

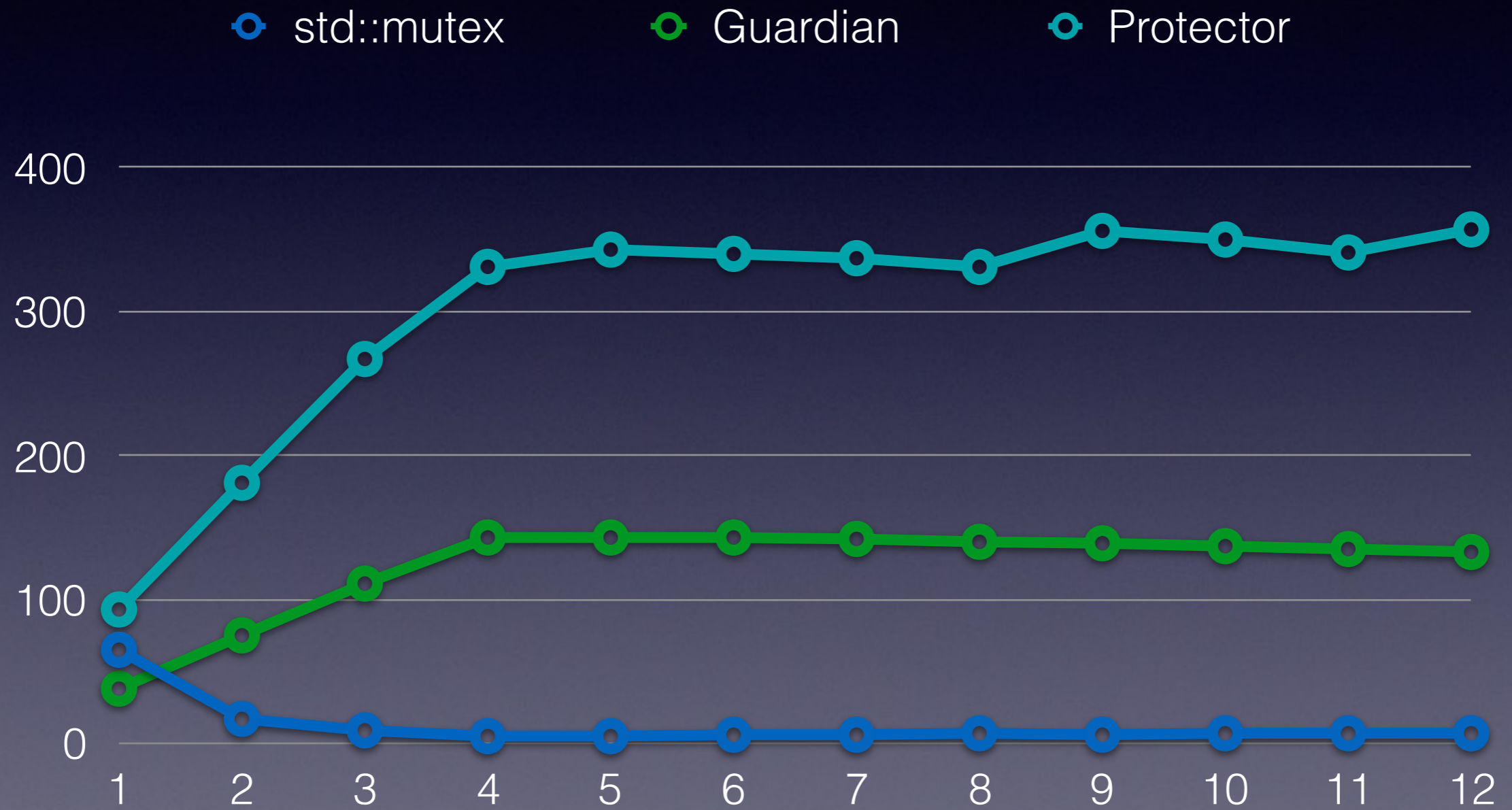
Probe Pointers

An alternative to Hazard Pointers

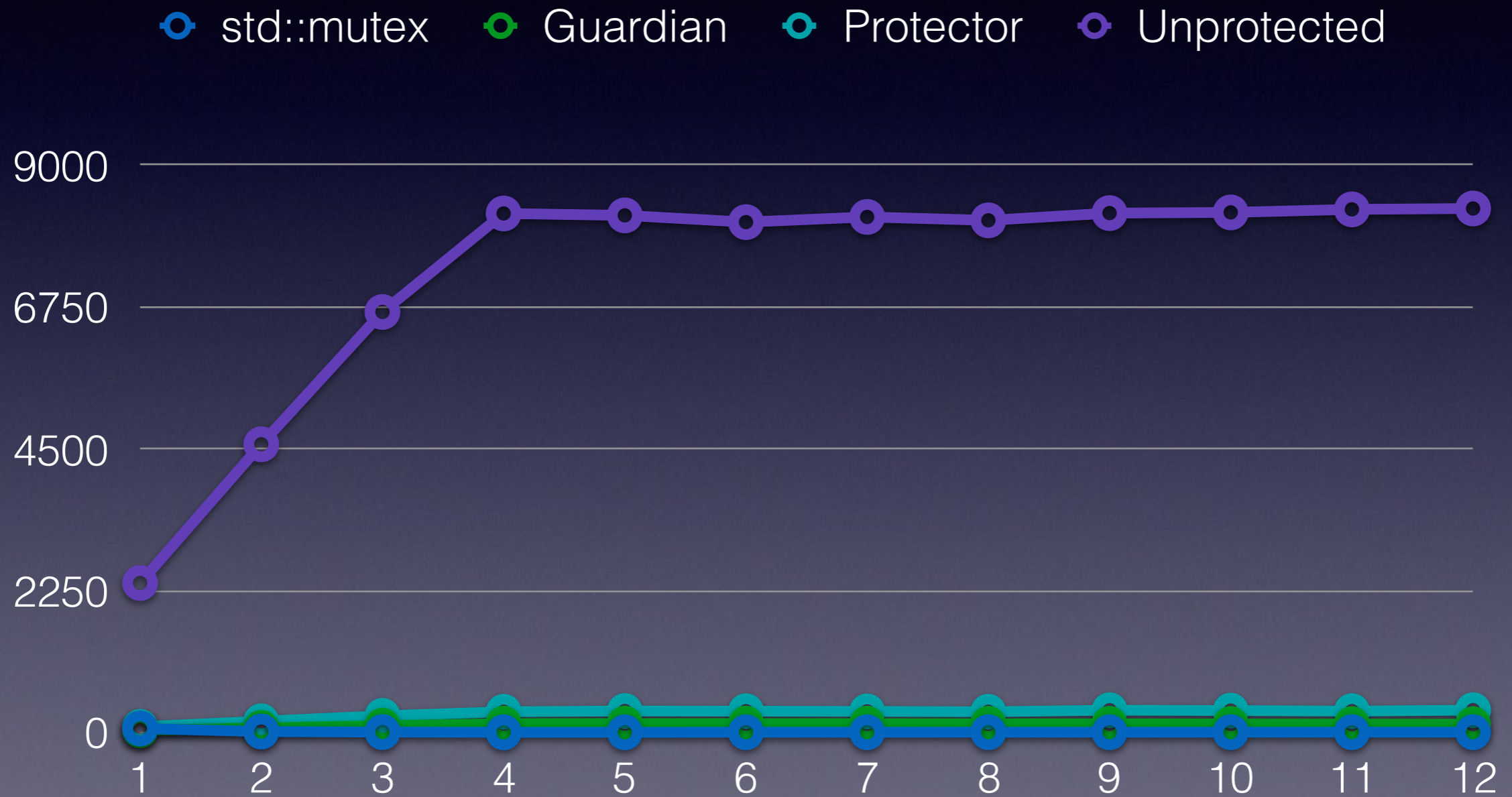
Daniel Frey

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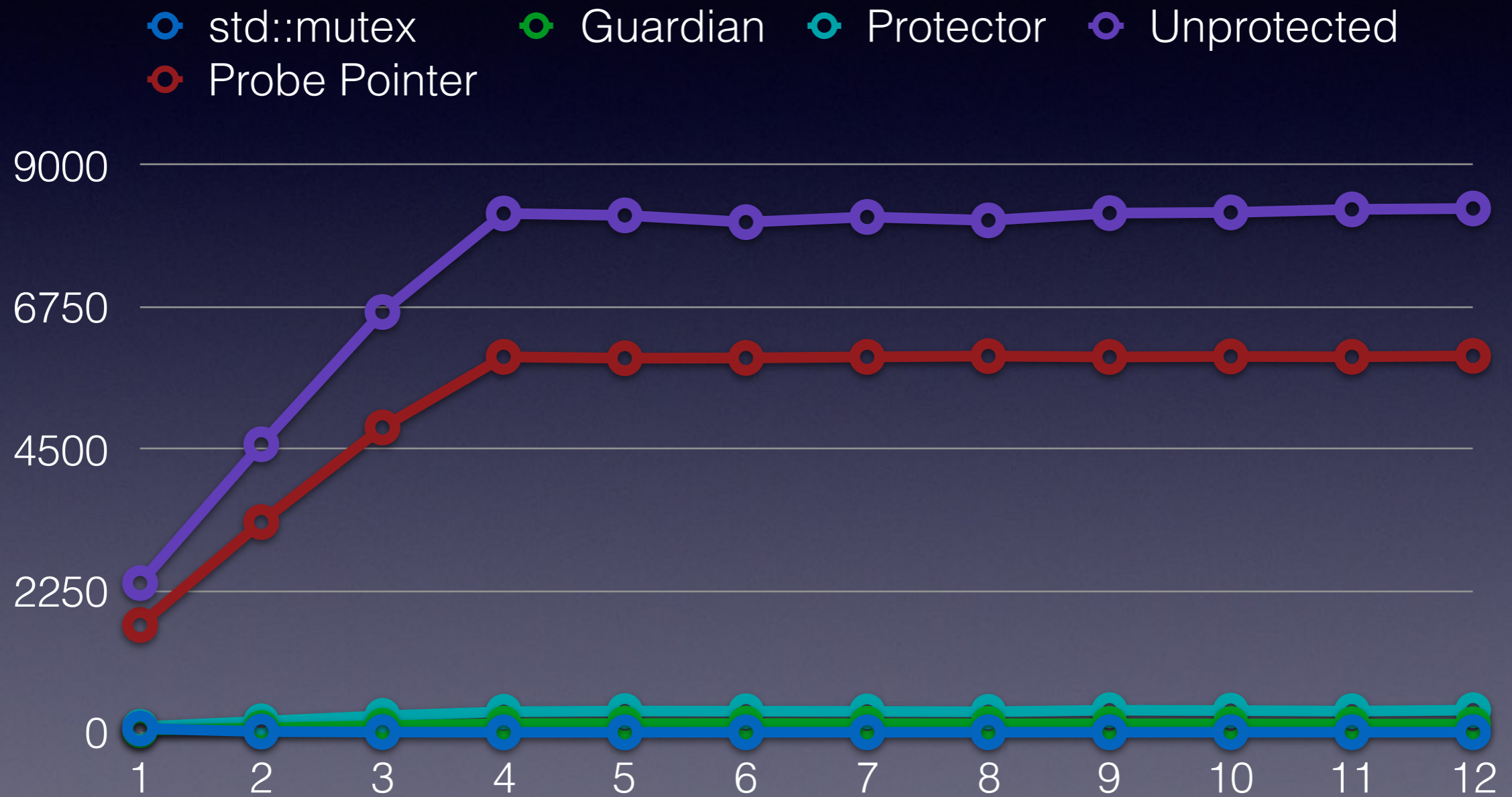
The Numbers



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The Data

```
std::atomic<X*> px(nullptr);  
  
using SPX = std::shared_ptr<X>;  
  
SPX spx;  
thread_local SPX t1spx;
```

The Writer

```
void write_x(const SPX& p)
{
    std::atomic_store(&spx, p);
    px = p.get();
}
```

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Note: If several threads call the writer, you need to add a `std::mutex` to serialize calls.

