## Hewlett-Packard Company

**HP Integrity BL860c**  
(1.6GHz/18MB Dual-Core Intel Itanium 2)

### SPECint2006 = 15.2  
SPECint_base2006 = 14.0

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>SPECint2006</th>
<th>SPECint_base2006</th>
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<tbody>
<tr>
<td>400.perlbench</td>
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<tr>
<td>401.bzip2</td>
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<tr>
<td>403.gcc</td>
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<td>17.5</td>
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<td>429.mcf</td>
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<td>16.5</td>
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<td>445.gobmk</td>
<td>11.3</td>
<td>27.2</td>
</tr>
<tr>
<td>456.hmmer</td>
<td>11.2</td>
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<td>458.sjeng</td>
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<tr>
<td>462.libquantum</td>
<td></td>
<td>43.6</td>
</tr>
<tr>
<td>464.h264ref</td>
<td>7.74</td>
<td>21.2</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>7.18</td>
<td>14.4</td>
</tr>
<tr>
<td>473.astar</td>
<td>14.0</td>
<td>14.8</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td></td>
<td>13.0</td>
</tr>
</tbody>
</table>

### Hardware
- **CPU Name:** Dual-Core Intel Itanium 2 9040  
- **CPU Characteristics:** 1.6GHz/18MB, 533MHz FSB  
- **CPU MHz:** 1600  
- **FPU:** Integrated  
- **CPU(s) enabled:** 2 cores, 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:** 12 GB (12x1GB DIMMs)  
- **Disk Subsystem:** 73GB 10K RPM SAS  
- **Other Hardware:** None

### Software
- **Operating System:** HPUX11i-TCOE B.11.23.0609  
- **Compiler:** HP C/aC++ Developer's Bundle C.11.23.12  
- **Auto Parallel:** No  
- **File System:** vxfs  
- **System State:** Multi-user  
- **Base Pointers:** 32-bit  
- **Peak Pointers:** 32-bit  
- **Other Software:** MicroQuill Smartheap 8.0
### SPEC CINT2006 Result

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**SPECint2006 = 15.2**

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---

**Results Table**

<table>
<thead>
<tr>
<th>Benchmark</th>
<th>Seconds (Base)</th>
<th>Ratio (Base)</th>
<th>Seconds (Peak)</th>
<th>Ratio (Peak)</th>
</tr>
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<tbody>
<tr>
<td>400.perlbench</td>
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<td>401.bzip2</td>
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<td>403.gcc</td>
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<tr>
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<td>1252</td>
<td>9.66</td>
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<td>9.67</td>
</tr>
<tr>
<td>462.libquantum</td>
<td>475</td>
<td>43.6</td>
<td>473</td>
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<td>464.h264ref</td>
<td>1046</td>
<td>21.2</td>
<td>1044</td>
<td>21.2</td>
</tr>
<tr>
<td>471.omnetpp</td>
<td>870</td>
<td>7.18</td>
<td>870</td>
<td>7.18</td>
</tr>
<tr>
<td>473.astar</td>
<td>503</td>
<td>14.0</td>
<td>503</td>
<td>14.0</td>
</tr>
<tr>
<td>483.xalancbmk</td>
<td>532</td>
<td>13.0</td>
<td>532</td>
<td>13.0</td>
</tr>
</tbody>
</table>

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

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**Operating System Notes**

The system had the September 2006 HP-UX 11i v2 Technical Computing Environment (TCOE) and compilers installed, along with the following patches:

- PHSS_34858 linker + fdp cumulative patch
- PHSS_34853 Math Library Cumulative Patch
- PHSS_34854 Integrity Unwind Library
- PHSS_34855 HP C Compiler (A.06.12)
- PHSS_34856 aC++ Compiler (A.06.12)
- PHSS_34857 u2comp/be/plugin library patch
- PHSS_34395 FORTRAN I/O Library [libIO77]
- PHSS_34397 FORTRAN Intrinsics [libF90 B.11.23.17]
- PHSS_34399 Fortran Product Patch, v3.1 to v3.1.1
- PHKL_34020 Perfmon enhancements and Itanium Dual-Core

The following kernel tunables were set, in addition to the defaults set by the Technical Computing OE:

- `dbc_max_pct=20`
- `dbc_min_pct=20`
- `maxdsiz=3221225472`
- `maxssiz=401604608`

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info@spec.org
http://www.spec.org/
## SPEC CINT2006 Result

### Hewlett-Packard Company

**HP Integrity BL860c**  
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</table>

**CPU2006 license:** 03  
**Test date:** Jan-2007  
**Test sponsor:** Hewlett-Packard Company  
**Tested by:** Hewlett-Packard Company

### Platform Notes

The "cpuconfig" EFI command was used prior to booting to deconfigure processors.

### Base Compiler Invocation

**C benchmarks:**

```
/opt/ansic/bin/cc -Ae
```

**C++ benchmarks:**

```
/opt/aCC/bin/aCC -Aa
```

### Base Portability Flags

400.perlbench: -DSPEC_CPU_HPUX_IA64  
403.gcc: -DSPEC_CPU_HPUX  
462.libquantum: -DSPEC_CPU_HPUX  
483.xalancbmk: -DSPEC_CPU_HPUX_IA64

### Base Optimization Flags

**C benchmarks:**

```
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N
```

**C++ benchmarks:**

```
+Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N /usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a
```

## Peak Compiler Invocation

**C benchmarks:**

```
/opt/ansic/bin/cc -Ae
```

**C++ benchmarks:**

```
/opt/aCC/bin/aCC -Aa
```

## Peak Portability Flags

400.perlbench: -DSPEC_CPU_HPUX_IA64  
403.gcc: -DSPEC_CPU_HPUX
Hewlett-Packard Company

HP Integrity BL860c
(1.6GHz/18MB Dual-Core Intel Itanium 2)

SPECint2006 = 15.2
SPECint_base2006 = 14.0

CPU2006 license: 03
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Test date: Jan-2007
Hardware Availability: Feb-2007
Software Availability: Feb-2007

Peak Portability Flags (Continued)

462.libquantum: -DSPEC_CPU_HPUX
483.xalancbmk: -DSPEC_CPU_HPUX_IA64

Peak Optimization Flags

C benchmarks:

400.perlbench: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M -Wl,-N
401.bzip2: Same as 400.perlbench
403.gcc: Same as 400.perlbench
429.mcf: Same as 400.perlbench
445.gobmk: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Odataprefetch=direct
456.hmmer: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M
458.sjeng: Same as 445.gobmk
462.libquantum: Same as 456.hmmer
464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M /usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a
473.astar: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap /usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a
483.xalancbmk: +Oprofile=collect:all(pass 1) +Oprofile=use(pass 2) +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap /usr/lib/hpux32/libCsup.a /opt/smartheap/SmartHeap_8/lib/libsmartheap.a
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| Tested by: Hewlett-Packard Company | Hardware Availability: Feb-2007 |

CPU2006 license: 03

The flags file that was used to format this result can be browsed at http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.07.html

You can also download the XML flags source by saving the following link: http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.07.xml

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For other inquiries, please contact webmaster@spec.org.

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