



SPEC ACCEL™ ACC Result

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Bull

(Test Sponsor: Technische Universitaet Dresden)

NVIDIA Tesla K80

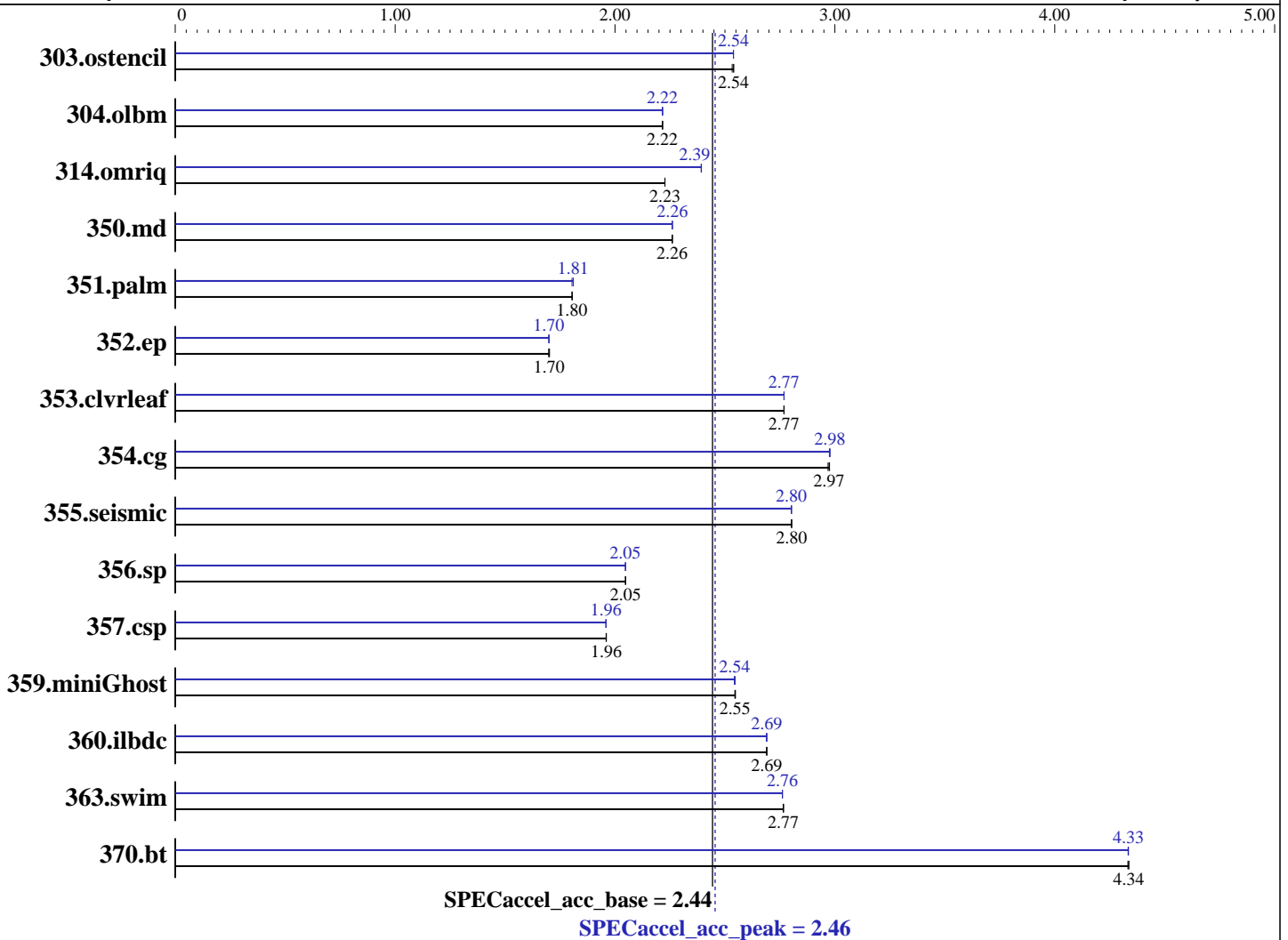
Bull R400

SPECaccel_acc_peak = 2.46

SPECaccel_acc_base = 2.44

ACCEL license: 37A
Test sponsor: Technische Universitaet Dresden
Tested by: Technische Universitaet Dresden

