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Calxeda ARM Server Sensor Monitoring

Testing out the node power and SoC temperatures of a Calxeda node as exposed over IPMI and automatically monitored via the Phoronix Test Suite. Tests on both 1.1GHz and 1.4GHz nodes. Benchmarking by Michael Larabel of Phoronix.com.

Test Systems:

1.1GHz Calxeda Node

1.4GHz Calxeda Node

Processor: ARMv7 rev 0 (4 Cores), Motherboard: Highbank, Memory: 4096MB, Disk: 256GB SAMSUNG MZ7PC256

OS: Ubuntu 12.10, Kernel: 3.5.0-1000-highbank (armv7l), Compiler: GCC 4.7, File-System: ext4

Compiler Notes: --build=arm-linux-gnueabihf --disable-libitm --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v

Calxeda ARM Server Sensor Monitoring

1.1GHz Calxeda Linaro 13.01

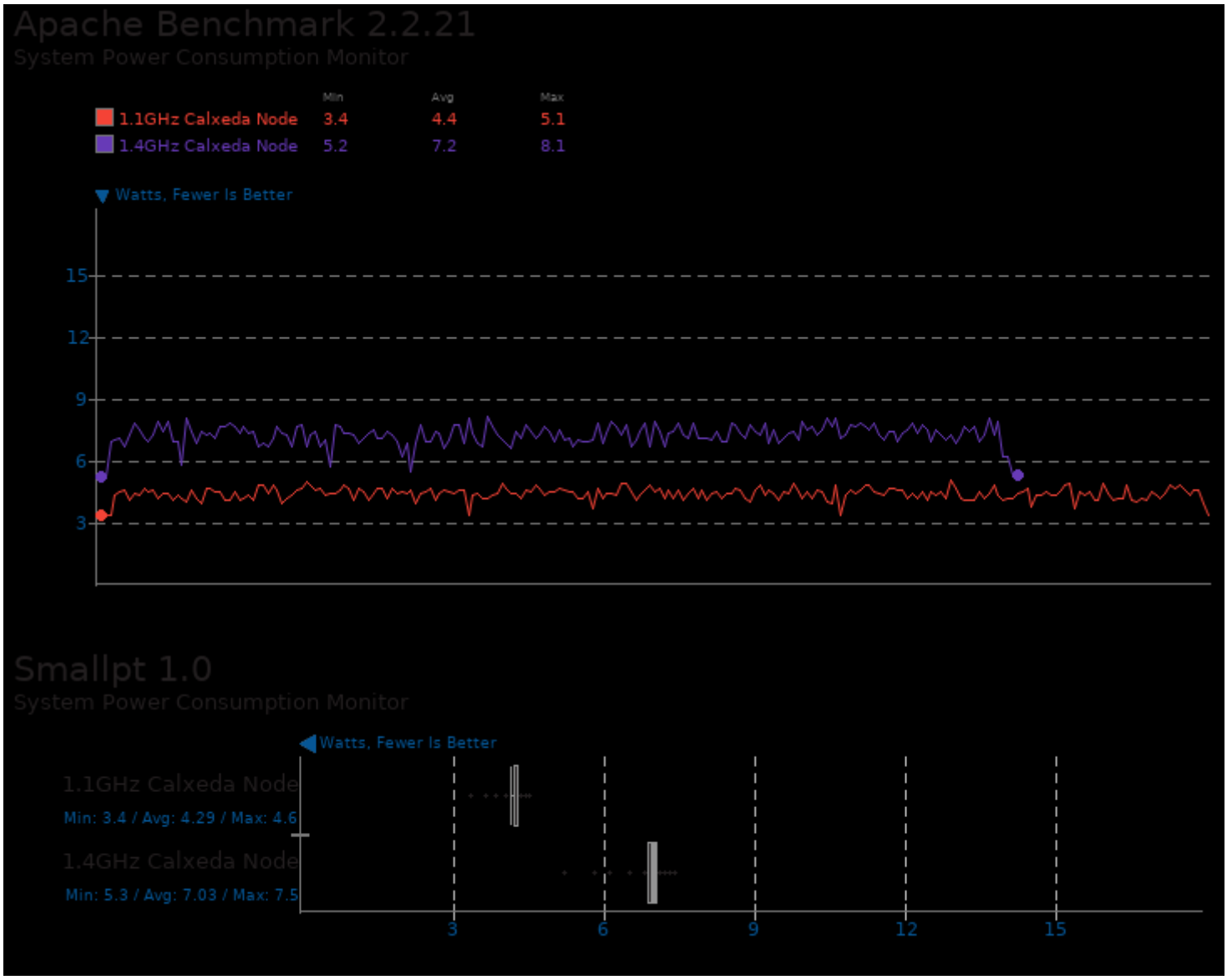
Processor: ARMv7 rev 0 (4 Cores), Motherboard: Highbank, Memory: 4096MB, Disk: 256GB SAMSUNG MZ7PC256

OS: Ubuntu 13.04, Kernel: 3.5.0-1000-highbank (armv7l), Compiler: GCC 4.7, File-System: ext4

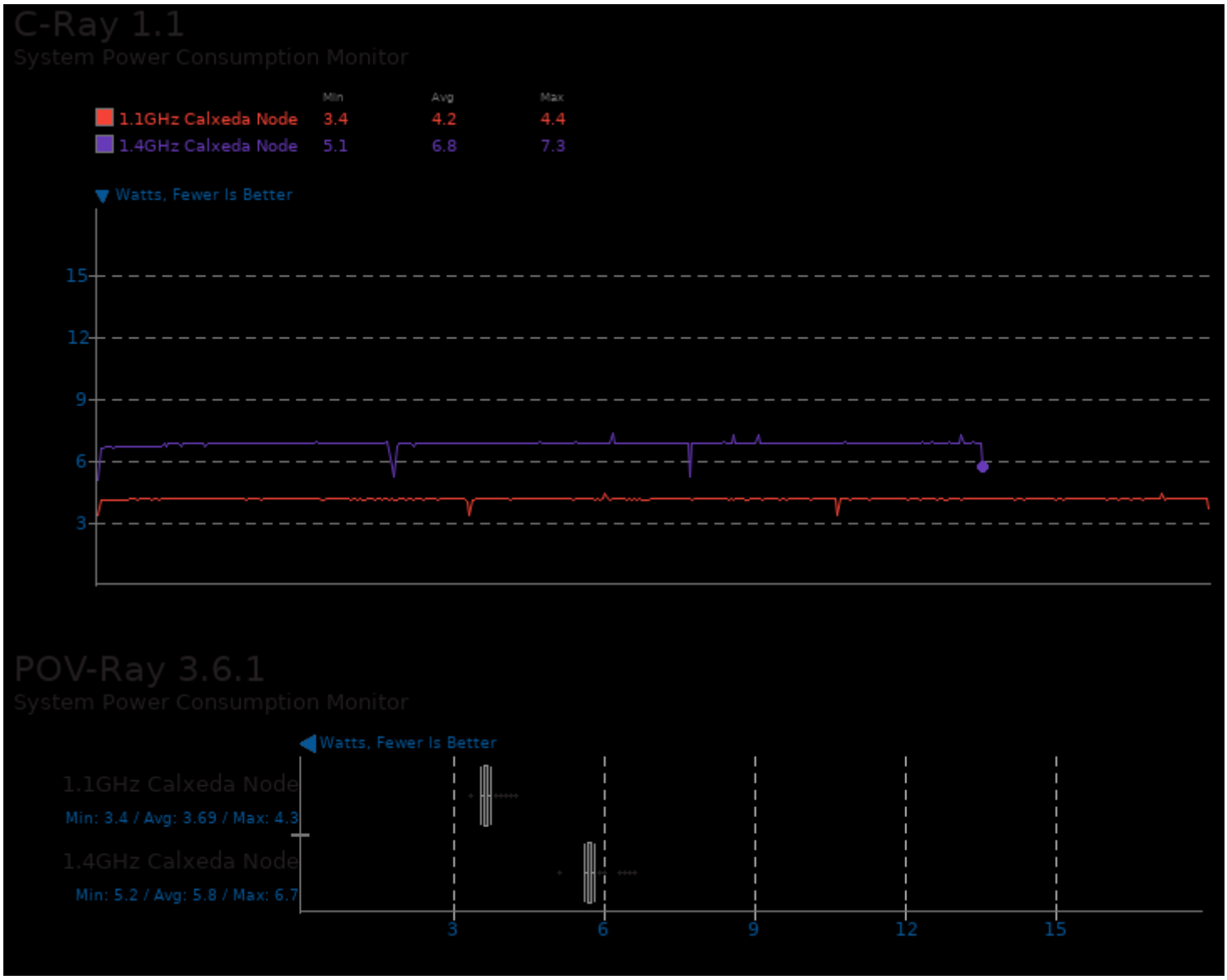
Compiler Notes: --build=arm-linux-gnueabihf --disable-cloog-version-check --disable-libitm --disable-ppl-version-check --disable-sjlj-exceptions --disable-werror --enable-checking=release --enable-clocale=gnu --enable-cloog-backend=ppl --enable-gnu-unique-object --enable-languages=c,c++,go,fortran,objc,obj-c++ --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc --enable-plugin --enable-shared --enable-threads=posix --host=arm-linux-gnueabihf --target=arm-linux-gnueabihf --with-arch=armv7-a --with-cloog --with-float=hard --with-fpu=vfpv3-d16 --with-mode=thumb -v

