



# SPEC<sup>®</sup> CINT2006 Result

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## Fujitsu

**SPECint<sup>®</sup>2006 = 42.9**

PRIMERGY TX120 S3, Intel Xeon E3-1260L, 2.40 GHz

**SPECint\_base2006 = 39.7**

CPU2006 license: 19

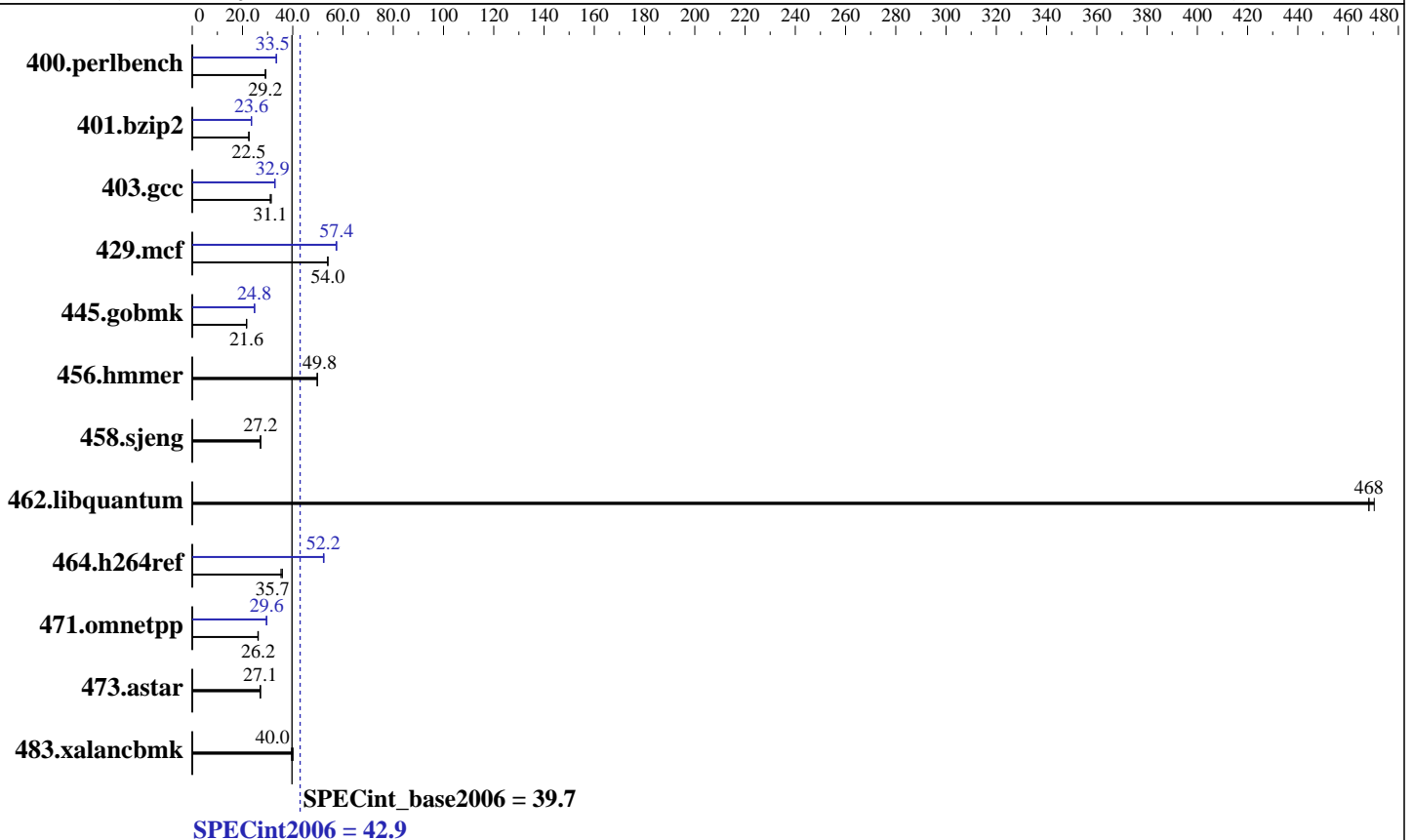
Test date: May-2011

Test sponsor: Fujitsu

Hardware Availability: Jun-2011

Tested by: Fujitsu

Software Availability: Jan-2011



### Hardware

CPU Name: Intel Xeon E3-1260L  
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz  
 CPU MHz: 2400  
 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: 8 GB (2 x 4 GB 2Rx8 PC3-10600E-9, ECC)  
 Disk Subsystem: 1 x SATA, 300 GB, 7200 RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 11 (x86\_64) with SP1, Kernel 2.6.32.12-0.7-default  
 Compiler: Intel C++ Intel 64 Compiler XE for applications running on Intel 64 Version 12.0.1.116 Build 20101116  
 Auto Parallel: Yes  
 File System: ext3  
 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>335</b>	<b>29.2</b>	336	29.1	335	29.2	291	33.5	292	33.4	<b>292</b>	<b>33.5</b>
401.bzip2	427	22.6	<b>428</b>	<b>22.5</b>	428	22.5	<b>409</b>	<b>23.6</b>	410	23.5	409	23.6
403.gcc	259	31.1	256	31.5	<b>259</b>	<b>31.1</b>	245	32.9	245	32.9	<b>245</b>	<b>32.9</b>
429.mcf	169	54.0	<b>169</b>	<b>54.0</b>	169	53.9	<b>159</b>	<b>57.4</b>	159	57.2	159	57.5
445.gobmk	485	21.6	485	21.6	<b>485</b>	<b>21.6</b>	423	24.8	<b>423</b>	<b>24.8</b>	423	24.8
456.hammer	<b>187</b>	<b>49.8</b>	188	49.7	187	49.8	<b>187</b>	<b>49.8</b>	188	49.7	187	49.8
458.sjeng	445	27.2	<b>445</b>	<b>27.2</b>	445	27.2	445	27.2	<b>445</b>	<b>27.2</b>	445	27.2
462.libquantum	44.0	470	<b>44.2</b>	<b>468</b>	44.2	468	44.0	470	<b>44.2</b>	<b>468</b>	44.2	468
464.h264ref	627	35.3	617	35.9	<b>620</b>	<b>35.7</b>	<b>424</b>	<b>52.2</b>	424	52.2	422	52.5
471.omnetpp	239	26.1	<b>238</b>	<b>26.2</b>	238	26.3	212	29.5	<b>211</b>	<b>29.6</b>	211	29.6
473.astar	<b>259</b>	<b>27.1</b>	260	27.0	258	27.2	<b>259</b>	<b>27.1</b>	260	27.0	258	27.2
483.xalancbmk	<b>172</b>	<b>40.0</b>	172	40.1	175	39.5	<b>172</b>	<b>40.0</b>	172	40.1	175	39.5

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

## Operating System Notes

```
'ulimit -s unlimited' was used to set the stacksize to unlimited prior to run
'nodev /mnt/hugepages hugetlbfs defaults 0 0' added to /etc/fstab
echo 900 > /proc/sys/vm/nr_hugepages
export HUGETLB_MORECORE=yes
export LD_PRELOAD=/usr/lib64/libhugetlbfs.so
```

## Platform Notes

BIOS configuration:  
Intel HT Technology = Disable

## General Notes

OMP\_NUM\_THREADS set to number of cores  
This result was measured on the PRIMERGY TX120 S3. The PRIMERGY TX120 S3 and the PRIMERGY TX140 S1 are electronically equivalent.  
