SPEC® CINT2006 Result

Bull SAS

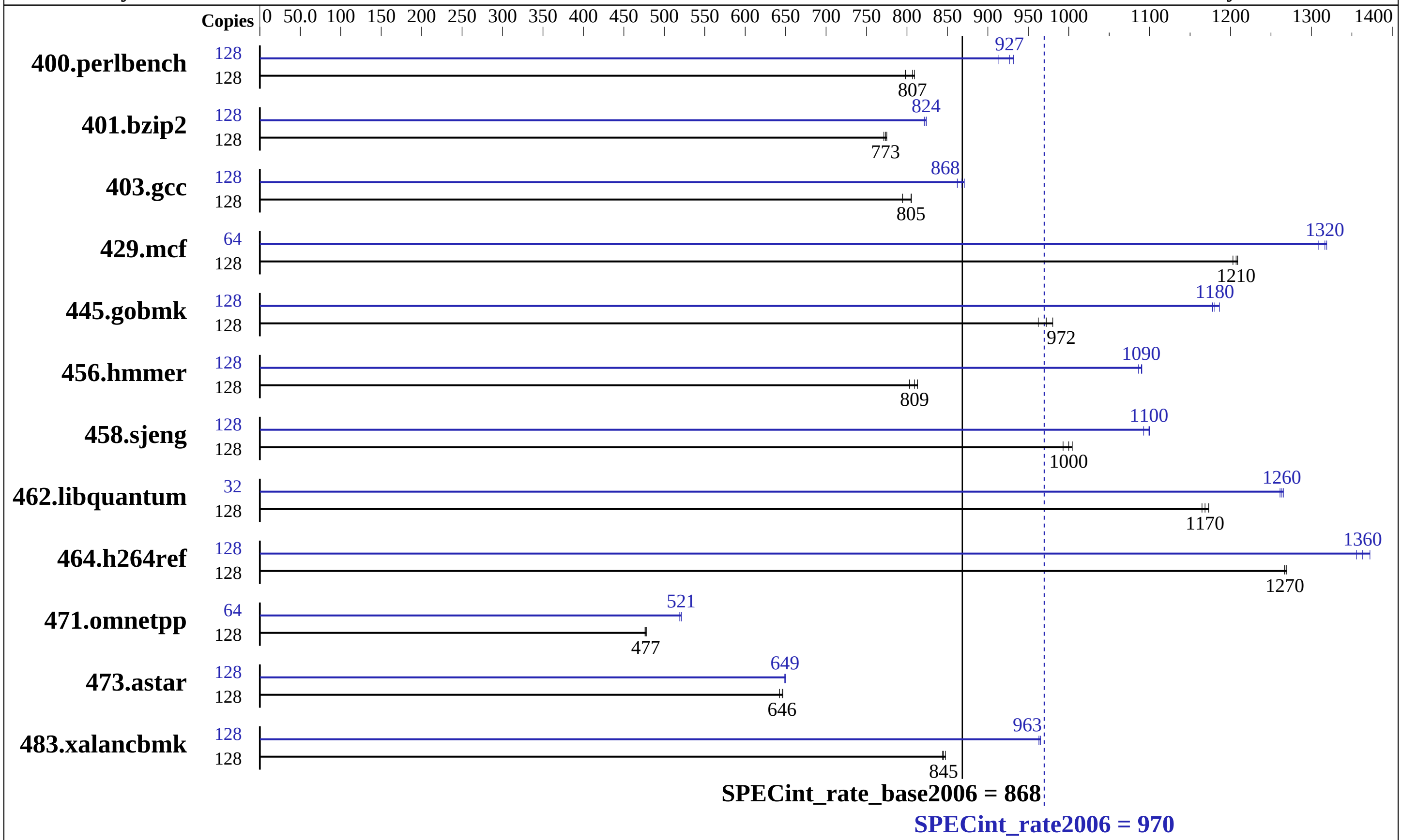
Escala E5-700 (3.0 GHz, 32 core)

SPECint®_rate2006 = 970

SPECint_rate_base2006 = 868

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

Test date: Mar-2010
Hardware Availability: Mar-2010
Software Availability: Feb-2010



Hardware

CPU Name:	POWER7
CPU Characteristics:	Intelligent Energy Optimization enabled, up to 3.30 GHz
CPU MHz:	3000
FPU:	Integrated
CPU(s) enabled:	32 cores, 4 chips, 8 cores/chip, 4 threads/core
CPU(s) orderable:	6,8,12,16,18,24,32 cores
Primary Cache:	32 KB I + 32 KB D on chip per core
Secondary Cache:	256 KB I+D on chip per core
L3 Cache:	4 MB I+D on chip per core
Other Cache:	None
Memory:	256 GB (32 x 8 GB) DDR3 1066 MHz
Disk Subsystem:	8 x 69 GB SAS SSD (IBM provider)
Other Hardware:	None

