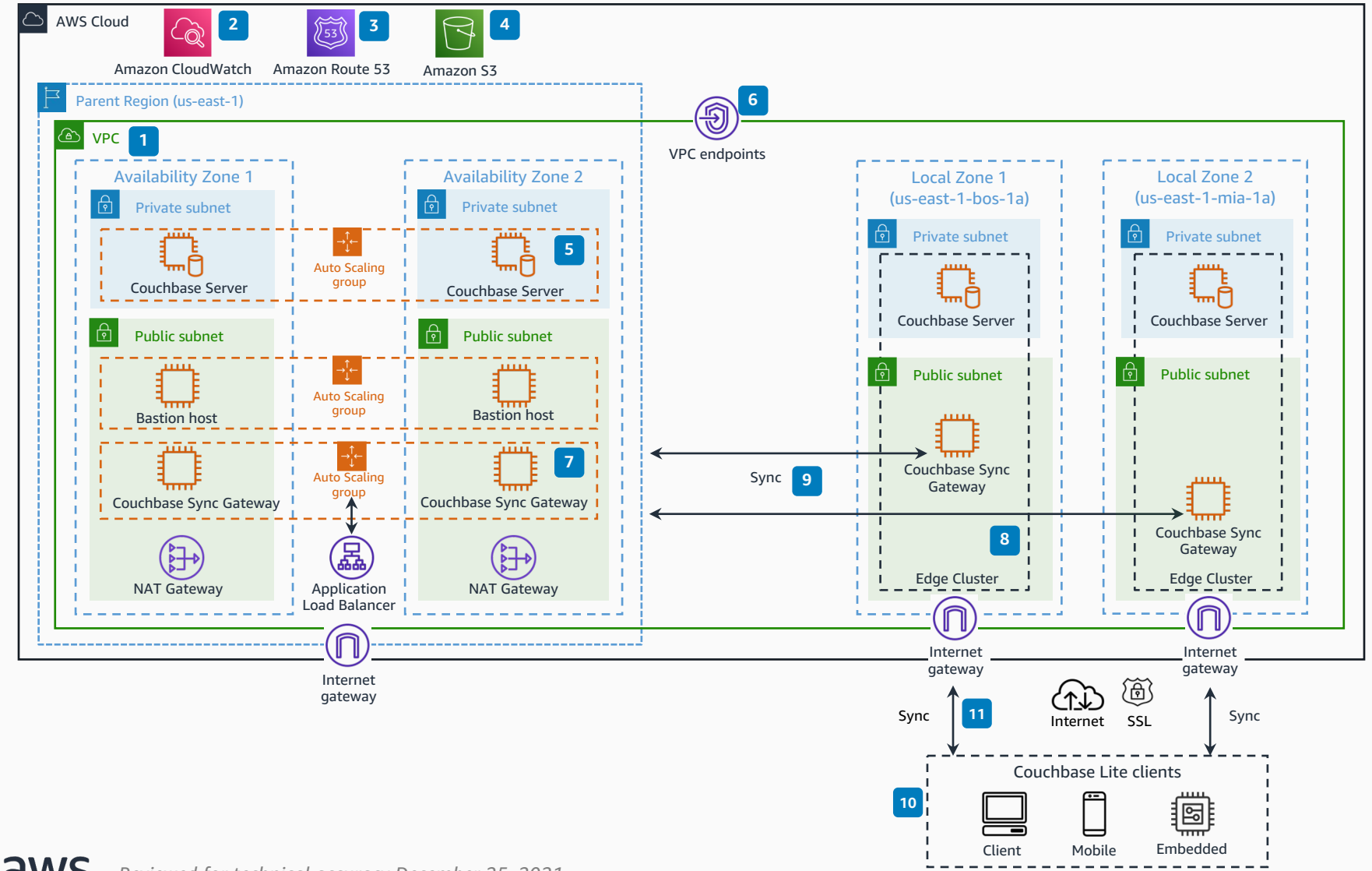
# Couchbase on AWS Local Zones for Low Latency Edge Use Case

An architecture overview of Couchbase Server and Couchbase Sync Gateway deployment on AWS Local Zones for low latency edge use case.




1. **Amazon Virtual Private Cloud (Amazon VPC)** can be extended from the parent region into multiple AWS Local Zones.
2. Couchbase metrics and logs can be sent to **Amazon CloudWatch** for centralized log management and alerts.
3. **Amazon Route 53** uses geolocation based routing to route clients to the nearest AWS Local Zone or the AWS Parent Region.
4. Couchbase Server backups can be taken directly to an **Amazon Simple Storage Service (Amazon S3)** bucket.
5. Couchbase Server multi–Availability Zone (AZ) deployment provides high availability and automatic failover. Couchbase Server in the private subnet can connect to internet using NAT Gateway. Bastion host in the public subnet provides access to the Couchbase Server from an external network.
6. VPC endpoints enable private connection between VPC and AWS services without requiring access over the internet.
7. Couchbase Sync Gateway multi-AZ deployment with Application Load Balancer (ALB) in front provides high availability and automatic failover.
8. Edge cluster made of Couchbase Server and Couchbase Sync Gateway on AWS Local Zone.
9. Inter-Sync Gateway Replication between the Couchbase Cluster in the parent region using internal ALB, and edge cluster in the AWS Local Zone using private IP addresses, keeps the communication with the VPC.
10. Couchbase Lite clients such as mobile, desktop, and embedded devices run an embedded NoSQL database, Couchbase Lite, and provides performance and availability needs of business-critical apps.
11. Low latency data sync between Edge Cluster Sync Gateway and Couchbase Lite clients over internet at the edge.

*Reviewed for technical accuracy December 25, 2021*