



# SPEC® CINT2006 Result

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## Fujitsu

PRIMERGY RX300 S7, Intel Xeon E5-2665, 2.40 GHz

**SPECint®2006 = 50.3**

**SPECint\_base2006 = 47.0**

**CPU2006 license:** 19

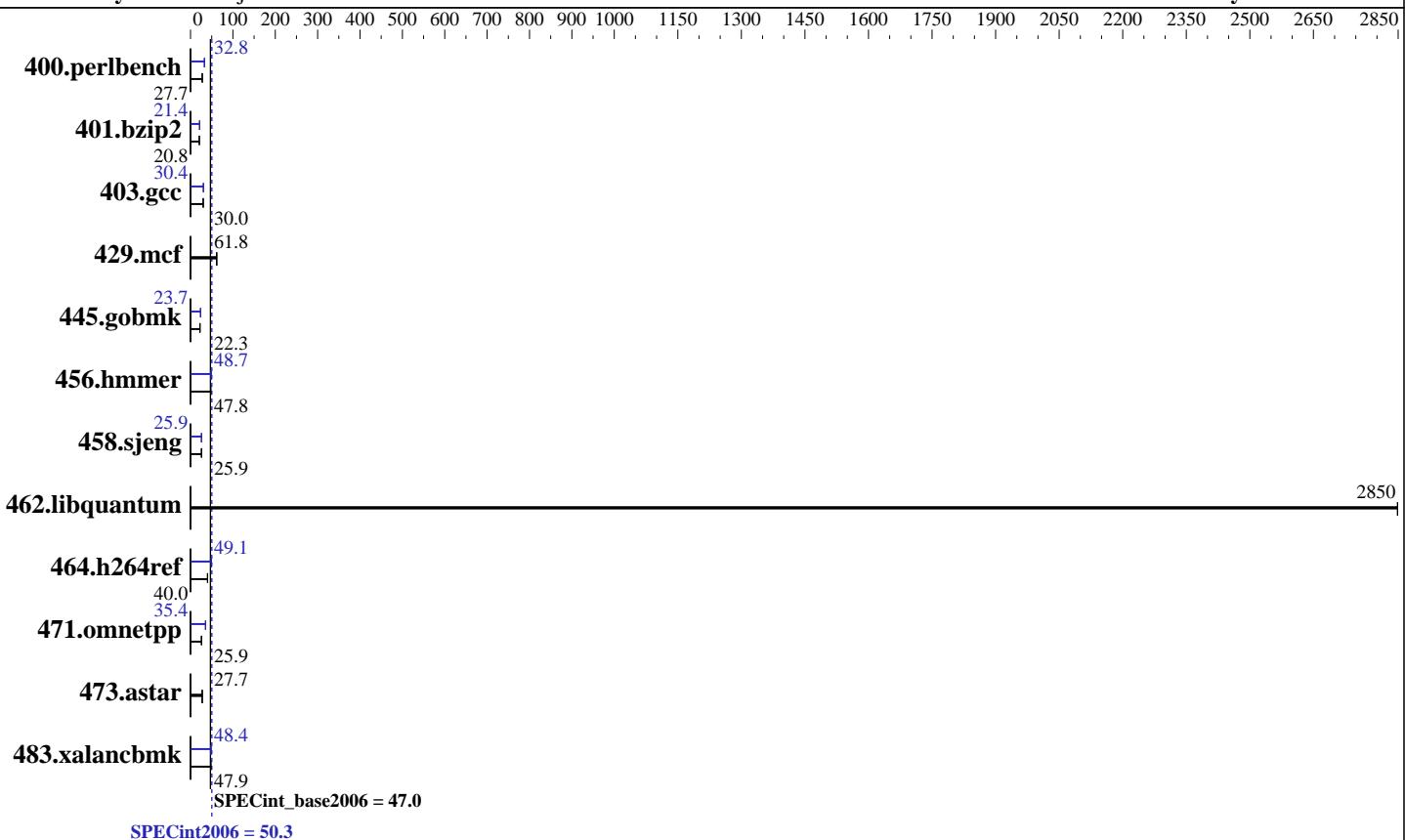
**Test sponsor:** Fujitsu

**Tested by:** Fujitsu

**Test date:** Mar-2012

**Hardware Availability:** Mar-2012

**Software Availability:** Dec-2011



### Hardware

CPU Name: Intel Xeon E5-2665  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.10 GHz  
 CPU MHz: 2400  
 FPU: Integrated  
 CPU(s) enabled: 16 cores, 2 chips, 8 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: 20 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 128 GB (16 x 8 GB 2Rx4 PC3L-12800R-11, ECC)  
 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 12.1.0.225 of Intel C++ Studio XE for Linux  
 File System: ext4  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: 32/64-bit  
 Other Software: Microquill SmartHeap V9.01



