



SPEC® CINT2006 Result

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Lenovo Group Limited

(Test Sponsor: Intel Corporation)

Lenovo R630 G7 (Intel Xeon processor X7350, 2.93 GHz)

SPECint®_rate2006 = 214

SPECint_rate_base2006 = 178

CPU2006 license: 13

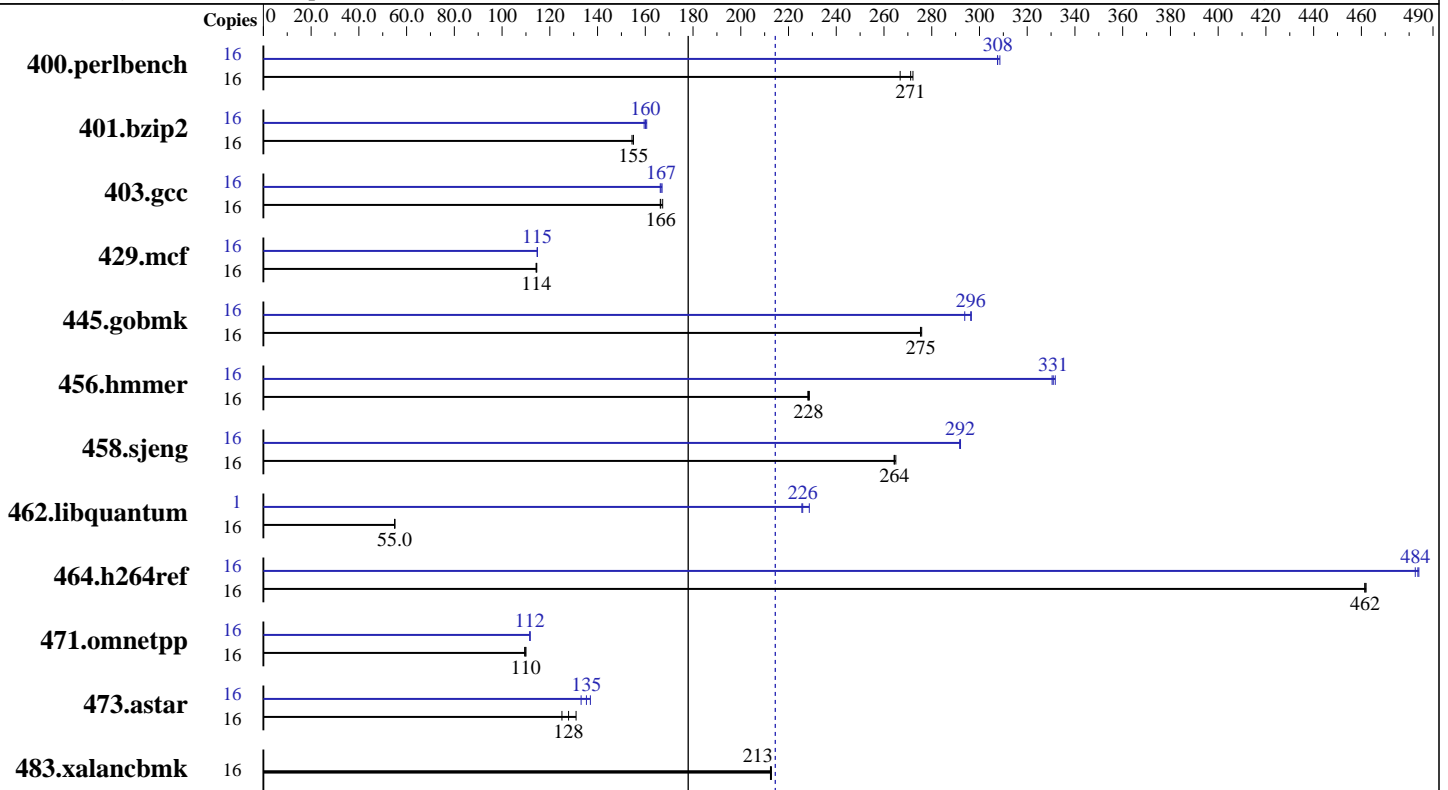
Test sponsor: Intel Corporation

Tested by: Intel Corporation

Test date: Aug-2007

Hardware Availability: Oct-2007

Software Availability: Nov-2007



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Hardware

CPU Name: Intel Xeon X7350
 CPU Characteristics: Quad Core, 2.93 GHz
 CPU MHz: 2933
 FPU: Integrated
 CPU(s) enabled: 16 cores, 4 chips, 4 cores/chip
 CPU(s) orderable: 1,2,4 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 8 MB I+D on chip per chip, 4 MB shared / 2 cores
 L3 Cache: None
 Other Cache: None
 Memory: 16 GB (16 * 1GB Samsung DDR2 5300F, 2 rank, CL5-5-5, ECC)
 Disk Subsystem: Seagate, SAS, 73GB, 10Krpm, 1 disk only
 Other Hardware: None

Software

Operating System: 64-Bit SUSE LINUX Enterprise Server 10 SP1, Kernel linux-cbmg 2.6.16.43-0.5-smp for x86_64
 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 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	16	586	267	<u>576</u>	<u>271</u>	574	272	16	507	309	<u>508</u>	<u>308</u>	508	308
401.bzip2	16	996	155	<u>996</u>	<u>155</u>	1000	154	16	968	160	<u>965</u>	<u>160</u>	961	161
403.gcc	16	770	167	<u>774</u>	<u>166</u>	775	166	16	<u>773</u>	<u>167</u>	775	166	771	167
429.mcf	16	<u>1276</u>	<u>114</u>	1277	114	1274	115	16	<u>1271</u>	<u>115</u>	1271	115	1271	115
445.gobmk	16	609	276	610	275	<u>609</u>	<u>275</u>	16	571	294	<u>566</u>	<u>296</u>	566	297
456.hmmer	16	653	229	<u>654</u>	<u>228</u>	654	228	16	452	330	450	332	<u>451</u>	<u>331</u>
458.sjeng	16	733	264	731	265	<u>732</u>	<u>264</u>	16	664	292	<u>663</u>	<u>292</u>	663	292
462.libquantum	16	6023	55.0	<u>6024</u>	<u>55.0</u>	6025	55.0	1	90.6	229	<u>91.7</u>	<u>226</u>	91.8	226
464.h264ref	16	<u>767</u>	<u>462</u>	767	461	766	462	16	731	484	<u>732</u>	<u>484</u>	734	483
471.omnetpp	16	910	110	914	109	<u>910</u>	<u>110</u>	16	<u>895</u>	<u>112</u>	896	112	895	112
473.astar	16	857	131	<u>878</u>	<u>128</u>	898	125	16	<u>830</u>	<u>135</u>	844	133	820	137
483.xalancbmk	16	520	212	519	213	<u>519</u>	<u>213</u>	16	520	212	519	213	<u>519</u>	<u>213</u>

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

General Notes

Bios settings:

Hardware Prefetcher: Disabled

Adjacent Sector Prefetch: Disabled

High Bandwidth Option: Disabled

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer, for peak, are compiled in 64-bit mode

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:

-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
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

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.xalancbmk: basepeak = yes

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.20090714.46.html>



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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.20090714.46.xml>

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Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 13:09:44 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 September 2007.