For information about Fujitsu please visit: <http://www.fujitsu.com>  
Binaries were compiled on RHEL5.5

## 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.hmmer: -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:  
-xAVX -ipo -O3 -no-prec-div -parallel -opt-prefetch -auto-p32  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

C++ benchmarks:  
-xAVX -ipo -O3 -no-prec-div -opt-prefetch -Wl,-z,muldefs  
-L/smartheap -lsmartheap64  
-B /usr/share/libhugetlbfs/ -Wl,-melf\_x86\_64 -Wl,-hugetlbfs-link=BDT

## Base Other Flags

C benchmarks:  
403.gcc: -Dalloca=\_alloca

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc -m64  
400.perlbench: icc -m32

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## Peak Compiler Invocation (Continued)

429.mcf: `icc -m32`

445.gobmk: `icc -m32`

464.h264ref: `icc -m32`

C++ benchmarks (except as noted below):

`icpc -m64`

471.omnetpp: `icpc -m32`

## Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LINUX_IA32`

401.bzip2: `-DSPEC_CPU_LP64`

403.gcc: `-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_LP64 -DSPEC_CPU_LINUX`

## Peak Optimization Flags

C benchmarks:

400.perlbench: `-xAVX(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`

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

401.bzip2: `-xAVX(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`

`-B /usr/share/libhugetlbfs/ -Wl,-melf_x86_64 -Wl,-hugetlbfs-link=BDT`

429.mcf: `-xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)`

`-no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32`

`-ansi-alias`

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

445.gobmk: `-xAVX(pass 2) -prof-gen(pass 1) -prof-use(pass 2)`

`-auto-ilp32 -ansi-alias`

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

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## Peak Optimization Flags (Continued)

456.hmmr: basepeak = yes

458.sjeng: basepeak = yes

462.libquantum: basepeak = yes

464.h264ref: -xAVX(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2)  
-no-prec-div(pass 2) -prof-use(pass 2) -unroll2  
-ansi-alias  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

C++ benchmarks:

471.omnetpp: -xAVX(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  
-B /usr/share/libhugetlbfs/ -Wl,-hugetlbfs-link=BDT

473.astar: basepeak = yes

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-ic12.0-linux64-revB.20110316.html>

<http://www.spec.org/cpu2006/flags/Fujitsu-Platform.html>

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

<http://www.spec.org/cpu2006/flags/Intel-ic12.0-linux64-revB.20110316.xml>

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

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