



# Introducing AWS Edge location in Egypt

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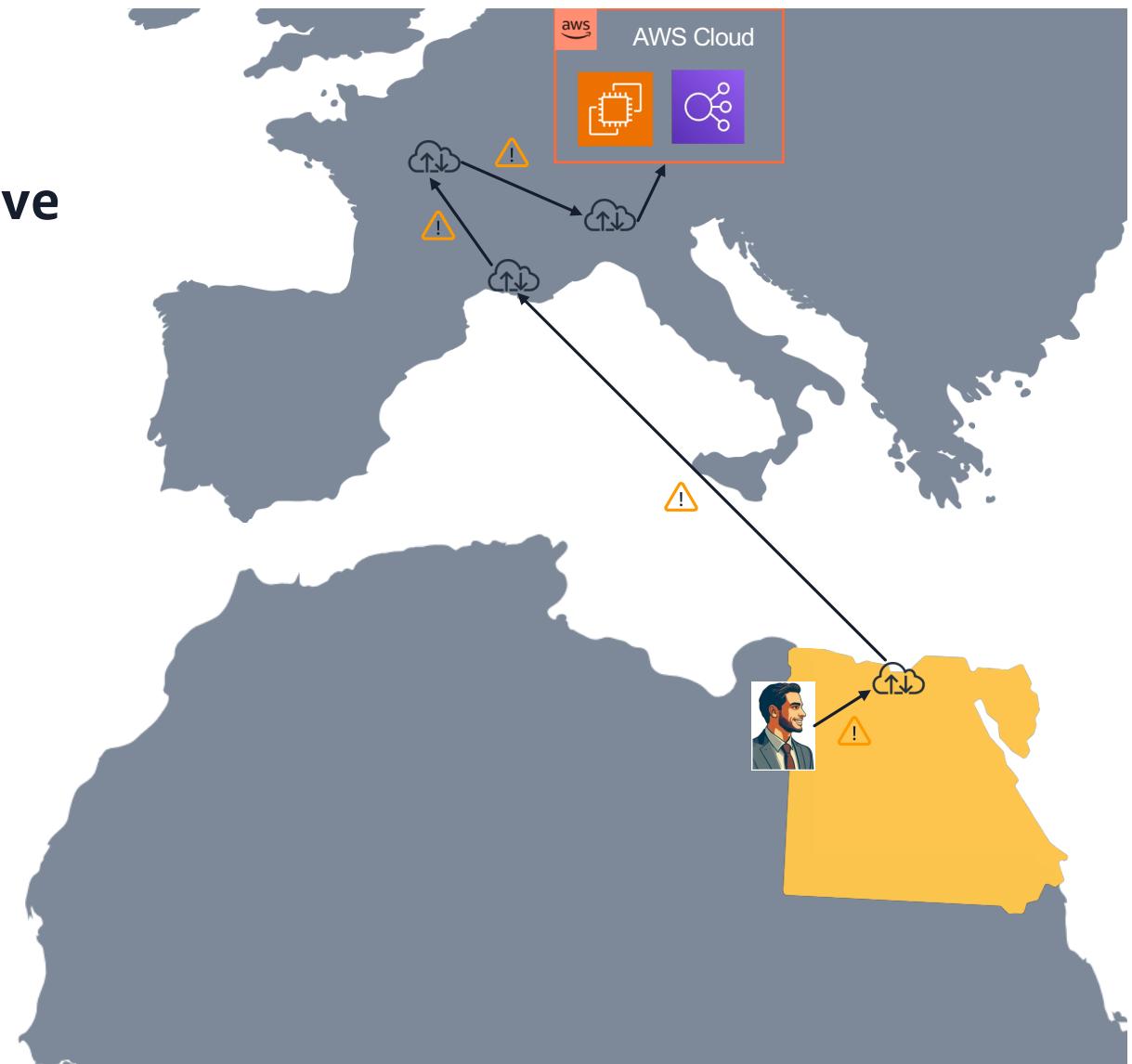
# Ahmad

- CISO of a startup in Cairo
- Loves football
- Big fan of Mohamed Salah
- Koshari is his favorite dish



# The internet is too unpredictable to watch a live football match without buffering

- Ahmad home
- ISP gateway
- Transit provider
- Transit provider
- AWS border network
- Stream hosted in AWS region





