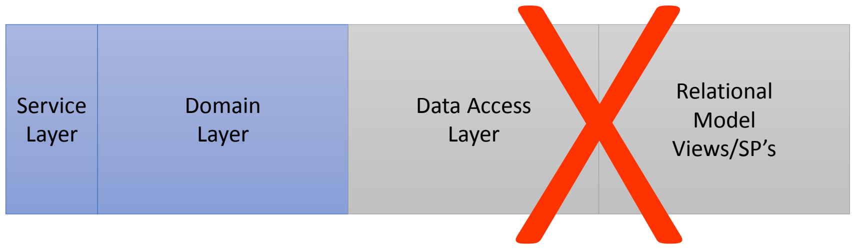
OrigoDB Workshop

Module 1 - Introduction

What is OrigoDB?

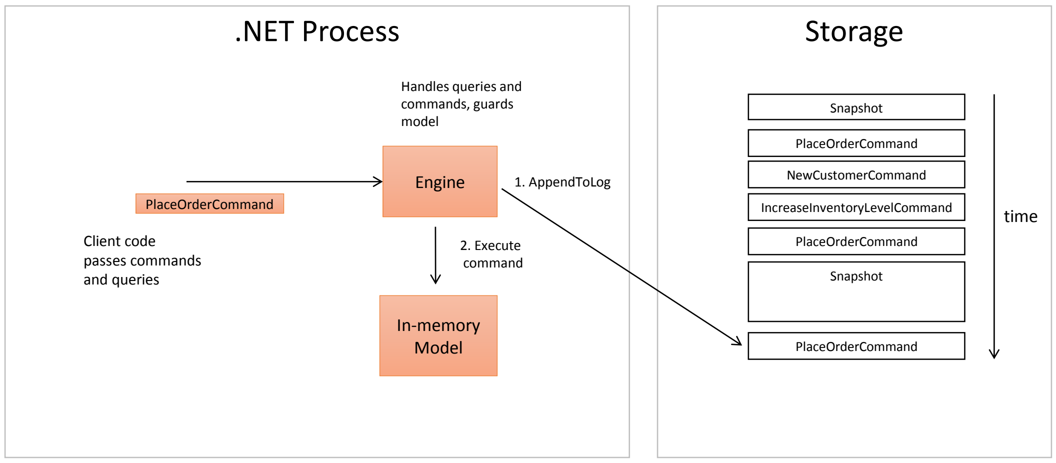
- In-memory database toolkit
- Code and data in same process
- Write-ahead command logging and snapshots
- Open Source single DLL for NET/Mono
- Commercial server with mirror replication

Why?



Build faster systems **faster**

How does it work?



When?

- Whenever data fits in RAM
- Alternative to general RDBMS OLAP/OLTP
- Complex model and transactions
- Performance

GEEKSTREAM

Tech blog search – powered by OrigoDB

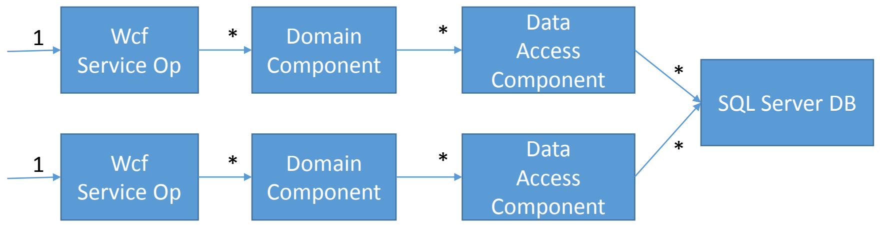
http://geekstream.devrexlabs.com

- 2 Core, 8GB RAM Cloud VM
- IIS Web, SPA, ajax, ASP.NET MVC3
- OrigoDB Server same host, currently 4GB process memory
- 3k blogs, 500k posts, 500k keywords, 33 million links
- Journal 1 GB, no snapshots, growth ~ 8MB/day

miljö online

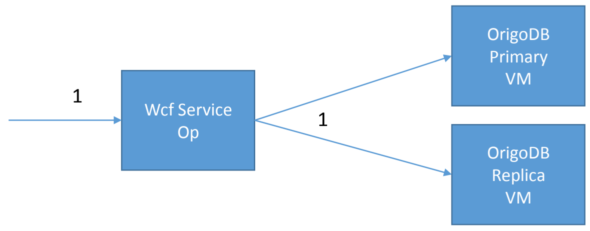
- Environmental news referral since 1997
- 100 articles/day, fulltext search, summaries, categories, sources, metadata
- 5000 subscribers, clients, users, billing
- Email history, weekly newsletters
- < 4 GB Total RAM

Case Study : Anonymous client



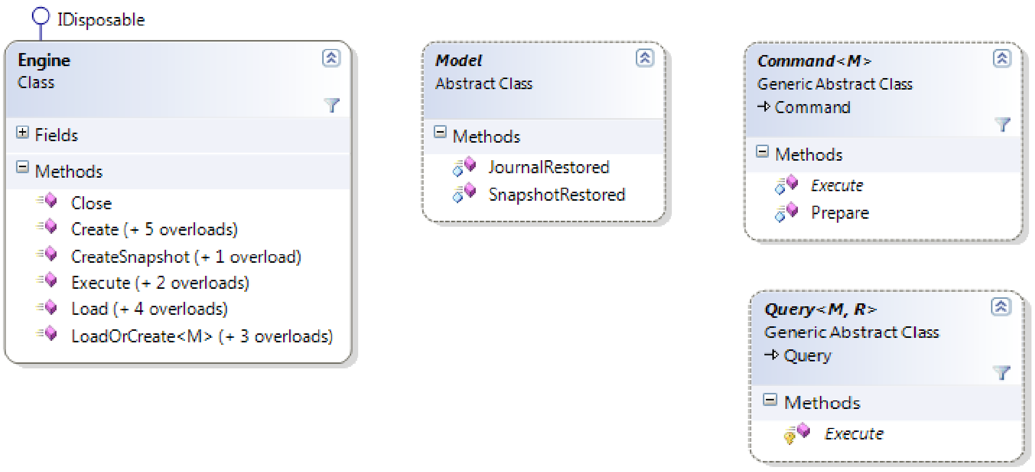
- 20 - 800 DB calls per service method invocation
- Complex domain model, wide writes and reads
- 1 DB per client, largest 70GB
- Cache sync/invalidation issues across load balanced nodes

Proposed solution



- OrigoDB replica pair per customer on virtual machines

Core framework types


IDisposable

Engine
Class

Fields

Methods

Close
Create (+ 5 overloads)
CreateSnapshot (+ 1 overload)
Execute (+ 2 overloads)
Load (+ 4 overloads)
LoadOrCreate<M> (+ 3 overloads)

Model
Abstract Class

Methods

JournalRestored
SnapshotRestored

Command<M>
Generic Abstract Class
→ Command

Methods

Execute
Prepare

Query<M, R>
Generic Abstract Class
→ Query

Methods

Execute

Start your engines!

```
var engine = Engine.LoadOrCreate<SalesModel>();

// lambda query
var customer = engine.Execute(db => db.Customers.GetById(42));

//Command object
var cmd = new PlaceOrderCommand(customer.Id, newOrder);
engine.Execute(cmd);
engine.Close();
```

Lab 1

- Exercise an existing data model (Twitter)
- Build a custom domain data model (Todo)