



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®2006 = 26.2

ProLiant DL380 G5  
(3.0 GHz, Intel Xeon E5450)

SPECint\_base2006 = 23.2

CPU2006 license: 3

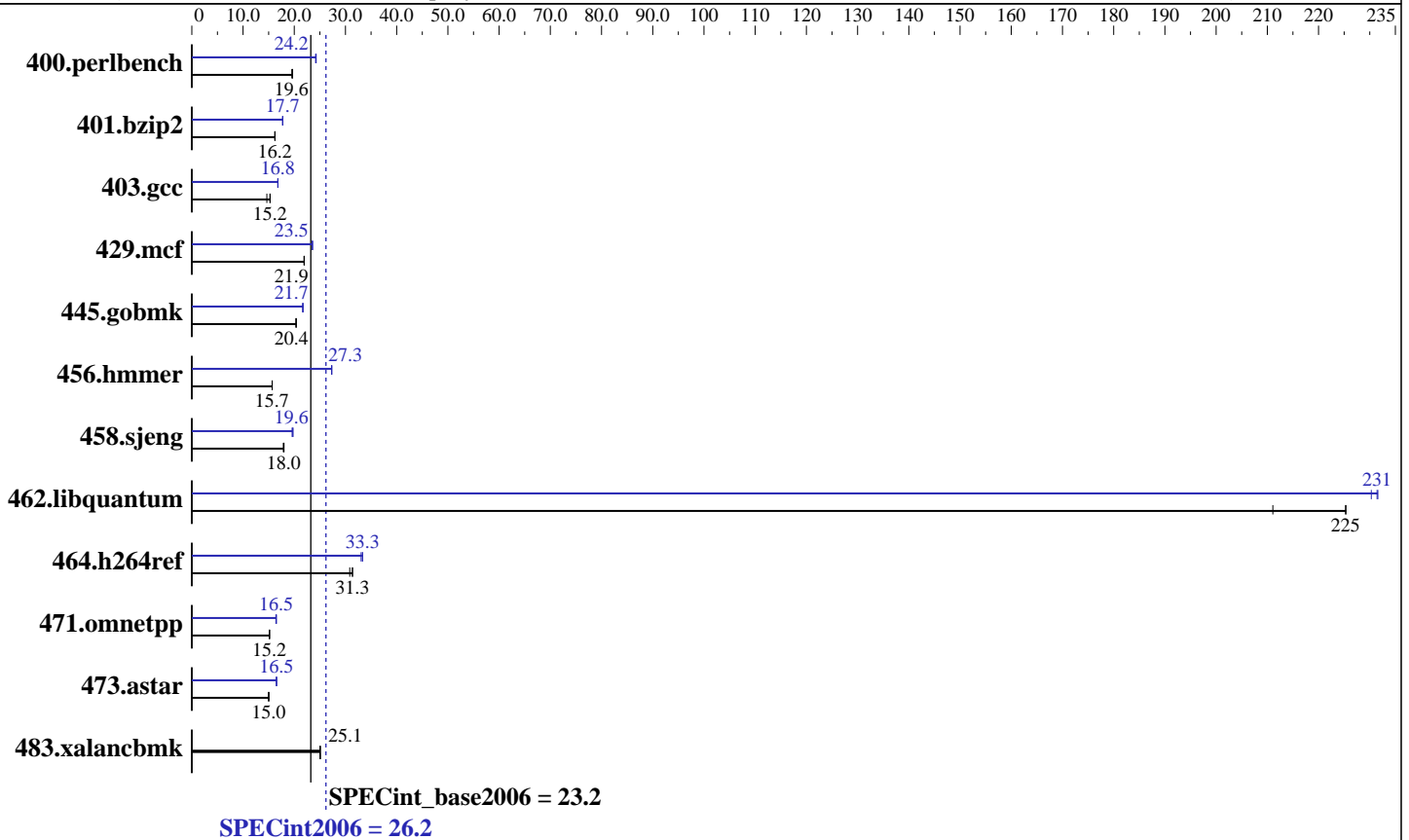
Test date: Sep-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jan-2008

