



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **53.2**

PRIMERGY TX140 S1, Intel Xeon E3-1260L, 2.40 GHz

SPECfp\_base2006 = **49.8**

CPU2006 license: 19

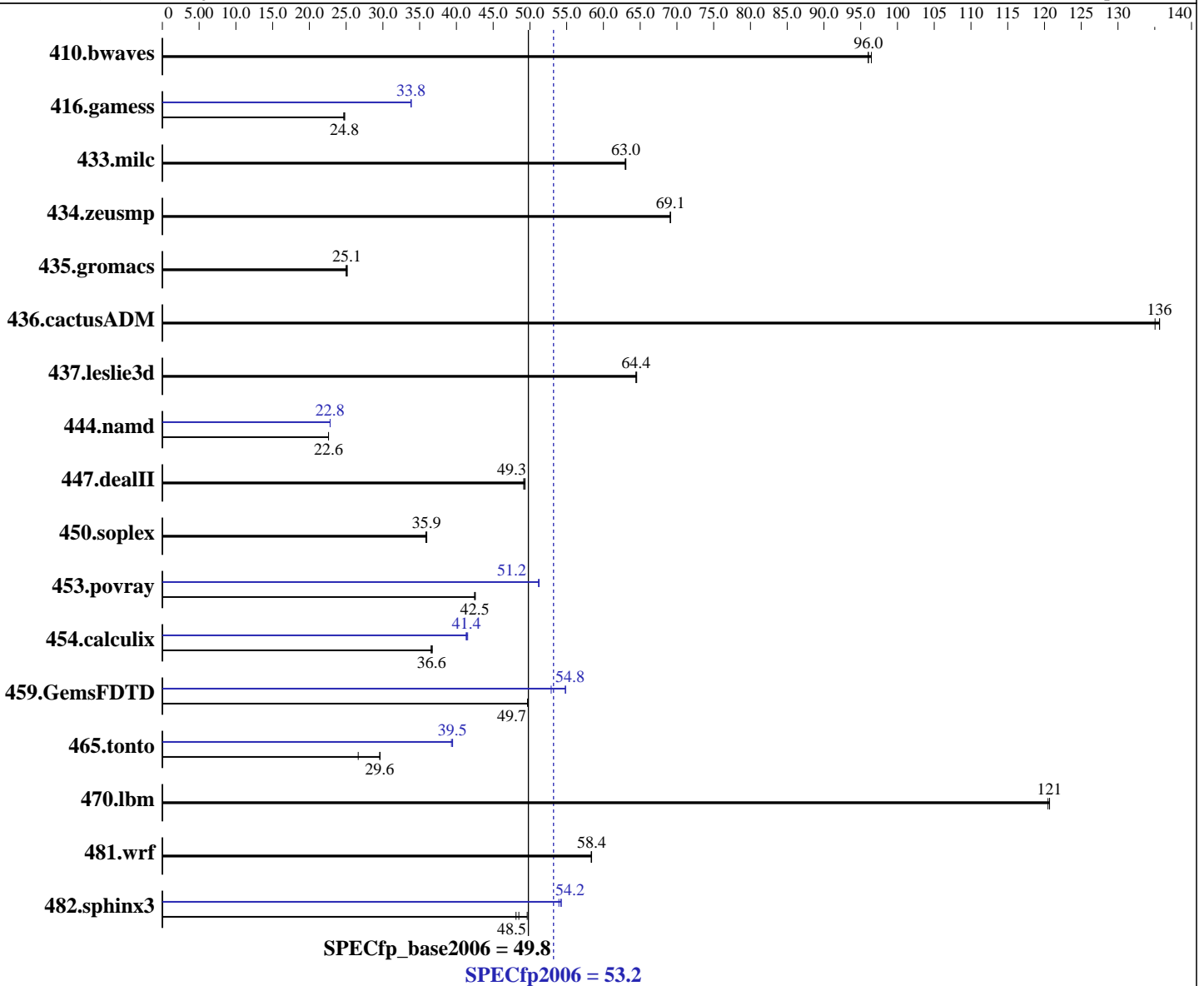
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2011