	1.1GHz Calxeda Node	1.4GHz Calxeda Node	1.1GHz Calxeda Linaro 13.01
POV-Ray - Total Time (sec)	5450	**4315**	**5595**
Normalized	79.17%	100%	77.12%
Smallpt - G.I.R.1.S (sec)	**1337**	**1036**	1312
Normalized	77.49%	100%	78.96%
Standard Deviation	0.1%	0.1%	0.1%
OpenSSL - R.4.b.P (Signs/sec)	**4.18**	**5.38**	4.20
Normalized	77.7%	100%	78.07%
Standard Deviation	1.2%	0.9%	0%
C-Ray - Total Time (sec)	**392.28**	**305.15**	386.45
Normalized	77.79%	100%	78.96%
Standard Deviation	0.1%	0.2%	0.1%
FFTE - N.6.1.C.F.R (MFLOPS)	**507.06**	**644.79**	507.17
Normalized	78.64%	100%	78.66%
Standard Deviation	0%	0%	0.1%
Apache Benchmark - S.W.P.S (Reqs/sec)	**4184**	**5211**	4340
Normalized	80.29%	100%	83.28%
Standard Deviation	1.5%	0.4%	0.3%

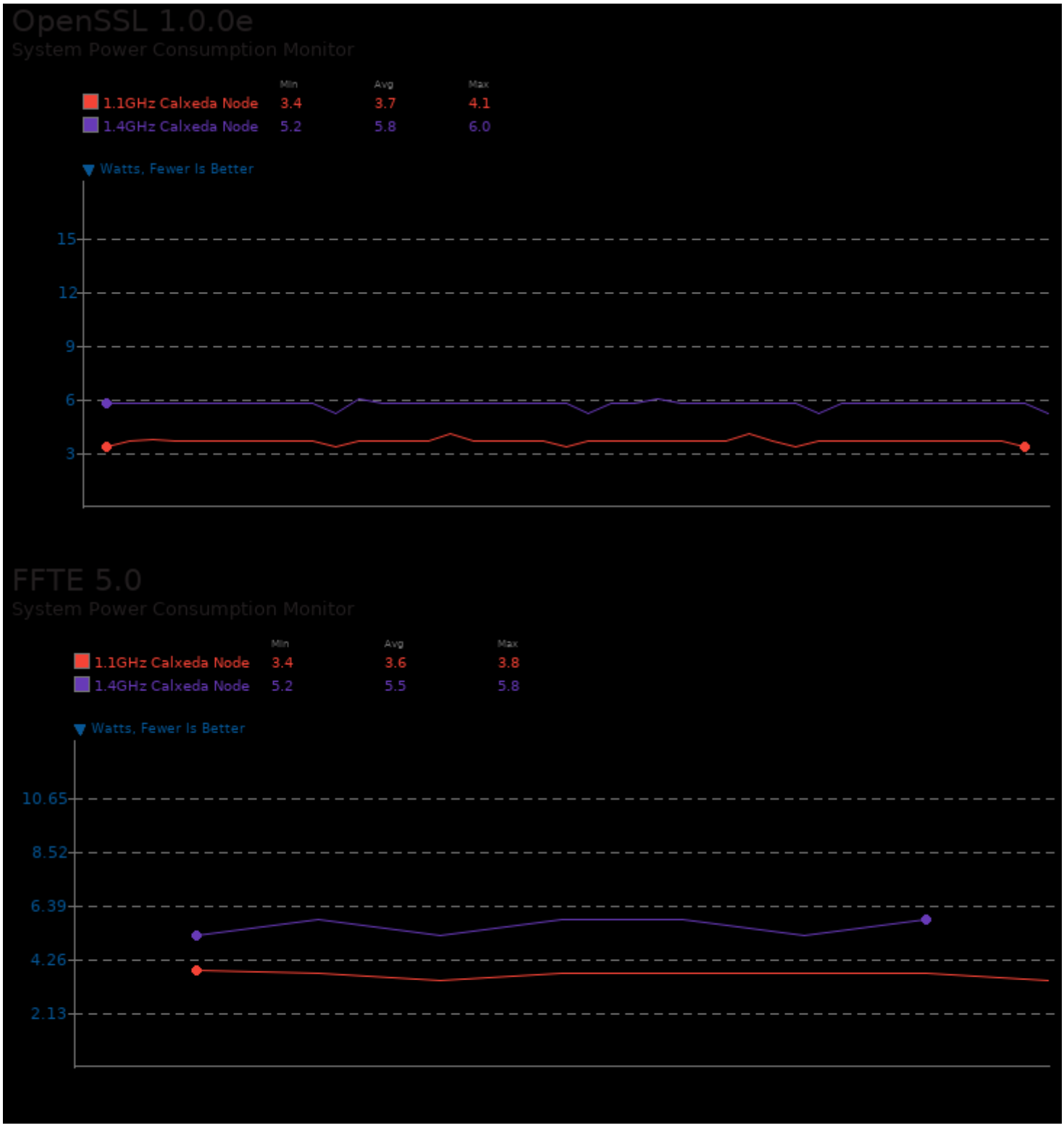
Calxeda ARM Server Sensor Monitoring



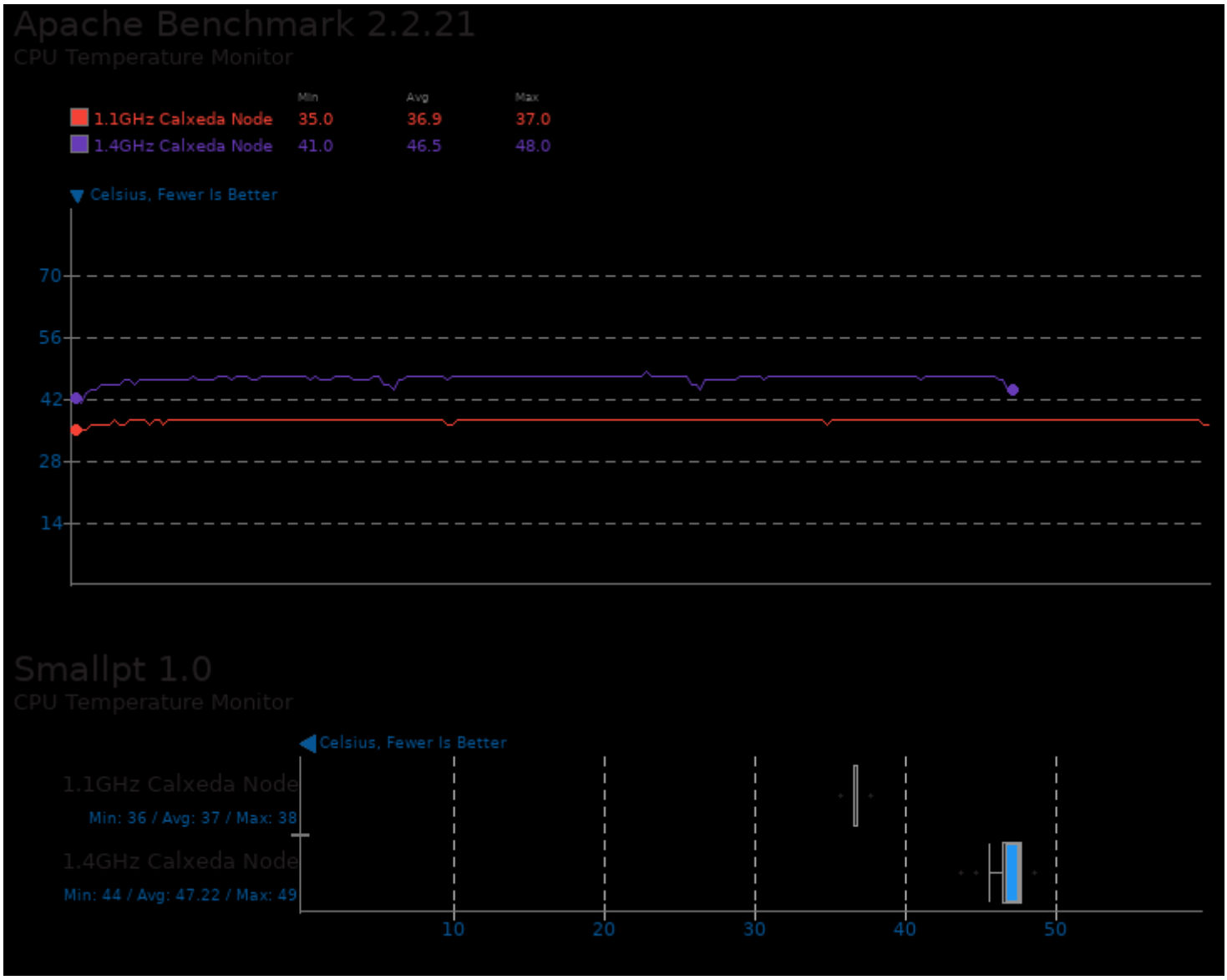
Calxeda ARM Server Sensor Monitoring



Calxeda ARM Server Sensor Monitoring



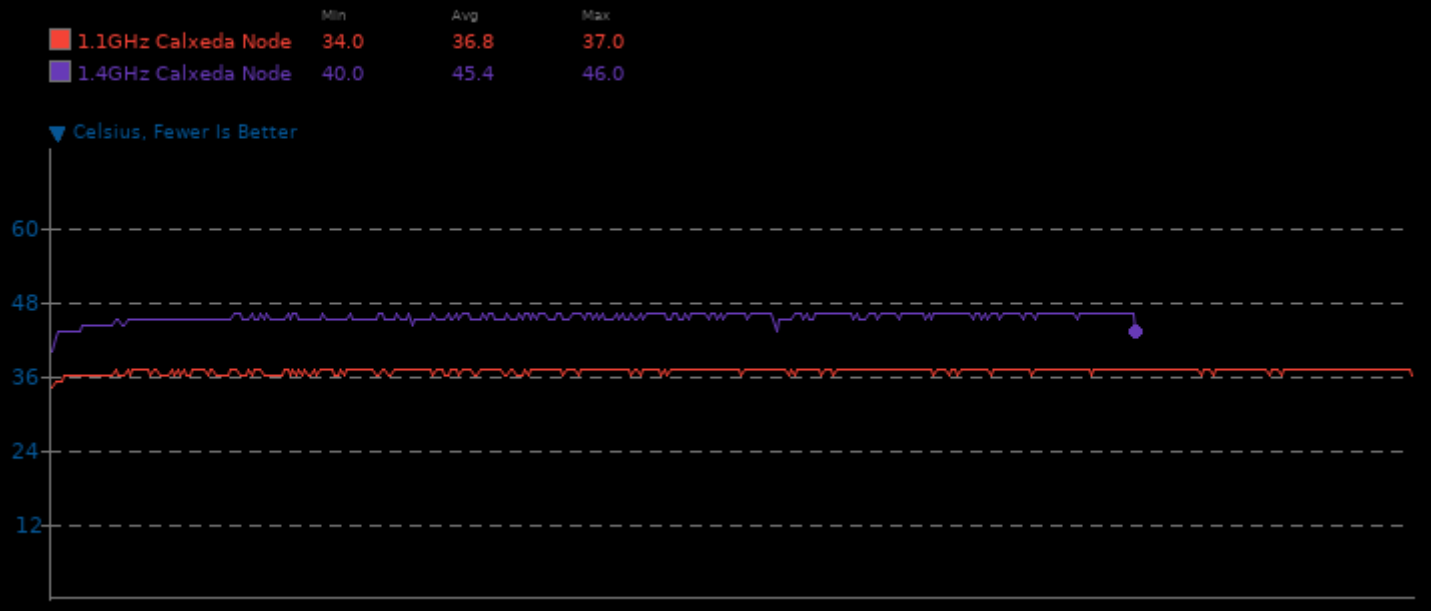
Calxeda ARM Server Sensor Monitoring



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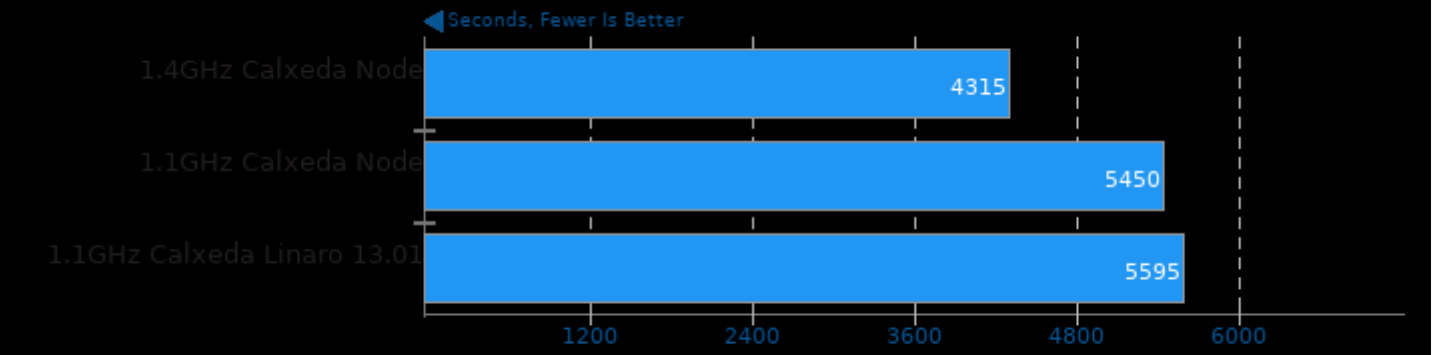
C-Ray 1.1

