SPEC® CINT2006 Result

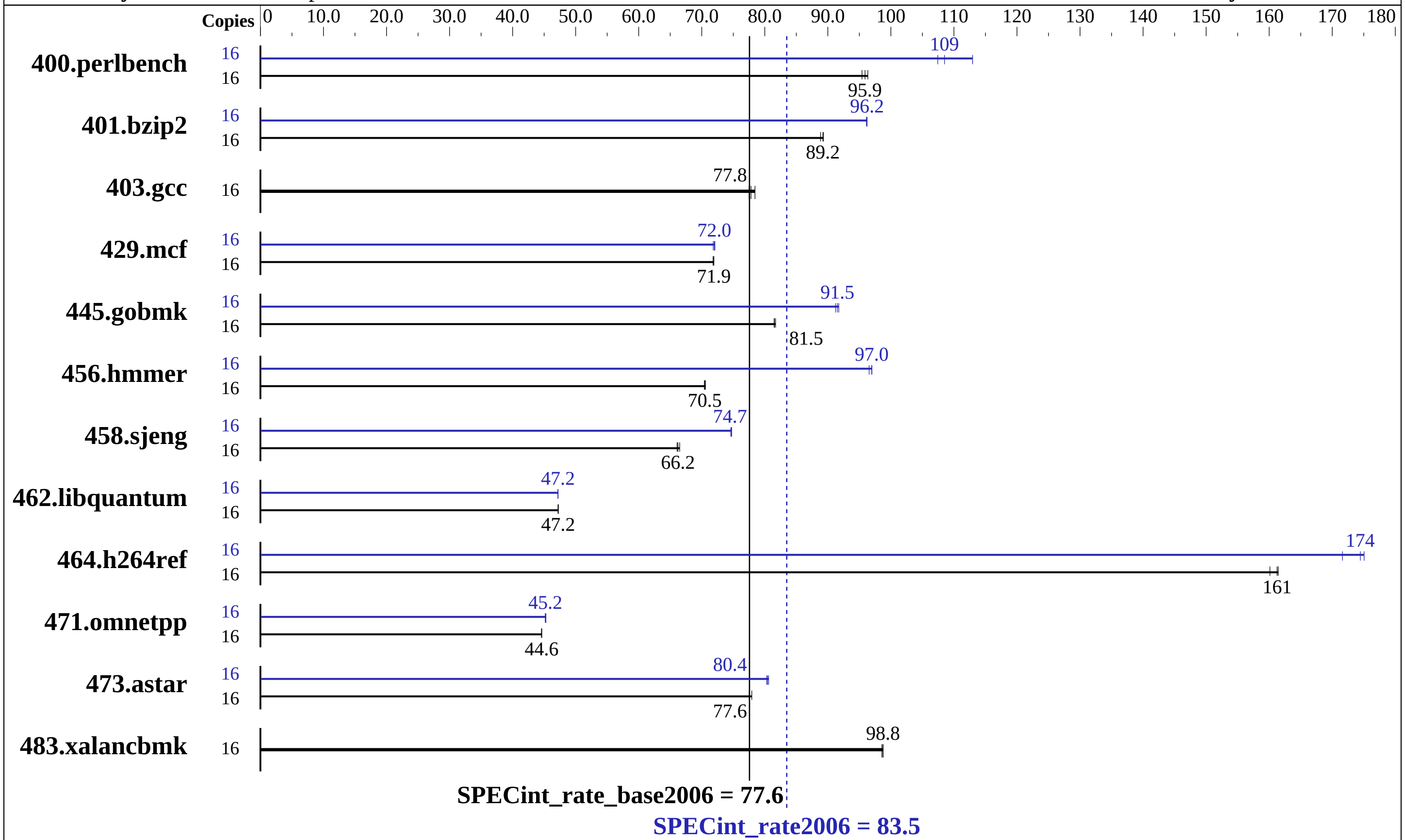
NEC Corporation

Express5800/140Re-4
(Intel Xeon processor 7140M)

SPECint®_rate2006 = 83.5

SPECint_rate_base2006 = 77.6

CPU2006 license: 9006		**Test date:**	Sep-2007
Test sponsor:	NEC Corporation	**Hardware Availability:**	Oct-2006
Tested by:	NEC Corporation	**Software Availability:**	Jun-2007