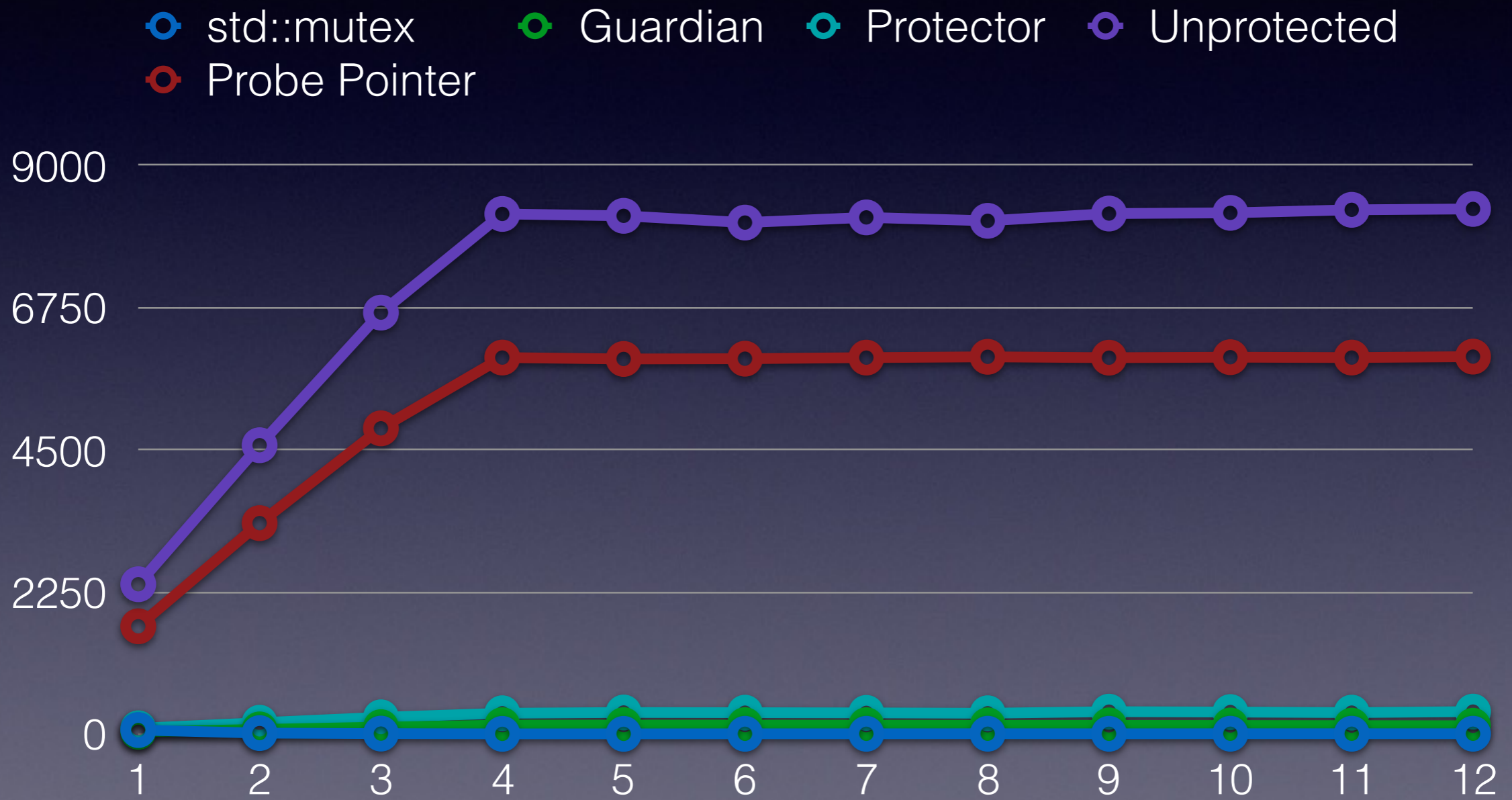
The Reader

```
const SPX& read_x()  
{  
    if(t1spx.get() != px)  
        t1spx = std::atomic_load(&spx);  
    return t1spx;  
}
```


Lessons Learned

- Want fast multi-threaded code?
Prefer read over write!
- Always check if you can drop/modify the requirements!

Questions?



Thank you!

<https://github.com/neunhoef/DataProtector>