CPU Temperature Monitor



POV-Ray 3.6.1

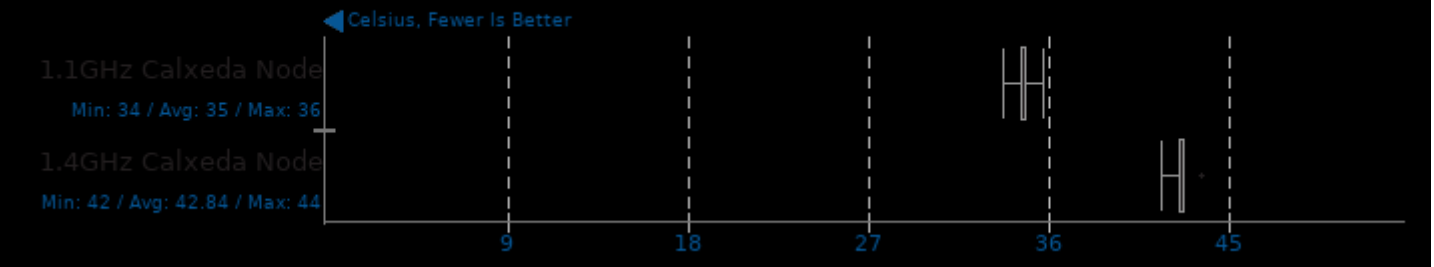
Total Time



1. (CXX) g++ options: -pipe -O3 -lz -lm

POV-Ray 3.6.1

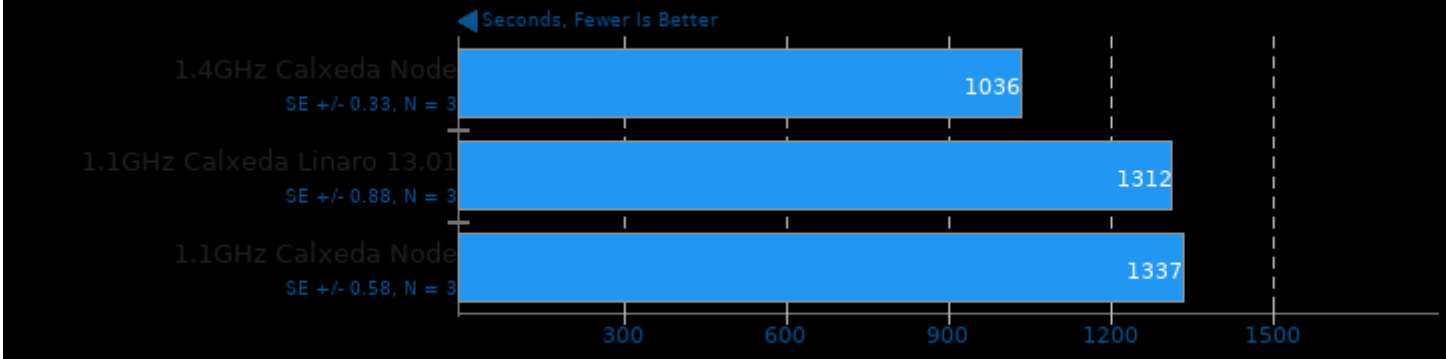
CPU Temperature Monitor



Calxeda ARM Server Sensor Monitoring

Smallpt 1.0

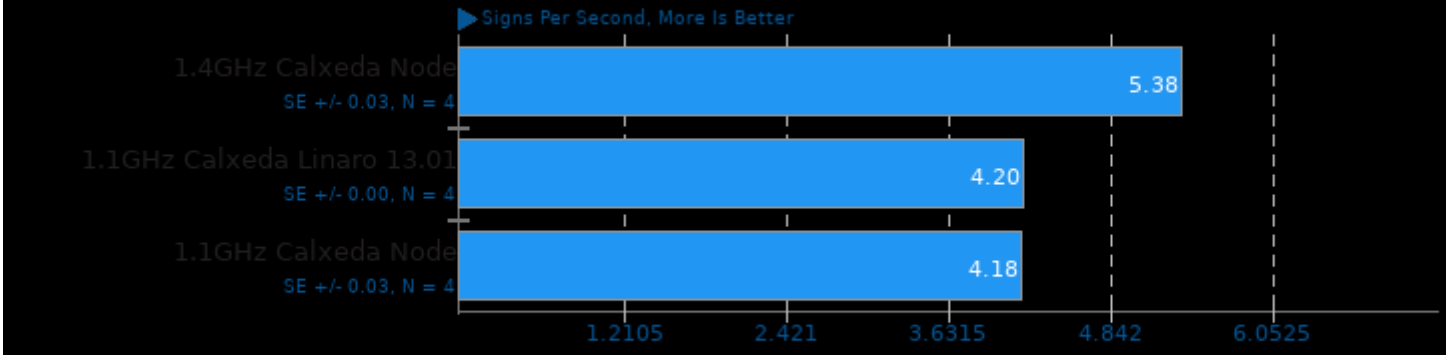
Global Illumination Renderer; 100 Samples



