SPEC® CINT2006 Result

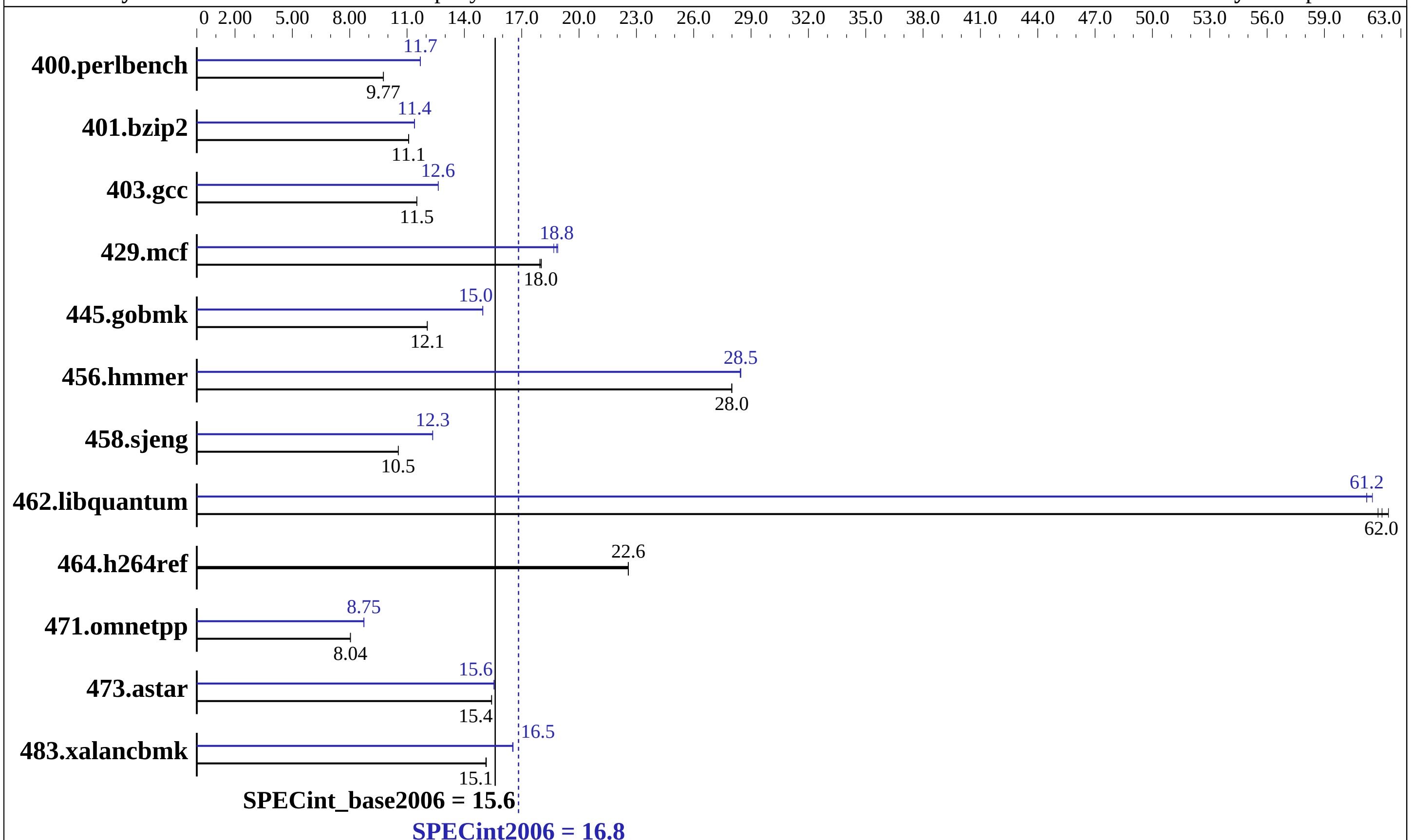
Hewlett-Packard Company

HP Integrity rx3600 (1.66GHz/18MB Dual-Core Intel Itanium)

