



# SPEC® CINT2006 Result

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## Hewlett-Packard Company

HP Integrity rx2660  
(1.6GHz/18MB Dual-Core Intel Itanium 2)

**SPECint®2006 = 12.3**

**SPECint\_base2006 = 11.7**

CPU2006 license: 03

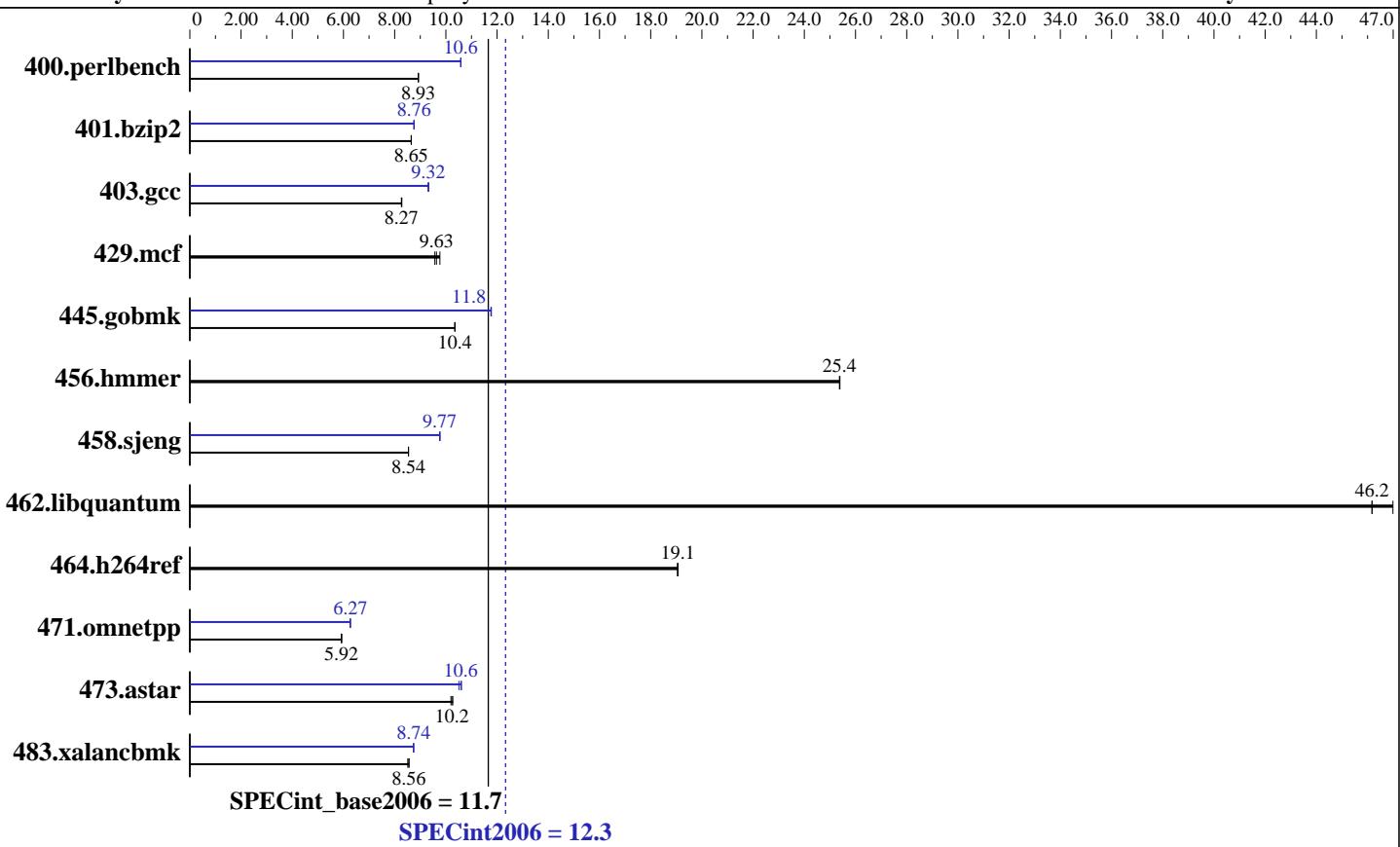
Test sponsor: Hewlett-Packard Company

Tested by: Hewlett-Packard Company

**Test date:** Jan-2007

**Hardware Availability:** Feb-2007

**Software Availability:** Nov-2006



### Hardware

|                      |                                    |
|----------------------|------------------------------------|
| CPU Name:            | Dual-Core Intel Itanium 2 9040     |
| CPU Characteristics: | 1.6GHz/18MB, 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:            | 9 MB I+D on chip per core          |
| Other Cache:         | None                               |
| Memory:              | 8 GB (4x2GB DIMMs)                 |
| Disk Subsystem:      | 73GB 10K RPM SAS                   |
| Other Hardware:      | None                               |

### Software

|                   |   |
|-------------------|---|
| Operating System: | Red Hat Enterprise Linux AS release 4 (Update 4)  |
| Compiler:         | Intel C++ Compiler 9.1 for Linux (Build 20061105) |
| 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       |
| 400.perlbench  | 1094        | 8.93        | 1095        | 8.92        | <b>1095</b> | <b>8.93</b> | <b>923</b>  | <b>10.6</b> | 923         | 10.6        | 923        | 10.6        |
| 401.bzip2      | 1115        | 8.65        | <b>1116</b> | <b>8.65</b> | 1116        | 8.65        | <b>1102</b> | <b>8.76</b> | 1101        | 8.76        | 1103       | 8.75        |
| 403.gcc        | <b>973</b>  | <b>8.27</b> | 972         | 8.28        | 974         | 8.26        | <b>864</b>  | <b>9.32</b> | 865         | 9.31        | 863        | 9.33        |
| 429.mcf        | 934         | 9.77        | 953         | 9.57        | <b>947</b>  | <b>9.63</b> | 934         | 9.77        | 953         | 9.57        | <b>947</b> | <b>9.63</b> |
