



SPEC® CINT2006 Result

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Hewlett-Packard Company

SPECint®_rate2006 = 531

HP Integrity BL890c i2
(1.73 GHz/24MB Quad-Core Intel Itanium 9350)

SPECint_rate_base2006 = 507

CPU2006 license: 03

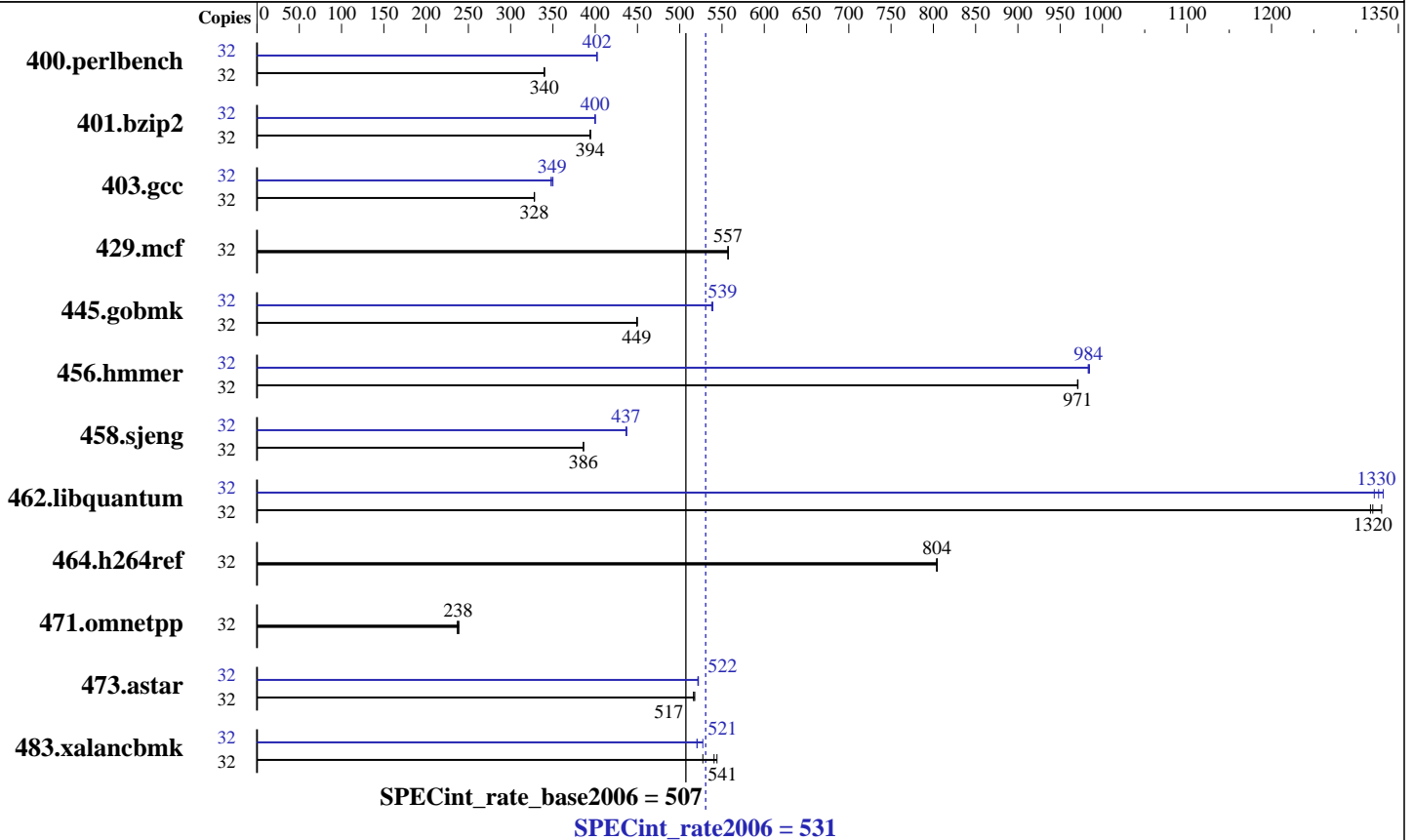
Test date: Apr-2010

Test sponsor: Hewlett-Packard Company

Hardware Availability: Jul-2010

Tested by: Hewlett-Packard Company

Software Availability: Mar-2010



Hardware

CPU Name: Intel Itanium 9350
 CPU Characteristics: Intel Turbo Boost Technology up to 1.86 GHz
 CPU MHz: 1730
 FPU: Integrated
 CPU(s) enabled: 32 cores, 8 chips, 4 cores/chip, 2 threads/core
 CPU(s) orderable: 4, 8 chips
 Primary Cache: 16 KB I + 16 KB D on chip per core
 Secondary Cache: 512 KB I + 256 KB D on chip per core
 L3 Cache: 6 MB I+D on chip per core
 Other Cache: None
 Memory: 512 GB (64 x 8GB 2Rx4 PC3-10600R)
 Disk Subsystem: 4 x 73 GB 15K RPM SAS (1 OS, 3 SPEC)
 Other Hardware: None

Software

Operating System: HP-UX 11i v3 Data Center Operating Environment B.11.31.1003
 Compiler: HP C/aC++ Developer's Bundle C.11.31.05
 Auto Parallel: No
 File System: vxfs
 System State: Multi-user
 Base Pointers: 32-bit
 Peak Pointers: 32-bit
 Other Software: MallocNextGen B.11.31.0903.02



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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	32	920	340	919	340	921	340	32	778	402	777	402	777	402
401.bzip2	32	784	394	783	395	783	394	32	772	400	772	400	772	400
403.gcc	32	785	328	785	328	786	328	32	736	350	738	349	741	348
429.mcf	32	524	557	524	557	524	557	32	524	557	524	557	524	557
445.gobmk	32	747	449	747	449	746	450	32	624	538	623	539	623	539
456.hammer	32	308	971	308	971	307	971	32	304	984	303	985	304	983
458.sjeng	32	1003	386	1003	386	1003	386	32	885	437	887	436	887	437
462.libquantum	32	502	1320	503	1320	498	1330	32	502	1320	500	1330	498	1330
464.h264ref	32	880	805	880	804	881	804	32	880	805	880	804	881	804
471.omnetpp	32	841	238	838	239	844	237	32	841	238	838	239	844	237
