



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®2006 = 19.4

PowerEdge T710 (Intel Xeon E5502, 1.86 GHz)

SPECint\_base2006 = 17.5

CPU2006 license: 55

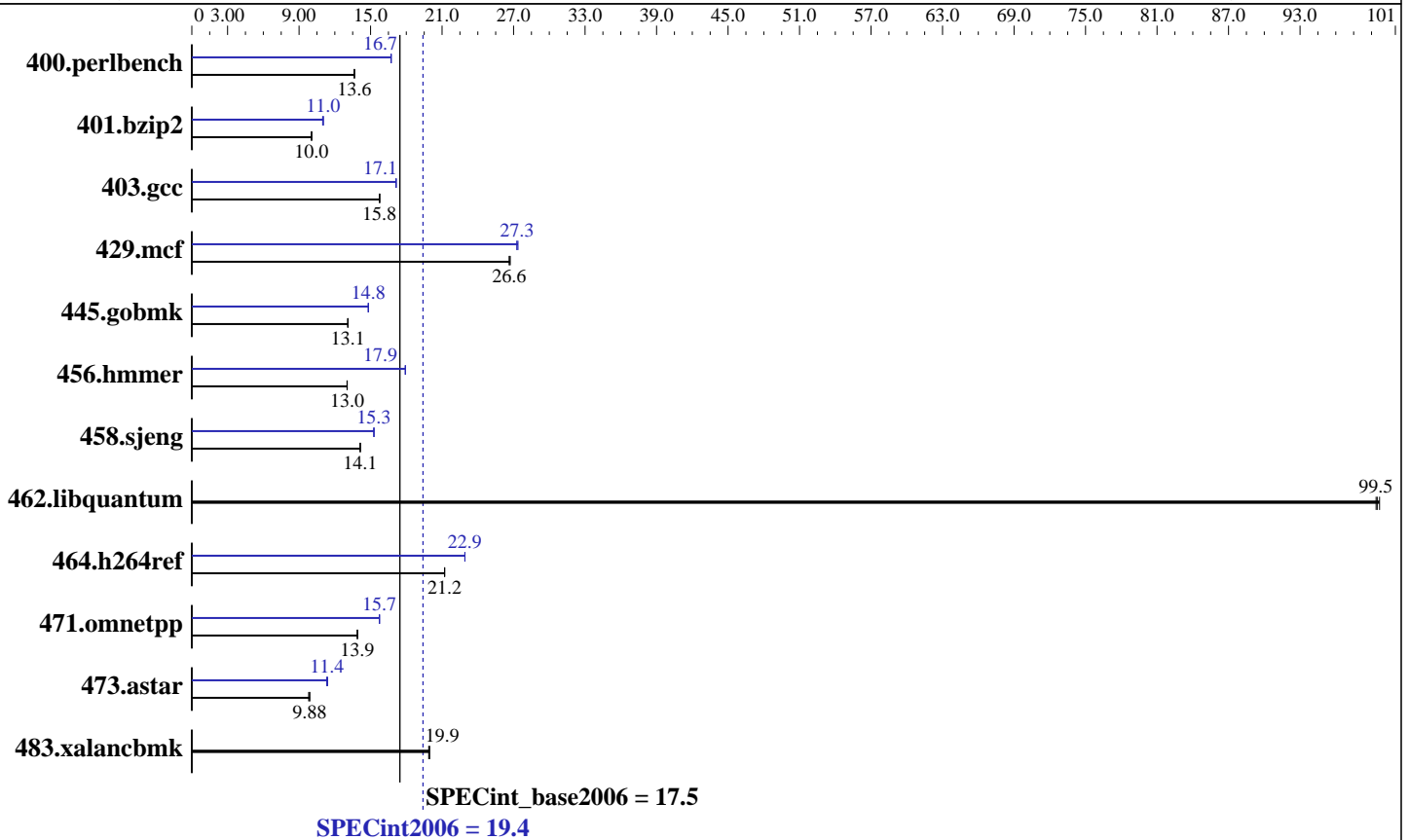
Test date: May-2009

Test sponsor: Dell Inc.

Hardware Availability: Jun-2009

Tested by: Dell Inc.

