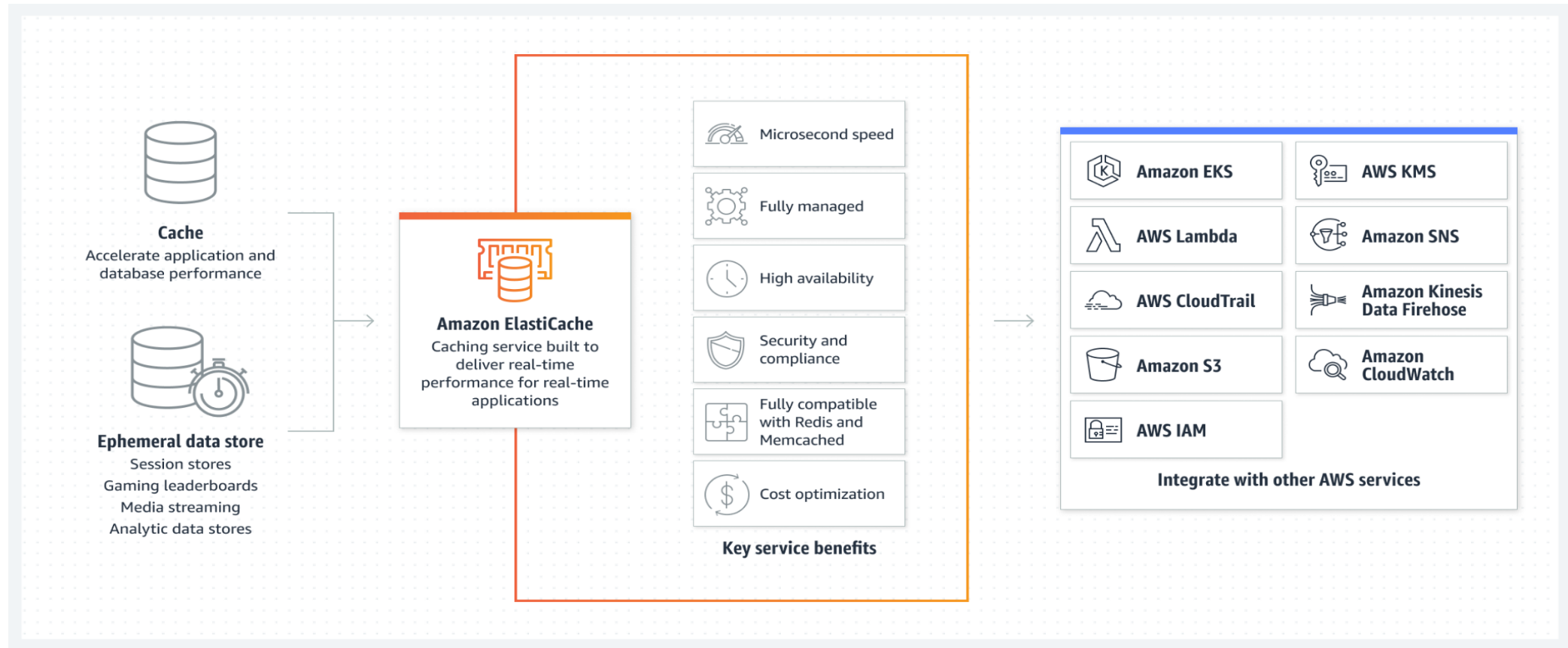




# **Amazon ElastiCache**

# ElastiCache, why is it important?



Application caching is a crucial aspect of modern application development, especially for high performant and scalable applications. Caching solutions like Redis and Memcached play a vital role in this aspect. These tools allow applications to store frequently accessed data in memory, enabling faster data retrieval compared to traditional disk-based databases.

