SPEC® CINT2006 Result
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NEC Corporation
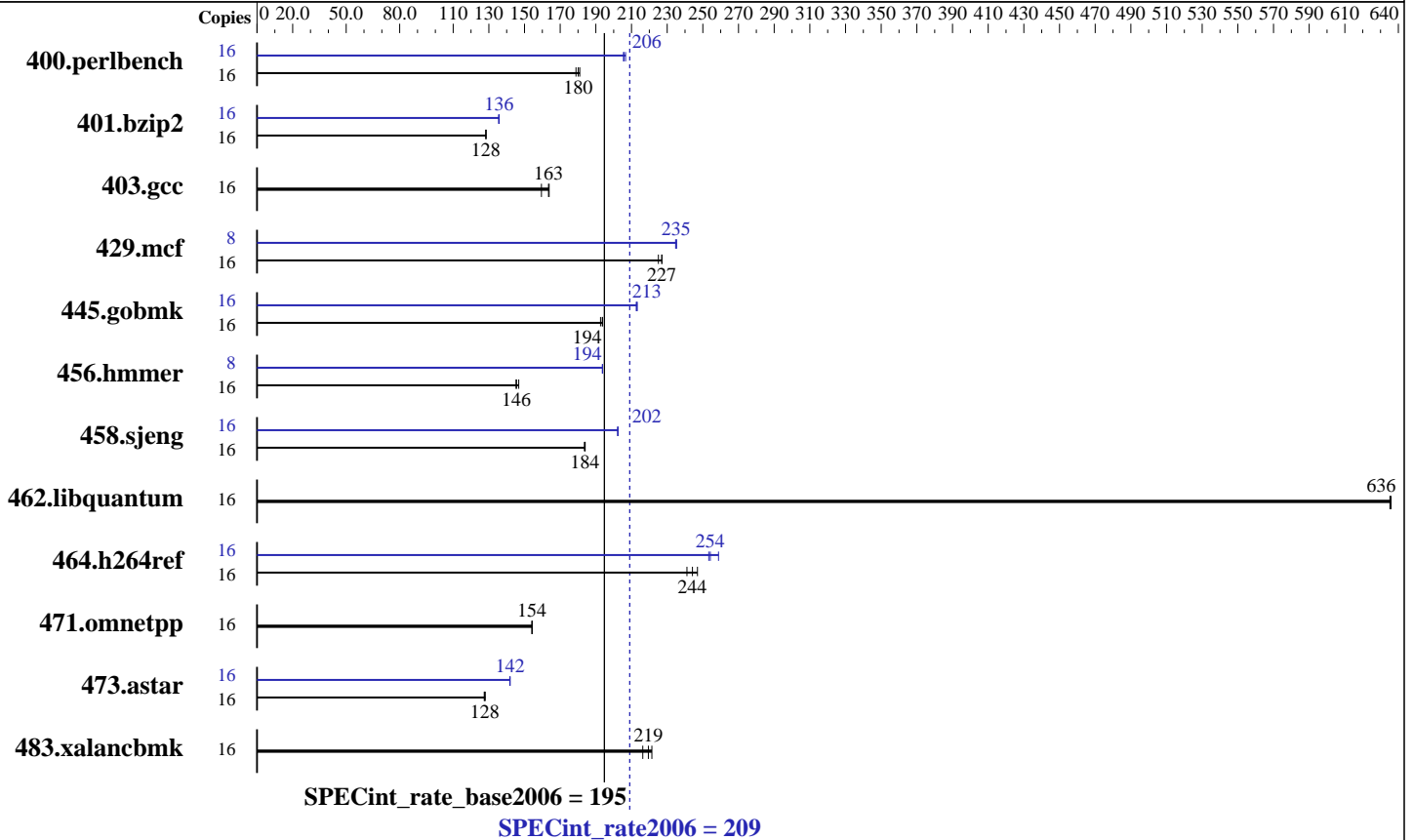
Express5800/R120a-1
(Intel Xeon E5530)

SPECint®_rate2006 = 209

SPECint_rate_base2006 = 195

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Hardware

CPU Name:	Intel Xeon E5530
CPU Characteristics:	Intel Turbo Boost Technology up to 2.66 GHz
CPU MHz:	2400
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 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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CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: May-2009
Hardware Availability: Apr-2009
Software Availability: Feb-2009

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	864	181	**868**	**180**	874	179	16	756	207	**760**	**206**	761	206
401.bzip2	16	1202	128	1203	128	**1203**	**128**	16	1140	135	**1137**	**136**	1137	136
403.gcc	16	**788**	**163**	808	159	786	164	16	**788**	**163**	808	159	786	164
429.mcf	16	**643**	**227**	643	227	648	225	8	311	235	310	235	**310**	**235**
445.gobmk	16	866	194	**867**	**194**	871	193	16	789	213	787	213	**788**	**213**
456.hmmer	16	**1026**	**146**	1017	147	1028	145	8	**385**	**194**	385	194	385	194
458.sjeng	16	1055	184	1052	184	**1052**	**184**	16	957	202	957	202	**957**	**202**
462.libquantum	16	522	635	521	636	**522**	**636**	16	522	635	521	636	**522**	**636**
464.h264ref	16	1434	247	1469	241	**1450**	**244**	16	**1393**	**254**	1368	259	1398	253
471.omnetpp	16	648	154	648	154	**648**	**154**	16	648	154	648	154	**648**	**154**
473.astar	16	**880**	**128**	882	127	878	128	16	792	142	**792**	**142**	792	142
483.xalancbmk	16	510	216	**503**	**219**	499	221	16	510	216	**503**	**219**	499	221

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 E5530),
    the NEC Express5800/R120a-2(Intel Xeon E5530),
    the Bull NovaScale R440 E2 (Intel Xeon E5530, 2.40 GHz) and
    the Bull NovaScale R460 E2 (Intel Xeon E5530, 2.40 GHz) models are electronically equivalent.
    The results have been measured on a NEC Express5800/R120a-1(Intel Xeon E5530) 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-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.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: 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.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: 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) -unroll2 -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
```

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Peak Optimization Flags (Continued)

473.astar (continued):
```
-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.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.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 00:12:20 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 10 June 2009.