**Ahmad is considering  
to cancel his premium  
subscription**

**Lower quality**



**Buffering**



**“Slow is the new  
broken”**

**(most likely) Steve Souders**



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# AWS edge network

KEY

- Edge location
- Multiple edge locations
- Regional Edge caches



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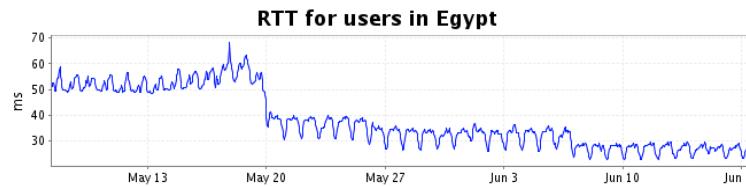


## Amazon CloudFront

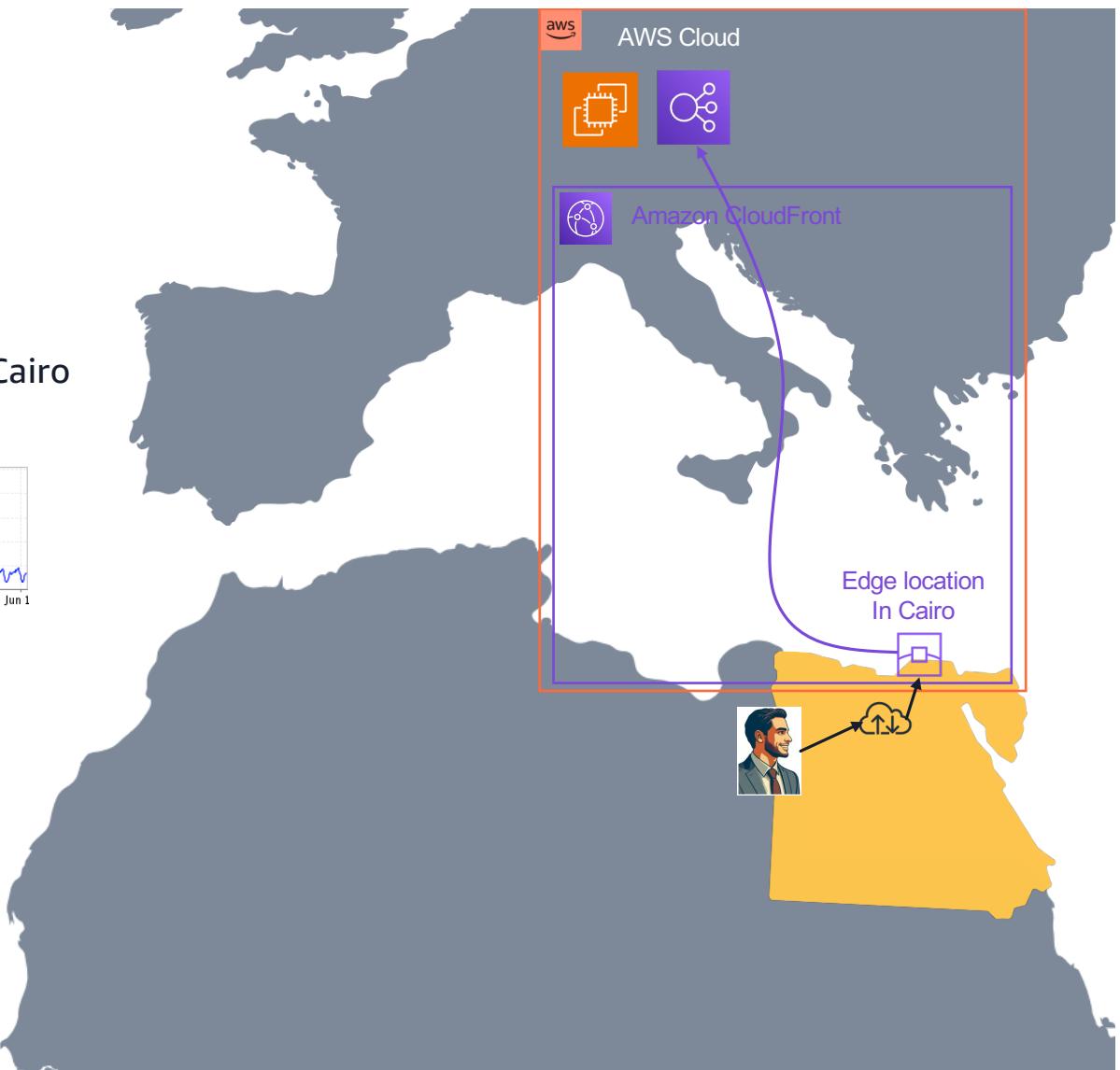
- AWS's Content Delivery Network (CDN)
- Global AWS service
- Built with the cloud on demand vision
- Foundational building block for Well Architected applications on AWS
- Expansion in the Middle-East

