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## CC23Assignment2

Xen HVM domU 4.11.amazon testing on Ubuntu 22.04 via the Phoronix Test Suite.

### Automated Executive Summary

*t2micro had the most wins, coming in first place for 80% of the tests.*

*Based on the geometric mean of all complete results, the fastest (c1medium) was 1.005x the speed of the slowest (t2micro).*

### Test Systems:

#### **t2micro**

Processor: Intel Xeon E5-2676 v3 (1 Core), Motherboard: Xen HVM domU (4.11.amazon BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 1 x GB RAM, Disk: 8GB, Graphics: Cirrus Logic GD 5446

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (x86\_64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: Xen

## HVM domU 4.11.amazon

Kernel Notes: Transparent Huge Pages: madvise  
 Compiler Notes: --build=x86\_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: CPU Microcode: 0x49

Security Notes: itlb\_multihit: KVM: Mitigation of VMX unsupported + I1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + mmio\_stale\_data: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + rebleed: Not affected + spec\_store\_bypass: Vulnerable + spectre\_v1: Mitigation of usercopy/swapgs barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRSB-elBRS: Not affected + srbds: Not affected + tsx\_async\_abort: Not affected

## c1medium

Processor: Intel Xeon E5-2650 0 (2 Cores), Motherboard: Xen HVM domU (4.11.amazon BIOS), Chipset: Intel 440FX 82441FX PMC, Memory: 1 x 1740 MB RAM, Disk: 8GB, Graphics: Cirrus Logic GD 5446

OS: Ubuntu 22.04, Kernel: 5.15.0-1028-aws (x86\_64), Compiler: GCC 11.3.0, File-System: ext4, System Layer: Xen HVM domU 4.11.amazon

Kernel Notes: Transparent Huge Pages: madvise  
 Compiler Notes: --build=x86\_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-11-xKiWfi/gcc-11-11.3.0/debian/tmp-gcn/usr --enable-plugin --enable-shared --enable-threads=posix --host=x86\_64-linux-gnu --program-prefix=x86\_64-linux-gnu- --target=x86\_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Processor Notes: CPU Microcode: 0x621

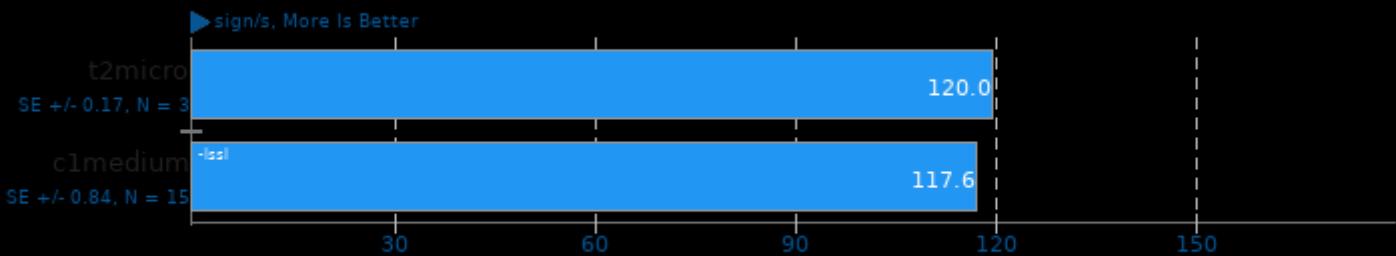
Security Notes: itlb\_multihit: KVM: Mitigation of VMX unsupported + I1tf: Mitigation of PTE Inversion + mds: Vulnerable: Clear buffers attempted no microcode; SMT Host state unknown + meltdown: Mitigation of PTI + mmio\_stale\_data: Unknown: No mitigations + rebleed: Not affected + spec\_store\_bypass: Vulnerable + spectre\_v1: Mitigation of usercopy/swapgs barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Retpolines STIBP: disabled RSB filling PBRSB-elBRS: Not affected + srbds: Not affected + tsx\_async\_abort: Not affected