Hardware

CPU Name:	Intel Xeon 7140M
CPU Characteristics:	3.40 GHz, 800MHz bus
CPU MHz:	3400
FPU:	Integrated
CPU(s) enabled:	8 cores, 4 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1,2,4 chips
Primary Cache:	12 K micro-ops I + 16 KB D on chip per core
Secondary Cache:	1 MB I+D on chip per core
L3 Cache:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (16x2 GB PC2-3200R, 2 rank, CL3-3-3, ECC)
Disk Subsystem:	1x146.5 GB SAS, 15000RPM
Other Hardware:	None

Software

Operating System:	64-Bit SUSE LINUX Enterprise Server 10, Kernel 2.6.16.21-0.8-smp for x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 10.0 - Build 20070426 Package ID: l_cc_p_10.0.023
Auto Parallel:	No
File System:	ext2
System State:	Multiuser, Runlevel 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap library 8.1

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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	1638	95.4	**1630**	**95.9**	1623	96.3	16	**1441**	**109**	1455	107	1384	113
401.bzip2	16	**1731**	**89.2**	1738	88.9	1729	89.3	16	**1605**	**96.2**	1606	96.1	1605	96.2
403.gcc	16	1642	78.4	1662	77.5	**1655**	**77.8**	16	1642	78.4	1662	77.5	**1655**	**77.8**
429.mcf	16	**2029**	**71.9**	2029	71.9	2032	71.8	16	**2027**	**72.0**	2024	72.1	2032	71.8
445.gobmk	16	2054	81.7	2060	81.5	**2059**	**81.5**	16	1840	91.2	**1834**	**91.5**	1830	91.7
456.hmmer	16	2120	70.4	2115	70.6	**2118**	**70.5**	16	1546	96.5	**1540**	**97.0**	1539	97.0
458.sjeng	16	2911	66.5	**2923**	**66.2**	2930	66.1	16	2595	74.6	**2593**	**74.7**	2590	74.7
462.libquantum	16	7016	47.3	**7018**	**47.2**	7024	47.2	16	**7023**	**47.2**	7021	47.2	7024	47.2
464.h264ref	16	2193	161	2211	160	**2196**	**161**	16	2063	172	2023	175	**2030**	**174**
471.omnetpp	16	2241	44.6	2243	44.6	**2241**	**44.6**	16	**2213**	**45.2**	2208	45.3	2213	45.2
473.astar	16	1449	77.5	**1447**	**77.6**	1441	77.9	16	1399	80.3	**1396**	**80.4**	1393	80.6
483.xalancbmk	16	**1118**	**98.8**	1118	98.8	1120	98.6	16	**1118**	**98.8**	1118	98.8	1120	98.6

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'/usr/bin/taskset' used to bind processes to CPUs
```

General Notes

```
All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,
for peak, are compiled in 64-bit mode

 The Express5800/140Hf and the Express5800/140Re-4 models are
 electronically equivalent.
 The results have been measured on a Express5800/140Re-4 model.
```

Base Compiler Invocation

C benchmarks:
    icc -static(*)

C++ benchmarks:
    icpc

(*) Indicates a compiler flag that was found in a non-compiler variable.

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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:
`-xP -ipo -O3 -no-prec-div`

C++ benchmarks:
`-xP -ipo -O3 -no-prec-div -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 -static`(*)

401.bzip2: `/opt/intel/cce/10.0.023/bin/icc`
`-L/opt/intel/cce/10.0.023/lib`
`-I/opt/intel/cce/10.0.023/include`

445.gobmk: `icc`

456.hmmer: `/opt/intel/cce/10.0.023/bin/icc`
`-L/opt/intel/cce/10.0.023/lib`
`-I/opt/intel/cce/10.0.023/include -static`(*)

C++ benchmarks:
`icpc`

(*) Indicates a compiler flag that was found in a non-compiler variable.

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -no-prec-div -ansi-alias -prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -no-prec-div

403.gcc: basepeak = yes

429.mcf: -xP -ipo -O3 -no-prec-div -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xP -O2 -ipo -no-prec_div -ansi-alias

456.hmmer: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -no-prec-div -unroll2 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -no-prec-div -unroll4

462.libquantum: Same as 458.sjeng

464.h264ref: Same as 456.hmmer

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xP -O3 -ipo -no-prec_div -ansi-alias -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: Same as 471.omnetpp

483.xalancbmk: basepeak = yes

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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/NEC-ic10-ia32-intel64-linux-flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-ic10-ia32-intel64-linux-flags.xml

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

Tested with SPEC CPU2006 v1.0.
Report generated on Tue Jul 22 15:11:33 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 7 November 2007.