

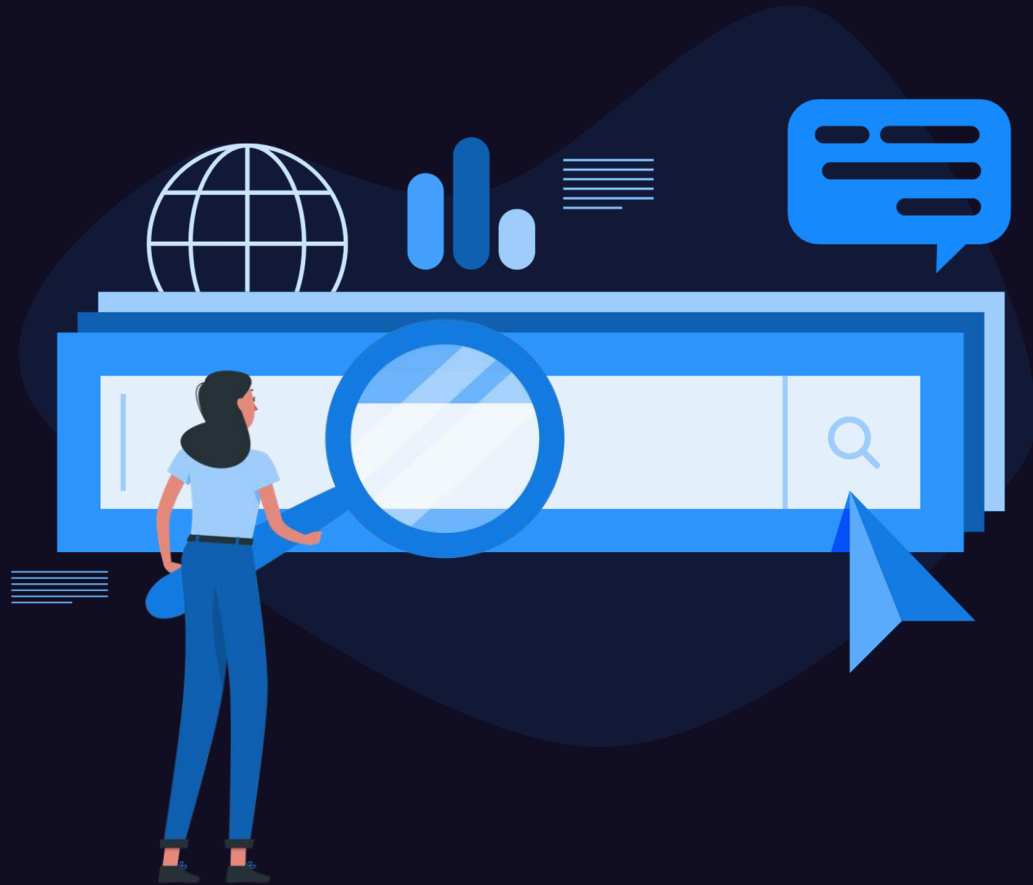


HarbourFront

Content Delivery Network (CDN) on cloud



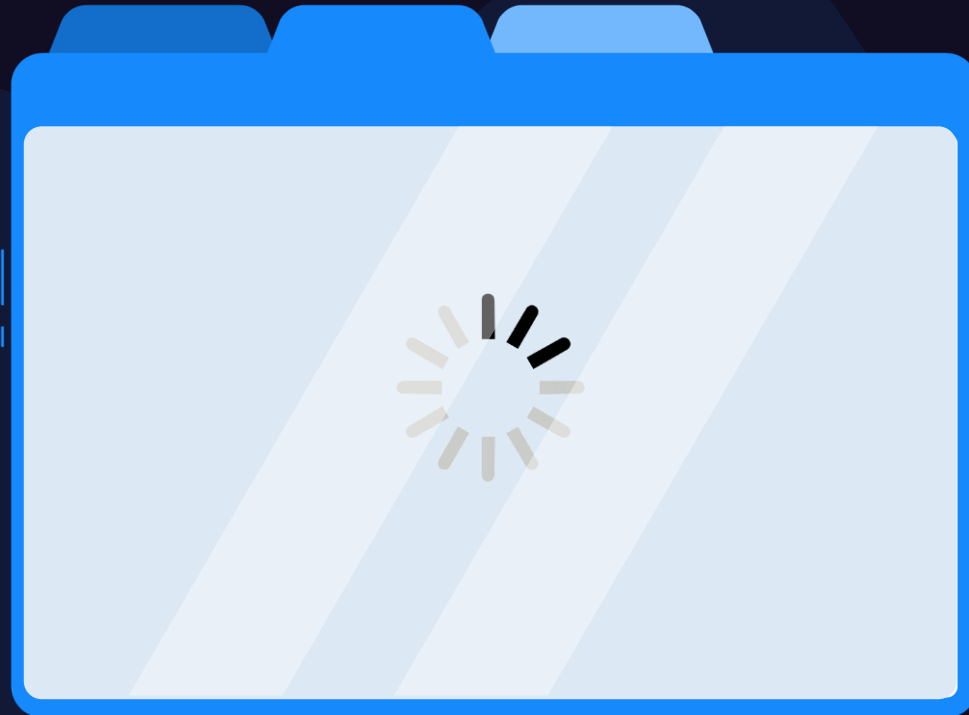
Let's start with website



93% of business purchase
decisions start with a **search engine**
search of websites



Performance matters



-16%

Reduction in customer satisfaction

for every one second delay in page speed

> 56%

Online consumers

will abandon a website after 3 seconds of waiting

+ 9%

Increase in website traffic

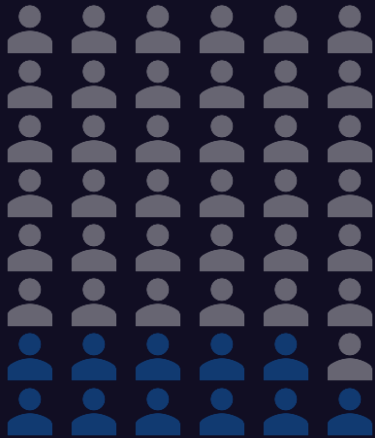
with just a 100 millisecond increase in website performance



