



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®\_rate2006 = 125

PowerEdge 1950 III (Intel Xeon E5450, 3.00 GHz)

SPECint\_rate\_base2006 = 109

CPU2006 license: 55

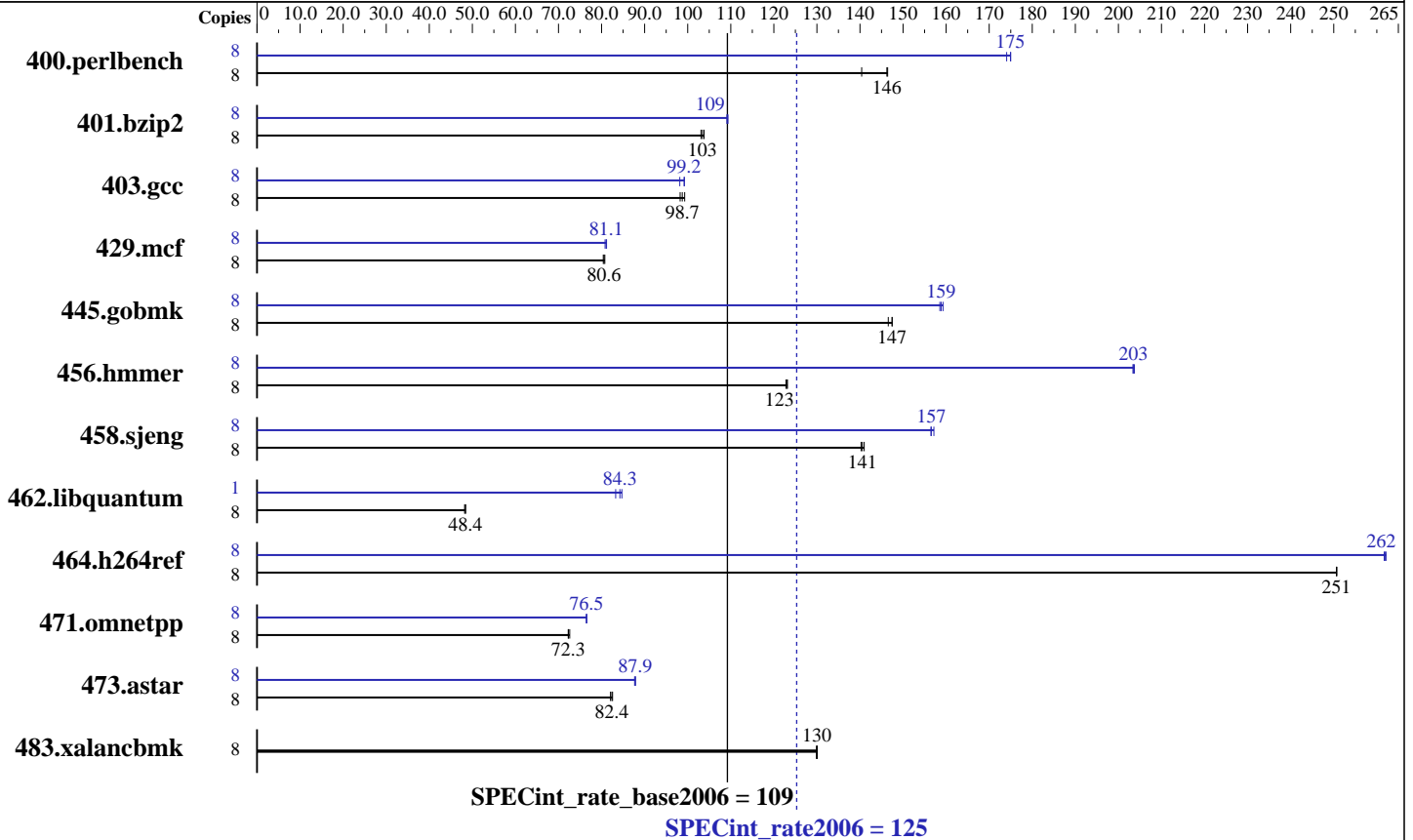
Test date: Dec-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007



## Hardware

CPU Name: Intel Xeon E5450  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3000  
 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 (8x2 GB DDR2-667 ECC CL5 FB-DIMM)  
 Disk Subsystem: 1 x 73 GB SAS 15k RPM  
 Other Hardware: None

## Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler 10.1 for Linux Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ReiserFS  
 System State: Multi-user, run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V8.1 Binutils 2.17.50.0.15



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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	557	140	534	146	<b>534</b>	<b>146</b>	8	<b>447</b>	<b>175</b>	449	174	447	175
401.bzip2	8	749	103	<b>746</b>	<b>103</b>	744	104	8	707	109	706	109	<b>707</b>	<b>109</b>
403.gcc	8	655	98.2	<b>652</b>	<b>98.7</b>	649	99.3	8	656	98.2	649	99.2	<b>649</b>	<b>99.2</b>
429.mcf	8	908	80.4	<b>905</b>	<b>80.6</b>	903	80.8	8	<b>900</b>	<b>81.1</b>	903	80.8	899	81.2
445.gobmk	8	569	147	<b>569</b>	<b>147</b>	573	147	8	527	159	529	159	<b>528</b>	<b>159</b>
456.hammer	8	608	123	606	123	<b>607</b>	<b>123</b>	8	367	203	<b>367</b>	<b>203</b>	366	204
458.sjeng	8	687	141	<b>689</b>	<b>141</b>	690	140	8	616	157	<b>618</b>	<b>157</b>	619	156
462.libquantum	8	3439	48.2	<b>3425</b>	<b>48.4</b>	3424	48.4	1	245	84.7	<b>246</b>	<b>84.3</b>	249	83.3
464.h264ref	8	<b>706</b>	<b>251</b>	706	251	706	251	8	675	262	<b>676</b>	<b>262</b>	676	262
471.omnetpp	8	<b>692</b>	<b>72.3</b>	692	72.3	689	72.6	8	653	76.5	654	76.5	<b>653</b>	<b>76.5</b>
473.astar	8	680	82.5	<b>682</b>	<b>82.4</b>	684	82.1	8	<b>639</b>	<b>87.9</b>	639	87.9	641	87.7
483.xalancbmk	8	425	130	<b>425</b>	<b>130</b>	424	130	8	425	130	<b>425</b>	<b>130</b>	424	130

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

## Compiler Invocation Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_STACK\_SIZE set to 64M  
KMP\_AFFINITY set to physical,0

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
'/usr/bin/taskset' used to bind processes to CPUs

## Platform Notes

BIOS Settings:  
Adjacent Cache Line Prefetch = Disabled (default Enabled)  
Hardware Prefetcher = Disabled (default Enabled)

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-fast -inline-calloc -opt-malloc-options=3  
C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/spec/users/rahul/cpu2006.1.0/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/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include  
456.hmmmer: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include  
C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX

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## Peak Portability Flags (Continued)

483.xalanbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs  
-L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs  
-L/spec/users/rahul/cpu2006.1.0/lib -lsmartheap

483.xalanbmk: basepeak = yes



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## 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/Intel-ic10-ia32-intel64-linux-flags.20090714.12.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.12.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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