1. (CXX) g++ options: -fopenmp

OpenSSL 1.0.0e

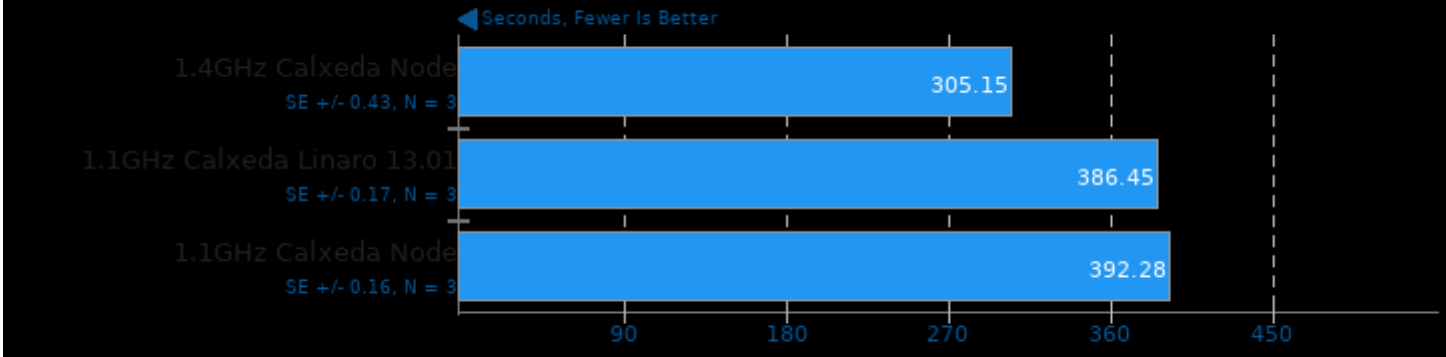
RSA 4096-bit Performance



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

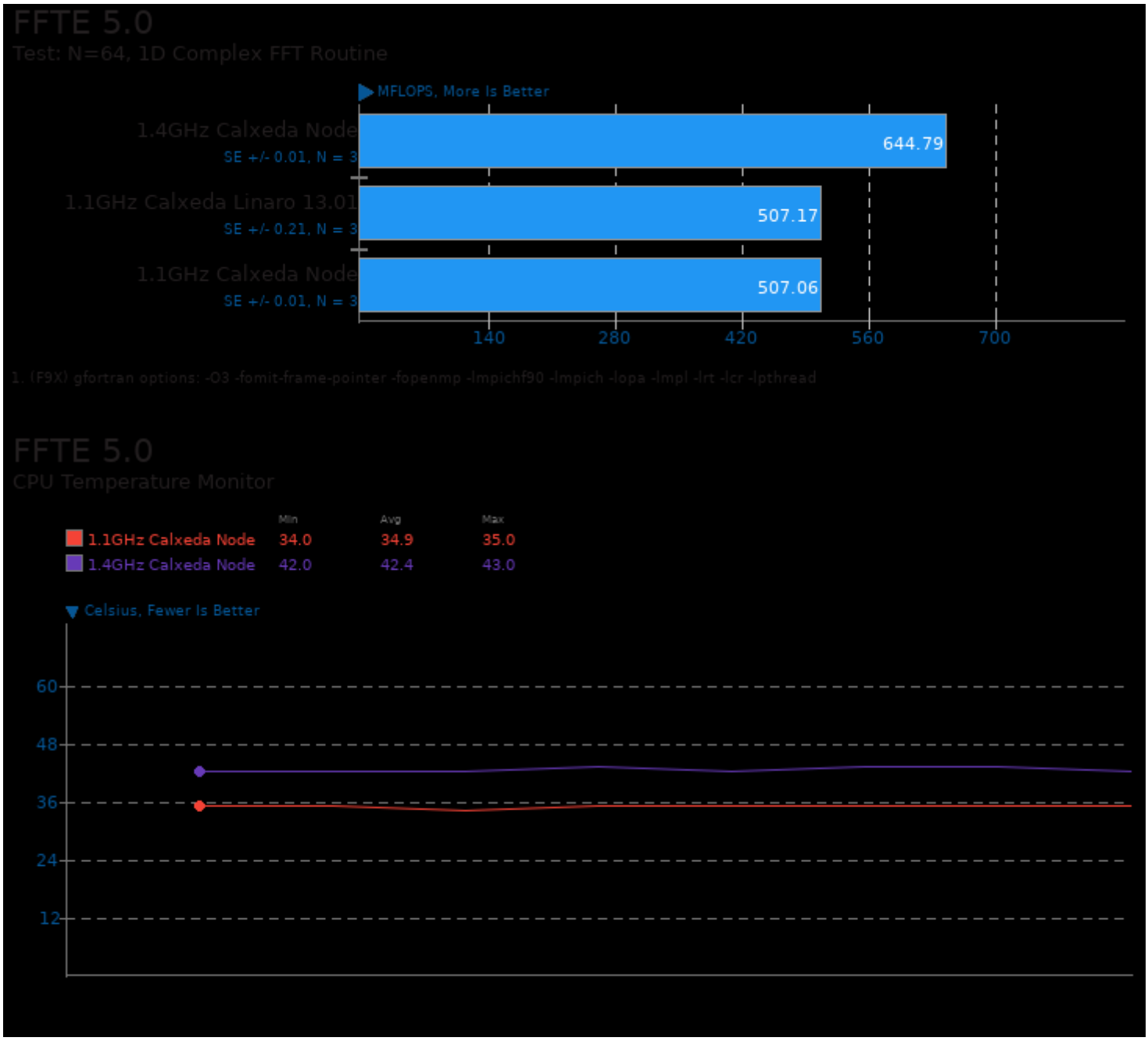