Mobile users are demanding

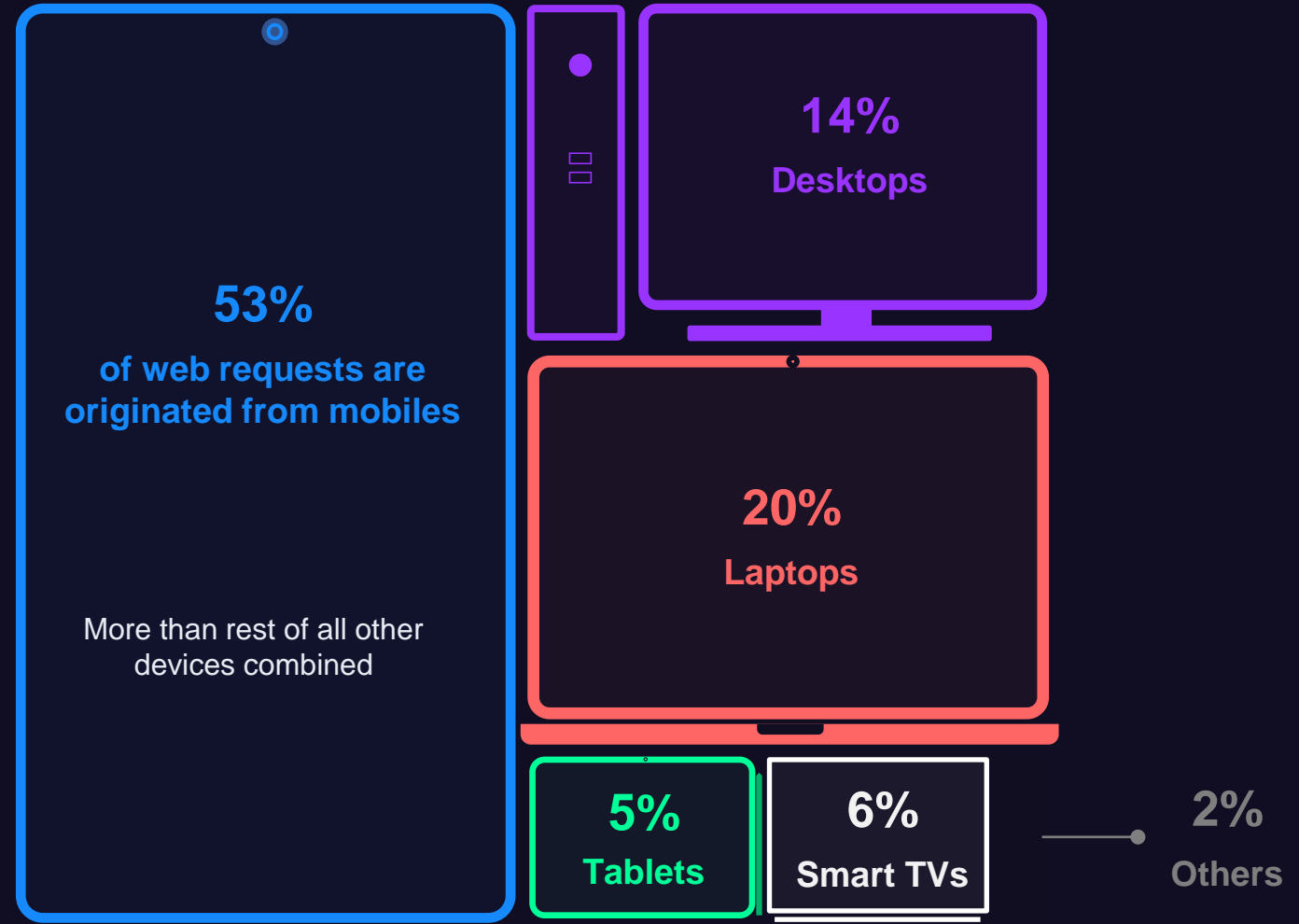
3.7 Billion

Smartphone users globally



~800 Million

Smartphone users are from India





Video's role in Internet traffic

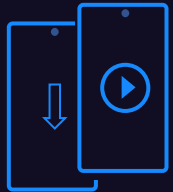


Internet users spent

06:48

HOUR MI

per week watching
videos online in 2020



79

% of the internet traffic is
coming from **video**
streaming, and downloads





It's not easy to deliver content



Technical problems

A great variety of target devices, with new laptops, TVs, smartphones and tablets appearing on the market all the time

Many video-formats to handle



Economical problems

Need to build or buy an infrastructure with sufficient redundant capacity to cope with peaks, growth and remote access

Need to acquire the skills to manage everything

Major problem for content delivery



Enterprise applications or websites have users all around the world, but they don't have servers all the world. When a user makes a request to website, roundtrip time is directly proportional to the distance between end-user and origin- server.



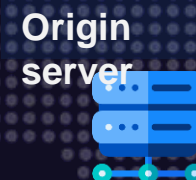
WHAT IS HarbourFront ?



Modern problems require modern solutions



~9 ms



Origin
server

~15 ms

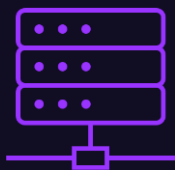
~22 ms

HarbourFront delivers content from closest geographical Point of Presence (PoP)

Thus, drastically reducing the amount of time to retrieve the content



It's not just about speed



Reduction in load (or)
capacity at origin server



Increase in uptime
of origin server



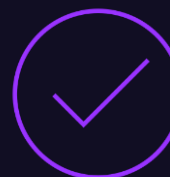
Scale out to different
geographic locations



