



# SPEC® CINT2006 Result

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## Fujitsu

PRIMERGY TX140 S1p, Intel Xeon E3-1280 v2, 3.60 GHz

**SPECint®2006 = 58.0**

**SPECint\_base2006 = 54.5**

CPU2006 license: 19

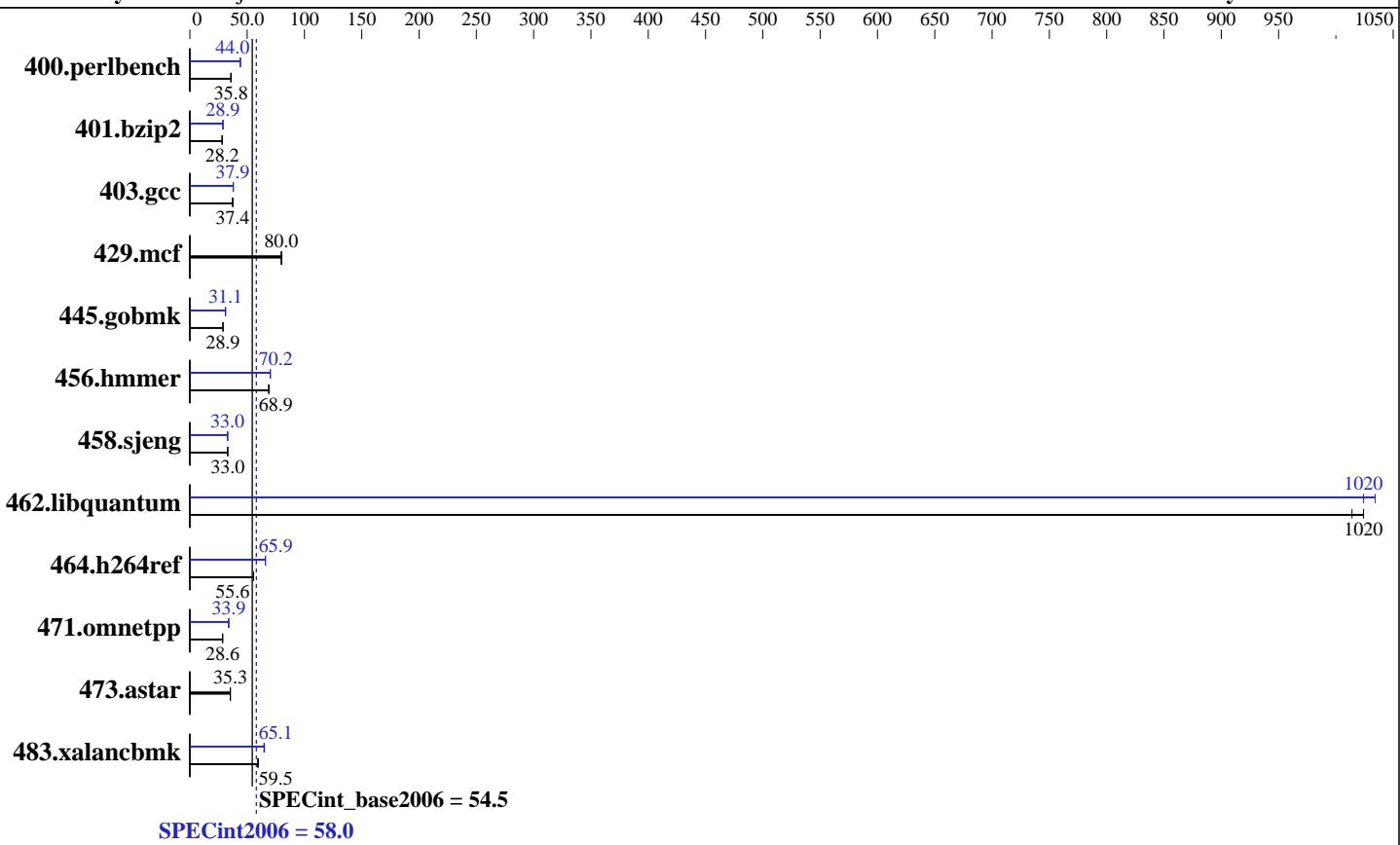
Test sponsor: Fujitsu

Tested by: Fujitsu

**Test date:** Apr-2012

**Hardware Availability:** May-2012

**Software Availability:** Feb-2012



### Hardware

CPU Name: Intel Xeon E3-1280 v2  
CPU Characteristics: Intel Turbo Boost Technology up to 4.0 GHz  
CPU MHz: 3600  
FPU: Integrated  
CPU(s) enabled: 4 cores, 1 chip, 4 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: 8 MB I+D on chip per chip  
Other Cache: None  
Memory: 16 GB (2 x 8 GB 2Rx8 PC3-12800E-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  
C/C++: Version 12.1.0.293 of Intel C++ Studio XE for Linux  
Auto Parallel: Yes  
File System: ext4  
System State: Run level 3 (multi-user)  
Base Pointers: 32/64-bit  
Peak Pointers: 32/64-bit  
Other Software: Microquill SmartHeap V10.0



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	271	36.0	<b>273</b>	<b>35.8</b>	273	35.8	<b>221</b>	<b>44.1</b>	222	44.0	<b>222</b>	<b>44.0</b>
401.bzip2	342	28.2	342	28.2	<b>342</b>	<b>28.2</b>	<b>334</b>	<b>28.9</b>	334	28.9	334	28.9
403.gcc	<b>215</b>	<b>37.4</b>	215	37.4	215	37.4	212	38.0	213	37.9	<b>212</b>	<b>37.9</b>
429.mcf	<b>114</b>	<b>80.0</b>	114	79.7	114	80.1	<b>114</b>	<b>80.0</b>	114	79.7	114	80.1
445.gobmk	363	28.9	<b>363</b>	<b>28.9</b>	362	29.0	337	31.1	337	31.2	<b>337</b>	<b>31.1</b>
456.hmmer	<b>135</b>	<b>68.9</b>	136	68.8	135	69.0	<b>133</b>	<b>70.3</b>	133	70.2	<b>133</b>	<b>70.2</b>
458.sjeng	<b>366</b>	<b>33.0</b>	366	33.0	367	33.0	<b>367</b>	<b>33.0</b>	367	33.0	<b>367</b>	<b>33.0</b>
462.libquantum	20.2	1020	20.4	1010	<b>20.2</b>	<b>1020</b>	20.0	1030	20.2	1020	<b>20.2</b>	<b>1020</b>
464.h264ref	398	55.6	<b>398</b>	<b>55.6</b>	398	55.6	336	65.9	336	66.0	<b>336</b>	<b>65.9</b>
471.omnetpp	<b>219</b>	<b>28.6</b>	218	28.7	219	28.5	<b>184</b>	<b>33.9</b>	184	33.9	184	34.0
473.astar	199	35.3	199	35.4	<b>199</b>	<b>35.3</b>	199	35.3	199	35.4	<b>199</b>	<b>35.3</b>