Hardware Availability: Jun-2011

Software Availability: Apr-2011



### Hardware

CPU Name: Intel Xeon E3-1260L  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 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

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### 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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L3 Cache: 8 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						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
410.bwaves	<b><u>142</u></b>	<b><u>96.0</u></b>	141	96.4	142	96.0	<b><u>142</u></b>	<b><u>96.0</u></b>	141	96.4	142	96.0
416.gamess	790	24.8	794	24.7	<b><u>790</u></b>	<b><u>24.8</u></b>	578	33.9	<b><u>579</u></b>	<b><u>33.8</u></b>	579	33.8
433.milc	146	63.0	<b><u>146</u></b>	<b><u>63.0</u></b>	146	63.1	146	63.0	<b><u>146</u></b>	<b><u>63.0</u></b>	146	63.1
434.zeusmp	132	69.1	132	69.1	<b><u>132</u></b>	<b><u>69.1</u></b>	132	69.1	132	69.1	<b><u>132</u></b>	<b><u>69.1</u></b>
435.gromacs	284	25.1	<b><u>284</u></b>	<b><u>25.1</u></b>	286	25.0	284	25.1	<b><u>284</u></b>	<b><u>25.1</u></b>	286	25.0
436.cactusADM	88.1	136	88.5	135	<b><u>88.1</u></b>	<b><u>136</u></b>	88.1	136	88.5	135	<b><u>88.1</u></b>	<b><u>136</u></b>
437.leslie3d	146	64.4	146	64.5	<b><u>146</u></b>	<b><u>64.4</u></b>	146	64.4	146	64.5	<b><u>146</u></b>	<b><u>64.4</u></b>
444.namd	355	22.6	<b><u>355</u></b>	<b><u>22.6</u></b>	355	22.6	<b><u>351</u></b>	<b><u>22.8</u></b>	351	22.8	351	22.8
447.dealII	233	49.2	<b><u>232</u></b>	<b><u>49.3</u></b>	232	49.3	233	49.2	<b><u>232</u></b>	<b><u>49.3</u></b>	232	49.3
450.soplex	<b><u>232</u></b>	<b><u>35.9</u></b>	233	35.8	232	36.0	<b><u>232</u></b>	<b><u>35.9</u></b>	233	35.8	232	36.0
453.povray	<b><u>125</u></b>	<b><u>42.5</u></b>	125	42.6	125	42.5	104	51.2	104	51.3	<b><u>104</u></b>	<b><u>51.2</u></b>
454.calculix	225	36.7	226	36.6	<b><u>225</u></b>	<b><u>36.6</u></b>	199	41.5	<b><u>199</u></b>	<b><u>41.4</u></b>	200	41.3
459.GemsFDTD	213	49.7	213	49.7	<b><u>213</u></b>	<b><u>49.7</u></b>	193	54.9	201	52.9	<b><u>194</u></b>	<b><u>54.8</u></b>
465.tonto	<b><u>333</u></b>	<b><u>29.6</u></b>	369	26.6	332	29.6	249	39.5	<b><u>249</u></b>	<b><u>39.5</u></b>	250	39.3
470.lbm	114	121	114	120	<b><u>114</u></b>	<b><u>121</u></b>	114	121	114	120	<b><u>114</u></b>	<b><u>121</u></b>
481.wrf	191	58.3	<b><u>191</u></b>	<b><u>58.4</u></b>	191	58.4	191	58.3	<b><u>191</u></b>	<b><u>58.4</u></b>	191	58.4
482.sphinx3	<b><u>402</u></b>	<b><u>48.5</u></b>	393	49.6	405	48.1	<b><u>360</u></b>	<b><u>54.2</u></b>	361	53.9	359	54.3

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
'nodetv /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 TX120 S3. 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.deallI: -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.dealIII: 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: basepeak = yes

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>

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