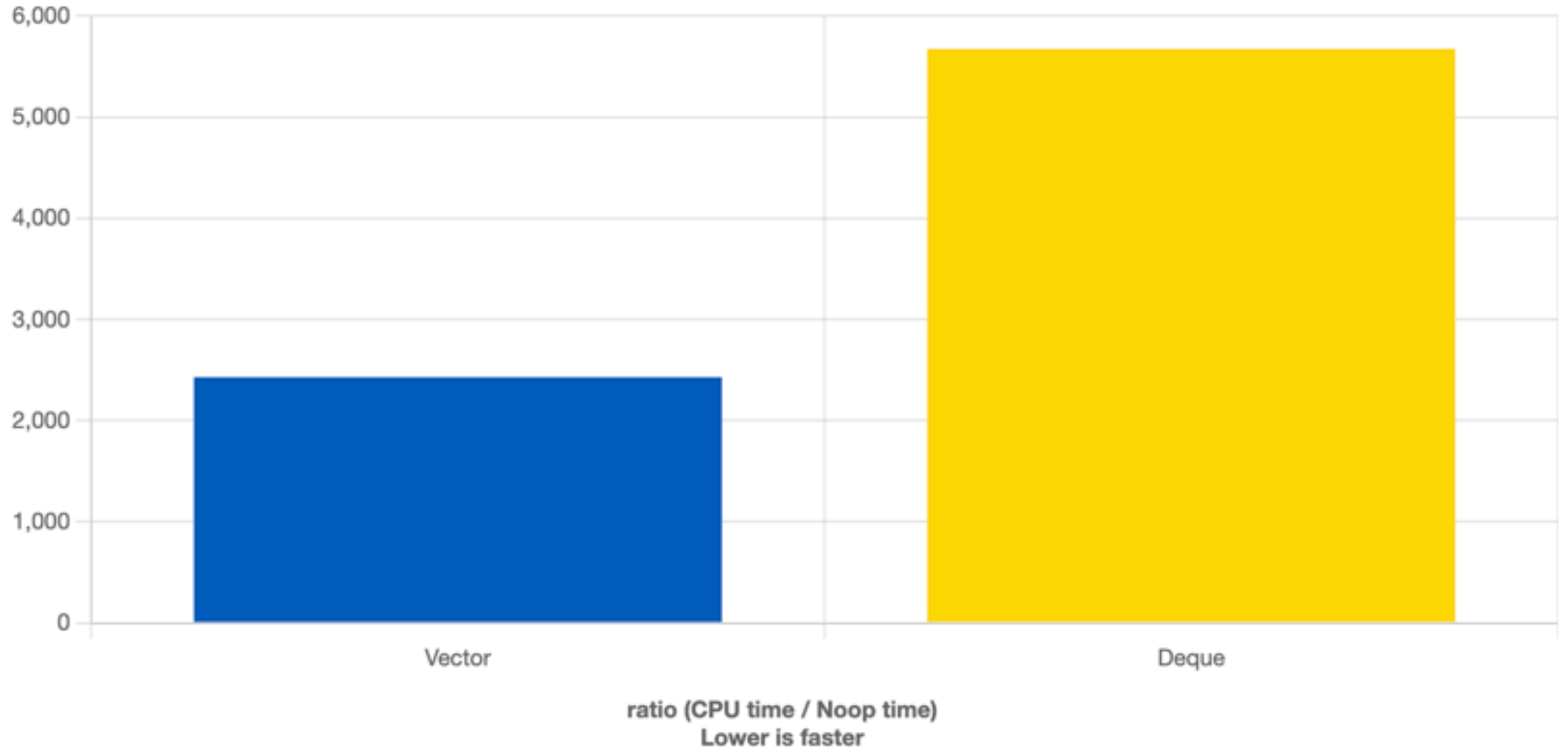
```
28  static void Vector(benchmark::State& state)
29  {
30    std::vector<float> v;
31
32    for (auto _ : state)
33    {
34      v.insert (v.begin(), get_next_val());
35
36      if (v.size() > numElements)
37        v.pop_back();
38
39      readData (v);
40
41      benchmark::DoNotOptimize(v);
42    }
43  }
44  BENCHMARK(Vector);
45
46  static void Deque(benchmark::State& state)
47  {
48    std::deque<float> v;
49
50    for (auto _ : state)
51    {
52      v.push_front (get_next_val());
53
54      if (v.size() > numElements)
55        v.pop_back();
56
57      readData (v);
58
59      benchmark::DoNotOptimize(v);
60    }
61  }
62  BENCHMARK(Deque);
```

