

# Quick I/O for Chapel

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The new I/O  
system is..



Easy



Fast



Parallel







Easy



```
// Read lines in a file
```

```
var f = open("test.txt", mode.r);  
for (line,i) in (f.lines(),1..) {  
    write("Line ", i, " : ", line);  
}
```

```
// Read 4-byte integers in a file
```

```
f = open("test.bin", mode.r);  
var ch = f.reader(native);  
var i:uint(32);  
while ch.read(i) {  
    writeln("Read: ", i);  
}
```

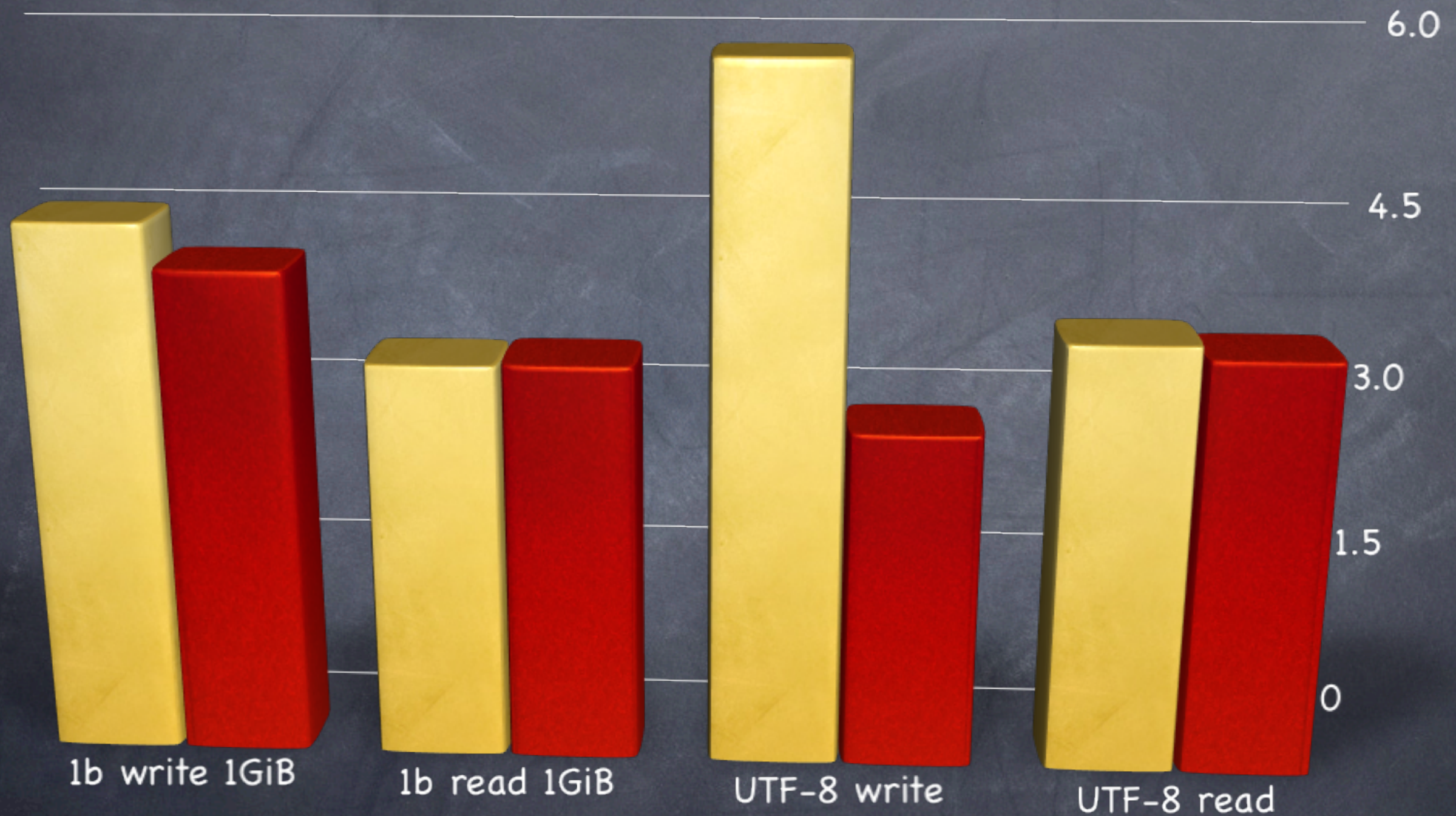