483.xalancbmk	116	59.7	<b>116</b>	<b>59.5</b>	116	59.3	<b>106</b>	<b>65.1</b>	107	64.7	<b>106</b>	<b>65.1</b>

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

## 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 = "4"

Binaries compiled on a system with 1x E3-1270V2 CPU + 32 GB memory using RHEL6.2

Transparent Huge Pages enabled with:

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

This result was measured on the PRIMERGY TX140 S1p. The PRIMERGY tx140 S1p and the PRIMERGY TX120 S3p are electronically equivalent.

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



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## Base Compiler Invocation

C benchmarks:

icc -m64

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

458sjeng: -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/opt/SmartHeap/lib64 -lsmartheap64

## Base Other Flags

C benchmarks:

403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):

icc -m64

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## Peak Compiler Invocation (Continued)

400.perlbench: `icc -m32`

445.gobmk: `icc -m32`

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.hammer: `-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: `-xAVX -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.hammer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll12 -auto-ilp32 -ansi-alias`

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## Peak Optimization Flags (Continued)

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

462.libquantum: -xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch  
-auto-p32

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

473.astar: basepeak = yes

483.xalancbmk: -xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -ansi-alias  
-Wl,-z,muldefs -L/opt/SmartHeap/lib -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/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>  
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For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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