SPEC® CINT2006 Result

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Bull SAS

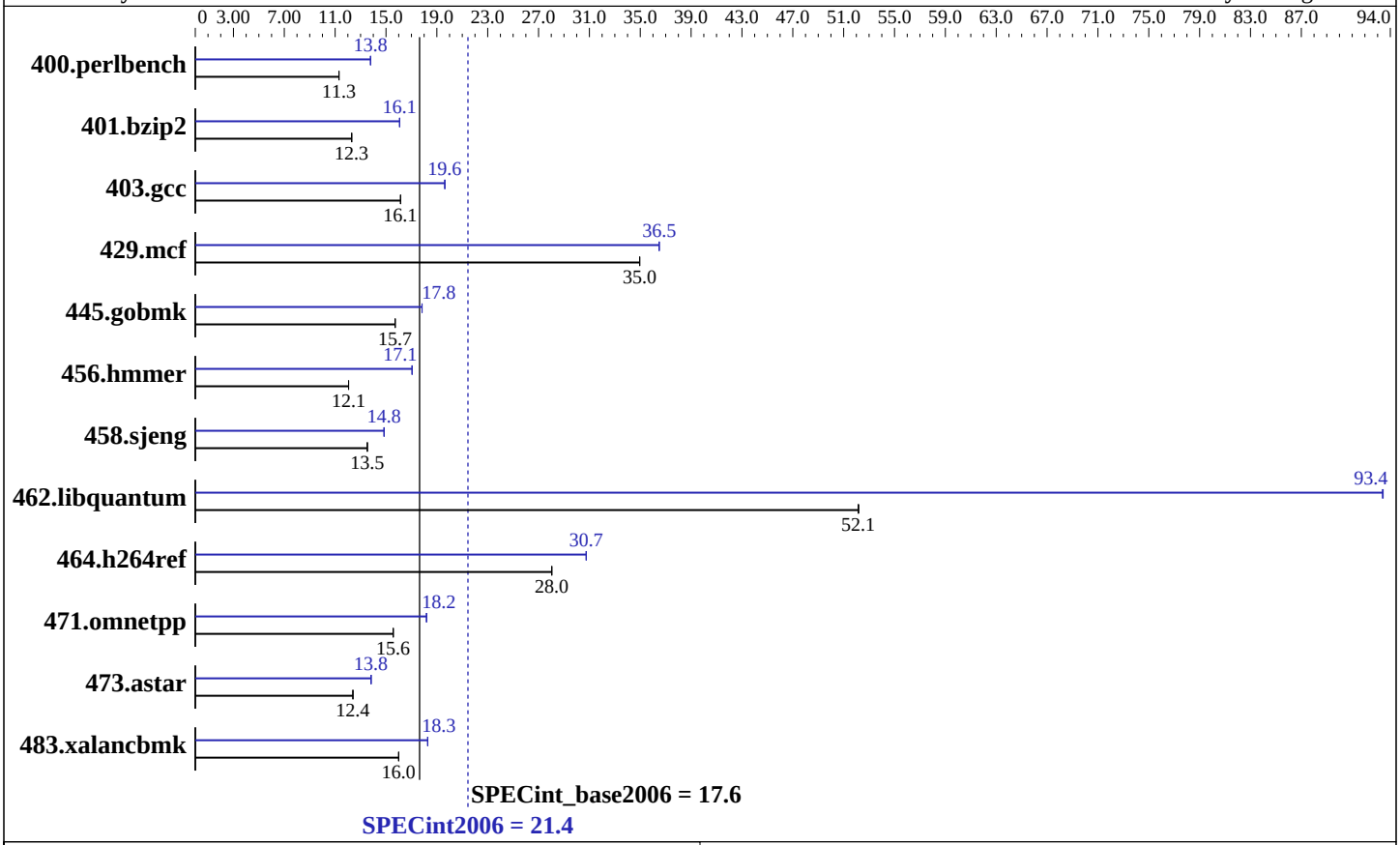
Bull Escala PL1660 (4700 MHz, 1 Core)