	t2micro	c1medium
<b>OpenSSL - RSA4096 (sign/s)</b>	<b>120.0</b>	<b>117.6</b>
Normalized	100%	98%
Standard Deviation	0.2%	2.8%
<b>OpenSSL - RSA4096 (verify/s)</b>	<b>7749</b>	<b>7551</b>
Normalized	100%	97.45%
Standard Deviation	3%	3%
<b>LAME MP3 Encoding - WAV To MP3 (sec)</b>	<b>14.750</b>	<b>25.564</b>
Normalized	100%	57.7%
Standard Deviation	2%	1.6%
<b>Apache HTTP Server - 1 (Req/sec)</b>	4238	
Standard Deviation	0.5%	
<b>Apache HTTP Server - 20 (Req/sec)</b>	4707	
Standard Deviation	0.2%	
<b>Apache HTTP Server - 100 (Req/sec)</b>	4618	
Standard Deviation	0.9%	
<b>Apache HTTP Server - 200 (Req/sec)</b>	4407	
Standard Deviation	1.2%	
<b>Apache HTTP Server - 500 (Req/sec)</b>	3419	

	Standard Deviation	0.4%
<b>Apache HTTP Server - 1000 (Reqs/sec)</b>	605.81	
	Standard Deviation	154.4%
<b>Loopback TCP Network Performance - T.T.T.1.V.L</b>	<b>21.788</b>	<b>32.773</b>
	Normalized	100%
	Standard Deviation	0.3%
<b>John The Ripper - Blowfish (Real C/S)</b>	<b>256.1</b>	<b>715</b>
	Normalized	35.82%
	Standard Deviation	110.3%

