SPEC® CFP2006 Result

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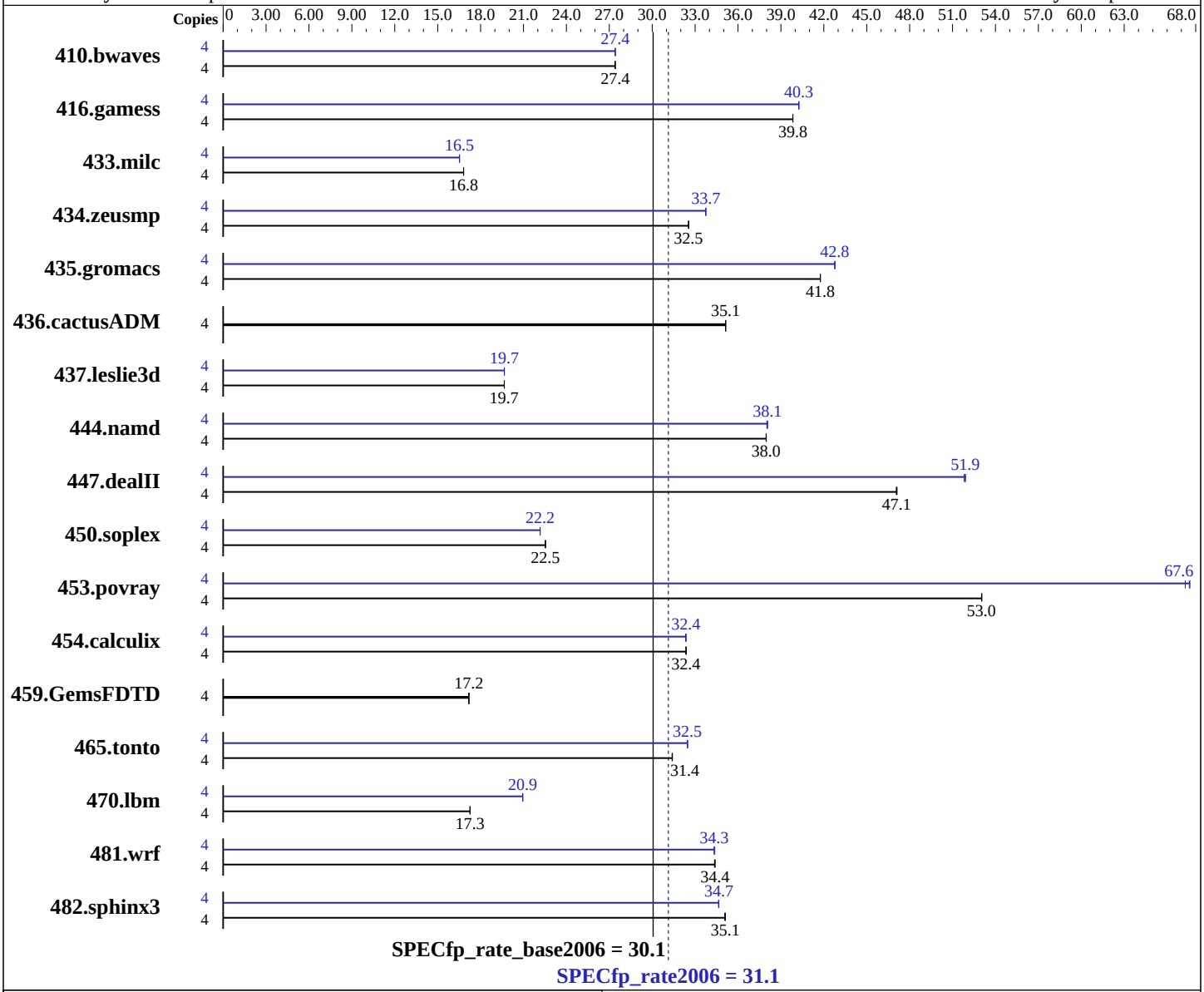
Supermicro
Motherboard X7DB8

