SPEC® CINT2006 Result
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Bull SAS
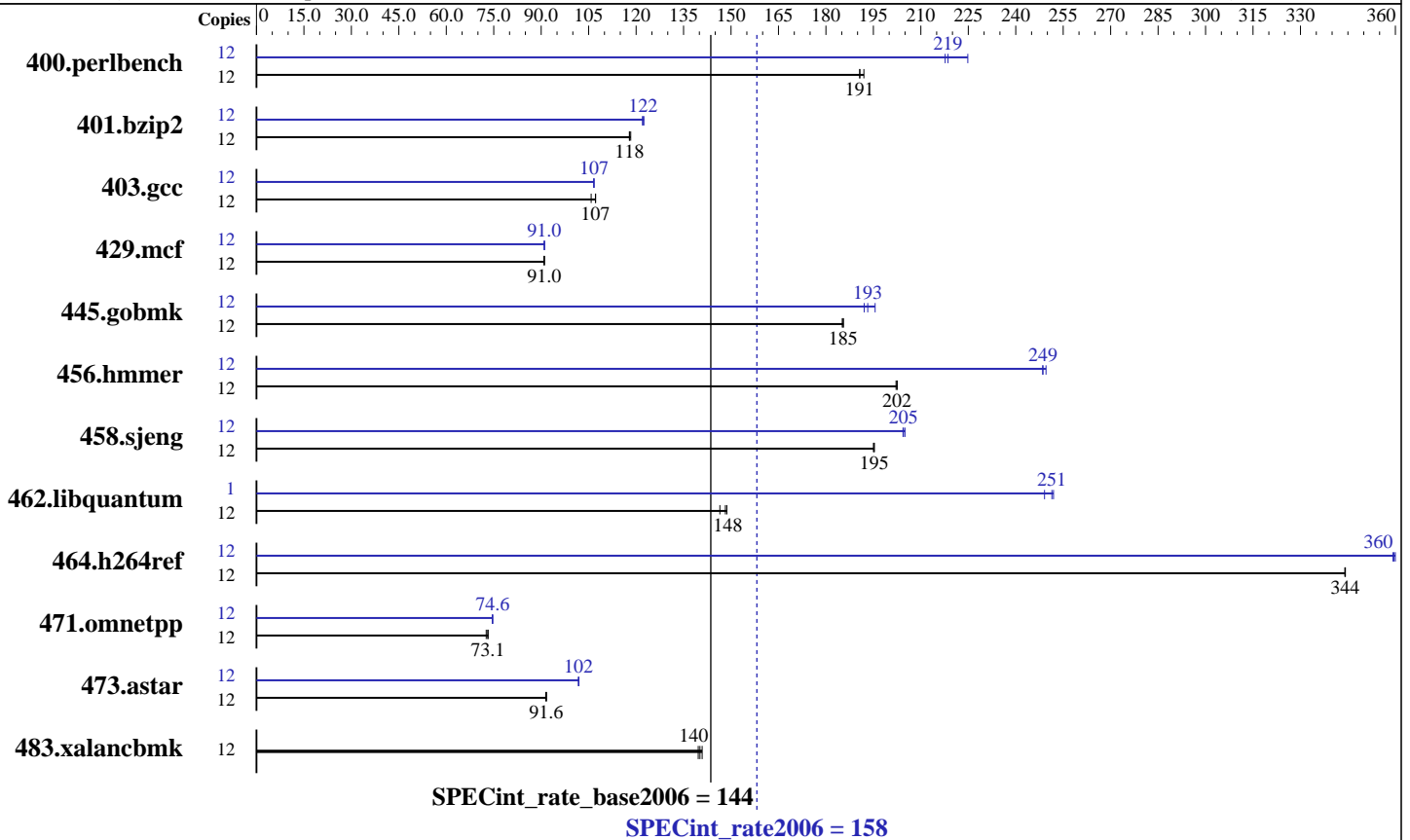
NovaScale R480 E1
(2.66 GHz, Intel Xeon X7460)

SPECint®_rate2006 =   158

SPECint_rate_base2006 =   144

CPU2006 license: 20

Test sponsor: Bull SAS

Tested by: NEC Corporation

Test date: Dec-2008

Hardware Availability: Nov-2008

Software Availability: Nov-2008

Copies 0   15.0 30.0 45.0 60.0 75.0 90.0 105 120 135 150 165 180 195 210 225 240 255 270 285 300 315 330 360

400.perlbench 12 / 12 — 219 / 191

401.bzip2 12 / 12 — 122 / 118

403.gcc 12 / 12 — 107 / 107

429.mcf 12 / 12 — 91.0 / 91.0

445.gobmk 12 / 12 — 193 / 185

456.hmmer 12 / 12 — 249 / 202

458.sjeng 12 / 12 — 205 / 195

462.libquantum 1 / 12 — 251 / 148

464.h264ref 12 / 12 — 360 / 344

471.omnetpp 12 / 12 — 74.6 / 73.1

473.astar 12 / 12 — 102 / 91.6

483.xalancbmk 12 — 140

SPECint_rate_base2006 = 144

SPECint_rate2006 = 158

Hardware

CPU Name:	Intel Xeon X7460
CPU Characteristics:	1066 MHz system bus
CPU MHz:	2667
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip
CPU(s) orderable:	1,2,3,4 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	9 MB I+D on chip per chip, 3 MB shared / 2 cores
L3 Cache:	16 MB I+D on chip per chip
Other Cache:	None
Memory:	32 GB (16x2 GB PC2-5300F, 2 rank, CL5-5-5, ECC)
Disk Subsystem:	1x73.2 GB SAS, 15000 RPM
Other Hardware:	None