Reduced threat
vector



Reduction in upfront
investments

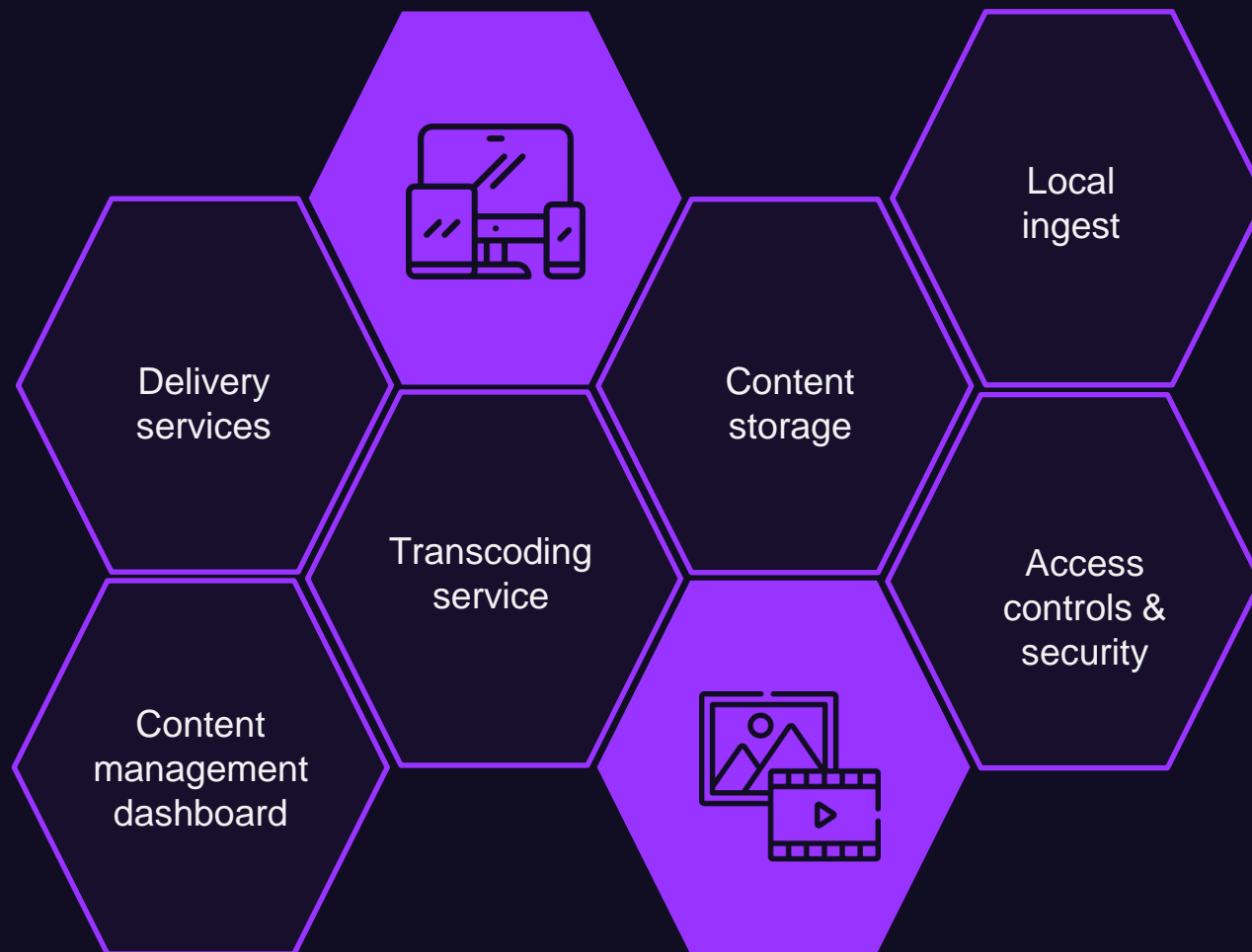


Increased customer
retention



Deep dive

Features





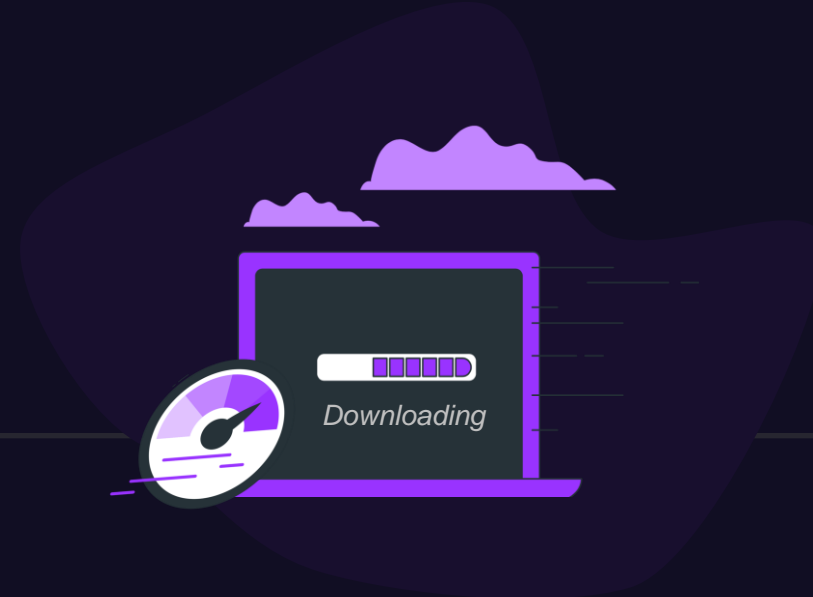
Delivery services



Web acceleration

Speeds up the end user's experience of a website by delivering the site from a network of delivery nodes around the globe