Fast



# Reading and Writing

times in seconds



■ C FILE\*

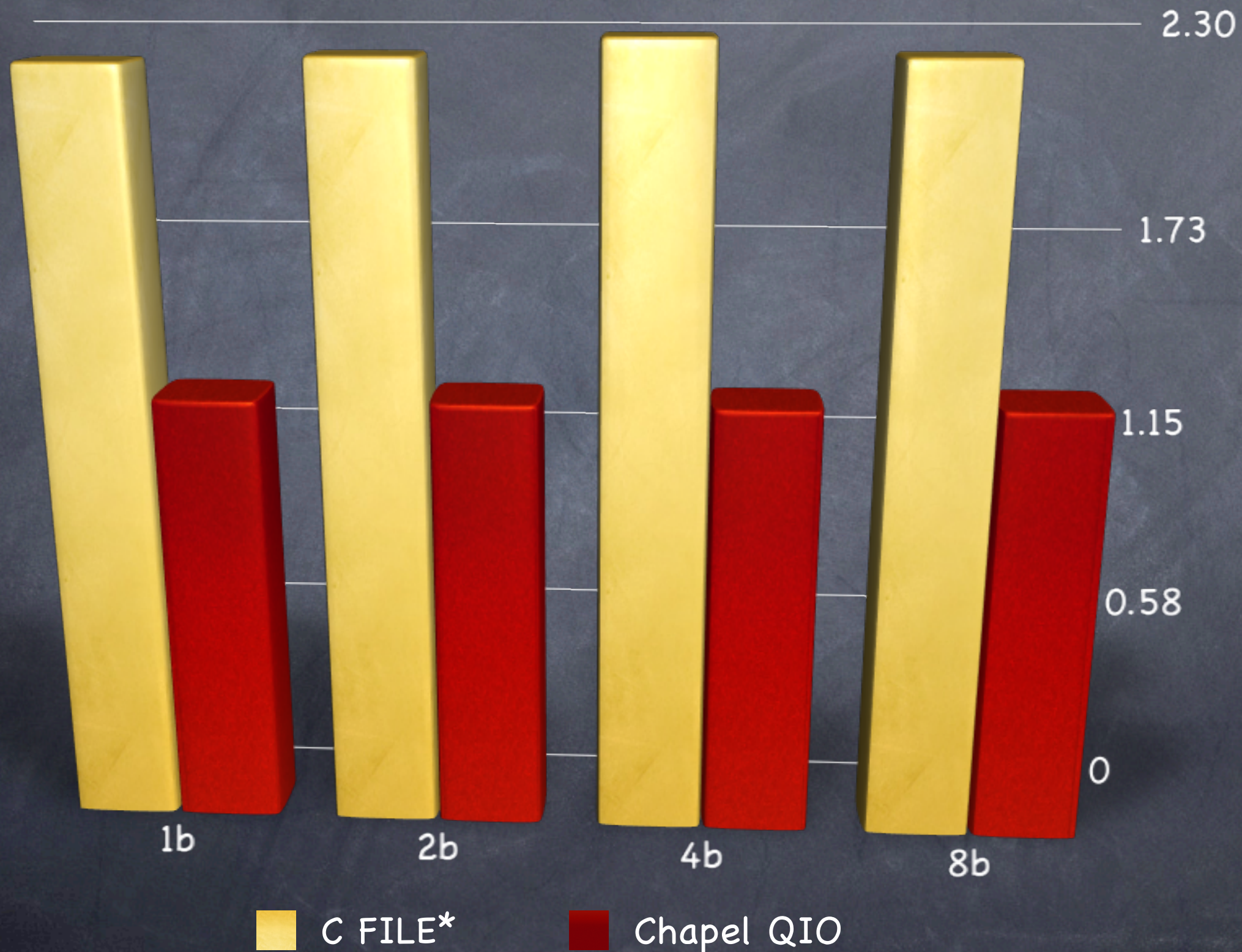
■ Chapel QIO

UTF-8 test:  
200x all Unicode codepoints



# 1M random reads in 1GiB

times in seconds





Parallel



```
f = open("test.bin", mode.r);
var offsets:[1..n] int = ...;

// Random 4-byte reads
forall pos in offsets {
    var ch = f.reader(native,
                      start=4*pos,
                      end=4*pos+4);

    var x:uint(32);
    ch.read(x);
    // do something with x
}
```



