



SPEC® CINT2006 Result

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NEC Corporation

Express5800/B120a-d
(Intel Xeon L5520)

SPECint_rate2006 = 201

SPECint_rate_base2006 = 187

CPU2006 license: 9006

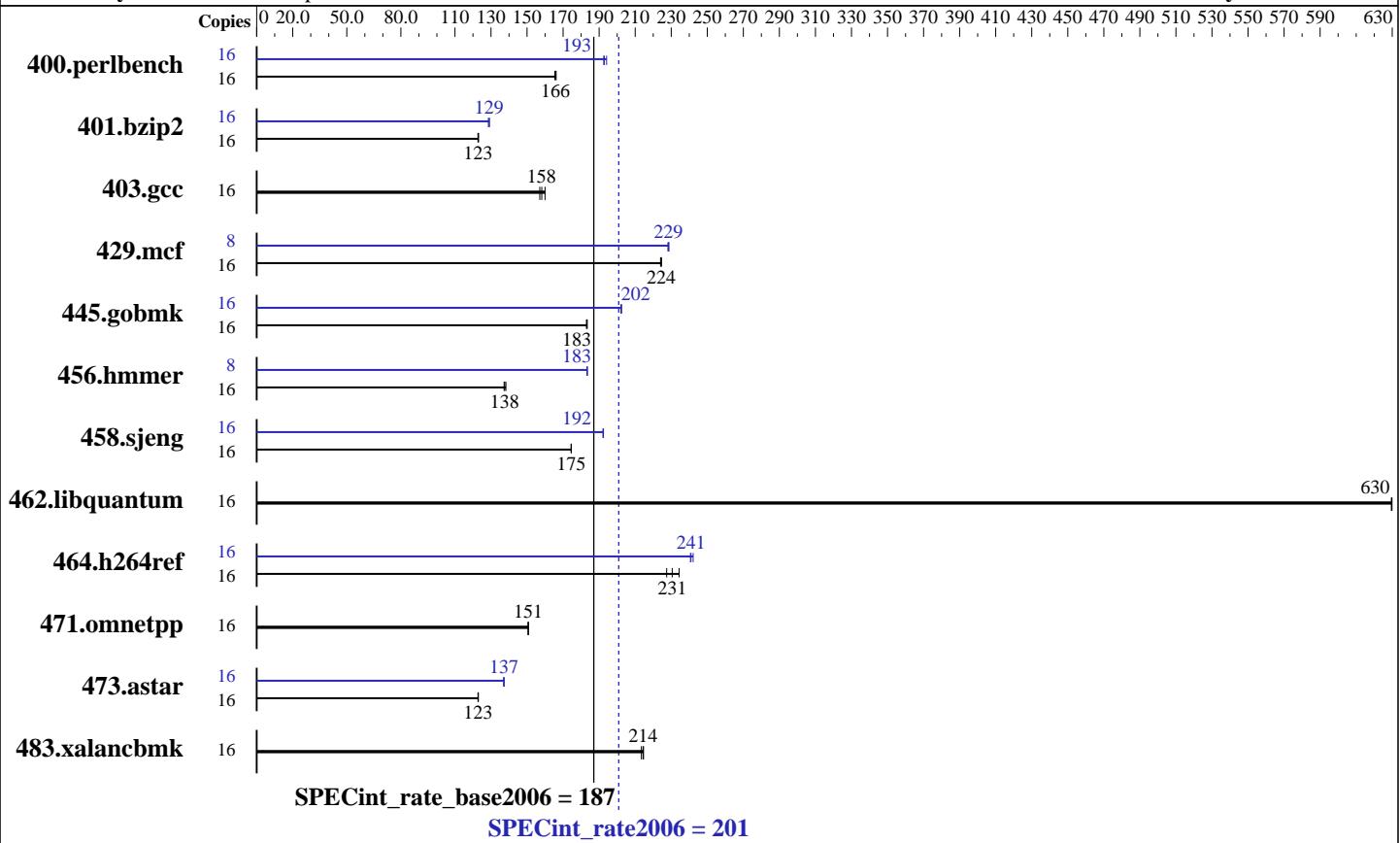
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Aug-2009

Hardware Availability: Jun-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon L5520
CPU Characteristics: Intel Turbo Boost Technology up to 2.53 GHz
CPU MHz: 2267
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core
CPU(s) orderable: 1,2 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: 8 MB I+D on chip per chip
Other Cache: None
Memory: 48 GB (12 X 4 GB PC3-8500R, 2 rank, CL7, ECC)
Disk Subsystem: 1x73.2 GB SAS, 10000 RPM
Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 10 (x86_64)
SP2 with patch Linux kernel 20090119, Kernel 2.6.16.60-0.34-smp
Compiler: Intel C++ Compiler Professional 11.0 for Linux Build 20090131 Package ID: l_cproc_p_11.0.081
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	945	165	941	166	943	166	16	805	194	811	193	812	193
401.bzip2	16	1257	123	1257	123	1254	123	16	1196	129	1197	129	1201	129
403.gcc	16	820	157	814	158	805	160	16	820	157	814	158	805	160
429.mcf	16	650	224	650	225	651	224	8	320	228	319	229	319	229
445.gobmk	16	917	183	915	183	917	183	16	830	202	829	202	830	202
456.hammer	16	1085	138	1080	138	1087	137	8	407	183	407	183	407	183
458.sjeng	16	1109	175	1109	175	1110	174	16	1007	192	1006	192	1007	192
462.libquantum	16	526	630	526	630	527	630	16	526	630	526	630	527	630
464.h264ref	16	1536	231	1511	234	1557	227	16	1469	241	1462	242	1471	241
471.omnetpp	16	664	151	664	151	664	151	16	664	151	664	151	664	151
473.astar	16	914	123	913	123	915	123	16	818	137	819	137	820	137
483.xalancbmk	16	514	215	515	214	517	213	16	514	215	515	214	517	213

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 stacksize to unlimited prior to run

Platform Notes

BIOS setting:
NUMA configuration: 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:

-xSSE4.2 -ipo -O3 -no-prec-div -static -inline-calloc
-opt-malloc-options=3 -opt-prefetch

C++ benchmarks:

-xSSE4.2 -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/11.0/081/bin/intel64/icc

456.hmmr: /opt/intel/Compiler/11.0/081/bin/intel64/icc

458.sjeng: /opt/intel/Compiler/11.0/081/bin/intel64/icc

C++ benchmarks (except as noted below):

icpc

473.astar: /opt/intel/Compiler/11.0/081/bin/intel64/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)

```
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
    473.astar: -DSPEC_CPU_LP64
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 -opt-prefetch

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: basepeak = yes

429.mcf: -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

445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2
    -ipo -no-prec-div -ansi-alias

456.hmmr: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll12
    -ansi-alias -auto-ilp32

458.sjeng: -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) -unroll14 -auto-ilp32

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) -static(pass 2)
    -prof-use(pass 2) -unroll12 -ansi-alias
```

C++ benchmarks:

```
471.omnetpp: basepeak = yes

473.astar: -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=routine -auto-ilp32
    -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib64 -lsmartheap64
```

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Peak Optimization Flags (Continued)

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

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

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

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

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