SPEC® CINT2006 Result

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NEC Corporation

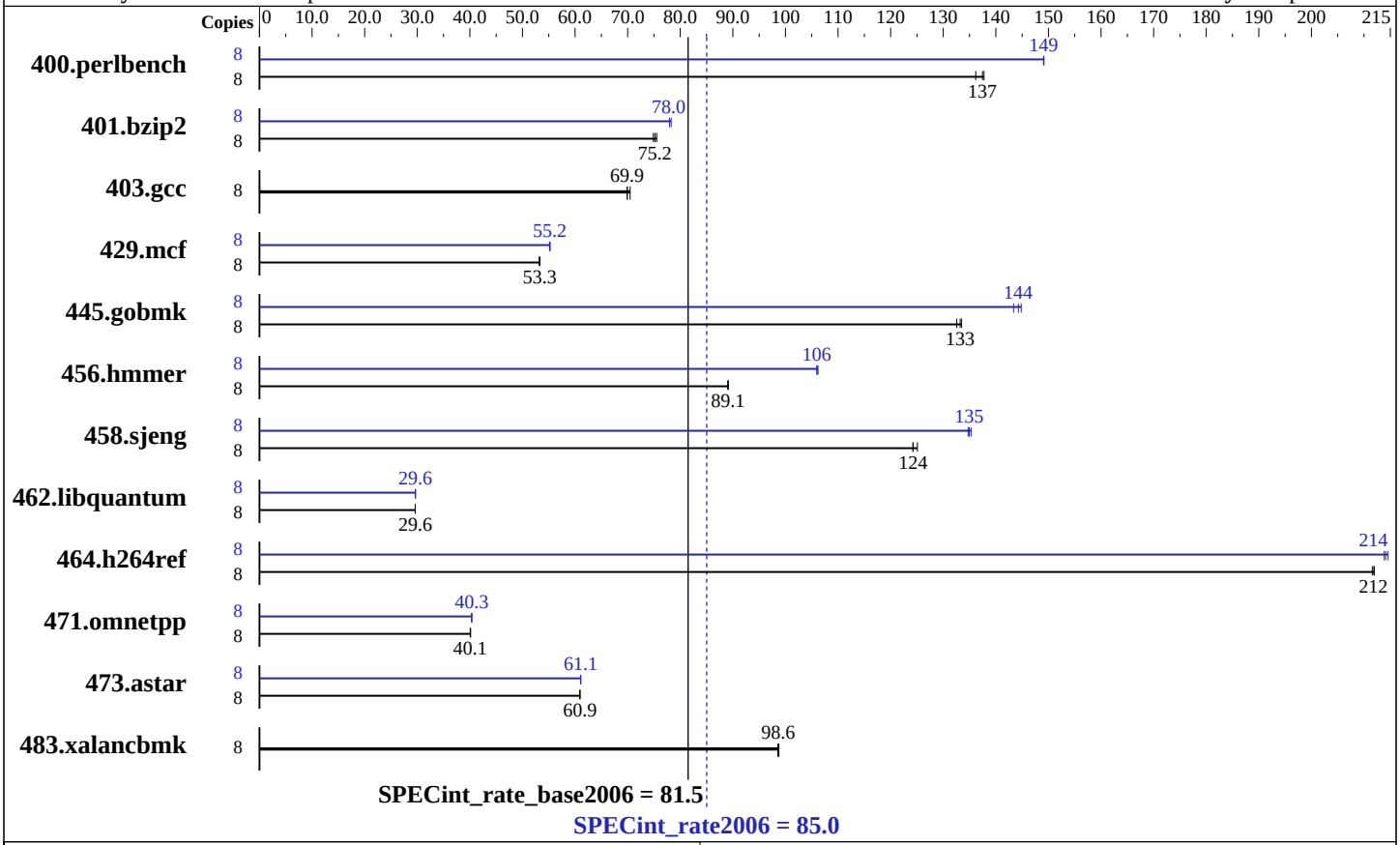
Express5800/120Rg-1
(Intel Xeon processor X5355)

SPECint®_rate2006 = 85.0

SPECint_rate_base2006 = 81.5

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

Test date: Jun-2007
Hardware Availability: Jan-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon X5355
CPU Characteristics:	2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2666
FPU:	Integrated
CPU(s) enabled:	8 cores, 2 chips, 4 cores/chip
CPU(s) orderable:	1,2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	8 MB I+D on chip per chip, 4 MB shared / 2 cores
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8x2 GB DDR2 5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x73.2 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:	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	8	567	138	**569**	**137**	574	136	8	**524**	**149**	524	149	524	149
401.bzip2	8	1022	75.5	1031	74.9	**1027**	**75.2**	8	986	78.3	**990**	**78.0**	990	78.0
403.gcc	8	914	70.5	921	69.9	**921**	**69.9**	8	914	70.5	921	69.9	**921**	**69.9**
429.mcf	8	**1369**	**53.3**	1369	53.3	1372	53.2	8	1320	55.3	**1322**	**55.2**	1323	55.1
445.gobmk	8	633	133	**630**	**133**	629	133	8	579	145	585	143	**582**	**144**
456.hmmer	8	**838**	**89.1**	837	89.1	838	89.1	8	**704**	**106**	704	106	703	106
458.sjeng	8	**779**	**124**	774	125	779	124	8	718	135	**717**	**135**	716	135
462.libquantum	8	5598	29.6	**5596**	**29.6**	5596	29.6	8	**5591**	**29.6**	5592	29.6	5590	29.7
464.h264ref	8	**836**	**212**	835	212	837	212	8	825	215	828	214	**827**	**214**
471.omnetpp	8	**1247**	**40.1**	1248	40.1	1245	40.1	8	1239	40.3	**1239**	**40.3**	1239	40.4
473.astar	8	**922**	**60.9**	923	60.9	922	60.9	8	920	61.1	**920**	**61.1**	920	61.1
483.xalancbmk	8	**560**	**98.6**	560	98.6	559	98.8	8	**560**	**98.6**	560	98.6	559	98.8

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 1333 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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