



SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 = 125

PowerEdge R900 (Intel Xeon E7310, 1.60 GHz)

SPECint_rate_base2006 = 114

CPU2006 license: 55

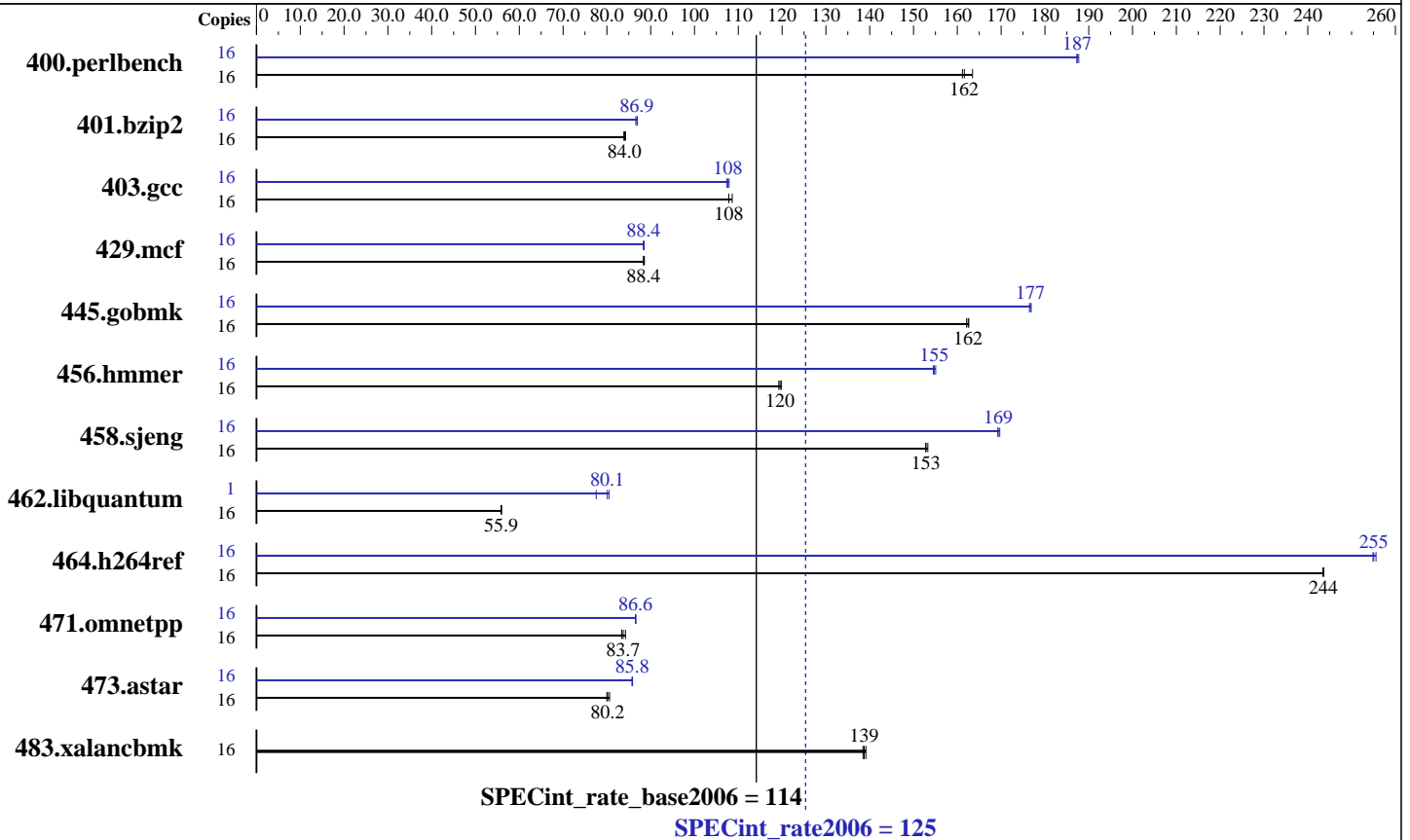
Test date: Oct-2007

Test sponsor: Dell Inc.

Hardware Availability: Nov-2007

Tested by: Dell Inc.

Software Availability: Nov-2007



Hardware

CPU Name: Intel Xeon E7310
 CPU Characteristics: 1066 MHz system bus
 CPU MHz: 1600
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 2,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 4 MB I+D on chip per chip, 2 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (16 x 1GB 667 MHz ECC CL5 FB-DIMM)
 Disk Subsystem: 1 x 73 GB SAS 15K RPM
 Other Hardware: None

Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10 SP1
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070725
 Auto Parallel: Yes
 File System: ReiserFS
 System State: Multi-user, run level 3
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: SmartHeap library V8.1



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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	16	956	163	<u>967</u>	<u>162</u>	970	161	16	835	187	<u>834</u>	<u>187</u>	833	188
401.bzip2	16	1841	83.9	1833	84.3	<u>1837</u>	<u>84.0</u>	16	1783	86.6	<u>1778</u>	<u>86.9</u>	1775	87.0
403.gcc	16	1186	109	<u>1194</u>	<u>108</u>	1194	108	16	1194	108	1200	107	<u>1197</u>	<u>108</u>
429.mcf	16	1648	88.6	<u>1651</u>	<u>88.4</u>	1652	88.3	16	<u>1651</u>	<u>88.4</u>	1652	88.3	1649	88.5
445.gobmk	16	<u>1033</u>	<u>162</u>	1035	162	1032	163	16	951	176	949	177	<u>950</u>	<u>177</u>
456.hammer	16	<u>1249</u>	<u>120</u>	1246	120	1252	119	16	966	155	963	155	<u>965</u>	<u>155</u>
458.sjeng	16	1267	153	1263	153	<u>1267</u>	<u>153</u>	16	<u>1143</u>	<u>169</u>	1144	169	1141	170
462.libquantum	16	5926	55.9	<u>5932</u>	<u>55.9</u>	5934	55.9	1	<u>259</u>	<u>80.1</u>	267	77.6	257	80.5
464.h264ref	16	1454	243	1453	244	<u>1454</u>	<u>244</u>	16	<u>1388</u>	<u>255</u>	1389	255	1385	256
471.omnetpp	16	1199	83.4	<u>1195</u>	<u>83.7</u>	1187	84.2	16	<u>1155</u>	<u>86.6</u>	1155	86.6	1155	86.6
473.astar	16	<u>1401</u>	<u>80.2</u>	1393	80.6	1404	80.0	16	1310	85.7	<u>1309</u>	<u>85.8</u>	1308	85.9
483.xalancbmk	16	794	139	<u>796</u>	<u>139</u>	797	138	16	794	139	<u>796</u>	<u>139</u>	797	138

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.20090714.02.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.20090714.02.xml>

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For other inquiries, please contact webmaster@spec.org.

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