



**2024-05-31-2240**

AMD EPYC 4564P 16-Core testing with a ASRock Rack B650D4U v4.01 (10.12 BIOS) and ASPEED 512MB on AlmaLinux 9.4 via the Phoronix Test Suite.

## Test Systems:

### 2024-05-31 22:40

Processor: AMD EPYC 4564P 16-Core @ 5.88GHz (16 Cores / 32 Threads), Motherboard: ASRock Rack B650D4U v4.01 (10.12 BIOS), Chipset: AMD Device 14d8, Memory: 4 x 32 GB DDR5-3600MT/s MTC20C2085S1EC48BA1, Disk: 2 x 960GB Micron\_7450\_MTFDKBA960TFR, Graphics: ASPEED 512MB, Audio: AMD Rembrandt Radeon HD Audio, Network: 2 x Intel I210

OS: AlmaLinux 9.4, Kernel: 5.14.0-427.18.1.el9\_4.x86\_64 (x86\_64), Desktop: GNOME Shell 40.10, Display Server: X Server, OpenGL: 4.6 Mesa 23.3.3 (LLVM 17.0.6 DRM 3.54), Compiler: GCC 11.4.1 20231218, File-System: xfs, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: always

Compiler Notes: --build=x86\_64-redhat-linux --disable-libunwind-exceptions --enable-\_\_cxa\_atexit --enable-bootstrap --enable-cet --enable-checking=release

--enable-gnu-indirect-function --enable-gnu-unique-object --enable-host-bind-now --enable-host-pie --enable-initfini-array --enable-languages=c,c++,fortran,lto  
--enable-link-serialization=1 --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man  
--with-arch\_32=x86-64 --with-arch\_64=x86-64-v2 --with-build-config=bootstrap-lto --with-gcc-major-version-only --with-linker-hash-style=gnu --with-tune=generic  
--without-cuda-driver --without-isl

Disk Notes: NONE / attr2,inode64,logbsize=32k,logbufs=8,noquota,relatime,rw,seclabel / Block Size: 4096

Processor Notes: Scaling Governor: amd-pstate-epp powersave (EPP: balance\_performance) - CPU Microcode: 0xa601206

Security Notes: SELinux + gather\_data\_sampling: Not affected + itlb\_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected +  
mmio\_stale\_data: Not affected + retbleed: Not affected + spec\_rstack\_overflow: Mitigation of Safe RET + spec\_store\_bypass: Mitigation of SSB disabled via prctl +  
spectre\_v1: Mitigation of usercopy/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Enhanced / Automatic IBRS IBPB: conditional STIBP:  
always-on RSB filling PBRBS-elBRS: Not affected + srbds: Not affected + tsx\_async\_abort: Not affected

