



# SPEC<sup>®</sup> CINT2006 Result

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## Hewlett-Packard Company

**SPECint<sup>®</sup>2006 = 10.6**

HP Integrity rx3600  
(1.4GHz/12MB Dual-Core Intel Itanium 2)

**SPECint\_base2006 = 10.0**

CPU2006 license: 03

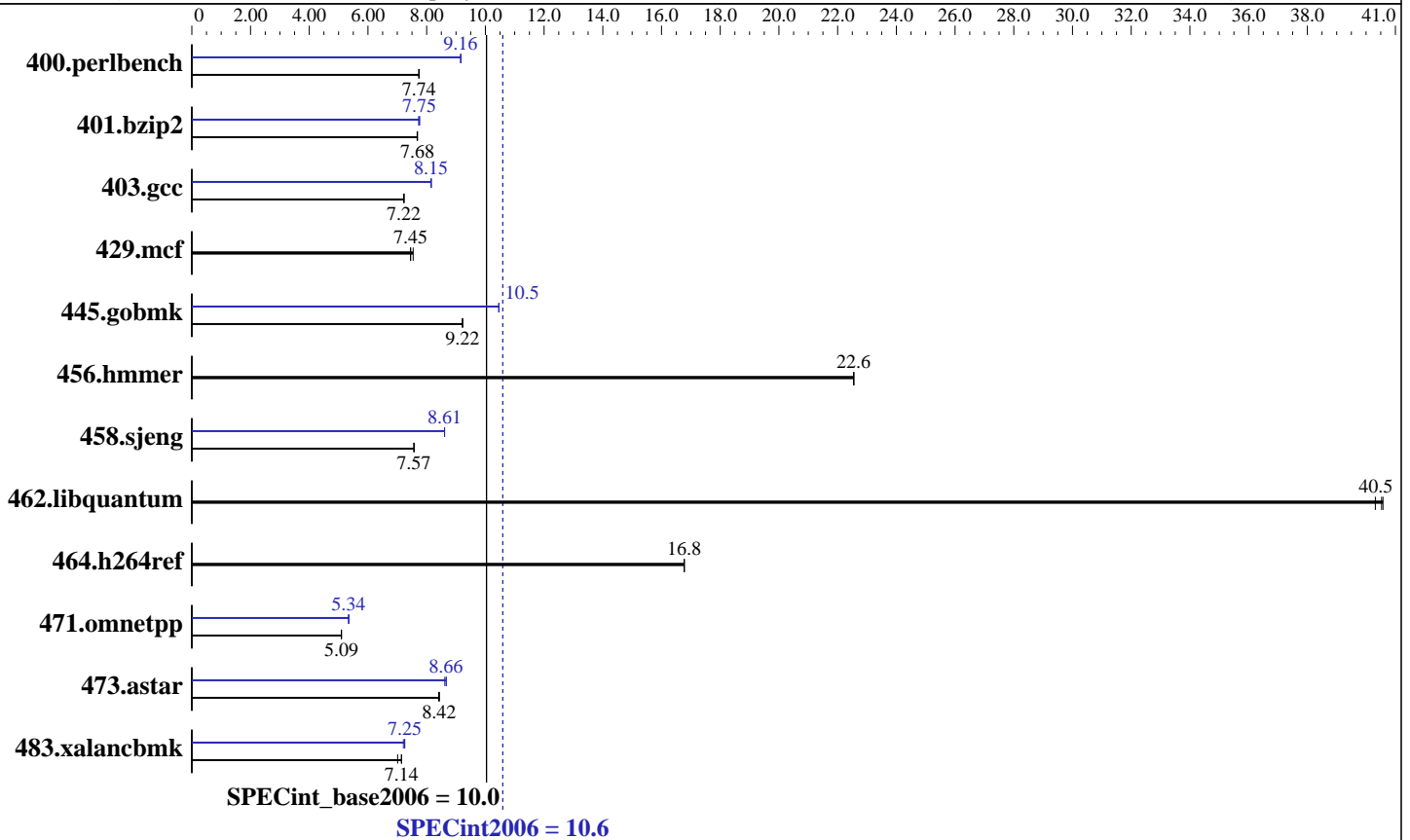
**Test date:** Dec-2006

**Test sponsor:** Hewlett-Packard Company

**Hardware Availability:** Sep-2006

**Tested by:** Hewlett-Packard Company

**Software Availability:** Nov-2006



### Hardware

CPU Name: Dual-Core Intel Itanium 2 9020  
 CPU Characteristics: 1.4GHz/12MB, 533MHz FSB  
 CPU MHz: 1600  
 FPU: Integrated  
 CPU(s) enabled: 1 core, 1 chip, 2 cores/chip  
 CPU(s) orderable: 1-2 chips  
 Primary Cache: 16 KB I + 16 KB D on chip per core  
 Secondary Cache: 1 MB I + 256 KB D on chip per core  
 L3 Cache: 6 MB I+D on chip per core  
 Other Cache: None  
 Memory: 16 GB (8x2GB DIMMs, AD124A 8-DIMM memory carrier)  
 Disk Subsystem: 2x73GB 10K RPM SAS (mirrored)  
 Other Hardware: None

