

Speedup

Speedup was measured using in application timer and also 'time' linux command.
Memory usage was measured using valgrind (memcheck).

Internal C++ Timer - `sum += get_by_...` for 100,000 entries

	Old CustomList	New CustomList
By Index	≈142 ms	≈3.26 ms
By Key	≈270 ms	≈70 ms

Linux 'time' command - entire application

	Old CustomList	New CustomList
By Index	≈Real - 720 ms	≈Real - 210 ms
By Key	≈Real - 920 ms	≈Real - 370 ms

Memory Usage - heap allocs

	Old CustomList	New CustomList
By Index	300,021	100,054
By Key	300,021	100,054

Memory Usage - total allocated bytes

	Old CustomList	New CustomList
By Index	15,522,852	9,474,088
By Key	22,862,856	16,814,092

Correctness Unit Tests

[=====] 17 tests from 17 test suites ran. (367 ms total)
[PASSED] 17 tests.

Platform

Development was done on [Sony Vaio VPCEB1E0E](#) running Ubuntu 18.04.3 LTS.

Memory	2.7 GiB
Processor	Intel® Core™ i3 CPU M 330 @ 2.13GHz × 4
OS-Type	64-bit

GCC version was 7.4.0.