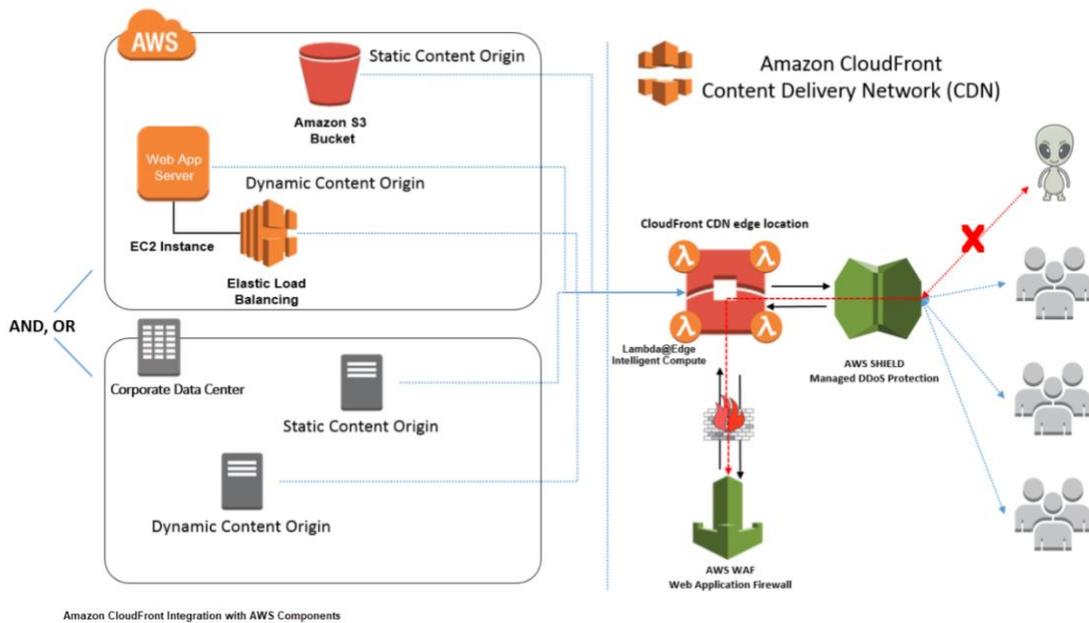


## Amazon CloudFront Service

As businesses expand their customer base geographically, it is essential that customers have the same user experience regardless of their location. Red River helps such organizations in setting up a fast, stable and secure content delivery network using AWS CloudFront. AWS CloudFront is highly-distributed platform that allows businesses to put their content closer to their customer thereby improving customer experience. Amazon CloudFront provide secure, fast, highly scalable network that delivers data, videos, applications and APIs globally with low latency and high transfer speeds.



## Features of a Content Delivery Network

- 1) Caching – reduce load on the application origin and improve user experience
- 2) Dynamic Content – establishing/maintaining secure connections closer to user will accelerate routing back to the origin to retrieve dynamic content
- 3) Perform logic computations at edge – quickly inspect requests and modify the behavior of caching logic, authentication and modify the content being delivered or ingested

- 4) Security – provides network and application level protection preventing hard or loss by filtering traffic with WAFs and DDoS protection services – keeping bots, scrapers and hackers at bay without impacting application performance

### Benefits of Amazon CloudFront

- 1) Global Scaled Network for Fast Content Delivery - The CloudFront network has 225+ points of presence (PoPs) that are interconnected via the AWS backbone delivering ultra-low latency performance and high availability to your end users.
- 2) Security at the Edge - All your CloudFront distributions are defended by default against the most frequently occurring network and transport layer DDoS attacks that target your websites or applications with AWS Shield Standard. To defend against more complex attacks, you can add a flexible, layered security perimeter by integrating CloudFront with AWS Shield Advanced and AWS Web Application Firewall (WAF)
- 3) Deep Integration with AWS - Amazon CloudFront is integrated with AWS services such as Amazon S3, Amazon EC2, Elastic Load Balancing, Amazon Route 53, and AWS Elemental Media Services for easy set-up
- 4) Cost Effective - There is no data transfer fee from any AWS origin to CloudFront for origin fetches. Integration with AWS Certificate Manager (ACM) offers custom TLS certificates, at no charge. CloudFront offers a simple, pay-as-you-go pricing model with no upfront fees or required long-term contracts, and support for the CDN is included in your existing AWS Support subscription.

### Use Cases

- 1) Website and Delivery & Security
- 2) Dynamic Content & API Acceleration
- 3) Live & On-Demand Video Streaming
- 4) Software Distribution, Game Delivery, and IoT OTA

### Case Studies:

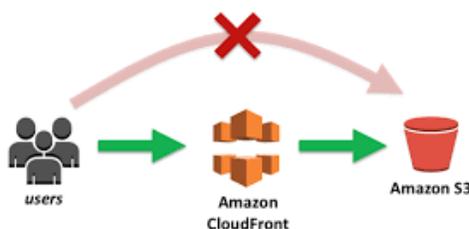
#### 1. Large State Agency

##### Challenge

Client wanted to migrate their royalty and compliance application from an on-premises solution to the cloud and ensure a good user experience. The customer also had a need to retain and protect files uploaded by its users as well as meet NIST-compliance high availability and security standards.

##### Solution:

Application is static JavaScript-based is deployed on AWS S3 with web hosting enabled. This is fronted by CloudFront which adds additional level of security by using Origin Access Identity (OAI) to restrict access to content that is serve from Amazon S3 buckets (static JavaScript application). Further, CloudFront, in conjunction with WAF, protects the application from malicious access including cross-site scripting and SQL injection attacks.



**Outcome:**

1. Improved user experience
2. Highly scalable solution
3. Improved application security

## 2. Public Agency SaaS Solution Provider

**Challenge**

Client wanted to migrate their application from the commercial cloud to the AWS GovCloud for improved security and compliance.

**Solution:**

The application is an N-tier application consisting of a User Interface (static JavaScript application hosted on AWS S3 with web hosting enabled), middle tier node-based application, and PostgreSQL database.

**Outcome:**

1. Improved application security to better meet the requirements of their customers.
2. Application will scale as the client grows
3. User experience will be the same regardless of their geography.