



# SPEC® CINT2006 Result

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## Supermicro

**SPECint®\_rate2006 = 299**

Motherboard X8DTE-F (Intel Xeon X5677, 3.46 GHz)

**SPECint\_rate\_base2006 = 282**

CPU2006 license: 001176

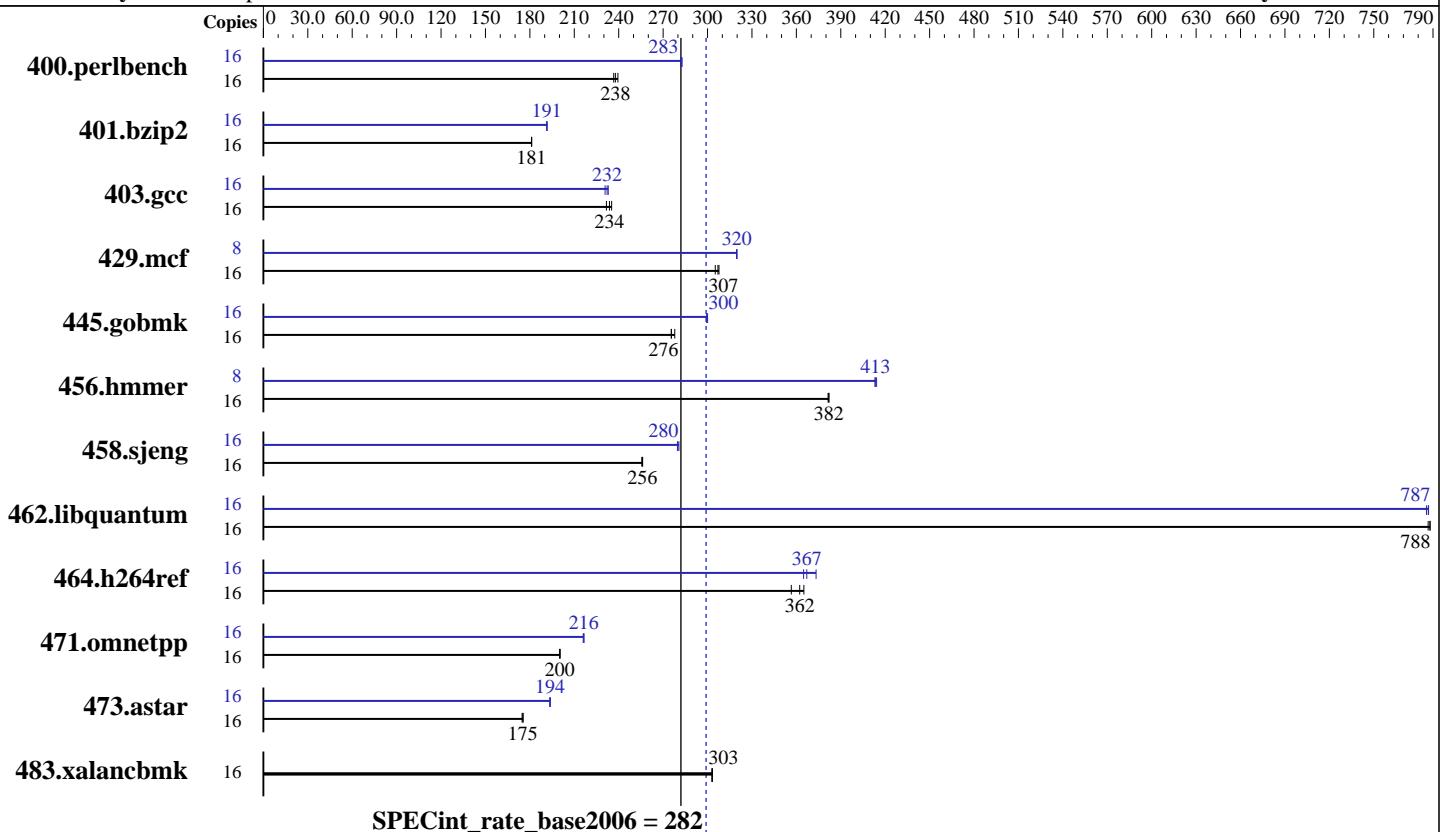
Test sponsor: Supermicro

Tested by: Supermicro

Test date: May-2010

Hardware Availability: Mar-2010

Software Availability: Jan-2010



### Hardware

CPU Name: Intel Xeon X5677  
CPU Characteristics: Intel Turbo Boost Technology up to 3.73 GHz  
CPU MHz: 3466  
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 DDR3-1333 RDIMM, ECC, CL9)  
Disk Subsystem: 1 x 500 GB SATA II, 7200 RPM  
Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64)  
Compiler: Kernel 2.6.27.19-5-default  
Auto Parallel: Intel C++ Professional Compiler for IA32 and  
File System: Intel 64, Version 11.1  
System State: Build 20091130 Package ID: l\_cproc\_p\_11.1.064  
Base Pointers: No  
Peak Pointers: ReiserFS  
Other Software: System State: Run level 3 (multi-user)  
Base Pointers: 32-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V8.1



