



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

SPECint®\_rate2006 = 18.7

ProLiant DL580 G4  
(2.6 GHz, Intel Xeon processor 7110M)

SPECint\_rate\_base2006 = 17.4

CPU2006 license: 3

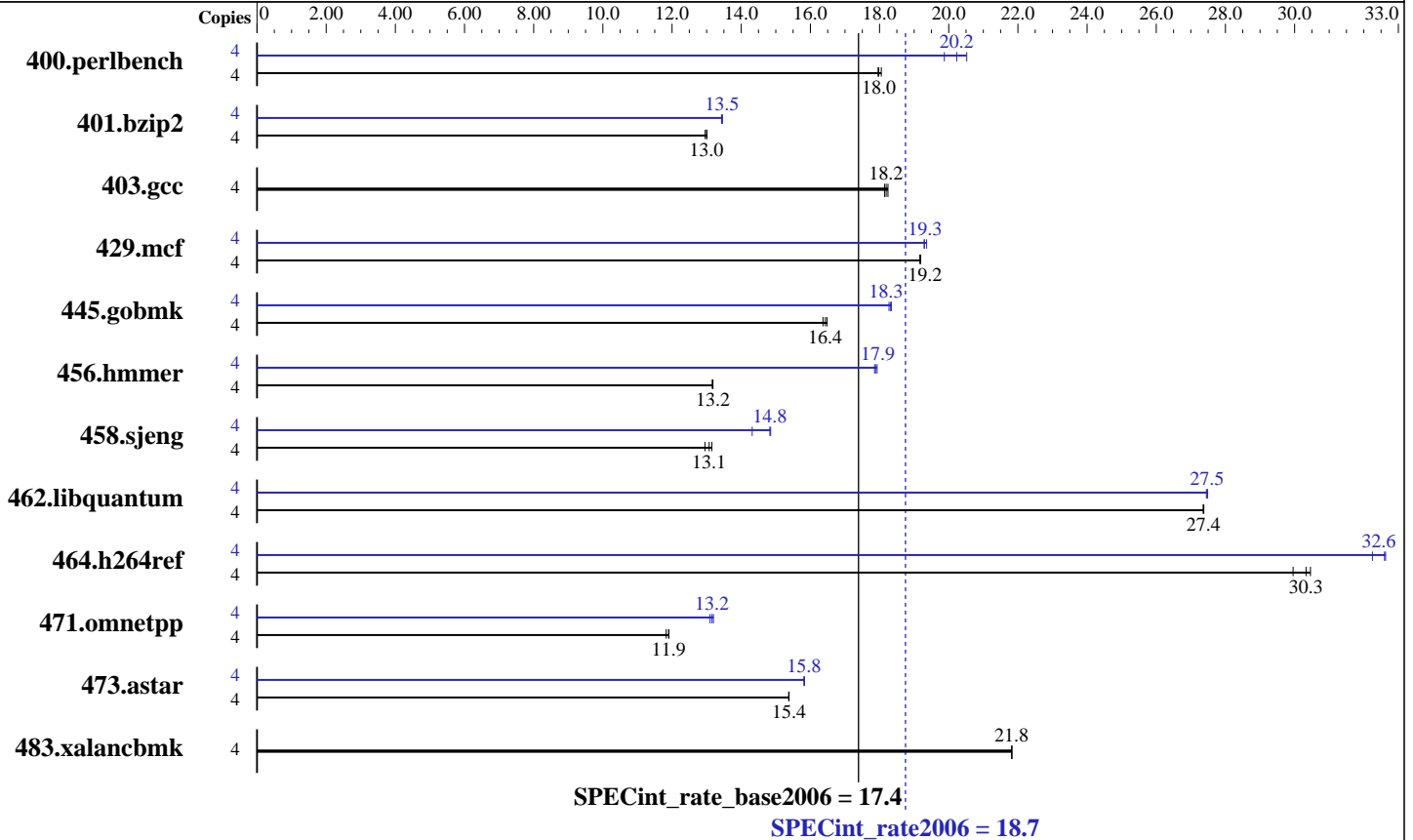
Test sponsor: Hewlett-Packard Company

Test date: Sep-2007

Hardware Availability: Aug-2006

Tested by: Hewlett-Packard Company

Software Availability: May-2007



### Hardware

CPU Name: Intel Xeon 7110M  
 CPU Characteristics: 2.6 GHz, 800 MHz system bus  
 CPU MHz: 2600  
 FPU: Integrated  
 CPU(s) enabled: 2 cores, 1 chip, 2 cores/chip, 2 threads/core  
 CPU(s) orderable: 1,2,4 chips  
 Primary Cache: 12 K micro-ops I + 16 KB D on chip per core  
 Secondary Cache: 1 MB I+D on chip per core  
 L3 Cache: 4 MB I+D on chip per chip  
 Other Cache: None  
 Memory: 32 GB (16x2 GB PC2-3200R)  
 Disk Subsystem: 1x72 GB 15 K SAS  
 Other Hardware: None

