



# SPEC® CINT2006 Result

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Fujitsu

**SPECint®\_rate2006 = 62.3**

PRIMERGY TX150 S8, Intel Pentium 1403, 2.60 GHz

**SPECint\_rate\_base2006 = 59.9**

CPU2006 license: 19

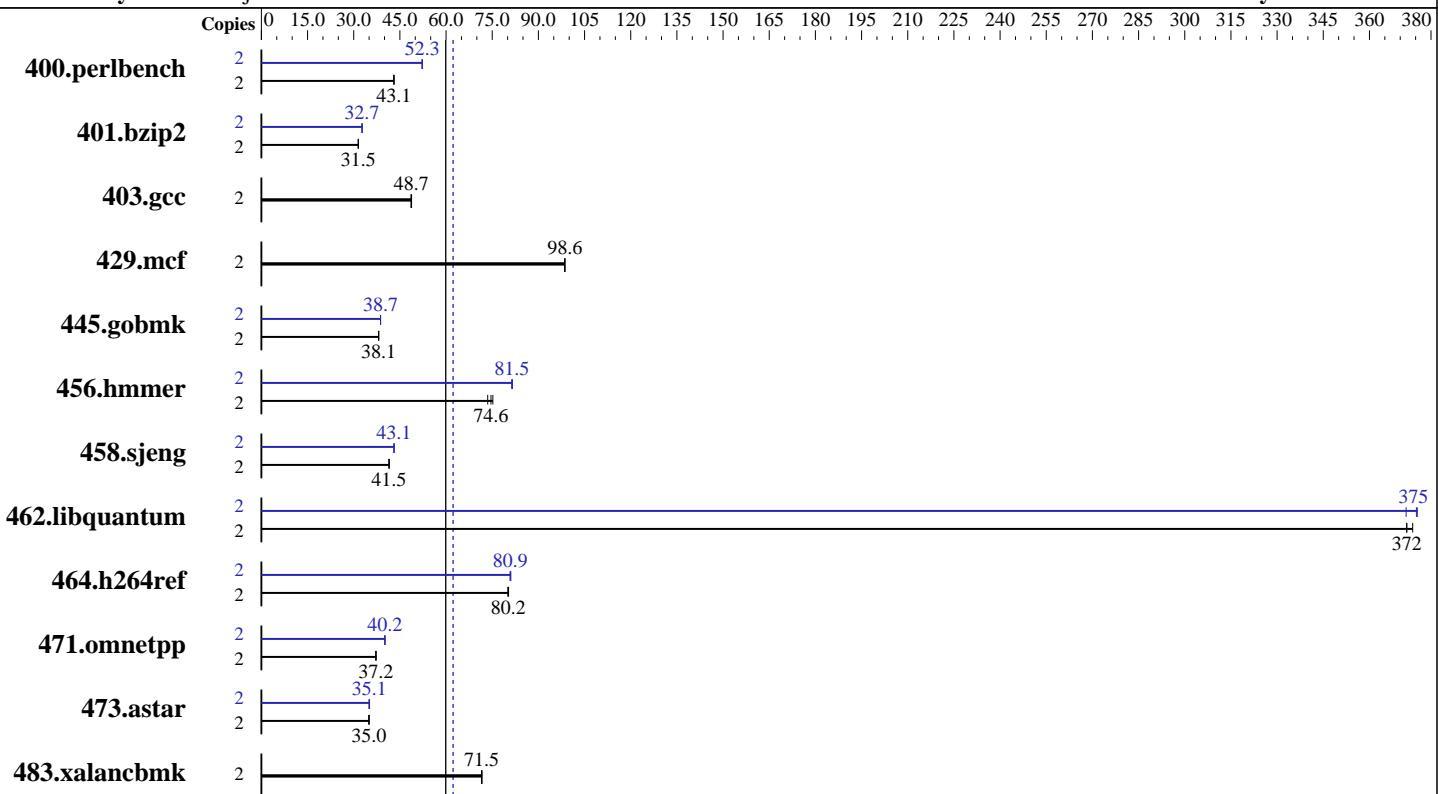
**Test date:** Jun-2012

Test sponsor: Fujitsu

**Hardware Availability:** Jul-2012

Tested by: Fujitsu

**Software Availability:** Feb-2012



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## Hardware

CPU Name: Intel Pentium 1403  
 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  
 L3 Cache: 5 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 48 GB (6 x 8 GB 2Rx4 PC3L-12800R-11, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SATA, 500 GB, 7200 RPM  
 Other Hardware: None

