



# SPEC® CINT2006 Result

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## NEC Corporation

T120Rc-1  
(Intel Xeon X5460)

SPECint®2006 = 27.4

SPECint\_base2006 = 24.1

CPU2006 license: 9006

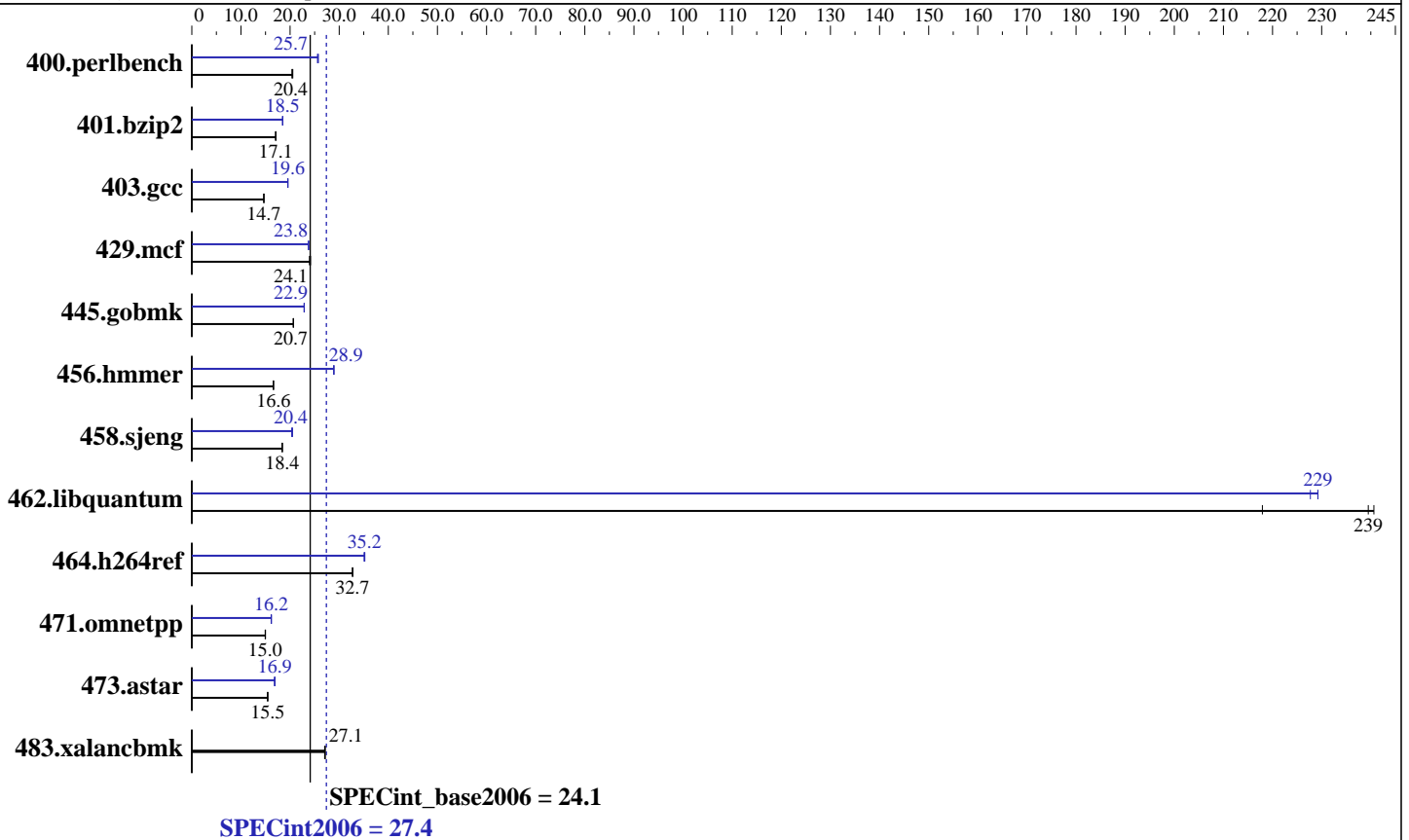
Test sponsor: NEC Corporation

Tested by: NEC Corporation

Test date: Feb-2008

Hardware Availability: Jan-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X5460  
 CPU Characteristics: 3.16 GHz, 2x6 MB L2 shared, 1333 MHz bus  
 CPU MHz: 3167  
 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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
 L3 Cache: None  
 Other Cache: None  
 Memory: 12 GB (12x1 GB PC2-5300F, 2 rank, CL5-5-5, ECC)  
 Disk Subsystem: 1x250 GB SATAII, 7200RPM  
 Other Hardware: None

