



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

**SPECint®2006 = 22.3**

ProLiant ML150 G5  
(2.5 GHz, Intel Xeon E5420)

**SPECint\_base2006 = 19.0**

CPU2006 license: 3

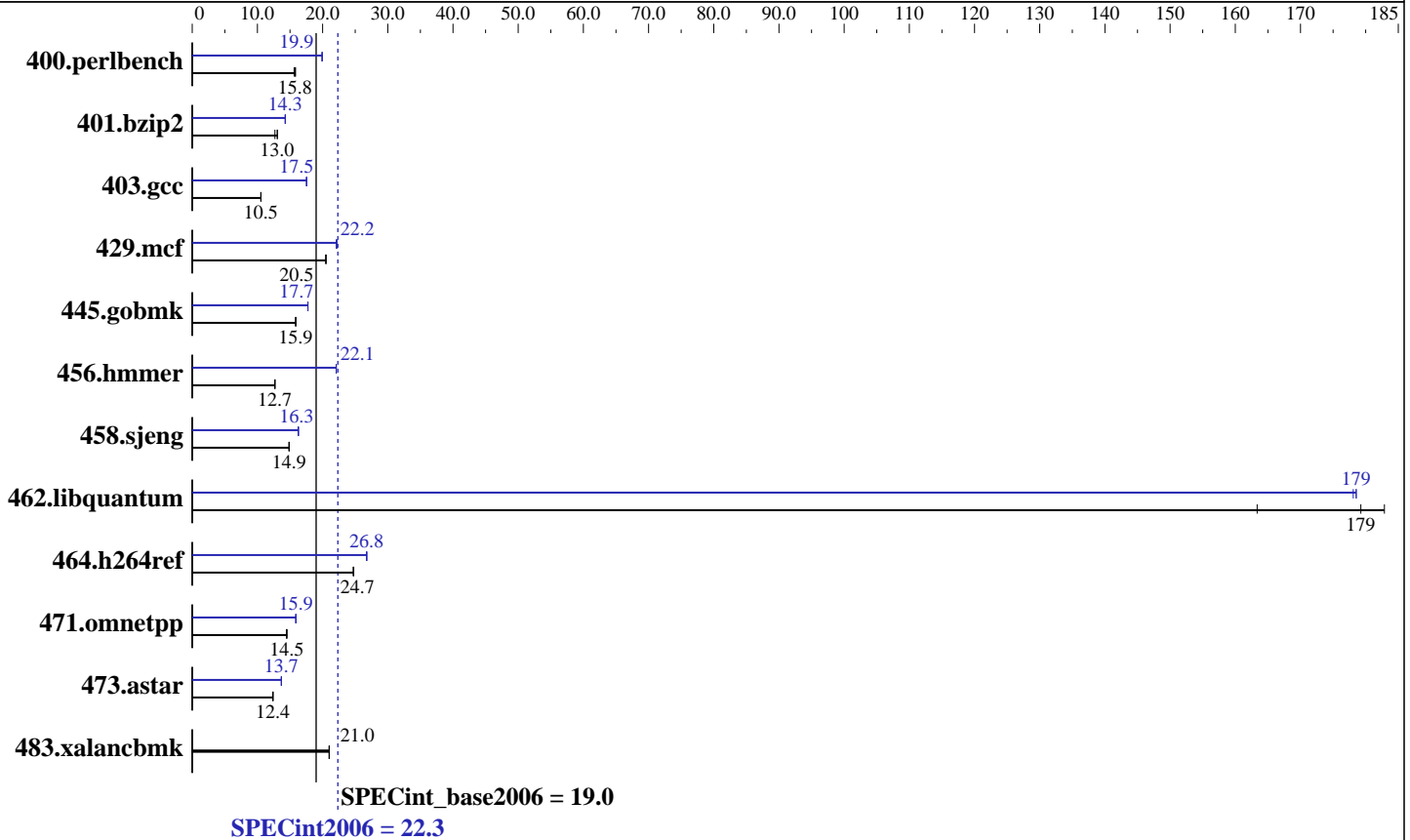
Test date: Jun-2008

Test sponsor: Hewlett-Packard Company

Hardware Availability: Mar-2008

Tested by: Hewlett-Packard Company

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon E5420  
 CPU Characteristics: 2.5 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
 CPU MHz: 2500  
 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 (4x4 GB PC2-5300P CL5)  
 Disk Subsystem: 1x160 GB 7.2 K SATA  
 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 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-2.17.50



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	625	15.6	616	15.8	<b>619</b>	<b>15.8</b>	491	19.9	489	20.0	<b>490</b>	<b>19.9</b>
401.bzip2	761	12.7	<b>740</b>	<b>13.0</b>	739	13.1	676	14.3	<b>676</b>	<b>14.3</b>	676	14.3
403.gcc	763	10.5	764	10.5	<b>764</b>	<b>10.5</b>	459	17.5	459	17.6	<b>459</b>	<b>17.5</b>
429.mcf	445	20.5	<b>445</b>	<b>20.5</b>	444	20.5	411	22.2	<b>411</b>	<b>22.2</b>	413	22.1
445.gobmk	661	15.9	661	15.9	<b>661</b>	<b>15.9</b>	591	17.7	591	17.7	<b>591</b>	<b>17.7</b>
456.hammer	737	12.7	734	12.7	<b>736</b>	<b>12.7</b>	<b>422</b>	<b>22.1</b>	422	22.1	422	22.1
458.sjeng	814	14.9	<b>814</b>	<b>14.9</b>	815	14.9	742	16.3	745	16.2	<b>743</b>	<b>16.3</b>
462.libquantum	113	183	127	163	<b>116</b>	<b>179</b>	116	179	<b>116</b>	<b>179</b>	116	178
464.h264ref	<b>894</b>	<b>24.7</b>	893	24.8	897	24.7	828	26.7	826	26.8	<b>827</b>	<b>26.8</b>
471.omnetpp	430	14.5	<b>431</b>	<b>14.5</b>	433	14.4	392	15.9	<b>393</b>	<b>15.9</b>	394	15.9
473.astar	565	12.4	<b>568</b>	<b>12.4</b>	569	12.3	514	13.6	513	13.7	<b>513</b>	<b>13.7</b>
483.xalancbmk	329	21.0	328	21.0	<b>328</b>	<b>21.0</b>	329	21.0	328	21.0	<b>328</b>	<b>21.0</b>

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
```

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

```
400.perlbench: -DSPEC_CPU_LINUX_IA32
462.libquantum: -DSPEC_CPU_LINUX
483.xalancbmk: -DSPEC_CPU_LINUX
```



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## Base Optimization Flags

C benchmarks:

```
-fast -vec-guard-write -opt-malloc-options=3 -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/10.1.008/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.perlbenc: -DSPEC_CPU_LINUX_IA32  
401.bzip2: -DSPEC_CPU_LP64  
456.hmmer: -DSPEC_CPU_LP64  
462.libquantum: -DSPEC_CPU_LINUX  
483.xalancbmk: -DSPEC_CPU_LINUX
```

## Peak Optimization Flags

C benchmarks:

Continued on next page



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## Peak Optimization Flags (Continued)

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.hmmer: -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.xalancbmk: basepeak = yes

## 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.20090713.00.html>



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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.20090713.00.xml>

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

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