



SPEC® CINT2006 Result

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NEC Corporation

SPECint®_rate2006 = 1640

Express5800/A1080a-E (Intel Xeon E7-8850)

SPECint_rate_base2006 = 1540

CPU2006 license: 9006

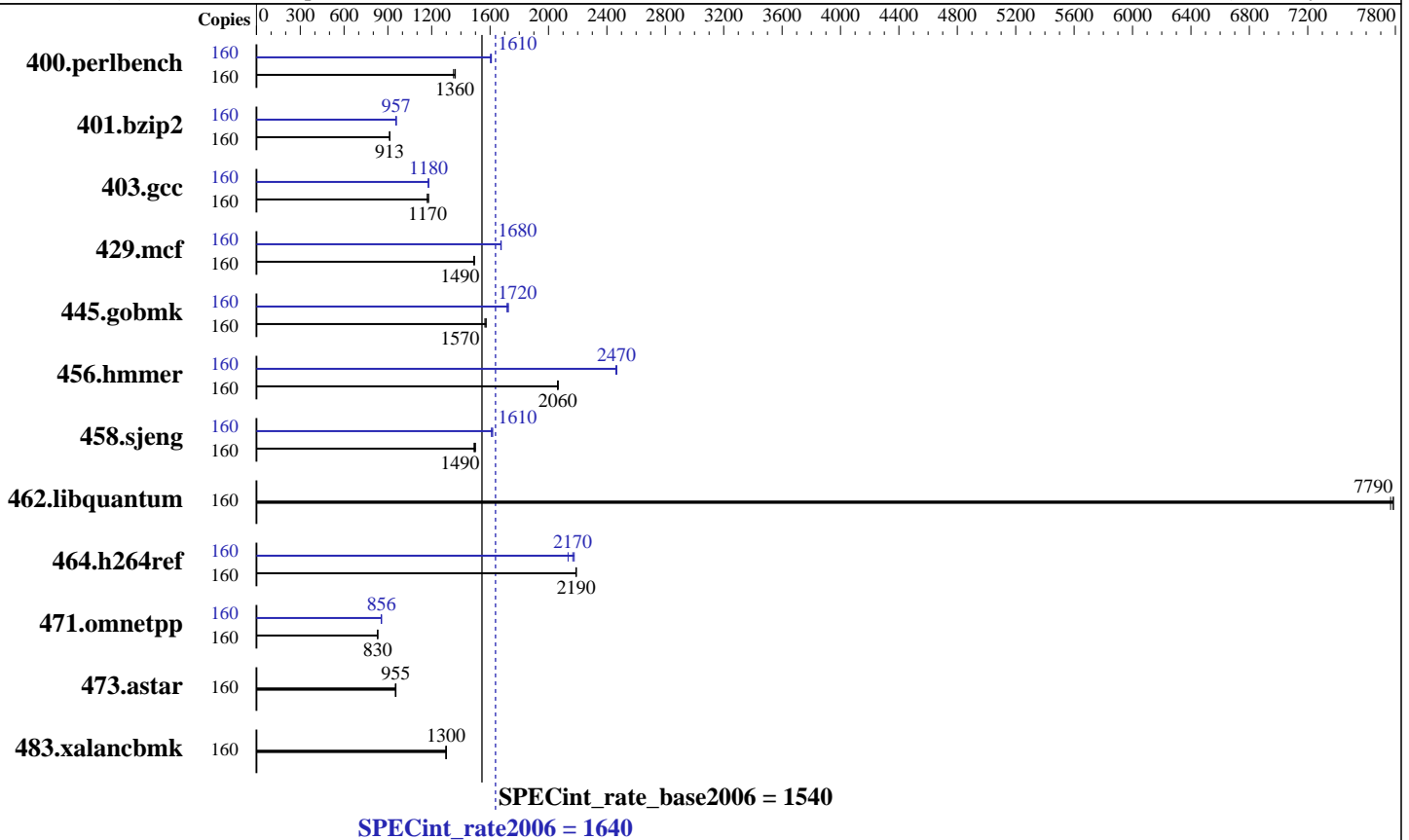
Test date: Aug-2011

Test sponsor: NEC Corporation

Hardware Availability: Nov-2011

Tested by: NEC Corporation

Software Availability: May-2011



Hardware

CPU Name: Intel Xeon E7-8850
 CPU Characteristics: Intel Turbo Boost Technology up to 2.40 GHz
 CPU MHz: 2000
 FPU: Integrated
 CPU(s) enabled: 80 cores, 8 chips, 10 cores/chip, 2 threads/core
 CPU(s) orderable: 8 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: 24 MB I+D on chip per chip
 Other Cache: None
 Memory: 512 GB (128 x 4 GB 2Rx4 PC3-8500R-7, ECC)
 Disk Subsystem: 2x300 GB SAS, 10000 RPM, RAID 0
 Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.1, Kernel 2.6.32-131.0.15.el6.x86_64 on an x86_64
 Compiler: C/C++: Version 12.0.4.191 of Intel 64 Compiler XE for applications on IA-32 Build 20110427
 Auto Parallel: No
 File System: ext4
 System State: Run level 3 (multi-user)
 Base Pointers: 32-bit
 Peak Pointers: 32/64-bit
 Other Software: Microquill SmartHeap V9.01



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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	160	1158	1350	1148	1360	<u>1150</u>	<u>1360</u>	160	<u>973</u>	<u>1610</u>	971	1610	975	1600
401.bzip2	160	1694	911	<u>1691</u>	<u>913</u>	1691	913	160	1616	956	1613	957	<u>1614</u>	<u>957</u>
403.gcc	160	1100	1170	<u>1099</u>	<u>1170</u>	1092	1180	160	<u>1093</u>	<u>1180</u>	1093	1180	1094	1180
429.mcf	160	<u>979</u>	<u>1490</u>	980	1490	977	1490	160	872	1670	871	1680	<u>871</u>	<u>1680</u>
445.gobmk	160	1067	1570	1073	1560	<u>1068</u>	<u>1570</u>	160	978	1720	<u>976</u>	<u>1720</u>	973	1730
456.hammer	160	<u>724</u>	<u>2060</u>	724	2060	722	2070	160	<u>605</u>	<u>2470</u>	606	2460	605	2470
458.sjeng	160	1291	1500	1299	1490	<u>1295</u>	<u>1490</u>	160	1202	1610	<u>1202</u>	<u>1610</u>	1197	1620
462.libquantum	160	427	7770	<u>426</u>	<u>7790</u>	426	7790	160	427	7770	<u>426</u>	<u>7790</u>	426	7790
464.h264ref	160	1616	2190	<u>1617</u>	<u>2190</u>	1618	2190	160	1627	2180	1659	2130	<u>1634</u>	<u>2170</u>
471.omnetpp	160	1206	829	1203	831	<u>1205</u>	<u>830</u>	160	<u>1169</u>	<u>856</u>	1169	855	1168	856
