Supermicro
SuperWorkstation 7047GR-TRF (X9DRG-QF, Intel Xeon E5-2660)

SPECfp®2006 = 77.6
SPECfp_base2006 = 73.4

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

Test date: May-2012
Hardware Availability: Mar-2012
Software Availability: Dec-2011

Hardware
CPU Name: Intel Xeon E5-2660
CPU Characteristics: Intel Turbo Boost Technology up to 3.00 GHz
CPU MHz: 2200
FPU: Integrated
CPU(s) enabled: 16 cores, 2 chips, 8 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

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;
Fortran: Version 12.1.0.225 of Intel Fortran
Studio XE for Linux
Auto Parallel: Yes
File System: ext4
System State: Run level 3 (multi-user)
Supermicro
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SPEC CFP2006 Result

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L3 Cache: 20 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC)
Disk Subsystem: 1 x 1 TB SATA II, 7200 RPM
Other Hardware: None

Base Pointers: 64-bit
Peak Pointers: 32/64-bit
Other Software: None

Results Table

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<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Seconds</th>
<th>Ratio</th>
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<td>62.7</td>
<td>311</td>
<td>62.6</td>
</tr>
</tbody>
</table>

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"

General Notes

Environment variables set by runspec before the start of the run:
KMP_AFFINITY = "granularity=fine,scatter"
LD_LIBRARY_PATH = "/home/cpu2006/libs/32:/home/cpu2006/libs/64"
OMP_NUM_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5
Transparent Huge Pages enabled with:
echo always >/sys/kernel/mm/redhat_transparent_hugepage/enabled
SPEC CFP2006 Result

Supermicro
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CPU2006 license: 001176
Test date: May-2012
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Software Availability: Dec-2011

### Base Compiler Invocation

C benchmarks:
- `icc -m64`

C++ benchmarks:
- `icpc -m64`

Fortran benchmarks:
- `ifort -m64`

Benchmarks using both Fortran and C:
- `icc -m64 ifort -m64`

### Base Portability Flags

410.bwaves: `--DSPEC_CPU_LP64`
416.gamess: `--DSPEC_CPU_LP64`
433.milc: `--DSPEC_CPU_LP64`
434.zeusmp: `--DSPEC_CPU_LP64`
435.gromacs: `--DSPEC_CPU_LP64 -nofor_main`
436.cactusADM: `--DSPEC_CPU_LP64 -nofor_main`
437.leslie3d: `--DSPEC_CPU_LP64`
444.namd: `--DSPEC_CPU_LP64`
447.dealII: `--DSPEC_CPU_LP64`
450.soplex: `--DSPEC_CPU_LP64`
453.povray: `--DSPEC_CPU_LP64`
454.calculix: `--DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG`
459.GemsFDTD: `--DSPEC_CPU_LP64`
465.tonto: `--DSPEC_CPU_LP64`
470.lbm: `--DSPEC_CPU_LP64`
481.wrf: `--DSPEC_CPU_LP64 -DSPEC_CPU_CASE_FLAG -DSPEC_CPU_LINUX`
482.sphinx3: `--DSPEC_CPU_LP64`

### Base Optimization Flags

C benchmarks:
- `--xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`
- `--ansi-alias`

C++ benchmarks:
- `--xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias`

Fortran benchmarks:
- `--xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`

Benchmarks using both Fortran and C:
- `--xAVX -ipo -O3 -no-prec-div -static -parallel -opt-prefetch`
- `--ansi-alias`
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Peak Compiler Invocation

- C benchmarks: icc -m64
- C++ benchmarks: icpc -m64
- Fortran benchmarks: ifort -m64
- Benchmarks using both Fortran and C: icc -m64 ifort -m64

Peak Portability Flags

Same as Base Portability Flags

Peak Optimization Flags

- C benchmarks:
  433.milc: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32
  -ansi-alias
  470.lbm: basepeak = yes
  482.sphinx3: -xAVX -ipo -O3 -no-prec-div -unroll2 -ansi-alias
  -parallel

- C++ benchmarks:
  444.namd: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -fno-alias
  -auto-ilp32
  447.dealII: basepeak = yes
  450.soplex: basepeak = yes
  453.povray: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)
  -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -ansi-alias

- Fortran benchmarks:
  410.bwaves: -xAVX -ipo -O3 -no-prec-div -opt-prefetch -parallel
  -static

Continued on next page
**Supermicro**  
SuperWorkstation 7047GR-TRF (X9DRG-QF, Intel Xeon E5-2660)

| SPECfp2006 | 77.6 |
| SPECfp_base2006 | 73.4 |

**CPU2006 license:** 001176  
**Test date:** May-2012

**Test sponsor:** Supermicro  
**Hardware Availability:** Mar-2012

**Tested by:** Supermicro  
**Software Availability:** Dec-2011

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### Peak Optimization Flags (Continued)

416.gamess: `-xAVX (pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -scalar-rep- -static`

434.zeusmp: `basepeak = yes`

437.leslie3d: `basepeak = yes`

459.GemsFDTD: `-xAVX (pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-inline-level=0 -opt-prefetch -parallel`

465.tonto: `-xAVX (pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -inline-calloc  
-opt-malloc-options=3 -auto -unroll4`

**Benchmarks using both Fortran and C:**

435.gromacs: `basepeak = yes`

436.cactusADM: `basepeak = yes`

454.calculix: `-xAVX -ipo -O3 -no-prec-div -auto-ilp32 -ansi-alias`

481.wrf: `basepeak = yes`

---

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

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

---

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

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