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**SQLite - 4 (sec)** 2.549

Standard Deviation 1.7%

**SQLite - 8 (sec)** 5.050

Standard Deviation 2.3%

**SQLite - 16 (sec)** 11.036

Standard Deviation 1%

**SQLite - 32 (sec)** 24.833

Standard Deviation 0.6%

**Glibc Benchmarks - cos (ns)** 63.5795

Standard Deviation 0.3%

**Glibc Benchmarks - exp (ns)** 17.3891

Standard Deviation 4.6%

**Glibc Benchmarks - ffs (ns)** 8.27053

Standard Deviation 1%

**Glibc Benchmarks - pow (ns)** 33.1454

Standard Deviation 1%

**Glibc Benchmarks - sin (ns)** 56.8055

Standard Deviation 0%

**Glibc Benchmarks - log2 (ns)** 12.4817

Standard Deviation 0%

**Glibc Benchmarks - modf (ns)** 9.43950

Standard Deviation 0.2%

**Glibc Benchmarks - sinh (ns)** 22.6855

Standard Deviation 0%

**Glibc Benchmarks - sqrt (ns)** 9.22964

Standard Deviation 2.3%

**Glibc Benchmarks - tanh (ns)** 25.0245

Standard Deviation 1.2%

**Glibc Benchmarks - asinh (ns)** 21.9778

Standard Deviation 0%

**Glibc Benchmarks - atanh (ns)** 24.6825

Standard Deviation 0.7%

**Glibc Benchmarks - ffsll (ns)** 8.51292

Standard Deviation 0.3%

**Glibc Benchmarks - sincos (ns)** 34.2452

Standard Deviation 0.6%

**Glibc Benchmarks - pthread\_once (ns)** 8.47951

Standard Deviation 0%

**Gzip Compression - L.S.T.A.T.t.g (sec)** 28.261

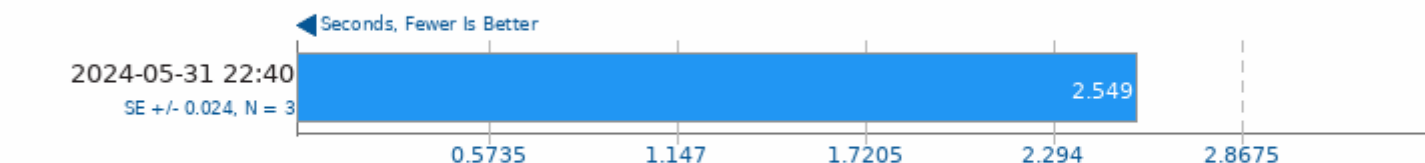
Standard Deviation 2.4%

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<b>Redis - GET - 50 (Reqs/sec)</b>	5314019
Standard Deviation	0.9%
<b>Redis - SET - 50 (Reqs/sec)</b>	3724011
Standard Deviation	5.8%
<b>Redis - GET - 500 (Reqs/sec)</b>	4915486
Standard Deviation	0.6%
<b>Redis - LPOP - 50 (Reqs/sec)</b>	5133457
Standard Deviation	8.8%
<b>Redis - SADD - 50 (Reqs/sec)</b>	4175661
Standard Deviation	6%
<b>Redis - SET - 500 (Reqs/sec)</b>	3955021
Standard Deviation	1.8%
<b>Redis - GET - 1000 (Reqs/sec)</b>	4504948
Standard Deviation	7.1%
<b>Redis - LPOP - 500 (Reqs/sec)</b>	5572197
Standard Deviation	4.9%
<b>Redis - LPUSH - 50 (Reqs/sec)</b>	3278860
Standard Deviation	2.4%
<b>Redis - SADD - 500 (Reqs/sec)</b>	4213607
Standard Deviation	8.6%
<b>Redis - SET - 1000 (Reqs/sec)</b>	3885125
Standard Deviation	6.3%
<b>Redis - LPOP - 1000 (Reqs/sec)</b>	3218515
Standard Deviation	1.7%
<b>Redis - LPUSH - 500 (Reqs/sec)</b>	3163752
Standard Deviation	2%