473.astar	160	1176	955	<u>1176</u>	<u>955</u>	1181	951	160	1176	955	<u>1176</u>	<u>955</u>	1181	951
483.xalancbmk	160	851	1300	<u>850</u>	<u>1300</u>	849	1300	160	851	1300	<u>850</u>	<u>1300</u>	849	1300

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

Submit Notes

The config file option 'submit' was used.
numactl was used to bind copies to the cores

Operating System Notes

'ulimit -s unlimited' was used to set the stack size to unlimited prior to run
echo 1 > /proc/sys/vm/zone_reclaim_mode
Huge pages were not configured for this run

Platform Notes

ACPI Type set to Type 3 in BIOS
Patrol Scrubbing set to disabled in Maintenance Console

General Notes

Binaries were compiled on RHEL 5.6

Base Compiler Invocation

C benchmarks:
icc -m32

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc -m32

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/SmartHeap_9/lib -lsmartheap
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

Base Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
icc -m32

401.bzip2: icc -m64

456.hmmer: icc -m64

458.sjeng: icc -m64

C++ benchmarks:
icpc -m32



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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
 483.xalancbmk: -DSPEC_CPU_LINUX

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

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) -opt-prefetch -ansi-alias -auto-ilp32

403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

429.mcf: -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 -auto-ilp32

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 -unroll2 -auto-ilp32
 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
 -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
 -unroll4 -auto-ilp32
 -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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) -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/opt/SmartHeap_9/lib -lsmartheap

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

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-ic12.0-linux64-revB.20110705.html>

<http://www.spec.org/cpu2006/flags/NEC-platform-linux64-revF.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110705.xml>

<http://www.spec.org/cpu2006/flags/NEC-platform-linux64-revF.xml>

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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