### Software

Operating System: SuSE Linux Enterprise Server 10 (x86\_64)  
 kernel 2.6.16.21-0.8-smp  
 Compiler: Intel C++ Compiler for IA32/EM64T  
 applications, Version 10.0  
 Build 20070426 Package ID: 1\_cc\_p\_10.0.023  
 Auto Parallel: No  
 File System: ext2  
 System State: Multi-user run level 3  
 Base Pointers: 32-bit  
 Peak Pointers: 32/64-bit  
 Other Software: MicroQuill SmartHeap 8.1 libraries



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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	<b><u>2174</u></b>	<b><u>18.0</u></b>	2165	18.1	2176	18.0	4	<b><u>1932</u></b>	<b><u>20.2</u></b>	1967	19.9	1904	20.5
401.bzip2	4	<b><u>2969</u></b>	<b><u>13.0</u></b>	2968	13.0	2979	13.0	4	<b><u>2870</u></b>	<b><u>13.5</u></b>	2874	13.4	2868	13.5
403.gcc	4	1765	18.2	1775	18.1	<b><u>1770</u></b>	<b><u>18.2</u></b>	4	1765	18.2	1775	18.1	<b><u>1770</u></b>	<b><u>18.2</u></b>
429.mcf	4	1901	19.2	1903	19.2	<b><u>1903</u></b>	<b><u>19.2</u></b>	4	<b><u>1890</u></b>	<b><u>19.3</u></b>	1891	19.3	1884	19.4
445.gobmk	4	2546	16.5	2564	16.4	<b><u>2553</u></b>	<b><u>16.4</u></b>	4	2288	18.3	<b><u>2290</u></b>	<b><u>18.3</u></b>	2296	18.3
456.hammer	4	2836	13.2	<b><u>2832</u></b>	<b><u>13.2</u></b>	2831	13.2	4	2090	17.9	2081	17.9	<b><u>2087</u></b>	<b><u>17.9</u></b>
458.sjeng	4	3680	13.2	3737	13.0	<b><u>3702</u></b>	<b><u>13.1</u></b>	4	<b><u>3264</u></b>	<b><u>14.8</u></b>	3259	14.9	3381	14.3
462.libquantum	4	3029	27.4	3028	27.4	<b><u>3029</u></b>	<b><u>27.4</u></b>	4	<b><u>3017</u></b>	<b><u>27.5</u></b>	3015	27.5	3019	27.4
464.h264ref	4	2955	30.0	2906	30.5	<b><u>2918</u></b>	<b><u>30.3</u></b>	4	2713	32.6	2745	32.2	<b><u>2715</u></b>	<b><u>32.6</u></b>
471.omnetpp	4	<b><u>2101</u></b>	<b><u>11.9</u></b>	2113	11.8	2100	11.9	4	1909	13.1	1894	13.2	<b><u>1900</u></b>	<b><u>13.2</u></b>
473.astar	4	1827	15.4	1825	15.4	<b><u>1826</u></b>	<b><u>15.4</u></b>	4	1776	15.8	<b><u>1775</u></b>	<b><u>15.8</u></b>	1774	15.8
483.xalancbmk	4	1265	21.8	1265	21.8	<b><u>1265</u></b>	<b><u>21.8</u></b>	4	1265	21.8	1265	21.8	<b><u>1265</u></b>	<b><u>21.8</u></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

## Platform Notes

BIOS configuration:  
Power Regulator Disabled  
Adjacent Sector Prefetch Enabled  
Hardware Prefetcher Enabled  
Hyper-Threading Technology Enabled

## 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:

-xP -ipo -O3 -static -no-prec-div

C++ benchmarks:

-xP -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/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/include

456.hmmer: /opt/intel/cce/10.0.023/bin/icc  
-L/opt/intel/cce/10.0.023/lib  
-I/opt/intel/cce/10.0.023/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  
483.xalancbmk: -DSPEC\_CPU\_LINUX



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## Peak Optimization Flags

C benchmarks:

400.perlbench: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3  
-no-prec-div -ansi-alias -prefetch

401.bzip2: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3  
-no-prec-div

403.gcc: basepeak = yes

429.mcf: -xP -ipo -O3 -static -no-prec-div -prefetch  
-L/cpu2006/SmartHeap\_8.1/lib -lsmartheap

445.gobmk: -prof-gen(pass 1) -prof-use(pass 2) -xP -O2 -ipo  
-no-prec\_div -ansi-alias

456.hmmmer: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static  
-no-prec-div -unroll2 -ansi-alias

458.sjeng: -prof-gen(pass 1) -prof-use(pass 2) -xP -ipo -O3 -static  
-no-prec-div -unroll4

462.libquantum: Same as 458.sjeng

464.h264ref: Same as 456.hmmmer

C++ benchmarks:

471.omnetpp: -prof-gen(pass 1) -prof-use(pass 2) -xP -O3 -ipo  
-no-prec\_div -ansi-alias -Wl,-z,muldefs  
-L/cpu2006/SmartHeap\_8.1/lib -lsmartheap

473.astar: Same as 471.omnetpp

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-ic10-flags.20090714.html>

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

<http://www.spec.org/cpu2006/flags/hp-ic10-flags.20090714.xml>



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

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