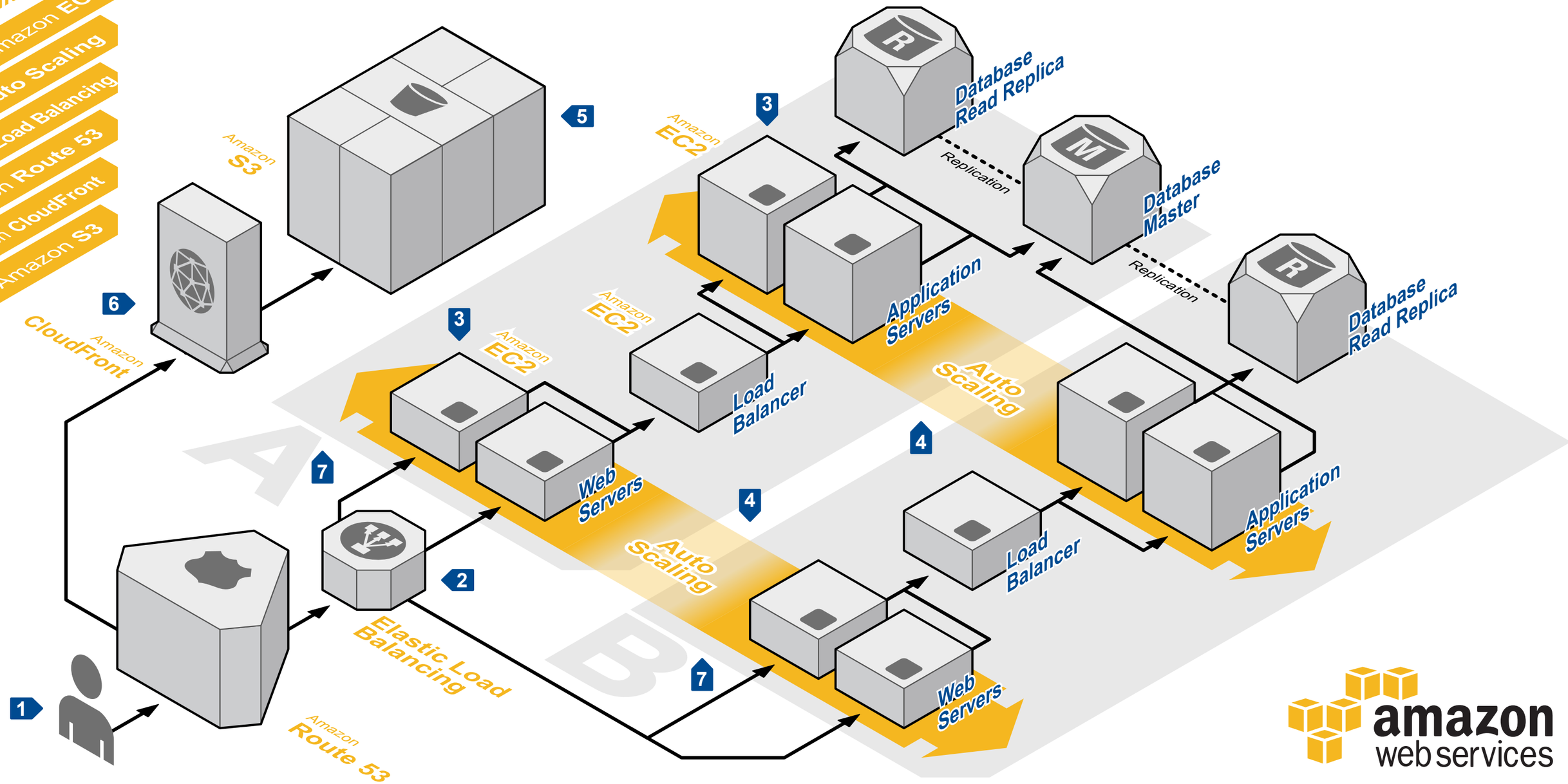
AWS Reference Architectures

- Amazon EC2
- Auto Scaling
- Elastic Load Balancing
- Amazon Route 53
- Amazon CloudFront
- Amazon S3

WEB APPLICATION HOSTING

Highly available and scalable web hosting can be complex and expensive. Dense peak periods and wild swings in traffic patterns result in low utilization rates of expensive hardware. Amazon Web Services provides the reliable, scalable, secure, and high-performance infrastructure required for web applications while enabling an elastic, scale out and scale down infrastructure to match IT costs in real time as customer traffic fluctuates.



amazon web services

System Overview

1 The user's DNS requests are served by **Amazon Route 53**, a highly available Domain Name System (DNS) service. Network traffic is routed to infrastructure running in Amazon Web Services.

2 HTTP requests are first handled by Elastic Load Balancing, which automatically distributes incoming application traffic across multiple **Amazon Elastic Compute Cloud (EC2)** instances across Availability Zones (AZs). It enables even greater fault tolerance in your applications, seamlessly providing the amount of load balancing capacity needed in response to incoming application traffic.

3 Web servers and application servers are deployed on **Amazon EC2** instances. Most organizations will select an **Amazon Machine Image (AMI)** and then customize it to their needs. This custom AMI will then be used as the starting point for future web development.

4 Web servers and application servers are deployed in an **Auto Scaling** group. Auto Scaling automatically adjusts your capacity up or down according to conditions you define. With Auto Scaling, you can ensure that the number of **Amazon EC2** instances you're using increases seamlessly during demand spikes to maintain performance and decreases automatically during demand lulls to minimize costs.

5 Resources and static content used by the web application are stored on **Amazon Simple Storage Service (S3)**, a highly durable storage infrastructure designed for mission-critical and primary data storage.

6 Static and streaming content is delivered by **Amazon CloudFront**, a global network of edge locations. Requests are automatically routed to the nearest edge location, so content is delivered with the best possible performance.

7 **Availability zones (AZs)** are distinct geographic locations that are engineered to insulate against failures in other AZs. Multiple AZs are combined into a region. Here, the entire web application is deployed in two different AZs for high availability.