



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu

SPECint<sup>®</sup>\_rate2006 = 84.5

PRIMERGY RX300 S6, Intel Xeon E5606, 2.13 GHz

SPECint\_rate\_base2006 = 79.4

CPU2006 license: 19

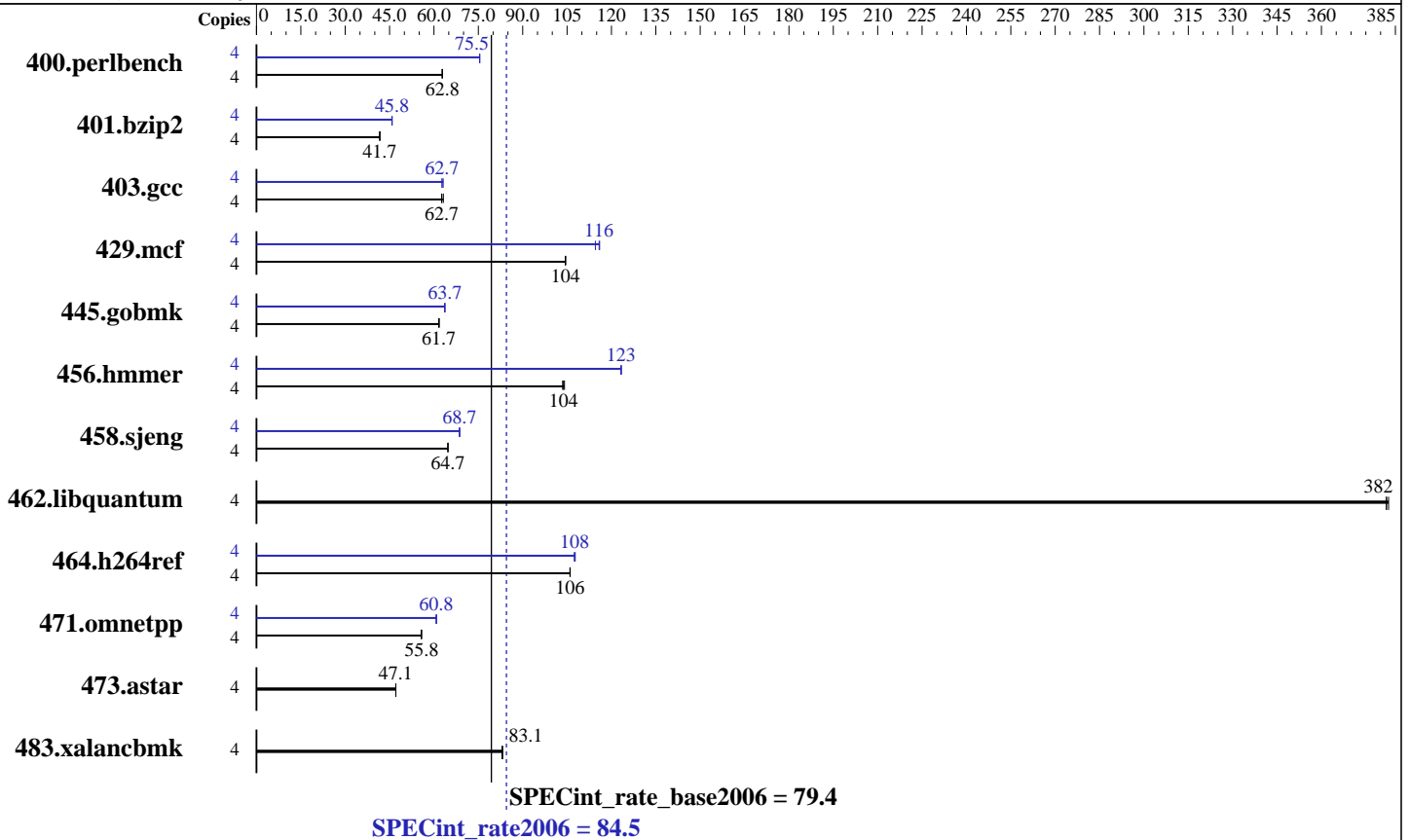
Test sponsor: Fujitsu

Tested by: Fujitsu

Test date: Dec-2010

Hardware Availability: Feb-2011

Software Availability: Nov-2010



### Hardware

CPU Name: Intel Xeon E5606  
 CPU Characteristics:  
 CPU MHz: 2133  
 FPU: Integrated  
 CPU(s) enabled: 4 cores, 1 chip, 4 cores/chip  
 CPU(s) orderable: 1,2 chips  
 Primary Cache: 32 KB I + 32 KB D on chip per core  
 Secondary Cache: 256 KB I+D on chip per core  
 L3 Cache: 8 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC, running at 1067 MHz and CL7)  
 Disk Subsystem: 1 x SAS, 300 GB, 10000 RPM  
 Other Hardware: --