# AWS cloud meets Ahmad in Egypt

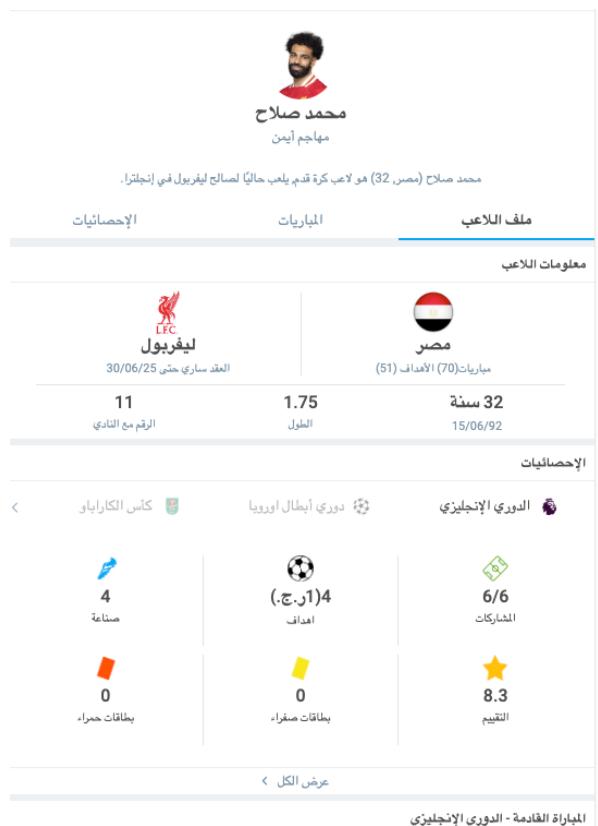
- Video segments are served locally from Cairo



