



SPEC® CINT2006 Result

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NEC Corporation

Express5800/B140a-T
(Intel Xeon E7310)

SPECint_rate2006 = 137

SPECint_rate_base2006 = 131

CPU2006 license: 9006

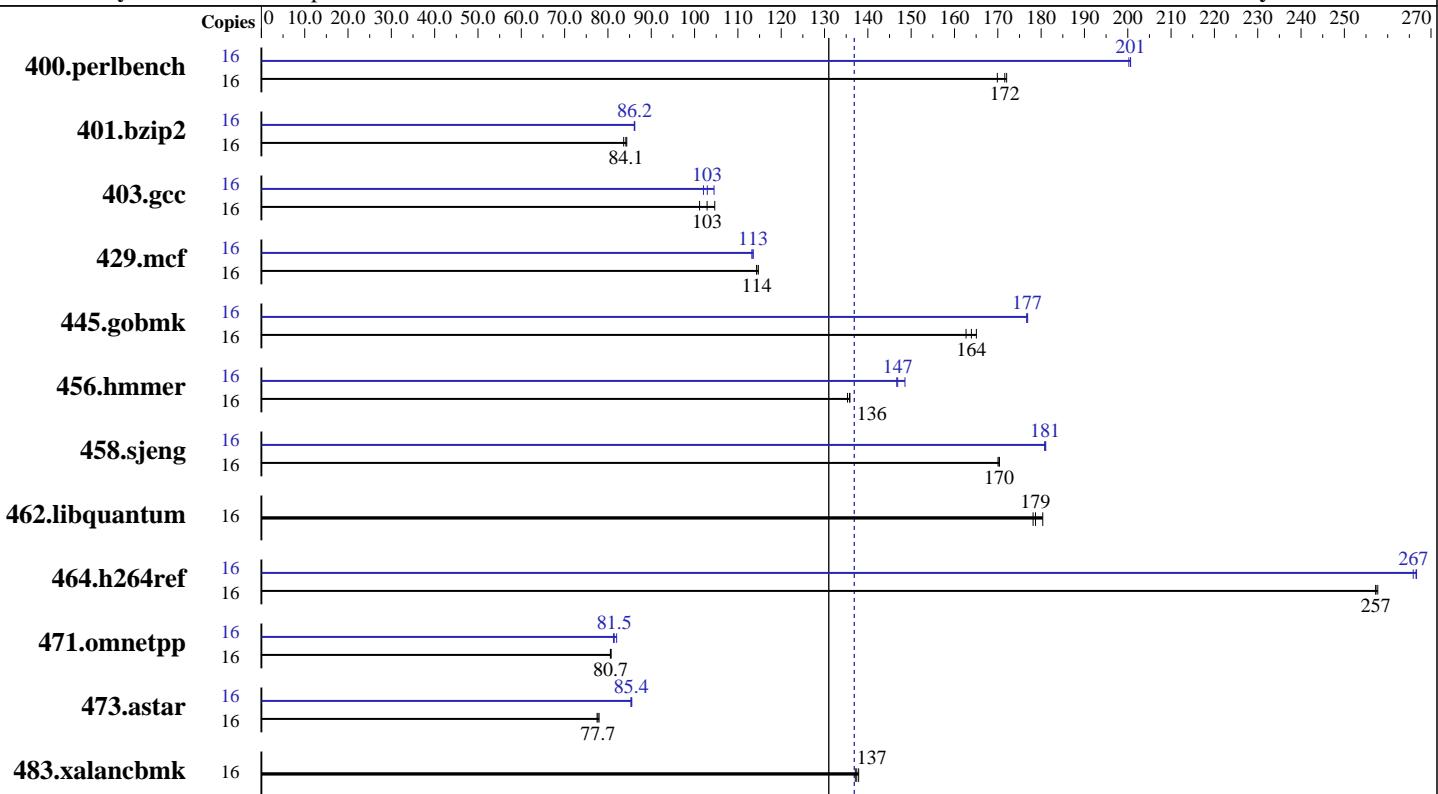
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Feb-2009

Hardware Availability: Feb-2009

Software Availability: Nov-2008



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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: 1,2,3,4 chips
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 4 MB L1+D on chip per chip, 2 MB shared / 2 cores
L3 Cache: None
Other Cache: None
Memory: 32 GB (16x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem: 1x146.5 GB SAS, 10000 RPM
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 11.0 for Linux Build 20081105 Package ID: l_cproc_p_11.0.074
Auto Parallel: No
File System: ReiserFS
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502



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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	911	172	920	170	909	172	16	779	201	779	201	781	200
401.bzip2	16	1846	83.6	1835	84.1	1831	84.3	16	1791	86.2	1792	86.2	1794	86.1
403.gcc	16	1231	105	1252	103	1273	101	16	1251	103	1262	102	1233	104
429.mcf	16	1272	115	1276	114	1276	114	16	1286	114	1289	113	1286	113
445.gobmk	16	1024	164	1032	163	1017	165	16	950	177	949	177	950	177
456.hmmer	16	1100	136	1099	136	1103	135	16	1018	147	1016	147	1005	149
458.sjeng	16	1139	170	1137	170	1136	170	16	1069	181	1071	181	1070	181
462.libquantum	16	1838	180	1855	179	1861	178	16	1838	180	1855	179	1861	178
464.h264ref	16	1374	258	1376	257	1376	257	16	1328	267	1332	266	1328	267
471.omnetpp	16	1239	80.7	1240	80.7	1241	80.6	16	1219	82.0	1228	81.5	1230	81.3
473.astar	16	1441	78.0	1449	77.5	1446	77.7	16	1317	85.3	1315	85.4	1314	85.5
483.xalancbmk	16	801	138	803	137	805	137	16	801	138	803	137	805	137

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.
taskset was used to bind processes to cores

Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run

Platform Notes

Bios settings:
Hardware Prefetcher: Disabled
Adjacent Cache Line Prefetch: Disabled
FSB High Bandwidth Optimization: Disabled

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:

-xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSSE3 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/opt/SmartHeap_8.1/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/11.0/074/bin/intel64/icc
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

456.hmmr: /opt/intel/Compiler/11.0/074/bin/intel64/icc
-L/opt/intel/Compiler/11.0/074/ipp/em64t/lib
-I/opt/intel/Compiler/11.0/074/ipp/em64t/include

C++ benchmarks:

icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmr: -DSPEC_CPU_LP64

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Peak Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

```
400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
               -no-prec-div -static -ansi-alias -opt-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
               -no-prec-div -static -opt-prefetch -ansi-alias

403.gcc: -xSSSE3 -ipo -O3 -no-prec-div -static -inline-calloc
          -opt-malloc-options=3

429.mcf: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
          -no-prec-div -static -opt-prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -O2 -ipo
            -no-prec-div -ansi-alias

456.hmmr: -xSSSE3 -ipo -O3 -no-prec-div -static -unroll2
            -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
            -no-prec-div -static -unroll4

462.libquantum: basepeak = yes

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
              -no-prec-div -static -unroll2 -ansi-alias
```

C++ benchmarks:

```
471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
              -no-prec-div -ansi-alias -opt-ra-region-strategy=block
              -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xSSSE3 -ipo -O3
            -no-prec-div -ansi-alias -opt-ra-region-strategy=routine
            -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

483.xalancbmk: basepeak = yes
```



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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-ic11.0-int-linux64-revE.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revE.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.xml>

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

Tested with SPEC CPU2006 v1.1.

Report generated on Tue Jul 22 23:30:48 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 31 March 2009.