SPEC® CINT2006 Result

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NEC Corporation

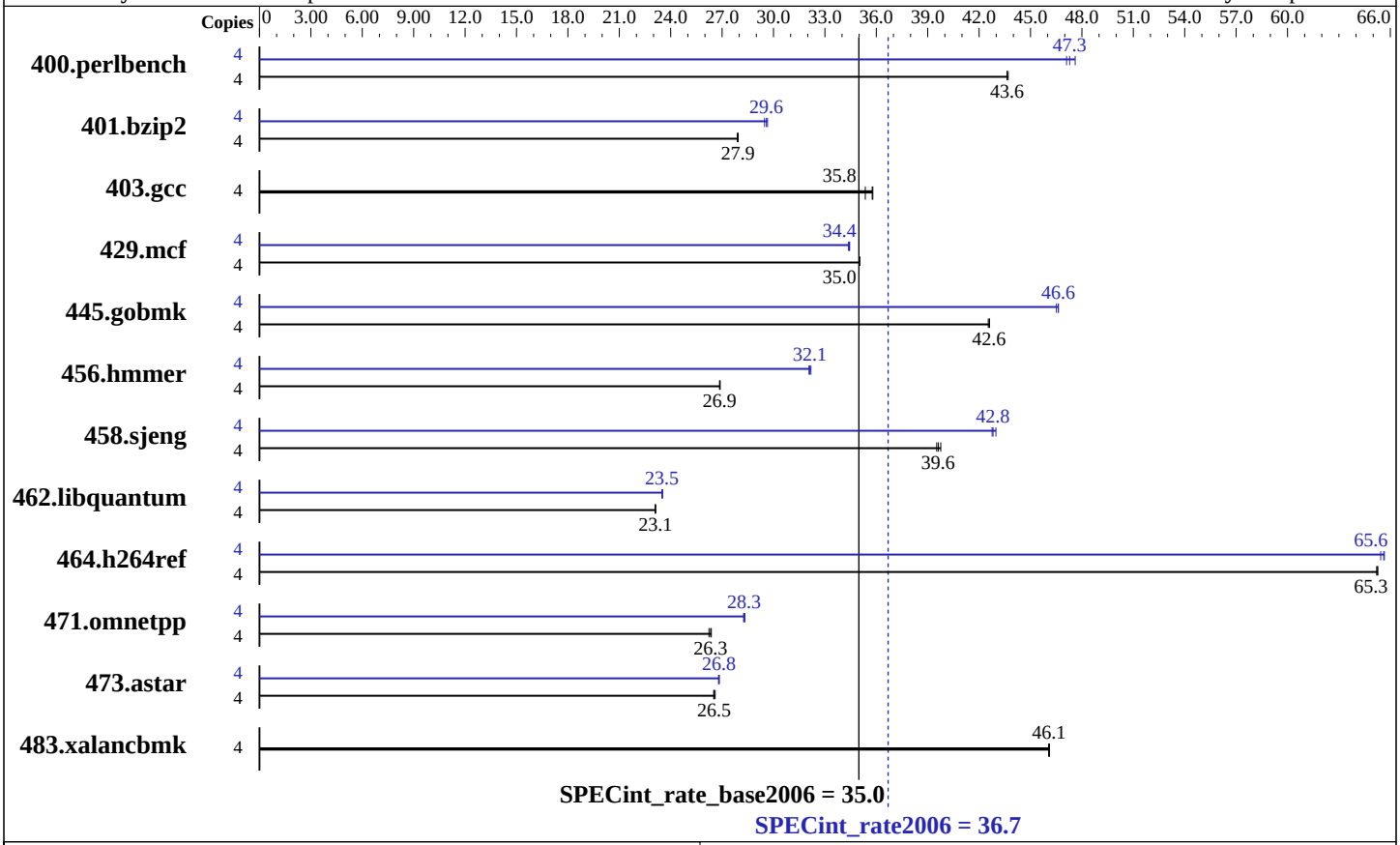
Express5800/120Ri-2
(Intel Xeon processor 5110)