## SQLite 3.41.2

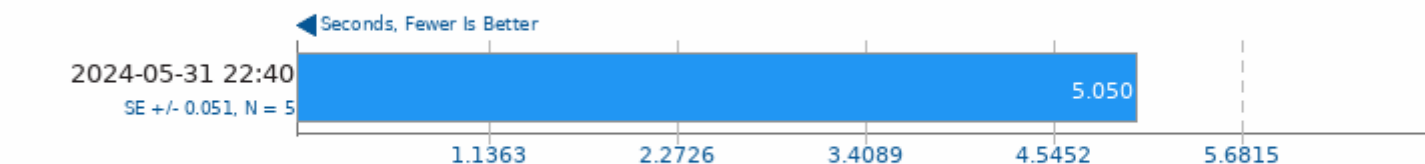
Threads / Copies: 4



1. (CC) gcc options: -O2 -lz -lm

## SQLite 3.41.2

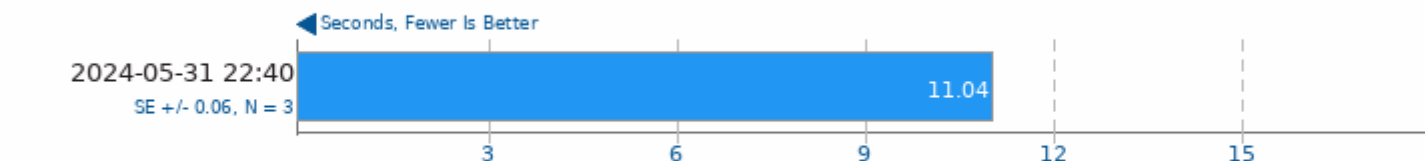
Threads / Copies: 8



1. (CC) gcc options: -O2 -lz -lm

## SQLite 3.41.2

Threads / Copies: 16



1. (CC) gcc options: -O2 -lz -lm

## SQLite 3.41.2

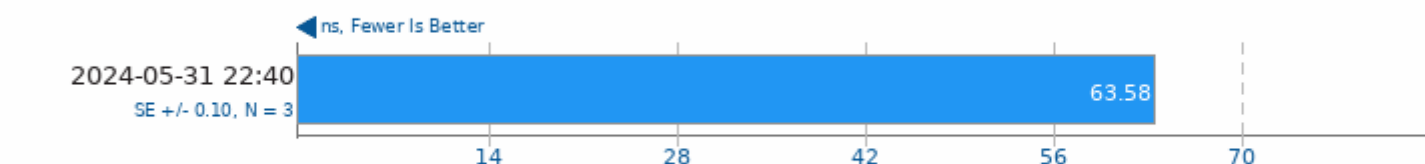
Threads / Copies: 32



1. (CC) gcc options: -O2 -lz -lm

## Glibc Benchmarks 2.39

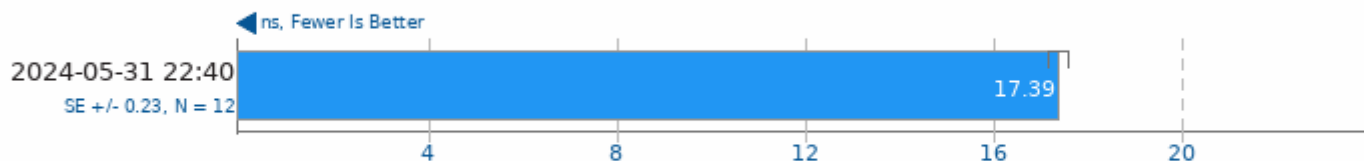
Benchmark: cos



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

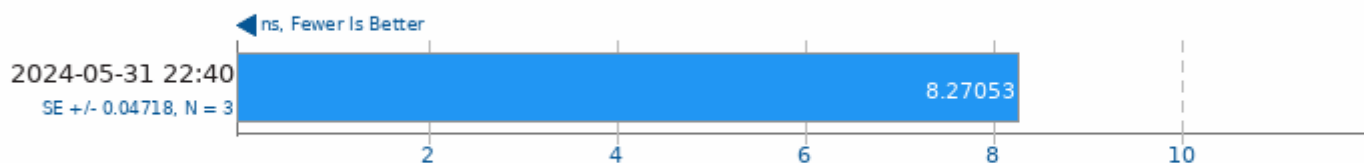
Benchmark: exp



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

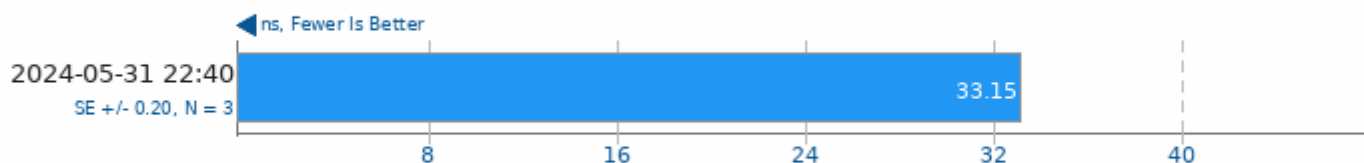
Benchmark: ffs



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