- Cache misses on private network



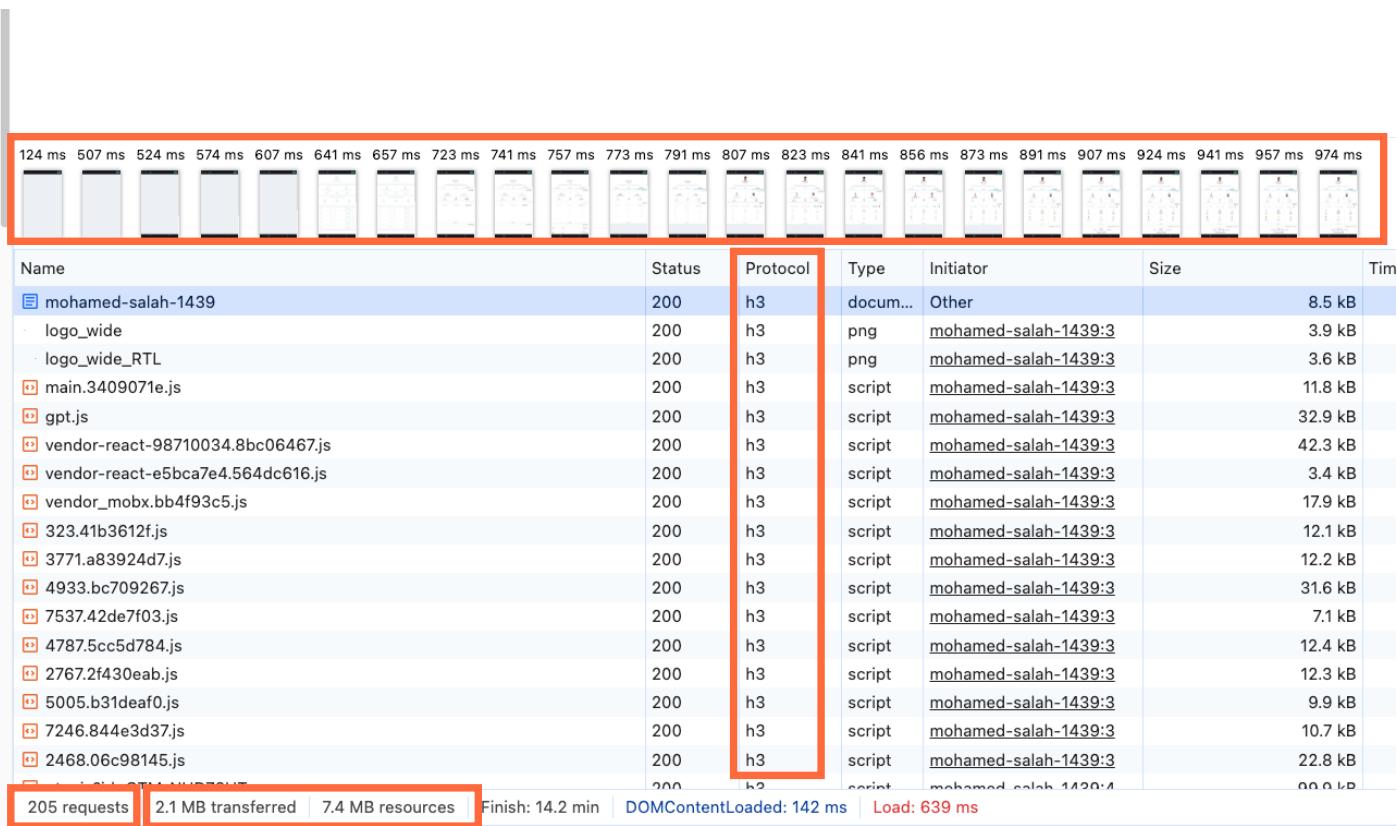
# Web pages load faster



Mohamed Salah's profile page shows his stats for Liverpool. Key details include:

- Team: Liverpool (LFC logo)
- Date: 30/06/25
- Position: Forward
- Goals: 1.75 (51 goals in 70 appearances)
- Assists: 11 (15/06/92)
- League: Premier League
- Cup: FA Cup
- Champions League: 4 goals (14 appearances)
- Other: 0 cards, 0 red cards, 8.3 rating

The "Player Info" tab is selected.



The Network tab displays a timeline of 205 requests. A red box highlights the first 20 requests, which have very low latencies (mostly under 100ms). A second red box highlights the last 20 requests, which have significantly higher latencies (mostly between 500ms and 1000ms). This visual comparison illustrates how modern web optimization techniques can dramatically reduce initial load times while still maintaining high performance for subsequent requests.

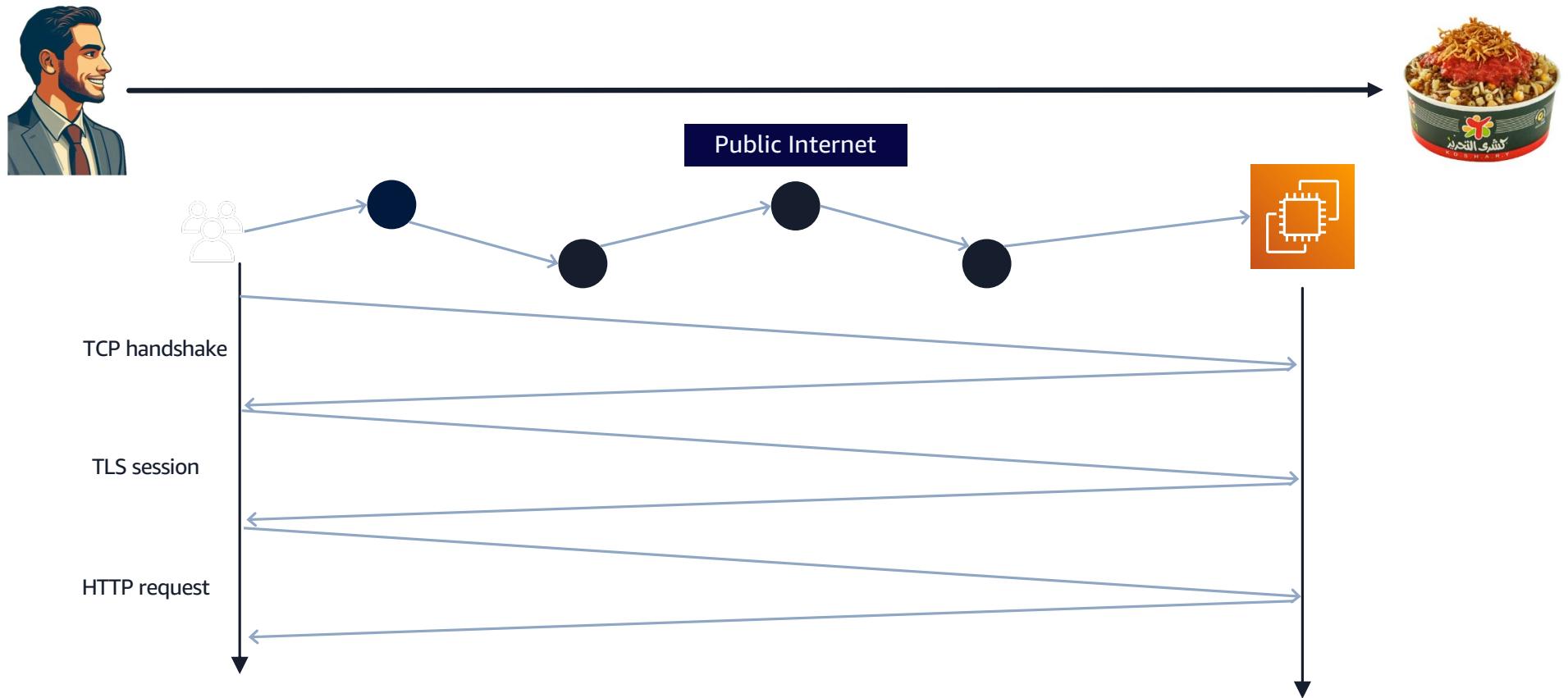
Name	Status	Protocol	Type	Initiator	Size	Tim
mohamed-salah-1439	200	h3	document	Other	8.5 kB	124 ms
- logo_wide	200	h3	image	mohamed-salah-1439:3	3.9 kB	507 ms
- logo_wide_RTL	200	h3	image	mohamed-salah-1439:3	3.6 kB	524 ms
main.3409071e.js	200	h3	script	mohamed-salah-1439:3	11.8 kB	574 ms
gpt.js	200	h3	script	mohamed-salah-1439:3	32.9 kB	607 ms
vendor-react-98710034.8bc06467.js	200	h3	script	mohamed-salah-1439:3	42.3 kB	641 ms
vendor-react-e5bca7e4.564dc616.js	200	h3	script	mohamed-salah-1439:3	3.4 kB	657 ms
vendor_mobx.bb4f93c5.js	200	h3	script	mohamed-salah-1439:3	17.9 kB	723 ms
323.41b3612f.js	200	h3	script	mohamed-salah-1439:3	12.1 kB	741 ms
3771.a83924d7.js	200	h3	script	mohamed-salah-1439:3	12.2 kB	757 ms
4933.bc709267.js	200	h3	script	mohamed-salah-1439:3	31.6 kB	773 ms
7537.42de7f03.js	200	h3	script	mohamed-salah-1439:3	7.1 kB	791 ms
4787.5cc5d784.js	200	h3	script	mohamed-salah-1439:3	12.4 kB	807 ms
2767.2f430eab.js	200	h3	script	mohamed-salah-1439:3	12.3 kB	823 ms
5005.b31deaf0.js	200	h3	script	mohamed-salah-1439:3	9.9 kB	841 ms
7246.844e3d37.js	200	h3	script	mohamed-salah-1439:3	10.7 kB	856 ms
2468.06c98145.js	200	h3	script	mohamed-salah-1439:3	22.8 kB	873 ms
corint	200	h3	script	mohamed-salah-1439:3	907 ms	
corint	200	h3	script	mohamed-salah-1439:3	924 ms	
corint	200	h3	script	mohamed-salah-1439:3	941 ms	
corint	200	h3	script	mohamed-salah-1439:3	957 ms	
corint	200	h3	script	mohamed-salah-1439:3	974 ms	

