



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

ProLiant DL120 G5  
(2.83 GHz, Intel Xeon X3360)

**SPECint\_rate2006 = 74.6**

**SPECint\_rate\_base2006 = 62.5**

CPU2006 license: 3

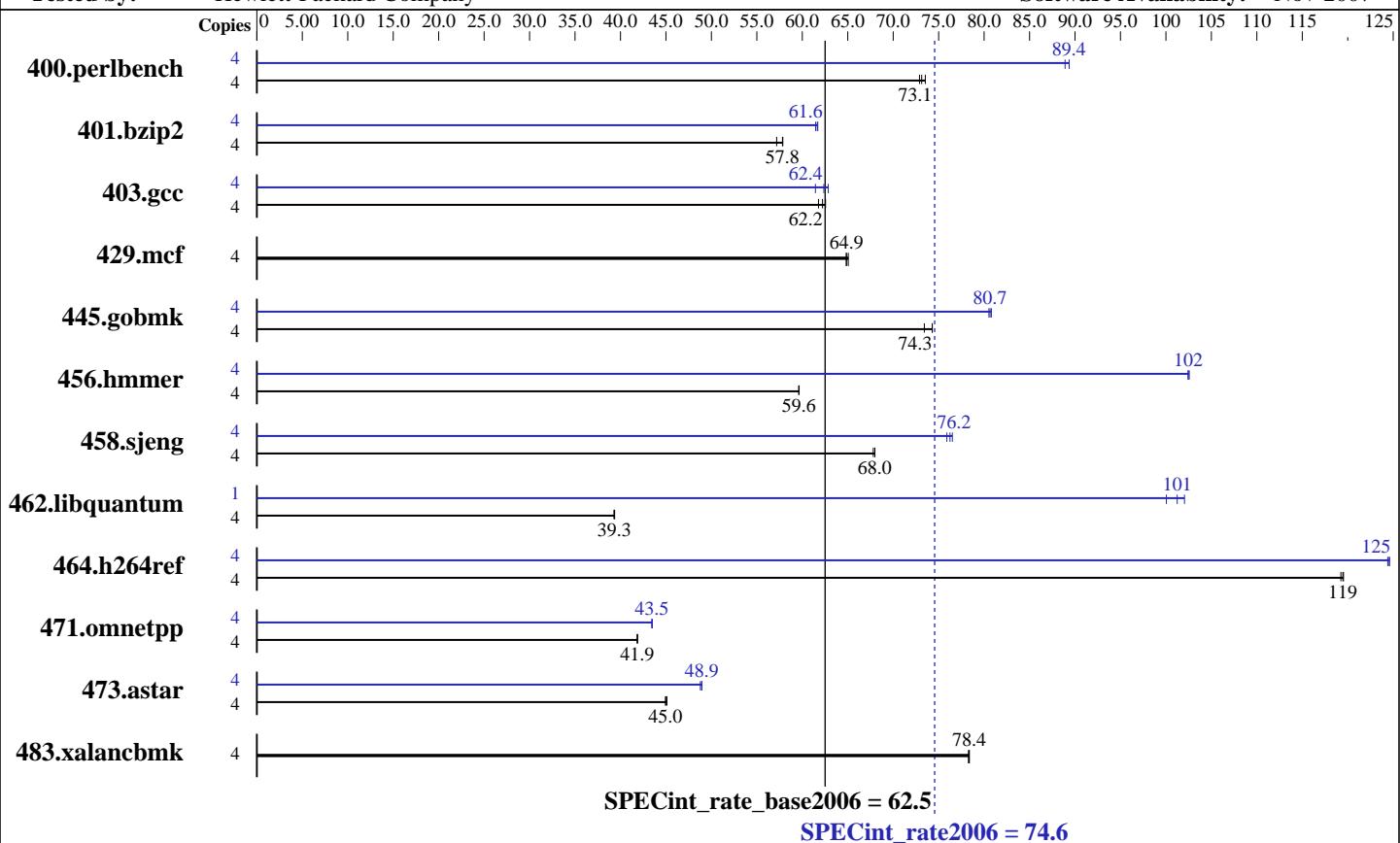
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

Test date: Jun-2008

Hardware Availability: Sep-2008

Software Availability: Nov-2007



### Hardware

CPU Name: Intel Xeon X3360  
CPU Characteristics: 2.83 GHz, 2x6 MB L2 shared, 1333 MHz system bus  
CPU MHz: 2833  
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: 12 MB I+D on chip per chip, 6 MB shared / 2 cores  
L3 Cache: None  
Other Cache: None  
Memory: 8 GB (4x2 GB PC2-6400E CL6)  
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						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	4	531	73.5	536	72.9	<b>534</b>	<b>73.1</b>	4	<b>437</b>	<b>89.4</b>	437	89.4	440	88.9
401.bzip2	4	667	57.9	675	57.2	<b>668</b>	<b>57.8</b>	4	<b>626</b>	<b>61.6</b>	628	61.5	626	61.7
403.gcc	4	<b>517</b>	<b>62.2</b>	515	62.6	521	61.8	4	<b>516</b>	<b>62.4</b>	512	62.9	524	61.4
429.mcf	4	561	65.1	<b>562</b>	<b>64.9</b>	563	64.8	4	561	65.1	<b>562</b>	<b>64.9</b>	563	64.8
445.gobmk	4	571	73.4	<b>565</b>	<b>74.3</b>	565	74.3	4	<b>520</b>	<b>80.7</b>	521	80.5	519	80.8
456.hmmer	4	626	59.7	626	59.6	<b>626</b>	<b>59.6</b>	4	364	103	364	102	<b>364</b>	<b>102</b>
458.sjeng	4	<b>712</b>	<b>68.0</b>	714	67.8	712	68.0	4	638	75.9	633	76.5	<b>635</b>	<b>76.2</b>
462.libquantum	4	2106	39.4	<b>2108</b>	<b>39.3</b>	2109	39.3	1	203	102	<b>205</b>	<b>101</b>	207	100
464.h264ref	4	<b>741</b>	<b>119</b>	742	119	741	120	4	712	124	710	125	<b>711</b>	<b>125</b>
471.omnetpp	4	597	41.9	597	41.9	<b>597</b>	<b>41.9</b>	4	<b>575</b>	<b>43.5</b>	575	43.5	<b>575</b>	43.5
473.astar	4	623	45.1	<b>624</b>	<b>45.0</b>	625	45.0	4	574	49.0	<b>574</b>	<b>48.9</b>	576	48.8
483.xalancbmk	4	<b>352</b>	<b>78.4</b>	353	78.3	352	78.4	4	<b>352</b>	<b>78.4</b>	353	78.3	352	78.4

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:  
Adjacent Cache Line Prefetch Disabled

## Base Compiler Invocation

C benchmarks:  
icc

C++ benchmarks:  
icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LINUX\_IA32

462.libquantum: -DSPEC\_CPU\_LINUX

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## Base Portability Flags (Continued)

483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:

-fast -inline-calloc -opt-malloc-options=3

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.hmmr: /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.hmmr: -DSPEC\_CPU\_LP64

462.libquantum: -DSPEC\_CPU\_LINUX

483.xalancbmk: -DSPEC\_CPU\_LINUX



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## 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

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

429.mcf: basepeak = yes

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

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

462.libquantum: -fast -unroll4 -O0 -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.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.xml>

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

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