### Software

Operating System: Red Hat Enterprise Linux AS release 4 (Update 4)  
 Compiler: Intel C++ Compiler 9.1 for Linux (Build 20060818)  
 Auto Parallel: No  
 File System: ext3  
 System State: Multi-user  
 Base Pointers: 64-bit  
 Peak Pointers: 64-bit  
 Other Software: MicroQuill Smartheap 8.0



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## Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	<b><u>1263</u></b>	<b><u>7.74</u></b>	1263	7.74	1263	7.73	1065	9.17	<b><u>1067</u></b>	<b><u>9.16</u></b>	1067	9.16
401.bzip2	1257	7.67	1255	7.69	<b><u>1256</u></b>	<b><u>7.68</u></b>	1249	7.73	<b><u>1246</u></b>	<b><u>7.75</u></b>	1243	7.76
403.gcc	<b><u>1114</u></b>	<b><u>7.22</u></b>	1113	7.23	1115	7.22	<b><u>987</u></b>	<b><u>8.15</u></b>	988	8.15	987	8.16
429.mcf	1224	7.45	1210	7.54	<b><u>1224</u></b>	<b><u>7.45</u></b>	1224	7.45	1210	7.54	<b><u>1224</u></b>	<b><u>7.45</u></b>
445.gobmk	1137	9.22	1138	9.22	<b><u>1138</u></b>	<b><u>9.22</u></b>	1003	10.5	<b><u>1003</u></b>	<b><u>10.5</u></b>	1003	10.5
456.hmmer	414	22.5	414	22.6	<b><u>414</u></b>	<b><u>22.6</u></b>	414	22.5	414	22.6	<b><u>414</u></b>	<b><u>22.6</u></b>
458.sjeng	1599	7.57	1599	7.57	<b><u>1599</u></b>	<b><u>7.57</u></b>	1406	8.61	1405	8.61	<b><u>1406</u></b>	<b><u>8.61</u></b>
462.libquantum	514	40.3	<b><u>511</u></b>	<b><u>40.5</u></b>	511	40.6	514	40.3	<b><u>511</u></b>	<b><u>40.5</u></b>	511	40.6
464.h264ref	1319	16.8	1319	16.8	<b><u>1319</u></b>	<b><u>16.8</u></b>	1319	16.8	1319	16.8	<b><u>1319</u></b>	<b><u>16.8</u></b>
471.omnetpp	1227	5.09	1226	5.10	<b><u>1227</u></b>	<b><u>5.09</u></b>	1169	5.35	1170	5.34	<b><u>1170</u></b>	<b><u>5.34</u></b>
473.astar	<b><u>834</u></b>	<b><u>8.42</u></b>	832	8.44	835	8.41	815	8.62	810	8.67	<b><u>810</u></b>	<b><u>8.66</u></b>
483.xalancbmk	<b><u>967</u></b>	<b><u>7.14</u></b>	984	7.01	966	7.14	<b><u>952</u></b>	<b><u>7.25</u></b>	951	7.25	957	7.21

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

## Operating System Notes

stacksize set to unlimited prior to run

system was booted uniprocessor by setting "maxcpus=0"  
kernel parameter in elilo.conf

## Base Compiler Invocation

C benchmarks:

icc

C++ benchmarks:

icpc

## Base Portability Flags

400.perlbench: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX\_IA64  
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

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## Base Portability Flags (Continued)

464.h264ref: -DSPEC\_CPU\_LP64  
471.omnetpp: -DSPEC\_CPU\_LP64  
473.astar: -DSPEC\_CPU\_LP64  
483.xalancbmk: -DSPEC\_CPU\_LP64 -DSPEC\_CPU\_LINUX

## Base Optimization Flags

C benchmarks:  
-fast -IPF\_fp\_relaxed -ansi-alias  
  
C++ benchmarks:  
-fast -IPF\_fp\_relaxed -ansi-alias -Wl,-z,muldefs  
/opt/SmartHeap\_8/lib/libsmartheapC64.a  
/opt/SmartHeap\_8/lib/libsmartheap64.a

## Peak Compiler Invocation

C benchmarks:  
icc  
  
C++ benchmarks:  
icpc

## Peak Portability Flags

Same as Base Portability Flags

## Peak Optimization Flags

C benchmarks:  
  
400.perlbench: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-ansi-alias  
  
401.bzip2: Same as 400.perlbench  
  
403.gcc: Same as 400.perlbench  
  
429.mcf: basepeak = yes  
  
445.gobmk: Same as 400.perlbench

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## Peak Optimization Flags (Continued)

456.hmmcr: basepeak = yes

458.sjeng: Same as 400.perlbench

462.libquantum: basepeak = yes

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-ansi-alias -Wl,-z,muldefs  
/opt/SmartHeap\_8/lib/libsmartheapC64.a  
/opt/SmartHeap\_8/lib/libsmartheap64.a

473.astar: -prof\_gen(pass 1) -prof\_use(pass 2) -fast -IPF\_fp\_relaxed  
-ansi-alias -inline-factor=150 -Wl,-z,muldefs  
/opt/SmartHeap\_8/lib/libsmartheapC64.a  
/opt/SmartHeap\_8/lib/libsmartheap64.a

483.xalancbmk: Same as 471.omnetpp

The flags file that was used to format this result can be browsed at

[http://www.spec.org/cpu2006/flags/IPF\\_intel91\\_flags.20090715.html](http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.html)

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

[http://www.spec.org/cpu2006/flags/IPF\\_intel91\\_flags.20090715.xml](http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.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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