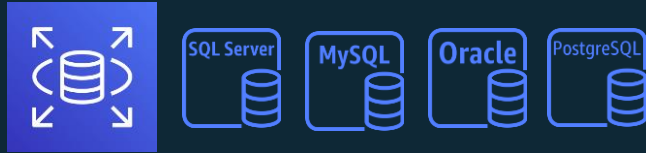


# AWS Managed Databases & .NET

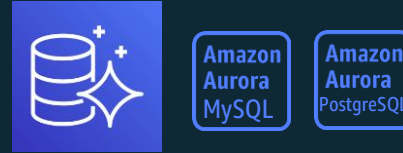


Kirk Davis  
Senior Solutions Architect

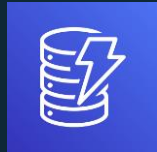
# Fully managed databases for every use case



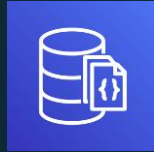
Amazon RDS



Amazon Aurora



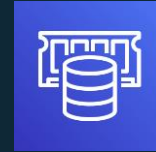
Amazon DynamoDB



Amazon DocumentDB



Amazon Managed  
Cassandra



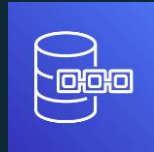
Amazon ElastiCache



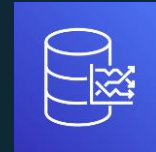
Amazon Redshift



Amazon Neptune



Amazon Quantum Ledger  
Database



Amazon Timestream

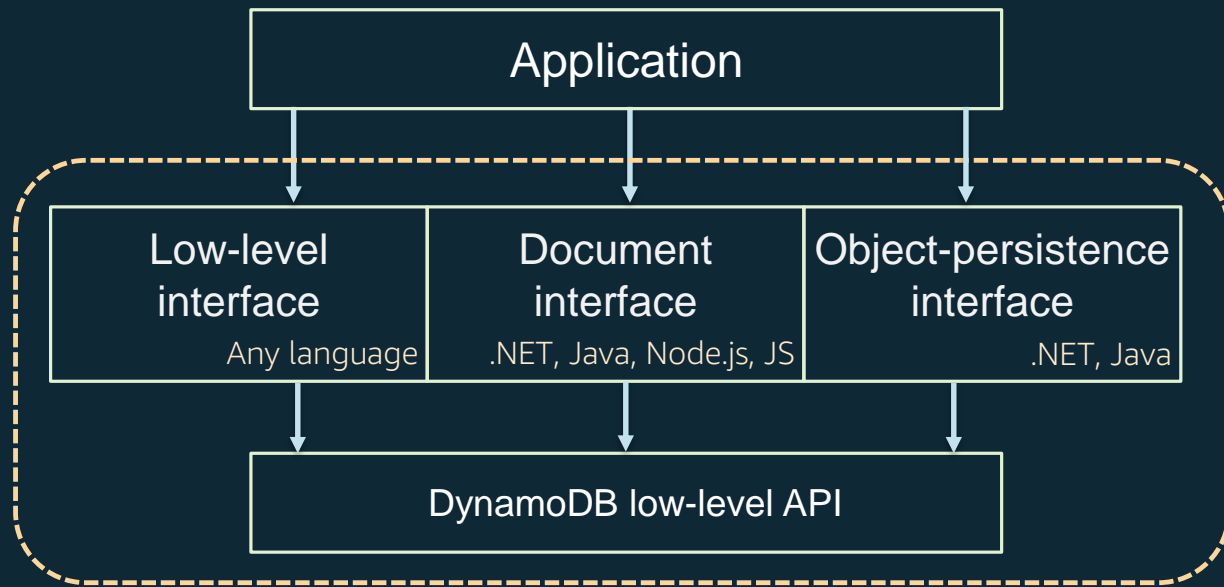
# Amazon DynamoDB



## Features Overview

- Effectively limitless capacity
- Low latency (single-digit ms), highly-available
- Supports in-memory cache (DAX) for microsecond latency
- Encryption at rest
- Secondary indexes (global + local)
- ACID transaction support
- Automated global replication w/Global Tables
- DynamoDB Streams & Triggers for real-time processing
- On-demand backup/restore & point-in-time recovery

# DynamoDB SDKs



DynamoDB  
Streams SDK

DynamoDB  
Accelerator  
SDK (DAX)