Benchmark: pow



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

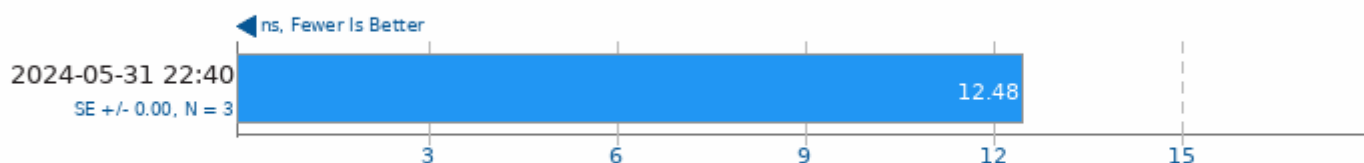
Benchmark: sin



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

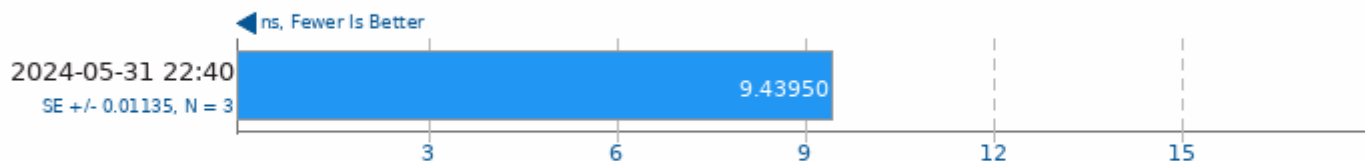
Benchmark: log2



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

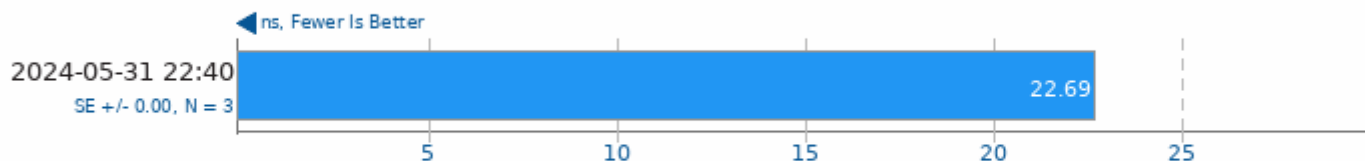
Benchmark: modf



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

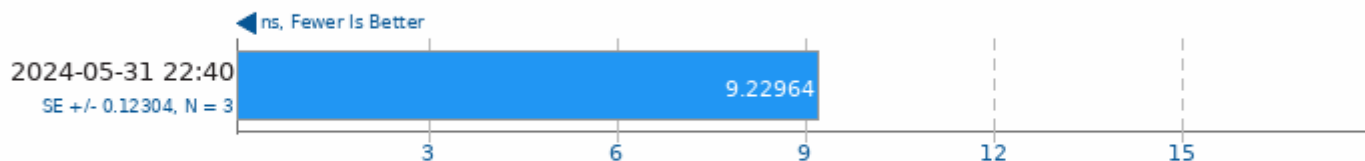
Benchmark: sinh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

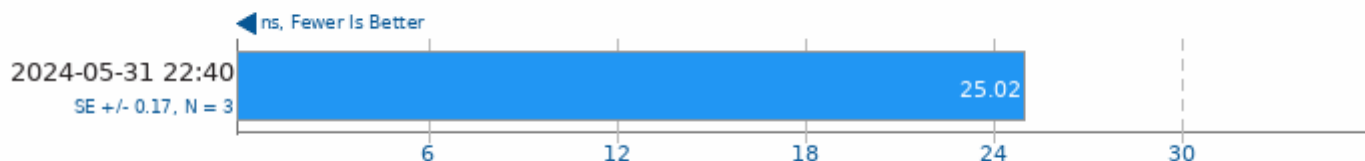
Benchmark: sqrt



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

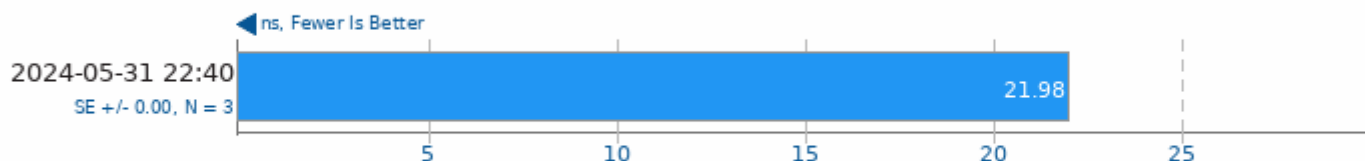
Benchmark: tanh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

