

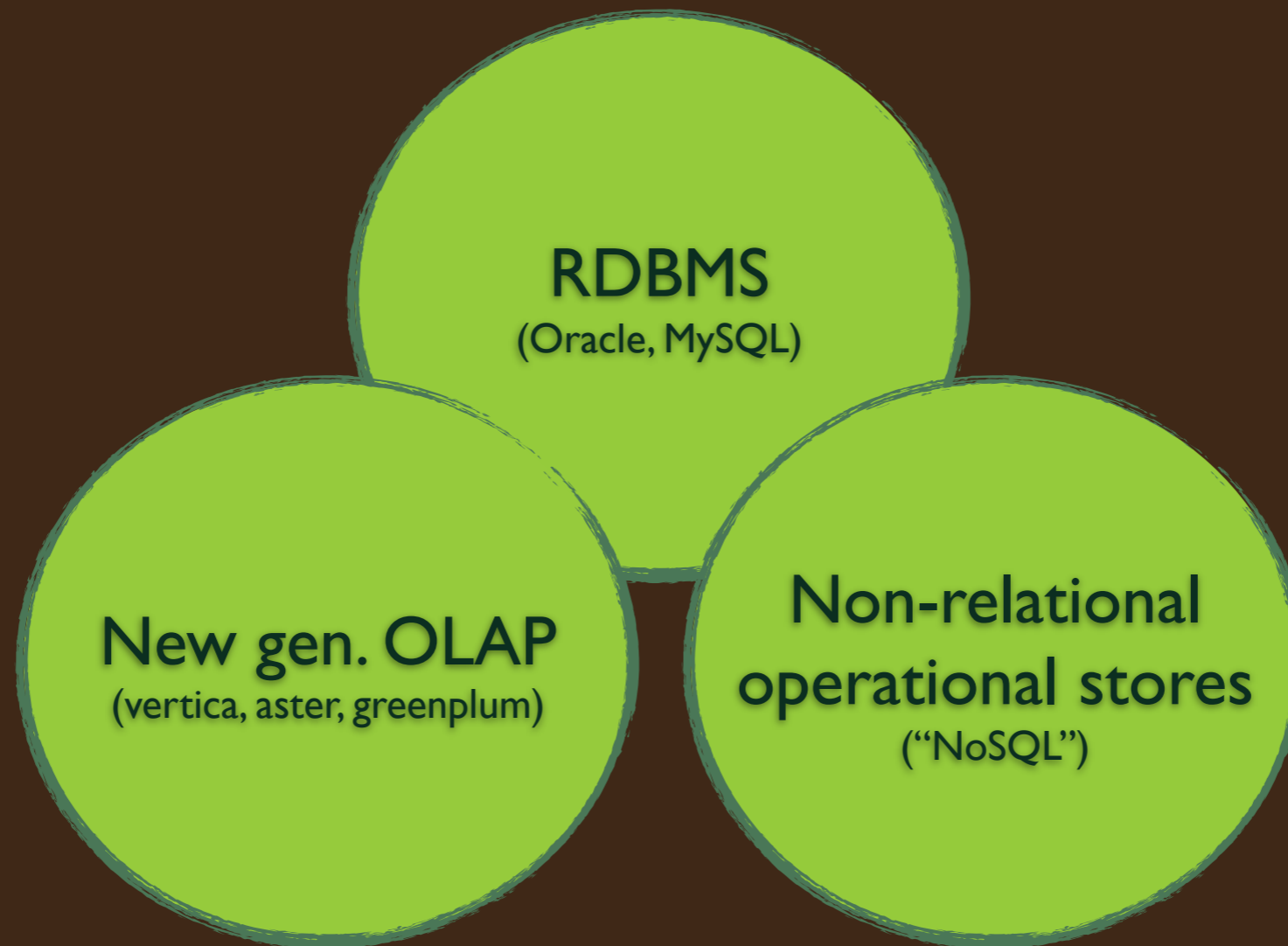


mongoDB

open-source, high-performance,  
schema-free, document-oriented  
database

<http://www.mongodb.org/>

“One size fits all”  
no longer



NoSQL really means:

