



# SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

Dell Inc.

SPECint®\_rate2006 = 76.4

PowerEdge R300 (Intel Xeon X5460, 3.16 GHz)

SPECint\_rate\_base2006 = 66.5

CPU2006 license: 55

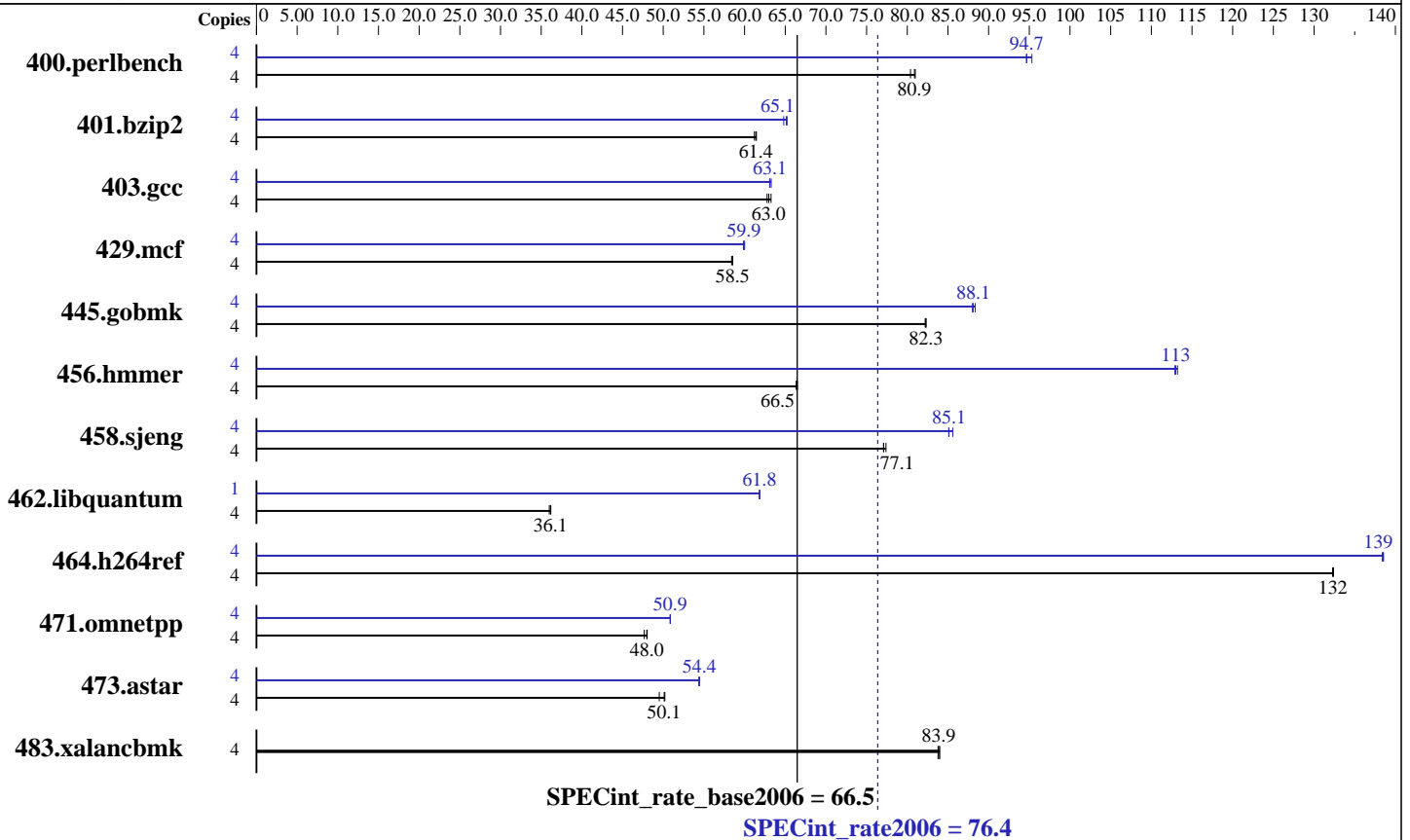
Test date: Feb-2008

Test sponsor: Dell Inc.

Hardware Availability: Mar-2008

Tested by: Dell Inc.

Software Availability: Nov-2007



## Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 1333 MHz system bus  
 CPU MHz: 3166  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1 chip  
 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)  
 Disk Subsystem: 1 x 300 GB SAS 15k RPM  
 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 V8.1 Binutils 2.17.50.0.15



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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	4	483	81.0	<b><u>483</u></b>	<b><u>80.9</u></b>	486	80.4	4	<b><u>413</u></b>	<b><u>94.7</u></b>	410	95.3	413	94.6
401.bzip2	4	631	61.2	<b><u>629</u></b>	<b><u>61.4</u></b>	628	61.5	4	592	65.2	<b><u>593</u></b>	<b><u>65.1</u></b>	596	64.8
403.gcc	4	<b><u>511</u></b>	<b><u>63.0</u></b>	509	63.3	513	62.8	4	510	63.1	<b><u>510</u></b>	<b><u>63.1</u></b>	509	63.3
429.mcf	4	623	58.5	<b><u>623</u></b>	<b><u>58.5</u></b>	625	58.4	4	<b><u>609</u></b>	<b><u>59.9</u></b>	609	59.9	608	60.0
445.gobmk	4	<b><u>510</u></b>	<b><u>82.3</u></b>	510	82.3	510	82.2	4	477	88.0	<b><u>476</u></b>	<b><u>88.1</u></b>	475	88.4
456.hammer	4	<b><u>561</u></b>	<b><u>66.5</u></b>	561	66.5	563	66.3	4	331	113	<b><u>330</u></b>	<b><u>113</u></b>	330	113
458.sjeng	4	<b><u>628</u></b>	<b><u>77.1</u></b>	628	77.1	625	77.4	4	569	85.1	<b><u>569</u></b>	<b><u>85.1</u></b>	565	85.6
462.libquantum	4	2303	36.0	<b><u>2293</u></b>	<b><u>36.1</u></b>	2290	36.2	1	335	61.9	<b><u>335</u></b>	<b><u>61.8</u></b>	335	61.8
464.h264ref	4	669	132	<b><u>669</u></b>	<b><u>132</u></b>	669	132	4	<b><u>639</u></b>	<b><u>139</u></b>	640	138	639	139
471.omnetpp	4	524	47.7	<b><u>521</u></b>	<b><u>48.0</u></b>	521	48.0	4	491	50.9	492	50.9	<b><u>491</u></b>	<b><u>50.9</u></b>
473.astar	4	567	49.5	559	50.2	<b><u>560</u></b>	<b><u>50.1</u></b>	4	516	54.4	<b><u>516</u></b>	<b><u>54.4</u></b>	516	54.5
483.xalancbmk	4	<b><u>329</u></b>	<b><u>83.9</u></b>	329	83.8	329	84.0	4	<b><u>329</u></b>	<b><u>83.9</u></b>	329	83.8	329	84.0

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)  
Hardware Prefetcher = 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/home/cmplr/usr3/alrahate/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: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/include  
456.hmmer: /home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/bin/icc  
-L/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/lib  
-I/home/cmplr/usr3/alrahate/compilers/ic10.1mainline/20070725/Linux64/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

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## Peak Portability Flags (Continued)

483.xalanbmk: -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 -unroll2 -ansi-alias -opt-multi-version-aggressive

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/home/cmplr/usr3/alrahate/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/home/cmplr/usr3/alrahate/cpu2006.1.0/lib -lsmartheap

483.xalanbmk: 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-ia32-intel64-linux-flags.20090713.00.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090713.00.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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