Cloud Day UAE

DUBAI | 12 SEPTEMBER 2023

CMP201

Optimize & secure user experience with AWS edge services

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Buffering Rates

Failover

Scraper

SEO

Multi-region

CVEs

DDoS

Core Web Vitals

Access Control

Security governance

Response times

Crawlers

Edge Computing

Scaling

DTO

Account Takover

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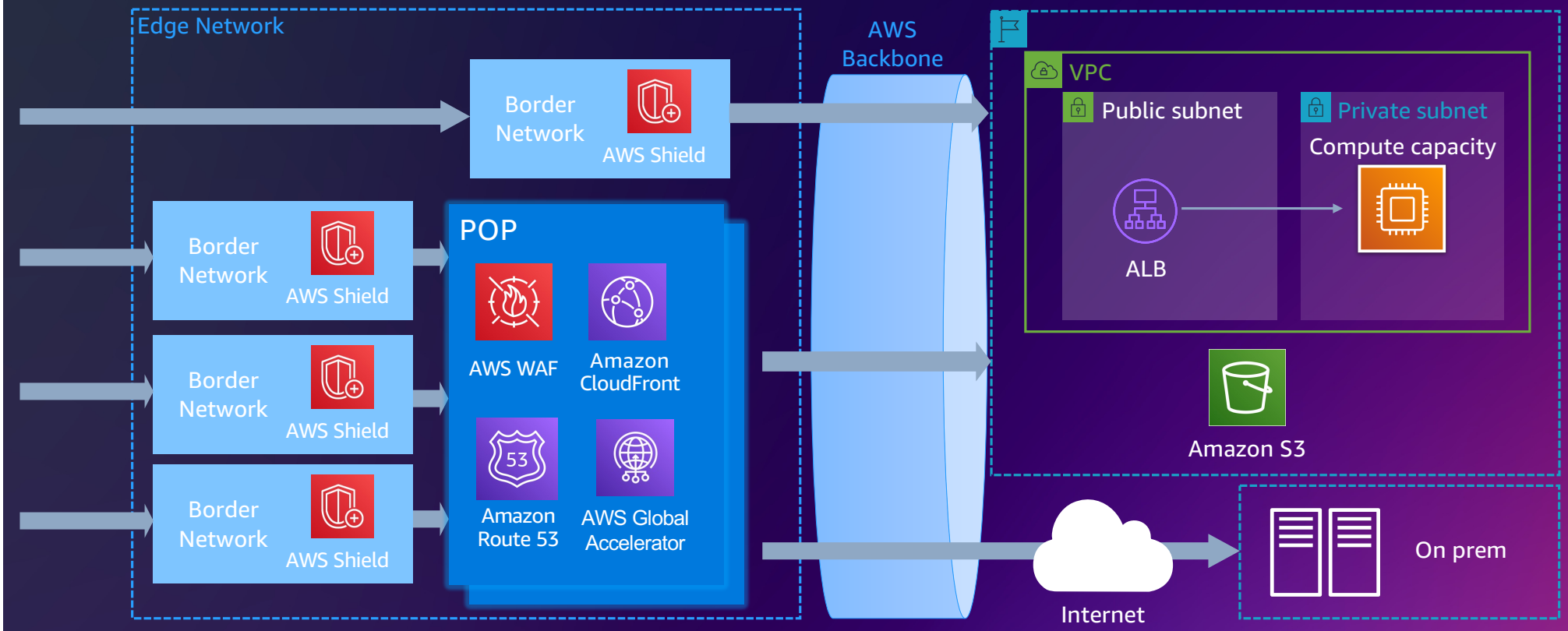
AWS Edge services