Tested by: Hewlett-Packard Company

Software Availability: Jun-2008



### Hardware

CPU Name: Intel Xeon E5450  
 CPU Characteristics: 3.0 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 3000  
 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: 16 GB (8x2 GB PC2-5300F CL5)  
 Disk Subsystem: 1x146 GB 10 K SAS  
 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 10.1 for Linux Build 20080602 Package ID: l\_cc\_p\_10.1.017  
 Auto Parallel: Yes  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap Library 8.1 binutils-2.17.50



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	500	19.5	<u>497</u>	<u>19.6</u>	496	19.7	<u>403</u>	<u>24.2</u>	402	24.3	404	24.2
401.bzip2	594	16.2	<u>594</u>	<u>16.2</u>	596	16.2	543	17.8	<u>544</u>	<u>17.7</u>	544	17.7
403.gcc	<u>528</u>	<u>15.2</u>	526	15.3	549	14.7	479	16.8	<u>479</u>	<u>16.8</u>	479	16.8
429.mcf	<u>416</u>	<u>21.9</u>	416	21.9	415	22.0	387	23.6	<u>388</u>	<u>23.5</u>	388	23.5
445.gobmk	<u>515</u>	<u>20.4</u>	515	20.4	515	20.4	483	21.7	484	21.7	<u>483</u>	<u>21.7</u>
456.hmmer	<u>595</u>	<u>15.7</u>	594	15.7	595	15.7	341	27.3	342	27.3	<u>342</u>	<u>27.3</u>
458.sjeng	<u>674</u>	<u>18.0</u>	672	18.0	677	17.9	<u>616</u>	<u>19.6</u>	617	19.6	612	19.8
462.libquantum	98.2	211	<u>92.0</u>	<u>225</u>	91.9	225	90.0	230	89.5	232	<u>89.5</u>	<u>231</u>
464.h264ref	718	30.8	<u>706</u>	<u>31.3</u>	705	31.4	669	33.1	664	33.3	<u>664</u>	<u>33.3</u>
471.omnetpp	413	15.1	412	15.2	<u>412</u>	<u>15.2</u>	381	16.4	379	16.5	<u>379</u>	<u>16.5</u>
473.astar	467	15.0	469	15.0	<u>467</u>	<u>15.0</u>	424	16.6	425	16.5	<u>425</u>	<u>16.5</u>
483.xalancbmk	276	25.0	<u>275</u>	<u>25.1</u>	275	25.1	276	25.0	<u>275</u>	<u>25.1</u>	275	25.1

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
KMP_AFFINITY set to physical,0
KMP_STACKSIZE set to 64M
```

## Platform Notes

BIOS configuration:  
Power Regulator set to Static High Performance Mode

## 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/cpu2006/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/10.1.017/bin/icc  
-L/opt/intel/cce/10.1.017/lib  
-I/opt/intel/cce/10.1.017/include

456.hmmmer: /opt/intel/cce/10.1.017/bin/icc  
-L/opt/intel/cce/10.1.017/lib  
-I/opt/intel/cce/10.1.017/include

C++ benchmarks:  
icpc

## Peak Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32  
401.bzip2: -DSPEC\_CPU\_LP64  
456.hmmmer: -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

429.mcf: -fast -prefetch

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

456.hmmmer: -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/cpu2006/SmartHeap\_8.1/lib -lsmartheap

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/cpu2006/SmartHeap\_8.1/lib -lsmartheap

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/HP-Intel-ic10.1-linux-int-flags.html>

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

<http://www.spec.org/cpu2006/flags/HP-Intel-ic10.1-linux-int-flags.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 Tue Jul 22 22:11:39 2014 by SPEC CPU2006 PS/PDF formatter v6932.  
Originally published on 14 October 2008.