



# SPEC® CINT2006 Result

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**Supermicro  
Motherboard H8DM8-2**

**SPECint®2006 = 12.3**  
**SPECint\_base2006 = 11.9**

CPU2006 license: 001176

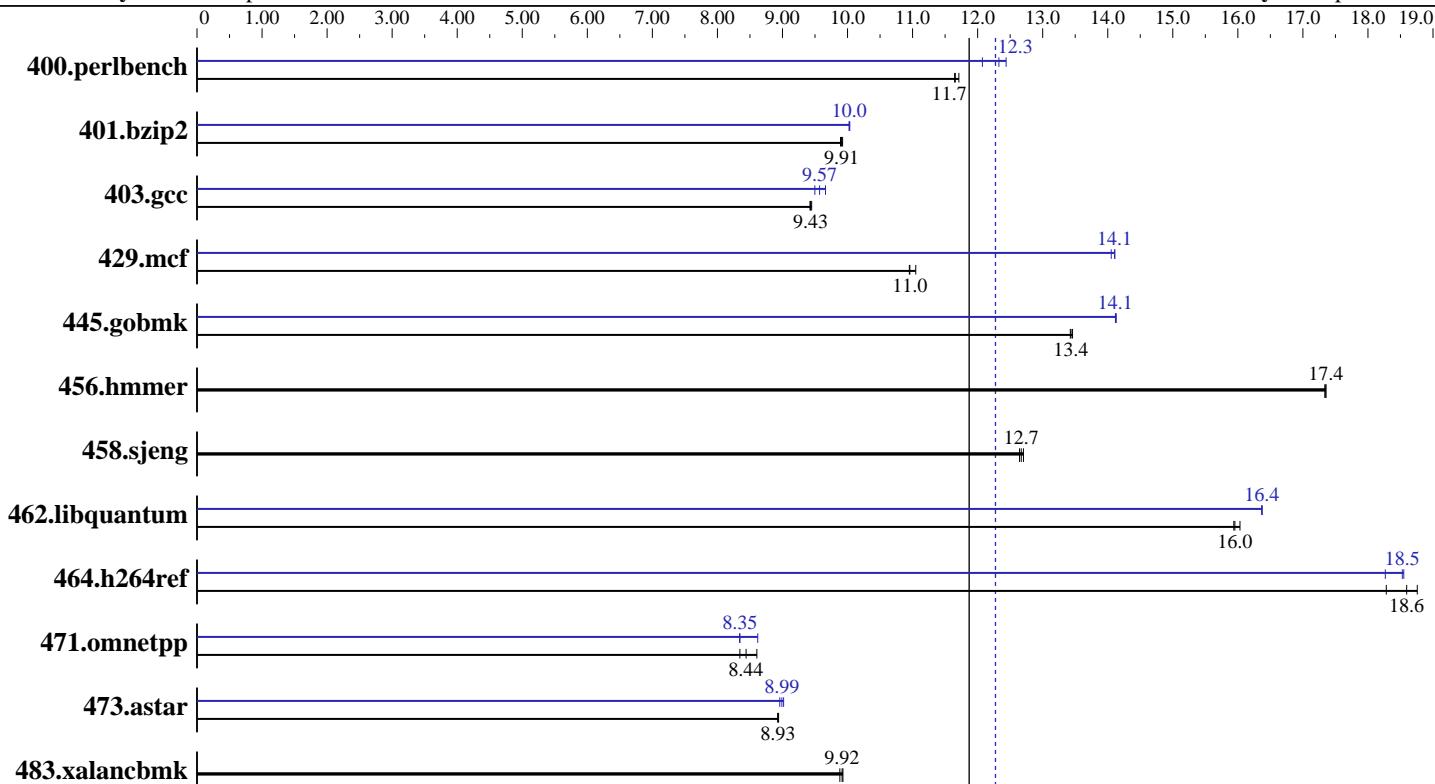
Test sponsor: Supermicro

Tested by: Supermicro

Test date: Mar-2007

Hardware Availability: Jan-2007

Software Availability: Sep-2006



**SPECint\_base2006 = 11.9**

**SPECint®2006 = 12.3**

## Hardware

CPU Name: AMD Opteron 2220 SE  
CPU Characteristics: 2.8GHz  
CPU MHz: 2800  
FPU: Integrated  
CPU(s) enabled: 4 cores, 2 chips, 2 cores/chip  
CPU(s) orderable: 1,2 chips  
Primary Cache: 64 KB I + 64 KB D on chip per core  
Secondary Cache: 1 MB I+D on chip per core  
L3 Cache: None  
Other Cache: None  
Memory: 64 GB (16x4GB, ECC REG PC25300 CLS)  
Disk Subsystem: 250GB IDE, 7200 RPM  
Other Hardware: None

## Software

Operating System: SuSE 10.0 (Kernel 2.6.16.21-0.8-smp x86\_64)  
Compiler: The Portland Group (PGI)  
PGI pgcc 6.2-4 C Compiler  
PGI pgCC 6.2-4 C++ Compiler  
Auto Parallel: No  
File System: ext3  
System State: Multi-user  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: None