473.astar	32	434	518	435	516	435	517	32	430	522	431	522	431	522
483.xalancbmk	32	419	527	406	544	408	541	32	424	520	419	527	424	521

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.
The following config file entry was used to bind processes to cores using the HP-UX "mpsched" utility:
submit = let "MYCPU=\\$SPECCOPYNUM*2" ;mpsched -c \\$MYCPU \$command

Operating System Notes

The following kernel tunables were set, in addition to the defaults set by the Base Operating Environment:

```
filecache_max=25%
filecache_min=25%
maxdsiz=3221225472
fcache_fb_policy=1
base_pagesize=64
pagezero_daemon_enabled=0
vxfs_ifree_timelag=-1
maxssiz=0x17f00000
lcpu_attr=0
numa_policy=4
```

Platform Notes

Use of Hardware Threading by the OS was disabled via kctune



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Base Compiler Invocation

C benchmarks:

`/opt/ansic/bin/cc -AC99`

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,-aarchive_shared -Wl,+pd,64M
-Wl,+pi,64K -Wl,-N`

C++ benchmarks:

`+Ofaster +Otype_safety=ansi -Wl,-aarchive_shared -Wl,+pd,64M
-Wl,+pi,64K -Wl,-N -lmallocng`

Peak Compiler Invocation

C benchmarks:

`/opt/ansic/bin/cc -AC99`

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: basepeak = yes

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 -Wl,-N

456.hmmmer: Same as 400.perlbench

458.sjeng: Same as 445.gobmk

462.libquantum: Same as 400.perlbench

464.h264ref: basepeak = yes

C++ benchmarks:

471.omnetpp: basepeak = yes

473.astar: +Ofaster +Otype_safety=ansi -Wl,-a,archive_shared
-Wl,+pd,64M -Wl,+pi,64M +Onoparmsoverlap -Wl,-N
-lmallocng

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 -Wl,-N
-lmallocng

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

<http://www.spec.org/cpu2006/flags/Itanium-HPUX-1003-flags.20100511.html>

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

<http://www.spec.org/cpu2006/flags/Itanium-HPUX-1003-flags.20100511.xml>



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