Subject: Re: Impressive improvement in stl::vector when dealing with raw memory.
Posted by pvictor on Mon, 14 Nov 2022 08:46:13 GMT
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Hi!

Here's my results:

TIMING Upp::Vector<int>::insert: 478.83 s - 15.96 s (478.83 s / 30), min: 15.82 s , max: 16.10 s , nesting: 0 - 30
TIMING std::vector<int>::insert: 478.96 s - 15.97 s (478.96 s / 30), min: 15.82 s , max: 16.09 s , nesting: 0 - 30
TIMING Upp::Vector<int>::push_back: 30.00 ms - 999.97 us (30.00 ms / 30), min: 1.00 ms, max: 1.00 ms, nesting: 0 - 30
TIMING std::vector<int>::push_back: 32.00 ms - 1.07 ms (32.00 ms / 30), min: 1.00 ms, max: 2.00 ms, nesting: 0 - 30
TIMING Upp::Vector<Buff>::push_back: 2.34 s - 78.10 ms (2.34 s / 30), min: 76.00 ms, max: 82.00 ms, nesting: 0 - 30
TIMING std::vector<Buff>::push_back: 1.79 s - 59.70 ms (1.79 s / 30), min: 58.00 ms, max: 68.00 ms, nesting: 0 - 30

However, when I modify the code:

```
void TestCharBuffer() {
 for(int i=0; i < M; ++i) {
  {
   RTIMING("std::vector<Buff>::push_back");
   std::vector<Buff> v;
   v.reserve(N);   // +++
   for(int i = 0; i < N; i++) {
    Buff b;
    v.push_back(b);
   }
  }
  {
   RTIMING("Upp::Vector<Buff>::push_back");
   Upp::Vector<Buff> v;
   v.Reserve(N);   // +++
   for(int i = 0; i < N; i++){
    Buff b;
    v.Add(b);
   }
  }
 }
}
```

I get:

TIMING Upp::Vector<Buff>::push_back: 834.00 ms - 27.80 ms (834.00 ms / 30), min: 27.00 ms, max: 29.00 ms, nesting: 0 - 30
TIMING std::vector<Buff>::push_back: 834.00 ms - 27.80 ms (834.00 ms / 30), min: 27.00 ms, max: 30.00 ms, nesting: 0 - 30

It seems that Upp::Vector wastes more time for memory allocation.

Best regards,
Victor
