SPEC® ACCEL_ACC Result

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Bull
(Test Sponsor: RWTH Aachen University)

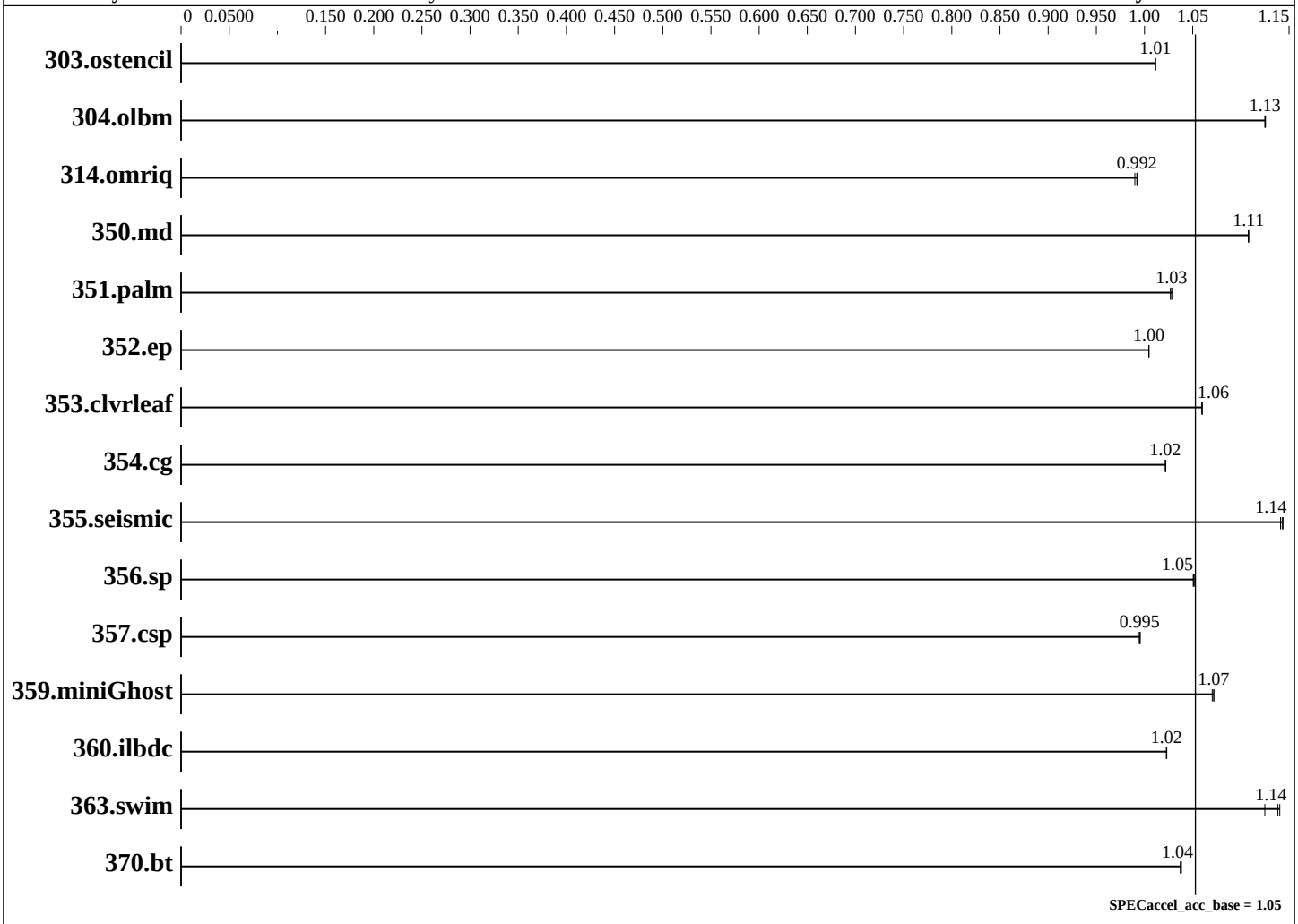
NVIDIA Quadro 6000
bullx R425-E2

SPECaccel_acc_peak = Not Run

SPECaccel_acc_base = 1.05

ACCEL license: 055A
Test sponsor: RWTH Aachen University
Tested by: RWTH Aachen University

Test date: Mar-2014
Hardware Availability: Mar-2011
Software Availability: Feb-2014



Hardware

CPU Name:	Intel Xeon X5650
CPU Characteristics:	
CPU MHz:	2667
CPU MHz Maximum:	2667
FPU:	Integrated
CPU(s) enabled:	12 cores, 2 chips, 6 cores/chip, 2 threads/core
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:	12 MB I+D on chip per chip
Other Cache:	None

