SPEC® CFP2006 Result
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Intel Corporation

Supermicro SuperServer 7046A-T (Intel Xeon X5680, 3.33 GHz)

$SPECfp^{®}\_rate2006 =$ 228

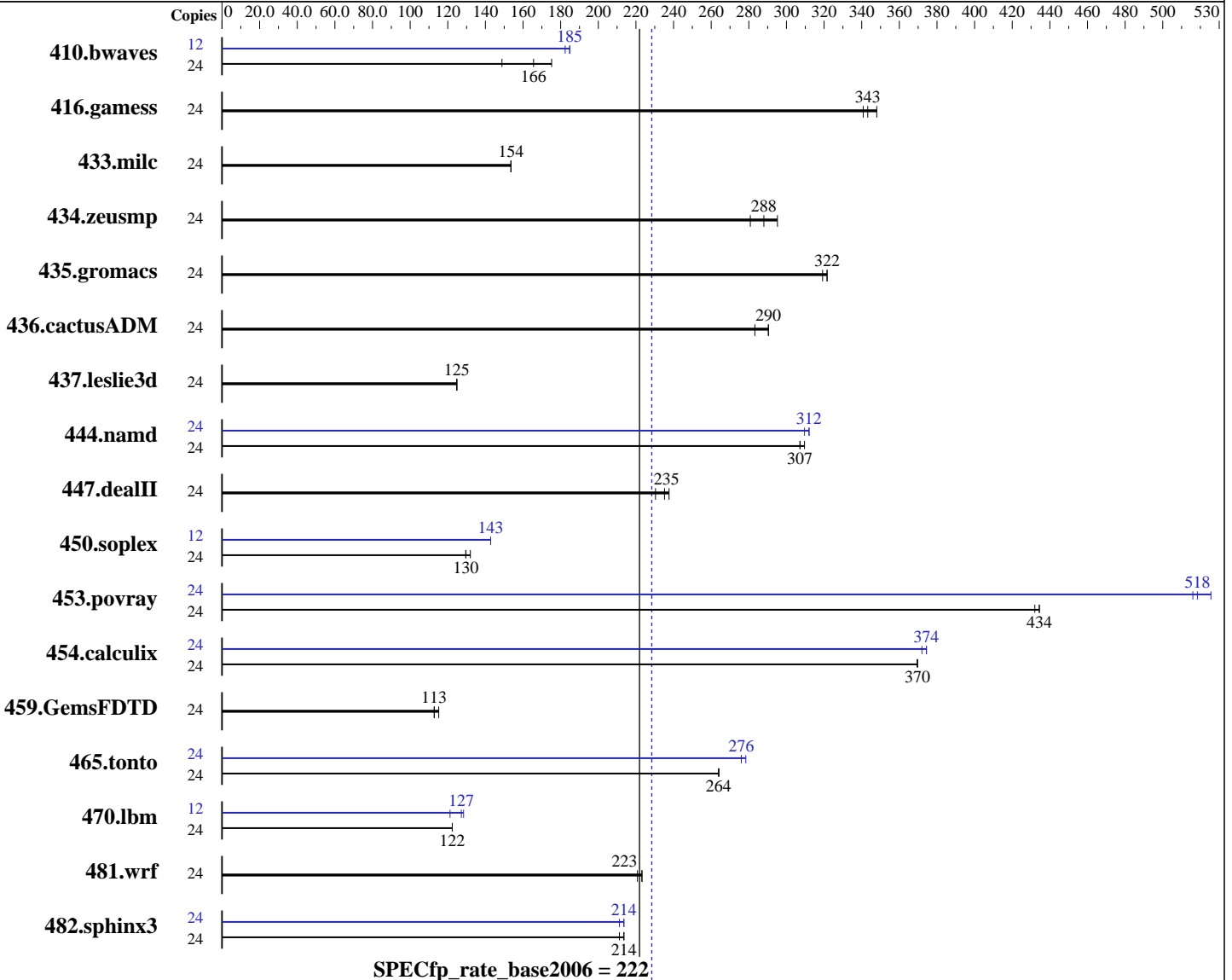SPECfp_rate_base2006 = 222

CPU2006 license: 13
Test sponsor: Intel Corporation
Tested by: Intel Corporation

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Nov-2009

SPECfp_rate_base2006 = 222

SPECfp_rate2006 = 228

Hardware

CPU Name: Intel Xeon X5680
CPU Characteristics: Intel Turbo Boost Technology up to 3.60 GHz
CPU MHz: 3333
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