Summary metrics at the bottom:

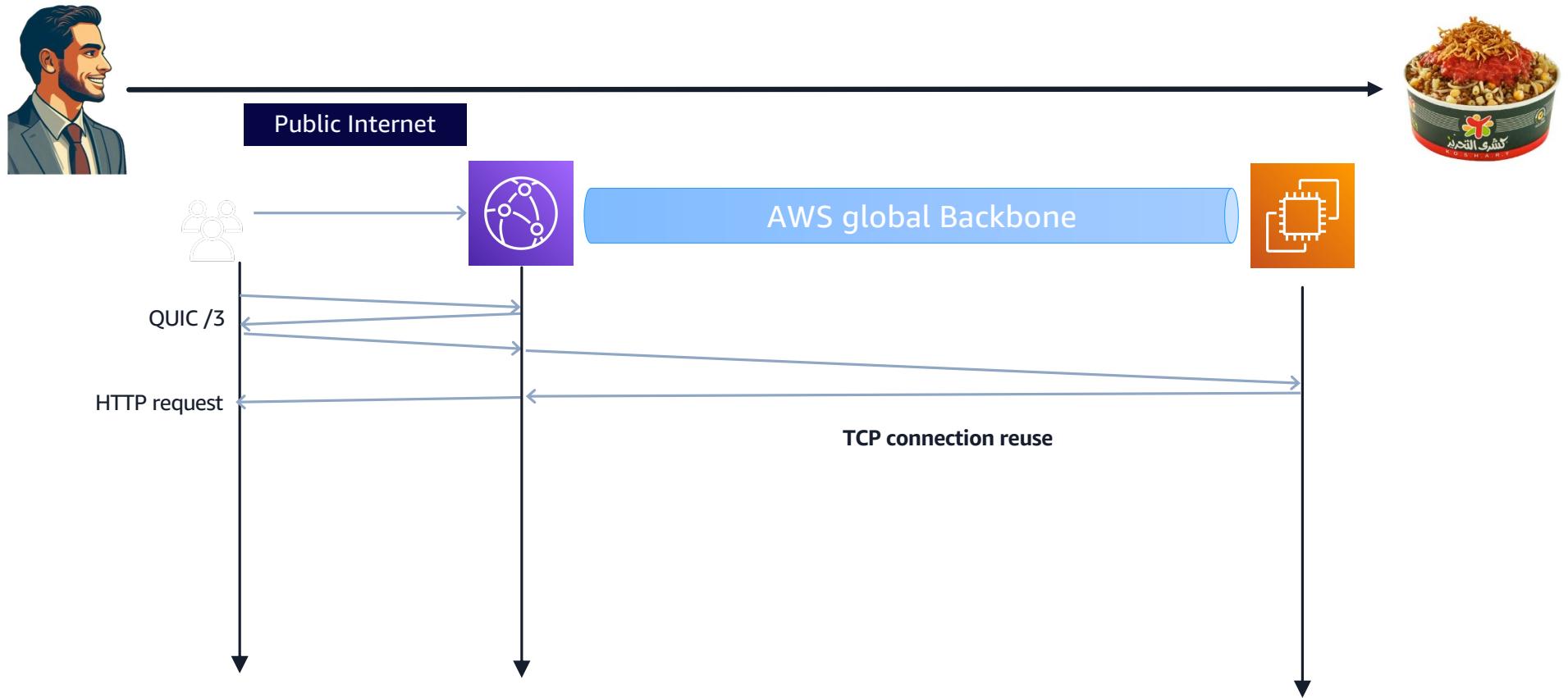
- 205 requests
- 2.1 MB transferred
- 7.4 MB resources
- Finish: 14.2 min
- DOMContentLoaded: 142 ms
- Load: 639 ms

