SPEC® CINT2006 Result
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NEC Corporation

Express5800/R120b-2 (Intel Xeon X5687)

SPECint®_rate2006 = 329
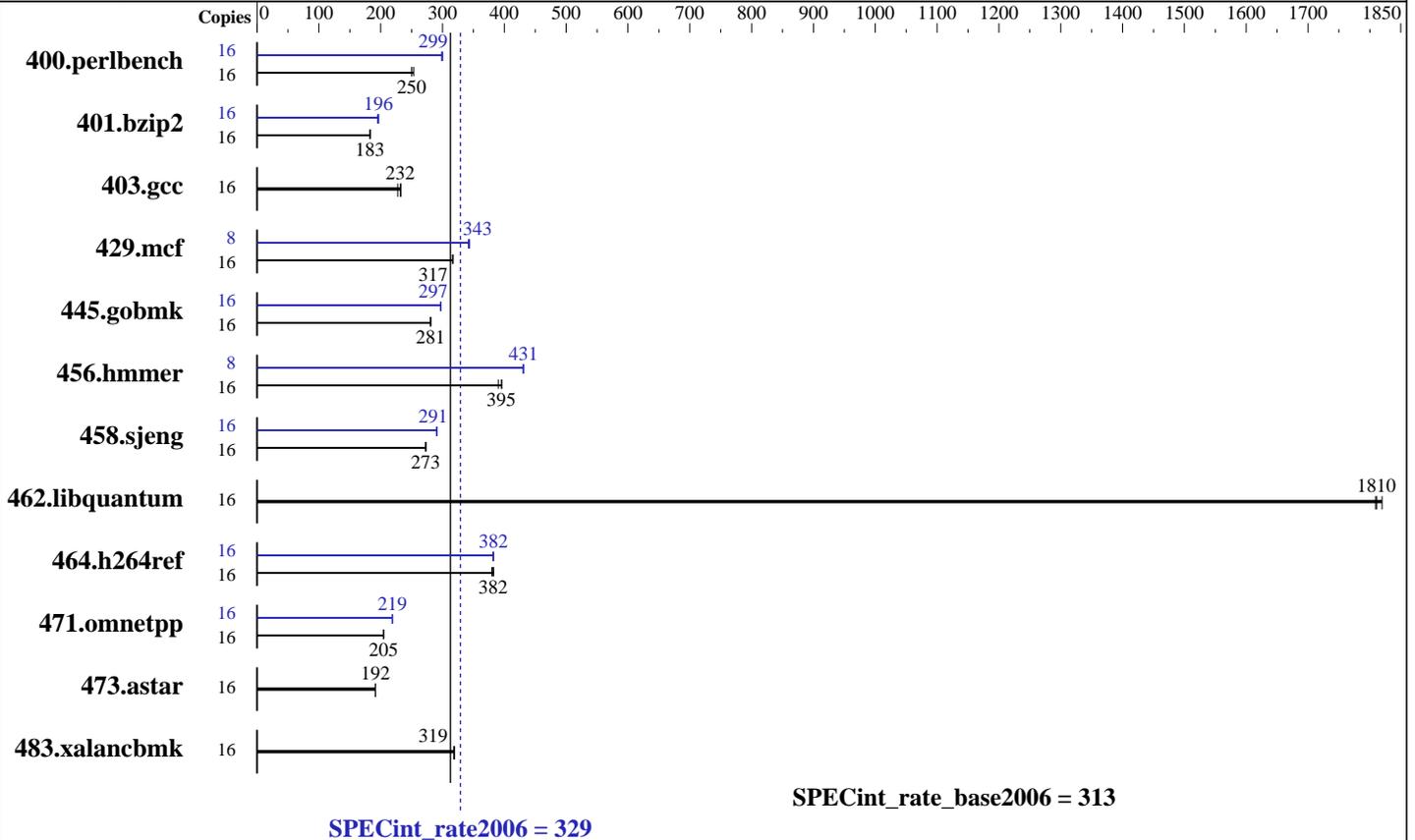
SPECint_rate_base2006 = 313

CPU2006 license: 9006
Test sponsor: NEC Corporation
Tested by: NEC Corporation

Test date: Jun-2011
Hardware Availability: Feb-2011
Software Availability: Mar-2011

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Hardware

CPU Name:	Intel Xeon X5687
CPU Characteristics:	Intel Turbo Boost Technology up to 3.87 GHz
CPU MHz:	3600
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:	12 MB I+D on chip per chip
Other Cache:	None
Memory:	96 GB (12 x 8 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	1 x 500 GB SATA, 7200 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default
Compiler:	C/C++: Version 12.0.3.174 of Intel Compiler XE Build 20110309
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						Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	16	617	254	**625**	**250**	625	250	16	524	299	521	300	**523**	**299**
401.bzip2	16	846	182	844	183	**845**	**183**	16	792	195	**787**	**196**	784	197
403.gcc	16	553	233	**556**	**232**	566	227	16	553	233	**556**	**232**	566	227
429.mcf	16	**461**	**317**	460	317	462	316	8	212	344	**213**	**343**	213	342
445.gobmk	16	598	281	**598**	**281**	598	281	16	564	298	566	297	**564**	**297**
456.hmmer	16	**378**	**395**	377	396	383	390	8	173	431	**173**	**431**	174	430
458.sjeng	16	**710**	**273**	710	273	709	273	16	665	291	**666**	**291**	666	291
462.libquantum	16	182	1820	**183**	**1810**	183	1810	16	182	1820	**183**	**1810**	183	1810
464.h264ref	16	**928**	**382**	933	380	925	383	16	**926**	**382**	928	382	926	383
471.omnetpp	16	489	205	489	204	**489**	**205**	16	**457**	**219**	457	219	457	219
473.astar	16	587	191	**587**	**192**	586	192	16	587	191	**587**	**192**	586	192
483.xalancbmk	16	346	319	**346**	**319**	346	319	16	346	319	**346**	**319**	346	319

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
 Huge pages were not configured for this run
```

Platform Notes

```
 BIOS Settings:
 Performance/Watt: Traditional
 Server Class: Custom
 Data Reuse Optimization: Disabled
 Memory Voltage: Normal
```

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 -opt-prefetch
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

C++ benchmarks:

```
    -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
    -L/opt/SmartHeap_8.1/lib -lsmartheap
    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

Base Other Flags

C benchmarks:

```
        403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m32
```

```
    400.perlbench: icc -m64
```

```
      401.bzip2: icc -m64
```

```
     456.hmmer: icc -m64
```

```
      458.sjeng: icc -m64
```

C++ benchmarks:
```
    icpc -m32
```

Peak Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
       401.bzip2: -DSPEC_CPU_LP64
```

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Peak Portability Flags (Continued)

456.hmmer: `-DSPEC_CPU_LP64`
458.sjeng: `-DSPEC_CPU_LP64`
462.libquantum: `-DSPEC_CPU_LINUX`
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) -prof-use(pass 2)`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-opt-prefetch -auto-ilp32 -ansi-alias`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

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) -prof-use(pass 2)`
`-ansi-alias -auto-ilp32`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`
`-ansi-alias -auto-ilp32`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`
`-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)`
`-unroll4 -auto-ilp32`
`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

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) -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`

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revF.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revF.xml

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

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