SPECint®2006 = 21.4

SPECint_base2006 = 17.6

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

Test date: Nov-2007
Hardware Availability: Oct-2007
Software Availability: Aug-2007



Hardware

CPU Name:	POWER6
CPU Characteristics:	
CPU MHz:	4700
FPU:	Integrated
CPU(s) enabled:	1 core, 1 chip, 2 cores/chip
CPU(s) orderable:	2,4,8,12,16 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:	64 GB (8x8GB) DDR2 667 MHZ
Disk Subsystem:	2x73 GB SAS, 15K RPM
Other Hardware:	None

Software

Operating System:	AIX 5L V5.3
Compiler:	XL C/C++ Enterprise Edition Version 9.0 for AIX + Aug07 PTF
Auto Parallel:	No
File System:	AIX/JFS2
System State:	Multi-user
Base Pointers:	32-bit
Peak Pointers:	32/64-bit
Other Software:	None

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	865	11.3	**864**	**11.3**	864	11.3	709	13.8	708	13.8	**709**	**13.8**
401.bzip2	**785**	**12.3**	785	12.3	784	12.3	**600**	**16.1**	600	16.1	600	16.1
403.gcc	498	16.2	**499**	**16.1**	499	16.1	410	19.6	410	19.6	**410**	**19.6**
429.mcf	261	34.9	261	35.0	**261**	**35.0**	250	36.5	250	36.5	**250**	**36.5**
445.gobmk	667	15.7	**667**	**15.7**	667	15.7	588	17.8	588	17.8	**588**	**17.8**
456.hmmer	774	12.1	**774**	**12.1**	774	12.1	547	17.1	547	17.1	**547**	**17.1**
458.sjeng	894	13.5	**894**	**13.5**	894	13.5	**815**	**14.8**	815	14.8	815	14.9
462.libquantum	397	52.2	**397**	**52.1**	397	52.1	**222**	**93.4**	222	93.4	222	93.4
464.h264ref	789	28.0	**789**	**28.0**	789	28.0	720	30.8	**720**	**30.7**	720	30.7
471.omnetpp	402	15.6	**401**	**15.6**	401	15.6	344	18.2	344	18.2	**344**	**18.2**
473.astar	566	12.4	**566**	**12.4**	566	12.4	**508**	**13.8**	508	13.8	508	13.8
483.xalancbmk	431	16.0	431	16.0	**431**	**16.0**	**377**	**18.3**	377	18.3	377	18.3

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

Operating System Notes

```
AIX 5.3 Updated with the 5300-06 Technology Level
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.

Large page mode was set as follows:
vmo -r -o lgpg_regions=768 -o lgpg_size=16777216
```

General Notes

```
Speed run on 1 core partition defined on HMC
fdpr binary optimization tool used for
  401.bzip2 403.gcc 429.mcf 456.hmmer 462.libquantum 473.astar
```

Base Compiler Invocation

C benchmarks:

```
/usr/vac/bin/xlc
```

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Base Compiler Invocation (Continued)

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 -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

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

Peak Portability Flags

400.perlbench: -DSPEC_CPU_AIX

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Peak Portability Flags (Continued)

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: -qlanglvl=extc99 -bmaxdata:0x50000000 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -qalias=noansi -blpdata

401.bzip2: -qlanglvl=extc99 -bmaxdata:0x4ffffffc -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata

403.gcc: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -qalloca -q64 -blpdata

429.mcf: -qlanglvl=extc99 -bmaxdata:0x50000000 -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata

445.gobmk: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata

456.hmmer: -qlanglvl=extc99 -O5 -qlargepage -D_ILS_MACROS -blpdata

458.sjeng: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O4 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata

462.libquantum: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -qenablevmx -qvecnvol -D_ILS_MACROS -q64 -blpdata

464.h264ref: -qlanglvl=extc99 -qpdf1(pass 1) -qpdf2(pass 2) -O5 -qlargepage -D_ILS_MACROS -blpdata

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 -qenablevmx -qvecnvol -D_ILS_MACROS -blpdata

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Peak Optimization Flags (Continued)

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.20090714.08.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/cpu2006/flags/CPU2006_flags.20090714.08.xml`

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