SPEC® CINT2006 Result

Bull SAS

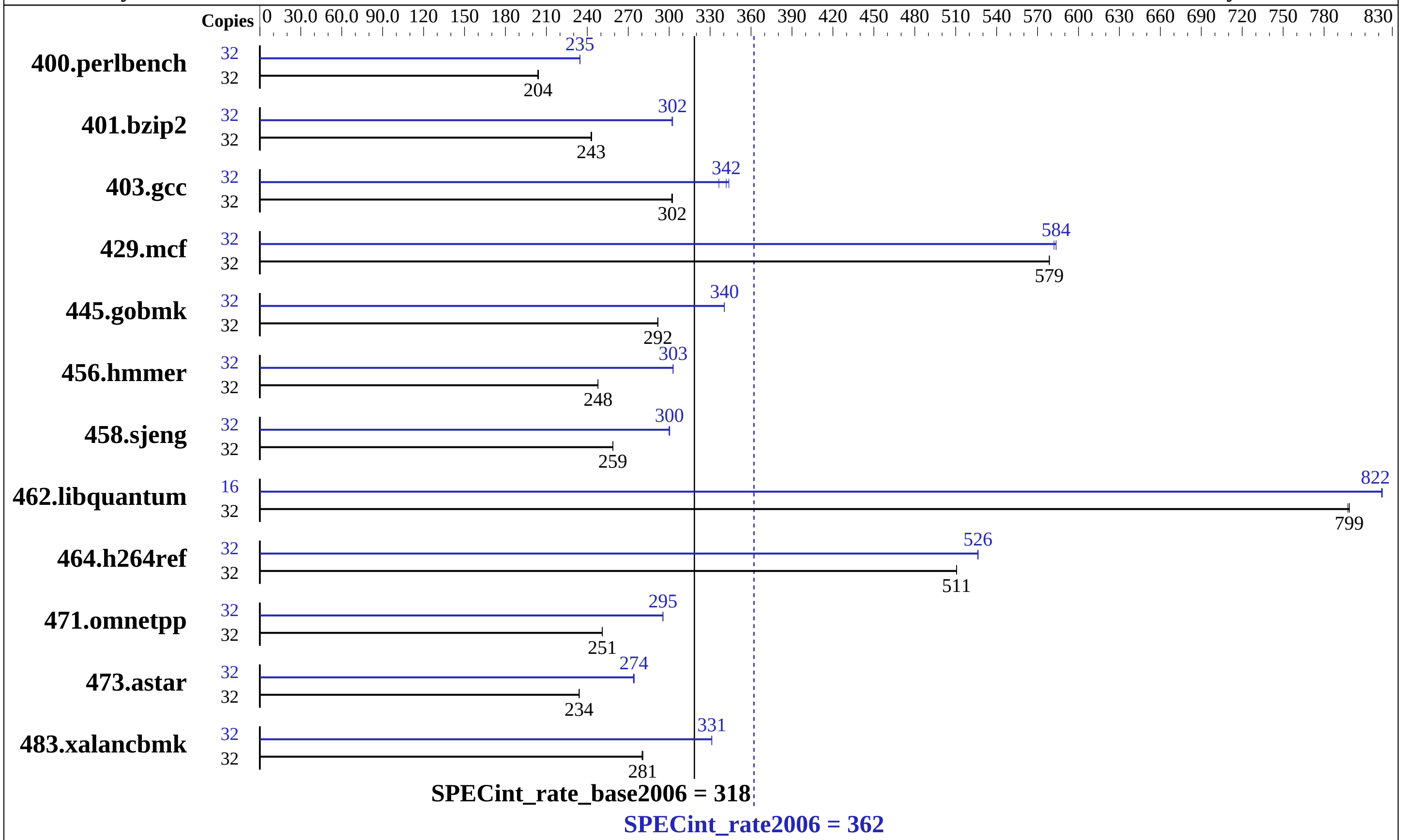
Bull Escala PL1660 (3.5 GHz, 16 cores)

SPECint®_rate2006 = 362

SPECint_rate_base2006 = 318

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

Test date: Mar-2008
Hardware Availability: Oct-2007
Software Availability: Oct-2007



Hardware

CPU Name:	POWER6
CPU Characteristics:	
CPU MHz:	3500
FPU:	Integrated
CPU(s) enabled:	16 cores, 8 chips, 2 cores/chip, 2 threads/core
CPU(s) orderable:	4,8,12,16 cores
Primary Cache:	64 KB I + 64 KB D on chip per core
Secondary Cache:	4 MB I+D on chip per core
L3 Cache:	32 MB I+D off chip per chip
Other Cache:	None
Memory:	128 GB (64x2 GB) DDR2 667 MHz
Disk Subsystem:	2x73 GB SAS 15K RPM
Other Hardware:	None