C-Ray 1.1

Total Time

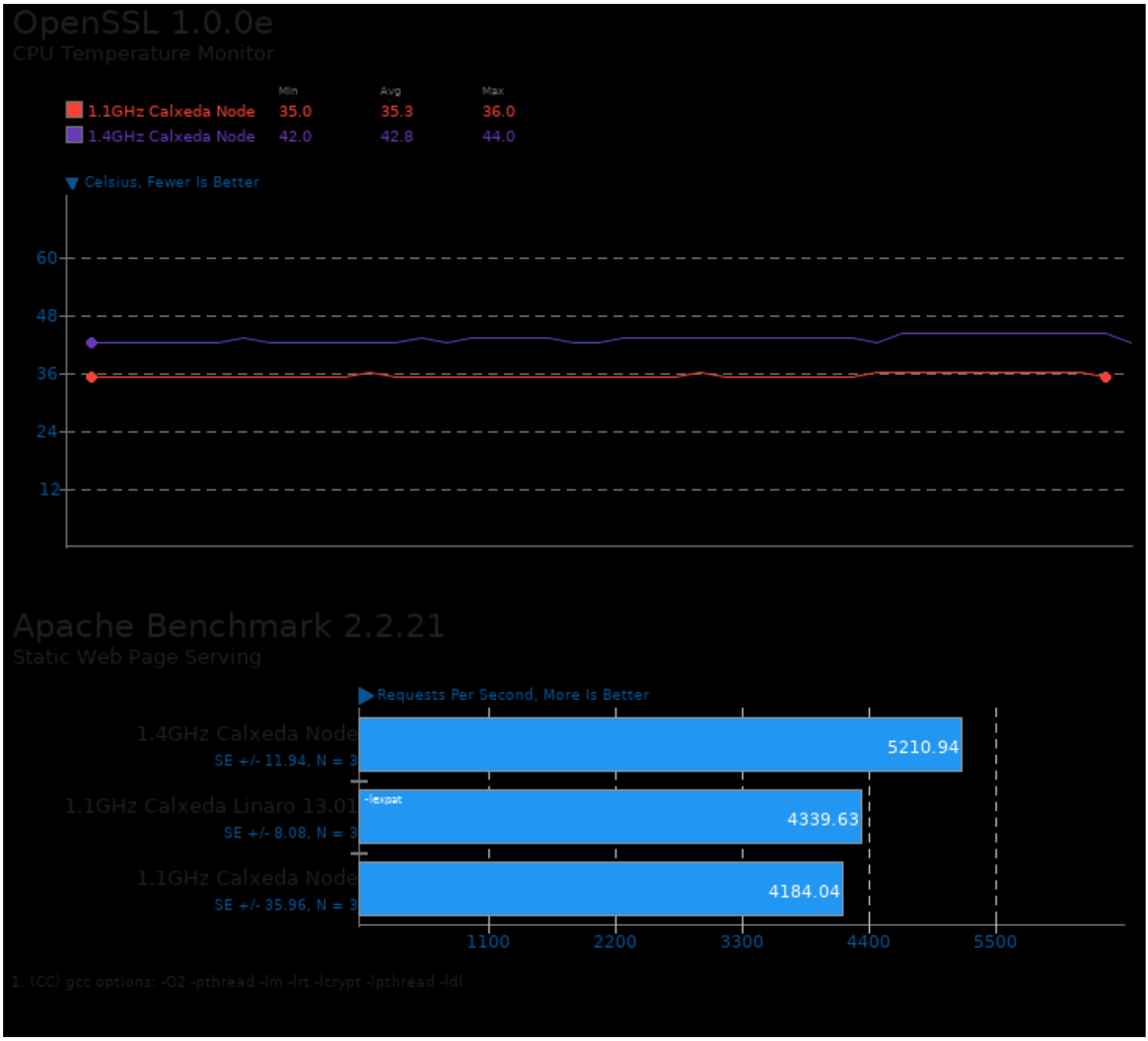


1. (CC) gcc options: -lm -lpthread -O3

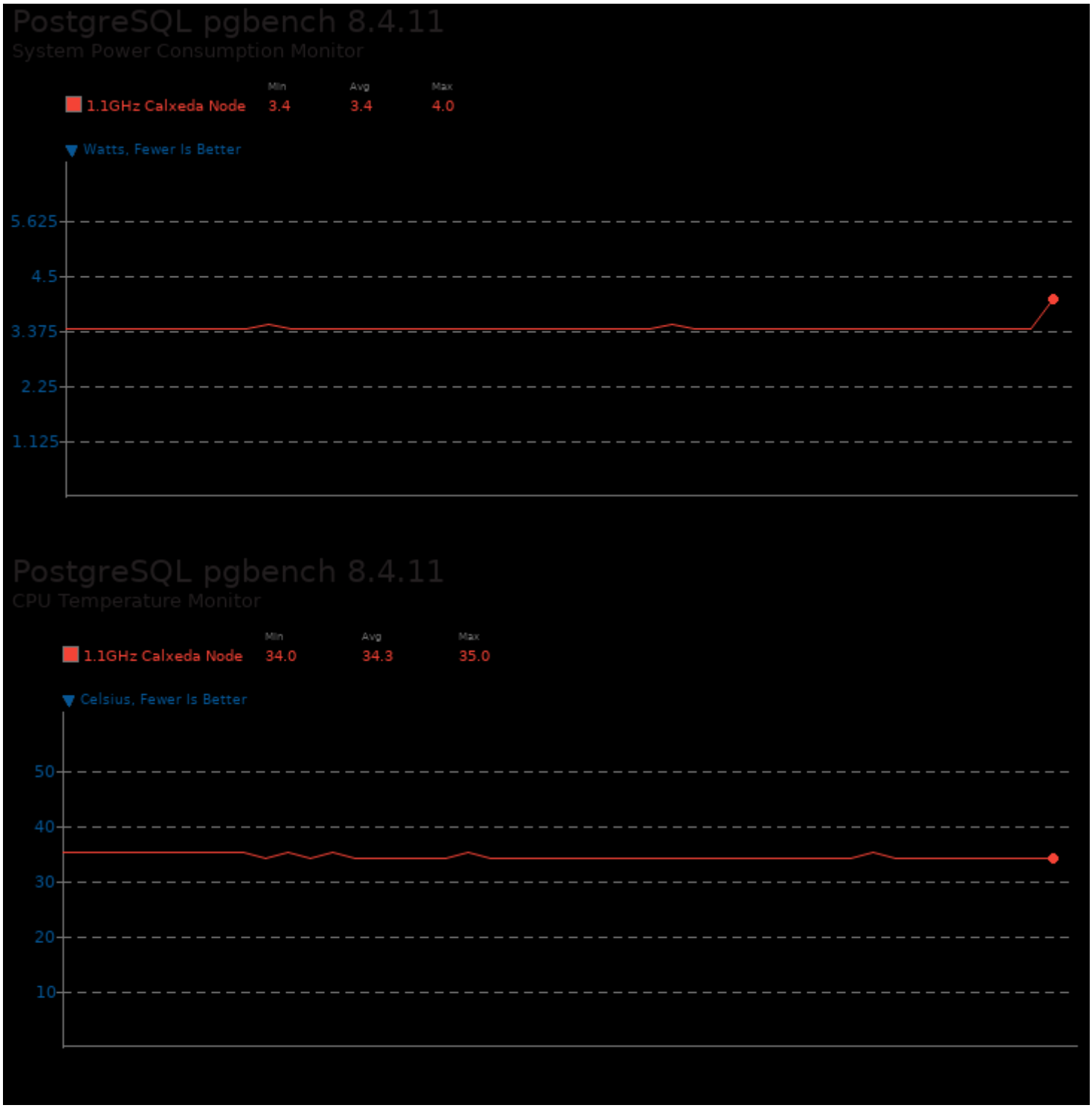
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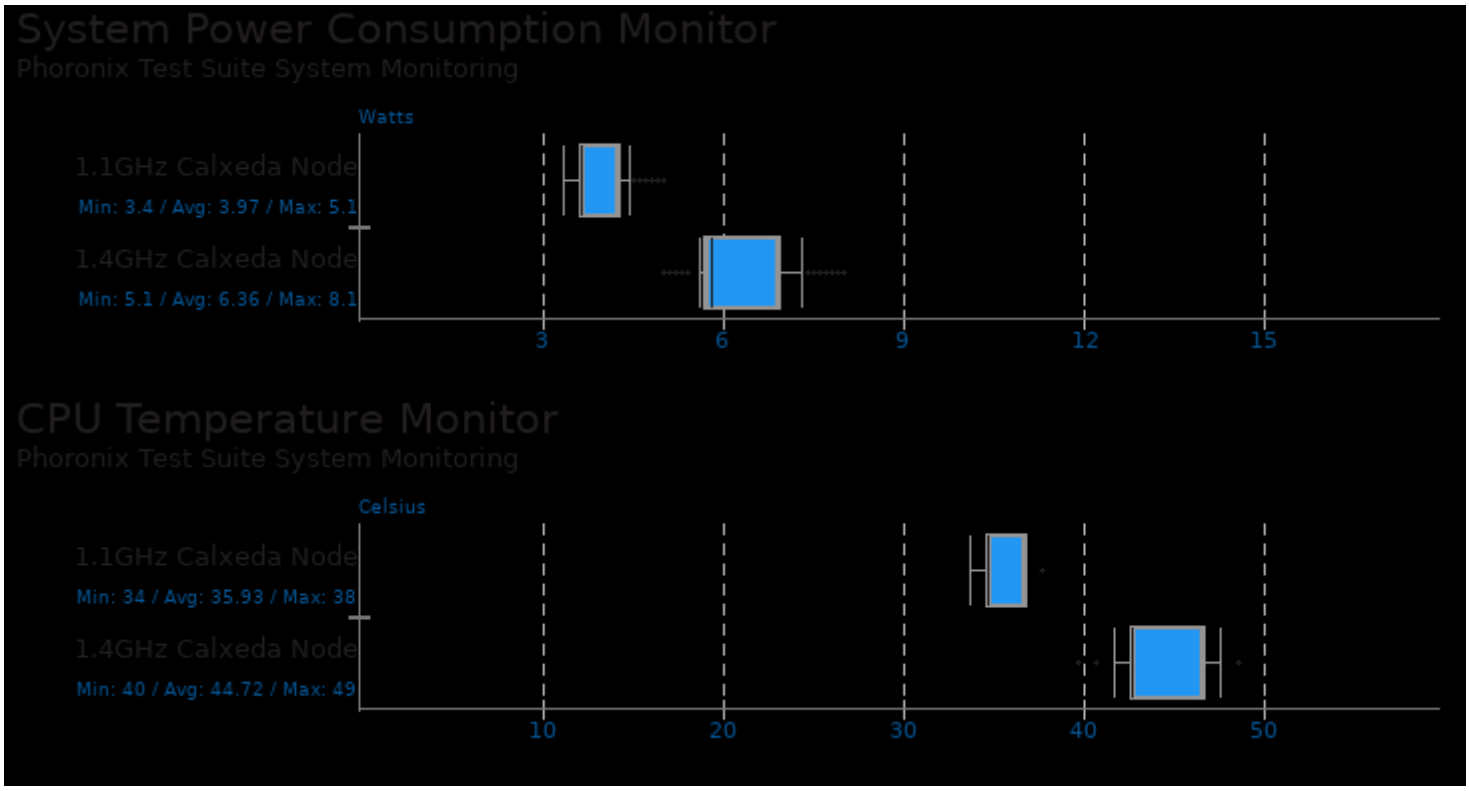