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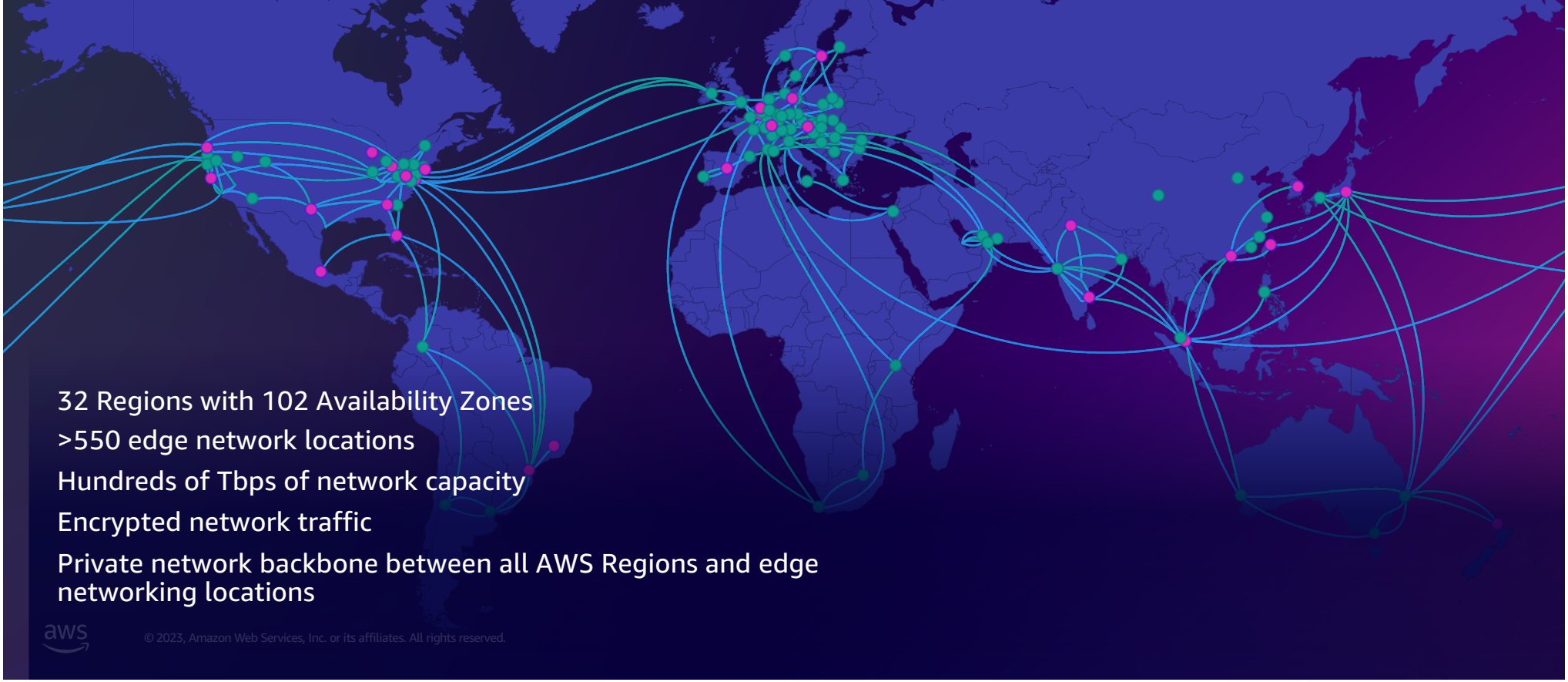
AWS global footprint

300Gb of flow logs ingested every second

100+ billion AWS managed rules requests processed per day

Thousands of DDoS attacks mitigated every day



32 Regions with 102 Availability Zones

>550 edge network locations

Hundreds of Tbps of network capacity

Encrypted network traffic

Private network backbone between all AWS Regions and edge networking locations

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- Performance
- Developers
- Security
- Cost savings

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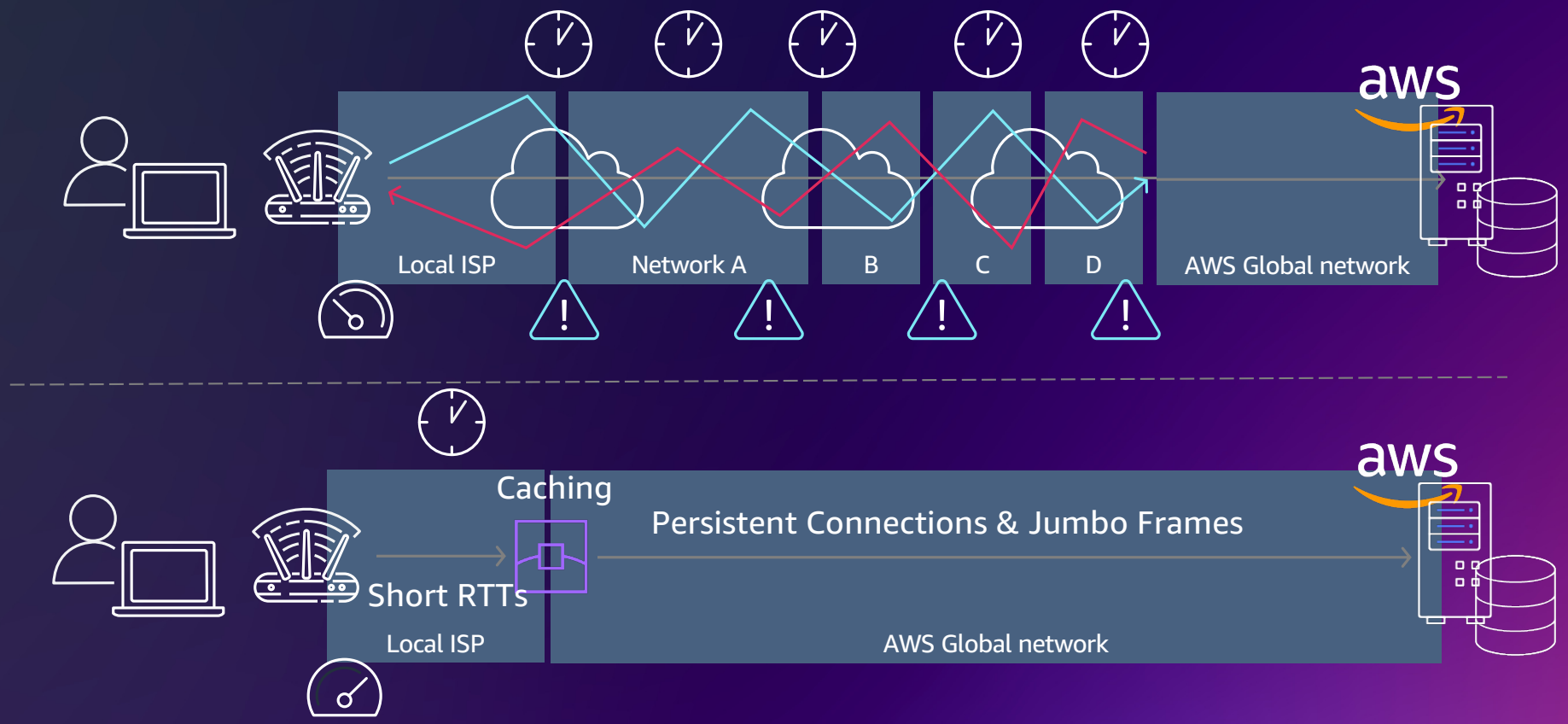
Exposing web apps: Region vs Edge?



