SPEC® CFP2006 Result
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Fujitsu

PRIMERGY TX140 S1, Intel Core i3-2120, 3.30 GHz

$SPECfp^{®}2006 =$　49.2

$SPECfp\_base2006 =$　47.5

CPU2006 license: 19	**Test date:** May-2011
Test sponsor: Fujitsu	**Hardware Availability:** Jun-2011
Tested by: Fujitsu	**Software Availability:** Apr-2011

Benchmark results:

- 410.bwaves: 97.8 / 97.8
- 416.gamess: 33.9 / 29.7
- 433.milc: 62.9
- 434.zeusmp: 53.3
- 435.gromacs: 25.1
- 436.cactusADM: 80.7
- 437.leslie3d: 56.4
- 444.namd: 22.9 / 22.7
- 447.dealII: 49.1
- 450.soplex: 32.6
- 453.povray: 51.3 / 42.7
- 454.calculix: 41.4 / 37.5
- 459.GemsFDTD: 51.9 / 47.9
- 465.tonto: 38.4 / 36.7
- 470.lbm: 111
- 481.wrf: 63.7
- 482.sphinx3: 42.2 / 39.8

SPECfp_base2006 = 47.5

SPECfp2006 = 49.2

Hardware

CPU Name:	Intel Core i3-2120
CPU Characteristics:	
CPU MHz:	3300
FPU:	Integrated
CPU(s) enabled:	2 cores, 1 chip, 2 cores/chip
CPU(s) orderable:	1 chip
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:	SUSE Linux Enterprise Server 11 (x86_64) with SP1, Kernel 2.6.32.12-0.7-default
Compiler:	Intel C++ and Fortran Intel 64 Compiler XE for applications running on Intel 64 Version 12.0 Update 3
Auto Parallel:	Yes
File System:	ext3
System State:	Run level 3 (multi-user)
Base Pointers:	64-bit

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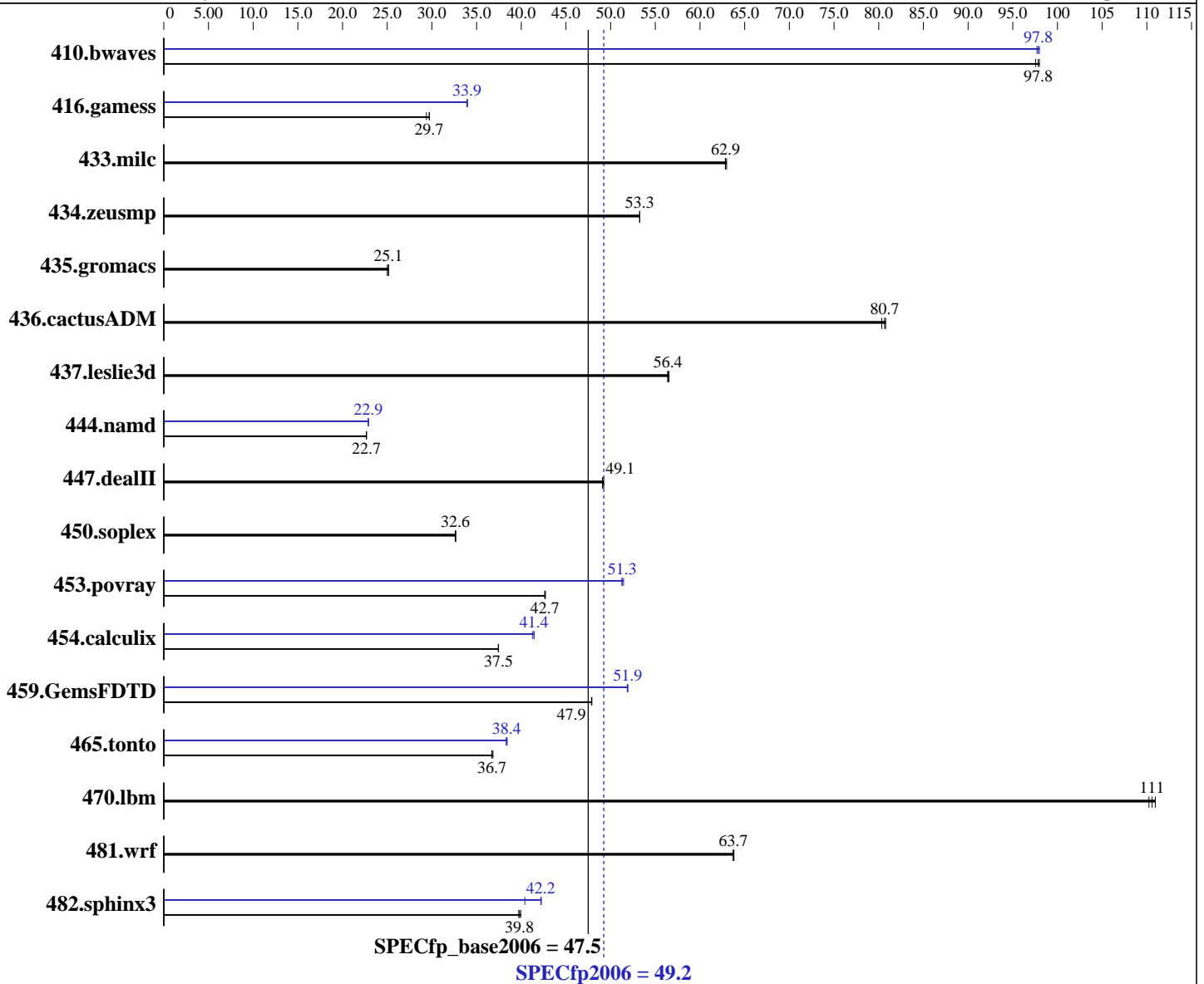|	
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Test date: May-2011
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L3 Cache:	3 MB I+D on chip per chip
Other Cache:	None
Memory:	8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)
Disk Subsystem:	1 x SATA, 300 GB, 7200 RPM
Other Hardware:	None
Peak Pointers:	32/64-bit
Other Software:	None

