



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®2006 = 26.5

PowerEdge M600 (Intel Xeon E5450, 3.00 GHz)

SPECint\_base2006 = 23.3

CPU2006 license: 55

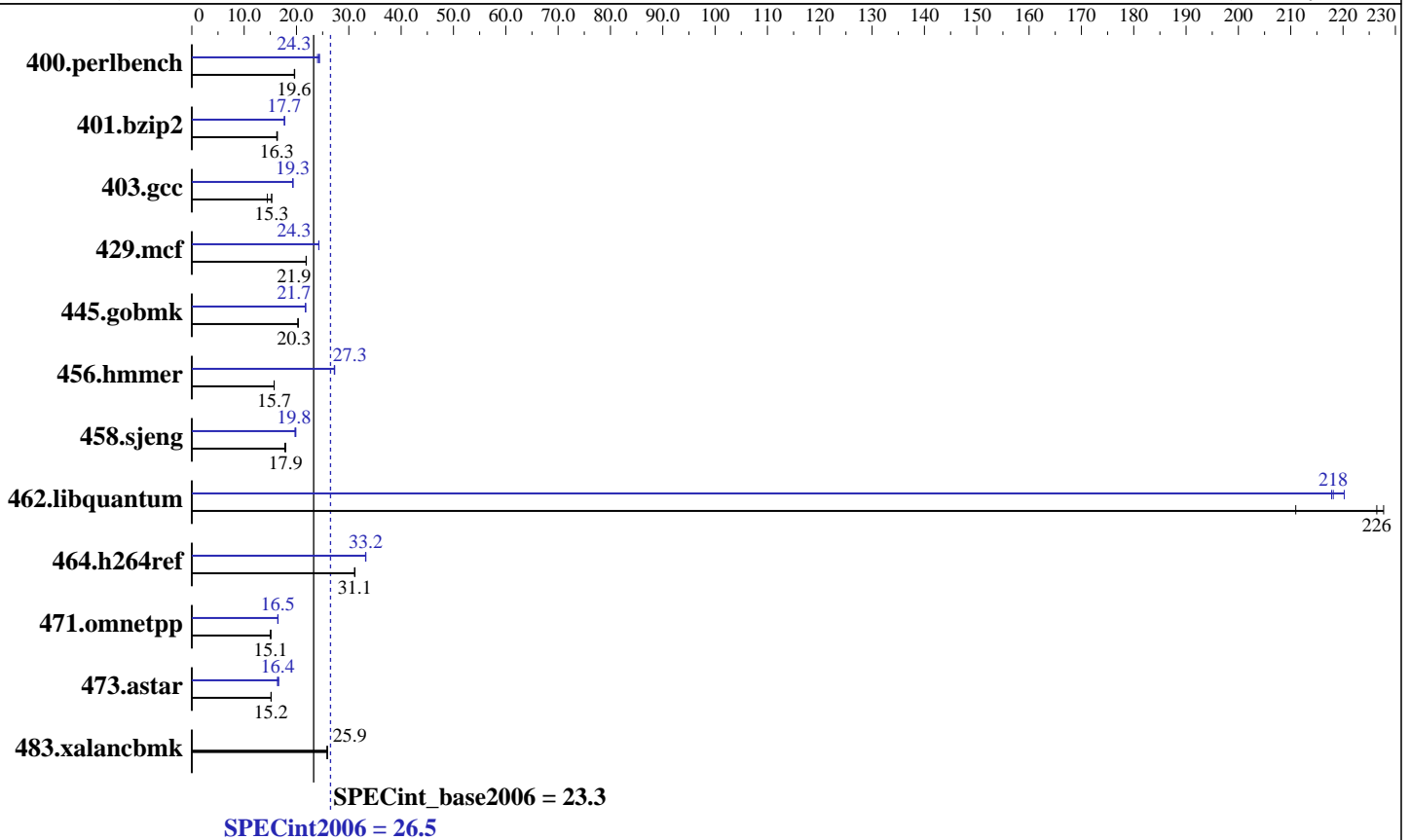
Test date: Jul-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: May-2008



## Hardware

CPU Name: Intel Xeon E5450  
 CPU Characteristics:  
 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 (4x4 GB, DDR2-667 MHz, CL5, Reg, Dual Rank)  
 Disk Subsystem: 1 x 80 GB SATA 5400 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 10.1 for Linux  
 Build 20080312 Package ID: l\_cc\_p\_10.1.015  
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>498</b>	<b>19.6</b>	497	19.7	499	19.6	407	24.0	400	24.4	<b>402</b>	<b>24.3</b>
401.bzip2	590	16.4	<b>593</b>	<b>16.3</b>	594	16.2	544	17.7	<b>545</b>	<b>17.7</b>	545	17.7
403.gcc	527	15.3	558	14.4	<b>528</b>	<b>15.3</b>	417	19.3	<b>417</b>	<b>19.3</b>	417	19.3
429.mcf	417	21.9	418	21.8	<b>417</b>	<b>21.9</b>	<b>376</b>	<b>24.3</b>	376	24.3	375	24.3
445.gobmk	<b>517</b>	<b>20.3</b>	517	20.3	516	20.3	<b>483</b>	<b>21.7</b>	483	21.7	483	21.7
456.hmmmer	<b>593</b>	<b>15.7</b>	593	15.7	593	15.7	342	27.3	<b>342</b>	<b>27.3</b>	343	27.2
458.sjeng	675	17.9	681	17.8	<b>676</b>	<b>17.9</b>	<b>610</b>	<b>19.8</b>	609	19.9	614	19.7
462.libquantum	98.2	211	91.0	228	<b>91.5</b>	<b>226</b>	95.1	218	94.1	220	<b>95.0</b>	<b>218</b>
464.h264ref	710	31.2	<b>711</b>	<b>31.1</b>	712	31.1	667	33.2	<b>666</b>	<b>33.2</b>	665	33.3
471.omnetpp	414	15.1	416	15.0	<b>415</b>	<b>15.1</b>	<b>380</b>	<b>16.5</b>	381	16.4	379	16.5
473.astar	463	15.2	<b>463</b>	<b>15.2</b>	464	15.1	428	16.4	423	16.6	<b>428</b>	<b>16.4</b>
483.xalancbmk	<b>267</b>	<b>25.9</b>	266	25.9	267	25.9	<b>267</b>	<b>25.9</b>	266	25.9	267	25.9

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

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmmer, for peak, are compiled in 64-bit mode  
OMP\_NUM\_THREADS set to number of processors  
KMP\_AFFINITY set to "physical,0"

## Base Compiler Invocation

C benchmarks:  
icc  
  
C++ benchmarks:  
icpc

## Base Portability Flags

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



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## Base Optimization Flags

C benchmarks:

-fast -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:

-xT -ipo -O3 -no-prec-div -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/cce/10.1.015/bin/icc  
-L/opt/intel/cce/10.1.015/lib  
-I/opt/intel/cce/10.1.015/include

456.hmmer: /opt/intel/cce/10.1.015/bin/icc  
-L/opt/intel/cce/10.1.015/lib  
-I/opt/intel/cce/10.1.015/include

C++ benchmarks:

icpc

## 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:

Continued on next page



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## Peak Optimization Flags (Continued)

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 -auto-ilp32

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 -auto-ilp32

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/cpu2006.1.1/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/cpu2006.1.1/lib -lsmartheap

483.xalancbmk: 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-ic10.1-int-linux64-revD.20090713.00.html>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.html>



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

<http://www.spec.org/cpu2006/flags/Intel-ic10.1-int-linux64-revD.20090713.00.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.07.xml>

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

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