Continued on next page

Software

Operating System: Windows 7 Enterprise (64-bit)
Compiler: Intel C++ Compiler Professional 11.1 for Intel 64
Build 20090903 Package ID: w_cproc_p_11.1.045
Intel Visual Fortran Compiler Professional 11.1
for Intel 64
Build 20090903 Package ID: w_cproc_p_11.1.045,
w_cprof_p_11.1.045
Microsoft Visual Studio 2008 Professional SP1
(for libraries)
Auto Parallel: No

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L3 Cache:	12 MB I+D on chip per chip	File System:	NTFS
Other Cache:	None	System State:	Default
Memory:	24 GB (6x 4GB DDR3-1333, ECC, CL9)	Base Pointers:	64-bit
Disk Subsystem:	1 x 300 GB SATA, 10000 RPM	Peak Pointers:	64-bit
Other Hardware:	None	Other Software:	SmartHeap Library Version 8.1 from http://www.microquill.com/

Results Table

Benchmark	Copies	Base Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Peak Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	24	2181	149	**1957**	**166**	1852	175	12	895	182	**880**	**185**	880	185
416.gamess	24	**1371**	**343**	1355	348	1378	341	24	**1371**	**343**	1355	348	1378	341
433.milc	24	1445	154	**1435**	**154**	1433	154	24	1445	154	**1435**	**154**	1433	154
434.zeusmp	24	778	281	**760**	**288**	738	295	24	778	281	**760**	**288**	738	295
435.gromacs	24	537	319	533	322	**534**	**322**	24	537	319	533	322	**534**	**322**
436.cactusADM	24	1010	283	**990**	**290**	989	290	24	1010	283	**990**	**290**	989	290
437.leslie3d	24	1816	125	1815	125	**1815**	**125**	24	1816	125	1815	125	**1815**	**125**
444.namd	24	**625**	**307**	626	307	623	310	24	619	312	**619**	**312**	624	310
447.dealII	24	1156	238	1186	230	**1165**	**235**	24	1156	238	1186	230	**1165**	**235**
450.soplex	24	1507	132	**1533**	**130**	1535	130	12	703	143	702	143	**703**	**143**
453.povray	24	**294**	**434**	293	434	295	432	24	243	526	**246**	**518**	247	516
454.calculix	24	534	370	536	370	**535**	**370**	24	529	374	**531**	**374**	531	372
459.GemsFDTD	24	2218	115	**2236**	**113**	2244	113	24	2218	115	**2236**	**113**	2244	113
465.tonto	24	898	264	**896**	**264**	892	264	24	850	278	854	276	**854**	**276**
470.lbm	24	**2707**	**122**	2699	122	2720	122	12	1357	121	**1291**	**127**	1289	128
481.wrf	24	**1200**	**223**	1198	223	1214	221	24	**1200**	**223**	1198	223	1214	221
482.sphinx3	24	**2198**	**214**	2186	214	2227	211	24	2220	211	2196	214	**2197**	**214**

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.