Results Table

Benchmark	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Base Seconds	Base Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio	Peak Seconds	Peak Ratio
410.bwaves	139	97.6	139	98.0	**139**	**97.8**	139	97.7	**139**	**97.8**	139	98.0
416.gamess	666	29.4	**659**	**29.7**	659	29.7	**577**	**33.9**	577	33.9	576	34.0
433.milc	146	62.8	146	63.0	**146**	**62.9**	146	62.8	146	63.0	**146**	**62.9**
434.zeusmp	171	53.3	171	53.3	**171**	**53.3**	171	53.3	171	53.3	**171**	**53.3**
435.gromacs	286	25.0	284	25.2	**284**	**25.1**	286	25.0	284	25.2	**284**	**25.1**
436.cactusADM	148	80.8	149	80.3	**148**	**80.7**	148	80.8	149	80.3	**148**	**80.7**
437.leslie3d	**167**	**56.4**	166	56.5	167	56.4	**167**	**56.4**	166	56.5	167	56.4
444.namd	**354**	**22.7**	354	22.7	354	22.7	**350**	**22.9**	351	22.9	350	22.9
447.dealII	233	49.1	**233**	**49.1**	232	49.2	233	49.1	**233**	**49.1**	232	49.2
450.soplex	256	32.6	255	32.7	**256**	**32.6**	256	32.6	255	32.7	**256**	**32.6**
453.povray	125	42.6	**125**	**42.7**	125	42.7	103	51.5	**104**	**51.3**	104	51.3
454.calculix	220	37.4	**220**	**37.5**	220	37.5	200	41.2	**199**	**41.4**	199	41.4
459.GemsFDTD	221	47.9	**222**	**47.9**	222	47.9	205	51.9	204	51.9	**204**	**51.9**
465.tonto	**268**	**36.7**	267	36.8	268	36.7	256	38.4	257	38.3	**257**	**38.4**
470.lbm	125	110	124	111	**124**	**111**	125	110	124	111	**124**	**111**
481.wrf	**175**	**63.7**	175	63.8	175	63.7	**175**	**63.7**	175	63.8	175	63.7
482.sphinx3	**490**	**39.8**	488	39.9	491	39.7	482	40.4	**462**	**42.2**	461	42.2

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

Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

Platform Notes

```
BIOS configuration:
Intel HT Technology = Disable
```

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General Notes

```
OMP_NUM_THREADS set to number of cores
For information about Fujitsu please visit: http://www.fujitsu.com
Binaries were compiled on RHEL5.5
This result was measured on the PRIMERGY TX140 S1. The PRIMERGY TX120 S3
and the PRIMERGY TX140 S1 are electronically equivalent.
```

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 -nofor_main
   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
```

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Base Optimization Flags (Continued)

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
```

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: basepeak = yes

> 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```

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Peak Optimization Flags (Continued)

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

Fortran benchmarks:

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

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

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
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT

481.wrf: basepeak = yes

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.html
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.xml
http://www.spec.org/cpu2006/flags/Fujitsu-Platform.xml

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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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