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) with SP1, Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Compiler XE for applications running on IA-32, Version 12.0.0.082 Build 20101006  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



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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	4	623	62.7	<b><u>622</u></b>	<b><u>62.8</u></b>	621	62.9	4	<b><u>518</u></b>	<b><u>75.5</u></b>	518	75.4	518	75.5
401.bzip2	4	925	41.7	927	41.7	<b><u>926</u></b>	<b><u>41.7</u></b>	4	841	45.9	843	45.8	<b><u>843</u></b>	<b><u>45.8</u></b>
403.gcc	4	510	63.2	<b><u>514</u></b>	<b><u>62.7</u></b>	514	62.6	4	513	62.7	<b><u>513</u></b>	<b><u>62.7</u></b>	510	63.1
429.mcf	4	349	104	349	105	<b><u>349</u></b>	<b><u>104</u></b>	4	318	115	314	116	<b><u>315</u></b>	<b><u>116</u></b>
445.gobmk	4	681	61.6	679	61.8	<b><u>680</u></b>	<b><u>61.7</u></b>	4	659	63.7	659	63.6	<b><u>659</u></b>	<b><u>63.7</u></b>
456.hammer	4	<b><u>360</u></b>	<b><u>104</u></b>	361	103	358	104	4	303	123	303	123	<b><u>303</u></b>	<b><u>123</u></b>
458.sjeng	4	748	64.7	<b><u>748</u></b>	<b><u>64.7</u></b>	748	64.7	4	<b><u>705</u></b>	<b><u>68.7</u></b>	705	68.7	705	68.6
462.libquantum	4	217	382	217	383	<b><u>217</u></b>	<b><u>382</u></b>	4	217	382	217	383	<b><u>217</u></b>	<b><u>382</u></b>
464.h264ref	4	<b><u>835</u></b>	<b><u>106</u></b>	835	106	835	106	4	<b><u>823</u></b>	<b><u>108</u></b>	821	108	824	107
471.omnetpp	4	448	55.8	<b><u>448</u></b>	<b><u>55.8</u></b>	449	55.7	4	412	60.7	411	60.8	<b><u>411</u></b>	<b><u>60.8</u></b>
473.astar	4	596	47.1	<b><u>596</u></b>	<b><u>47.1</u></b>	596	47.1	4	596	47.1	<b><u>596</u></b>	<b><u>47.1</u></b>	596	47.1
483.xalancbmk	4	332	83.2	333	83.0	<b><u>332</u></b>	<b><u>83.1</u></b>	4	332	83.2	333	83.0	<b><u>332</u></b>	<b><u>83.1</u></b>

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  
Hugepages were not configured on the system

## Platform Notes

BIOS configuration:  
Data Reuse Optimization = Disable

## General Notes

This result was measured on the PRIMERGY RX300 S6. The PRIMERGY RX300 S6 and the PRIMERGY TX300 S6 are electronically equivalent.

For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on SLES 10 SP1 with Binutils 2.18.50.0.7.20080502



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## Base Compiler Invocation

C benchmarks:

```
icc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

C++ benchmarks:

```
icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

## 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
```

C++ benchmarks:

```
-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs
-L/smartheap -lsmartheap
```

## Base Other Flags

C benchmarks:

```
403.gcc: -Dalloca=_alloca
```

## Peak Compiler Invocation

C benchmarks (except as noted below):

```
icc -m64
```

```
403.gcc: icc -m32
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT
```

```
429.mcf: icc -m32
```

```
445.gobmk: icc -m32
```

```
456.hmmer: icc -m64
-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT
```

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## Peak Compiler Invocation (Continued)

462.libquantum: `icc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m32 -B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT`

471.omnetpp: `icpc -m32`

## 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)`

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: `-xSSE4.2 -ipo -O3 -no-prec-div`

429.mcf: `-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 -auto-ilp32`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -auto-ilp32`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -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) -unroll4 -auto-ilp32`

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## Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes

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)  
-unroll2 -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/smartheap -lsmartheap

473.astar: basepeak = yes

483.xalancbmk: basepeak = yes

## Peak Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

The flags file that was used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.00.html>

You can also download the XML flags source by saving the following link:

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revA.20110303.00.xml>

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

Tested with SPEC CPU2006 v1.1.

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