### Software

Operating System: SUSE Linux Enterprise Server 10 (x86\_64) SP1, Kernel 2.6.16.46-0.12-smp  
 Compiler: Intel C++ Compiler for Linux32 and Linux64 version 10.1 Build 20070913 Package ID: l\_cc\_p\_10.1.008  
 Auto Parallel: Yes  
 File System: ext2  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap library 8.1 binutils-2.17.tar.gz, Version 2.17



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b>478</b>	<b>20.4</b>	475	20.6	479	20.4	382	25.6	<b>380</b>	<b>25.7</b>	379	25.7
401.bzip2	564	17.1	566	17.0	<b>565</b>	<b>17.1</b>	521	18.5	523	18.5	<b>521</b>	<b>18.5</b>
403.gcc	<b>548</b>	<b>14.7</b>	550	14.6	548	14.7	<b>412</b>	<b>19.6</b>	411	19.6	412	19.5
429.mcf	378	24.1	<b>378</b>	<b>24.1</b>	381	23.9	384	23.8	<b>384</b>	<b>23.8</b>	384	23.7
445.gobmk	508	20.7	<b>507</b>	<b>20.7</b>	507	20.7	459	22.9	<b>459</b>	<b>22.9</b>	458	22.9
456.hmmer	561	16.6	<b>561</b>	<b>16.6</b>	561	16.6	323	28.9	<b>323</b>	<b>28.9</b>	323	28.9
458.sjeng	<b>657</b>	<b>18.4</b>	658	18.4	656	18.4	<b>592</b>	<b>20.4</b>	590	20.5	595	20.3
462.libquantum	95.1	218	<b>86.5</b>	<b>239</b>	86.1	241	90.4	229	<b>90.4</b>	<b>229</b>	91.0	228
464.h264ref	676	32.7	<b>676</b>	<b>32.7</b>	676	32.7	628	35.2	631	35.1	<b>629</b>	<b>35.2</b>
471.omnetpp	417	15.0	418	14.9	<b>418</b>	<b>15.0</b>	387	16.1	385	16.2	<b>387</b>	<b>16.2</b>
473.astar	454	15.5	456	15.4	<b>454</b>	<b>15.5</b>	415	16.9	418	16.8	<b>415</b>	<b>16.9</b>
483.xalancbmk	<b>254</b>	<b>27.1</b>	254	27.2	255	27.0	<b>254</b>	<b>27.1</b>	254	27.2	255	27.0

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  
OMP\_NUM\_THREADS set to number of cores

## Platform Notes

Bios settings:  
Intel SpeedStep Technology: Disabled

## General Notes

All benchmarks compiled in 32-bit mode except 401.bzip2 and 456.hmmer,  
for peak, are compiled in 64-bit mode

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc



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## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
462.libquantum: -DSPEC\_CPU\_LINUX  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-fast -vec-guard-write -parallel -par-runtime-control

C++ benchmarks:  
-xT -ipo -O3 -no-prec-div -Wl,-z,muldefs  
-L/opt/SmartHeap\_8.1/lib -lsmartheap

## Base Other Flags

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

## Peak Compiler Invocation

C benchmarks (except as noted below):  
icc

401.bzip2: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

456.hmmer: /opt/intel/cce/10.1.008/bin/icc  
-L/opt/intel/cce/10.1.008/lib  
-I/opt/intel/cce/10.1.008/include

C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LINUX

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## Peak Portability Flags (Continued)

483.xalanbmk: -DSPEC\_CPU\_LINUX

## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -fast -ansi-alias  
-prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -fast -prefetch  
-auto-ilp32

403.gcc: -fast -inline-calloc -opt-malloc-options=3

429.mcf: -fast -prefetch

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xT -O2 -ipo  
-no-prec-div -ansi-alias

456.hmmcr: -fast -unroll2 -ansi-alias -opt-multi-version-aggressive  
-auto-ilp32

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll4

462.libquantum: -fast -unroll4 -Ob0 -prefetch  
-opt-streaming-stores always -vec-guard-write  
-opt-malloc-options=3 -parallel -par-runtime-control

464.h264ref: -prof-gen(pass 1) -prof-use(pass 2) -fast -unroll2  
-ansi-alias

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=block  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmarheap

473.astar: -prof-gen(pass 1) -prof-use(pass 2) -xT -O3 -ipo  
-no-prec-div -ansi-alias -opt-ra-region-strategy=routine  
-Wl,-z,muldefs -L/opt/SmartHeap\_8.1/lib -lsmarheap

483.xalanbmk: basepeak = yes



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## 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/NEC-Intel-ic10.1-INT-ia32-linux-flags.20090713.html>

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

<http://www.spec.org/cpu2006/flags/NEC-Intel-ic10.1-INT-ia32-linux-flags.20090713.xml>

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

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