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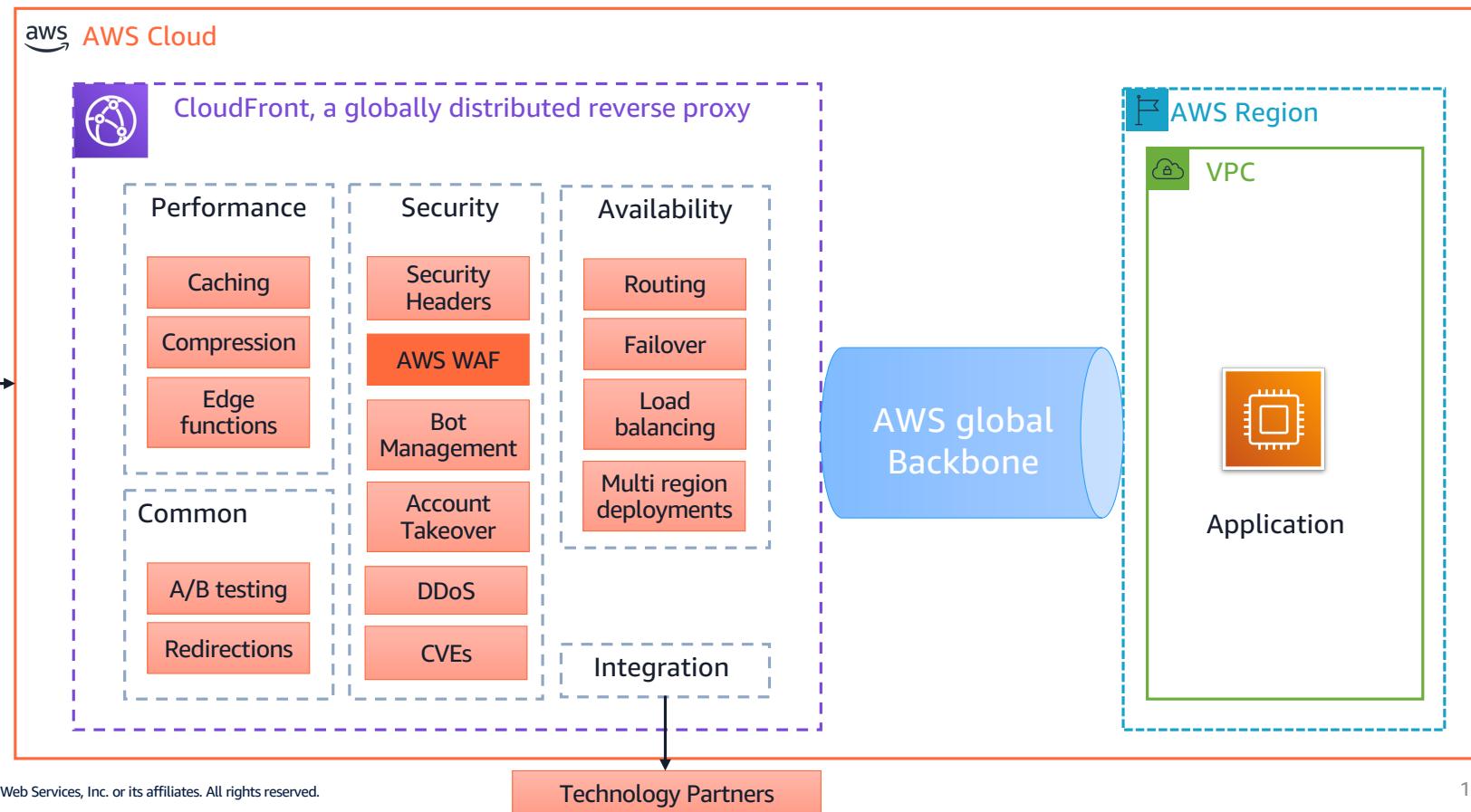
# API without CDN



