SPEC® CINT2006 Result
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NEC Corporation

Express5800/T110b
(Intel Xeon X3430)

SPECint®_rate2006 =   91.9
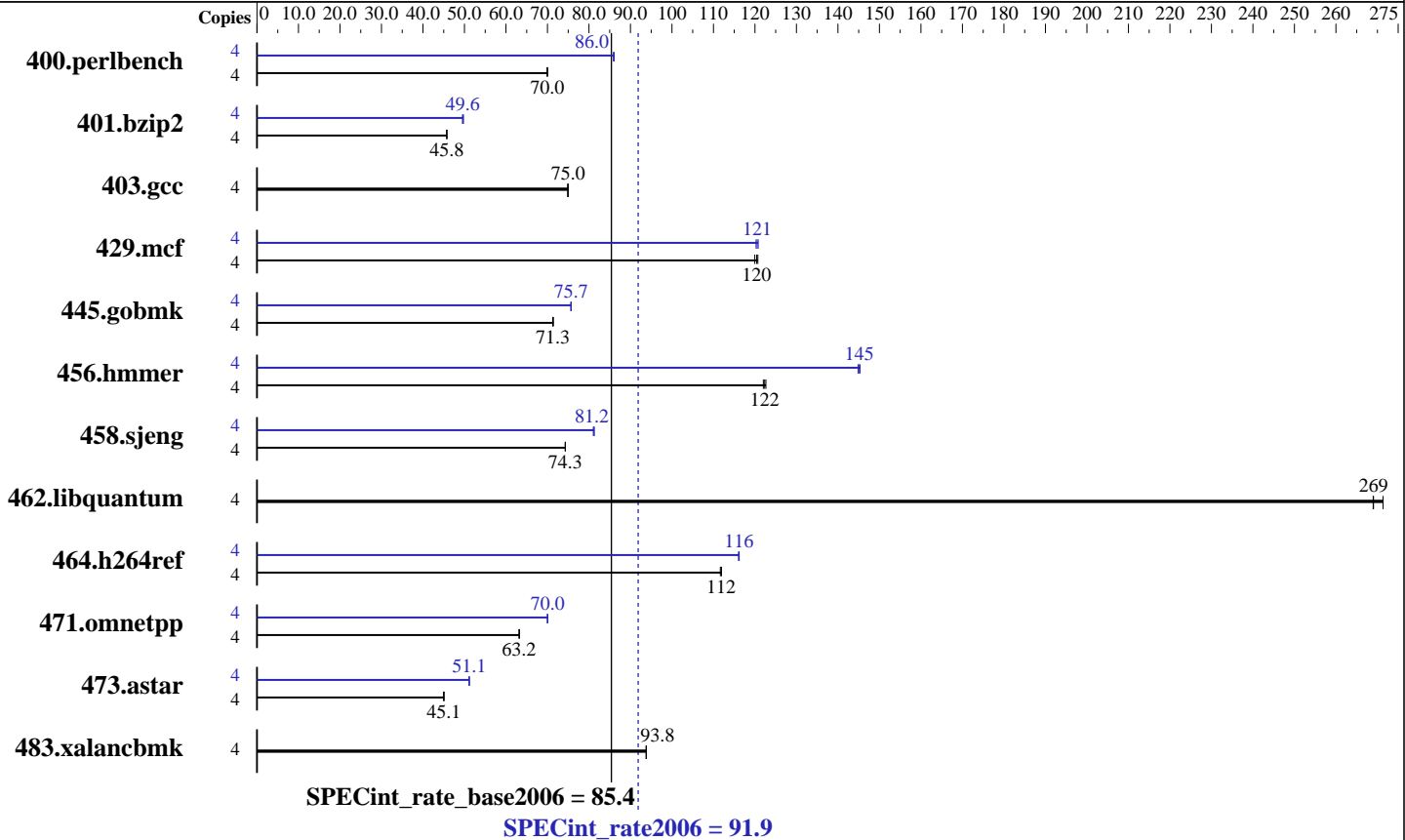
SPECint_rate_base2006 = 85.4

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

Test date: Mar-2010
Hardware Availability: Jan-2010
Software Availability: Nov-2009

		Copies	
400.perlbench	4	86.0	
	4	70.0	
401.bzip2	4	49.6	
	4	45.8	
403.gcc	4	75.0	
429.mcf	4	121	
	4	120	
445.gobmk	4	75.7	
	4	71.3	
456.hmmer	4	145	
	4	122	
458.sjeng	4	81.2	
	4	74.3	
462.libquantum	4	269	
464.h264ref	4	116	
	4	112	
471.omnetpp	4	70.0	
	4	63.2	
473.astar	4	51.1	
	4	45.1	
483.xalancbmk	4	93.8	

SPECint_rate_base2006 = 85.4
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Hardware

CPU Name: Intel Xeon X3430
CPU Characteristics: Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz: 2400
FPU: Integrated
CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip
CPU(s) orderable: 1 chip
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: 16 GB (4 x 4 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 20091012 Package ID: l_cproc_p_11.1.059
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	4	**558**	**70.0**	558	70.0	559	70.0	4	454	86.1	**455**	**86.0**	455	85.9
401.bzip2	4	844	45.7	843	45.8	**844**	**45.8**	4	776	49.8	**778**	**49.6**	779	49.5
403.gcc	4	**430**	**75.0**	429	75.0	430	74.9	4	**430**	**75.0**	429	75.0	430	74.9
429.mcf	4	304	120	**303**	**120**	302	121	4	**303**	**121**	302	121	303	120
445.gobmk	4	**589**	**71.3**	587	71.4	589	71.3	4	554	75.7	**554**	**75.7**	555	75.6
456.hmmer	4	306	122	**305**	**122**	304	123	4	258	145	257	145	**257**	**145**
458.sjeng	4	651	74.3	651	74.3	**651**	**74.3**	4	597	81.0	596	81.3	**596**	**81.2**
462.libquantum	4	**308**	**269**	305	271	308	269	4	**308**	**269**	305	271	308	269
464.h264ref	4	**791**	**112**	793	112	791	112	4	**762**	**116**	763	116	762	116
471.omnetpp	4	**396**	**63.2**	396	63.2	395	63.2	4	357	70.0	357	70.0	**357**	**70.0**
473.astar	4	623	45.1	625	44.9	**623**	**45.1**	4	**549**	**51.1**	549	51.1	549	51.2
483.xalancbmk	4	294	93.8	294	93.8	**294**	**93.8**	4	294	93.8	294	93.8	**294**	**93.8**

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

```
    Default BIOS settings were used.
```

Base Compiler Invocation

```
C benchmarks:
     icc -m32

C++ benchmarks:
     icpc -m32
```

Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LINUX_IA32
```

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Base Portability Flags (Continued)

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`
462.libquantum: `-DSPEC_CPU_LINUX`

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Peak Portability Flags (Continued)

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-int-linux64-revE.20100302.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.1-int-linux64-revE.20100302.xml

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