



# SPEC<sup>®</sup> CINT2006 Result

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## Hewlett-Packard Company

### SPECint<sup>®</sup>\_rate2006 = Not Run

ProLiant BL685c G7  
(2.2 GHz AMD Opteron 6174)

### SPECint\_rate\_base2006 = 671

CPU2006 license: 3

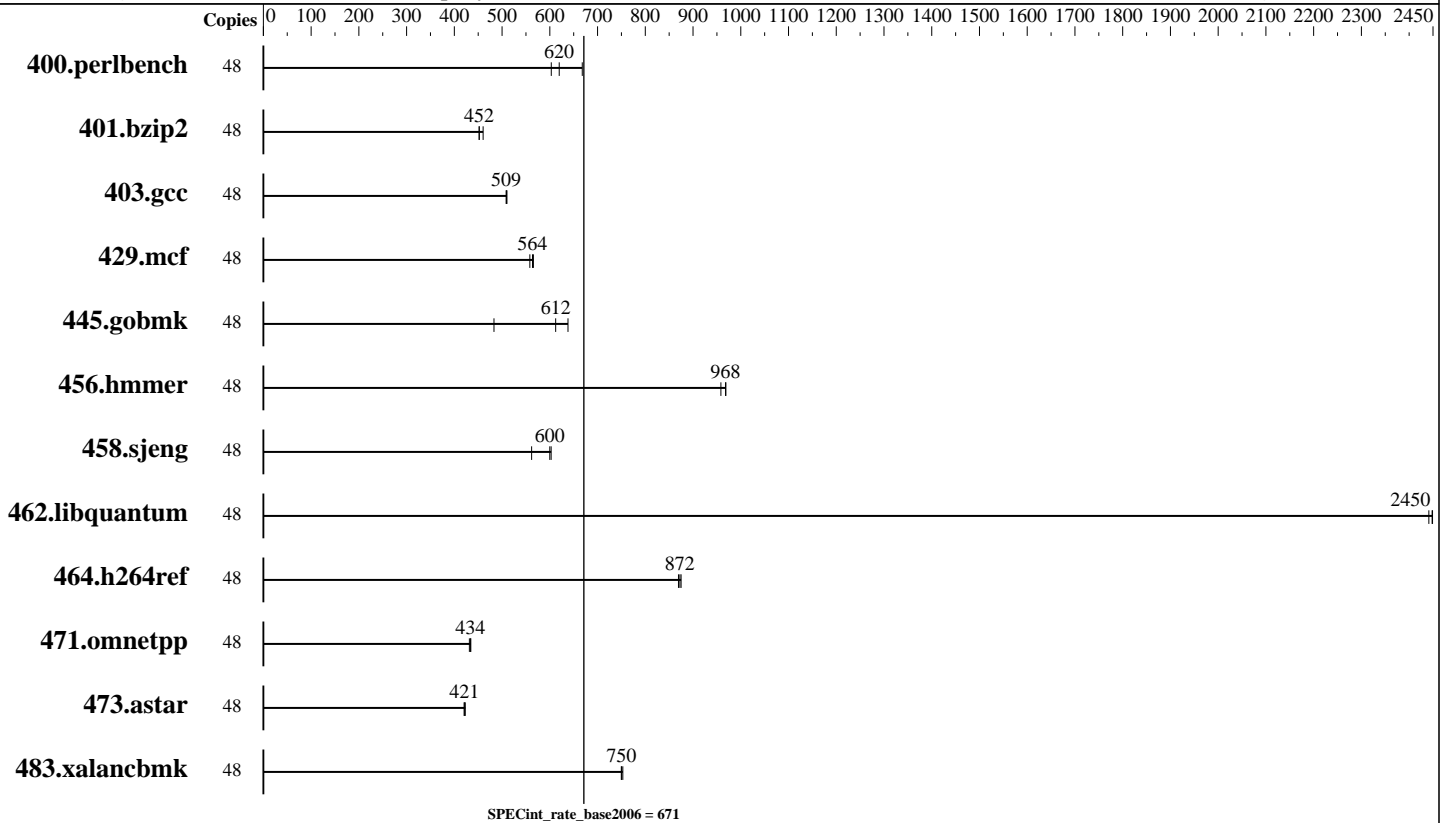
Test date: Sep-2010

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jun-2010

Tested by: Hewlett-Packard Company

Software Availability: Mar-2010



### Hardware

CPU Name: AMD Opteron 6174  
 CPU Characteristics:  
 CPU MHz: 2200  
 FPU: Integrated  
 CPU(s) enabled: 48 cores, 4 chips, 12 cores/chip  
 CPU(s) orderable: 2,4 chips  
 Primary Cache: 64 KB I + 64 KB D on chip per core  
 Secondary Cache: 512 KB I+D on chip per core  
 L3 Cache: 12 MB I+D on chip per chip, 6 MB shared / 6 cores  
 Other Cache: None  
 Memory: 128 GB (32 x 4 GB 2Rx4 PC3-10600R-9, ECC)  
 Disk Subsystem: 1x146 GB 10 K SAS  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux Server release 5.5, Advanced Platform, Kernel 2.6.18-194.el5  
 Compiler: x86 Open64 4.2.4 Compiler Suite  
 Auto Parallel: No  
 File System: ext3  
 System State: Run level 3 (multi-user)  
 Base Pointers: 32/64-bit  
 Peak Pointers: Not Applicable  
 Other Software: binutils 2.18, SmartHeap 8.1 32-bit Library for Linux



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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	48	702	668	<u>757</u>	<u>620</u>	778	603							
401.bzip2	48	1006	460	<u>1025</u>	<u>452</u>	1025	452							
403.gcc	48	759	509	757	510	<u>759</u>	<u>509</u>							
429.mcf	48	774	566	784	558	<u>777</u>	<u>564</u>							
445.gobmk	48	1042	483	789	638	<u>822</u>	<u>612</u>							
456.hammer	48	467	958	462	969	<u>463</u>	<u>968</u>							
458.sjeng	48	964	603	<u>968</u>	<u>600</u>	1034	562							
462.libquantum	48	<u>406</u>	<u>2450</u>	406	2450	407	2440							
464.h264ref	48	1214	875	<u>1218</u>	<u>872</u>	1222	869							
471.omnetpp	48	<u>691</u>	<u>434</u>	695	431	691	434							
473.astar	48	801	421	<u>800</u>	<u>421</u>	797	423							
483.xalancbmk	48	440	753	442	750	<u>441</u>	<u>750</u>							

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

## Submit Notes

The config file option 'submit' was used.  
