




Disaster Recovery Across Multiple Data Centers

First-in-class automated disaster recovery mechanism with multiple Availability Zone support

Background

For businesses with large-scale, mission critical web applications, it becomes crucial to maintain high availability for a seamless user experience. Although cloud infrastructure ensures protection through security services protecting applications from unfavorable attacks, you still need cross-data center deployments to provide additional security in case of emergencies or unfortunate events, such as data center downtime, etc.

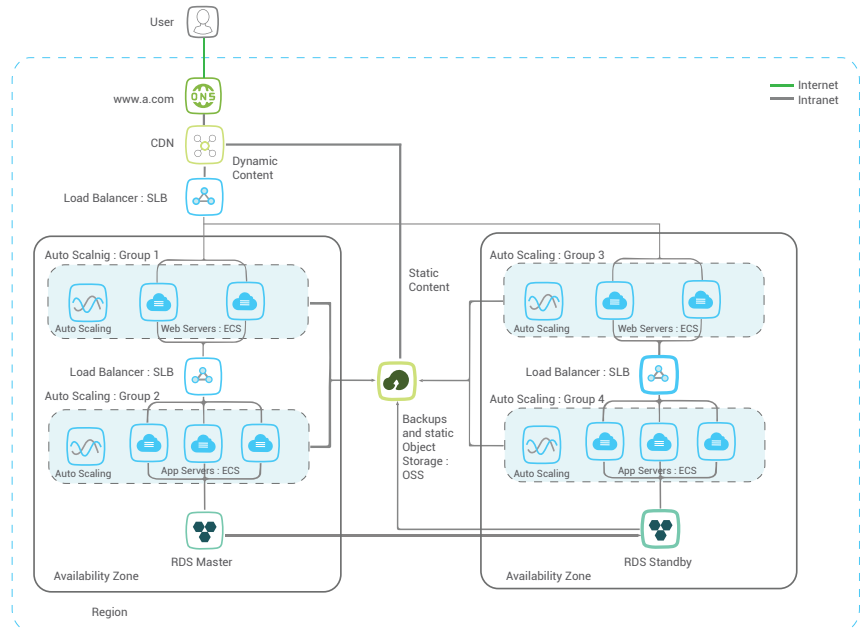
Highlights

-  Excellent availability
-  Automatic failovers
-  Cost-effective DR mechanism

Benefits

- ✓ Enhanced infrastructure availability through multiple AZ support
- ✓ Automatic failover by switching database endpoints in case of failure
- ✓ Regular automated backups of servers, databases, etc.

Recommended Solution Architecture



This architecture diagram illustrates a typical web application hosting architecture with disaster recovery capabilities:

1. User request is received and served by the nearest DNS server, and automatically routed to the CDN for accelerated content delivery.
2. The request is then sent to the mapped Server Load Balancer, which distributes incoming application traffic among multiple ECS instances in a round robin manner.
3. To scale servers based on real-time traffic demands, auto scaling service is configured on web servers and application servers. This service ensures that servers are automatically added or removed from SLB and RDS whitelists.
4. To store and manage relational data, application servers are connected to ApsaraDB for RDS databases. RDS not only maintains a data backup but also switches databases endpoints automatically if the master database machine becomes unavailable, ensuring excellent availability.
5. The whole infrastructure is replicated in different AZ making it highly available while acting as a single web application system.
6. All database backup archive files, root location backup and log files of the web servers are stored in scalable Object Storage Service, which scales up or down automatically ensuring no disruption of services.