SPECfp®_rate2006 = 31.1

SPECfp_rate_base2006 = 30.1

CPU2006 license: 001176
Test sponsor: Supermicro
Tested by: Supermicro

Test date: Jun-2007
Hardware Availability: May-2007
Software Availability: Apr-2007



Hardware

CPU Name:	Intel Xeon 5120
CPU Characteristics:	1.86GHz 1066MHz System Bus
CPU MHz:	1860
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip
CPU(s) orderable:	1, 2 chips
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per chip

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Software

Operating System:	Windows Server 2003 Enterprise Edition W/ SP1
Compiler:	Intel C++ Compiler for IA32 version 10.0 Build 20070426 Package ID: W_CC_P_10.0.025 Intel Fortran Compiler for IA32 version 10.0 Build 20070426 Package ID: W_FC_P_10.0.025 Microsoft Visual Studio .Net 2003 (for libraries)
Auto Parallel:	No
File System:	NTFS
System State:	Default

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L3 Cache: None
Other Cache: None
Memory: 16 GB (8 X 2GB ECC PC2-5300, CL5, FBDIMM)
Disk Subsystem: 250GB SATA, 7200RPM
Other Hardware: None

Base Pointers: 32-bit
Peak Pointers: 32-bit
Other Software: SmartHeap Library Version 8.0 from http://www.microquill.com/

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	4	1984	27.4	1983	27.4	**1983**	**27.4**	4	1983	27.4	**1983**	**27.4**	1983	27.4
416.gamess	4	1966	39.8	1966	39.8	**1966**	**39.8**	4	1946	40.3	1946	40.3	**1946**	**40.3**
433.milc	4	2185	16.8	**2184**	**16.8**	2183	16.8	4	2222	16.5	**2222**	**16.5**	2222	16.5
434.zeusmp	4	**1119**	**32.5**	1119	32.5	1118	32.6	4	1079	33.7	1079	33.8	**1079**	**33.7**
435.gromacs	4	684	41.8	**684**	**41.8**	684	41.8	4	668	42.8	668	42.8	**668**	**42.8**
436.cactusADM	4	1360	35.1	**1361**	**35.1**	1361	35.1	4	1360	35.1	**1361**	**35.1**	1361	35.1
437.leslie3d	4	1913	19.7	1912	19.7	**1913**	**19.7**	4	1912	19.7	1913	19.7	**1912**	**19.7**
444.namd	4	845	38.0	**845**	**38.0**	845	38.0	4	**843**	**38.1**	844	38.0	843	38.1
447.dealII	4	971	47.1	**972**	**47.1**	972	47.1	4	883	51.8	882	51.9	**882**	**51.9**
450.soplex	4	1480	22.5	**1480**	**22.5**	1481	22.5	4	1506	22.2	1505	22.2	**1505**	**22.2**
453.povray	4	401	53.0	401	53.1	**401**	**53.0**	4	315	67.6	316	67.3	**315**	**67.6**
454.calculix	4	1020	32.4	**1020**	**32.4**	1020	32.4	4	1020	32.4	1020	32.3	**1020**	**32.4**
459.GemsFDTD	4	2469	17.2	2471	17.2	**2470**	**17.2**	4	2469	17.2	2471	17.2	**2470**	**17.2**
465.tonto	4	1253	31.4	1254	31.4	**1254**	**31.4**	4	1212	32.5	**1212**	**32.5**	1212	32.5
470.lbm	4	**3184**	**17.3**	3184	17.3	3184	17.3	4	2624	20.9	**2624**	**20.9**	2624	20.9
481.wrf	4	1300	34.4	1299	34.4	**1299**	**34.4**	4	1300	34.4	1301	34.3	**1301**	**34.3**
482.sphinx3	4	2220	35.1	**2221**	**35.1**	2223	35.1	4	2251	34.6	**2249**	**34.7**	2249	34.7

