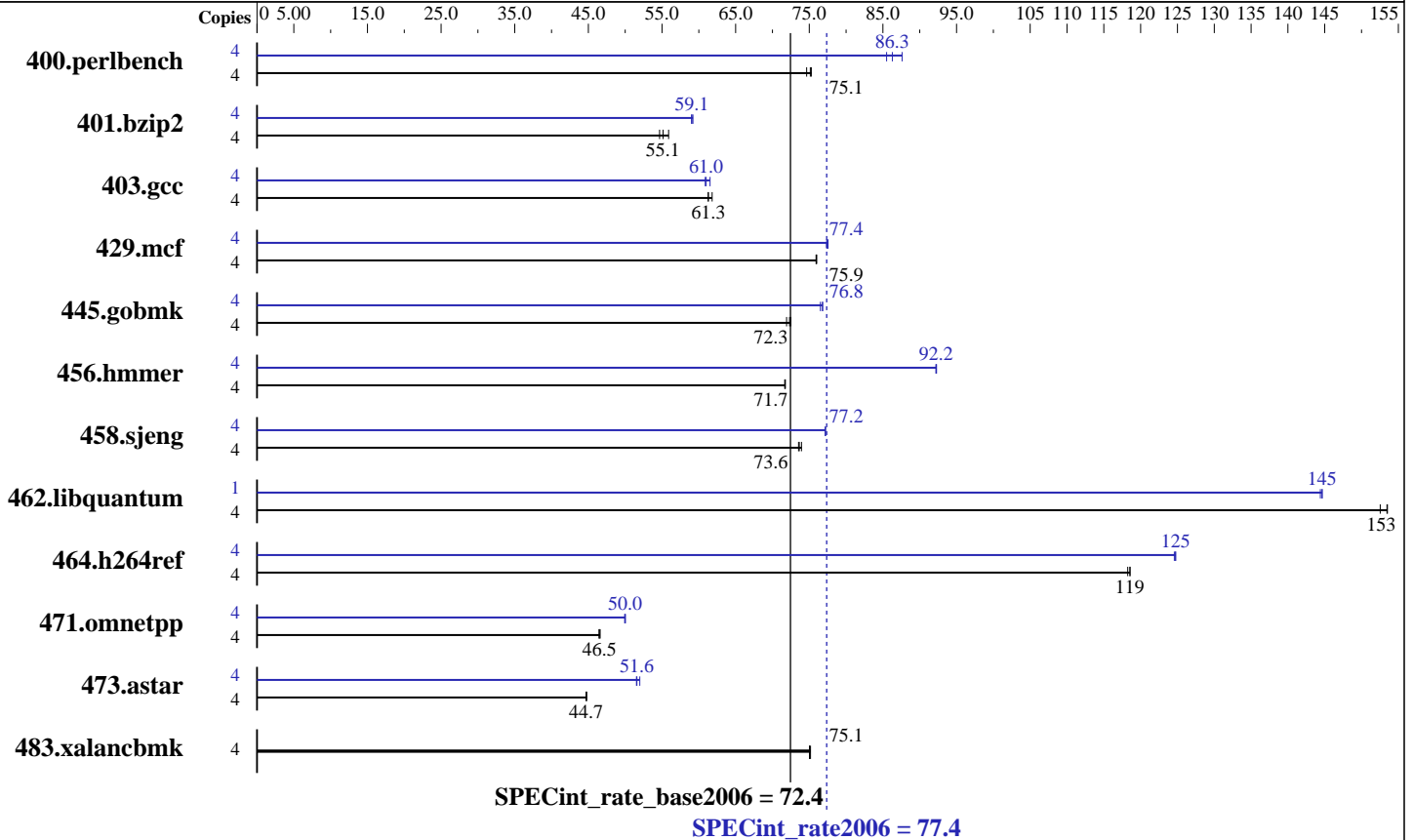
Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Oct-2008



## Hardware

CPU Name: Intel Xeon X3350  
 CPU Characteristics:  
 CPU MHz: 2666  
 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: 8 GB (4 x 2 GB DDR2-800)  
 Disk Subsystem: 1 x 160 GB SATA, 7200 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	519	75.3	<u>520</u>	<u>75.1</u>	524	74.6	4	446	87.6	<u>453</u>	<u>86.3</u>	457	85.5
401.bzip2	4	706	54.7	691	55.9	<u>700</u>	<u>55.1</u>	4	654	59.0	<u>653</u>	<u>59.1</u>	652	59.2
403.gcc	4	521	61.8	<u>525</u>	<u>61.3</u>	526	61.3	4	529	60.9	<u>528</u>	<u>61.0</u>	523	61.5
429.mcf	4	<u>480</u>	<u>75.9</u>	480	75.9	480	76.0	4	472	77.4	<u>471</u>	<u>77.4</u>	470	77.5
445.gobmk	4	579	72.5	583	71.9	<u>580</u>	<u>72.3</u>	4	548	76.5	546	76.8	<u>546</u>	<u>76.8</u>
456.hammer	4	<u>520</u>	<u>71.7</u>	520	71.8	521	71.7	4	405	92.2	<u>405</u>	<u>92.2</u>	404	92.3
458.sjeng	4	655	73.9	658	73.5	<u>657</u>	<u>73.6</u>	4	627	77.2	<u>627</u>	<u>77.2</u>	627	77.2
462.libquantum	4	<u>540</u>	<u>153</u>	543	153	540	154	1	<u>143</u>	<u>145</u>	143	144	143	145
464.h264ref	4	<u>747</u>	<u>119</u>	749	118	747	119	4	710	125	<u>710</u>	<u>125</u>	711	125
471.omnetpp	4	538	46.4	<u>538</u>	<u>46.5</u>	537	46.6	4	500	50.0	501	49.9	<u>500</u>	<u>50.0</u>
473.astar	4	628	44.7	627	44.8	<u>628</u>	<u>44.7</u>	4	540	52.0	<u>544</u>	<u>51.6</u>	545	51.5
483.xalancbmk	4	367	75.2	368	75.0	<u>368</u>	<u>75.1</u>	4	367	75.2	368	75.0	<u>368</u>	<u>75.1</u>

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.

## Operating System Notes

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

## Platform Notes

BIOS Settings:

Hardware Prefetcher = Disabled (Default = Enabled)

Adjacent Cache Line Prefetch = Disabled (Default = Enabled)

## General Notes

taskset was used to bind processes to cores except for 462.libquantum peak

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.20090713.11.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.20090713.11.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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