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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	661	237	<b>657</b>	<b>238</b>	653	239	16	554	282	553	283	<b>553</b>	<b>283</b>
401.bzip2	16	<b>852</b>	<b>181</b>	853	181	852	181	16	<b>806</b>	<b>191</b>	806	192	807	191
403.gcc	16	556	232	548	235	<b>551</b>	<b>234</b>	16	553	233	<b>555</b>	<b>232</b>	558	231
429.mcf	16	<b>475</b>	<b>307</b>	474	308	478	305	8	<b>228</b>	<b>320</b>	228	320	228	320
445.gobmk	16	<b>609</b>	<b>276</b>	604	278	609	276	16	<b>560</b>	<b>300</b>	560	300	559	300
456.hammer	16	391	382	<b>391</b>	<b>382</b>	391	381	8	180	414	181	413	<b>181</b>	<b>413</b>
458.sjeng	16	<b>756</b>	<b>256</b>	756	256	757	256	16	690	281	692	280	<b>691</b>	<b>280</b>
462.libquantum	16	421	787	<b>421</b>	<b>788</b>	421	788	16	422	786	<b>421</b>	<b>787</b>	421	787
464.h264ref	16	993	357	970	365	<b>977</b>	<b>362</b>	16	948	373	<b>965</b>	<b>367</b>	970	365
471.omnetpp	16	499	200	500	200	<b>499</b>	<b>200</b>	16	<b>462</b>	<b>216</b>	463	216	462	217
473.astar	16	643	175	640	175	<b>641</b>	<b>175</b>	16	581	193	579	194	<b>580</b>	<b>194</b>
483.xalancbmk	16	<b>364</b>	<b>303</b>	364	303	364	303	16	<b>364</b>	<b>303</b>	364	303	364	303

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

## Platform Notes

Fan speed set to Full Speed in BIOS Setup.  
As tested, the system used a Supermicro  
PWS-865-PQ power supply, 2 SNK-P0038P heatsinks,  
and 2 FAN-0077L cooling fans.

## General Notes

Binaries were compiled on SLES 10 with Binutils 2.18.50.0.7.20080502

## 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 -static -opt-prefetch`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/home/cmplr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-32bit -lsmartheap`

## Base Other Flags

C benchmarks:

`403.gcc: -Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m32`

401.bzip2: `icc -m64`

456.hmmr: `icc -m64`

458.sjeng: `icc -m64`

462.libquantum: `icc -m64`

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  
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: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -ansi-alias  
  
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -opt-prefetch -ansi-alias -auto-ilp32  
  
403.gcc: -xSSE4.2 -ipo -O3 -no-prec-div -static  
  
429.mcf: -xSSE4.2 -ipo -O3 -no-prec-div -static -opt-prefetch  
  
445.gobmk: -xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -O2  
-ipo -no-prec-div -ansi-alias  
  
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -static -unroll12  
-ansi-alias -auto-ilp32  
  
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll14 -auto-ilp32  
  
462.libquantum: -xSSE4.2 -ipo -O3 -no-prec-div -static -auto-ilp32  
-opt-prefetch  
  
464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -static(pass 2)  
-prof-use(pass 2) -unroll12 -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/home/cmplr/usr3/alrahate/cpu2006.1.1.icl1.1/libicl1.1-32bit -lsmartheap

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## Peak Optimization Flags (Continued)

```
473.astar: -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=routine -Wl,-z,muldefs
           -L/home/cmpllr/usr3/alrahate/cpu2006.1.1.ic11.1/libic11.1-64bit -lsmartheap64
```

```
483.xalancbmk: basepeak = yes
```

## 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-ic11.1-linux64-revE.20100316.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic11.1-linux64-revE.20100316.xml>

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

Tested with SPEC CPU2006 v1.1.

Report generated on Wed Jul 23 08:52:59 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 9 June 2010.