SPEC® CINT2006 Result

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Dell Inc.

SPECint®_rate2006 =   269

PowerEdge M610 (Intel Xeon X5647, 2.93 GHz)
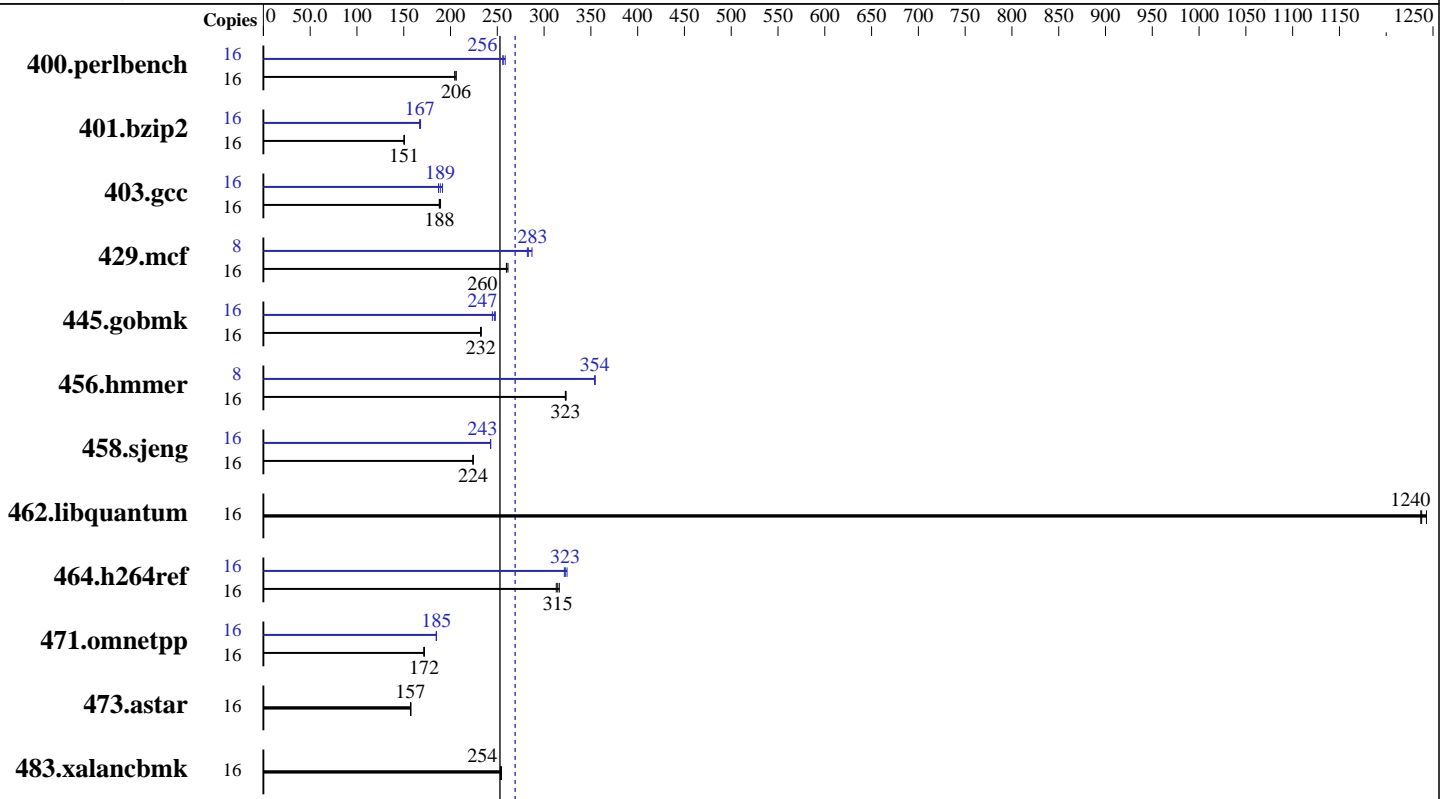
SPECint_rate_base2006 =   253

CPU2006 license: 55

Test sponsor: Dell Inc.

Tested by: Dell Inc.