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>353</b>	<b>27.7</b>	352	27.7	353	27.7	<b>297</b>	32.9	<b>297</b>	<b>32.8</b>	298	32.8
401.bzip2	<b>465</b>	<b>20.8</b>	465	20.8	465	20.8	<b>451</b>	<b>21.4</b>	451	21.4	451	21.4
403.gcc	269	30.0	<b>269</b>	<b>30.0</b>	269	29.9	<b>265</b>	30.4	265	30.4	<b>265</b>	<b>30.4</b>
429.mcf	149	61.0	<b>148</b>	<b>61.8</b>	146	62.3	<b>149</b>	61.0	<b>148</b>	<b>61.8</b>	146	62.3
445.gobmk	471	22.3	<b>470</b>	<b>22.3</b>	470	22.3	<b>443</b>	23.7	443	23.7	<b>443</b>	<b>23.7</b>
456.hmmer	<b>195</b>	<b>47.8</b>	195	47.8	196	47.7	<b>192</b>	48.7	191	48.7	<b>191</b>	<b>48.7</b>
458.sjeng	467	25.9	468	25.9	<b>467</b>	<b>25.9</b>	<b>467</b>	25.9	467	25.9	<b>467</b>	<b>25.9</b>
462.libquantum	<b>7.27</b>	<b>2850</b>	7.27	2850	7.27	2850	<b>7.27</b>	<b>2850</b>	7.27	2850	7.27	2850
464.h264ref	<b>553</b>	<b>40.0</b>	554	40.0	548	40.4	<b>449</b>	49.3	452	49.0	<b>451</b>	<b>49.1</b>
471.omnetpp	241	26.0	<b>241</b>	<b>25.9</b>	243	25.8	<b>176</b>	35.5	177	35.3	<b>177</b>	<b>35.4</b>
473.astar	256	27.4	252	27.9	<b>254</b>	<b>27.7</b>	<b>256</b>	27.4	252	27.9	<b>254</b>	<b>27.7</b>
483.xalancbmk	<b>144</b>	<b>47.9</b>	144	47.9	144	47.9	<b>142</b>	48.5	<b>143</b>	<b>48.4</b>	143	48.3

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

## Operating System Notes

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

## Platform Notes

BIOS configuration:

Intel HT Technology = Disable

Frequency Floor Override = Enable

## General Notes

Environment variables set by runspec before the start of the run:

KMP\_AFFINITY = "granularity=fine,scatter"

LD\_LIBRARY\_PATH = "/SPECcpu2006/lib32:/SPECcpu2006/lib64"

OMP\_NUM\_THREADS = "16"

Binaries compiled on a system with 1x Core i7-860 CPU + 8GB memory using RHEL5.5

Transparent Huge Pages enabled with:

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

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## Base Compiler Invocation

C benchmarks:

icc -m64

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## Base Compiler Invocation (Continued)

C++ benchmarks:

`icpc -m64`

## Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64
401.bzip2: -DSPEC_CPU_LP64
403.gcc: -DSPEC_CPU_LP64
429.mcf: -DSPEC_CPU_LP64
445.gobmk: -DSPEC_CPU_LP64
456.hammer: -DSPEC_CPU_LP64
458.sjeng: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
464.h264ref: -DSPEC_CPU_LP64
471.omnetpp: -DSPEC_CPU_LP64
473.astar: -DSPEC_CPU_LP64
483.xalancbmk: -DSPEC_CPU_LP64 -DSPEC_CPU_LINUX
```

## Base Optimization Flags

C benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32`

C++ benchmarks:

`-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -auto-p32
-Wl,-z,muldefs -L/smartheap -lsmartheap64`

## Base Other Flags

C benchmarks:

`403.gcc: -Dalloca=_alloca`

## Peak Compiler Invocation

C benchmarks (except as noted below):

`icc -m64`

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

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## Peak Compiler Invocation (Continued)

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m32`

473.astar: `icpc -m64`

## Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`  
401.bzip2: `-DSPEC_CPU_LP64`  
403.gcc: `-DSPEC_CPU_LP64`  
429.mcf: `-DSPEC_CPU_LP64`  
456.hmmmer: `-DSPEC_CPU_LP64`  
458.sjeng: `-DSPEC_CPU_LP64`  
462.libquantum: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX`  
473.astar: `-DSPEC_CPU_LP64`  
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)`  
`-opt-prefetch -ansi-alias`  
  
401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)`  
`-O3(pass 2) -no-prec-div -prof-use(pass 2) -auto-ilp32`  
`-opt-prefetch -ansi-alias`  
  
403.gcc: `-xSSE4.2 -ipo -O3 -no-prec-div -inline-calloc`  
`-opt-malloc-options=3 -auto-ilp32`  
  
429.mcf: `basepeak = yes`  
  
445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`  
`-ansi-alias`  
  
456.hmmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32`  
`-ansi-alias`  
  
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`

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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)
              -opt-ra-region-strategy=block           -ansi-alias
              -Wl,-z,muldefs -L/smartheap -lsmartheap
```

473.astar: basepeak = yes

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

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

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

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

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

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