## OpenSSL 3.0

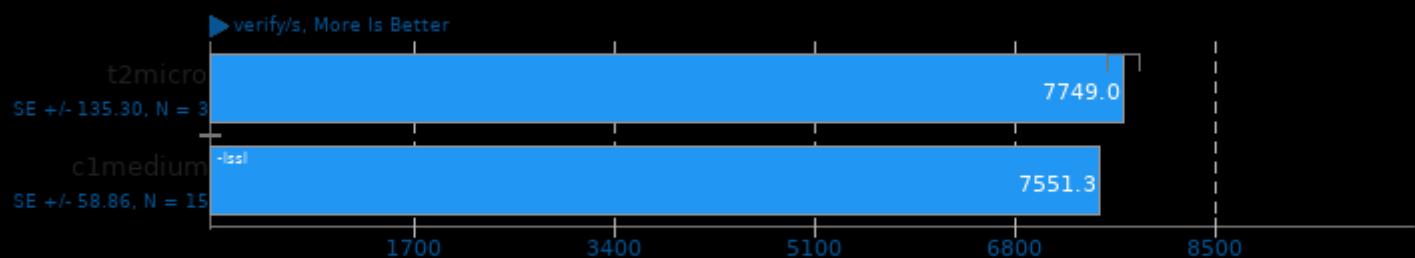
Algorithm: RSA4096



1. (CC) gcc options: -pthread -m64 -O3 -lcrypto -ldl

## OpenSSL 3.0

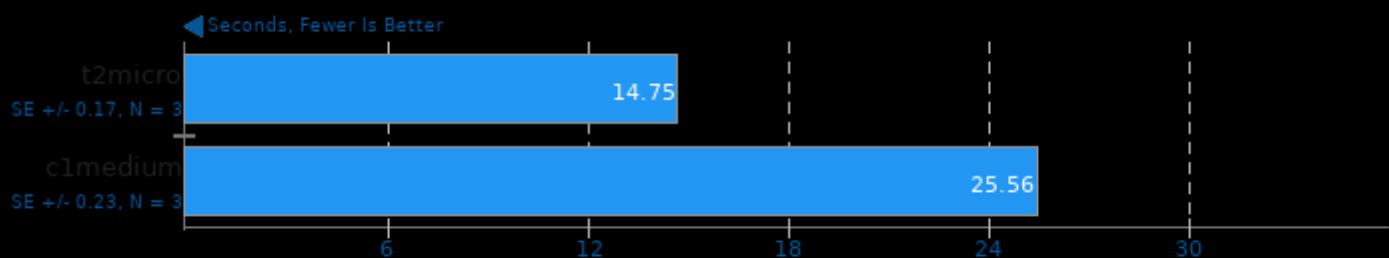
Algorithm: RSA4096



1. (CC) gcc options: -pthread -m64 -O3 -lcrypto -ldl

## LAME MP3 Encoding 3.100

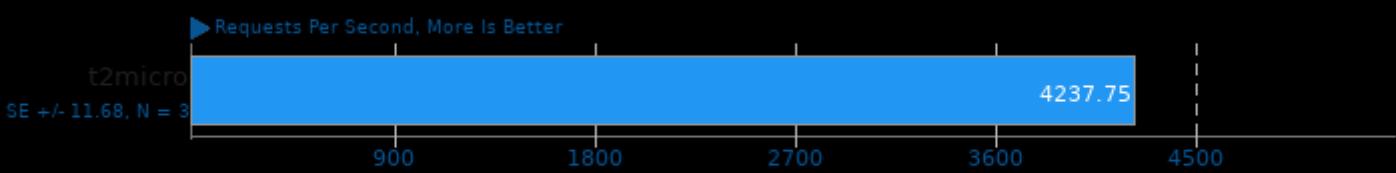
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr-pipe -lm