Software

Operating System:	IBM AIX 5L V5.3 updated with the 5300-07 Technology Level
Compiler:	XL C/C++ Enterprise Edition V9 for AIX Updated with the Oct2007 PTF.
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	--

Results Table

Benchmark	Base							Peak						
	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Copies	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	32	**1533**	**204**	1535	204	1531	204	32	**1333**	**235**	1333	235	1332	235
401.bzip2	32	**1272**	**243**	1269	243	1273	243	32	1023	302	1021	303	**1021**	**302**
403.gcc	32	**852**	**302**	852	302	853	302	32	766	336	**754**	**342**	749	344
429.mcf	32	504	578	504	579	**504**	**579**	32	**500**	**584**	501	582	500	584
445.gobmk	32	1150	292	1151	292	**1151**	**292**	32	**986**	**340**	986	340	986	341
456.hmmer	32	1204	248	1205	248	**1204**	**248**	32	**986**	**303**	985	303	986	303
458.sjeng	32	1497	259	1496	259	**1497**	**259**	32	1291	300	1289	300	**1290**	**300**
462.libquantum	32	831	797	830	799	**830**	**799**	16	403	822	403	823	**403**	**822**
464.h264ref	32	1387	511	1387	511	**1387**	**511**	32	1346	526	**1345**	**526**	1345	527
471.omnetpp	32	797	251	**797**	**251**	797	251	32	**677**	**295**	677	295	677	296
473.astar	32	959	234	960	234	**960**	**234**	32	819	274	**819**	**274**	820	274
483.xalancbmk	32	786	281	**787**	**281**	788	280	32	666	331	667	331	**667**	**331**

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

General Notes

```
See flags file of details on following settings.
all ulimits set to unlimited.
Envionment variables set before executing benchmarks:
  MALLOCOPTIONS=pool
  MEMORY_AFFINITY=MCM
  XLFRTEOPTS=intrinthds=1
System set to "Enhanced" mode when defining partition on HMC.
bindprocessor command used on submit to bind each copy to a
  unique processor.
Remote console disabled in /etc/inittab.
fdpr binary optimization tool used for:
  400.perlbench 401.bzip2 403.gcc 429.mcf 456.hmmer
  458.sjent 462.libquantum 464.h264ref 473.astar
4000 16M large pages defined with vmo command
```

Base Compiler Invocation

C benchmarks:
`/usr/vac/bin/xlc -qlanglvl=extc99`

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:
-bmaxdata:0x50000000 -O5 -qlargepage -D_ILS_MACROS -qalias=noansi
-qalloca -blpdata

C++ benchmarks:
-bmaxdata:0x20000000 -O5 -qlargepage -D_ILS_MACROS -qrtti=all
-blpdata

Base Other Flags

C benchmarks:
-qipa=noobject -qipa=threads -qsuppress=1500-036

C++ benchmarks:
-qipa=noobject -qipa=threads -qsuppress=1500-036

Peak Compiler Invocation

C benchmarks:
/usr/vac/bin/xlc -qlanglvl=extc99

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

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX
403.gcc: -DSPEC_CPU_LP64
462.libquantum: -DSPEC_CPU_AIX
464.h264ref: -DSPEC_CPU_AIX -qchars=signed
483.xalancbmk: -DSPEC_CPU_AIX

Peak Optimization Flags

C benchmarks:

400.perlbench: -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qalias=noansi -qfdpr -blpdata

401.bzip2: -bmaxdata:0x4ffffffc -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata

403.gcc: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qalloca -qfdpr -q64 -blpdata

429.mcf: -bmaxdata:0x50000000 -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata

445.gobmk: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata

456.hmmer: -O5 -qlargepage -D_ILS_MACROS -qfdpr -blpdata

458.sjeng: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata

462.libquantum: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -q64 -qfdpr -blpdata

464.h264ref: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -q64 -D_ILS_MACROS -qenablevmx -qvecnvol -qfdpr -bdatapsize:64K -bstackpsize:64K -btextpsize:64K

C++ benchmarks:

471.omnetpp: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qalign=natural -qrtti=all -qinlglue -blpdata

473.astar: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qfdpr -qinlglue -qalign=natural -blpdata

483.xalancbmk: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qinlglue -D__IBM_FAST_VECTOR -blpdata

Peak Other Flags

C benchmarks:
-qipa=noobject -qipa=threads -qsuppress=1500-036

C++ benchmarks:
-qipa=noobject -qipa=threads -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.20090713.06.html

You can also download the XML flags source by saving the following link:
http://www.spec.org/cpu2006/flags/CPU2006_flags.20090713.06.xml

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

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