



realm / **realm-cocoa**

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Realm is a mobile database: a replacement for Core Data & SQLite <http://realm.io>

commits

🔗 54 branches

🏷️ 50 releases

utors

<> Code

! Issues

22

# Realm

docs

- update docs readme

12 days ago

examples

Update Swift examples

9 days ago

plugin

- use placeholder in class templates

12 days ago

scripts

Don't add a duplicate copy of libtightdb-ios.a to the framework

14 days ago

tools

Version bump

a day ago

.dir-locals.el

Project specific Emacs settings updated: Always show trailing white-s...

11 months ago

.gitignore

The core folder is now a symlink to a versioned folder

24 days ago

HTTPS clone URL

<https://github.com/realm/>

You can clone with HTTPS or Subversion. ?

🖥️ Clone in Desktop

☁️ Download ZIP

# What is Realm?

- **Fast, embedded database** (zero-copy, not an ORM)
- **Used in apps with *millions* of users**
- **NoSQL**
- **Full ACID transactions**
- **Well defined threading model**
- **Cross-platform C++ core with many language bindings**  
(only Objective-C & Swift released)

# Open Source\*



**[github.com/realm/realm-cocoa](https://github.com/realm/realm-cocoa)**

# Open Source\*

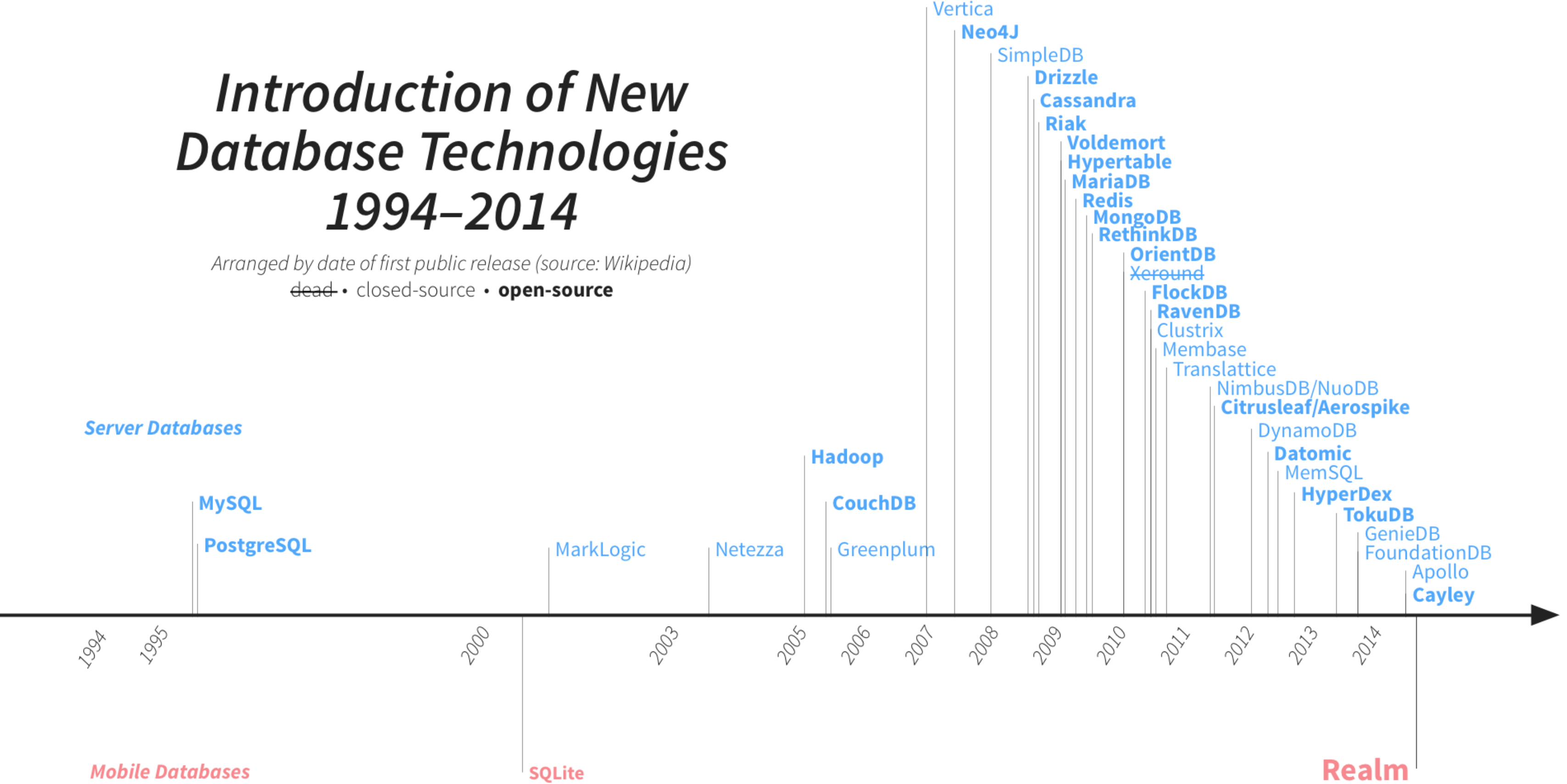
\* Cocoa binding 100% open source, C++ core in process of being released under Apache 2.0.

