SPEC® CINT2006 Result

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Bull SAS

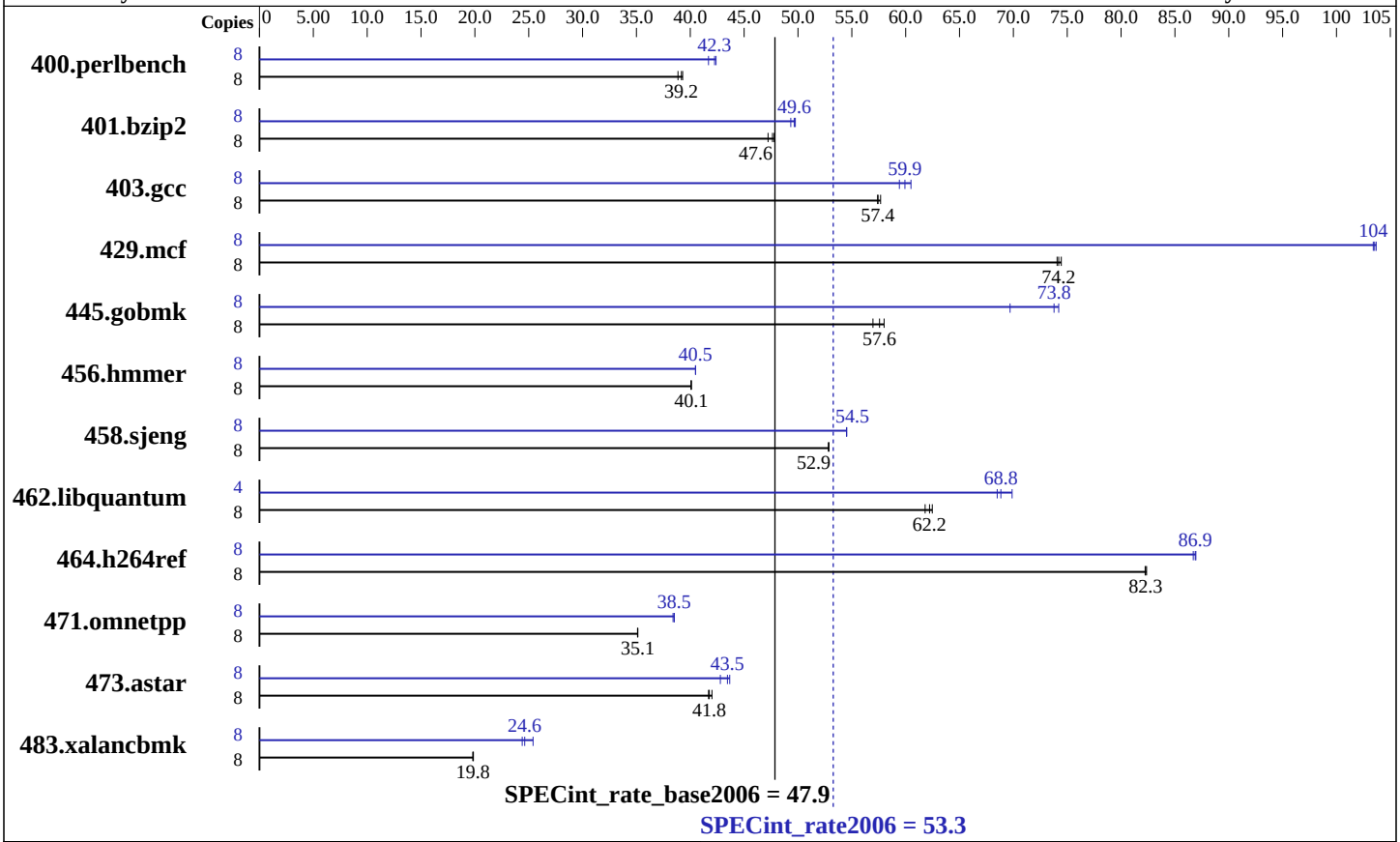
Bull Escala PL450R+ (2100 MHz, 4 CPU)

SPECint®_rate2006 = 53.3

SPECint_rate_base2006 = 47.9

CPU2006 license: 20
Test sponsor: Bull SAS
Tested by: Bull SAS

Test date: Jan-2007
Hardware Availability: Feb-2006
Software Availability: Dec-2006



Hardware

CPU Name:	POWER5+
CPU Characteristics:	
CPU MHz:	2100
FPU:	Integrated
CPU(s) enabled:	4 cores, 2 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	1, 2 chips
Primary Cache:	64 KB I + 32 KB D on chip per core
Secondary Cache:	1920 KB I+D on chip per chip
L3 Cache:	36 MB I+D off chip per chip
Other Cache:	None
Memory:	32 GB (8x4 GB)
Disk Subsystem:	2x73 GB SCSI, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 8.0 for AIX with the December 2006 PTF XL Fortran Enterprise Edition Version 10.1 for AIX with the November 2006 PTF
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	ESSL 4.2.0.4