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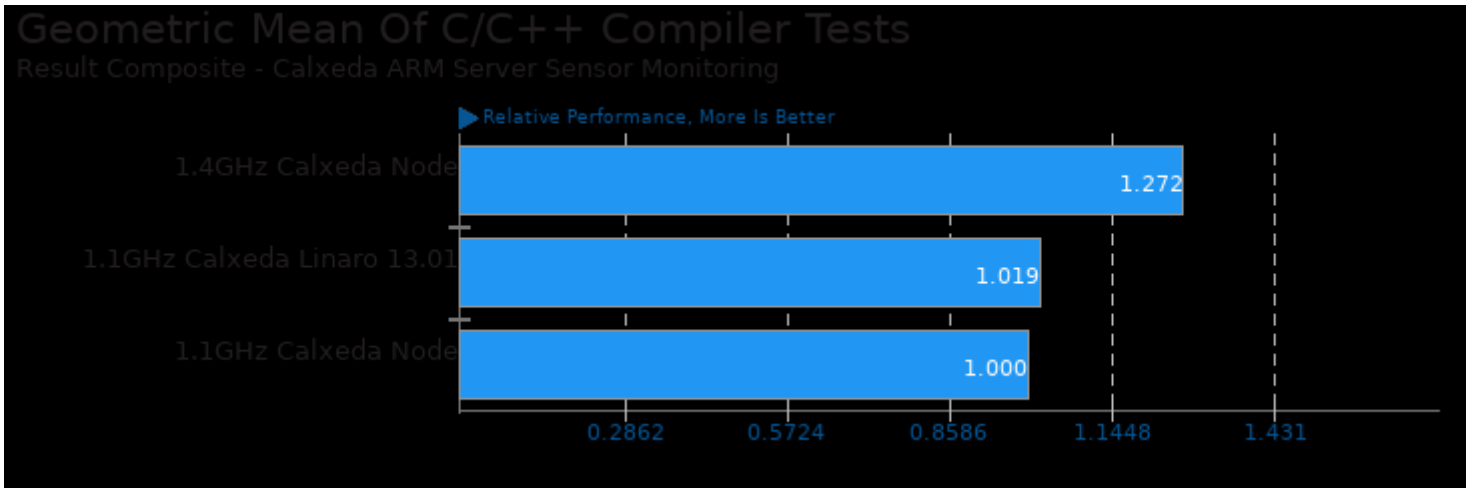


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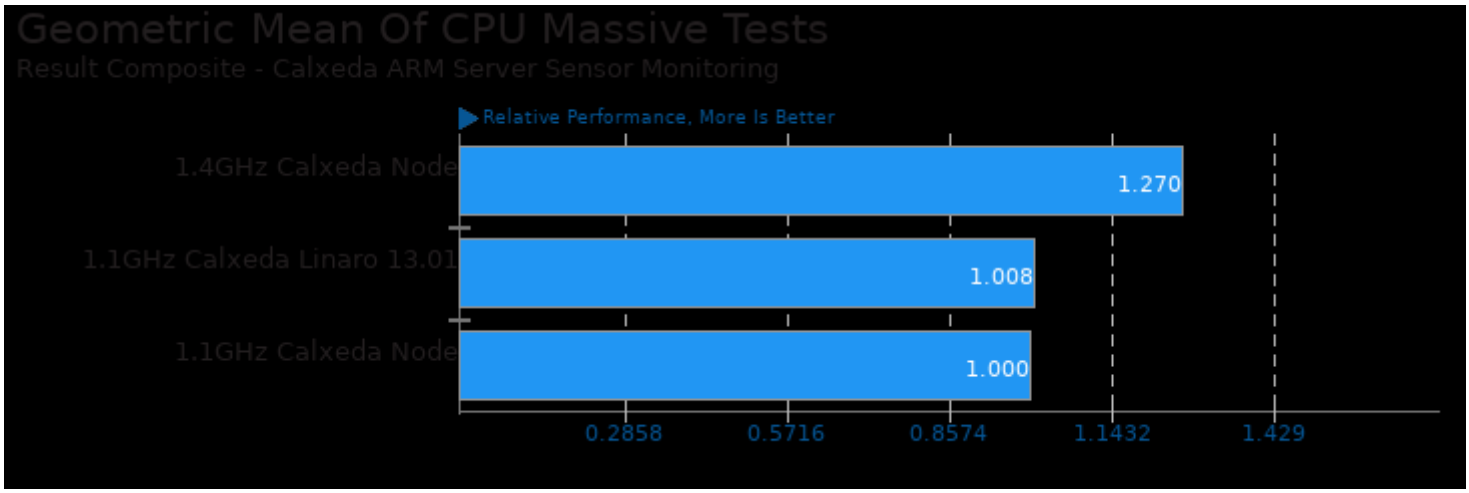