**Why?**

# Introduction of New Database Technologies 1994–2014


Arranged by date of first public release (source: Wikipedia)

~~dead~~ • closed-source • **open-source**



# **Current State of iOS Persistence**

# Core Data

- Full-featured & mature
- 10+ years old ORM for SQLite
- Slow
- Complex and difficult to learn/debug
-  only



# SQLite

- Faster than Core Data
- Optimized for iOS
- Cross Platform
- 14+ years old
- Bad user experience
- Manual mapping and queries
- Lack of thread safety

# Other Options

- FMDB
- YapDatabase
- CouchbaseLite
- LevelDB

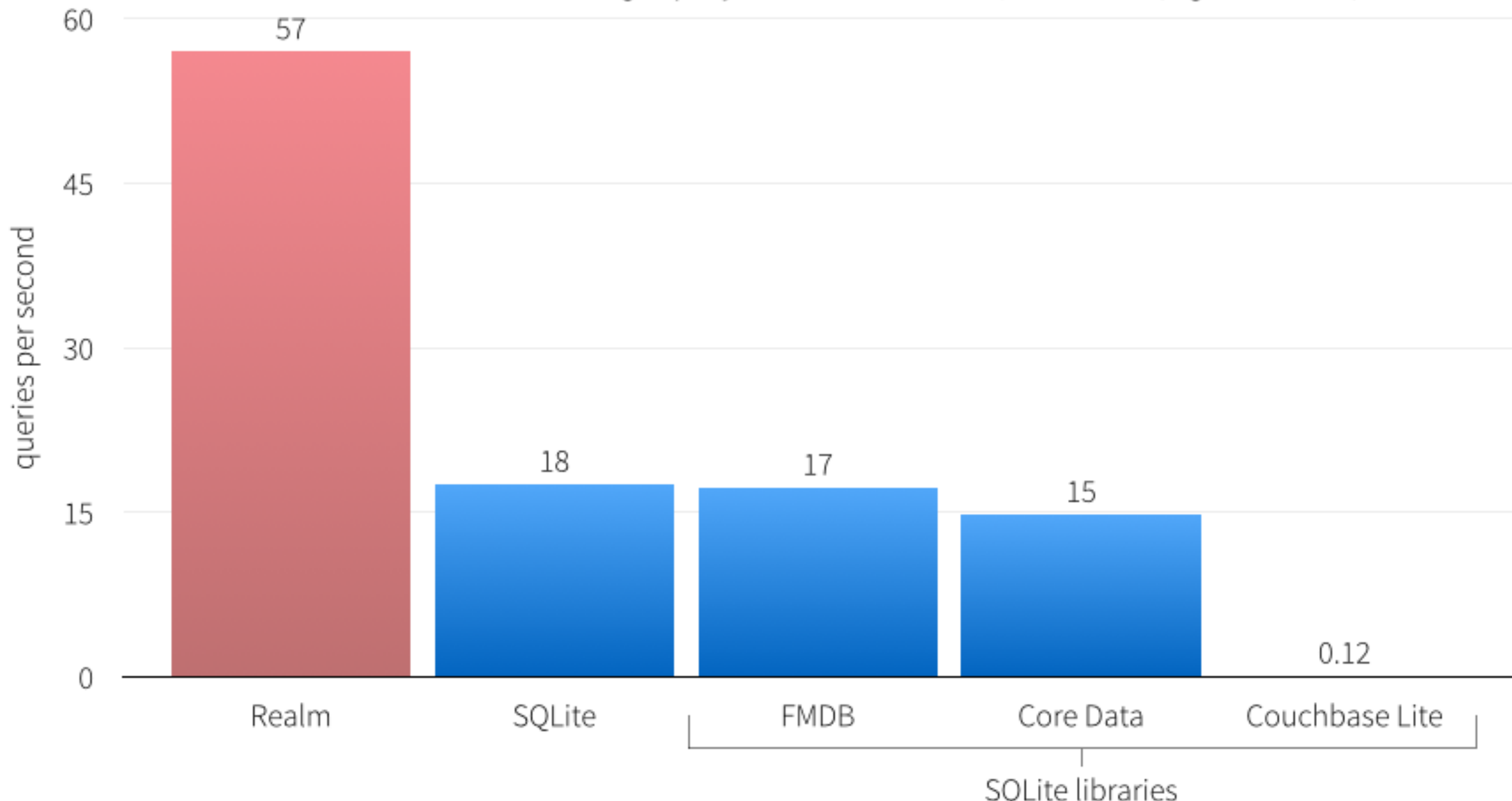
# Lots has changed in last decade

- Smartphone Revolution
- NoSQL
- Need for Sync

# Benchmarks

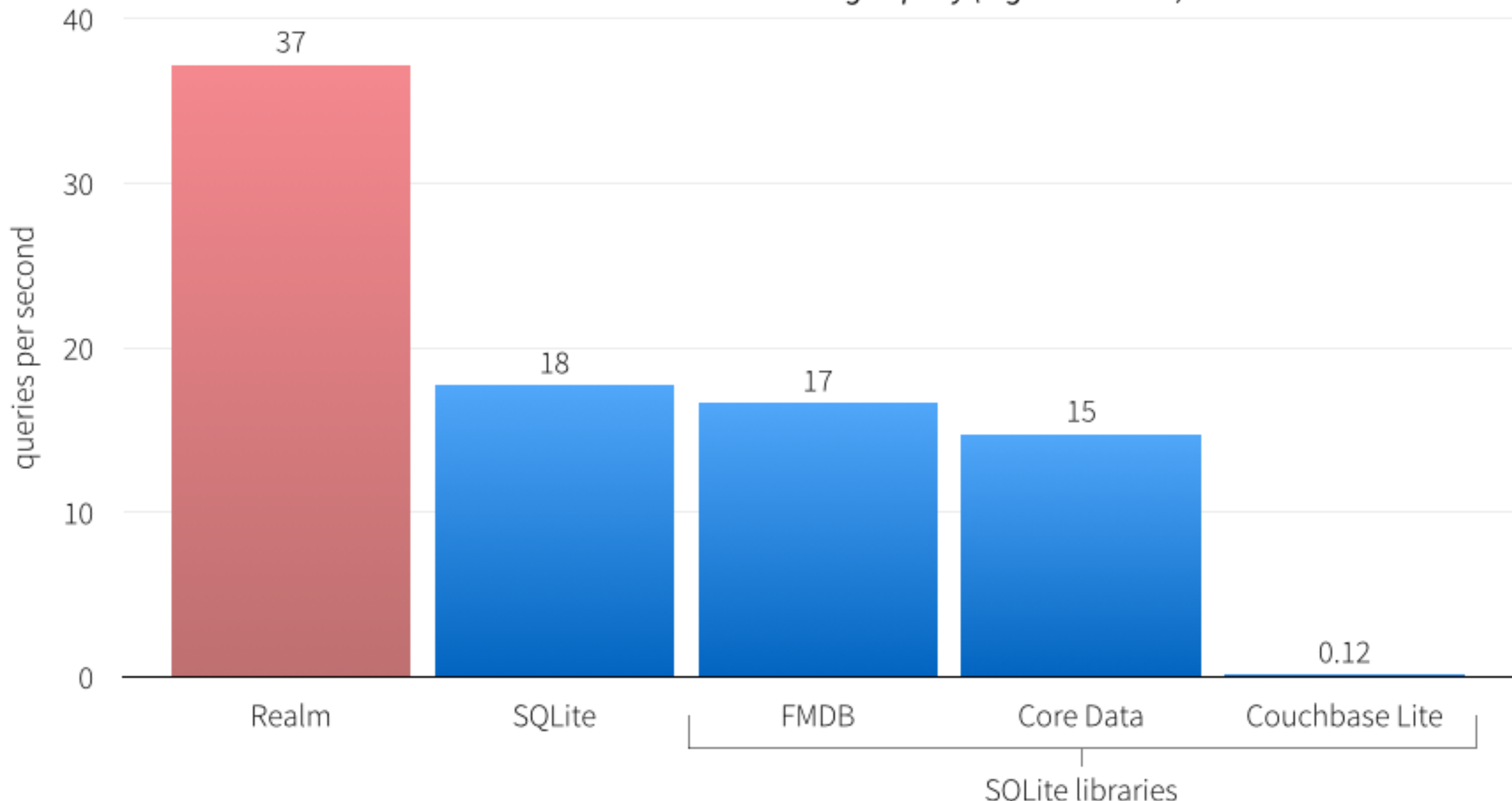
# Counts

*Get count of records matching a query on a database of 150,000 records (higher is better)*