Test date: Nov-2015
Hardware Availability: Jan-2015
Software Availability: May-2015



Hardware

CPU Name: Intel Xeon E5-2680 v3
 CPU Characteristics: Intel Turbo Boost Technology up to 3.30 GHz
 CPU MHz: 2500
 CPU MHz Maximum: 3300
 FPU: Integrated
 CPU(s) enabled: 24 cores, 2 chips, 12 cores/chip
 CPU(s) orderable: 1,2 chips
 Primary Cache: 32 KB I + 32 KB D on chip per core
 Secondary Cache: 256 KB I+D on chip per core
 L3 Cache: 30 MB I+D on chip per chip
 Other Cache: None

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Accelerator

Accel Model Name: Tesla K80
 Accel Vendor: NVIDIA
 Accel Name: NVIDIA Tesla K80
 Type of Accel: GPU
 Accel Connection: PCIe 2.0 16x
 Does Accel Use ECC: yes
 Accel Description: NVIDIA Tesla K80, Kepler GK210, 2496 CUDA cores, 875 MHz, 12 GB GDDR5 RAM (Kepler Generation)
 Accel Driver: NVIDIA UNIX x86_64 Kernel Module 346.46



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Hardware (Continued)

Memory: 64 GB (8 x 8 GB 2Rx8 PC4-2133R-10)
Disk Subsystem: 62 GB SSD
Other Hardware: --

Software

Operating System: Red Hat Enterprise Linux Server release 6.4 (Santiago)
2.6.32-504.12.2.el6.x86_64
Compiler: PGI Accelerator Server Complete, Release 15.7
File System: ext4
System State: Run Level 3 (Multi-User)
Other Software: NVIDIA Cuda SDK 7.0, driver version 346.46

Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
303.ostencil	57.2	2.53	<u>57.1</u>	<u>2.54</u>	57.1	2.54	<u>57.1</u>	<u>2.54</u>	57.1	2.54	57.1	2.54
304.olbm	205	2.22	205	2.22	<u>205</u>	<u>2.22</u>	205	2.22	<u>205</u>	<u>2.22</u>	205	2.22
314.omriq	429	2.23	<u>429</u>	<u>2.23</u>	429	2.23	<u>400</u>	<u>2.39</u>	400	2.39	399	2.39
350.md	112	2.26	<u>111</u>	<u>2.26</u>	111	2.26	111	2.26	<u>111</u>	<u>2.26</u>	111	2.26
351.palm	205	1.80	205	1.81	<u>205</u>	<u>1.80</u>	205	1.80	<u>204</u>	<u>1.81</u>	204	1.81
352.ep	312	1.70	<u>312</u>	<u>1.70</u>	311	1.70	312	1.70	<u>312</u>	<u>1.70</u>	312	1.70
353.clvleaf	161	2.77	161	2.77	<u>161</u>	<u>2.77</u>	161	2.77	161	2.77	<u>161</u>	<u>2.77</u>
354.cg	137	2.97	137	2.98	<u>137</u>	<u>2.97</u>	<u>137</u>	<u>2.98</u>	137	2.97	137	2.98
355.seismic	132	2.80	<u>132</u>	<u>2.80</u>	132	2.80	<u>132</u>	<u>2.80</u>	132	2.80	132	2.80
356.sp	135	2.05	135	2.05	<u>135</u>	<u>2.05</u>	135	2.05	<u>135</u>	<u>2.05</u>	135	2.05
357.csp	<u>138</u>	<u>1.96</u>	138	1.96	138	1.96	138	1.96	138	1.96	<u>138</u>	<u>1.96</u>
359.miniGhost	145	2.55	<u>145</u>	<u>2.55</u>	145	2.55	<u>145</u>	<u>2.54</u>	145	2.55	145	2.54
360.ilbdc	<u>136</u>	<u>2.69</u>	136	2.69	136	2.69	<u>136</u>	<u>2.69</u>	136	2.69	136	2.69
363.swim	83.2	2.76	83.1	2.77	<u>83.1</u>	<u>2.77</u>	83.3	2.76	83.3	2.76	<u>83.3</u>	<u>2.76</u>
370.bt	<u>51.4</u>	<u>4.34</u>	51.4	4.34	51.5	4.33	<u>51.4</u>	<u>4.33</u>	51.5	4.33	51.4	4.34