(Ideal for static websites)



File download optimization

Enable faster and reliable downloads to end-users, no matter their location or size of files

(Ideal for software updates, large file downloads)

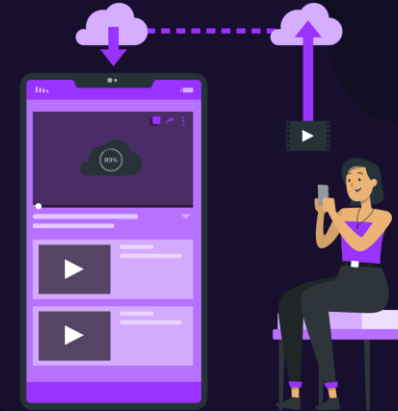


Delivery services



Live streaming

Stream live video from your 24x7 channels and one-time events over the Internet



On-demand streaming

Stream pre-recorded video or audio (e.g., movies, television programs, music) direct to users on demand



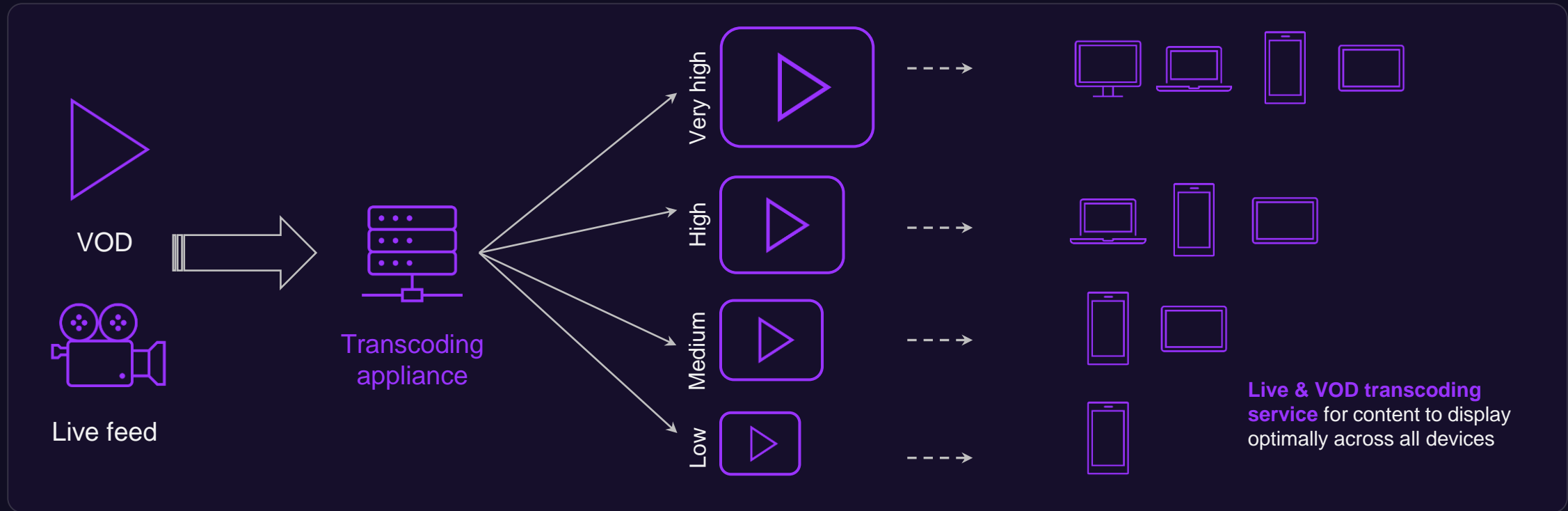
Adaptive bitrate streaming

VOD input protocols:

FTP | SFTP | HTTP |
WebDav | WatchFolder

VOD output protocols:

MPEG – Dash | MS Smooth streaming,
common or fragmented MP4



Live input protocols:

RTMP | MPEG-TS IP |
MPEG-TS RTP

Live output protocols:

RTMP | MPEG - TS IP |MPEG-TS |
RTMP Flash | Smooth | HDS |HLS



Features



Content Management Dashboard



Self provisioning

Customers can manage and provision their own content



Orgs & multi-tenancy

Entities can represent any organization or department and can have unique users, billing and reporting



API

REST API provides secure alternative method to make configuration changes



Configurable HTTP rules

Apply own HTTP rules including Host Headers and cache configuration (such as TTL and client cache header)



Audit trail

All content management actions are logged, and all access logs are archived for a period of one year

Access controls



Geo block

Restrict the distribution of content to customer defined geographies



IP access control

Restrict or allow access based on customer defined IP ranges



Token authentication

Restrict content access to end-users who have received a time-limited 'token' generated by the customers website

Others

...



Content storage

Highly available, resilient storage strategically located across our network

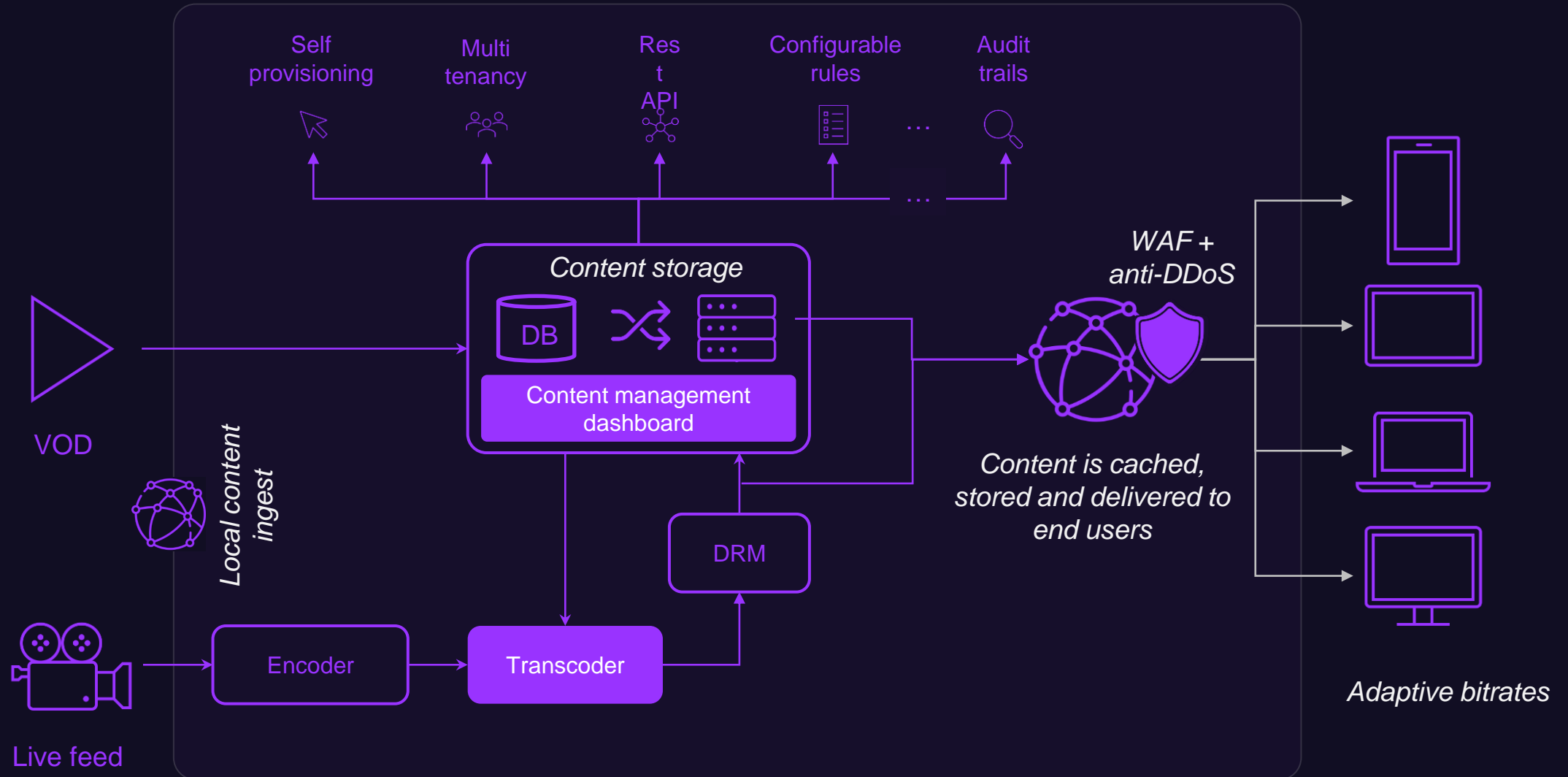


Local ingest

Content ingest (file upload or publishing of live video stream) can be directed to any of HarbourFront PoPs