Benchmark: asinh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

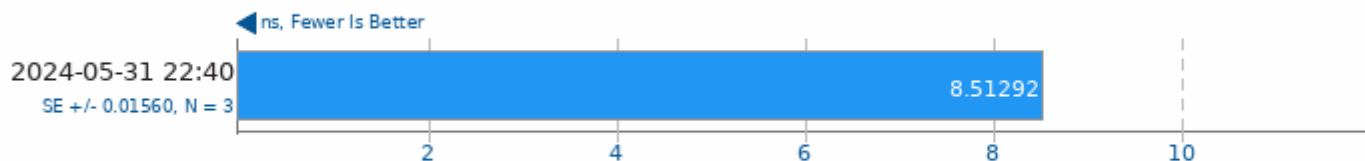
Benchmark: atanh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

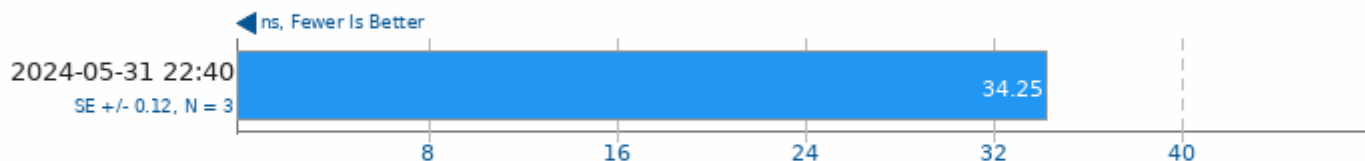
Benchmark: ffsll



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

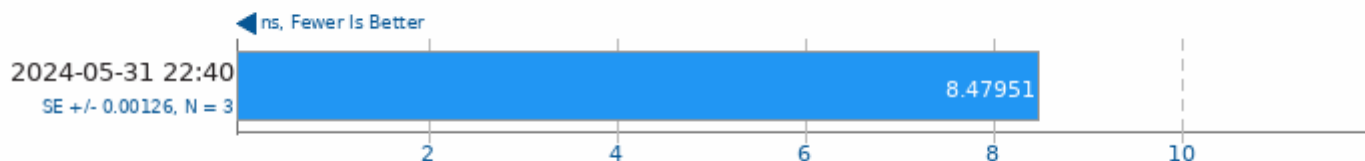
Benchmark: sincos



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks 2.39

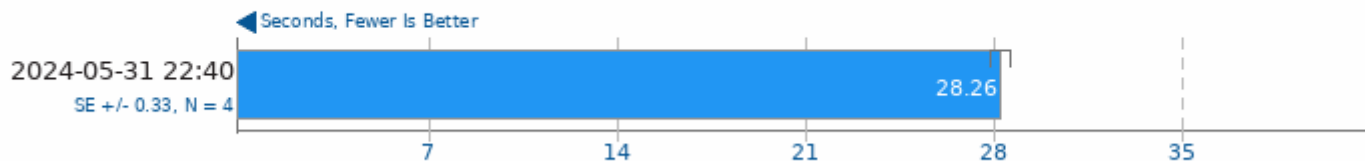
Benchmark: pthread\_once



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

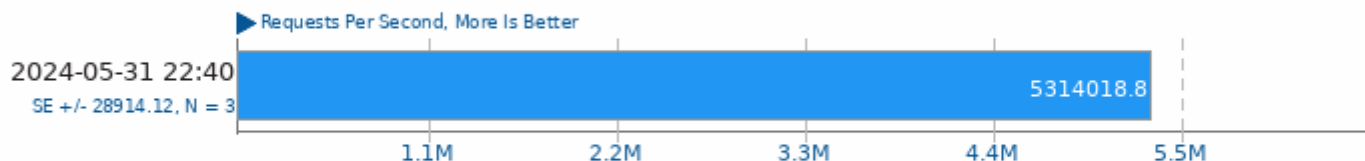
## Gzip Compression

Linux Source Tree Archiving To .tar.gz



## Redis 7.0.4

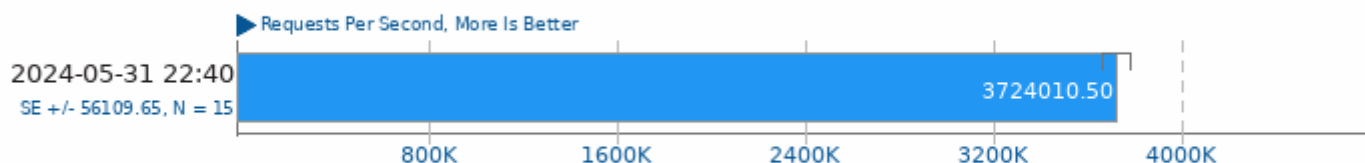
Test: GET - Parallel Connections: 50



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