Software

Operating System:	IBM AIX V6.1 with the 6100-04 Technology Level and Service Pack 2
Compiler:	XL C/C++ Enterprise Edition V10.1.0.5 for AIX
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Run level 3
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	None

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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	128	1545	809	1567	798	**1550**	**807**	128	1370	913	1342	932	**1350**	**927**
401.bzip2	128	1594	775	1601	771	**1597**	**773**	128	1504	821	**1499**	**824**	1499	824
403.gcc	128	1297	795	1279	805	**1280**	**805**	128	1195	862	1183	871	**1187**	**868**
429.mcf	128	**967**	**1210**	966	1210	970	1200	64	443	1320	**443**	**1320**	446	1310
445.gobmk	128	1370	980	**1381**	**972**	1395	962	128	1140	1180	1132	1190	**1137**	**1180**
456.hmmer	128	**1476**	**809**	1487	803	1469	813	128	**1096**	**1090**	1099	1090	1095	1090
458.sjeng	128	**1549**	**1000**	1560	993	1542	1000	128	1408	1100	**1409**	**1100**	1417	1090
462.libquantum	128	**2270**	**1170**	2261	1170	2277	1160	32	**525**	**1260**	524	1270	526	1260
464.h264ref	128	**2235**	**1270**	2231	1270	2236	1270	128	**2078**	**1360**	2064	1370	2089	1360
471.omnetpp	128	1680	476	1674	478	**1677**	**477**	64	768	521	771	519	**768**	**521**
473.astar	128	1390	646	**1392**	**646**	1399	643	128	**1384**	**649**	1382	650	1385	649
483.xalancbmk	128	1046	844	1042	848	**1045**	**845**	128	915	965	**917**	**963**	917	963

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

Peak Tuning Notes

```
fdpr binary optimization tool used for 400.perlbench
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 401.bzip2
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 403.gcc
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 429.mcf
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 445.gobmk
 with options -O3 -vrox -sdp 9
fdpr binary optimization tool used for 456.hmmer
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 458.sjeng
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 462.libquantum
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 464.h264ref
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 471.omnetpp
 with options -O4 -vrox -pbsi
fdpr binary optimization tool used for 473.astar
 with options -O4 -vrox -pbsi
```

Submit Notes

```
The config file option 'submit' was used
to assign benchmark copy to specific kernel thread using
the "bindprocessor" command (see flags file for details).
```

Operating System Notes

```
all ulimits set to unlimited.
12800 16M large pages defined with vmo command
```

General Notes

```
Environment variables set by runspec before the start of the run:
MALLOCOPTIONS = "pool"
MEMORY_AFFINITY = "MCM"
XLFRTEOPTS = "intrinthds=1"

 See the flags file for details on settings.
```

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 -D__IBM_FAST_SET_MAP_ITERATOR -blpdata`

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Base Other Flags

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

C++ benchmarks:
-qipa=threads -qipa=noobject -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
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) -O5 -D_ILS_MACROS -qalias=noansi -qfdpr -blpdata -btextpsize:64K

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

403.gcc: -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -D_ILS_MACROS -qalloca -qfdpr -blpdata

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

445.gobmk: -qpdf1(pass 1) -qpdf2(pass 2) -O3 -qarch=auto -qtune=auto -qlargepage -D_ILS_MACROS -qfdpr -blpdata

456.hmmer: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata -btextpsize:64K

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Peak Optimization Flags (Continued)

458.sjeng: -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata

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

464.h264ref: -qpdf1(pass 1) -qpdf2(pass 2) -O5 -D_ILS_MACROS -qfdpr -blpdata -btextpsize:64K

C++ benchmarks:

471.omnetpp: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qfdpr -qalign=natural -qrtti=all -qinlglue -D__IBM_FAST_SET_MAP_ITERATOR -blpdata -btextpsize:64K

473.astar: -bmaxdata:0x20000000 -O5 -qlargepage -D_ILS_MACROS -qfdpr -qenablevmx -qvecnvol -qinlglue -qalign=natural -blpdata

483.xalancbmk: -bmaxdata:0x20000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qfdpr -qinlglue -D__IBM_FAST_VECTOR -blpdata -btextpsize:64K

Peak Other Flags

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

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

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/IBM-XL.20100414.html
http://www.spec.org/cpu2006/flags/IBM-AIX.20100414.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/IBM-XL.20100414.xml
http://www.spec.org/cpu2006/flags/IBM-AIX.20100414.xml

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

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