SPEC® CINT2006 Result

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Bull SAS

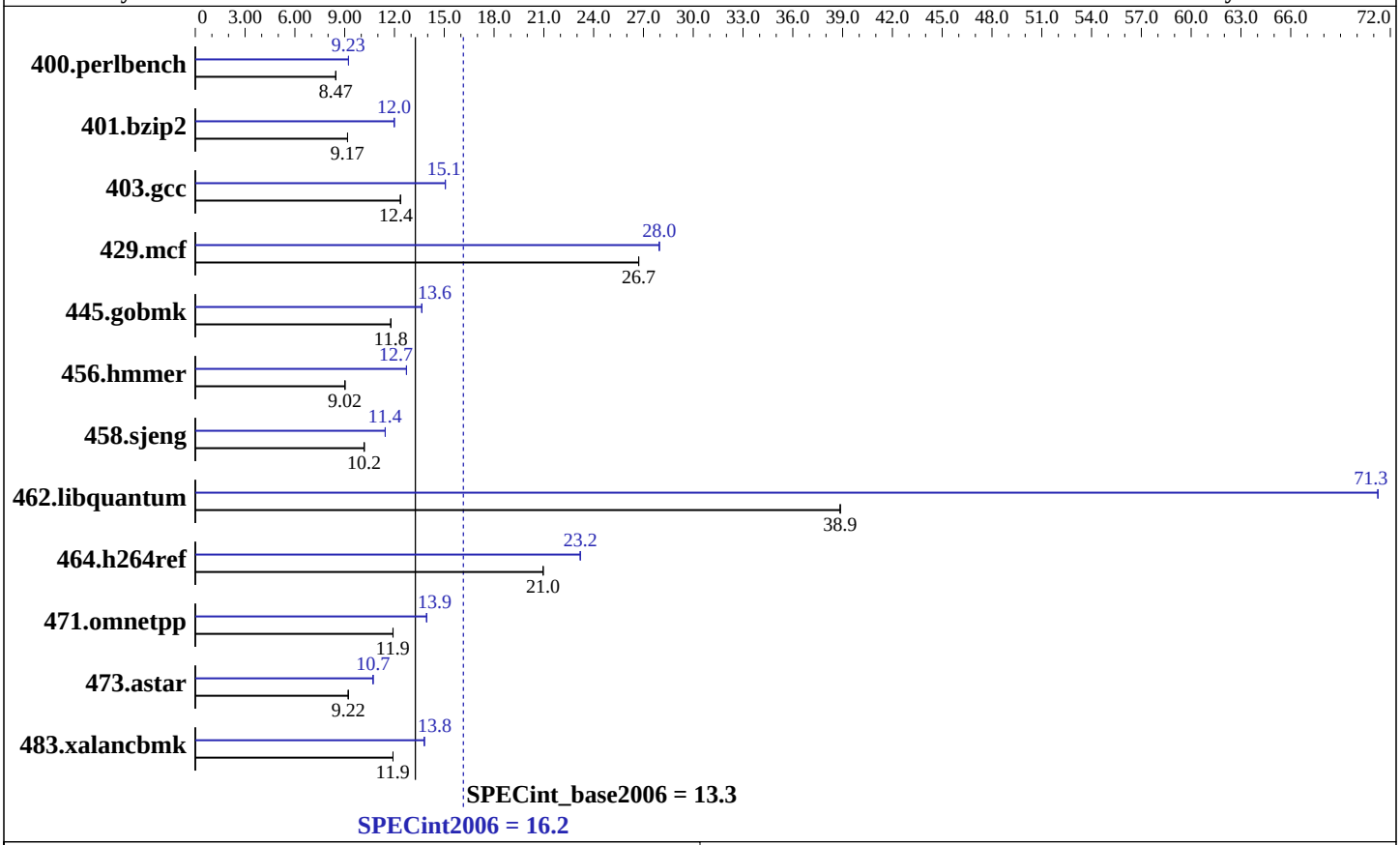
Bull Escala PL1660 (3.5 GHz, 1 core)

SPECint®2006 = 16.2

SPECint_base2006 = 13.3

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:	1 core, 1 chip, 2 cores/chip
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:	--

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
400.perlbench	1155	8.46	**1154**	**8.47**	1154	8.47	1058	9.23	1059	9.23	**1058**	**9.23**
401.bzip2	1052	9.17	1052	9.17	**1052**	**9.17**	**805**	**12.0**	805	12.0	805	12.0
403.gcc	**651**	**12.4**	651	12.4	651	12.4	534	15.1	534	15.1	**534**	**15.1**
429.mcf	341	26.7	**341**	**26.7**	341	26.7	326	28.0	**326**	**28.0**	326	28.0
445.gobmk	890	11.8	**890**	**11.8**	890	11.8	769	13.6	**769**	**13.6**	769	13.6
456.hmmer	**1035**	**9.02**	1035	9.02	1035	9.02	733	12.7	**733**	**12.7**	733	12.7
458.sjeng	**1189**	**10.2**	1188	10.2	1191	10.2	**1057**	**11.4**	1057	11.4	1057	11.4
462.libquantum	533	38.9	**533**	**38.9**	533	38.9	**291**	**71.3**	291	71.3	291	71.3
464.h264ref	1056	21.0	**1056**	**21.0**	1056	21.0	954	23.2	**954**	**23.2**	954	23.2
471.omnetpp	**525**	**11.9**	525	11.9	524	11.9	448	13.9	448	13.9	**448**	**13.9**
473.astar	762	9.22	**762**	**9.22**	761	9.22	656	10.7	**655**	**10.7**	655	10.7
483.xalancbmk	579	11.9	**579**	**11.9**	579	11.9	**500**	**13.8**	500	13.8	500	13.8

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.
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
Speed run on 1 core partition defined on HMC.
128 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:0x4fffffc -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

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