SPEC® CINT2006 Result
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Supermicro

SuperServer 6027R-TRF (X9DRI-F, Intel E5-2650)

$SPECint^{®}2006 =$ 44.7

$SPECint\_base2006 =$ 41.8

CPU2006 license: 001176	**Test date:** Mar-2012
Test sponsor: Supermicro	**Hardware Availability:** Mar-2012
Tested by: Supermicro	**Software Availability:** Dec-2011

Scale: 0 100 200 300 400 500 600 700 800 900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300 2500

- **400.perlbench** — 29.8 / 24.9
- **401.bzip2** — 19.0 / 18.5
- **403.gcc** — 27.3 / 26.9
- **429.mcf** — 55.2
- **445.gobmk** — 21.4 / 19.5
- **456.hmmer** — 42.6 / 42.4
- **458.sjeng** — 23.3 / 23.2
- **462.libquantum** — 2500
- **464.h264ref** — 43.8 / 34.9
- **471.omnetpp** — 30.2 / 22.8
- **473.astar** — 24.8
- **483.xalancbmk** — 43.5 / 43.5

SPECint_base2006 = 41.8

SPECint2006 = 44.7

Hardware

CPU Name:	Intel Xeon E5-2650
CPU Characteristics:	Intel Turbo Boost Technology up to 2.80 GHz
CPU MHz:	2000
FPU:	Integrated
CPU(s) enabled:	16 cores, 2 chips, 8 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:	20 MB I+D on chip per chip
Other Cache:	None
Memory:	128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem:	1 x 500 GB SATA II, 7200 RPM
Other Hardware:	None

Software

Operating System:	Red Hat Enterprise Linux Server Release 6.2 (Santiago), Kernel 2.6.32-220.el6.x86_64
Compiler:	C/C++: Version 12.1.0.225 of Intel C++ Studio XE for Linux
Auto Parallel:	Yes
File System:	ext4
System State:	Run level 3 (multi-user)
Base Pointers:	32/64-bit
Peak Pointers:	32/64-bit
Other Software:	Microquill SmartHeap V9.01

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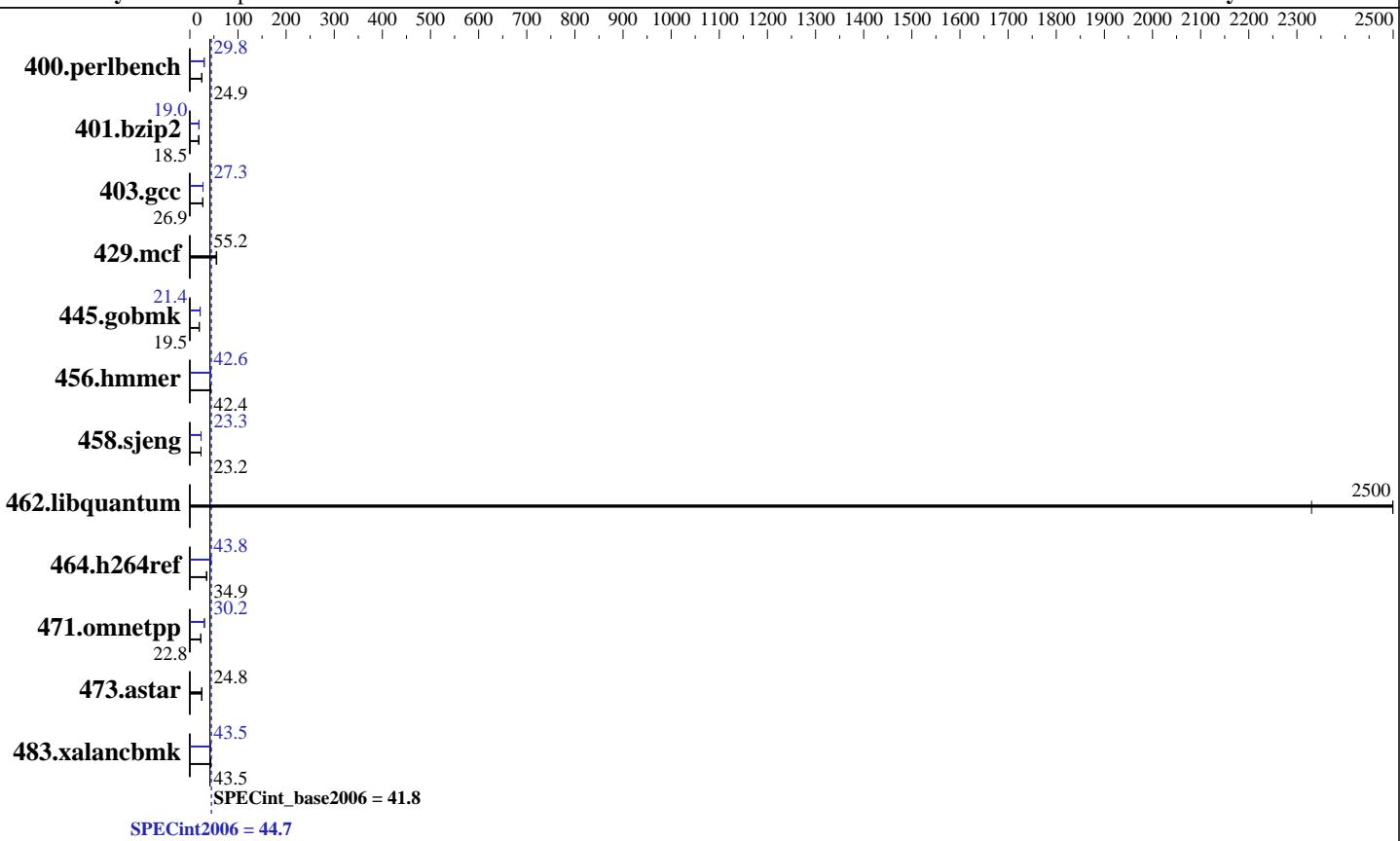| SPECint2006 =	44.7
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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	394	24.8	**392**	**24.9**	391	25.0	**328**	**29.8**	329	29.7	328	29.8
401.bzip2	521	18.5	**521**	**18.5**	522	18.5	**509**	**19.0**	509	18.9	508	19.0
403.gcc	**299**	**26.9**	299	26.9	298	27.0	**294**	**27.3**	294	27.3	295	27.3
429.mcf	163	55.9	166	55.0	**165**	**55.2**	163	55.9	166	55.0	**165**	**55.2**
445.gobmk	537	19.5	536	19.6	**537**	**19.5**	**490**	**21.4**	490	21.4	490	21.4
456.hmmer	220	42.4	**220**	**42.4**	220	42.4	220	42.3	219	42.6	**219**	**42.6**
458.sjeng	521	23.2	521	23.2	**521**	**23.2**	519	23.3	**519**	**23.3**	518	23.3
462.libquantum	8.89	2330	8.29	2500	**8.29**	**2500**	8.89	2330	8.29	2500	**8.29**	**2500**
464.h264ref	635	34.8	**635**	**34.9**	633	34.9	**506**	**43.8**	504	43.9	510	43.4
471.omnetpp	**274**	**22.8**	274	22.8	270	23.1	207	30.2	**207**	**30.2**	207	30.1
473.astar	**283**	**24.8**	284	24.8	281	25.0	**283**	**24.8**	284	24.8	281	25.0
483.xalancbmk	160	43.2	159	43.5	**159**	**43.5**	159	43.4	159	43.5	**159**	**43.5**

