



SPEC® CINT2006 Result

Copyright 2006-2014 Standard Performance Evaluation Corporation

NEC Corporation

Express5800/R120a-1
(Intel Xeon X5570)

SPECint®_rate2006 = 253

SPECint_rate_base2006 = 236

CPU2006 license: 9006

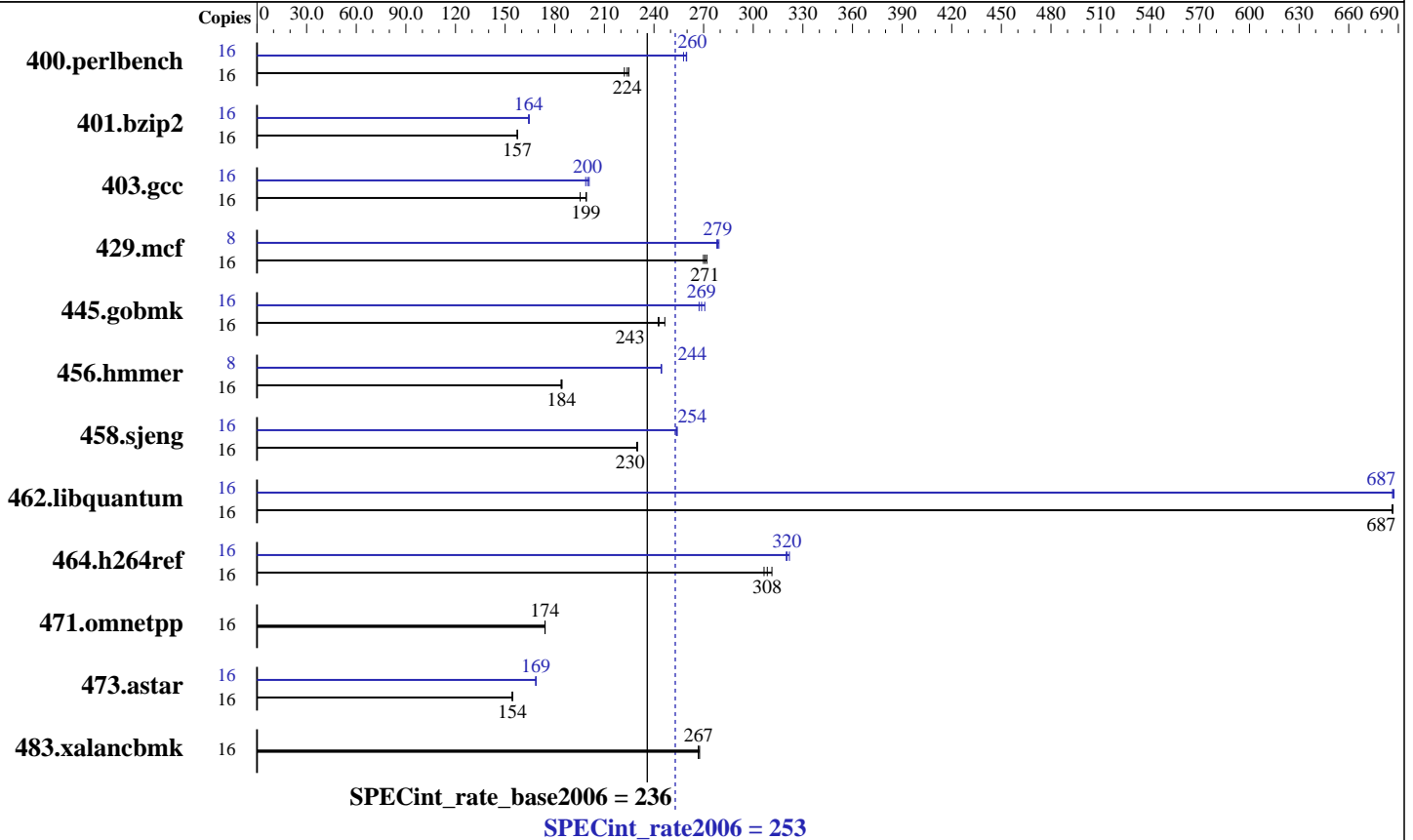
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Apr-2009

Hardware Availability: Apr-2009

Software Availability: Feb-2009



Hardware

CPU Name: Intel Xeon X5570
 CPU Characteristics: Intel Turbo Boost Technology up to 3.33 GHz
 CPU MHz: 2933
 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: 1x146.5 GB SAS, 15000 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 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	698	224	704	222	695	225	16	602	260	606	258	602	260
401.bzip2	16	981	157	981	157	981	157	16	940	164	938	165	940	164
403.gcc	16	647	199	648	199	659	195	16	641	201	644	200	648	199
429.mcf	16	537	272	539	271	541	270	8	261	279	262	278	262	279
445.gobmk	16	691	243	681	247	692	243	16	620	271	624	269	628	267
456.hammer	16	809	184	812	184	811	184	8	305	244	305	244	305	245
458.sjeng	16	843	230	842	230	841	230	16	763	254	764	253	762	254
462.libquantum	16	483	686	483	687	483	687	16	483	687	483	687	482	687
464.h264ref	16	1148	308	1155	307	1137	311	16	1107	320	1105	320	1100	322
471.omnetpp	16	574	174	574	174	575	174	16	574	174	574	174	575	174
473.astar	16	727	155	729	154	727	154	16	666	169	666	169	666	169
483.xalancbmk	16	413	268	414	267	414	267	16	413	268	414	267	414	267

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

General Notes

The NEC Express5800/R120a-1(Intel Xeon X5570),
the NEC Express5800/R120a-2(Intel Xeon X5570),
the Bull NovaScale R440 E2 (Intel Xeon X5570, 2.93 GHz) and
the Bull NovaScale R460 E2 (Intel Xeon X5570, 2.93 GHz) models are electronically equivalent.
The results have been measured on a NEC Express5800/R120a-1(Intel Xeon X5570) model.

Base Compiler Invocation

C benchmarks:
icc

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Base Compiler Invocation (Continued)

C++ benchmarks:
icpc

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-alloc
-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.hmmer: /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



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

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.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll2
 -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) -unroll4 -auto-ilp32

462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static
 -opt-malloc-options=3 -opt-prefetch

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) -unroll2 -ansi-alias

C++ benchmarks:

471.omnetpp: basepeak = yes

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Peak Optimization Flags (Continued)

```
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
```

```
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-revF.html>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.20090710.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-revF.xml>

<http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revE.20090710.xml>

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

Tested with SPEC CPU2006 v1.1.

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