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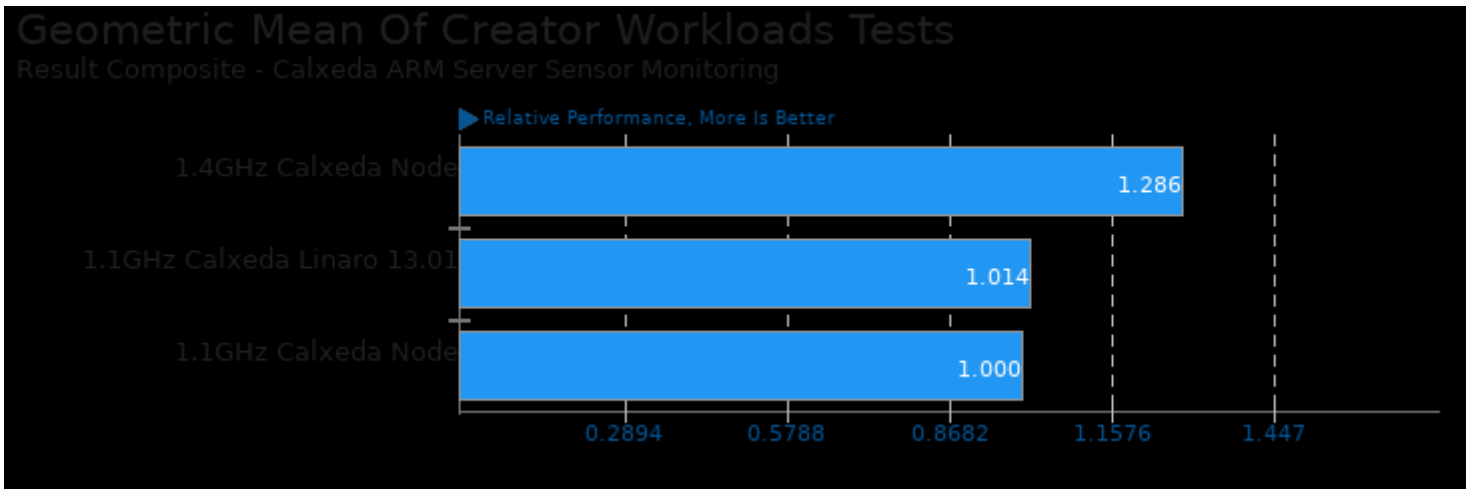
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/c-ray, pts/apache and pts/openssl

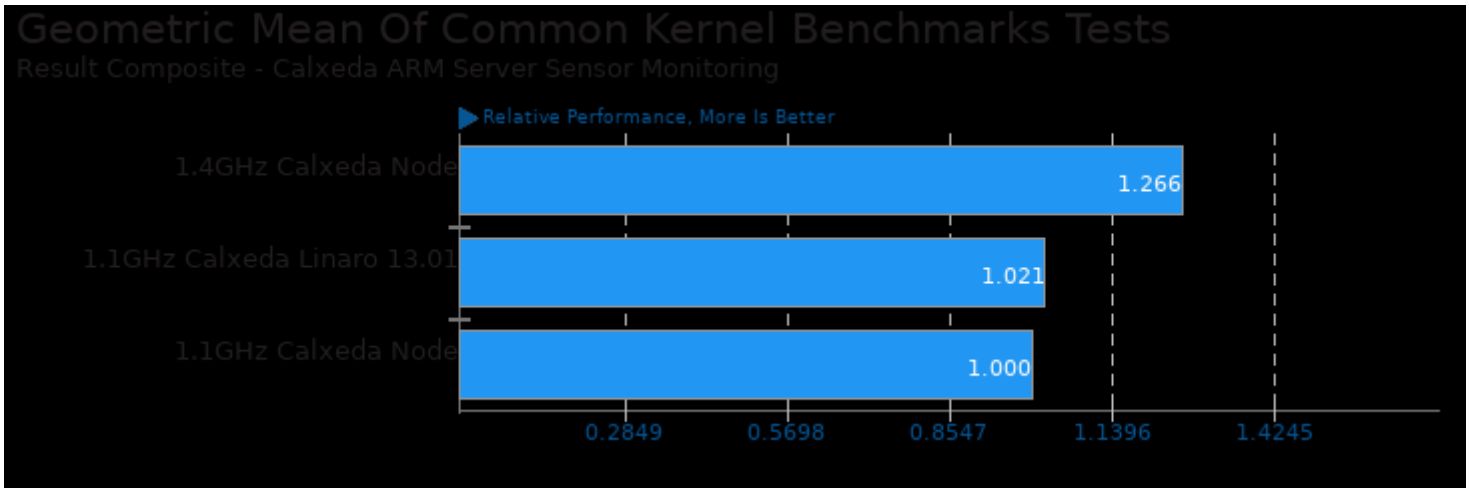


Geometric mean based upon tests: pts/apache, pts/c-ray, pts/openssl and pts/povray

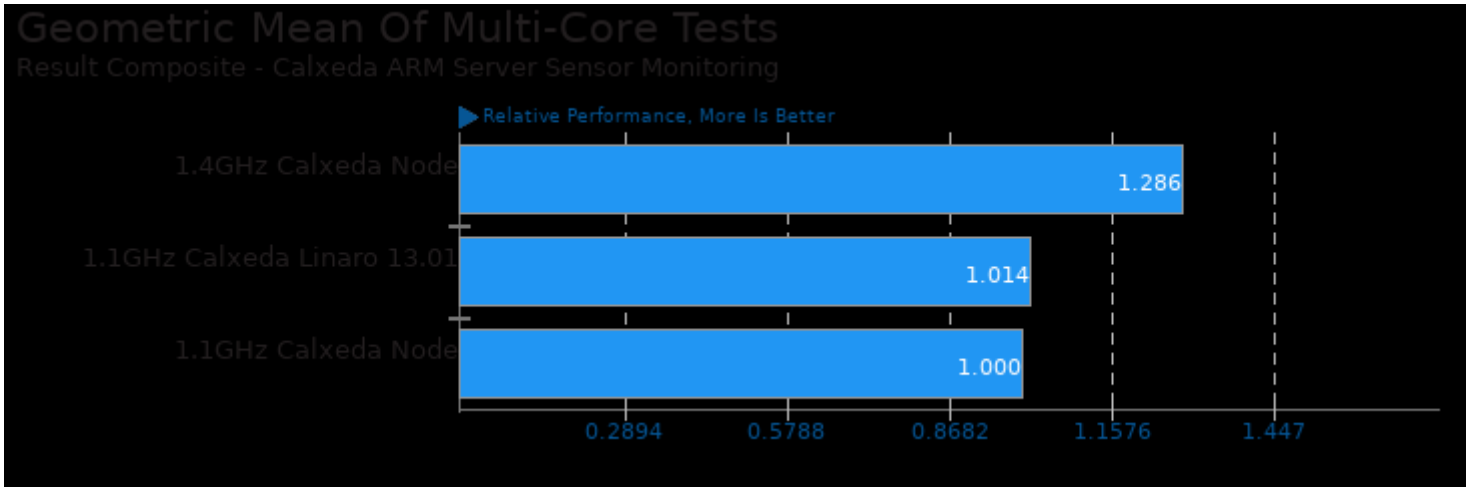


Geometric mean based upon tests: pts/c-ray, pts/povray and pts/smallpt

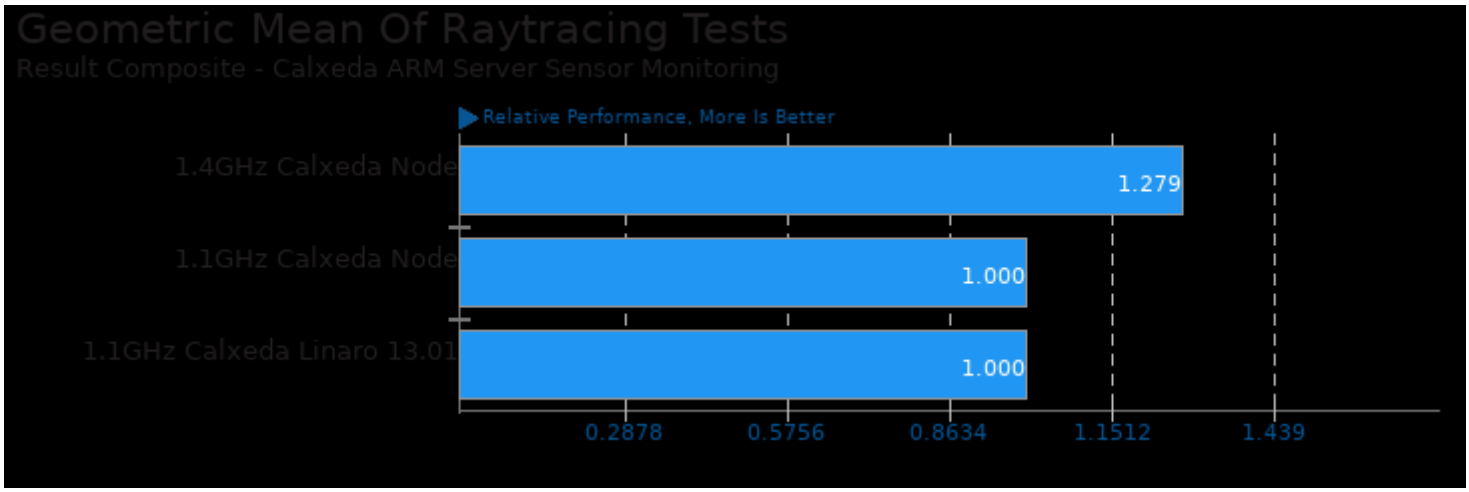
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Geometric mean based upon tests: pts/apache and pts/openssl

