SPEC® CINT2006 Result
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NEC Corporation

Express5800/B120b
(Intel Xeon X5670)

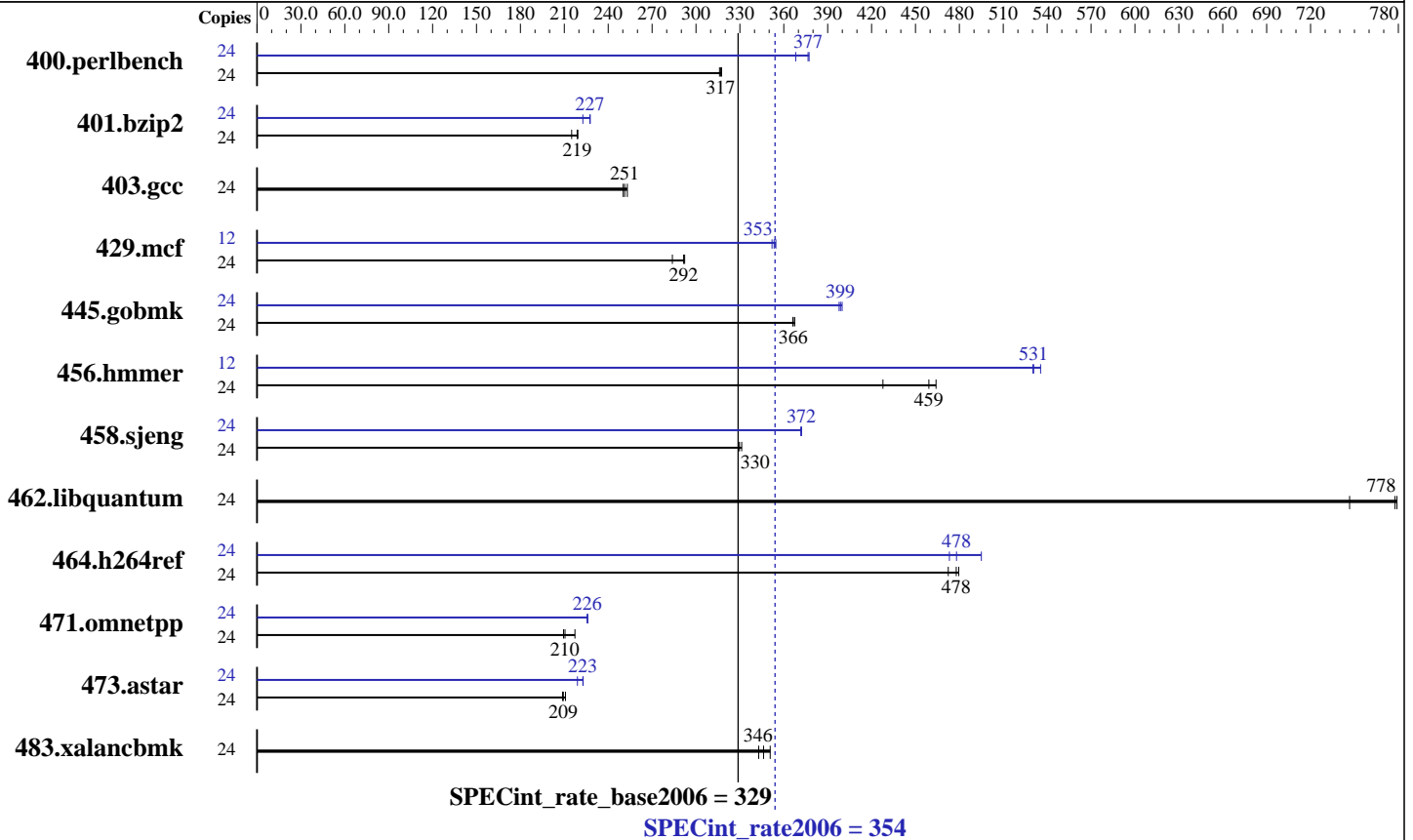$SPECint^®_rate2006 = $ 354

SPECint_rate_base2006 = 329

CPU2006 license: 9006	**Test date:** Jun-2010
Test sponsor: NEC Corporation	**Hardware Availability:** Apr-2010
Tested by: NEC Corporation	**Software Availability:** Dec-2009

SPECint_rate_base2006 = 329

SPECint_rate2006 = 354

Hardware

CPU Name:	Intel Xeon X5670
CPU Characteristics:	Intel Turbo Boost Technology up to 3.33 GHz
CPU MHz:	2933
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	48 GB (6 x 8 GB PC3-10600R, 2 rank, CL9, ECC)
Disk Subsystem:	1x160 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 (x86_64), Kernel 2.6.27.19-5-default
Compiler:	Intel C++ Professional Compiler for IA32 and Intel 64, Version 11.1 Build 20091130 Package ID: l_cproc_p_11.1.064
Auto Parallel:	No
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V8.1

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Results Table

Benchmark	Base Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Peak Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	24	738	318	**740**	**317**	742	316	24	637	368	**623**	**377**	621	377
401.bzip2	24	1077	215	1056	219	**1059**	**219**	24	1040	223	**1018**	**227**	1017	228
403.gcc	24	772	250	**769**	**251**	763	253	24	772	250	**769**	**251**	763	253
429.mcf	24	771	284	749	292	**751**	**292**	12	311	352	**310**	**353**	309	355
445.gobmk	24	687	366	**687**	**366**	685	367	24	630	400	633	398	**631**	**399**
456.hmmer	24	523	428	483	464	**488**	**459**	12	**211**	**531**	209	536	211	530
458.sjeng	24	882	329	**881**	**330**	877	331	24	**781**	**372**	781	372	780	372
462.libquantum	24	666	747	638	779	**639**	**778**	24	666	747	638	779	**639**	**778**
464.h264ref	24	**1111**	**478**	1124	472	1108	480	24	1073	495	1122	473	**1111**	**478**
471.omnetpp	24	**713**	**210**	716	209	690	217	24	**664**	**226**	665	226	664	226
473.astar	24	807	209	**805**	**209**	799	211	24	769	219	756	223	**757**	**223**
483.xalancbmk	24	483	343	**478**	**346**	472	351	24	483	343	**478**	**346**	472	351

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 -m32

C++ benchmarks:
      icpc -m32

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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 -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 -m32

    401.bzip2: icc -m64

    456.hmmer: icc -m64

    458.sjeng: icc -m64

C++ benchmarks (except as noted below):
    icpc -m32

    473.astar: icpc -m64

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64

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Hardware Availability: Apr-2010

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Peak Portability Flags (Continued)

```
  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

     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 -ipo -O3 -no-prec-div -static -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: -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_8.1/lib -lsmartheap

      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 -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 file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100721.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100721.xml

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

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