'numactl' was used to bind copies to the cores.  
See the configuration file for details.

## Operating System Notes

'ulimit -s unlimited' was used to set environment stack size  
'ulimit -l 2097152' was used to set environment locked pages in memory limit

Set vm/nr\_hugepages=21600 in /etc/sysctl.conf  
mount -t hugetlbfs nodev /mnt/hugepages

## Platform Notes

BIOS Configuration:  
HP Power Profile set to Maximum Performance  
Thermal Configuration set to Increased Cooling

## General Notes

Environment variables set by runspec before the start of the run:  
HUGETLB\_LIMIT = "450"  
LD\_LIBRARY\_PATH = "/cpu2006/amd1002mc-rate-libs-revC/64:/cpu2006/amd1002mc-rate-libs-revC/32"

The x86 Open64 Compiler Suite is only available from (and supported by) AMD at  
<http://developer.amd.com/cpu/open64>



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## Base Compiler Invocation

C benchmarks:  
opencc

C++ benchmarks:  
openCC

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_X64  
401.bzip2: -DSPEC\_CPU\_LP64  
403.gcc: -DSPEC\_CPU\_LP64  
429.mcf: -DSPEC\_CPU\_LP64  
445.gobmk: -DSPEC\_CPU\_LP64  
456.hmmer: -DSPEC\_CPU\_LP64  
458.sjeng: -DSPEC\_CPU\_LP64  
462.libquantum: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX  
464.h264ref: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-march=barcelona -mso -Ofast -CG:local\_sched\_alg=1  
-INLINE:aggressive=on -IPA:plimit=8000 -IPA:small\_pu=100  
-HP:bdt=2m:heap=2m

C++ benchmarks:  
-march=barcelona -mso -Ofast -m32 -INLINE:aggressive=on  
-CG:cmp\_peep=on -L/root/work/libraries/SmartHeap-8.1/lib -lsmarheap

The flags files that were used to format this result can be browsed at

<http://www.spec.org/cpu2006/flags/x86-open64-424-flags-rate-revC.20100901.html>

<http://www.spec.org/cpu2006/flags/amd-platform-rate-revC.html>

You can also download the XML flags sources by saving the following links:

<http://www.spec.org/cpu2006/flags/x86-open64-424-flags-rate-revC.20100901.xml>

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For questions about this result, please contact the tester.  
For other inquiries, please contact [webmaster@spec.org](mailto:webmaster@spec.org).

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