SPEC® CINT2006 Result

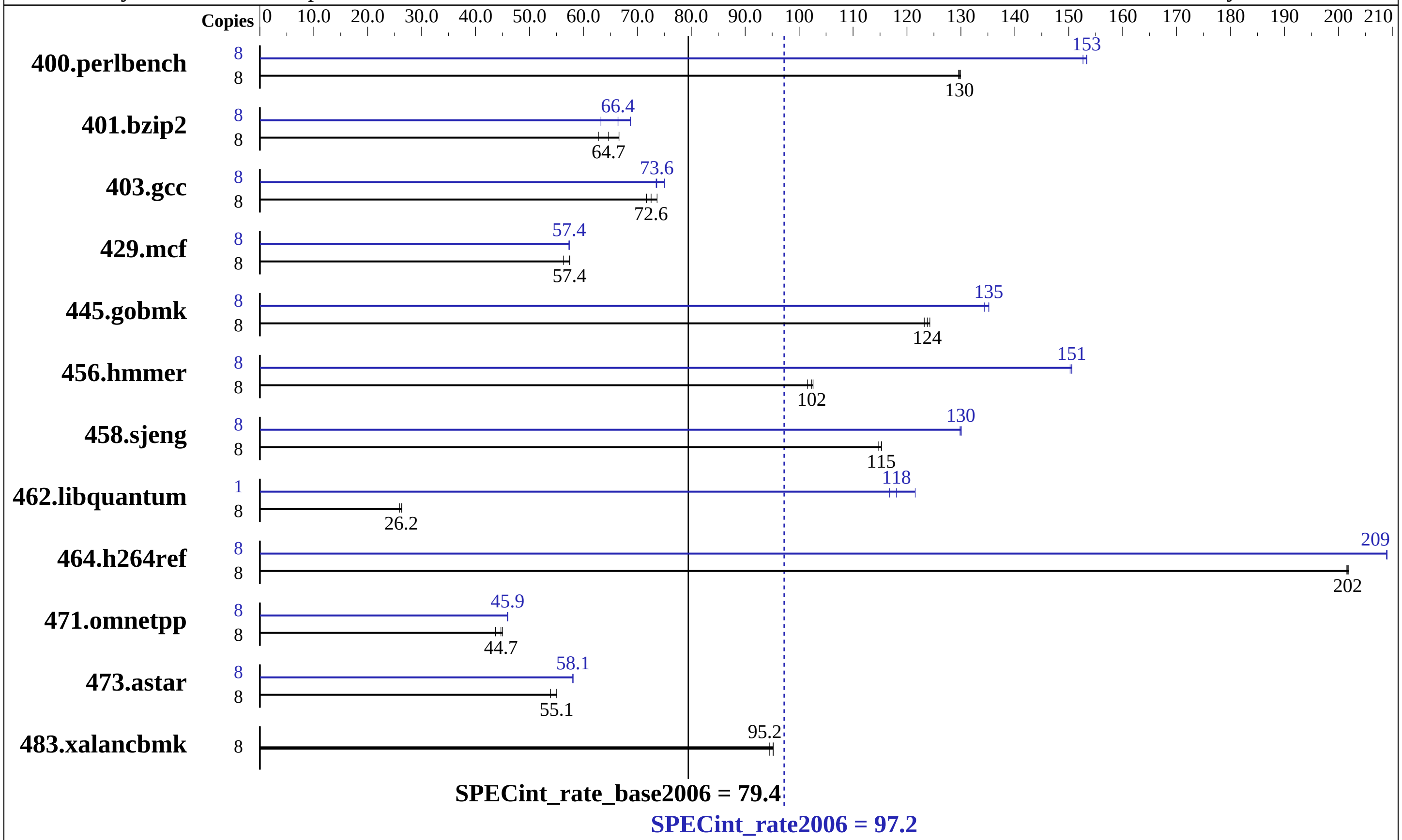
Bull SAS

NovaScale R630
(Intel Xeon X5355,2.66GHz)

