



# SPEC® CINT2006 Result

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Dell Inc.

**SPECint®\_rate2006 = 103**

PowerEdge 2950 III (Intel Xeon E5405, 2.00 GHz)

**SPECint\_rate\_base2006 = 85.2**

CPU2006 license: 55

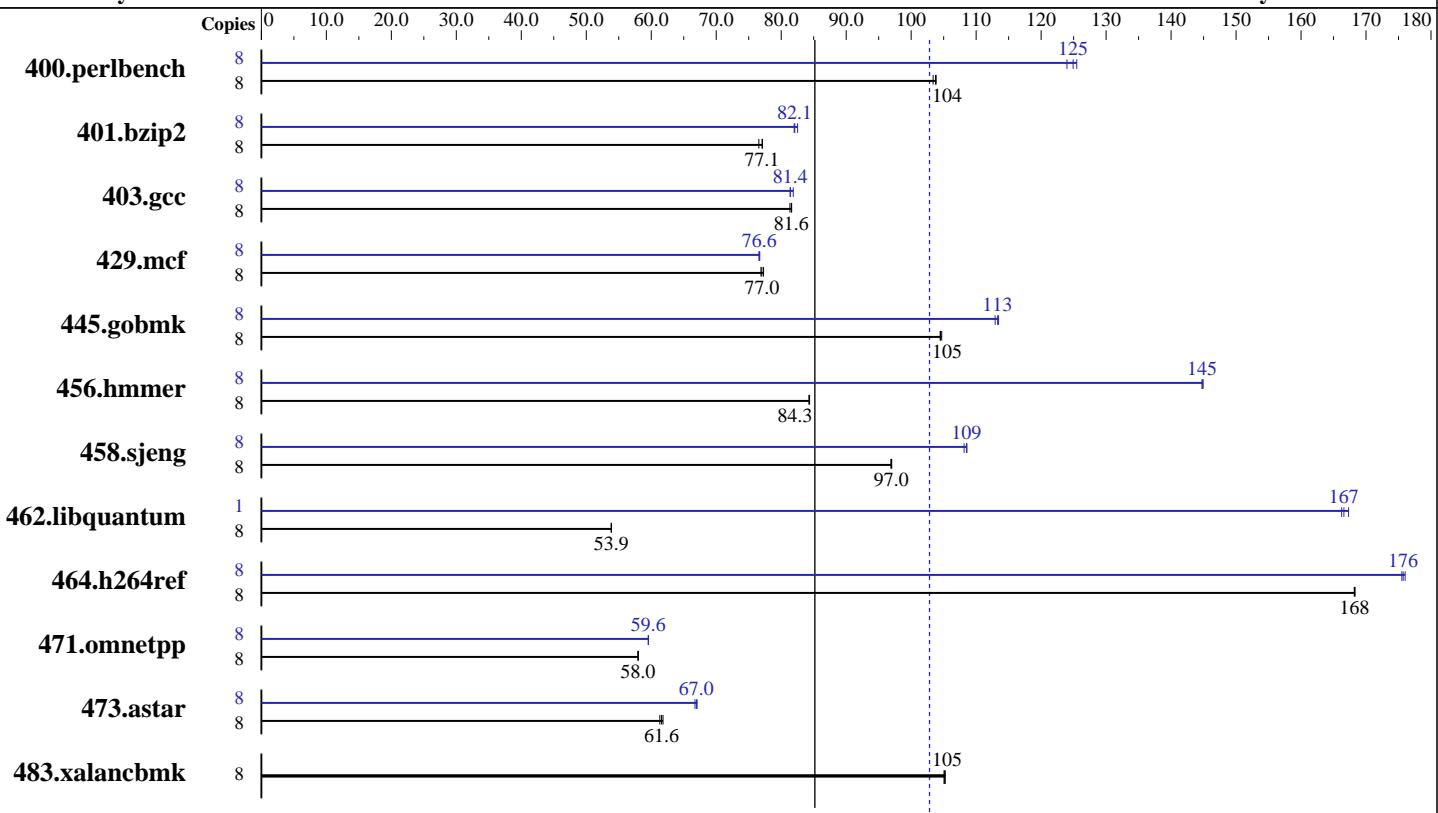
Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Feb-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



## Hardware

CPU Name: Intel Xeon E5405  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 2000  
 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 667 MHz ECC CL5 FB-DIMM)  
 Disk Subsystem: 1 x 73 GB 15000 RPM SAS  
 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: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap library V8.1



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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	<b>753</b>	<b>104</b>	756	103	753	104	8	623	125	630	124	<b>626</b>	<b>125</b>
401.bzip2	8	1001	77.1	1008	76.6	<b>1002</b>	<b>77.1</b>	8	<b>940</b>	<b>82.1</b>	941	82.0	936	82.5
403.gcc	8	792	81.3	789	81.6	<b>790</b>	<b>81.6</b>	8	787	81.9	<b>791</b>	<b>81.4</b>	791	81.4
429.mcf	8	944	77.3	949	76.9	<b>947</b>	<b>77.0</b>	8	953	76.6	<b>952</b>	<b>76.6</b>	951	76.7
445.gobmk	8	803	104	802	105	<b>803</b>	<b>105</b>	8	740	113	<b>741</b>	<b>113</b>	743	113
456.hmmer	8	886	84.3	885	84.4	<b>885</b>	<b>84.3</b>	8	515	145	<b>516</b>	<b>145</b>	516	145
458.sjeng	8	999	96.9	<b>998</b>	<b>97.0</b>	998	97.0	8	<b>892</b>	<b>109</b>	895	108	891	109
462.libquantum	8	3078	53.9	<b>3078</b>	<b>53.9</b>	3078	53.9	1	125	166	124	167	<b>124</b>	<b>167</b>
464.h264ref	8	1053	168	<b>1052</b>	<b>168</b>	1052	168	8	1006	176	<b>1008</b>	<b>176</b>	1009	176
471.omnetpp	8	863	58.0	<b>863</b>	<b>58.0</b>	862	58.0	8	840	59.5	<b>839</b>	<b>59.6</b>	839	59.6
473.astar	8	916	61.3	909	61.8	<b>912</b>	<b>61.6</b>	8	<b>839</b>	<b>67.0</b>	838	67.1	842	66.7
483.xalancbmk	8	525	105	524	105	<b>525</b>	<b>105</b>	8	525	105	524	105	<b>525</b>	<b>105</b>

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)

## 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.hmmr: /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.hmmr: -DSPEC\_CPU\_LP64

462.libquantum: -DSPEC\_CPU\_LINUX

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## Peak Portability Flags (Continued)

483.xalancbmk: -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 -unroll12 -ansi-alias -opt-multi-version-aggressive

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

462.libquantum: -fast -unroll14 -O0 -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 -unroll12  
-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.xalancbmk: 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-ic10.1-INT-ia32-linux-flags.20090713.03.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-INT-ia32-linux-flags.20090713.03.xml>

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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

Tested with SPEC CPU2006 v1.0.

Report generated on Tue Jul 22 18:29:01 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 15 April 2008.