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	839	11.6	<b>838</b>	<b>11.7</b>	834	11.7	<b>793</b>	<b>12.3</b>	809	12.1	786	12.4
401.bzip2	976	9.89	972	9.92	<b>974</b>	<b>9.91</b>	<b>962</b>	<b>10.0</b>	962	10.0	962	10.0
403.gcc	852	9.45	854	9.42	<b>854</b>	<b>9.43</b>	<b>841</b>	<b>9.57</b>	833	9.66	848	9.50
429.mcf	825	11.0	<b>832</b>	<b>11.0</b>	833	11.0	<b>646</b>	<b>14.1</b>	646	14.1	649	14.1
445.gobmk	781	13.4	<b>781</b>	<b>13.4</b>	779	13.5	<b>743</b>	<b>14.1</b>	742	14.1	743	14.1
456.hammer	538	17.3	538	17.4	<b>538</b>	<b>17.4</b>	538	17.3	538	17.4	<b>538</b>	<b>17.4</b>
458.sjeng	952	12.7	<b>955</b>	<b>12.7</b>	957	12.6	952	12.7	<b>955</b>	<b>12.7</b>	957	12.6
462.libquantum	<b>1299</b>	<b>16.0</b>	1292	16.0	1300	15.9	<b>1266</b>	<b>16.4</b>	1266	16.4	1266	16.4
464.h264ref	<b>1190</b>	<b>18.6</b>	1180	18.8	1210	18.3	1193	18.6	<b>1194</b>	<b>18.5</b>	1211	18.3
471.omnetpp	<b>740</b>	<b>8.44</b>	726	8.61	749	8.35	<b>749</b>	<b>8.35</b>	725	8.62	749	8.34
473.astar	786	8.93	785	8.94	<b>786</b>	<b>8.93</b>	778	9.02	<b>781</b>	<b>8.99</b>	784	8.96
483.xalancbmk	<b>696</b>	<b>9.92</b>	698	9.88	695	9.93	<b>696</b>	<b>9.92</b>	698	9.88	695	9.93

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

## General Notes

Environment stack size set to 'unlimited'

Tested systems can be used with CSE-825S2-560LPV case,

To ensure system stability, a 550W (minimum) ATX power supply [ 4-pin (+12V), 8-pin (+12V) and 24-pin are required]

Product description located as of <http://www.supermicro.com/Aplus/motherboard/Opteron2000/MCP55/H8DM8-2.cfm>

## Base Compiler Invocation

C benchmarks:

/opt/pgi/624/linux86-64/6.2/bin/pgcc

C++ benchmarks:

/opt/pgi/624/linux86-64/6.2/bin/pgCC

## Base Portability Flags

```

400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64 -DSPEC_CPU_HAVE_BOOL
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hammer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX

```

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## Base Portability Flags (Continued)

464.h264ref: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-fatssse -Mipa=fast -Mipa=inline -Msmaralloc -tp k8-64

C++ benchmarks:

-fatssse -Mipa=fast -Mipa=inline -Msmaralloc -tp k8-32

## Base Other Flags

C benchmarks:

-w

C++ benchmarks:

-w

## Peak Compiler Invocation

C benchmarks:

/opt/pgi/624/linux86-64/6.2/bin/pgcc

C++ benchmarks:

/opt/pgi/624/linux86-64/6.2/bin/pgCC

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
403.gcc: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_HAVE\_BOOL  
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  
483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Peak Optimization Flags

C benchmarks:

400.perlbench: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)  
-Mpfo(pass 2) -fastsse -Msmaralloc -Mnounroll -tp k8-64

401.bzip2: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)  
-Mpfo(pass 2) -fastsse -Msmaralloc -tp k8-64

403.gcc: Same as 401.bzip2

429.mcf: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)  
-Mpfo(pass 2) -fastsse -tp k8-32

445.gobmk: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)  
-Mpfo(pass 2) -fastsse -Msmaralloc -Msafepr -tp k8-64

456.hmmr: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: -fastsse -Msafepr -Mfprelaxed -Msmaralloc  
-Mprefetch=distance:8 -Mprefetch=nta -Mipa=fast  
-Mipa=inline -Mipa=nolocalarg -tp k8-64

464.h264ref: -Mpfi(pass 1) -Mipa=fast(pass 2) -Mipa=inline(pass 2)  
-Mpfo(pass 2) -fastsse -Msmaralloc -Mvect=noaltcode  
-tp k8-64

C++ benchmarks:

471.omnetpp: -fastsse -Msmaralloc -Mfprelaxed=rsqrt -Mfprelaxed=sqrt  
-Mfprelaxed=div -Mipa=fast -Mipa=inline -tp k8-32

473.astar: -fastsse -Mipa=fast -Mipa=inline -Msmaralloc -tp k8-64

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

-w

C++ benchmarks:

-w



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The flags file that was used to format this result can be browsed at

[http://www.spec.org/cpu2006/flags/pgi62\\_flags.html](http://www.spec.org/cpu2006/flags/pgi62_flags.html)

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

[http://www.spec.org/cpu2006/flags/pgi62\\_flags.xml](http://www.spec.org/cpu2006/flags/pgi62_flags.xml)

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

Tested with SPEC CPU2006 v1.0.

Report generated on Tue Jul 22 11:31:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 1 May 2007.