## Apache HTTP Server 2.4.48

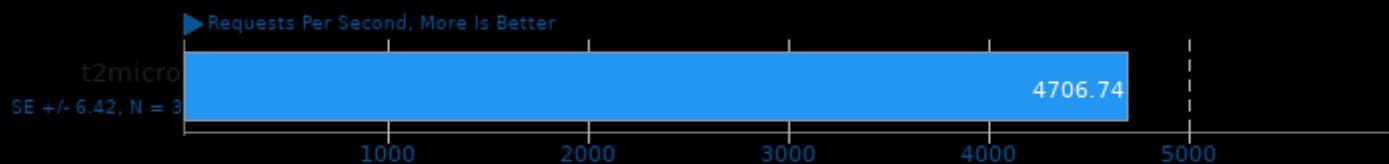
Concurrent Requests: 1



1. (CC) gcc options: -shared -fPIC -O2

## Apache HTTP Server 2.4.48

Concurrent Requests: 20



1. (CC) gcc options: -shared -fPIC -O2

## Apache HTTP Server 2.4.48

Concurrent Requests: 100



1. (CC) gcc options: -shared -fPIC -O2

## Apache HTTP Server 2.4.48

Concurrent Requests: 200



1. (CC) gcc options: -shared -fPIC -O2

## Apache HTTP Server 2.4.48

Concurrent Requests: 500



1. (CC) gcc options: -shared -fPIC -O2