| 445.gobmk      | <b>1013</b> | <b>10.4</b> | 1013        | 10.4        | 1014        | 10.3        | 891         | 11.8        | <b>891</b>  | <b>11.8</b> | 892        | 11.8        |
| 456.hammer     | 367         | 25.4        | 368         | 25.4        | <b>368</b>  | <b>25.4</b> | 367         | 25.4        | 368         | 25.4        | <b>368</b> | <b>25.4</b> |
| 458.sjeng      | 1417        | 8.54        | 1416        | 8.54        | <b>1417</b> | <b>8.54</b> | <b>1239</b> | <b>9.77</b> | 1238        | 9.77        | 1240       | 9.76        |
| 462.libquantum | <b>449</b>  | <b>46.2</b> | 449         | 46.2        | 441         | 47.0        | <b>449</b>  | <b>46.2</b> | 449         | 46.2        | 441        | 47.0        |
| 464.h264ref    | 1162        | 19.1        | <b>1161</b> | <b>19.1</b> | 1161        | 19.1        | 1162        | 19.1        | <b>1161</b> | <b>19.1</b> | 1161       | 19.1        |
| 471.omnetpp    | <b>1055</b> | <b>5.92</b> | 1056        | 5.92        | 1054        | 5.93        | 996         | 6.27        | <b>997</b>  | <b>6.27</b> | 998        | 6.26        |
| 473.astar      | <b>686</b>  | <b>10.2</b> | 683         | 10.3        | 688         | 10.2        | 662         | 10.6        | 668         | 10.5        | <b>663</b> | <b>10.6</b> |
| 483.xalancbmk  | 806         | 8.56        | 811         | 8.51        | <b>806</b>  | <b>8.56</b> | 789         | 8.74        | 790         | 8.74        | <b>789</b> | <b>8.74</b> |

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.hammer: -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.hmmer: 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.20090715.00.html](http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.00.html)

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

[http://www.spec.org/cpu2006/flags/IPF\\_intel91\\_flags.20090715.00.xml](http://www.spec.org/cpu2006/flags/IPF_intel91_flags.20090715.00.xml)

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

Tested with SPEC CPU2006 v1.0.

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