General Notes

Tested systems is used with tower case,
PC Power and Cooling dual 865W power supplys
System was configured with nVidia Quadro FX 370 discrete graphics card

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Base Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qstd=c99 ifort
```

Base Portability Flags

```
      410.bwaves: -DSPEC_CPU_P64 /Qlowercase
      416.gamess: -DSPEC_CPU_P64
        433.milc: -DSPEC_CPU_P64
      434.zeusmp: -DSPEC_CPU_P64
     435.gromacs: -DSPEC_CPU_P64
   436.cactusADM: -DSPEC_CPU_P64 -Qlowercase /assume:underscore
     437.leslie3d: -DSPEC_CPU_P64
       444.namd: -DSPEC_CPU_P64 /TP
      447.dealII: -DSPEC_CPU_P64 -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
      450.soplex: -DSPEC_CPU_P64
      453.povray: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
     454.calculix: -DSPEC_CPU_P64 -DSPEC_CPU_NOZMODIFIER -Qlowercase
    459.GemsFDTD: -DSPEC_CPU_P64
       465.tonto: -DSPEC_CPU_P64
        470.lbm: -DSPEC_CPU_P64
        481.wrf: -DSPEC_CPU_P64 -DSPEC_CPU_WINDOWS_ICL
     482.sphinx3: -DSPEC_CPU_P64
```

Base Optimization Flags

C benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000           -link /FORCE:MULTIPLE
```

C++ benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qcxx-features
-Qauto-ilp32 /F1000000000 shlW64M.lib        -link /FORCE:MULTIPLE
```

Fortran benchmarks:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch /F1000000000
         -link /FORCE:MULTIPLE
```

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Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:
```
-QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch -Qauto-ilp32
/F1000000000          -link /FORCE:MULTIPLE
```

Peak Compiler Invocation

C benchmarks:
```
icl -Qvc9 -Qstd=c99
```

C++ benchmarks:
```
icl -Qvc9
```

Fortran benchmarks:
```
ifort
```

Benchmarks using both Fortran and C:
```
icl -Qvc9 -Qstd=c99 ifort
```

Peak Portability Flags

```
Same as Base Portability Flags
```

Peak Optimization Flags

C benchmarks:

```
    433.milc: basepeak = yes

    470.lbm: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
             -Qauto-ilp32 /F1000000000          -link /FORCE:MULTIPLE

 482.sphinx3: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qunroll2 -Qauto-ilp32
             /F1000000000          -link /FORCE:MULTIPLE
```

C++ benchmarks:

```
   444.namd: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
             -Qipo -O3 -Qprec-div- -Oa -Qauto-ilp32 /F1000000000
             shlW64M.lib          -link /FORCE:MULTIPLE

  447.dealII: basepeak = yes

   450.soplex: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
             -Qipo -O3 -Qauto-ilp32 /F1000000000 shlW64M.lib
                     -link /FORCE:MULTIPLE
```

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Peak Optimization Flags (Continued)

```
    453.povray: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
                -Qipo -O3 -Qprec-div- -Qunroll4 -Qansi-alias -Qauto-ilp32
                /F1000000000 shlW64M.lib              -link /FORCE:MULTIPLE
```

Fortran benchmarks:

```
    410.bwaves: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qopt-prefetch
                /F1000000000            -link /FORCE:MULTIPLE
```

    416.gamess: basepeak = yes

    434.zeusmp: basepeak = yes

    437.leslie3d: basepeak = yes

  459.GemsFDTD: basepeak = yes

```
      465.tonto: -QxSSE4.2(pass 2) -Qprof_gen(pass 1) -Qprof_use(pass 2)
                 -Qipo -O3 -Qprec-div- -Qunroll4 -Qauto /F1000000000
                        -link /FORCE:MULTIPLE
```

Benchmarks using both Fortran and C:

    435.gromacs: basepeak = yes

  436.cactusADM: basepeak = yes

```
    454.calculix: -QxSSE4.2 -Qipo -O3 -Qprec-div- -Qauto-ilp32 /F1000000000
                        -link /FORCE:MULTIPLE
```

        481.wrf: basepeak = yes

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/Intel-ic11.0-winx64-revA.20100302.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

Tested with SPEC CPU2006 v1.1.
Report generated on Wed Jul 23 07:58:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.
Originally published on 4 May 2010.