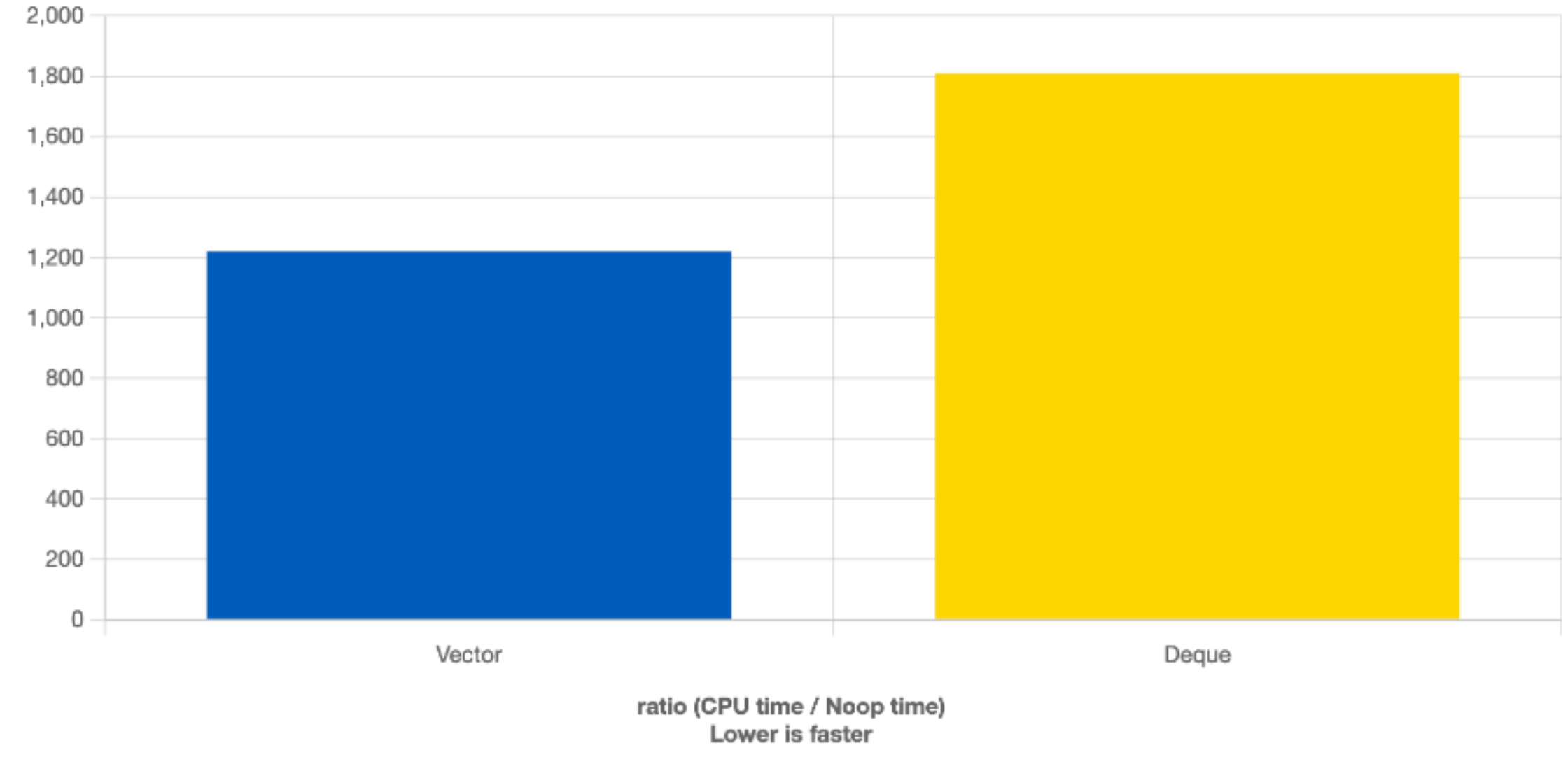
61

https://quick-bench.com/q/TRs346Nz50hCae6ov5iYlyev2xE

CGG 13.2 - libstdc++



Clang 17 - libc++



numElements = 1,000

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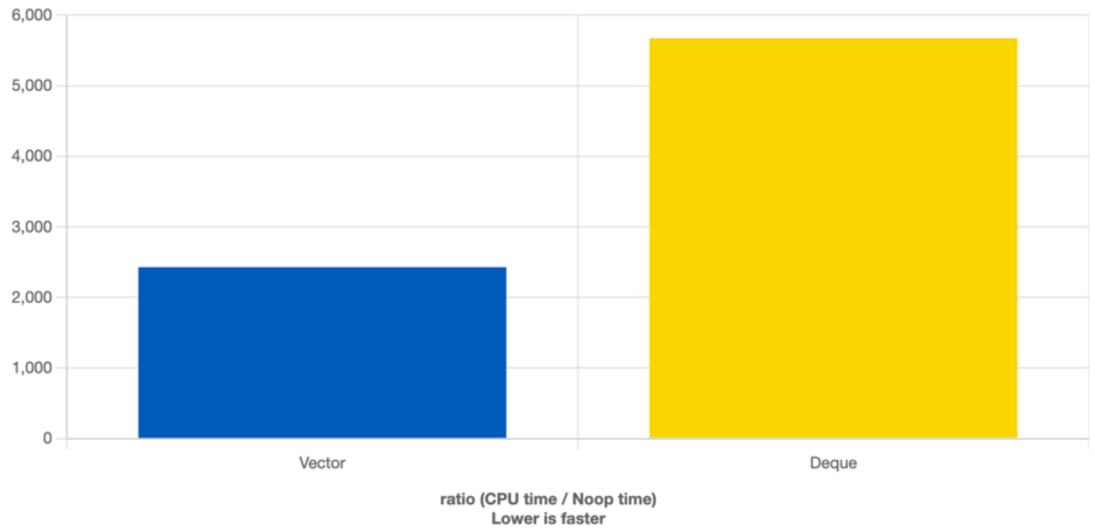
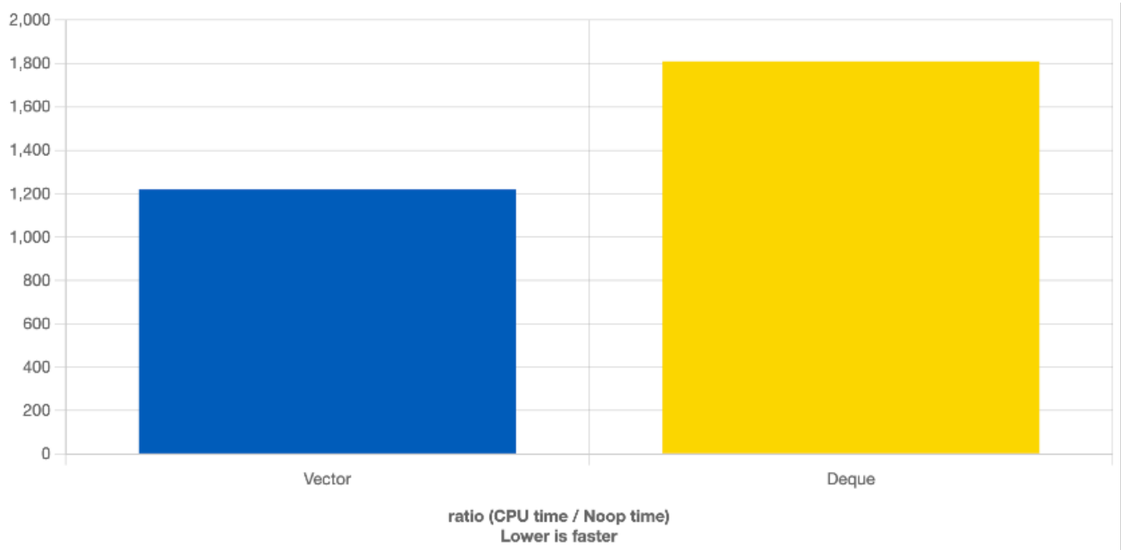
```
30    std::vector<float> v;
31
32    for (auto _ : state)
33    {
34      v.insert (v.begin(), get_next_val());
35
36      if (v.size() > numElements)
37        v.pop_back();
38
39      readData (v);
```

CGG 13.2 - libstdc++




```
48    std::deque<float> v;
49
50    for (auto _ : state)
51    {
52      v.push_front (get_next_val());
53
54      if (v.size() > numElements)
55        v.pop_back();
56
57      readData (v);
```

Clang 17 - libc++



https://quick-bench.com/q/TRs346Nz50hCae6ov5iYIyev2xE

4. Multi-threading, CPUs and memory