



# SPEC<sup>®</sup> CFP2006 Result

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## Fujitsu

### SPECfp<sup>®</sup>\_rate2006 = 55.1

PRIMERGY TX120 S3, Intel Pentium G620, 2.60 GHz

### SPECfp\_rate\_base2006 = 54.3

CPU2006 license: 19

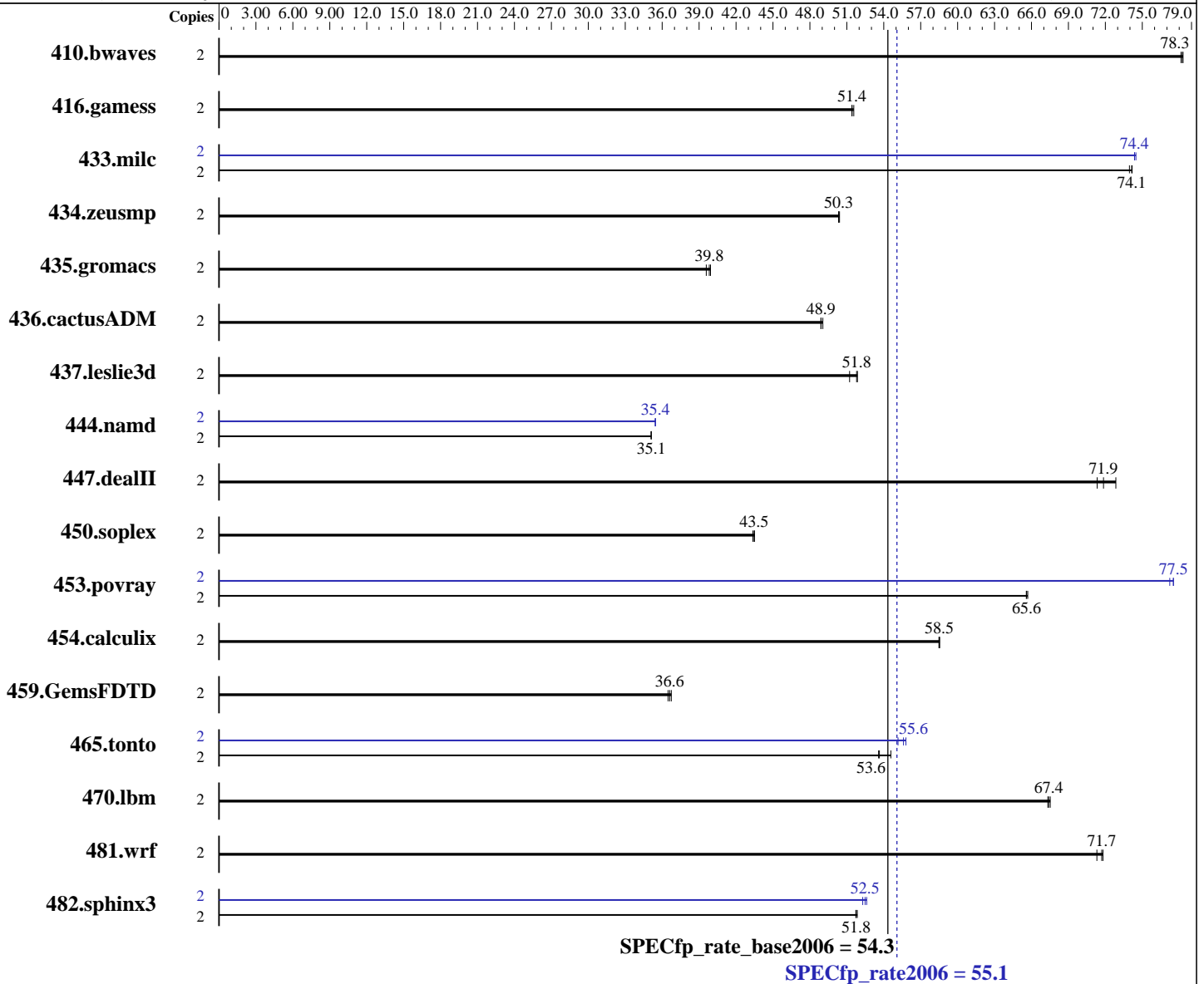
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: May-2011

Hardware Availability: Jun-2011

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Pentium G620  
 CPU Characteristics:  
 CPU MHz: 2600  
 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

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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 12.0.1.116 Build 20101116  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 64-bit