Software Availability: Feb-2009



## Hardware

CPU Name: Intel Xeon E5502  
 CPU Characteristics:  
 CPU MHz: 1867  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6 x 4 GB DDR3-1066 DR RDIMM downclocked to 800 MHz)  
 Disk Subsystem: 1 x 73 GB 15000 RPM SAS  
 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 Professional 11.0 for Linux Build 20090131 Package ID: l\_cproc\_p\_11.0.080  
 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	717	13.6	715	13.7	<b><u>716</u></b>	<b><u>13.6</u></b>	<b><u>584</u></b>	<b><u>16.7</u></b>	584	16.7	584	16.7
401.bzip2	961	10.0	<b><u>960</u></b>	<b><u>10.0</u></b>	959	10.1	<b><u>875</u></b>	<b><u>11.0</u></b>	874	11.0	879	11.0
403.gcc	510	15.8	<b><u>511</u></b>	<b><u>15.8</u></b>	511	15.8	469	17.2	470	17.1	<b><u>470</u></b>	<b><u>17.1</u></b>
429.mcf	341	26.7	342	26.6	<b><u>342</u></b>	<b><u>26.6</u></b>	334	27.3	<b><u>334</u></b>	<b><u>27.3</u></b>	333	27.4
445.gobmk	801	13.1	<b><u>801</u></b>	<b><u>13.1</u></b>	801	13.1	<b><u>708</u></b>	<b><u>14.8</u></b>	708	14.8	709	14.8
456.hammer	716	13.0	<b><u>716</u></b>	<b><u>13.0</u></b>	715	13.0	521	17.9	<b><u>521</u></b>	<b><u>17.9</u></b>	520	17.9
458.sjeng	856	14.1	<b><u>856</u></b>	<b><u>14.1</u></b>	857	14.1	791	15.3	792	15.3	<b><u>791</u></b>	<b><u>15.3</u></b>
462.libquantum	208	99.7	<b><u>208</u></b>	<b><u>99.5</u></b>	208	99.4	208	99.7	<b><u>208</u></b>	<b><u>99.5</u></b>	208	99.4
464.h264ref	1043	21.2	1044	21.2	<b><u>1043</u></b>	<b><u>21.2</u></b>	<b><u>966</u></b>	<b><u>22.9</u></b>	966	22.9	965	22.9
471.omnetpp	450	13.9	450	13.9	<b><u>450</u></b>	<b><u>13.9</u></b>	<b><u>397</u></b>	<b><u>15.7</u></b>	397	15.7	397	15.7
473.astar	<b><u>711</u></b>	<b><u>9.88</u></b>	709	9.90	716	9.81	616	11.4	620	11.3	<b><u>618</u></b>	<b><u>11.4</u></b>
483.xalancbmk	<b><u>346</u></b>	<b><u>19.9</u></b>	347	19.9	346	19.9	<b><u>346</u></b>	<b><u>19.9</u></b>	347	19.9	346	19.9

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 stacksize to unlimited prior to run

## General Notes

OMP\_NUM\_THREADS set to number of cores  
KMP\_AFFINITY set to granularity=fine,scatter

## 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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -parallel  
-par-runtime-control -opt-prefetch

C++ benchmarks:

-xSSE4.2 -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/11.0/080/bin/intel64/icc

456.hmmer: /opt/intel/Compiler/11.0/080/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/080/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/080/bin/intel64/icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

401.bzip2: -DSPEC\_CPU\_LP64

456.hmmer: -DSPEC\_CPU\_LP64

458.sjeng: -DSPEC\_CPU\_LP64

462.libquantum: -DSPEC\_CPU\_LINUX

473.astar: -DSPEC\_CPU\_LP64

483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -ansi-alias -opt-prefetch

401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -auto-ilp32 -opt-prefetch -ansi-alias

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc  
 -opt-malloc-options=3

429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
 -ipo -no-prec-div -ansi-alias

456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2  
 -ansi-alias -auto-ilp32

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -unroll4 -auto-ilp32

462.libquantum: basepeak = yes

464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
 -prof-use(pass 2) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
 -ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
 -L/spec/cpu2006.1.1/lib -lsmartheap

473.astar: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
 -ansi-alias -opt-ra-region-strategy=routine -auto-ilp32  
 -Wl,-z,muldefs -L/spec/cpu2006.1.1/lib -lsmartheap64

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-ic11.0-int-linux64-revA.20090805.01.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revA.20090805.01.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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