## Apache HTTP Server 2.4.48

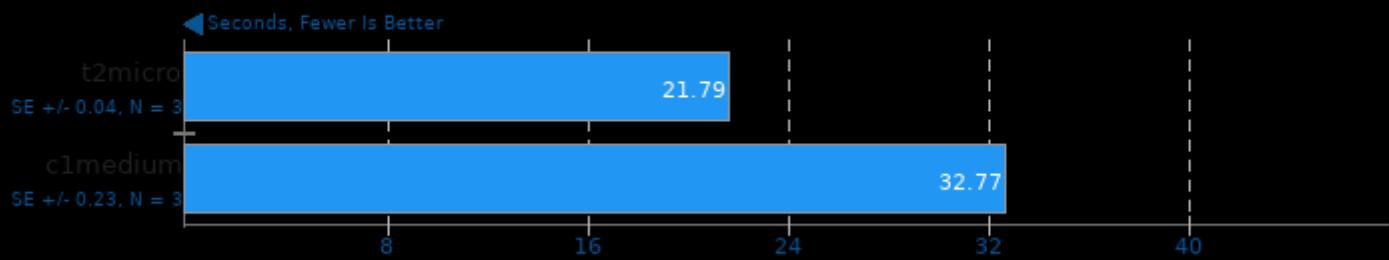
Concurrent Requests: 1000



1. (CC) gcc options: -shared -fPIC -O2

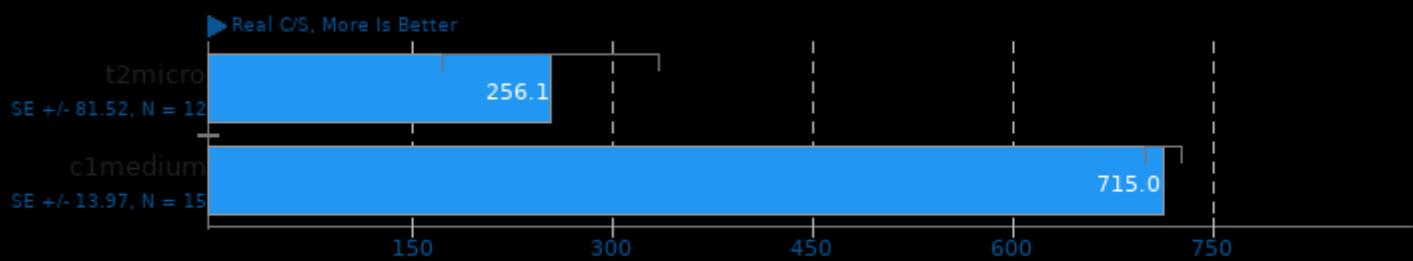
## Loopback TCP Network Performance

Time To Transfer 10GB Via Loopback



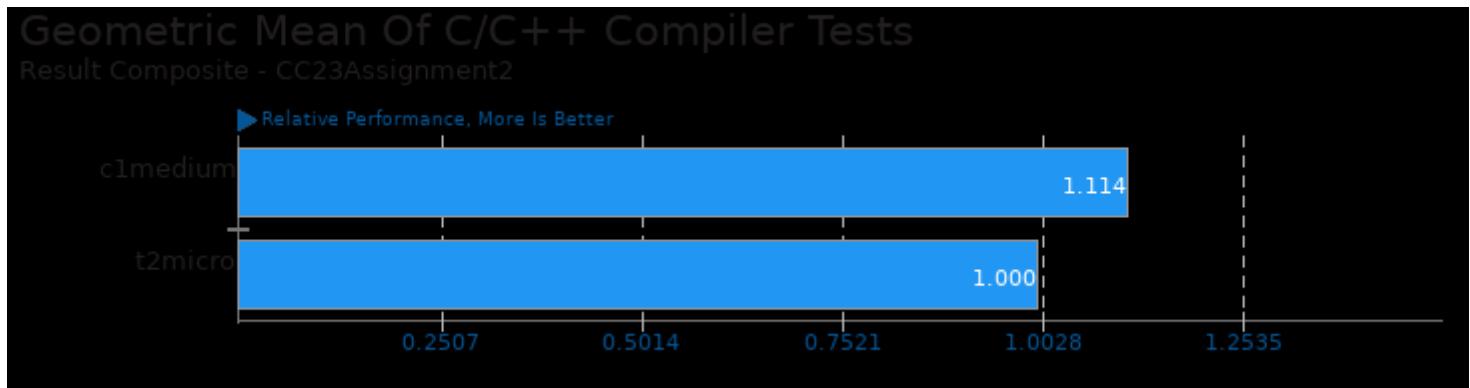
## John The Ripper 1.8.0

Test: Blowfish

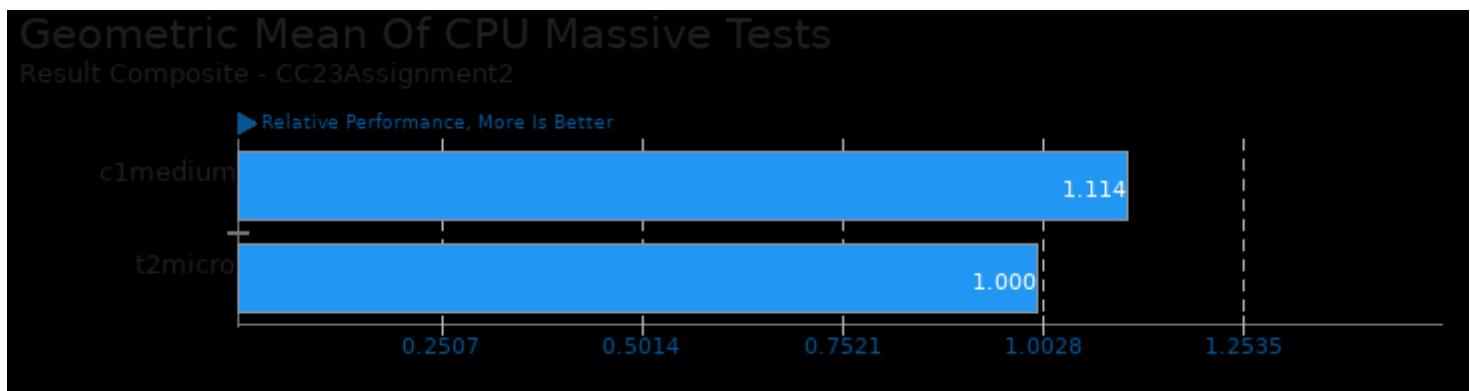


1. (CC) gcc options: -fopenmp -lcrypt

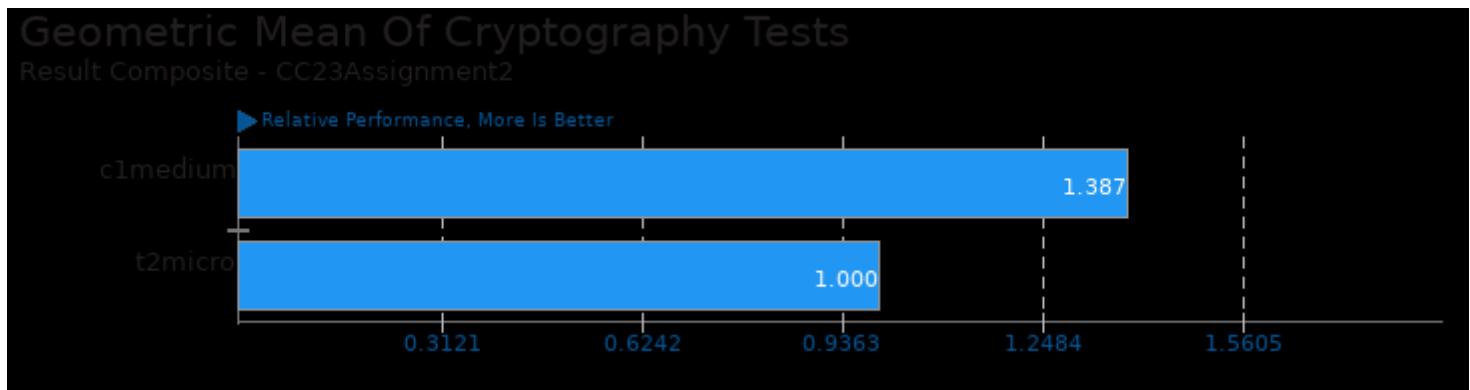
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3, pts/apache, pts/john-the-ripper and pts/openssl