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

Operating System Notes

```
Stack size set to unlimited using "ulimit -s unlimited"
```

General Notes

```
Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
OMP_NUM_THREADS = "16"

 Binaries compiled on a system with 1x Core i7-860 CPU + 8GB
 memory using RHEL5.5
 Transparent Huge Pages enabled with:
 echo always > /sys/kernel/mm/redhat_transparent_hugepage/enabled
```

Base Compiler Invocation

C benchmarks:
```
      icc  -m64
```

C++ benchmarks:
```
      icpc -m64
```

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Base Portability Flags

```
    400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
        401.bzip2: -DSPEC_CPU_LP64
          403.gcc: -DSPEC_CPU_LP64
          429.mcf: -DSPEC_CPU_LP64
       445.gobmk: -DSPEC_CPU_LP64
       456.hmmer: -DSPEC_CPU_LP64
        458.sjeng: -DSPEC_CPU_LP64
    462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
      464.h264ref: -DSPEC_CPU_LP64
     471.omnetpp: -DSPEC_CPU_LP64
        473.astar: -DSPEC_CPU_LP64
   483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

Base Optimization Flags

C benchmarks:
```
    -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32
```

C++ benchmarks:
```
    -xAVX -ipo -O3 -no-prec-div -opt-prefetch -auto-p32 -Wl,-z,muldefs
    -L/smartheap -lsmartheap64
```

Base Other Flags

C benchmarks:

```
        403.gcc: -Dalloca=_alloca
```

Peak Compiler Invocation

C benchmarks (except as noted below):
```
    icc  -m64
```

```
    400.perlbench: icc -m32
```

```
      445.gobmk: icc -m32
```

```
     464.h264ref: icc -m32
```

C++ benchmarks (except as noted below):
```
    icpc -m32
```

```
        473.astar: icpc -m64
```

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Peak Portability Flags

```
      400.perlbench: -DSPEC_CPU_LINUX_IA32
         401.bzip2: -DSPEC_CPU_LP64
           403.gcc: -DSPEC_CPU_LP64
           429.mcf: -DSPEC_CPU_LP64
        456.hmmer: -DSPEC_CPU_LP64
         458.sjeng: -DSPEC_CPU_LP64
     462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
          473.astar: -DSPEC_CPU_LP64
     483.xalancbmk: -DSPEC_CPU_LINUX
```

Peak Optimization Flags

C benchmarks:

```
      400.perlbench: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                     -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch
                     -ansi-alias

         401.bzip2: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                     -no-prec-div -prof-use(pass 2) -auto-ilp32 -opt-prefetch
                     -ansi-alias

           403.gcc: -xAVX -ipo -O3 -no-prec-div -inline-calloc
                     -opt-malloc-options=3 -auto-ilp32

           429.mcf: basepeak = yes

         445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)
                     -ansi-alias

        456.hmmer: -xAVX -ipo -O3 -no-prec-div -unroll2 -auto-ilp32
                     -ansi-alias

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

     462.libquantum: basepeak = yes

        464.h264ref: -xAVX(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: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
                     -no-prec-div(pass 2) -prof-use(pass 2)
                     -opt-ra-region-strategy=block              -ansi-alias
                     -Wl,-z,muldefs -L/smartheap -lsmartheap
```

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Peak Optimization Flags (Continued)

473.astar: basepeak = yes

483.xalancbmk: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias
-Wl,-z,muldefs -L/smartheap -lsmartheap

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/Intel-ic12.1-official-linux64.20111122.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml

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