# API acceleration with CloudFront



# Mental model of CloudFront



# Edge functions available with CloudFront

## Lambda@Edge



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

### Use cases

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

## CloudFront Functions



- Light-weight functions
- Highest scale applications
- Access to Key Value Store

### Use cases

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

## Example use-cases from customers



Feature flags



Image Optimization



Multi-tenant  
routing



Pernod Ricard

Origin-less URL  
shortener



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# Cybersecurity



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# Security with CloudFront

Same architecture for local and international markets

Works well with AWS

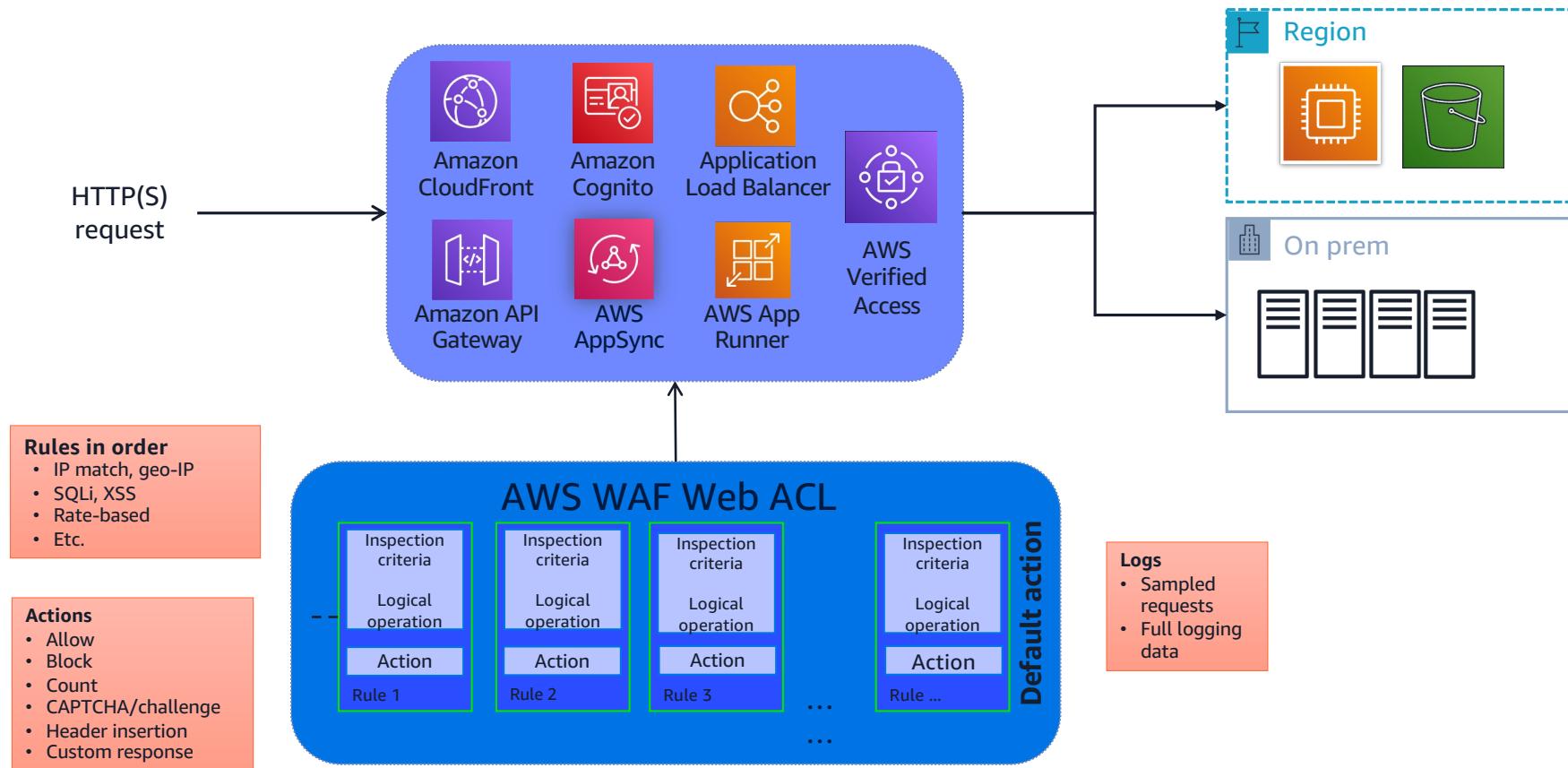
Out of the box complete protection against layer 3 and layer 4 DDoS attacks