SPECint®2006 = 16.8

SPECint_base2006 = 15.6

CPU2006 license: 03		**Test date:**	Sep-2007
Test sponsor:	Hewlett-Packard Company	**Hardware Availability:**	Nov-2007
Tested by:	Hewlett-Packard Company	**Software Availability:**	Sep-2007



Hardware

CPU Name:	Dual-Core Intel Itanium 9140M
CPU Characteristics:	1.66GHz/18MB, 667MHz FSB
CPU MHz:	1666
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:	16 GB (8x2GB DIMMs, AD124A 8-DIMM memory carrier)
Disk Subsystem:	73GB 10K RPM SAS
Other Hardware:	None

Software

Operating System:	HPUX11i-MCOE B.11.31 (LR)
Compiler:	HP C/aC++ Developer's Bundle C.11.31.03 HP Fortran90 Compiler B.11.31.03
Auto Parallel:	No
File System:	vxfs
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32-bit
Other Software:	MicroQuill Smartheap 8.1

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	**1000**	**9.77**	1001	9.76	1000	9.77	835	11.7	**835**	**11.7**	835	11.7
401.bzip2	870	11.1	871	11.1	**871**	**11.1**	847	11.4	**847**	**11.4**	848	11.4
403.gcc	699	11.5	699	11.5	**699**	**11.5**	637	12.6	**637**	**12.6**	637	12.6
429.mcf	**507**	**18.0**	508	17.9	506	18.0	488	18.7	**484**	**18.8**	483	18.9
445.gobmk	870	12.1	870	12.1	**870**	**12.1**	701	15.0	701	15.0	**701**	**15.0**
456.hmmer	**333**	**28.0**	333	28.0	333	28.0	328	28.4	328	28.5	**328**	**28.5**
458.sjeng	1148	10.5	1148	10.5	**1148**	**10.5**	980	12.3	980	12.3	**980**	**12.3**
462.libquantum	332	62.3	**334**	**62.0**	335	61.8	**338**	**61.2**	338	61.2	337	61.5
464.h264ref	**980**	**22.6**	980	22.6	980	22.6	**980**	**22.6**	980	22.6	980	22.6
471.omnetpp	778	8.03	**777**	**8.04**	777	8.04	715	8.74	714	8.75	**715**	**8.75**
473.astar	455	15.4	455	15.4	**455**	**15.4**	452	15.5	451	15.6	**451**	**15.6**
483.xalancbmk	456	15.1	**456**	**15.1**	455	15.2	**417**	**16.5**	418	16.5	417	16.6

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

Operating System Notes

```
The system had the September 2007 HP-UX 11i v3 Mission Critical
Operating Environment (MCOE) and compilers installed, along with
the following patches:

PHSS_36349  linker + fdp cumulative patch
PHSS_36351  Math Library Cumulative Patch
PHSS_36352  Integrity Unwind Library
PHSS_36350  aC++ Runtime (A.06.15)
PHSS_36354  assembler patch

The following kernel tunables were set, in addition to the defaults
set by the Mission Critical OE:

maxdsiz=3221225472
maxssiz=401604608
maxrsessiz=41943040
```

Platform Notes

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

Although two cores were enabled during testing,
  the SPEC CPU2006 benchmarks used only one core.

The setboot command was used to disable hyperthreading.
```

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
/opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/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`
462.libquantum: `-DSPEC_CPU_HPUX`
483.xalancbmk: `-DSPEC_CPU_HPUX_IA64`

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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 /opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmartheap.a

473.astar: +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared -Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap /opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/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 /opt/smartheap/SmartHeap_8.1/lib/libsmartheapC.a /opt/smartheap/SmartHeap_8.1/lib/libsmartheap.a

The flags file that was used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.07.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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