



# SPEC® CINT2006 Result

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## Fujitsu

SPECint®\_rate2006 = 164

PRIMERGY RX300 S6, Intel Xeon E5606, 2.13 GHz

SPECint\_rate\_base2006 = 154

CPU2006 license: 19

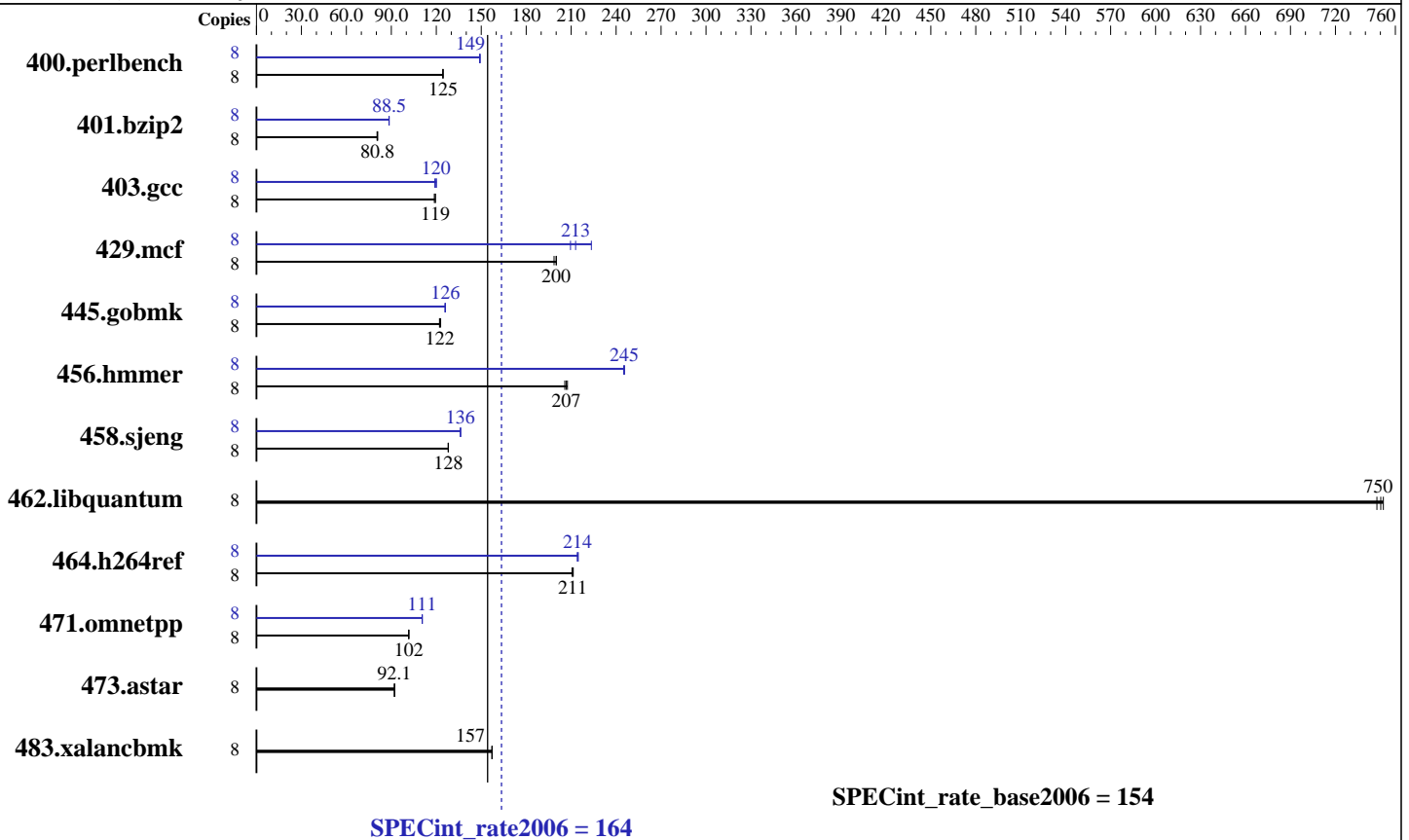
Test sponsor: Fujitsu

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: 8 cores, 2 chips, 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: 48 GB (12 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	8	629	124	<b><u>628</u></b>	<b><u>125</u></b>	627	125	8	524	149	525	149	<b><u>524</u></b>	<b><u>149</u></b>
401.bzip2	8	955	80.8	<b><u>955</u></b>	<b><u>80.8</u></b>	959	80.5	8	872	88.5	<b><u>872</u></b>	<b><u>88.5</u></b>	873	88.4
403.gcc	8	543	119	539	119	<b><u>540</u></b>	<b><u>119</u></b>	8	541	119	536	120	<b><u>538</u></b>	<b><u>120</u></b>
429.mcf	8	365	200	<b><u>365</u></b>	<b><u>200</u></b>	367	199	8	348	210	<b><u>343</u></b>	<b><u>213</u></b>	326	223
445.gobmk	8	687	122	683	123	<b><u>686</u></b>	<b><u>122</u></b>	8	666	126	667	126	<b><u>666</u></b>	<b><u>126</u></b>
456.hammer	8	360	208	363	206	<b><u>361</u></b>	<b><u>207</u></b>	8	304	246	<b><u>304</u></b>	<b><u>245</u></b>	305	245
458.sjeng	8	756	128	<b><u>756</u></b>	<b><u>128</u></b>	756	128	8	<b><u>711</u></b>	<b><u>136</u></b>	711	136	711	136
462.libquantum	8	<b><u>221</u></b>	<b><u>750</u></b>	222	748	220	752	8	<b><u>221</u></b>	<b><u>750</u></b>	222	748	220	752
464.h264ref	8	837	211	<b><u>839</u></b>	<b><u>211</u></b>	841	211	8	827	214	<b><u>826</u></b>	<b><u>214</u></b>	824	215
471.omnetpp	8	492	102	<b><u>492</u></b>	<b><u>102</u></b>	492	102	8	452	111	452	111	<b><u>452</u></b>	<b><u>111</u></b>
473.astar	8	<b><u>610</u></b>	<b><u>92.1</u></b>	610	92.1	609	92.2	8	<b><u>610</u></b>	<b><u>92.1</u></b>	610	92.1	609	92.2
483.xalancbmk	8	351	157	<b><u>351</u></b>	<b><u>157</u></b>	352	157	8	351	157	<b><u>351</u></b>	<b><u>157</u></b>	352	157

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.

Report generated on Wed Jul 23 16:24:42 2014 by SPEC CPU2006 PS/PDF formatter v6932.

Originally published on 3 March 2011.