



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®2006 = 30.3

PowerEdge M600 (Intel Xeon X5470, 3.33 GHz)

SPECint\_base2006 = 26.4

CPU2006 license: 55

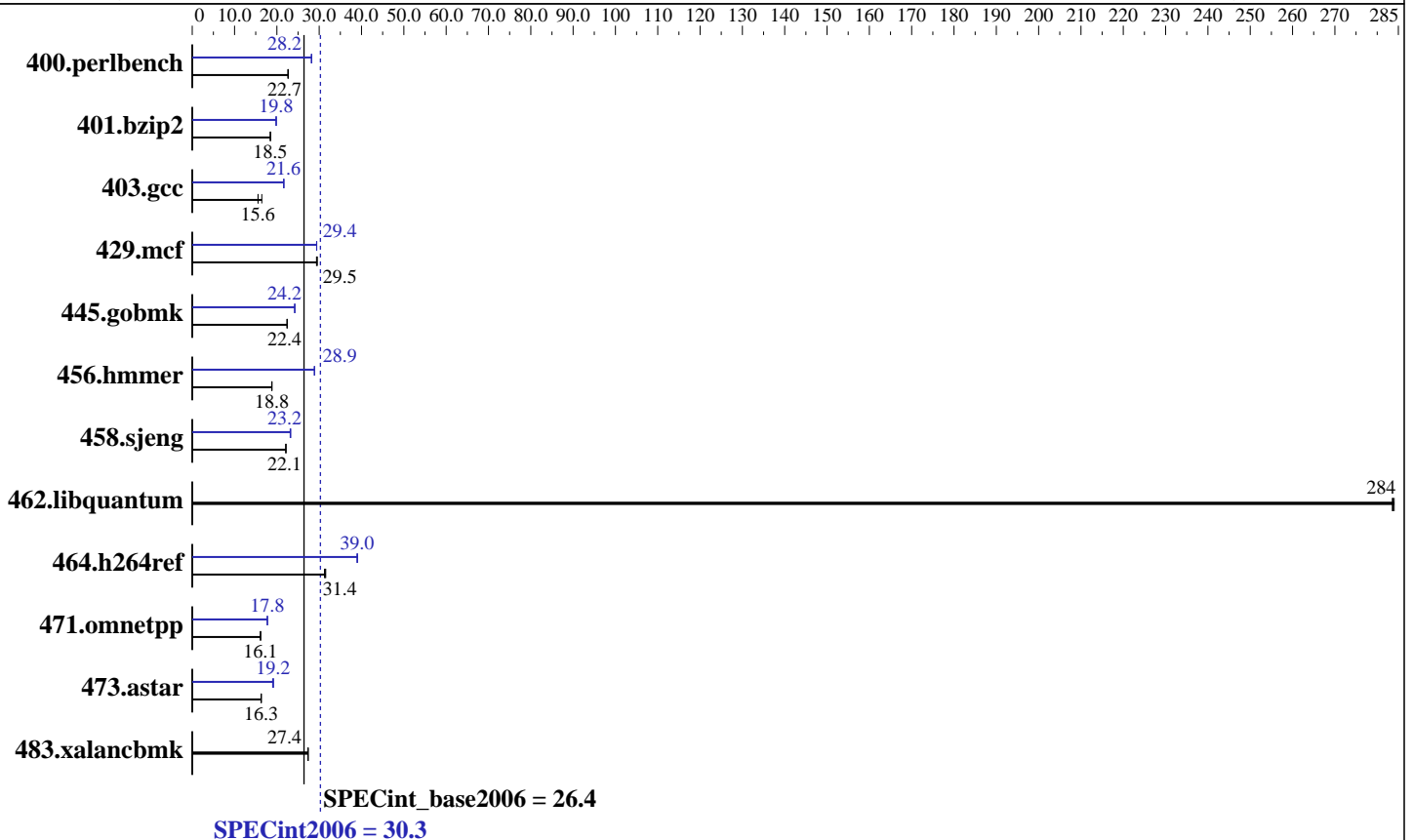
Test date: Sep-2008

Test sponsor: Dell Inc.

Hardware Availability: Sep-2008

Tested by: Dell Inc.

Software Availability: Nov-2008



### Hardware

CPU Name: Intel Xeon X5470  
 CPU Characteristics: 3333  
 CPU MHz: 3333  
 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 (4 x 4 GB 667 MHz ECC CL5 FB-DIMM)  
 Disk Subsystem: 1 x 80 GB 5400 RPM SATA  
 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					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	430	22.7	<b>431</b>	<b>22.7</b>	432	22.6	<b>347</b>	<b>28.2</b>	346	28.2	347	28.1
401.bzip2	<b>522</b>	<b>18.5</b>	523	18.5	522	18.5	488	19.8	486	19.9	<b>486</b>	<b>19.8</b>
403.gcc	518	15.5	490	16.4	<b>517</b>	<b>15.6</b>	372	21.6	372	21.6	<b>372</b>	<b>21.6</b>
429.mcf	311	29.4	309	29.5	<b>309</b>	<b>29.5</b>	310	29.4	<b>310</b>	<b>29.4</b>	310	29.4
445.gobmk	468	22.4	<b>468</b>	<b>22.4</b>	468	22.4	433	24.2	433	24.2	<b>433</b>	<b>24.2</b>
456.hmmmer	496	18.8	496	18.8	<b>496</b>	<b>18.8</b>	<b>323</b>	<b>28.9</b>	323	28.9	323	28.9
458.sjeng	547	22.1	546	22.2	<b>547</b>	<b>22.1</b>	520	23.3	523	23.1	<b>521</b>	<b>23.2</b>
462.libquantum	73.0	284	73.1	284	<b>73.0</b>	<b>284</b>	73.0	284	73.1	284	<b>73.0</b>	<b>284</b>
464.h264ref	<b>704</b>	<b>31.4</b>	702	31.5	708	31.3	567	39.1	<b>568</b>	<b>39.0</b>	568	38.9
471.omnetpp	387	16.2	387	16.1	<b>387</b>	<b>16.1</b>	<b>352</b>	<b>17.8</b>	352	17.8	352	17.8
473.astar	430	16.3	<b>431</b>	<b>16.3</b>	431	16.3	366	19.2	<b>366</b>	<b>19.2</b>	370	19.0
483.xalanbmk	252	27.4	<b>252</b>	<b>27.4</b>	252	27.3	<b>252</b>	<b>27.4</b>	<b>252</b>	<b>27.4</b>	252	27.3

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

## Operating System Notes

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

## 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.xalanbmk: -DSPEC\_CPU\_LINUX



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## Base Optimization Flags

C benchmarks:

-xSSE4.1 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -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:

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) -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 -auto-ilp32 -opt-prefetch  
-ansi-alias

403.gcc: -xSSE4.1 -ipo -O3 -no-prec-div -static -inline-alloc  
-opt-malloc-options=3

429.mcf: -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 -auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3  
-no-prec-div -static -unroll4

462.libquantum: basepeak = yes

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 -lsmartheap

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 -lsmartheap

483.xalancbmk: basepeak = yes

## Peak Other Flags

Same as Base Other Flags

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.20090713.06.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-ic11.0-int-linux64-revA.20090713.02.xml>

<http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20090713.06.xml>

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

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