



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®\_rate2006 = 144

PowerEdge 2900 III (Intel Xeon X5460, 3.16 GHz)

SPECint\_rate\_base2006 = 131

CPU2006 license: 55

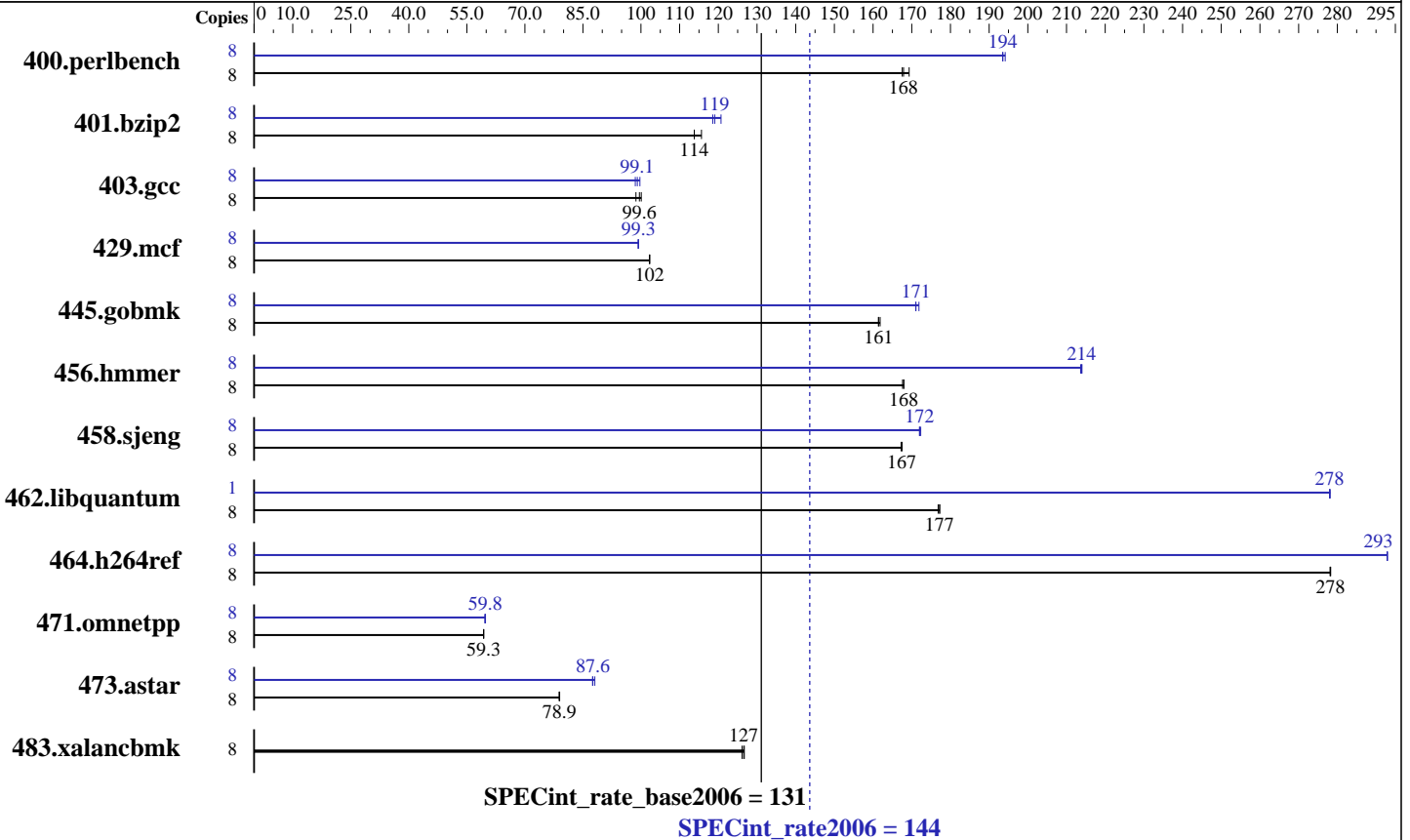
Test date: Oct-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics:  
 CPU MHz: 3166  
 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 (8 x 2 GB DDR2-667)  
 Disk Subsystem: 2 x 73 GB 15000 RPM SAS  
 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	8	467	168	<b>466</b>	<b>168</b>	462	169	8	<b>404</b>	<b>194</b>	403	194	404	193
401.bzip2	8	678	114	<b>678</b>	<b>114</b>	668	116	8	651	119	<b>648</b>	<b>119</b>	640	121
403.gcc	8	<b>647</b>	<b>99.6</b>	643	100	652	98.7	8	654	98.5	646	99.7	<b>650</b>	<b>99.1</b>
429.mcf	8	714	102	<b>714</b>	<b>102</b>	714	102	8	735	99.3	734	99.4	<b>735</b>	<b>99.3</b>
445.gobmk	8	<b>520</b>	<b>161</b>	519	162	520	161	8	491	171	488	172	<b>491</b>	<b>171</b>
456.hammer	8	445	168	444	168	<b>444</b>	<b>168</b>	8	<b>349</b>	<b>214</b>	349	214	349	214
458.sjeng	8	579	167	<b>578</b>	<b>167</b>	578	167	8	562	172	<b>563</b>	<b>172</b>	563	172
462.libquantum	8	937	177	935	177	<b>935</b>	<b>177</b>	1	74.5	278	74.5	278	<b>74.5</b>	<b>278</b>
464.h264ref	8	<b>636</b>	<b>278</b>	637	278	636	278	8	604	293	<b>605</b>	<b>293</b>	605	293
471.omnetpp	8	842	59.3	<b>843</b>	<b>59.3</b>	843	59.3	8	836	59.8	<b>836</b>	<b>59.8</b>	838	59.6
473.astar	8	712	78.8	711	79.0	<b>711</b>	<b>78.9</b>	8	638	88.1	642	87.5	<b>641</b>	<b>87.6</b>
483.xalancbmk	8	438	126	<b>436</b>	<b>127</b>	436	127	8	438	126	<b>436</b>	<b>127</b>	436	127

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:  
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-calloc  
-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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