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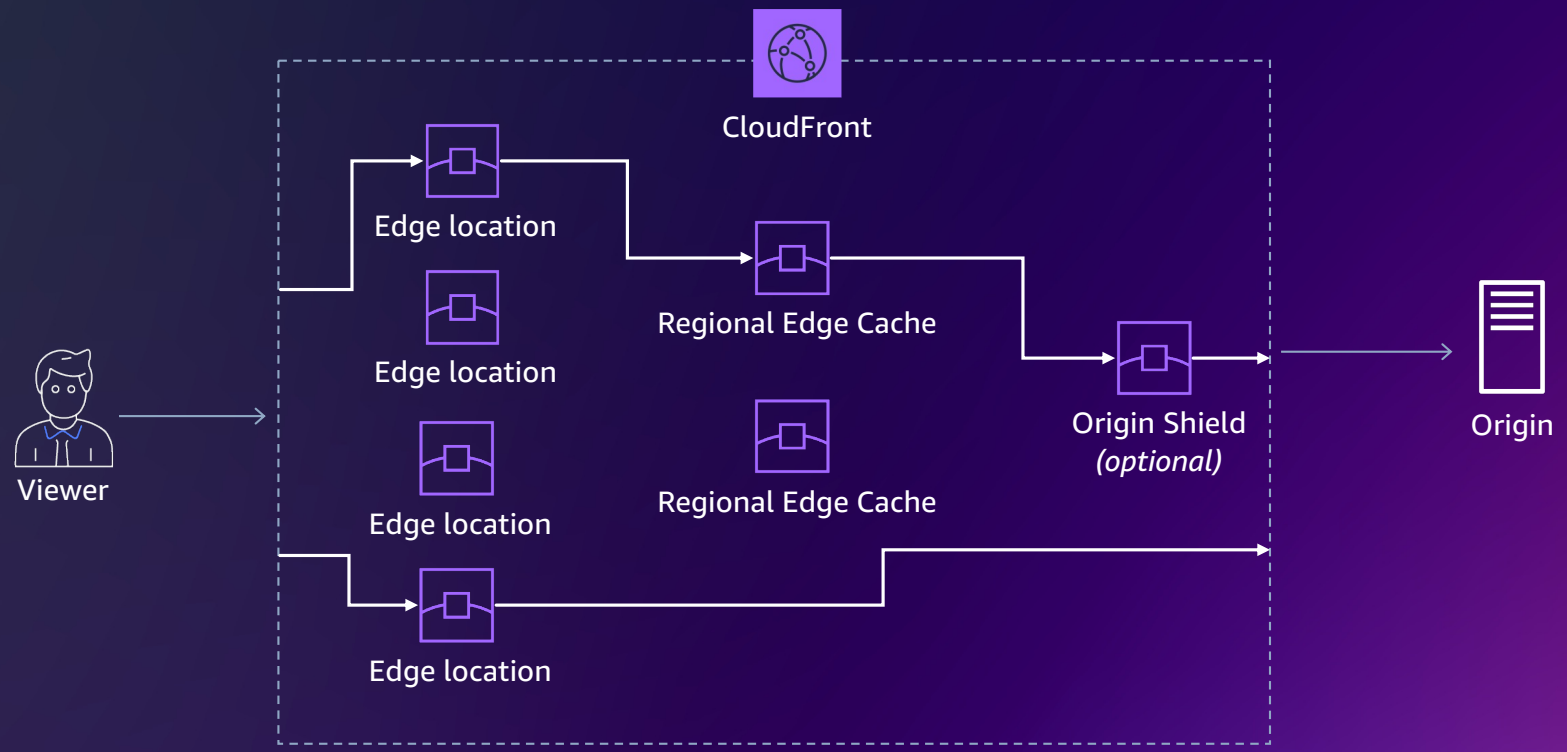
Layers of CloudFront



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Improving performance with CloudFront

What **AWS** does for you

1. Routing to best performant PoP
2. Modern protocols (HTTP/3, TCP optimizations, TLS 1.3)
3. Carrying traffic over the AWS Global Network
4. Persisting connections