# Object-persistence model

```
using Amazon.DynamoDBv2.DataModel;  
  
...method() {  
  
    var context = new DynamoDBContext(new AmazonDynamoDBClient());  
    context.Save(SomeInstanceOfClass);  
  
}
```

# Point-in-time Restore



Overview

Items

Metrics

Alarms

Capacity

Indexes

Global Tables

**Backups**

Triggers

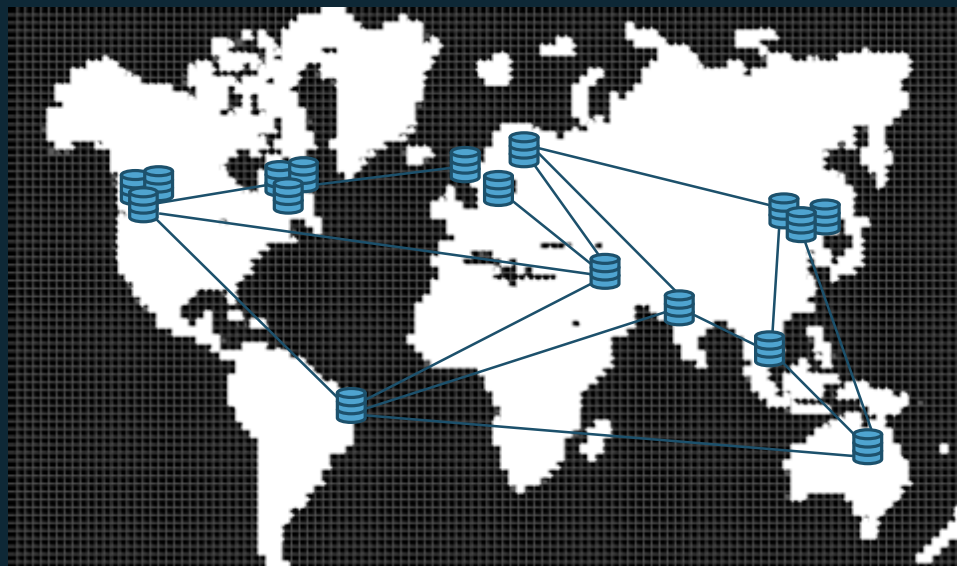
## Point-in-time Recovery

DynamoDB maintains continuous backups of your table for the last 35 days. [Learn more](#)

<b>Status</b>	ENABLED <a href="#">Disable</a>
<b>Earliest restore date</b>	July 15, 2019 at 2:22:53 PM UTC-6
<b>Latest restore date</b>	July 15, 2019 at 2:22:53 PM UTC-6

**Restore to point-in-time**

# Global Tables – cross-region replication



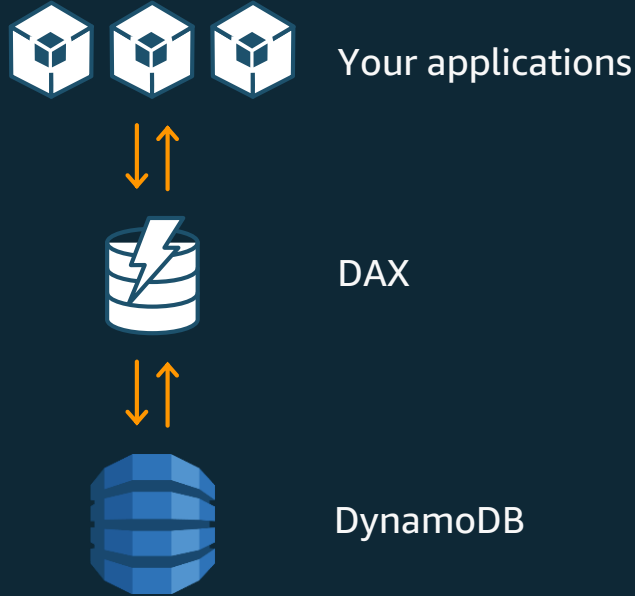
Build high-performance, globally distributed applications

