

# JCache Fundamentals

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## INTRODUCTION



**Grant Little**

[www.grantlittle.me](http://www.grantlittle.me)



# Course Overview



**Introduction**

**Building Your First JCache Application**

**Configuring JCache for the “Real World”**

**Basic Operations Available**

**Loading & Storing Data**

**Handling Events & Efficient Data  
Operations**

**Using JCache Annotations &  
Administering Your Caches**



# JCache the JCP & JSR

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Generic interface for caching

JCache is a specification and an API

Caching framework providers implement the specification

Easily change providers

# Similar Concept to JDBC & JMS



The diagram consists of two identical light red rectangular boxes positioned side-by-side. Each box contains a smaller, solid orange rectangular box in its center. The left orange box contains the text 'JDBC' and the right orange box contains the text 'JMS'.

**JDBC**

**JMS**



# JCache Specification History

**Started 15 Years Ago!!!**



# Definitions

**Java Community Process  
(JCP)**

**Java Specification Request  
(JSR)**



# JSR 107 Timeline







Oracle Coherence

Hazelcast

EHCache

Apache Ignite

Infinispan

JSR 107

<https://jcp.org/en/jsr/detail?id=107>

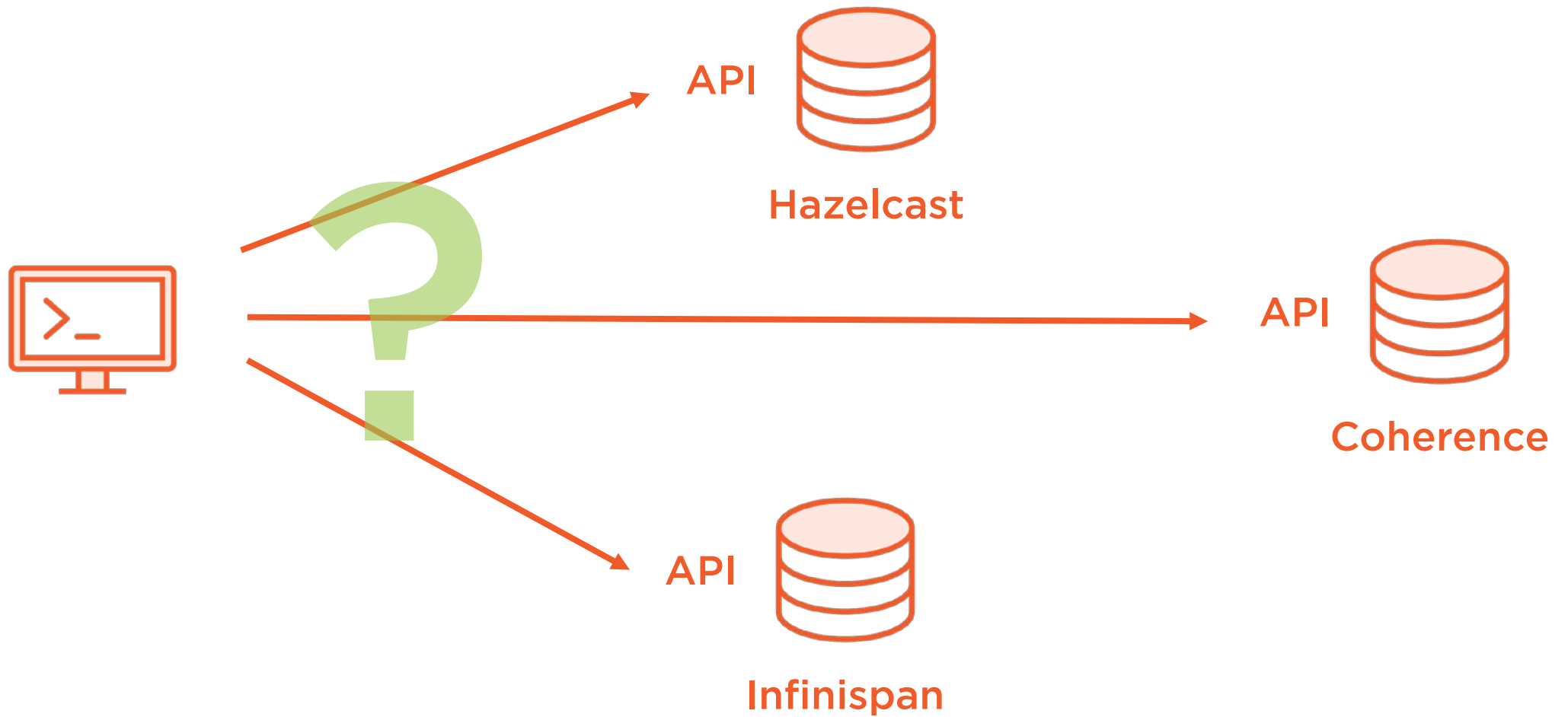


# Why JCache?

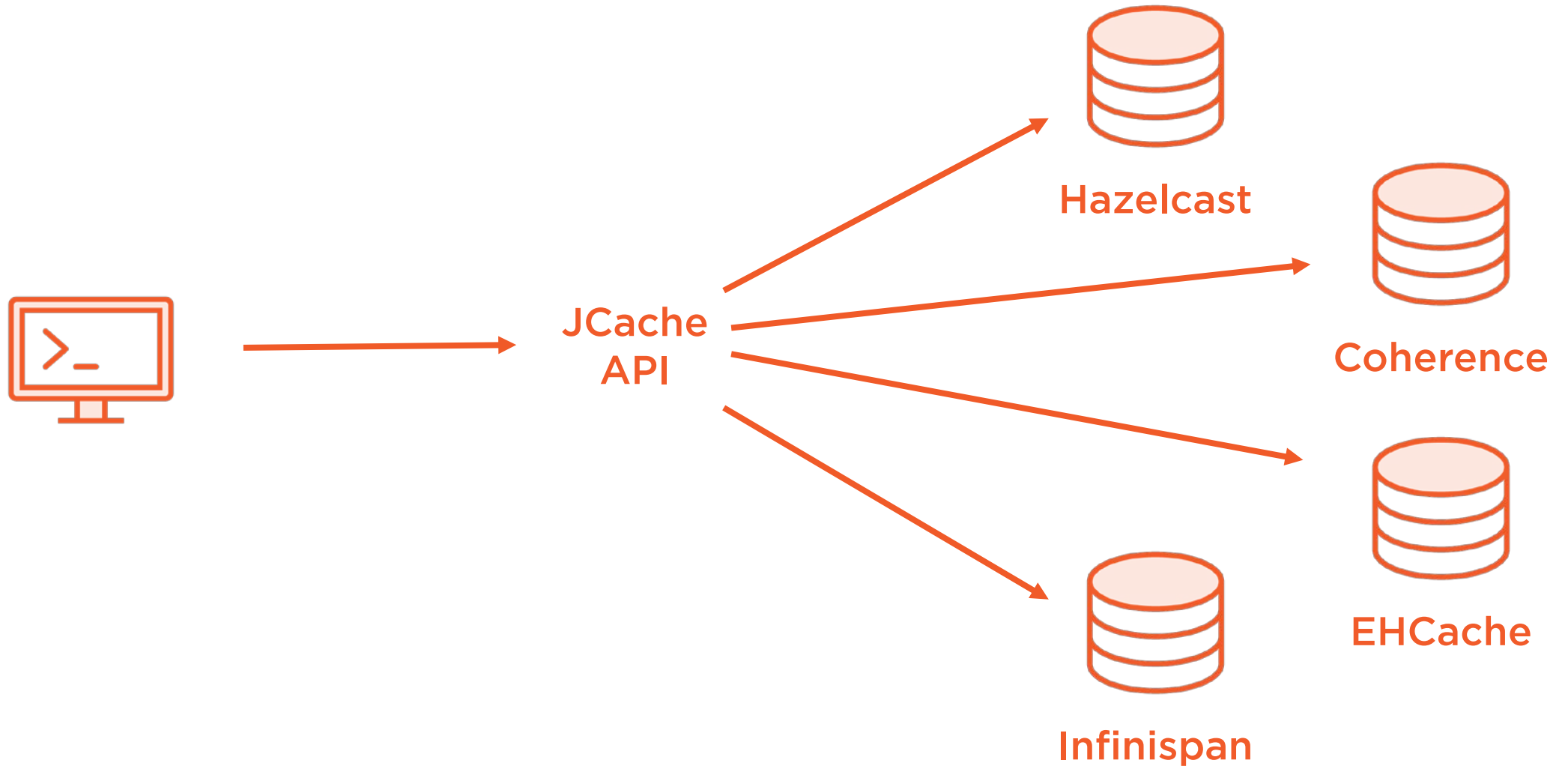
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# Why JCache? – Before JCache