What **YOU** can do

1. Define your caching strategy
2. Improve your cache hit ratio
3. Use CloudFront's capabilities at the edge

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Advanced resources

Improve your website performance

Host Single Page Applications (SPA) with Tiered TTLs

Accelerate, protect and make dynamic workloads delivery cost efficient

Image Optimization

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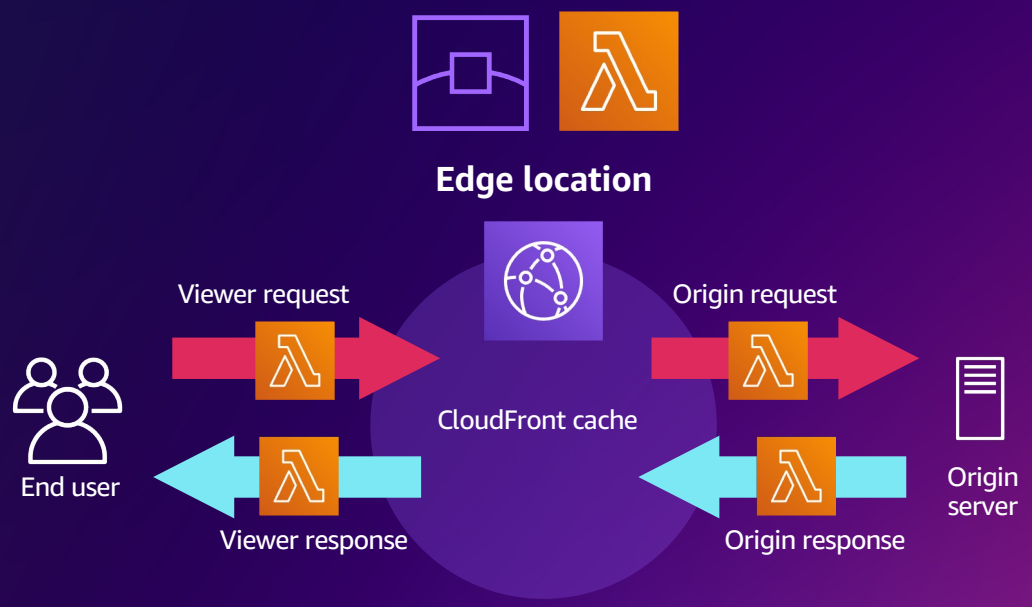
Use cases enabled by edge functions

- Event-driven code at the edge
- Header response manipulation
- Authentication
- HTTP redirects
- A/B testing
- Smart content assembly
- Image serve optimization
- Access control



Move code execution to the edge
Create/modify dynamic content

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Edge functions available with CloudFront

Lambda@Edge

- Long-running workloads
- More complex use cases
- Scaling considerations

Use cases

- Content customization
- Store-locater functionality
- Integration with SaaS vendors
- Waiting room functionality

CloudFront Functions

- Light-weight functions
- Stateless and self-contained logic
- Highest scale applications

Use cases

- URL rewriting
- Serving redirects at the edge
- Visitor session authentication
- HTTP response manupulation

aws

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Use-cases from customers

Feature flags

zalando

Image Optimization

outsystems

Multi-tenant routing

Pernod Ricard

Origin-less URL shortener

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Secure content delivery with CloudFront

What **AWS** does for you

1. Managed protection against L3/L4 DDoS attacks
2. Secure protocols (TLS 1.3 using s2n)
3. L7 protections (Slow Loris, HTTP Desync, HTTPS validation)

What **YOU** can do

1. Configure encryption (TLS certificate using ACM, TLS1.3, HTTP to HTTPS, full bridge HTTPS)
2. Configure access control to viewers (tokenization)
3. Attach Web Application Firewall
4. Implement Origin cloaking

