AWS Reference Architectures

Amazon EMR
Amazon S3
AWS Elastic Beanstalk
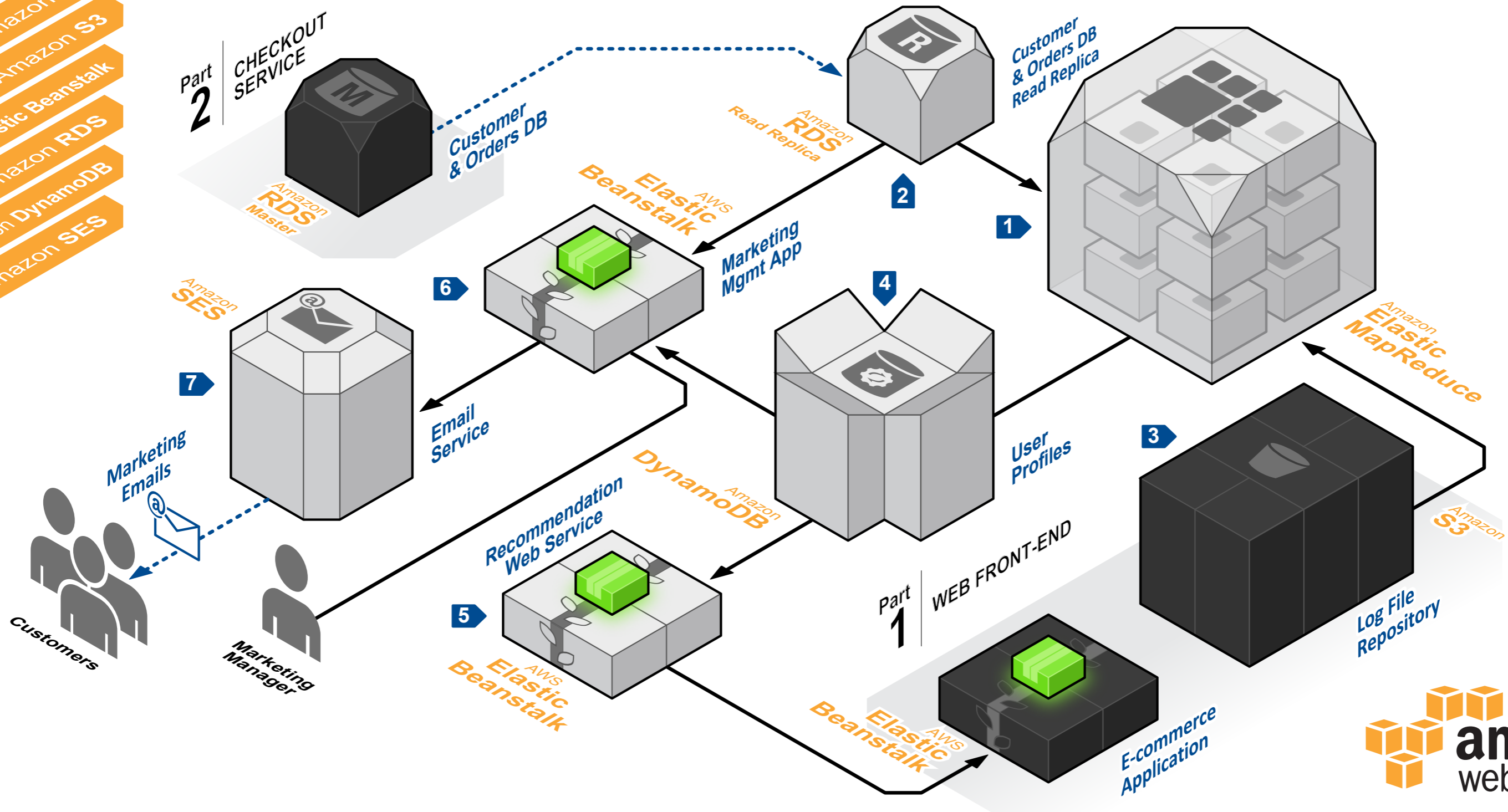Amazon RDS
Amazon DynamoDB
Amazon SES

E-COMMERCE WEBSITE

PART 3: MARKETING & RECOMMENDATIONS

With Amazon Web Services, you can build a recommendation and marketing service to manage targeted marketing campaigns and offer personalized product recommendations to customers who are browsing your e-commerce site.

In order to build such a service, you have to process very large amounts of data from multiple data sources. The resulting user profile information has to be available to deliver real-time product recommendations on your e-commerce website.

The insights that you gain about your customers can also be used to manage personalized marketing campaigns targeted at specific customer segments.

With the tools that AWS provides, you can build highly scalable recommendation services that can be consumed by different channels, such as dynamic product recommendations on the e - commerce website or targeted email campaigns for your customers.

Part 2 | CHECKOUT SERVICE

Amazon RDS Master

Customer & Orders DB

Amazon RDS Read Replica

Customer & Orders DB Read Replica

AWS Elastic Beanstalk

Marketing Mgmt App

Amazon SES

Email Service

Marketing Emails

Customers

Marketing Manager

DynamoDB Amazon

Recommendation Web Service

AWS Elastic Beanstalk

User Profiles

Amazon Elastic MapReduce

Amazon S3

Log File Repository

Part 1 | WEB FRONT-END

AWS Elastic Beanstalk

E-commerce Application

amazon web services™

System Overview

1 **Amazon Elastic MapReduce** (Amazon EMR) is a hosted Hadoop framework that runs on Amazon Elastic Compute Cloud (Amazon EC2) instances. It aggregates and processes user data from server log files and from the customer's purchase history.

2 An **Amazon Relational Database Services** (Amazon RDS) Read Replica of customer and order databases is used by Amazon EMR to compute user profiles and by **Amazon Simple Email Service** (Amazon SES) to send targeted marketing emails to customers.

3 Log files produced by the e-commerce web front end have been stored on **Amazon Simple Storage Service** (Amazon S3) and are consumed by the Amazon EMR cluster to compute user profiles.

4 User profile information generated by the Amazon EMR cluster is stored in **Amazon DynamoDB**, a scalable, high-performance managed NoSQL database that can serve recommendations with low latency.

5 A recommendation web service used by the web front end is deployed by **AWS Elastic Beanstalk**. This service uses the profile information stored on Amazon DynamoDB to provide personalized recommendations to be shown on the e-commerce web front end.

6 A marketing administration application deployed by **AWS Elastic Beanstalk** is being used by marketing managers to send targeted email campaigns to customers with specific user profiles. The application reads customer email addresses from an **Amazon RDS Read Replica** of the customer database.

7 **Amazon SES** is used to send marketing emails to customers. **Amazon SES** is based on the scalable technology used by Amazon web sites around the world to send billions of messages a year.