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

General Notes

```
Tested systems can be used with CSE-825S2-R700LPV case,
To ensure system stability, a 500W (minimum) ATX power supply [4-pin (+12V), 8-pin (+12V) and 24-pin are required]
Product description located as of http://www.supermicro.com/products/motherboard/Xeon1333/5000P/X7DB8.cfm
The system bus runs at 1066 MHz
"start /b /wait /affinity" used to bind processes to CPUs.
```

Base Compiler Invocation

C benchmarks:

```
icl -Qvc7.1 -Qc99
```

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Base Compiler Invocation (Continued)

C++ benchmarks:
icl -Qvc7.1

Fortran benchmarks:
ifort

Benchmarks using both Fortran and C:
icl -Qvc7.1 -Qc99 ifort

Base Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG -DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Base Optimization Flags

C benchmarks:
-fast /F950000000 shlw32m.lib -link /FORCE:MULTIPLE

C++ benchmarks:
-fast -Qcxx_features /F950000000 shlw32m.lib -link /FORCE:MULTIPLE

Fortran benchmarks:
-fast /F950000000

Benchmarks using both Fortran and C:
-fast /F950000000

Peak Compiler Invocation

C benchmarks:
icl -Qvc7.1 -Qc99

C++ benchmarks:
icl -Qvc7.1

Fortran benchmarks:
ifort

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Peak Compiler Invocation (Continued)

Benchmarks using both Fortran and C:
icl -Qvc7.1 -Qc99 ifort

Peak Portability Flags

436.cactusADM: -Qlowercase /assume:underscore
444.namd: -TP
447.dealII: -DDEAL_II_MEMBER_VAR_SPECIALIZATION_BUG
-DBOOST_NO_INTRINSIC_WCHAR_T
453.povray: -DSPEC_CPU_WINDOWS_ICL
454.calculix: -DSPEC_CPU_NOZMODIFIER -Qlowercase
481.wrf: -DSPEC_CPU_WINDOWS_ICL

Peak Optimization Flags

C benchmarks:

433.milc: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2 -Oa
/F950000000 shlw32m.lib -link /FORCE:MULTIPLE

470.lbm: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2
-Qscalar-rep- -Qprefetch /F950000000 shlw32m.lib
-link /FORCE:MULTIPLE

482.sphinx3: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qunroll2
/F950000000 shlw32m.lib -link /FORCE:MULTIPLE

C++ benchmarks:

444.namd: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Oa
-Qcxx_features /F950000000 shlw32m.lib
-link /FORCE:MULTIPLE

447.dealII: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qprefetch
-Qcxx_features /F950000000 shlw32m.lib
-link /FORCE:MULTIPLE

450.soplex: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qcxx_features
/F950000000 shlw32m.lib -link /FORCE:MULTIPLE

453.povray: -Qprof_gen(pass 1) -Qprof_use(pass 2) -fast -Qansi-alias
-Qcxx_features /F950000000 shlw32m.lib
-link /FORCE:MULTIPLE

Fortran benchmarks:

Continued on next page

Peak Optimization Flags (Continued)

410.bwaves: `-fast /F950000000`

416.gamess: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Qunroll2 -Ob0 -Qansi-alias -Qscalar-rep- /F950000000`

434.zeusmp: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-QxT -O2 -Qprec_div- -Qunroll0 -Qscalar-rep- /F950000000`

437.leslie3d: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast /F950000000`

459.GemsFDTD: `basepeak = yes`

465.tonto: `Same as 437.leslie3d`

Benchmarks using both Fortran and C:

435.gromacs: `-Qprof_gen`(pass 1) `-Qprof_use`(pass 2) `-fast -Oa /F950000000`

436.cactusADM: `basepeak = yes`

454.calculix: `-fast /F950000000`

481.wrf: `Same as 454.calculix`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.18.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/Intel-ic10-ia32-intel64-linux-flags.20090714.18.xml`

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