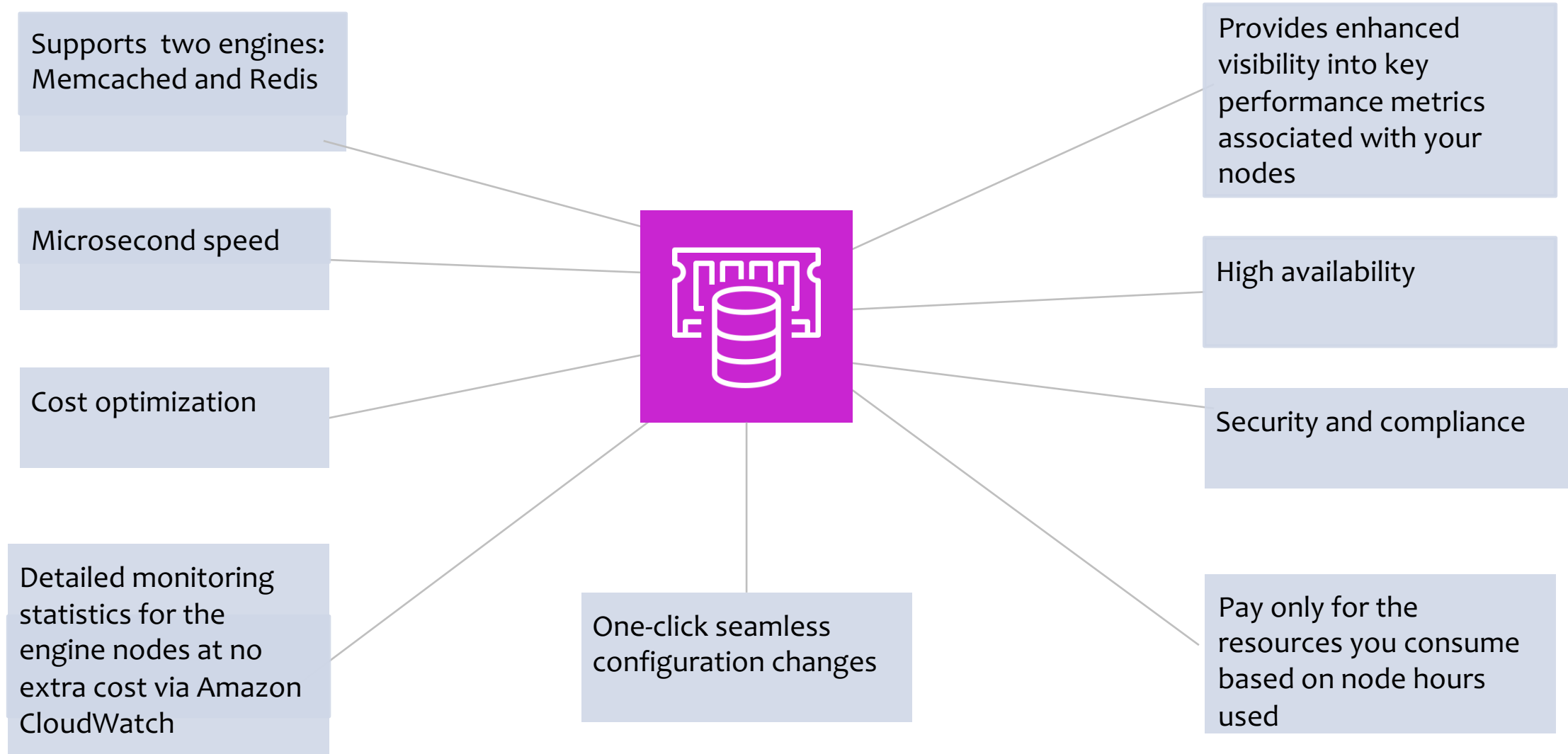
# ElastiCache, why is it important?

---

- Application caches significantly improve the performance of an application. Rather than retrieving the same data repeatedly from the database, which can be slow due to disk access speed or network latency, the application can access it quickly from the cache. This benefit becomes even more significant when dealing with large scale applications that require processing massive volumes of data. These data are often accessed repeatedly, making caching a useful strategy to enhance their speed.
- Application caches can help reduce the load on databases. By moving the high read-load away from the database to the cache, you can minimize the database's load and prevent its performance from degrading, particularly under heavy traffic scenarios.
- Application caches provide a resilient layer between the application and the database that can mitigate the impact of database failures. In case the database is temporarily unavailable or slow, cached data can continue to serve requests during that period. It can act as a buffer, minimizing the downtime experienced by users.
- Caching also plays a crucial role in distributed systems where data replication might be necessary for high availability and fault-tolerance. Redis, for example, provides features that ease the process of creating replicated and distributed systems.
- Application caches like Redis or Memcached are critical for creating efficient, responsive, and scalable applications. They not only enhance application performance but also play a vital role in building robust, highly available and fault-tolerant systems. Thus, understanding their functionality and effective usage becomes a crucial aspect for any application developer or architect.

# ElastiCache Core features

---



# ElastiCache supported engines

---

## **ElastiCache for Redis**

1. Amazon ElastiCache for Redis is a blazing fast in-memory data store that provides sub-millisecond latency to power internet-scale real-time applications.
2. It is built on open-source Redis and compatible with the Redis APIs, ElastiCache for Redis works with your Redis clients and uses the open Redis data format to store your data.
3. ElastiCache for Redis combines the speed, simplicity, and versatility of open-source Redis

## **ElastiCache for Memcached**

1. Amazon ElastiCache for Memcached is a Memcached-compatible, in-memory, key-value store service that can be used as a cache or a data store.
2. ElastiCache for Memcached is fully managed, scalable, and secure - making it an ideal candidate for use cases where frequently accessed data must be in-memory.
3. It delivers the performance, ease-of-use, and simplicity of Memcached.

# Things do not look good when the cache is near full

---

## API Status: Elevated API Errors ×

The underlying issue affecting a subset of our API customers (and ChatGPT by extension) is with an upstream part of our API authentication stack. We're simultaneously scaling up the underlying cache resource we found to be near capacity, and working on an alternate system that does not use the cache. We will keep you posted as soon as we have an update, and are sorry for the trouble this is causing you. [Learn more](#)