



# SPEC® CINT2006 Result

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Dell Inc.

SPECint®2006 = 22.8

PowerEdge M600 (Intel Xeon E5420, 2.50 GHz)

SPECint\_base2006 = 19.8

CPU2006 license: 55

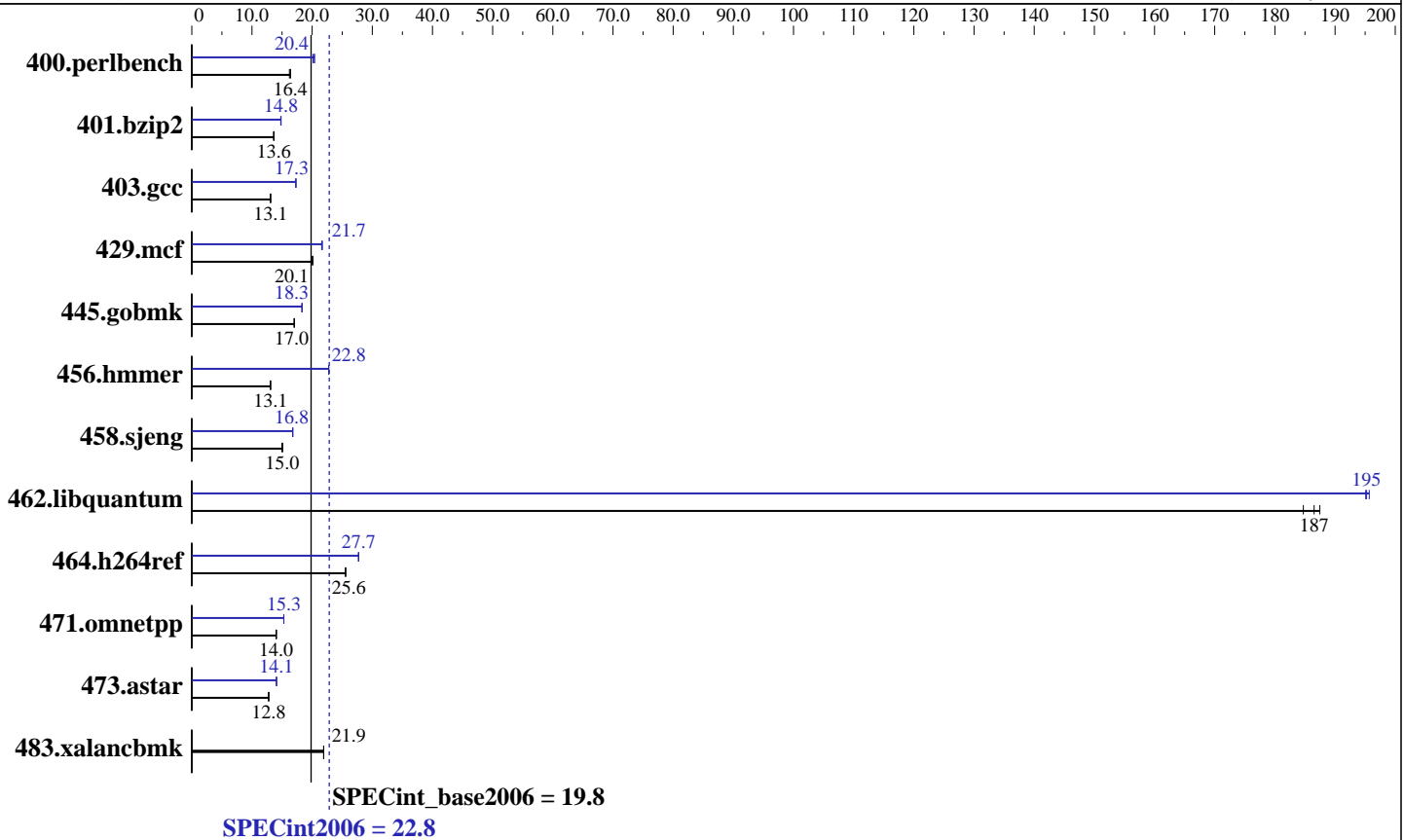
Test date: Jun-2008

Test sponsor: Dell Inc.

Hardware Availability: Jan-2008

Tested by: Dell Inc.

Software Availability: May-2008



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics:  
 CPU MHz: 2500  
 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 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 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	602	16.2	<u>597</u>	<u>16.4</u>	596	16.4	<u>480</u>	<u>20.4</u>	485	20.1	479	20.4
401.bzip2	<u>707</u>	<u>13.6</u>	710	13.6	707	13.7	<u>651</u>	<u>14.8</u>	653	14.8	651	14.8
403.gcc	613	13.1	<u>615</u>	<u>13.1</u>	617	13.1	466	17.3	<u>466</u>	<u>17.3</u>	465	17.3
429.mcf	455	20.0	<u>455</u>	<u>20.1</u>	453	20.1	<u>421</u>	<u>21.7</u>	421	21.7	422	21.6
445.gobmk	<u>616</u>	<u>17.0</u>	616	17.0	616	17.0	572	18.3	<u>573</u>	<u>18.3</u>	573	18.3
456.hmmer	712	13.1	714	13.1	<u>713</u>	<u>13.1</u>	410	22.7	<u>410</u>	<u>22.8</u>	410	22.8
458.sjeng	808	15.0	801	15.1	<u>804</u>	<u>15.0</u>	<u>721</u>	<u>16.8</u>	722	16.8	721	16.8
462.libquantum	<u>111</u>	<u>187</u>	112	185	111	187	<u>106</u>	<u>195</u>	106	196	106	195
464.h264ref	<u>866</u>	<u>25.6</u>	867	25.5	865	25.6	798	27.7	<u>799</u>	<u>27.7</u>	799	27.7
471.omnetpp	446	14.0	445	14.1	<u>445</u>	<u>14.0</u>	409	15.3	408	15.3	<u>409</u>	<u>15.3</u>
473.astar	548	12.8	551	12.7	<u>550</u>	<u>12.8</u>	499	14.1	<u>499</u>	<u>14.1</u>	499	14.1
483.xalanbmk	315	21.9	315	21.9	<u>315</u>	<u>21.9</u>	315	21.9	315	21.9	<u>315</u>	<u>21.9</u>

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.hmmer, 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:

-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 -lsmarheap

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 -lsmarheap

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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