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

Platform Notes

MultiThreading disabled in BIOS
Sysinfo program /tmp/spec-accel/1.1/Docs/sysinfo
\$Rev: 6965 \$ \$Date:: 2015-04-21 #\$ c05a7f14b1b1765e3fe1df68447e8a35
running on taurusi2072 Mon Nov 2 20:21:25 2015

This section contains SUT (System Under Test) info as seen by

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Platform Notes (Continued)

some common utilities. To remove or add to this section, see:
<http://www.spec.org/accel/Docs/config.html#sysinfo>

```
From /proc/cpuinfo
model name : Intel(R) Xeon(R) CPU E5-2680 v3 @ 2.50GHz
 2 "physical id"s (chips)
 24 "processors"
cores, siblings (Caution: counting these is hw and system dependent. The
following excerpts from /proc/cpuinfo might not be reliable. Use with
caution.)
  cpu cores : 12
  siblings  : 12
  physical 0: cores 0 1 2 3 4 5 8 9 10 11 12 13
  physical 1: cores 0 1 2 3 4 5 8 9 10 11 12 13
cache size : 30720 KB
```

```
From /proc/meminfo
MemTotal:      65868116 kB
HugePages_Total:      0
Hugepagesize:    2048 kB
```

```
/usr/bin/lsb_release -d
Red Hat Enterprise Linux Server release 6.4 (Santiago)
```

```
From /etc/*release* /etc/*version*
redhat-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release: Red Hat Enterprise Linux Server release 6.4 (Santiago)
system-release-cpe: cpe:/o:redhat:enterprise_linux:6server:ga:server
```

```
uname -a:
Linux taurusi2072 2.6.32-504.12.2.el6.x86_64 #1 SMP Sun Feb 1 12:14:02 EST
2015 x86_64 x86_64 x86_64 GNU/Linux
```

```
run-level 3 Sep 30 16:57
```

```
SPEC is set to: /tmp/spec-accel/1.1
Filesystem      Type  Size  Used Avail Use% Mounted on
/dev/sda3       ext4  62G  4.8G  54G   9% /tmp
```

Cannot run dmidecode; consider saying 'chmod +s /usr/sbin/dmidecode'

(End of data from sysinfo program)

Base Compiler Invocation

C benchmarks:
pgcc

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Base Compiler Invocation (Continued)

Fortran benchmarks:
pgfortran

Benchmarks using both Fortran and C:
pgcc pgfortran

Base Optimization Flags

C benchmarks:
-V15.7 -fast -acc -ta=tesla:tesla -ta=tesla:cuda7.0 -tp=haswell-64

Fortran benchmarks:
-V15.7 -fast -acc -ta=tesla:tesla -ta=tesla:cuda7.0 -tp=haswell-64

Benchmarks using both Fortran and C:
353.cvrleaf: -V15.7 -fast -acc -ta=tesla:tesla -ta=tesla:cuda7.0
-tp=haswell-64

359.miniGhost: -V15.7 -fast -acc -ta=tesla:tesla -ta=tesla:cuda7.0
-tp=haswell-64 -Mnomain

Peak Compiler Invocation

C benchmarks:
pgcc

Fortran benchmarks:
pgfortran

Benchmarks using both Fortran and C:
pgcc pgfortran

Peak Optimization Flags

C benchmarks:
-V15.7 -fast -acc -ta=tesla:beta -ta=tesla:cuda7.0 -tp=haswell-64

Fortran benchmarks:
-V15.7 -fast -acc -ta=tesla:beta -ta=tesla:cuda7.0 -tp=haswell-64

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Peak Optimization Flags (Continued)

Benchmarks using both Fortran and C:

353.clvleaf: -V15.7 -fast -acc -ta=tesla:beta -ta=tesla:cuda7.0
-tp=haswell-64

359.miniGhost: -V15.7 -fast -acc -ta=tesla:beta -ta=tesla:cuda7.0
-tp=haswell-64 -Mnomain

The flags file that was used to format this result can be browsed at

http://www.spec.org/accel/flags/pgi2014_flags.20151201.html

You can also download the XML flags source by saving the following link:

http://www.spec.org/accel/flags/pgi2014_flags.20151201.xml

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

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