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Accelerator

Accel Model Name:	Quadro 6000
Accel Vendor:	NVIDIA
Accel Name:	NVIDIA Quadro 6000
Type of Accel:	GPU
Accel Connection:	PCIe 2.0 16x
Does Accel Use ECC:	Yes
Accel Description:	NVIDIA Quadro 6000, 448 CUDA cores, 1150 MHz, 6 GB GDDR5 RAM (Fermi Generation)
Accel Driver:	NVIDIA UNIX x86_64 Kernel Module 331.49

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Memory:	24 GB (6 x 4 GB 2Rx4 PC3-10600R-9, ECC)
Disk Subsystem:	80 TB Netapp 6280 RAID 6 mixed 2 TB SATA disks
Other Hardware:	None

Software

Operating System:	Scientific Linux release 6.5 (Carbon) 2.6.32-431.5.1.el6.x86_64
Compiler:	PGI Accelerator Server Complete, Release 14.2
File System:	NFSv3 over Gb ethernet
System State:	Run level 5 (GPU driver loaded, no X11-Desktop running)
Other Software:	NVIDIA CUDA 5.5, driver 331.49

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Results Table

Benchmark	Base						Peak					
	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio	Seconds	Ratio
303.ostencil	143	1.01	143	1.01	**143**	**1.01**						
304.olbm	**404**	**1.13**	404	1.12	404	1.13						
314.omriq	**964**	**0.992**	966	0.990	963	0.992						
350.md	227	1.11	227	1.11	**227**	**1.11**						
351.palm	360	1.03	360	1.03	**360**	**1.03**						
352.ep	**528**	**1.00**	528	1.00	528	1.00						
353.clvrleaf	**420**	**1.06**	420	1.06	420	1.06						
354.cg	**399**	**1.02**	399	1.02	399	1.02						
355.seismic	324	1.14	**324**	**1.14**	323	1.14						
356.sp	**263**	**1.05**	262	1.05	263	1.05						
357.csp	271	0.996	271	0.995	**271**	**0.995**						
359.miniGhost	**344**	**1.07**	345	1.07	344	1.07						
360.ilbdc	359	1.02	359	1.02	**359**	**1.02**						
363.swim	204	1.12	**202**	**1.14**	202	1.14						
370.bt	**215**	**1.04**	215	1.04	215	1.04						

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

Platform Notes

```
Sysinfo program /work/fr356676/ACCEL_39b/Docs/sysinfo
$Rev: 6874 $ $Date:: 2013-11-20 #$ 0953404ef7e75a5f9bbb534c6de3f831
running on linuxgpud4.rz.RWTH-Aachen.DE Wed Mar  5 16:06:32 2014

This section contains SUT (System Under Test) info as seen by
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 X5650 @ 2.67GHz
      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 : 6
      siblings  : 12
      physical 0: cores 0 1 2 8 9 10
      physical 1: cores 0 1 2 8 9 10
   cache size : 12288 KB
```

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Platform Notes (Continued)

```
From /proc/meminfo
   MemTotal:       24596548 kB
   HugePages_Total:       0
   Hugepagesize:       2048 kB

/usr/bin/lsb_release -d
   Scientific Linux release 6.5 (Carbon)

From /etc/*release* /etc/*version*
   redhat-release: Scientific Linux release 6.5 (Carbon)
   system-release: Scientific Linux release 6.5 (Carbon)
   system-release-cpe: cpe:/o:redhat:enterprise_linux:6.5:ga

uname -a:
   Linux linuxgpud4.rz.RWTH-Aachen.DE 2.6.32-431.5.1.el6.x86_64 #1 SMP Tue Feb
   11 13:30:01 CST 2014 x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Feb 20 11:30

SPEC is set to: /work/fr356676/ACCEL_39b
   Filesystem                          Type  Size  Used Avail Use% Mounted on
   na6280-5.rz.RWTH-Aachen.DE:/vol/work3 nfs   500G  408G   93G  82%
   /rwthfs/rz/na6280-5/work3

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

(End of data from sysinfo program)
```

Base Compiler Invocation

C benchmarks:
pgcc

Fortran benchmarks:
pgfortran

Benchmarks using both Fortran and C:
pgcc pgfortran

Base Optimization Flags

C benchmarks:
-fast -Mfprelaxed -acc -ta=tesla:cc20 -ta=tesla:cuda5.5

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Base Optimization Flags (Continued)

Fortran benchmarks:
`-fast -Mfprelaxed -acc -ta=tesla:cc20 -ta=tesla:cuda5.5`

Benchmarks using both Fortran and C:

353.clvrleaf: `-fast -Mfprelaxed -acc -ta=tesla:cc20 -ta=tesla:cuda5.5`

359.miniGhost: `-fast -Mfprelaxed -acc -ta=tesla:cc20 -ta=tesla:cuda5.5 -Mnomain`

The flags file that was used to format this result can be browsed at
`http://www.spec.org/accel/flags/pgi2014_flags.20150303.html`

You can also download the XML flags source by saving the following link:
`http://www.spec.org/accel/flags/pgi2014_flags.20150303.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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