SPECint®_rate2006 = 97.2

SPECint_rate_base2006 = 79.4

CPU2006 license:	20	**Test date:**	Apr-2008
Test sponsor:	Bull SAS	**Hardware Availability:**	Oct-2007
Tested by:	NEC Corporation	**Software Availability:**	Feb-2008



Hardware

CPU Name:	Intel Xeon X5355
CPU Characteristics:	2.66 GHz, 2x4 MB L2 shared, 1333 MHz bus
CPU MHz:	2667
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:	12 GB (6x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	2x73.2 GB SAS, 15000RPM, Software RAID Level1
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux AS release 4 (Update 5), Kernel 2.6.9-55.0.12.ELsmp on an X86_64
Compiler:	Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l_cc_p_10.1.008
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap library 8.1 binutils-2.17.tar.gz, Version 2.17 ft Server Control Software 5.0-0231

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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	601	130	603	130	**603**	**130**	8	512	153	**510**	**153**	510	153
401.bzip2	8	1230	62.8	**1193**	**64.7**	1159	66.6	8	1221	63.3	1123	68.7	**1162**	**66.4**
403.gcc	8	898	71.7	**888**	**72.6**	874	73.7	8	876	73.5	**875**	**73.6**	858	75.0
429.mcf	8	1297	56.3	1269	57.5	**1270**	**57.4**	8	1273	57.3	1271	57.4	**1272**	**57.4**
445.gobmk	8	681	123	**678**	**124**	675	124	8	625	134	621	135	**621**	**135**
456.hmmer	8	735	102	**729**	**102**	728	103	8	497	150	496	151	**496**	**151**
458.sjeng	8	840	115	843	115	**840**	**115**	8	744	130	746	130	**745**	**130**
462.libquantum	8	6393	25.9	**6320**	**26.2**	6296	26.3	1	**176**	**118**	177	117	170	122
464.h264ref	8	**878**	**202**	878	202	877	202	8	847	209	**847**	**209**	848	209
471.omnetpp	8	1144	43.7	**1118**	**44.7**	1111	45.0	8	1090	45.9	**1089**	**45.9**	1087	46.0
473.astar	8	1042	53.9	**1020**	**55.1**	1020	55.1	8	**967**	**58.1**	967	58.1	968	58.0
483.xalancbmk	8	584	94.5	580	95.2	**580**	**95.2**	8	584	94.5	580	95.2	**580**	**95.2**

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
  OMP_NUM_THREADS set to number of cores
```

Platform Notes

```
This Express5800/320Fc-MR is a fault-tolerant server.
Two modules are installed in this server and each module has "2CPU chips,12GB memory",
so total "4CPU chips,24GB memory" are on this server.
With lockstep technology, these two modules communicate each other
and handle the same instructions at the same time,
then logically the "CPU,Memory" is recognized as "2CPU chips,12GB memory" by the OS.
```

General Notes

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

 The NEC Express5800/320Fc-MR(Intel Xeon X5355) and
 the Bull NovaScale R630 (Intel Xeon X5355,2.66GHz) models are electronically equivalent.
 The results have been measured on a NEC Express5800/320Fc-MR(Intel Xeon X5355) model.
```

Base Compiler Invocation

C benchmarks:
```
icc
```

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Base Compiler Invocation (Continued)

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 -inline-calloc -opt-malloc-options=3

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/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc
-L/opt/intel/cce/10.1.008/lib
-I/opt/intel/cce/10.1.008/include

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: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

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

456.hmmer: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive

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

462.libquantum: -fast -unroll4 -Ob0 -prefetch -opt-streaming-stores always -vec-guard-write -opt-malloc-options=3 -parallel -par-runtime-control

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 -opt-ra-region-strategy=block -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo -no-prec-div -ansi-alias -opt-ra-region-strategy=routine -Wl,-z,muldefs -L/opt/SmartHeap_8.1/lib -lsmartheap

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-Intel-ic10.1-INT-ia32-linux-flags.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-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 17:33:47 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 11 June 2008.