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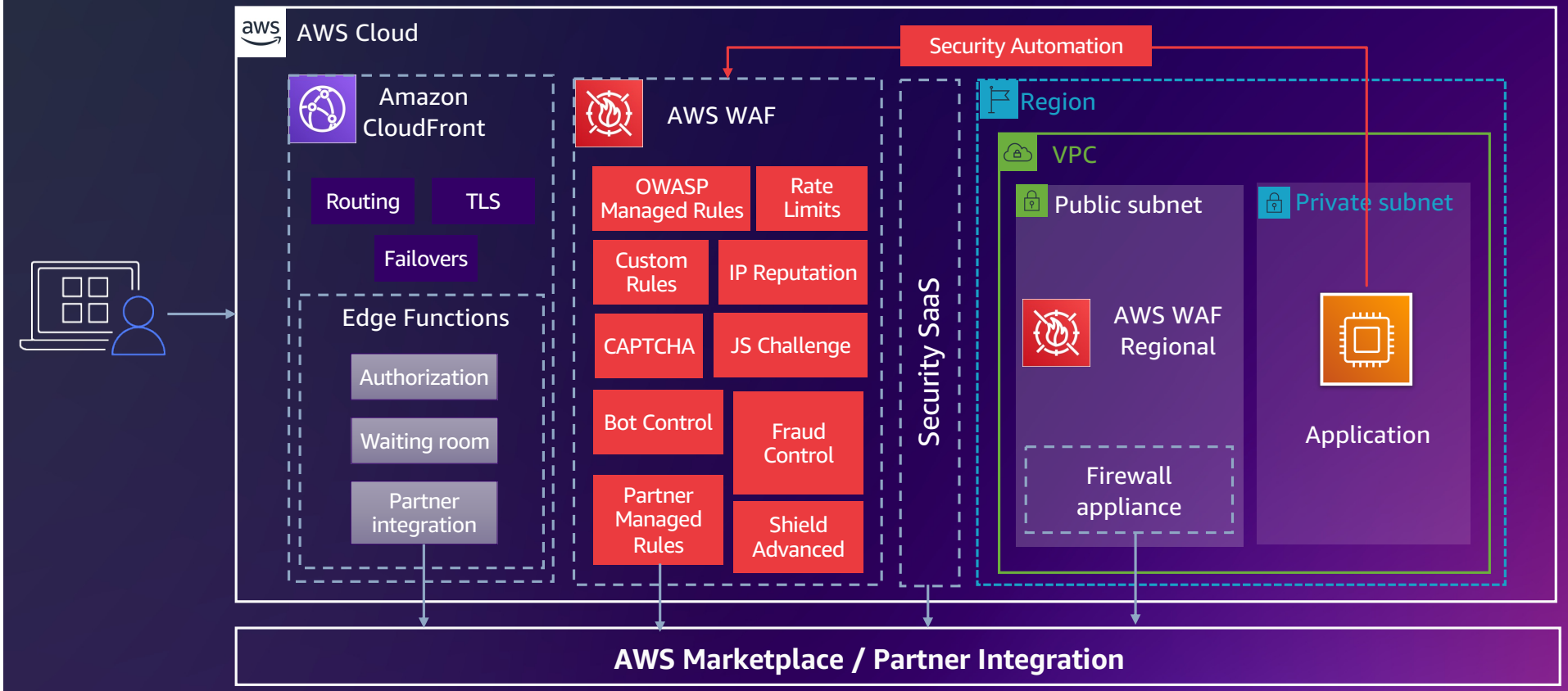
Breadth and depth of Perimeter Protection



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What's new? AWS WAF Bot Control now protects against distributed proxy-based attacks

Photo by Quang Nguyen Vinh on Unsplash

Announcement article

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Resources for Origin Cloaking

Limit access to your origins using AWS-managed prefix lists

How to enhance Amazon CloudFront origin security

Amazon CloudFront introduces Origin Access Control

Signing request to the origin

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How to reduce your application delivery bill?

What **AWS CloudFront** does for you

1. Always On Free tier (1TB/ month) Million requests, 2 Million CloudFront Function invocations)
2. No data transfer fees from AWS origins to CloudFront
3. No charge for SSL/TLS certs from ACM

What **YOU** can do

1. Use CloudFront for dynamic traffic
2. Compress content (image optimization, Gzip/Brotli, QVBR)
3. Block undesired traffic, and optimize security costs
4. Only Fetch what you need (Lazy loading, partial GETS, conditional requests)

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CloudFront: Pricing options

On-demand pricing

Published online
Regional tiered rates
Pay as you go
Free Tier

Reserved capacity

Reduced pricing
Contracts tailored to use case
Variable term
Security Saving Bundles

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Ensuring uncompromised security for Global Live and VOD Streaming with AWS WAF

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DIRECTOR CLOUD & DIGITAL PAYMENTS
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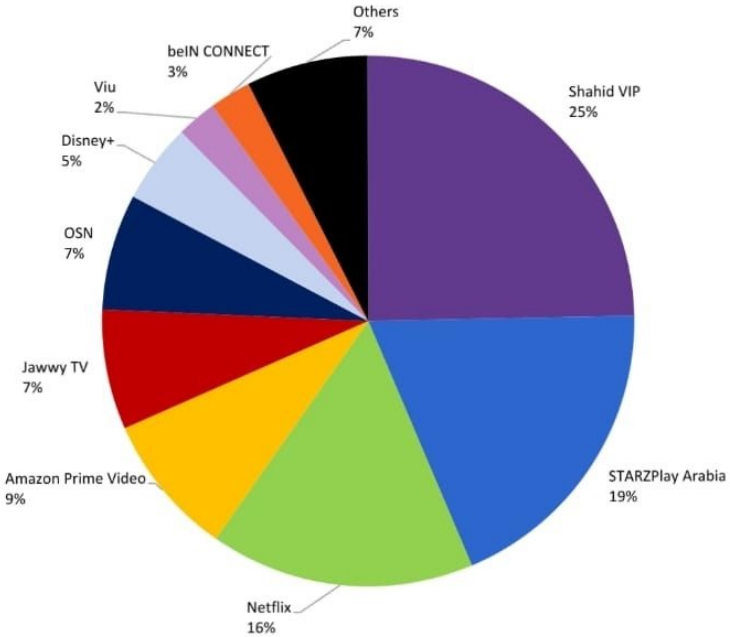
1 OF THE LEADING OTT PROVIDERS IN MENA