## Software

Operating System: Red Hat Enterprise Linux Server release 6.2 (Santiago)  
 Compiler: 2.6.32-220.el6.x86\_64  
 Auto Parallel: C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V10.0



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## Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	2	454	43.1	<b>454</b>	<b>43.1</b>	454	43.1	2	374	52.2	373	52.3	<b>374</b>	<b>52.3</b>
401.bzip2	2	<b>613</b>	<b>31.5</b>	613	31.5	612	31.5	2	590	32.7	590	32.7	<b>590</b>	<b>32.7</b>
403.gcc	2	330	48.8	<b>331</b>	<b>48.7</b>	331	48.6	2	330	48.8	<b>331</b>	<b>48.7</b>	331	48.6
429.mcf	2	185	98.5	185	98.6	<b>185</b>	<b>98.6</b>	2	185	98.5	185	98.6	<b>185</b>	<b>98.6</b>
445.gobmk	2	550	38.1	551	38.1	<b>551</b>	<b>38.1</b>	2	542	38.7	542	38.7	<b>542</b>	<b>38.7</b>
456.hmmer	2	254	73.5	<b>250</b>	<b>74.6</b>	248	75.2	2	<b>229</b>	<b>81.5</b>	229	81.5	229	81.3
458.sjeng	2	<b>584</b>	<b>41.5</b>	584	41.5	583	41.5	2	561	43.1	<b>561</b>	<b>43.1</b>	562	43.1
462.libquantum	2	111	372	<b>111</b>	<b>372</b>	111	374	2	110	376	111	372	<b>110</b>	<b>375</b>
464.h264ref	2	<b>552</b>	<b>80.2</b>	551	80.3	553	80.1	2	546	81.1	<b>547</b>	<b>80.9</b>	548	80.8
471.omnetpp	2	<b>336</b>	<b>37.2</b>	335	37.3	336	37.2	2	<b>311</b>	<b>40.2</b>	312	40.1	311	40.2
473.astar	2	401	35.0	403	34.9	<b>401</b>	<b>35.0</b>	2	402	35.0	400	35.1	<b>400</b>	<b>35.1</b>
483.xalancbmk	2	<b>193</b>	<b>71.5</b>	192	71.7	193	71.5	2	<b>193</b>	<b>71.5</b>	192	71.7	193	71.5

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

## Submit Notes

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

## Operating System Notes

Stack size set to unlimited using "ulimit -s unlimited"

Transparent Huge Pages enabled with:

echo always > /sys/kernel/mm/redhat\_transparent\_hugepage/enabled

runspec command invoked through numactl i.e.:

numactl --interleave=all runspec <etc>

## General Notes

Environment variables set by runspec before the start of the run:  
LD\_LIBRARY\_PATH = "/SPECcpu2006/lib32:/SPECcpu2006/lib64"

Binaries compiled on a system with 2x E5-2650 CPU + 96 GB memory using RHEL6.2

For information about Fujitsu please visit: <http://www.fujitsu.com>

## Base Compiler Invocation

C benchmarks:

icc -m32

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## Base Compiler Invocation (Continued)

C++ benchmarks:

`icpc -m32`

## Base Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

462.libquantum: `-DSPEC_CPU_LINUX`

483.xalancbmk: `-DSPEC_CPU_LINUX`

## Base Optimization Flags

C benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3  
-Wl,-z,muldefs -L/opt/SmartHeap/lib -lsmartheap`

## Base Other Flags

C benchmarks:

403.gcc: `-Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m32`

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:

`icpc -m32`



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## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-auto-ilp32  
  
401.bzip2: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-opt-prefetch -auto-ilp32 -ansi-alias  
  
403.gcc: basepeak = yes  
  
429.mcf: basepeak = yes  
  
445.gobmk: -xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)  
-ansi-alias -opt-mem-layout-trans=3  
  
456.hmmer: -xSSE4.2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32  
  
458.sjeng: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll14 -auto-ilp32  
  
462.libquantum: -xAVX -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3  
  
464.h264ref: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-unroll12 -ansi-alias

C++ benchmarks:

471.omnetpp: -xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)  
-O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)  
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs  
-L/opt/SmartHeap/lib -lsmartheap  
  
473.astar: -xAVX -ipo -O3 -no-prec-div -opt-prefetch  
-opt-mem-layout-trans=3 -Wl,-z,muldefs  
-L/opt/SmartHeap/lib -lsmartheap

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## Peak Optimization Flags (Continued)

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.html>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20111122.xml>  
<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.20120320.xml>

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

Tested with SPEC CPU2006 v1.2.

Report generated on Thu Jul 24 11:01:14 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 29 August 2012.