SPEC® CINT2006 Result

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Bull SAS

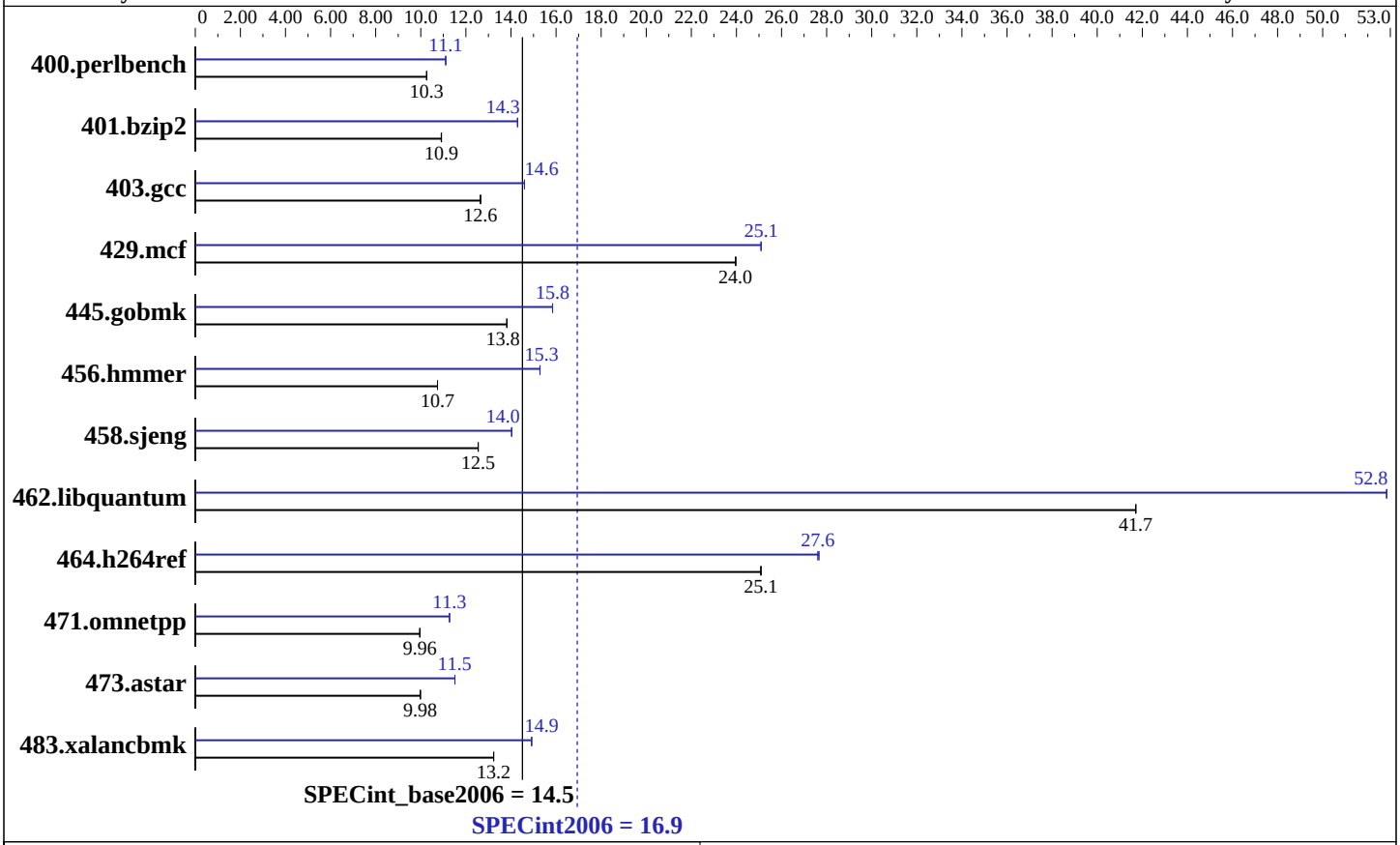
Bull Escala PL160 (4.2 GHz, 1 core)

SPECint®2006 = 16.9

SPECint_base2006 = 14.5

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

Test date: Feb-2008
Hardware Availability: Mar-2008
Software Availability: Feb-2008



Hardware

CPU Name:	POWER6
CPU Characteristics:	
CPU MHz:	4200
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 1 core/chip
CPU(s) orderable:	1 core
Primary Cache:	64 KB I + 64 KB D on chip per chip
Secondary Cache:	4 MB I+D on chip per chip
L3 Cache:	None
Other Cache:	None
Memory:	16 GB (8x2 GB) DDR2 667 MHz
Disk Subsystem:	2x73 GB SAS 15K RPM
Other Hardware:	None

Software

Operating System:	IBM AIX V6.1 Updated to SP3
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:	--

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	951	10.3	953	10.3	**952**	**10.3**	**880**	**11.1**	880	11.1	880	11.1
401.bzip2	**884**	**10.9**	884	10.9	885	10.9	675	14.3	675	14.3	**675**	**14.3**
403.gcc	636	12.7	637	12.6	**636**	**12.6**	551	14.6	**551**	**14.6**	551	14.6
429.mcf	380	24.0	**381**	**24.0**	381	24.0	363	25.1	**363**	**25.1**	364	25.1
445.gobmk	759	13.8	759	13.8	**759**	**13.8**	662	15.8	**662**	**15.8**	662	15.8
456.hmmer	**869**	**10.7**	869	10.7	868	10.7	611	15.3	610	15.3	**610**	**15.3**
458.sjeng	**964**	**12.5**	964	12.5	965	12.5	862	14.0	**862**	**14.0**	862	14.0
462.libquantum	497	41.7	**497**	**41.7**	497	41.7	392	52.8	392	52.8	**392**	**52.8**
464.h264ref	882	25.1	882	25.1	**882**	**25.1**	802	27.6	**801**	**27.6**	800	27.7
471.omnetpp	627	9.96	628	9.96	**628**	**9.96**	554	11.3	**554**	**11.3**	554	11.3
473.astar	703	9.98	**703**	**9.98**	703	9.98	**610**	**11.5**	610	11.5	610	11.5
483.xalancbmk	522	13.2	**522**	**13.2**	521	13.2	463	14.9	462	14.9	**463**	**14.9**

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.
500 16M large pages defined with vmo command
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
Measurement has been done on a PL260 with one core disabled by HMC.
PL260 and PL160 are identical machines; the only difference is that
PL160 uses a single core POWER6 chip instead a dual core chip.
```

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:0x4fffffc -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qfdpr -blpdata

403.gcc: -qpdf1(pass 1) -qpdf2(pass 2) -O4 -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

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