Software

Operating System:	SUSE Linux Enterprise Server 10 (x86_64) SP2, Kernel 2.6.16.60-0.21-smp
Compiler:	Intel C++ Compiler 11.0 for Linux Build 20080930 Package ID: l_cproc_p_11.0.069
Auto Parallel:	Yes
File System:	ext2
System State:	Run level 3 (multi-user)
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	MicroQuill SmartHeap Library 8.1 Binutils 2.18.50.0.7.20080502

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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	12	**_615_**	**_191_**	615	191	611	192	12	521	225	**_536_**	**_219_**	539	218
401.bzip2	12	979	118	**_982_**	**_118_**	983	118	12	949	122	946	122	**_948_**	**_122_**
403.gcc	12	913	106	**_902_**	**_107_**	901	107	12	906	107	905	107	**_905_**	**_107_**
429.mcf	12	1204	90.9	1202	91.0	**_1203_**	**_91.0_**	12	1202	91.1	1203	91.0	**_1203_**	**_91.0_**
445.gobmk	12	680	185	679	186	**_679_**	**_185_**	12	**_651_**	**_193_**	644	196	655	192
456.hmmer	12	554	202	**_553_**	**_202_**	553	203	12	**_450_**	**_249_**	449	250	451	249
458.sjeng	12	**_744_**	**_195_**	744	195	745	195	12	710	204	**_710_**	**_205_**	708	205
462.libquantum	12	1698	146	**_1678_**	**_148_**	1672	149	1	82.2	252	83.2	249	**_82.4_**	**_251_**
464.h264ref	12	772	344	772	344	**_772_**	**_344_**	12	738	360	739	359	**_739_**	**_360_**
471.omnetpp	12	1033	72.6	**_1026_**	**_73.1_**	1024	73.2	12	**_1005_**	**_74.6_**	1004	74.7	1006	74.5
473.astar	12	919	91.6	921	91.4	**_919_**	**_91.6_**	12	828	102	826	102	**_827_**	**_102_**
483.xalancbmk	12	593	140	**_591_**	**_140_**	588	141	12	593	140	**_591_**	**_140_**	588	141

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

Submit Notes

    The config file option 'submit' was used.
     taskset was used to bind processes to cores except
     for 462.libquantum peak

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
     KMP_AFFINITY set to "physical,0"
     KMP_STACKSIZE set to 64M

Platform Notes

    Bios settings:
    Hardware Prefetcher: Disabled
    Adjacent Cache Line Prefetch: Disabled
    FSB High Bandwidth Optimization: Disabled

General Notes

    The NEC Express5800/R140a-4(Intel Xeon X7460) and
    the Bull NovaScale R480 E1(Intel Xeon X7460, 2.66 GHz) models are electronically equivalent.
    The results have been measured on a NEC Express5800/R140a-4(Intel Xeon X7460) model.

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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:
    `-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc`
    `-opt-malloc-options=3 -opt-prefetch`

C++ benchmarks:
    `-xSSE4.1 -ipo -O3 -no-prec-div -opt-prefetch -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/Compiler/11.0/069/bin/intel64/icc`
            `-L/opt/intel/Compiler/11.0/069/ipp/em64t/lib`
            `-I/opt/intel/Compiler/11.0/069/ipp/em64t/include`

    456.hmmer: `/opt/intel/Compiler/11.0/069/bin/intel64/icc`
            `-L/opt/intel/Compiler/11.0/069/ipp/em64t/lib`
            `-I/opt/intel/Compiler/11.0/069/ipp/em64t/include`

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Peak Compiler Invocation (Continued)

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) -xSSE4.1 -ipo -O3`
                  `-no-prec-div -static -ansi-alias -opt-prefetch`

           401.bzip2: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                  `-no-prec-div -static -opt-prefetch -ansi-alias`

             403.gcc: `-xSSE4.1 -ipo -O3 -no-prec-div -static -inline-calloc`
                  `-opt-malloc-options=3`

             429.mcf: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                  `-no-prec-div -static -opt-prefetch`

          445.gobmk: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -O2 -ipo`
                  `-no-prec-div -ansi-alias`

          456.hmmer: `-xSSE4.1 -ipo -O3 -no-prec-div -static -unroll2`
                  `-ansi-alias`

           458.sjeng: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                  `-no-prec-div -static -unroll4`

      462.libquantum: `-xSSE4.1 -ipo -O3 -no-prec-div -static`
                  `-opt-malloc-options=3 -parallel -par-runtime-control`
                  `-opt-prefetch`

          464.h264ref: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
                  `-no-prec-div -static -unroll2 -ansi-alias`

C++ benchmarks:

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Peak Optimization Flags (Continued)

471.omnetpp: `-prof-gen(pass 1) -prof-use(pass 2) -xSSE4.1 -ipo -O3`
`-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) -xSSE4.1 -ipo -O3`
`-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 files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revD.20090713.html
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-int-linux64-revD.20090713.xml
http://www.spec.org/cpu2006/flags/NEC-Intel-Linux-Settings-flags-revB.xml

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

Tested with SPEC CPU2006 v1.1.
Report generated on Tue Jul 22 21:40:55 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 24 December 2008.