SPEC® CINT2006 Result

Supermicro

SuperServer 2026TT-HIBQRF (X8DTT-HIBQF+, Intel Xeon E5603)

SPECint®_rate2006 =   126

SPECint_rate_base2006 =   118
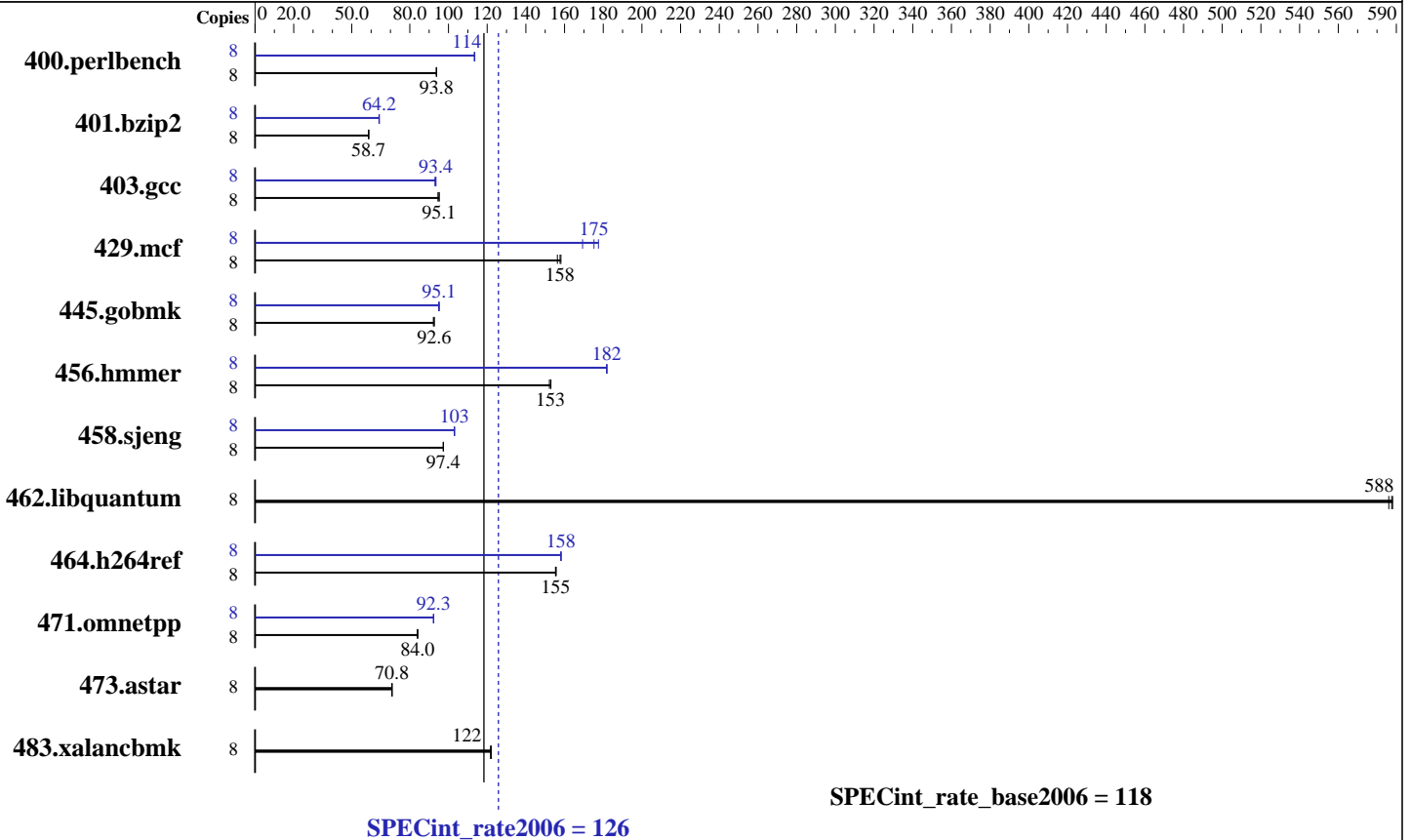
CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2011

Hardware Availability: Feb-2011

Software Availability: Jan-2011

Copies

Benchmark	Peak	Base
400.perlbench	114	93.8
401.bzip2	64.2	58.7
403.gcc	93.4	95.1
429.mcf	175	158
445.gobmk	95.1	92.6
456.hmmer	182	153
458.sjeng	103	97.4
462.libquantum	588	
464.h264ref	158	155
471.omnetpp	92.3	84.0
473.astar		70.8
483.xalancbmk		122

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Hardware

CPU Name: Intel Xeon E5603

CPU Characteristics:

CPU MHz: 1600

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: 256 KB I+D on chip per core

L3 Cache: 4 MB I+D on chip per chip

Other Cache: None

Memory: 48 GB (12 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz)

Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM

Other Hardware: None

Software

Operating System: SUSE Linux Enterprise Server 11 (x86_64) SP1 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	8	**834**	**93.8**	834	93.7	832	93.9	8	690	113	**689**	**114**	688	114
401.bzip2	8	1316	58.7	1313	58.8	**1315**	**58.7**	8	1205	64.1	1202	64.2	**1202**	**64.2**
403.gcc	8	**677**	**95.1**	677	95.2	681	94.5	8	693	93.0	**689**	**93.4**	689	93.5
429.mcf	8	467	156	**463**	**158**	461	158	8	431	169	411	178	**416**	**175**
445.gobmk	8	910	92.2	906	92.6	**907**	**92.6**	8	884	95.0	**883**	**95.1**	881	95.2
456.hmmer	8	491	152	**488**	**153**	488	153	8	410	182	**411**	**182**	411	182
458.sjeng	8	994	97.4	**994**	**97.4**	995	97.3	8	**939**	**103**	938	103	940	103
462.libquantum	8	283	586	**282**	**588**	282	588	8	283	586	**282**	**588**	282	588
464.h264ref	8	**1139**	**155**	1137	156	1140	155	8	1120	158	**1120**	**158**	1119	158
471.omnetpp	8	**595**	**84.0**	594	84.2	596	83.9	8	543	92.2	**542**	**92.3**	541	92.4
473.astar	8	792	70.9	**793**	**70.8**	794	70.7	8	792	70.9	**793**	**70.8**	794	70.7
483.xalancbmk	8	452	122	**453**	**122**	453	122	8	452	122	**453**	**122**	453	122

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 stack size to unlimited prior to run
     Hugepages was enabled with the following:
     nodev   /mnt/hugepages   hugetlbfs   defaults   0 0' added to /etc/fstab
     echo 3600 > /proc/sys/vm/nr_hugepages
     export HUGETLB_MORECORE=yes

Platform Notes

    Fan speed set to Full Speed and Data Reuse Optimization disabled in BIOS Setup.

General Notes

    Binaries compiled on RHEL5.5 with binutils-2.17.50.0.6-14.el5

Base Compiler Invocation

C benchmarks:
        icc -m32

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Base Compiler Invocation (Continued)

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

C++ benchmarks:
    icpc -m32

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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

  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
```

Continued on next page

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Peak Optimization Flags (Continued)

471.omnetpp (continued):
    `-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

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For other inquiries, please contact webmaster@spec.org.

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