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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, running at 1067 MHz and CL7)  
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       |             |            |             |            |             |  |  |
|---------------|--------|------------|-------------|------------|-------------|------------|-------------|--------|------------|-------------|------------|-------------|------------|-------------|--|--|
|               | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       | Copies | Seconds    | Ratio       | Seconds    | Ratio       | Seconds    | Ratio       |  |  |
| 410.bwaves    | 2      | 347        | 78.3        | 348        | 78.1        | <b>347</b> | <b>78.3</b> | 2      | 347        | 78.3        | 348        | 78.1        | <b>347</b> | <b>78.3</b> |  |  |
| 416.gamess    | 2      | 759        | 51.6        | 762        | 51.4        | <b>762</b> | <b>51.4</b> | 2      | 759        | 51.6        | 762        | 51.4        | <b>762</b> | <b>51.4</b> |  |  |
| 433.milc      | 2      | 248        | 74.2        | 248        | 74.0        | <b>248</b> | <b>74.1</b> | 2      | <b>247</b> | <b>74.4</b> | 246        | 74.5        | 247        | 74.4        |  |  |
| 434.zeusmp    | 2      | 361        | 50.4        | <b>361</b> | <b>50.3</b> | 362        | 50.3        | 2      | 361        | 50.4        | <b>361</b> | <b>50.3</b> | 362        | 50.3        |  |  |
| 435.gromacs   | 2      | 358        | 39.9        | <b>359</b> | <b>39.8</b> | 361        | 39.6        | 2      | 358        | 39.9        | <b>359</b> | <b>39.8</b> | 361        | 39.6        |  |  |
| 436.cactusADM | 2      | 489        | 48.9        | <b>489</b> | <b>48.9</b> | 487        | 49.1        | 2      | 489        | 48.9        | <b>489</b> | <b>48.9</b> | 487        | 49.1        |  |  |
| 437.leslie3d  | 2      | <b>363</b> | <b>51.8</b> | 367        | 51.2        | 362        | 51.9        | 2      | <b>363</b> | <b>51.8</b> | 367        | 51.2        | 362        | 51.9        |  |  |
| 444.namd      | 2      | 457        | 35.1        | <b>457</b> | <b>35.1</b> | 457        | 35.1        | 2      | 452        | 35.4        | <b>453</b> | <b>35.4</b> | 453        | 35.4        |  |  |
| 447.dealII    | 2      | 314        | 72.9        | <b>318</b> | <b>71.9</b> | 321        | 71.3        | 2      | 314        | 72.9        | <b>318</b> | <b>71.9</b> | 321        | 71.3        |  |  |
| 450.soplex    | 2      | 383        | 43.5        | 385        | 43.4        | <b>384</b> | <b>43.5</b> | 2      | 383        | 43.5        | 385        | 43.4        | <b>384</b> | <b>43.5</b> |  |  |
| 453.povray    | 2      | 162        | 65.7        | <b>162</b> | <b>65.6</b> | 162        | 65.6        | 2      | 138        | 77.2        | <b>137</b> | <b>77.5</b> | 137        | 77.5        |  |  |
| 454.calculix  | 2      | 282        | 58.5        | <b>282</b> | <b>58.5</b> | 282        | 58.5        | 2      | 282        | 58.5        | <b>282</b> | <b>58.5</b> | 282        | 58.5        |  |  |
| 459.GemsFDTD  | 2      | 578        | 36.7        | <b>580</b> | <b>36.6</b> | 582        | 36.5        | 2      | 578        | 36.7        | <b>580</b> | <b>36.6</b> | 582        | 36.5        |  |  |
| 465.tonto     | 2      | <b>367</b> | <b>53.6</b> | 367        | 53.6        | 361        | 54.6        | 2      | 353        | 55.8        | 357        | 55.2        | <b>354</b> | <b>55.6</b> |  |  |
| 470.lbm       | 2      | 408        | 67.3        | 407        | 67.5        | <b>408</b> | <b>67.4</b> | 2      | 408        | 67.3        | 407        | 67.5        | <b>408</b> | <b>67.4</b> |  |  |
| 481.wrf       | 2      | <b>312</b> | <b>71.7</b> | 311        | 71.8        | 313        | 71.3        | 2      | <b>312</b> | <b>71.7</b> | 311        | 71.8        | 313        | 71.3        |  |  |
| 482.sphinx3   | 2      | 752        | 51.9        | <b>753</b> | <b>51.8</b> | 754        | 51.7        | 2      | 741        | 52.6        | <b>743</b> | <b>52.5</b> | 745        | 52.3        |  |  |

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

## Submit Notes

The config file option 'submit' was used.  
numactl was used to bind copies to the cores

## Operating System Notes

'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run  
Large pages were not enabled for this run

## General Notes

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  
Continued on next page



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**Fujitsu**

**SPECfp\_rate2006 = 55.1**

PRIMERGY TX120 S3, Intel Pentium G620, 2.60 GHz

**SPECfp\_rate\_base2006 = 54.3**

**CPU2006 license:** 19  
**Test sponsor:** Fujitsu  
**Tested by:** Fujitsu

**Test date:** May-2011  
**Hardware Availability:** Jun-2011  
**Software Availability:** Jan-2011

## General Notes (Continued)

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:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

C++ benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias

Fortran benchmarks:  
-xSSE4.2 -ipo -O3 -no-prec-div -static

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## Base Optimization Flags (Continued)

Benchmarks using both Fortran and C:

`-xSSE4.2 -ipo -O3 -no-prec-div -static -ansi-alias`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m64`

`482.sphinx3:icc -m32`

C++ benchmarks:

`icpc -m64`

Fortran benchmarks:

`ifort -m64`

Benchmarks using both Fortran and C:

`icc -m64 ifort -m64`

## Peak 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`

## Peak Optimization Flags

C benchmarks:

`433.milc: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -static -auto-ilp32`

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## Peak Optimization Flags (Continued)

470.lbm: basepeak = yes

482.sphinx3: -xSSE4.2 -ipo -O3 -no-prec-div -unroll2

### C++ benchmarks:

444.namd: -xSSE4.2(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

450.soplex: basepeak = yes

453.povray: -xSSE4.2(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: basepeak = yes

434.zeusmp: basepeak = yes

437.leslie3d: basepeak = yes

459.GemsFDTD: basepeak = yes

465.tonto: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto  
-inline-calloc -opt-malloc-options=3  
-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: basepeak = yes

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>



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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 other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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