MENA OTT: new players emerge but established players still in pole position

OTT services market split, MENA, Q4 2022



- MENA's leading SVOD OTT Service Provider, holding 19% of the market share
- Provide access to content in across Hollywood, Arabic, French & Live Sports
- Available on 9 different platforms
- Integrated with multiple Payment Gateways, InApps & Direct Carrier Billing (DCB) providers within the region

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MENA’S SPORTS POWERHOUSE

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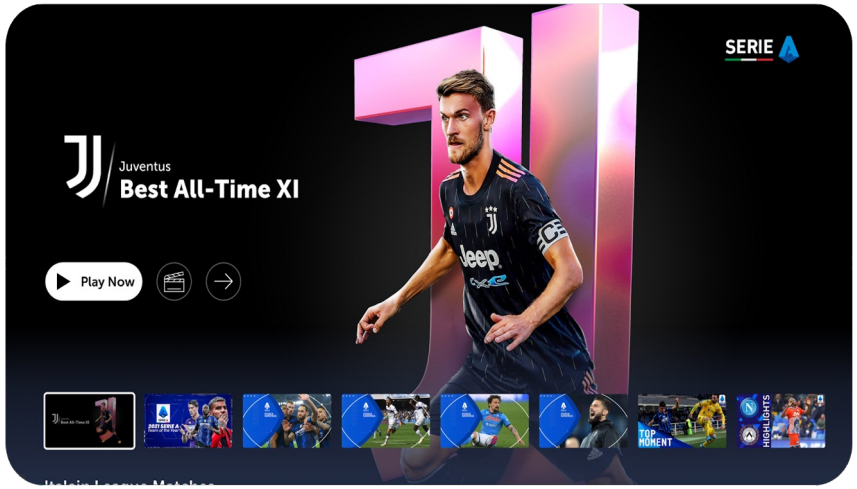
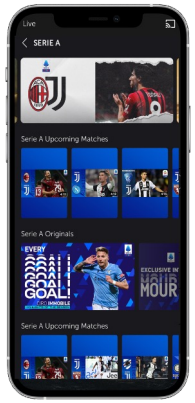
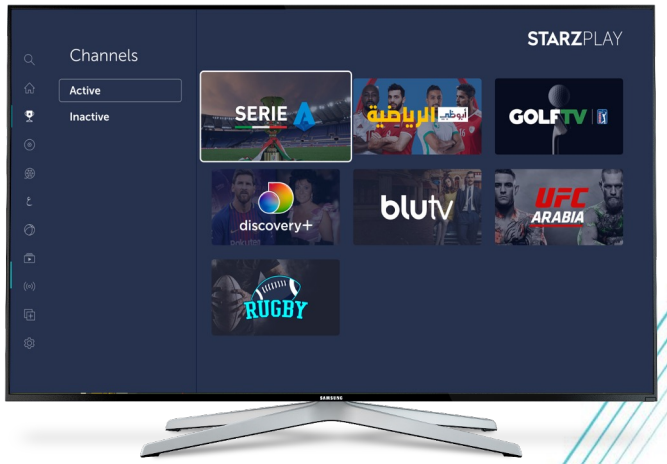
STARZPLAY'S SPORTS BUNDLE

Introducing a truly new Sports Bundle, which will include all of our users' beloved sports channels, along with the newly acquired Serie A for Italian football lovers.







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THE RISING THREAT OF VIDEO PIRACY

Revenue Loss

Brand Reputation

Content Types at Risk

One of the pressing concerns in the digital content industry, impacting content providers and copyright holders alike.

How digital technology has made it easier for pirates to copy, distribute, and monetize copyrighted material without permission?

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REVOLUTIONIZING SPORTS STREAMING WITH AWS EDGE SERVICES

Provide a secure, seamless and exhilarating sports streaming experience for the world's most anticipated football and cricket matches

AWS WAF for Real-time Threat Detection	Mitigate web-based attacks aimed at streaming infrastructure	Safeguarding live sports broadcasts the integrity of
Geo-Restriction with CloudFront and AWS WAF	Prevent unauthorized access to ensure that exclusive matches are accessible only to viewers in permitted regions	Comply with regional content licensing agreements
Lambda@Edge for customized User Experiences	Lambda@Edge functions detect the viewer's device type and adapt content delivery for optimal performance	Enhance viewer experiences, and ensure uninterrupted sports action