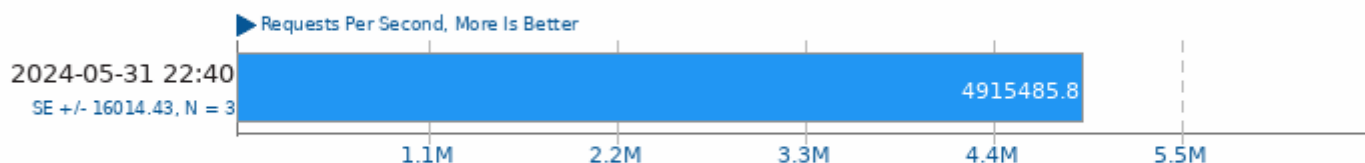
Test: SET - Parallel Connections: 50



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

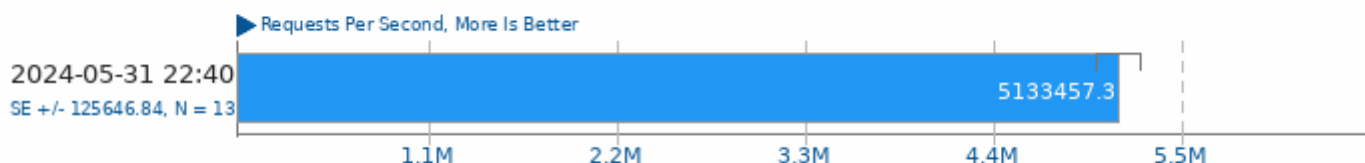
Test: GET - Parallel Connections: 500



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

Test: LPOP - Parallel Connections: 50



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

Test: SADD - Parallel Connections: 50

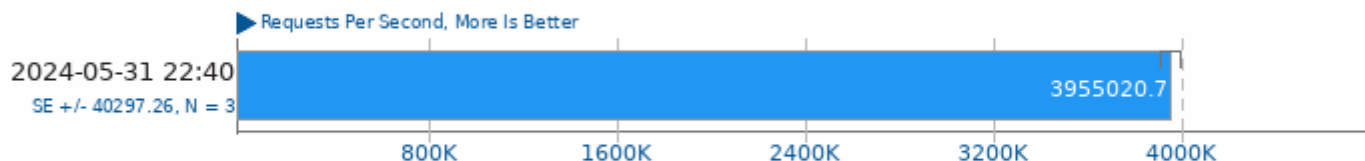


1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3



## Redis 7.0.4

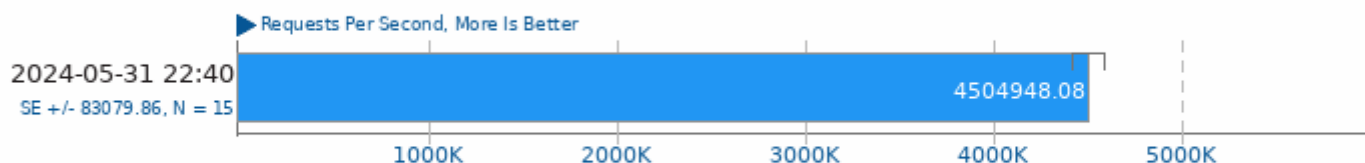
Test: SET - Parallel Connections: 500



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

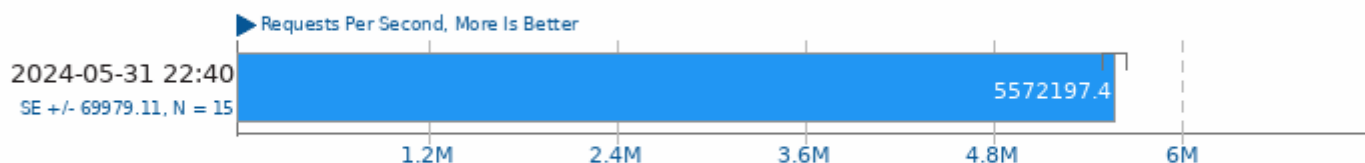
Test: GET - Parallel Connections: 1000



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