SPECint®_rate2006 = 36.7

SPECint_rate_base2006 = 35.0

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

Test date: May-2007
Hardware Availability: May-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon 5110
CPU Characteristics:	1.60 GHz, 4MB L2, 1066MHz bus
CPU MHz:	1600
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	8 GB (4x2 GB DDR2 5300F, 2 rank, CL5-5-5, 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 on an x86_64
Compiler:	Intel C++ Compiler for IA32/EM64T application, Version 9.1 - Build 20070320, Package-ID: l_cc_c_9.1.049
Auto Parallel:	No
File System:	ReiserFS
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	4	896	43.6	**896**	**43.6**	894	43.7	4	830	47.1	821	47.6	**827**	**47.3**
401.bzip2	4	**1382**	**27.9**	1384	27.9	1381	27.9	4	1302	29.7	**1305**	**29.6**	1310	29.5
403.gcc	4	911	35.4	899	35.8	**900**	**35.8**	4	911	35.4	899	35.8	**900**	**35.8**
429.mcf	4	**1041**	**35.0**	1042	35.0	1041	35.0	4	1059	34.4	**1060**	**34.4**	1061	34.4
445.gobmk	4	987	42.5	985	42.6	**985**	**42.6**	4	900	46.6	902	46.5	**900**	**46.6**
456.hmmer	4	1388	26.9	**1389**	**26.9**	1390	26.9	4	**1162**	**32.1**	1160	32.2	1164	32.1
458.sjeng	4	1217	39.8	1225	39.5	**1222**	**39.6**	4	1132	42.8	**1130**	**42.8**	1126	43.0
462.libquantum	4	3585	23.1	**3586**	**23.1**	3590	23.1	4	**3527**	**23.5**	3522	23.5	3528	23.5
464.h264ref	4	1358	65.2	**1356**	**65.3**	1356	65.3	4	1348	65.7	1353	65.4	**1349**	**65.6**
471.omnetpp	4	953	26.2	948	26.4	**950**	**26.3**	4	882	28.3	885	28.3	**884**	**28.3**
473.astar	4	1059	26.5	**1058**	**26.5**	1056	26.6	4	**1047**	**26.8**	1048	26.8	1046	26.8
483.xalancbmk	4	**599**	**46.1**	599	46.1	599	46.1	4	**599**	**46.1**	599	46.1	599	46.1

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

```
The system bus runs at 1066 MHz
All binaries were built with 32-bit Intel compiler except:
401.bzip2, 456.hmmer and 462.libquantum in peak were built with
64-bit Intel compiler by changing the path for include and library files.

The Express5800/120Rg-1 and the Express5800/120Ri-2 models are
electronically equivalent.
The results have been measured on a Express5800/120Ri-2 model.
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_X64
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-xP -O3 -ipo -no-prec-div -L/opt/SmartHeap_8.1/lib -lsmartheap

Peak Compiler Invocation

C benchmarks (except as noted below):
icc

401.bzip2: /opt/intel/cce/9.1.049/bin/icc
-I/opt/intel/cce/9.1.049/include
-L/opt/intel/cce/9.1.049/lib

456.hmmer: /opt/intel/cce/9.1.049/bin/icc
-I/opt/intel/cce/9.1.049/include
-L/opt/intel/cce/9.1.049/lib

462.libquantum: /opt/intel/cce/9.1.049/bin/icc
-I/opt/intel/cce/9.1.049/include
-L/opt/intel/cce/9.1.049/lib

C++ benchmarks:
icpc

Peak Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
456.hmmer: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Peak Optimization Flags

C benchmarks:

400.perlbench: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`

401.bzip2: `-fast`

403.gcc: `basepeak = yes`

429.mcf: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`
`-L/opt/SmartHeap_8.1/lib -lsmartheap`

445.gobmk: `Same as 429.mcf`

456.hmmer: `Same as 400.perlbench`

458.sjeng: `Same as 429.mcf`

462.libquantum: `Same as 400.perlbench`

464.h264ref: `Same as 429.mcf`

C++ benchmarks:

471.omnetpp: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-xP -O3 -ipo`
`-no-prec-div -L/opt/SmartHeap_8.1/lib -lsmartheap`

473.astar: `-prof_gen`(pass 1) `-prof_use`(pass 2) `-fast`
`-L/opt/SmartHeap_8.1/lib -lsmartheap`

483.xalancbmk: `basepeak = yes`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.20090714.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/NEC-ic91-linux-flags.20090714.xml`

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