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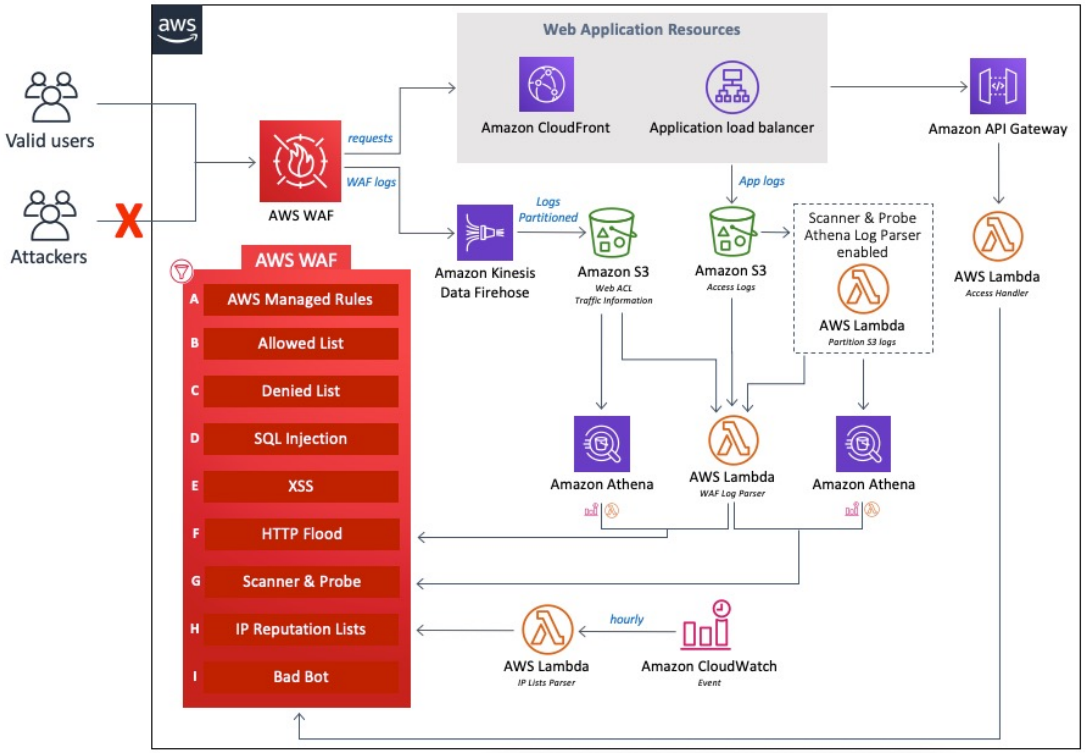
SECURITY AUTOMATIONS FOR AWS WAF



https://aws.amazon.com/solutions/implementations/security-automations-for-aws-waf/

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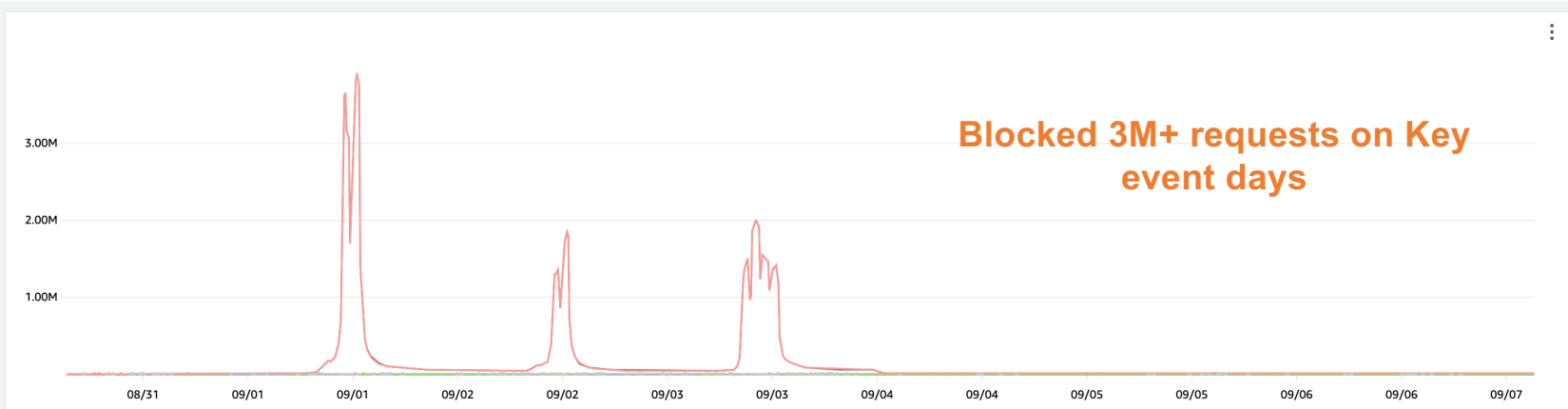
EXAMPLE OF BLOCKED ATTACKS



Sampled requests (100)
Samples of requests from the past 3 hours.