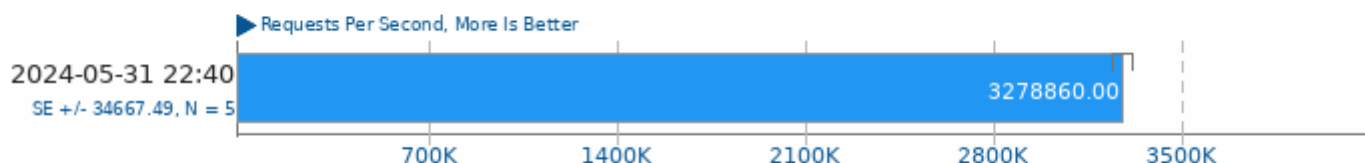
Test: LPOP - Parallel Connections: 500



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

Test: LPUSH - Parallel Connections: 50



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

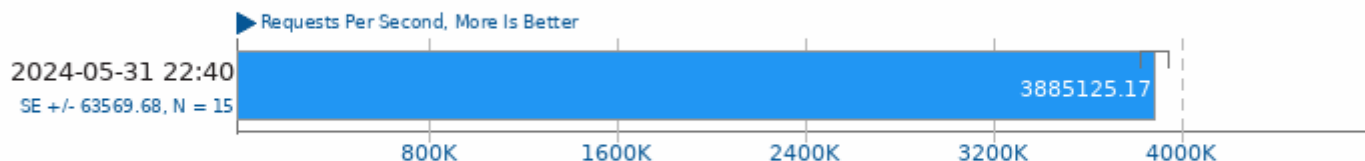
Test: SADD - Parallel Connections: 500



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

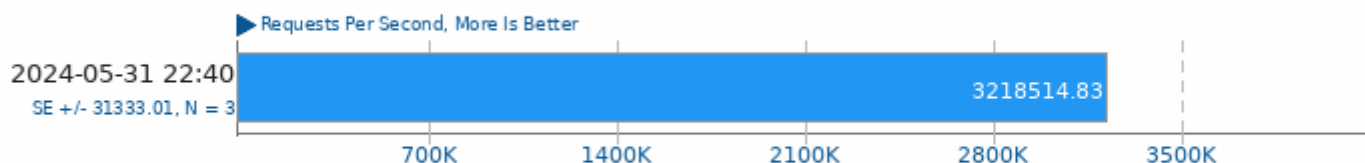
Test: SET - Parallel Connections: 1000



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

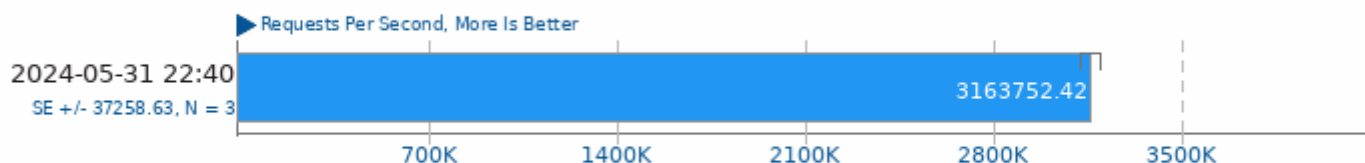
Test: LPOP - Parallel Connections: 1000



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

## Redis 7.0.4

Test: LPUSH - Parallel Connections: 500



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

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