



# SPEC® CINT2006 Result

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## Supermicro

SuperServer 6017R-TDF (X9DRD-iF, Intel Xeon E5-2630L)

SPECint®2006 = 38.4

SPECint\_base2006 = 36.4

CPU2006 license: 001176

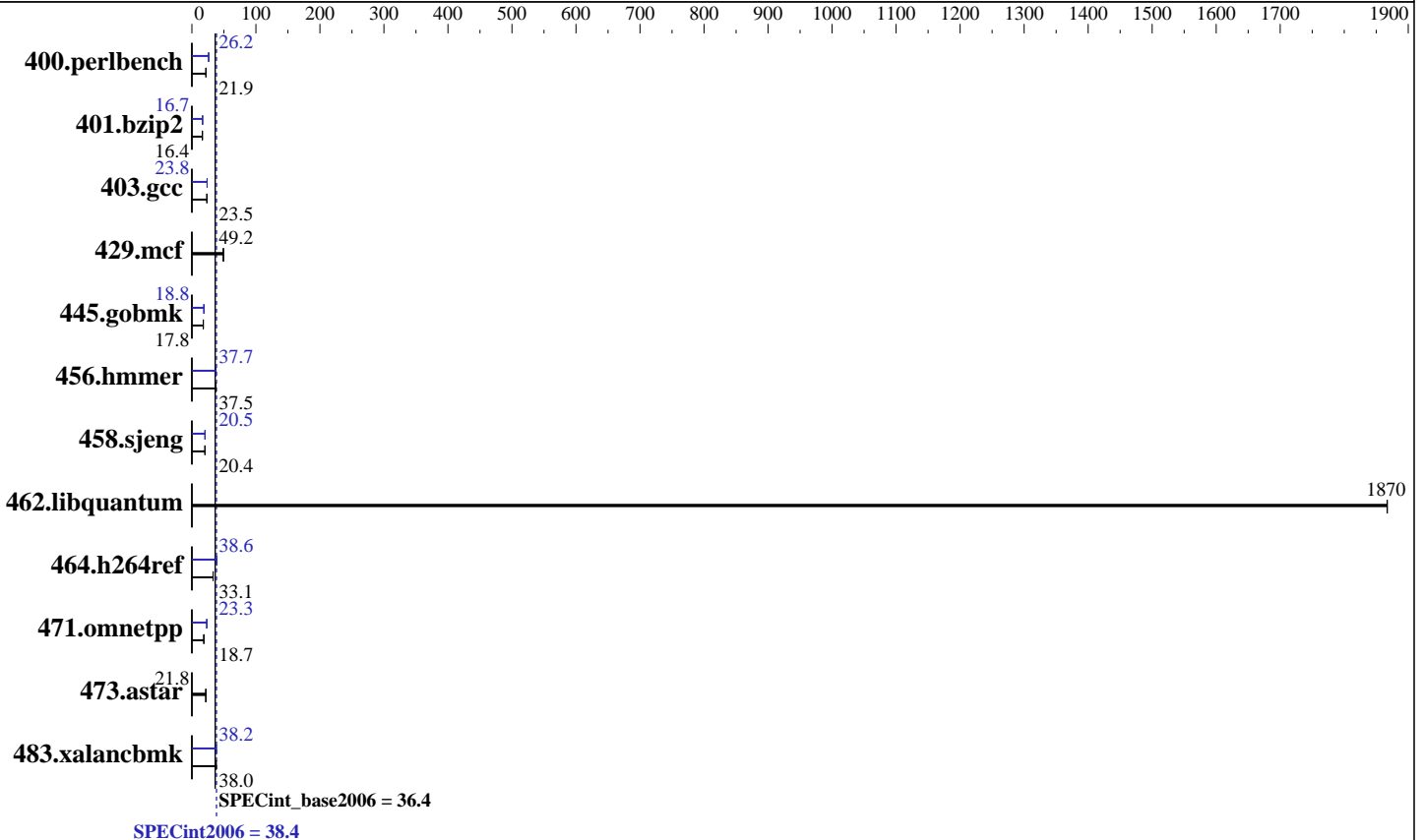
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2012

Hardware Availability: Mar-2012

Software Availability: Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2630L  
 CPU Characteristics: Intel Turbo Boost Technology up to 2.50 GHz  
 CPU MHz: 2000  
 FPU: Integrated  
 CPU(s) enabled: 12 cores, 2 chips, 6 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: 15 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 64 GB (8 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1333 MHz and CL9)  
 Disk Subsystem: 1 x 600 GB SATA III, 10000 RPM  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server Release 6.2, 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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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	446	21.9	444	22.0	<b>445</b>	<b>21.9</b>	<b>373</b>	<b>26.2</b>	373	26.2	374	26.1
401.bzip2	587	16.4	590	16.3	<b>590</b>	<b>16.4</b>	578	16.7	578	16.7	<b>578</b>	<b>16.7</b>
403.gcc	<b>343</b>	<b>23.5</b>	343	23.5	344	23.4	339	23.7	339	23.8	<b>339</b>	<b>23.8</b>
429.mcf	185	49.3	<b>185</b>	<b>49.2</b>	186	49.0	185	49.3	<b>185</b>	<b>49.2</b>	186	49.0
445.gobmk	588	17.8	<b>589</b>	<b>17.8</b>	590	17.8	<b>559</b>	<b>18.8</b>	559	18.8	559	18.8
456.hammer	249	37.5	<b>249</b>	<b>37.5</b>	248	37.6	247	37.7	<b>247</b>	<b>37.7</b>	247	37.7
458.sjeng	593	20.4	592	20.4	<b>593</b>	<b>20.4</b>	590	20.5	<b>591</b>	<b>20.5</b>	591	20.5
462.libquantum	<b>11.1</b>	<b>1870</b>	11.1	1870	11.1	1870	<b>11.1</b>	<b>1870</b>	11.1	1870	11.1	1870
464.h264ref	667	33.2	<b>669</b>	<b>33.1</b>	670	33.0	574	38.6	<b>573</b>	<b>38.6</b>	569	38.9
471.omnetpp	<b>334</b>	<b>18.7</b>	335	18.7	334	18.7	268	23.4	<b>268</b>	<b>23.3</b>	271	23.1
473.astar	<b>323</b>	<b>21.8</b>	321	21.9	323	21.7	<b>323</b>	<b>21.8</b>	321	21.9	323	21.7
483.xalancbmk	182	38.0	182	37.9	<b>182</b>	<b>38.0</b>	<b>181</b>	<b>38.2</b>	180	38.2	182	38.0

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"  
Transparent Huge Pages enabled with:  
echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

## General Notes

Environment variables set by runspec before the start of the run:  
KMP\_AFFINITY = "granularity=fine,scatter"  
LD\_LIBRARY\_PATH = "/usr/cpu2006/libs/32:/usr/cpu2006/libs/64"  
OMP\_NUM\_THREADS = "12"

Binaries compiled on a system with 2 x Xeon E5-2630L CPU + 64GB memory using RHEL6.2

## 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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CPU2006 license: 001176

Test sponsor: Supermicro

Tested by: Supermicro

Test date: Apr-2012

Hardware Availability: Mar-2012

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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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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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