Security at the edge

Advanced Web Application Firewall (WAF) capabilities by without WAF infrastructure to manage



# How does AWS WAF work?



# Ahmad's threat modeling

## DDoS attacks

Protect the availability of APIs



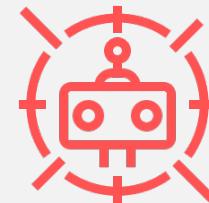
## Account Takeover

Protect login endpoints from credential stuffing



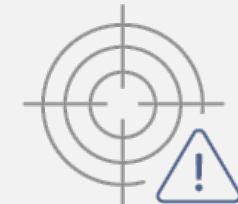
## GenAI costs

Avoid a denial of wallet situation with the customer service chatbot



## OWASP top 10

Baseline security



# DDoS protection

1M

Yearly DDoS attacks

EB

Data analyzed /min

100M

Daily interactions  
with honeypots

**Threat Intel**

Anycast

Blackwatch

Vanguard

Madpot

**Security of the Cloud**

IP reputation

Rate limits

Automatic DDoS detection

Shield Response Team

**Security in the Cloud**



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# Stop bots from abusing GenAI endpoints with Bot Control

277\$

GenAI cost saved for 1\$ invested in Bot Control

NIS221 – re:Inforce 2024

Bot signatures

JavaScript challenge to verify browser capabilities

Client side fingerprinting to detect automation frameworks

Behavioral analysis using session id

ML based detection of coordinated activities

CAPTCHA solving

Let's confirm you are human  
Choose all [the chairs](#)



⟳ ⓘ 🔍  
English ▾

Confirm



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# Next steps?



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# Application Security & Performance

RESOURCE



<https://s12d.com/edge4dev>



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The screenshot shows the AWS Application Security and Performance landing page. The top navigation bar includes links for Overview, Getting Started, Web Acceleration, and Perimeter Protection. The main content area features a large image of Earth with a network of lines, overlaid with the title "Managing false positives in AWS WAF" in bold white text. Below the title, a subtitle reads: "Thwart cyber threats, such as DDoS attacks, undesired bot traffic and malicious CVE exploits." A "PAGE CONTENT" sidebar on the left lists sections: Overview and Designing WAF rules with low false positives.

PAGE CONTENT

[Overview](#)

[Designing WAF rules with low false positives](#)

## Overview

Adding security controls such as WAF to a web application, increase positives are the occurrences of blocking legitimate user requests, which Managing false positives include designing rules that minimize them.

# Application Security & Performance

RESOURCE



<https://s12d.com/boutique>

fast-secure-e-commerce-demo

Cart Log in

A close-up photograph of a bamboo cutlery set, featuring a fork, a knife, and a spoon, resting on a light-colored surface.

**Bamboo Cutlery Set**  
Portable and reusable utensils made from sustainable bamboo....  
**\$49.99**

A collection of colorful, reusable glass bottles of various sizes and shapes, including spray bottles and jugs.

**Refillable Glass Cleaning Kit**  
All-purpose cleaner in a reusable glass bottle with concentr....  
**\$0.99**

A photograph of a person wearing a white organic cotton t-shirt against a pink background.

**Organic Cotton T-shirt**  
For sensitive skins and eco conscious fashion lovers....  
**\$29.99**

A close-up of a white food delivery bag being held by a person's hand.A photograph of a picnic setup on a patterned blanket, with a car visible in the background.A close-up of a black solar power bank with a grid of solar panels on its back.



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# Proof of Concept

Always on Free tier (1TB / month)

Bootstrap quickly using the AWS Console

Support by AWS and specialized partners

Private Pricing



# Thank you!

Achraf Souk

[in /achrafsouk](https://www.linkedin.com/in/achrafsouk)



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