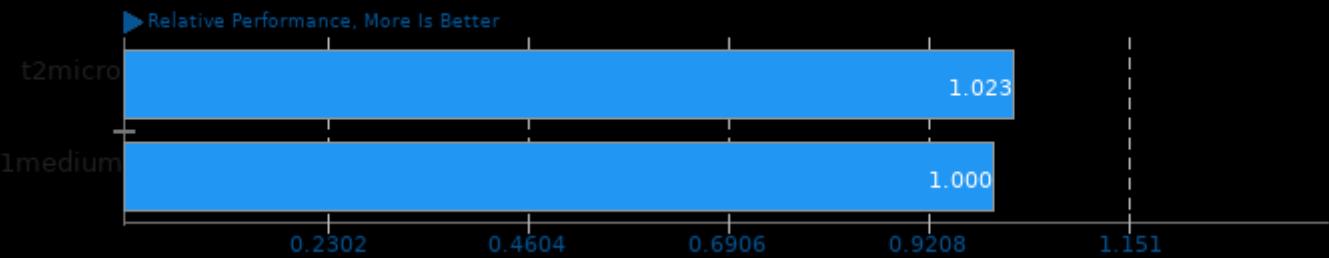
Geometric mean based upon tests: pts/apache, pts/encode-mp3, pts/john-the-ripper and pts/openssl



Geometric mean based upon tests: pts/openssl and pts/john-the-ripper

## Geometric Mean Of Common Kernel Benchmarks Tests

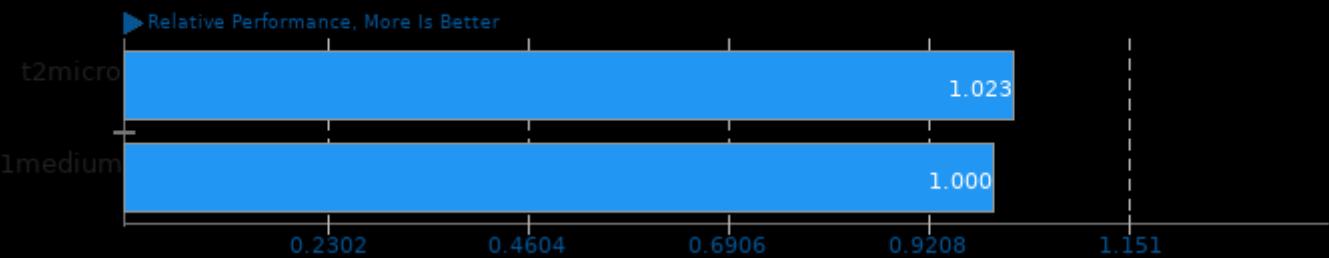
Result Composite - CC23Assignment2



Geometric mean based upon tests: pts/apache and pts/openssl

## Geometric Mean Of Server Tests

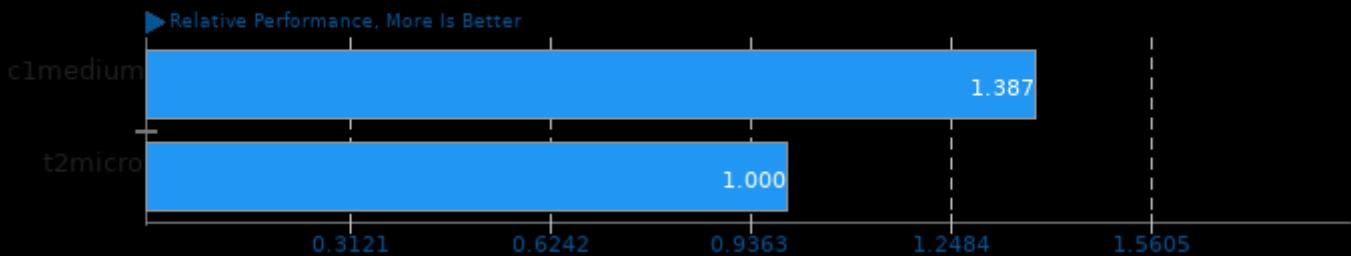
Result Composite - CC23Assignment2



Geometric mean based upon tests: pts/apache and pts/openssl

## Geometric Mean Of Server CPU Tests

Result Composite - CC23Assignment2



Geometric mean based upon tests: pts/john-the-ripper and pts/openssl

*This file was automatically generated via the Phoronix Test Suite benchmarking software on Wednesday, 8 February 2023 09:42.*