Low latency reads and writes to locally available tables

Multi-region, multi-master

Easy to set up and no application rewrites required

# Amazon DynamoDB Accelerator (DAX)



Fully managed, highly available cache for DynamoDB

Even faster—  
microsecond latency

Scales to millions of requests per second

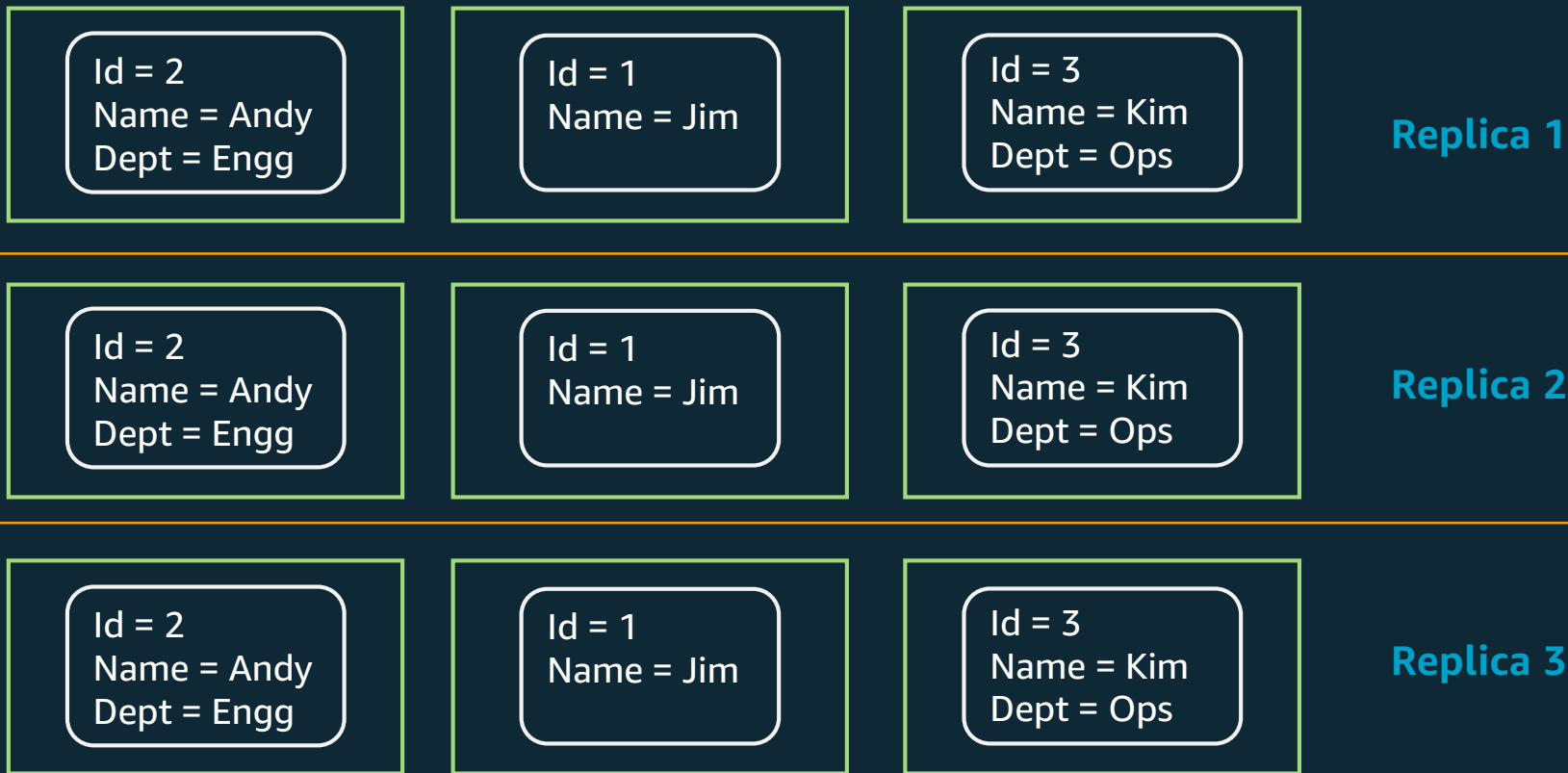
API compatible



# Amazon DynamoDB Transactions

- Group multiple *Put*, *Update*, *Delete*, and *ConditionCheck* actions and submit them as a single *TransactWriteItems* operation
- Transaction either succeeds or fails as a unit
- No additional cost to enable transactions

# Partitions are three-way replicated



# Data Types – Object-persistence maps for you

## Attribute Data Types

- String (S)
- Number (N)
- Binary (B)
- Null
- Boolean

## Collections:

- String set (SS)
- Number set (NS)
- Binary set (BS)
- List
- Map