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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	8	2011	38.9	**1995**	**39.2**	1989	39.3	8	1875	41.7	**1850**	**42.3**	1844	42.4
401.bzip2	8	1635	47.2	1615	47.8	**1621**	**47.6**	8	1565	49.3	1552	49.8	**1555**	**49.6**
403.gcc	8	**1121**	**57.4**	1122	57.4	1117	57.7	8	1065	60.5	**1075**	**59.9**	1084	59.4
429.mcf	8	985	74.1	**983**	**74.2**	980	74.4	8	**705**	**104**	706	103	704	104
445.gobmk	8	1447	58.0	1473	57.0	**1458**	**57.6**	8	**1137**	**73.8**	1131	74.2	1204	69.7
456.hmmer	8	1862	40.1	1862	40.1	**1862**	**40.1**	8	1844	40.5	**1843**	**40.5**	1843	40.5
458.sjeng	8	**1831**	**52.9**	1832	52.8	1831	52.9	8	1775	54.5	**1776**	**54.5**	1776	54.5
462.libquantum	8	2653	62.5	2682	61.8	**2664**	**62.2**	4	**1204**	**68.8**	1186	69.9	1210	68.5
464.h264ref	8	2153	82.2	2149	82.4	**2152**	**82.3**	8	2036	86.9	**2038**	**86.9**	2042	86.7
471.omnetpp	8	1423	35.1	**1424**	**35.1**	1424	35.1	8	1302	38.4	**1298**	**38.5**	1298	38.5
473.astar	8	1337	42.0	**1345**	**41.8**	1347	41.7	8	1312	42.8	1286	43.7	**1292**	**43.5**
483.xalancbmk	8	2779	19.9	**2783**	**19.8**	2786	19.8	8	**2241**	**24.6**	2173	25.4	2263	24.4

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

Operating System Notes

```
ulimits set to unlimited

bindprocessor command used on submit to bind each copy to a
unique processor.

Large page mode was set as follows:
vmo -r -o lgpg_regions=900 -o lgpg_size=16777216
SMT was ebabled using the AIX commands
smtctl -m on -w boot
bosboot -aD
shutdown -rF
```

Base Compiler Invocation

C benchmarks:
```
/usr/vac/bin/xlc
```

C++ benchmarks:
```
/usr/vacpp/bin/xlC
```

Base Portability Flags

400.perlbench: -DSPEC_CPU_AIX
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Base Optimization Flags

C benchmarks:
-qlanglvl=extc99 -O4 -qlargepage -D_ILS_MACROS -qalloca
-qipa=noobject -blpdata -qipa=threads

C++ benchmarks:
-O4 -qlargepage -D_ILS_MACROS -qrtti=all -qipa=noobject -blpdata
-qipa=threads

Base Other Flags

C benchmarks:
-bmaxdata:0x50000000 -qalias=noansi -qsuppress=1500-036

C++ benchmarks:
-bmaxdata:0x20000000 -qsuppress=1500-036

Peak Compiler Invocation

C benchmarks:
/usr/vac/bin/xlc

C++ benchmarks:
/usr/vacpp/bin/xlC

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Peak Optimization Flags

C benchmarks:

400.perlbench: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qipa=noobject -blpdata -qipa=threads`

401.bzip2: Same as 400.perlbench

403.gcc: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qalloca -qipa=noobject -blpdata -qipa=threads`

429.mcf: `-qlanglvl=extc99 -O5 -qlargepage -D_ILS_MACROS -qarch=pwr4 -qipa=noobject -blpdata -qipa=threads`

445.gobmk: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -D_ILS_MACROS -qipa=noobject -blpdata -qipa=threads`

456.hmmer: `-qlanglvl=extc99 -O4 -qlargepage -D_ILS_MACROS -qipa=noobject -blpdata -qipa=threads`

458.sjeng: Same as 445.gobmk

462.libquantum: `-qlanglvl=extc99 -qpdf1`(pass 1) `-qpdf2`(pass 2) `-O4 -qlargepage -D_ILS_MACROS -q64 -qipa=noobject -blpdata -qipa=threads`

464.h264ref: Same as 400.perlbench

C++ benchmarks:

471.omnetpp: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -qalign=natural -qrtti=all -D__IBM_FAST_VECTOR -qipa=noobject -blpdata -qipa=threads`

473.astar: `-qpdf1`(pass 1) `-qpdf2`(pass 2) `-O5 -qlargepage -D_ILS_MACROS -D__IBM_ENABLE_POOLED_ALLOCATORS__ -qipa=noobject -blpdata -qipa=threads`

483.xalancbmk: Same as 473.astar

Peak Other Flags

C benchmarks (except as noted below):
`-qfdpr -qsuppress=1500-036`

Continued on next page

Peak Other Flags (Continued)

400.perlbench: `-bmaxdata:0x50000000 -qalias=noansi -qsuppress=1500-036`

401.bzip2: `-bmaxdata:0x50000000 -qsuppress=1500-036`

403.gcc: `-bmaxdata:0x50000000 -qsuppress=1500-036`

429.mcf: `-bmaxdata:0x50000000 -qfdpr -qsuppress=1500-036`

458.sjeng: `-qsuppress=1500-036`

464.h264ref: `-qsuppress=1500-036`

C++ benchmarks:
`-bmaxdata:0x20000000 -qsuppress=1500-036`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.15.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090715.15.xml`

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