# Why JCache?



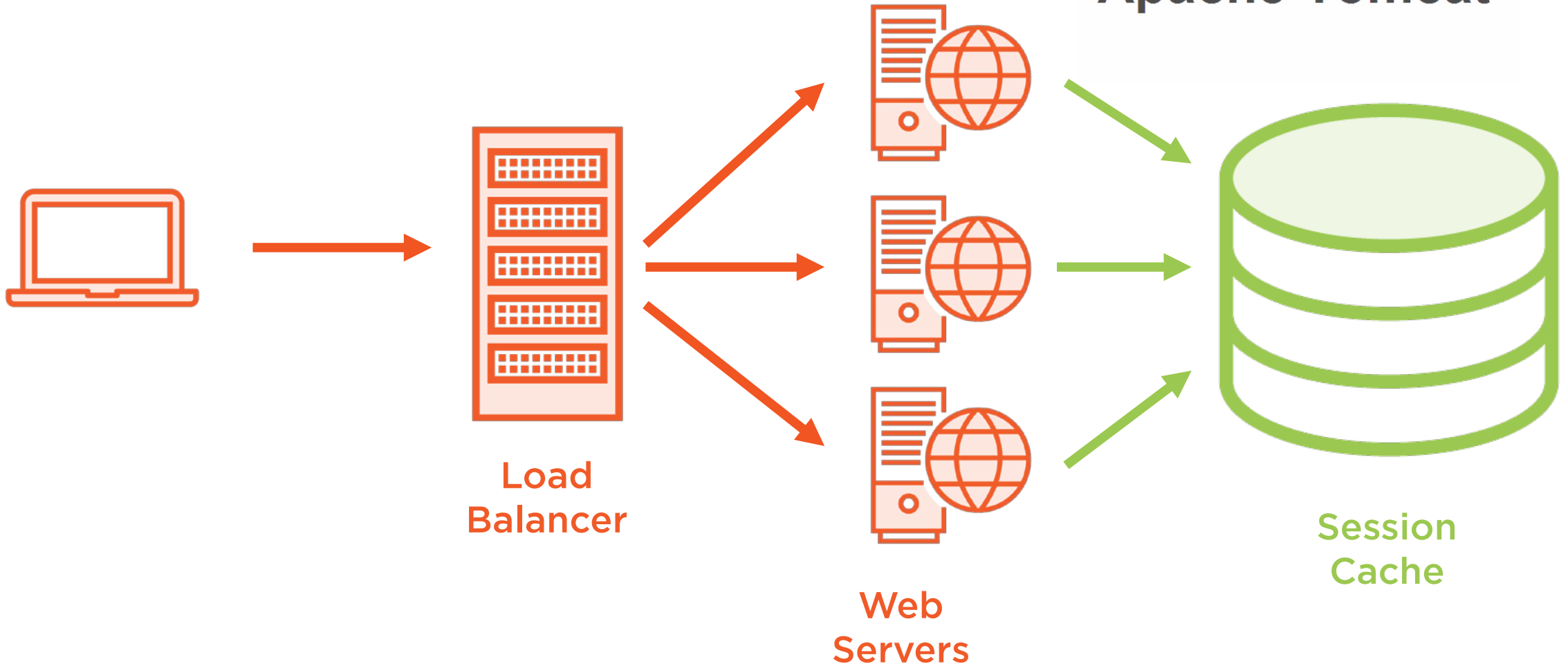
# Typical Use Cases



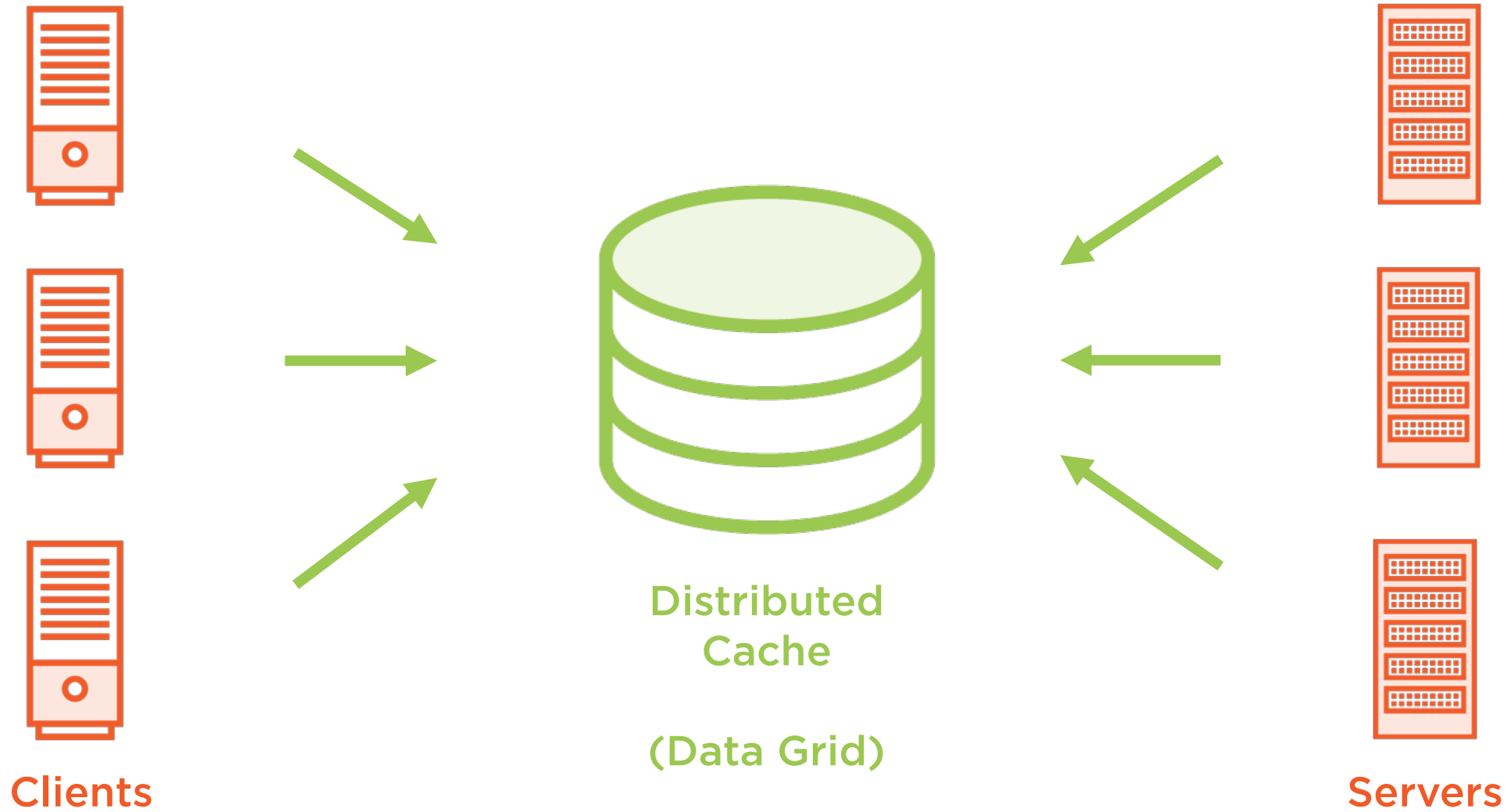
# Session Caching



**Apache Tomcat**

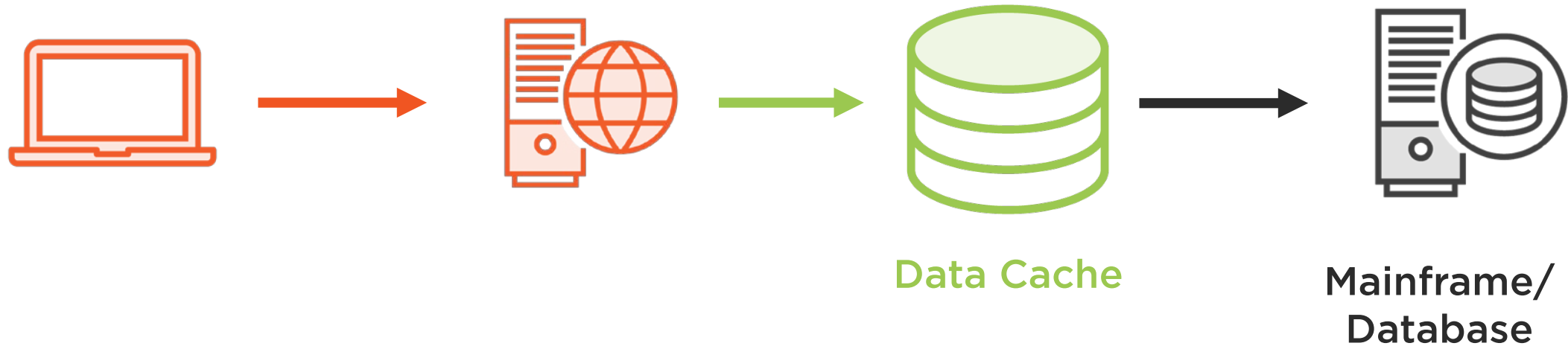


# High Performance Systems

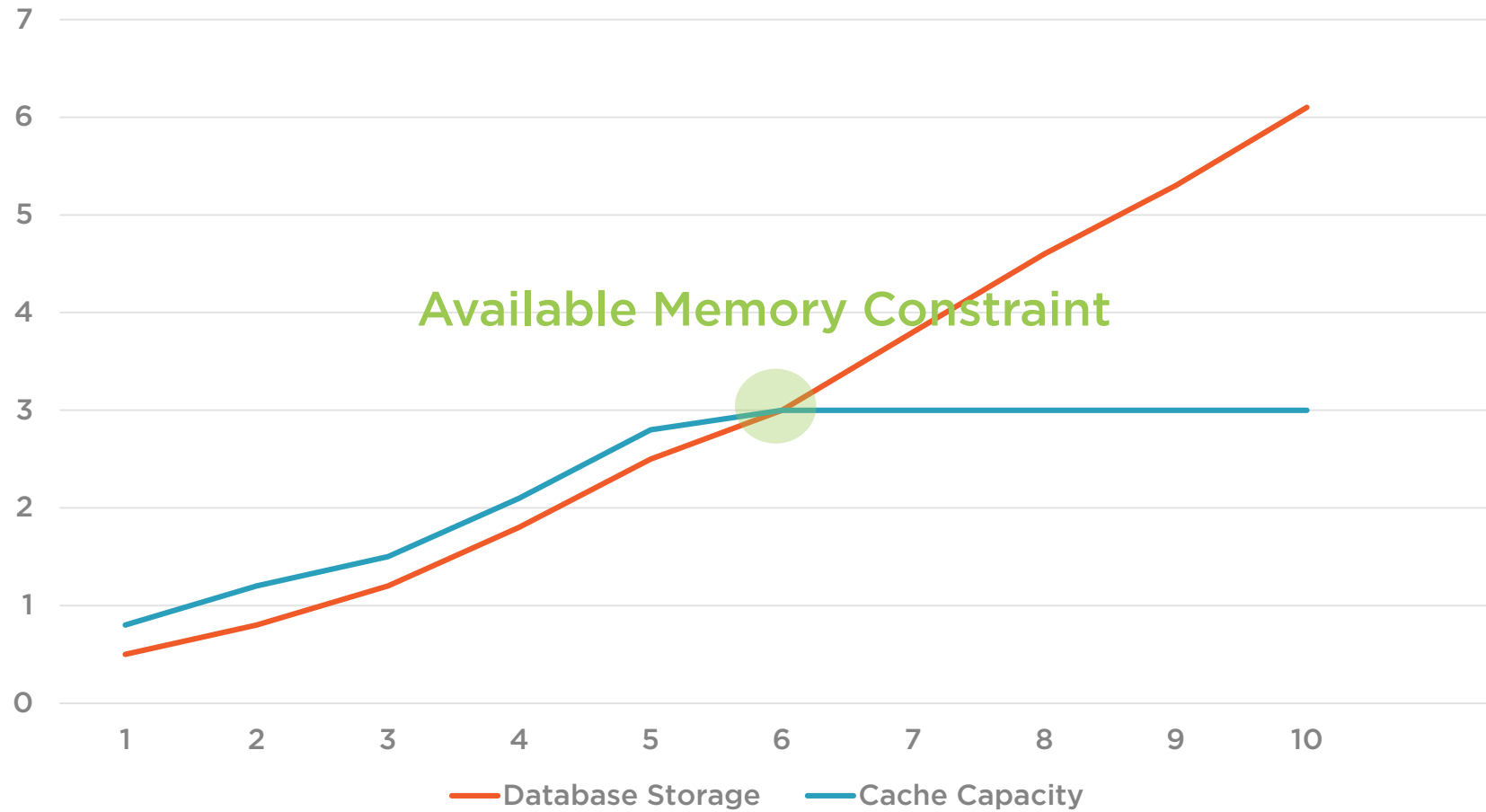




# Cost/Resource Avoidance



# Resource Constraints



# JCache Implementations

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# Reference Implementation

Good basis for writing your own implementation

<https://github.com/jsr107/RI>

*Not multi threaded*

*No tiered storage*

*No support for replicated/distributed caches*



# Full Implementations

## Oracle Coherence

Commercial

<http://bit.ly/2aRtxaU>

## Hazelcast

Open Source / Commercial

[www.hazelcast.org](http://www.hazelcast.org)

## EHCache

Open Source

[www.ehcache.org](http://www.ehcache.org)

## Infinispan

Open Source

[www.infinispan.org](http://www.infinispan.org)

## Apache Ignite

Open Source

[ignite.apache.org](http://ignite.apache.org)



# Review



**Brief introduction**

**JCP & JSR**

**Why use JCache?**

**Implementations available**