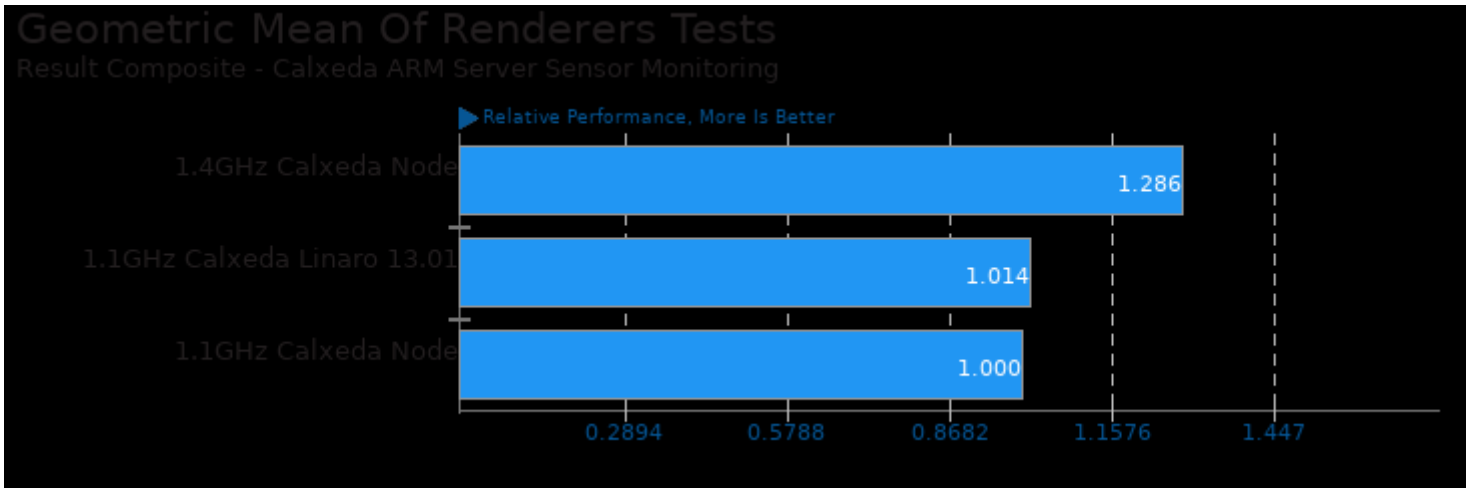


Geometric mean based upon tests: pts/c-ray, pts/povray and pts/smallpt

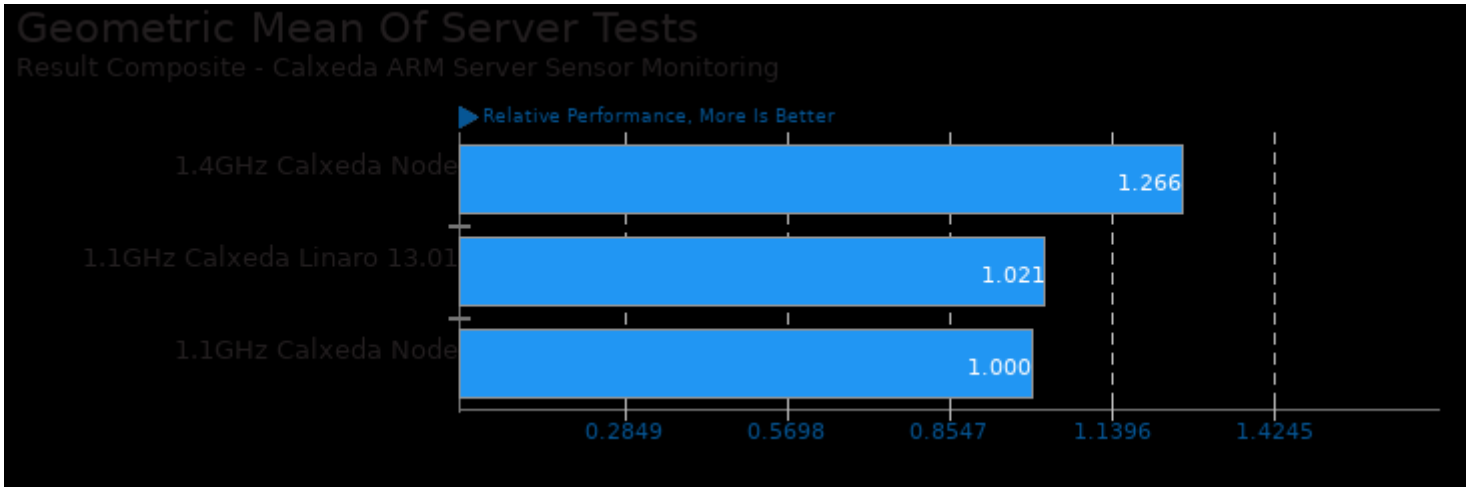


Geometric mean based upon tests: pts/c-ray and pts/povray

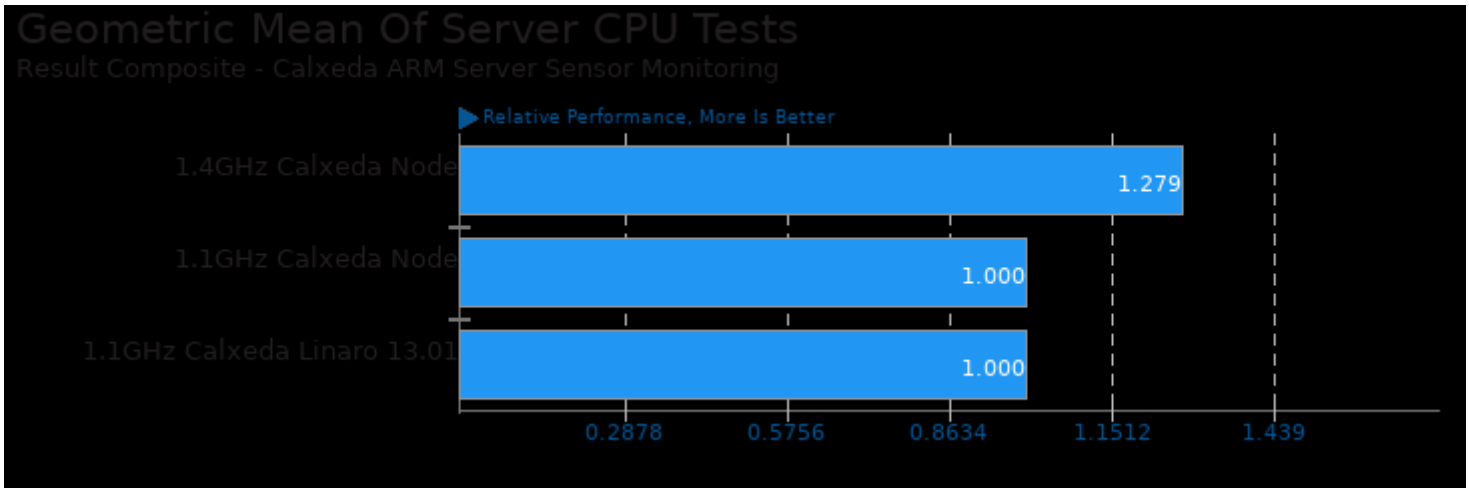
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Geometric mean based upon tests: pts/c-ray, pts/povray and pts/smallpt



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



Geometric mean based upon tests: pts/c-ray, pts/povray and pts/openssl

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