



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

SPECfp<sup>®</sup>2006 = **52.9**

PRIMERGY RX100 S7, Intel Xeon E3-1260L, 2.40 GHz

SPECfp\_base2006 = **49.7**

CPU2006 license: 19

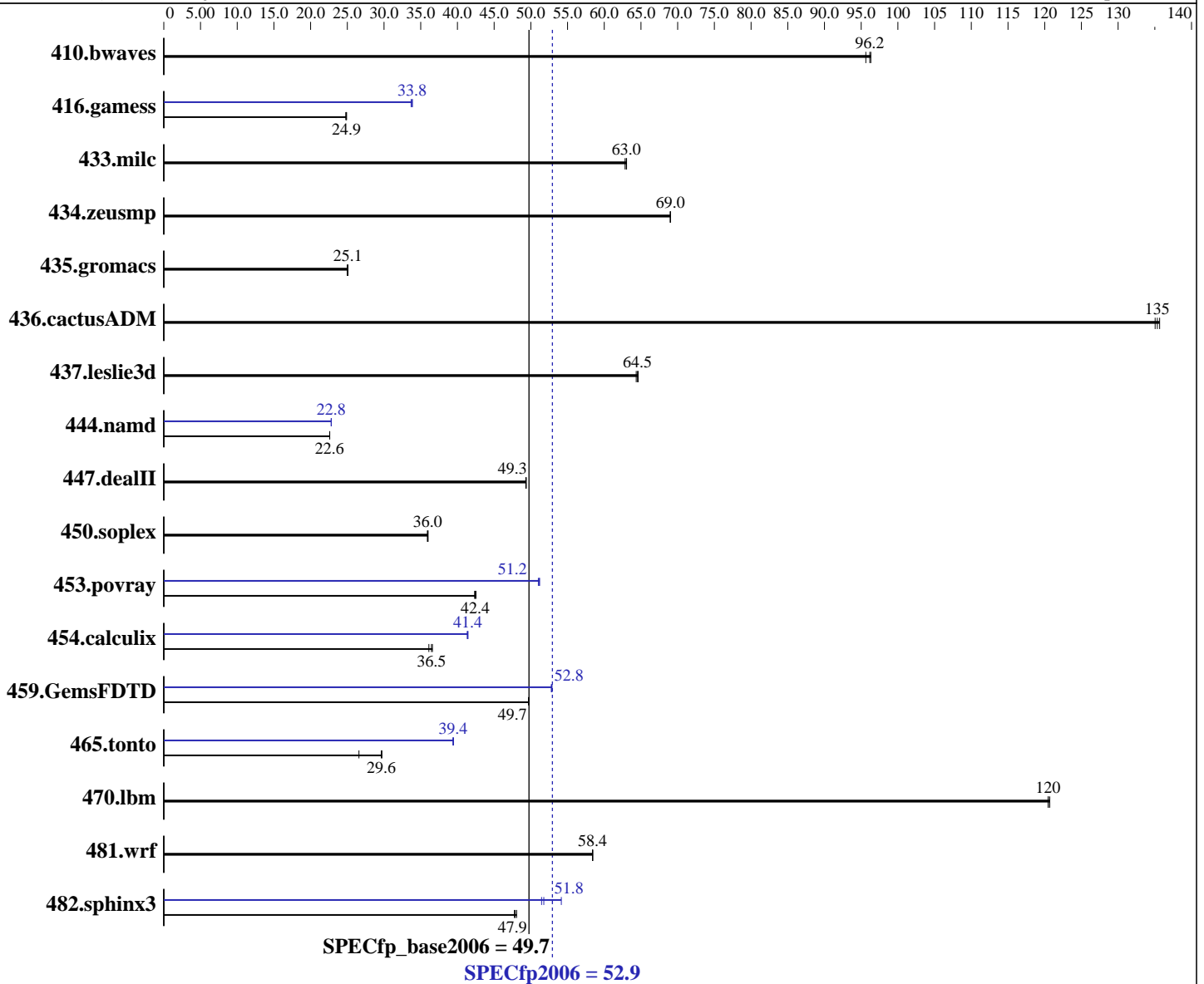
Test sponsor: Fujitsu

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: --

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	142	95.6	<b>141</b>	<b>96.2</b>	141	96.3	142	95.6	<b>141</b>	<b>96.2</b>	141	96.3
416.gamess	787	24.9	<b>787</b>	<b>24.9</b>	790	24.8	<b>578</b>	<b>33.8</b>	581	33.7	578	33.8
433.milc	<b>146</b>	<b>63.0</b>	146	63.0	146	62.8	<b>146</b>	<b>63.0</b>	146	63.0	146	62.8
434.zeusmp	<b>132</b>	<b>69.0</b>	132	69.0	132	69.0	<b>132</b>	<b>69.0</b>	132	69.0	132	69.0
435.gromacs	<b>285</b>	<b>25.1</b>	285	25.1	286	25.0	<b>285</b>	<b>25.1</b>	285	25.1	286	25.0
436.cactusADM	88.5	135	88.1	136	<b>88.3</b>	<b>135</b>	88.5	135	88.1	136	<b>88.3</b>	<b>135</b>
437.leslie3d	145	64.6	146	64.4	<b>146</b>	<b>64.5</b>	145	64.6	146	64.4	<b>146</b>	<b>64.5</b>
444.namd	<b>355</b>	<b>22.6</b>	355	22.6	355	22.6	352	22.8	351	22.8	<b>352</b>	<b>22.8</b>
447.dealII	232	49.4	232	49.3	<b>232</b>	<b>49.3</b>	232	49.4	232	49.3	<b>232</b>	<b>49.3</b>
450.soplex	232	36.0	<b>232</b>	<b>36.0</b>	232	35.9	232	36.0	<b>232</b>	<b>36.0</b>	232	35.9
453.povray	126	42.3	<b>125</b>	<b>42.4</b>	125	42.5	<b>104</b>	<b>51.2</b>	104	51.2	104	51.0
454.calculix	<b>226</b>	<b>36.5</b>	228	36.1	225	36.6	200	41.3	<b>199</b>	<b>41.4</b>	199	41.4
459.GemsFDTD	213	49.7	<b>213</b>	<b>49.7</b>	213	49.7	201	52.8	201	52.9	<b>201</b>	<b>52.8</b>
465.tonto	370	26.6	<b>332</b>	<b>29.6</b>	331	29.7	249	39.5	250	39.4	<b>250</b>	<b>39.4</b>
470.lbm	114	121	<b>114</b>	<b>120</b>	114	120	114	121	<b>114</b>	<b>120</b>	114	120
481.wrf	<b>191</b>	<b>58.4</b>	191	58.4	191	58.5	<b>191</b>	<b>58.4</b>	191	58.4	191	58.5
482.sphinx3	406	48.1	408	47.8	<b>407</b>	<b>47.9</b>	360	54.2	<b>377</b>	<b>51.8</b>	379	51.5

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 HUGE_TLB_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 with binutils-2.17.50.0.6-14.el5

## 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

C++ benchmarks:

-xAVX -ipo -O3 -no-prec-div -static -opt-prefetch -ansi-alias

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## Base Optimization Flags (Continued)

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`

447.dealIII: `basepeak = yes`

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## Peak Optimization Flags (Continued)

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-Intel-Linux64.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-Intel-Linux64.xml>



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Tested with SPEC CPU2006 v1.1.  
Report generated on Wed Jul 23 20:28:37 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 24 May 2011.