non-relational next generation  
operational datastores and databases

# Scaling out

no joins +

light transactional semantics =

horizontally scalable architectures

# Data models

no joins +

light transactional semantics =

horizontally scalable architectures

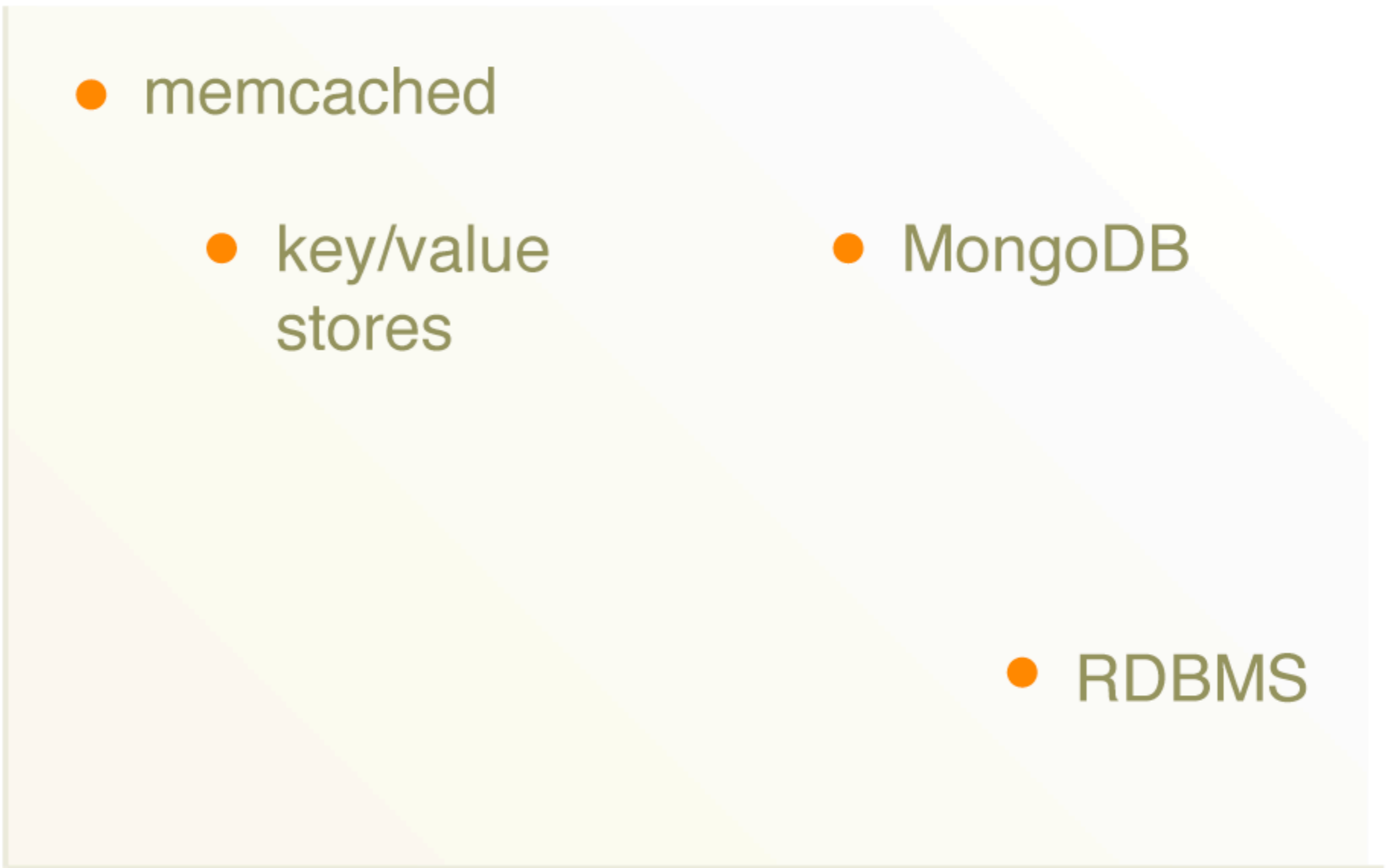
important side effect :

new data models =

improved ways to develop

applications

Scalability & Performance



● memcached

● key/value stores

● MongoDB

● RDBMS

Depth of Functionality

# Documents and BSON

```
{“hello”: “world”}
```

```
{“hello”: “world”, “foo”: [{“bar”: 1}]}
```

# Schema-free collections

- Dynamically typed languages
- Migrations
- Still define indexes per collection



# Dynamic queries

- Administration
- Ease of development / familiarity

```
db.coll.find({"hello": "world"})
```

```
db.coll.find({"foo": {"$gt": 50}})
```

```
db.coll.find().limit(20).sort({"x": 1})
```

# Atomic update modifiers

```
db.coll.update({"hello": "world"},  
              {"$set": {"foo": "bar"}})
```

```
db.coll.update({}, {"$push": {"x": 1}},  
              multi=True)
```

```
db.coll.update({"x": 1},  
              {"$inc": {"y": 5}},  
              upsert=True)
```

Focus on performance

# Replication

- Master-slave
- Replica pairs (sets)

# Auto-sharding

Many supported  
languages and platforms

# Other cool stuff

- Aggregation and map reduce
- Capped collections
- Unique indexes
- Mongo shell
- GridFS

1. Download MongoDB

<http://www.mongodb.org>

2. Try it out!

3. Let us know what you think.



NoSQL Live *from Boston*

Thursday, March 11

<http://www.10gen.com/events>

- <http://www.mongodb.org>
- `irc.freenode.net#mongodb`
- `mongodb-user` on google groups
- `@mongodb`, `@mdirof`
- [mike@10gen.com](mailto:mike@10gen.com)