windowsversion

Find sampled requests

< 1 2 3 4 5 6 7 ... 10 >

Source IP	URI	Rule inside rule group	Action	Time
2.18.240.166 (IT)	/out/v1/ff6cef29465f4c3a9b0e8ea5bbf8839f/index_audio_25_0_7049670.mp4	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 14:01:09 GMT+0400 (Gulf Stan
104.91.70.34 (GB)	/out/v1/95528122fa434bcd948c9ed2e7afabee/index.mpd	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 13:44:46 GMT+0400 (Gulf Stan
95.101.180.22 (IT)	/out/v1/ff6cef29465f4c3a9b0e8ea5bbf8839f/index_audio_25_0_7049620.mp4	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 13:57:07 GMT+0400 (Gulf Stan
95.101.123.156 (IT)	/out/v1/ff6cef29465f4c3a9b0e8ea5bbf8839f/index_video_26_0_7048688.mp4	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 12:54:37 GMT+0400 (Gulf Stan
104.91.70.34 (GB)	/out/v1/95528122fa434bcd948c9ed2e7afabee/index.mpd	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 14:19:49 GMT+0400 (Gulf Stan
23.220.254.66 (IT)	/out/v1/ff6cef29465f4c3a9b0e8ea5bbf8839f/index_audio_25_0_7049099.mp4	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 13:22:39 GMT+0400 (Gulf Stan
23.220.254.194 (IT)	/out/v1/ff6cef29465f4c3a9b0e8ea5bbf8839f/index_audio_25_0_7049875.mp4	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 14:15:29 GMT+0400 (Gulf Stan
23.220.254.169 (IT)	/out/v1/0113008cd9d841739ee64d4418949580/index.mpd	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 13:32:50 GMT+0400 (Gulf Stan
104.91.70.34 (GB)	/out/v1/95528122fa434bcd948c9ed2e7afabee/index.mpd	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 12:41:50 GMT+0400 (Gulf Stan
23.220.254.169 (IT)	/out/v1/0113008cd9d841739ee64d4418949580/index.mpd	windowsversion#windowsversion	BLOCK	Thu Sep 07 2023 14:03:30 GMT+0400 (Gulf Stan

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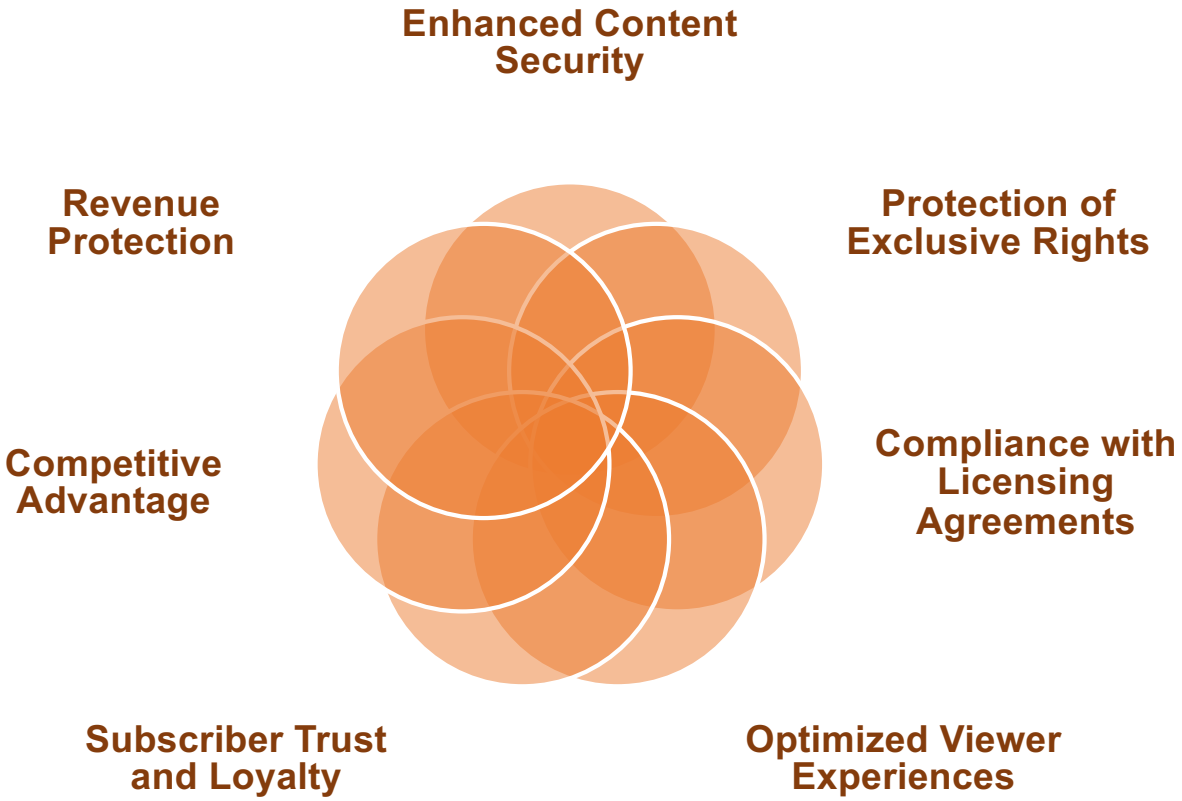
BUSINESS OUTCOMES OF USING AWS EDGE SERVICES



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Closing Thoughts

- AWS Edge services are foundational components for any performant, highly available and secure online applications.
- Use the building blocks available in AWS Edge Services in the best way to meet your business goals
- AWS Edge Services can be used to reduce the costs of your application delivery, or as to start a migration to AWS Cloud

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Please complete the session survey

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iOS

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Thank you!

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