Test date: Mar-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011

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Hardware

CPU Name: Intel Xeon X5647

CPU Characteristics: Intel Turbo Boost Technology up to 3.20 GHz

CPU MHz: 2933

FPU: Integrated

CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip, 2 threads/core

CPU(s) orderable: 1,2 chips

Primary Cache: 32 KB I + 32 KB D on chip per core

Secondary Cache: 256 KB I+D on chip per core

L3 Cache: 12 MB I+D on chip per chip

Other Cache: None

Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1066 MHz)

Disk Subsystem: 1 x 146 GB 15000 RPM SAS

Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 SP1 (x86_64), Kernel 2.6.32.12-0.7-default

Compiler: Intel C++ Compiler XE for applications running on IA-32 Version 12.0.1.116 Build 20101116

Auto Parallel: No

File System: ext3

System State: Run level 3 (multi-user)

Base Pointers: 32-bit

Peak Pointers: 32/64-bit

Other Software: Microquill SmartHeap V9.01

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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	16	765	204	**759**	**206**	759	206	16	611	256	**610**	**256**	605	258
401.bzip2	16	**1026**	**151**	1026	151	1027	150	16	**924**	**167**	924	167	919	168
403.gcc	16	680	189	685	188	**684**	**188**	16	**681**	**189**	673	191	688	187
429.mcf	16	558	261	**561**	**260**	562	260	8	259	282	**258**	**283**	254	287
445.gobmk	16	721	233	723	232	**723**	**232**	16	**680**	**247**	677	248	686	245
456.hmmer	16	**462**	**323**	461	324	463	323	8	211	354	211	354	**211**	**354**
458.sjeng	16	**864**	**224**	864	224	864	224	16	798	243	797	243	**798**	**243**
462.libquantum	16	267	1240	268	1240	**268**	**1240**	16	267	1240	268	1240	**268**	**1240**
464.h264ref	16	**1126**	**315**	1131	313	1120	316	16	1091	325	1101	322	**1097**	**323**
471.omnetpp	16	583	172	**583**	**172**	581	172	16	541	185	541	185	**541**	**185**
473.astar	16	**714**	**157**	713	158	714	157	16	**714**	**157**	713	158	714	157
483.xalancbmk	16	**434**	**254**	434	254	436	253	16	**434**	**254**	434	254	436	253

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.
     numactl was used to bind copies to the cores

Operating System Notes

     'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
    'mount -t hugetlbfs nodev /mnt/hugepages' was used to enable large pages
    echo 7200 > /proc/sys/vm/nr_hugepages
    export HUGETLB_MORECORE=yes
    export LD_PRELOAD=/usr/lib64/libhugetlbfs.so

Platform Notes

    BIOS Settings:
    Power Management = Maximum Performance (Default = Active Power Controller)
    Data Reuse = Disabled (Default = Enabled)

General Notes

    Binaries were compiled on RHEL5.5

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Base Compiler Invocation

C benchmarks:
      icc -m32

C++ benchmarks:
      icpc -m32

Base Portability Flags

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

Base Optimization Flags

C benchmarks:
      -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch
      -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:
      -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
      -L/smartheap -lsmartheap
      -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

Base Other Flags

C benchmarks:

      403.gcc: -Dalloca=_alloca

Peak Compiler Invocation

C benchmarks (except as noted below):
      icc -m32

      400.perlbench: icc -m64

      401.bzip2: icc -m64

      456.hmmer: icc -m64

      458.sjeng: icc -m64

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Peak Compiler Invocation (Continued)

C++ benchmarks:
      icpc -m32

Peak Portability Flags

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

Peak Optimization Flags

C benchmarks:

      400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                     -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                     -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

         401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                    -opt-prefetch -auto-ilp32 -ansi-alias
                    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

           403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div
                    -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

           429.mcf: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                    -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                    -ansi-alias -auto-ilp32

         445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                    -ansi-alias -auto-ilp32

         456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                    -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

          458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
                     -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
                     -unroll4 -auto-ilp32
                     -B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

      462.libquantum: basepeak = yes

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Peak Optimization Flags (Continued)

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

C++ benchmarks:

471.omnetpp: `-xSSE4.2`(pass 2) `-prof-gen`(pass 1) `-ipo`(pass 2)
`-O3`(pass 2) `-no-prec-div`(pass 2) `-prof-use`(pass 2)
`-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs`
`-L/smartheap -lsmartheap`

473.astar: `basepeak = yes`

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-ic12.0-linux64-revB.html
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110308.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.xml
http://www.spec.org/cpu2006/flags/Intel-Linux64-Platform.20110308.xml

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

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