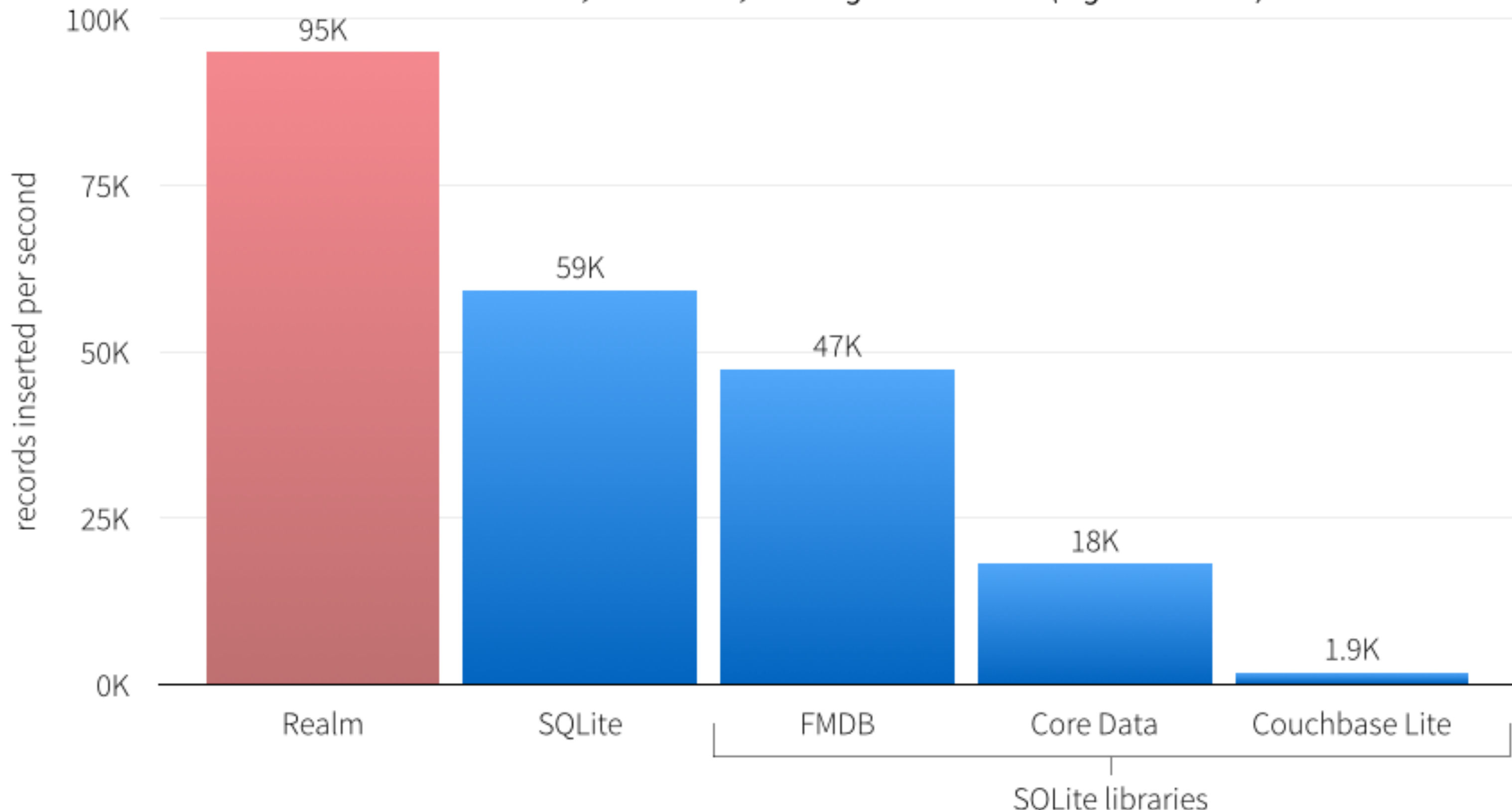
# Queries

*Iterate over all records matching a query (higher is better)*



# Inserts

*Insert 150,000 records, in a single transaction (higher is better)*



# Realm Models

```
@interface Employee : RLMObject
@property NSString *name;
@property NSDate *startDate;
@property float salary;
@property BOOL fullTime;
@end
```

```
RLM_ARRAY_TYPE(Employee)
```

```
@interface Company : RLMObject
@property NSString *name;
@property Employee *ceo;
@property RLMArray<Employee> *employees;
@end
```



# Realm Models (Swift)

```
class Employee : RLMObject {  
    dynamic var name = ""  
    dynamic var startDate = NSDate()  
    dynamic var salary = 0.0  
    dynamic var fullTime = true  
}  
  
class Company : RLMObject {  
    dynamic var name = ""  
    dynamic var ceo = Employee()  
    dynamic var employees = RLMArray(objectClassName: "Employee")  
}
```

# Using Realm

```
// Using Realm Objects
```

```
Company *company = [[Company alloc] init];  
company.name = @"Realm"; // etc...
```

```
// Transactions
```

```
RLMRealm *realm = [RLMRealm defaultRealm];  
[realm beginWriteTransaction];  
[realm addObject:company];  
[realm commitWriteTransaction];
```

```
// Querying objects
```

```
RLMArray *companies = [Company allObjects];  
RLMArray *FTEmployees = [Employee objectsWhere:@"fullTime == YES"];
```

BETA

**Demo**

XCODE

# Work In Progress

- Change notifications/Live Results Sets
- Primary Keys/Upsert/JSON Mapping
- Delete Rules
- Bi-directional relationships
- Sync
- Open Source Core
- Android

# Questions?

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