

Wordpress based E-Commerce scalable website



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Summary

Client is a multinational e-commerce company, selling their products worldwide

Challenges

- ✧ Client was hosting their website on dedicated servers and found it was difficult to manage the servers once any kind of promotions are done due to large number of users.
- ✧ It was a complicated task to scale up their infrastructure and also expensive.
- ✧ Client was spending huge upfront cost for meeting their requirement for black Friday promotions.

Requirement

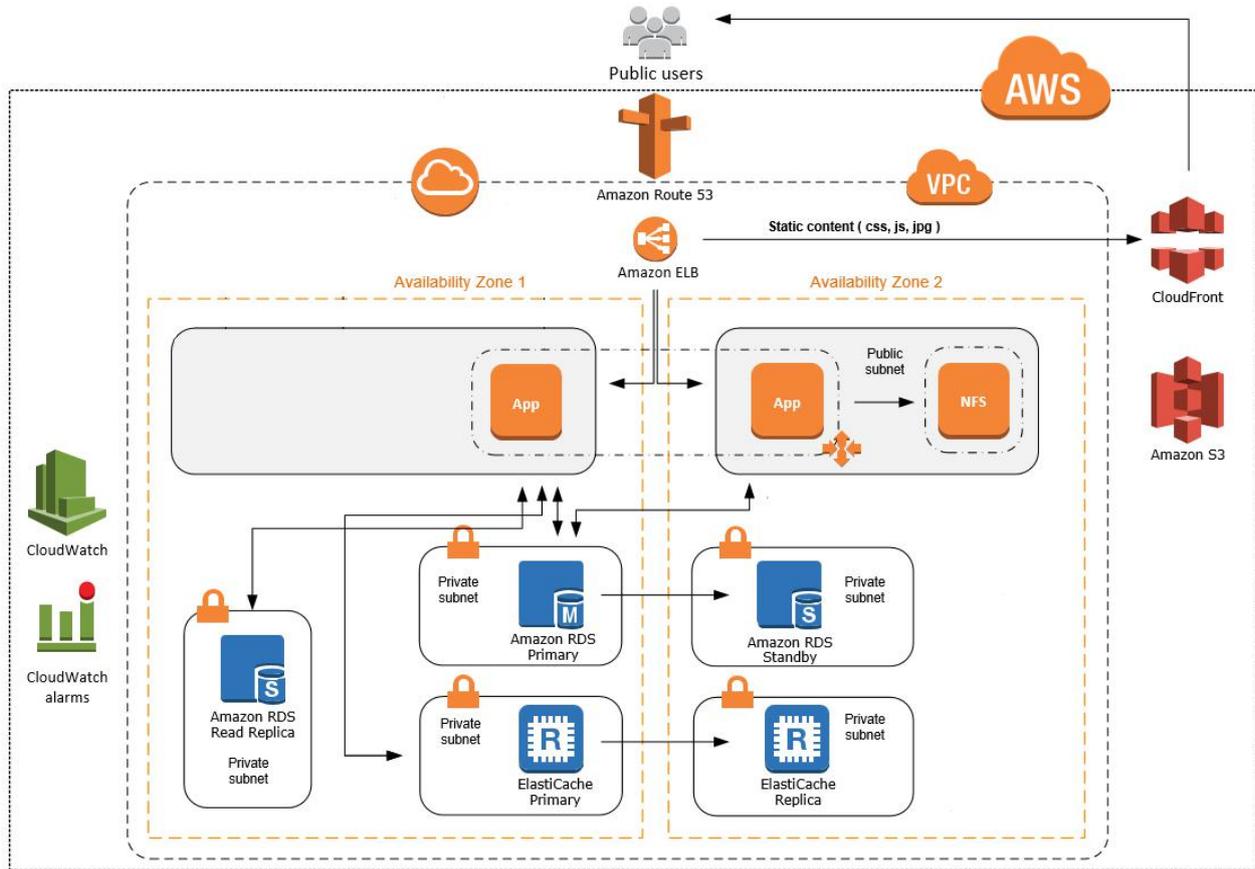
Moving website to simply scalable, high performance platform which can handle huge amount of users.

Solution

Croziant team reviewed the current architecture, number of current customers, increase in the number of customer database for previous three months of WP site. Client was ready to move their servers to cloud however we suggested AWS. Our initial plan was to implement a load balancer with auto scaling, web servers and dedicated database server. With this method we found some issues in deploying autoscaling and we made some changes in the plan.

Since it was an e-commerce website and client concerned about the downtime and data loss, our prime motive is to create an architecture which is extremely scalable, secure and fault tolerant. We have included Redis and NFS into the original plan and thus the wordpress instance stateless and issue with autoscaling was fixed.

Architecture Diagram



AutoScaling

The Application servers are created in an autoscaling group and if the number of visitors in the website increases, the new application servers will be spawned and requests will be distributed to all application servers.

Infrastructure as Code

We transformed the whole infrastructure as code using terraform. So the advantage is, any modifications to the infra can be done by editing the code.

Monitoring

For monitoring, we are using AWS monitoring solutions as well other monitoring tools like uptime robot, custom monitoring scripts etc.

- ◆ Cloudwatch
- ◆ Uptime Robot
- ◆ Nagios

Security

Security is the primary concern for an e-commerce website. The infrastructure is highly secure and only the Load balancer is internet facing. All other communications are using the internal networks.

Backups

Even though we are confident about the infrastructure, still there are a hundreds of factors which make the business down. So it's better to have a proper backup policy and we have implemented multiple backup options including AWS level and file system level. File system level backups will be stored in NFS server as well as S3 bucket

Technologies Used

- ◆ WordPress
- ◆ EC2
- ◆ NFS
- ◆ Redis
- ◆ RDS (Aurora)
- ◆ Application Load Balancer
- ◆ IaC
- ◆ Auto Scaling

Business Outcomes

We were able to successfully integrate all services required and moved the complete website within minimum downtime. Now the infrastructure is 100% scalable, secure and high performance as the client's requirement. High performance e-commerce system means 100% business. Yes, all these helped the client to increase their business by 40% in last few months. Now the black Friday promotion and sales are handled without any down times and in a cost effective manner.