SPEC® CINT2006 Result

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NEC Corporation

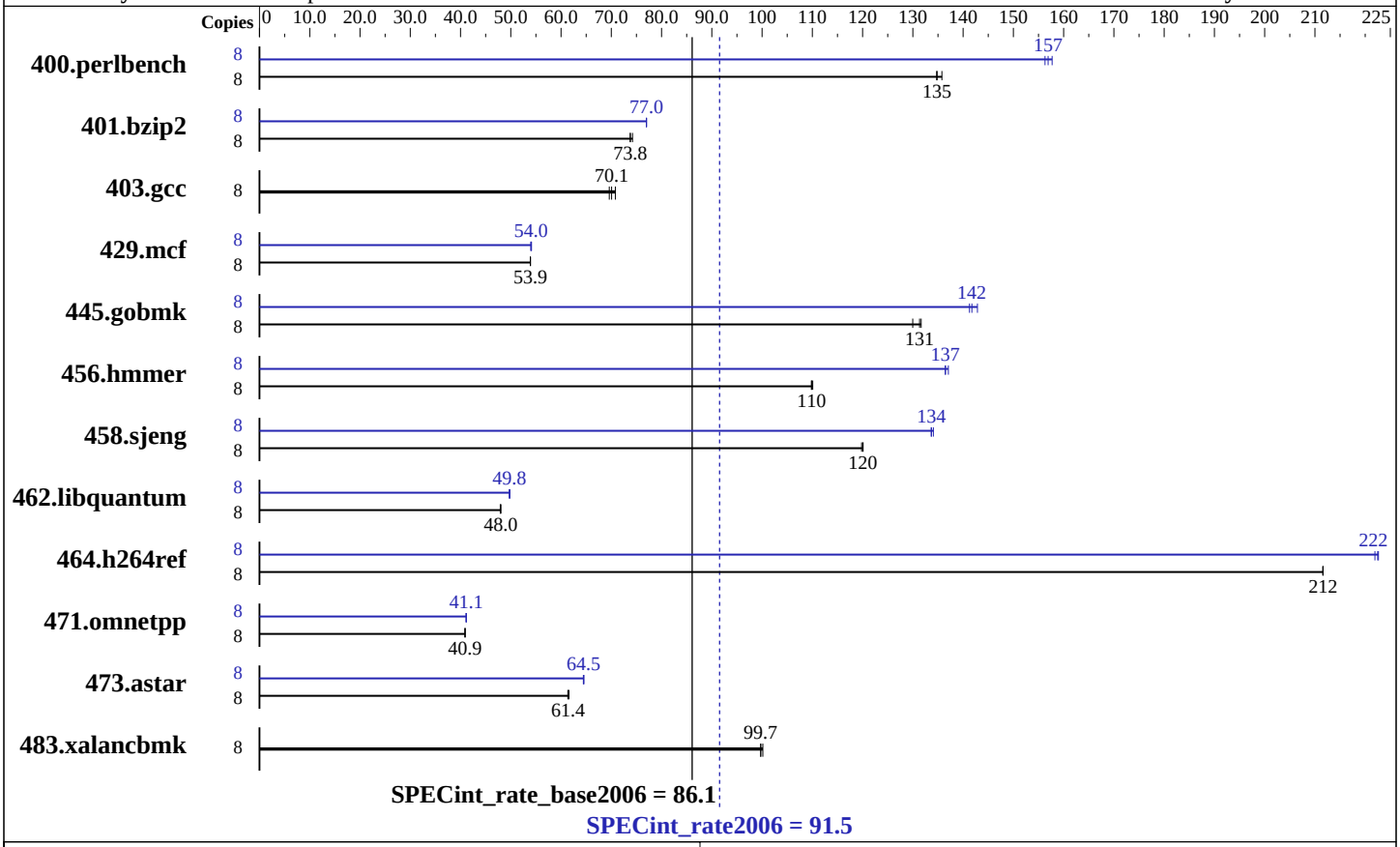
Express5800/120Ri-2
(Intel Xeon processor X5355)

SPECint®_rate2006 = 91.5

SPECint_rate_base2006 = 86.1

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

Test date: Jun-2007
Hardware Availability: Jan-2007
Software Availability: Jun-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 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 binutils-2.17.tar.gz, Version 2.17

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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	**580**	**135**	580	135	576	136	8	500	156	496	158	**498**	**157**
401.bzip2	8	**1046**	**73.8**	1046	73.8	1040	74.2	8	1002	77.0	**1003**	**77.0**	1003	77.0
403.gcc	8	910	70.8	925	69.6	**919**	**70.1**	8	910	70.8	925	69.6	**919**	**70.1**
429.mcf	8	**1354**	**53.9**	1354	53.9	1353	53.9	8	1348	54.1	**1350**	**54.0**	1351	54.0
445.gobmk	8	**639**	**131**	646	130	637	132	8	587	143	594	141	**592**	**142**
456.hmmer	8	678	110	680	110	**680**	**110**	8	545	137	547	136	**547**	**137**
458.sjeng	8	806	120	**806**	**120**	808	120	8	724	134	722	134	**724**	**134**
462.libquantum	8	3452	48.0	3460	47.9	**3454**	**48.0**	8	3328	49.8	**3330**	**49.8**	3335	49.7
464.h264ref	8	837	212	837	212	**837**	**212**	8	795	223	798	222	**796**	**222**
471.omnetpp	8	1222	40.9	1223	40.9	**1222**	**40.9**	8	1215	41.1	1216	41.1	**1215**	**41.1**
473.astar	8	**914**	**61.4**	912	61.6	915	61.4	8	**871**	**64.5**	871	64.4	870	64.6
483.xalancbmk	8	551	100	553	99.7	**553**	**99.7**	8	551	100	553	99.7	**553**	**99.7**

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 Express5800/120Rg-1(Intel Xeon processor X5355) and
 the Express5800/120Ri-2(Intel Xeon processor X5355) models are electronically equivalent.
 The results have been measured on a Express5800/120Ri-2(Intel Xeon processor X5355) model.
```

Base Compiler Invocation

C benchmarks:
icc

C++ benchmarks:
icpc

Base Portability Flags

400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX

Base Optimization Flags

C benchmarks:
-fast

C++ benchmarks:
-xT -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

401.bzip2: /opt/intel/cce/10.0.023/bin/icc

456.hmmer: /opt/intel/cce/10.0.023/bin/icc

C++ benchmarks:
icpc

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) `-fast -ansi-alias -prefetch`

401.bzip2: `-L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include -prof-gen`(pass 1) `-prof-use`(pass 2) `-fast`

403.gcc: `basepeak = yes`

429.mcf: `-fast -prefetch`

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

456.hmmer: `-L/opt/intel/cce/10.0.023/lib -I/opt/intel/cce/10.0.023/include -prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias`

458.sjeng: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4`

462.libquantum: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always`

464.h264ref: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-fast -unroll2 -ansi-alias`

C++ benchmarks:

471.omnetpp: `-prof-gen`(pass 1) `-prof-use`(pass 2) `-xT -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`

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-linux-flags.html`

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

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