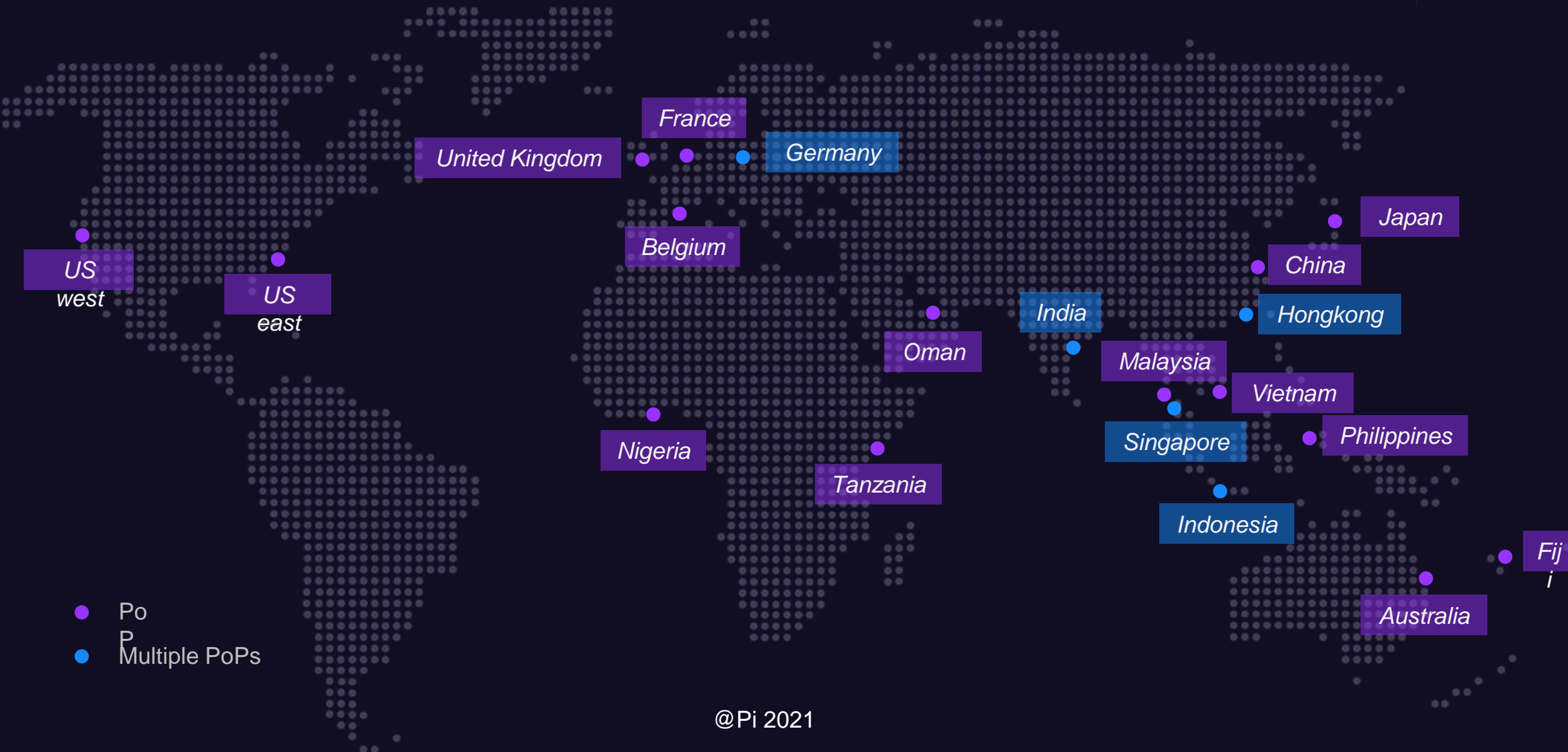


High level architecture





PoPs at the front





How CDN & IXP coexists ?

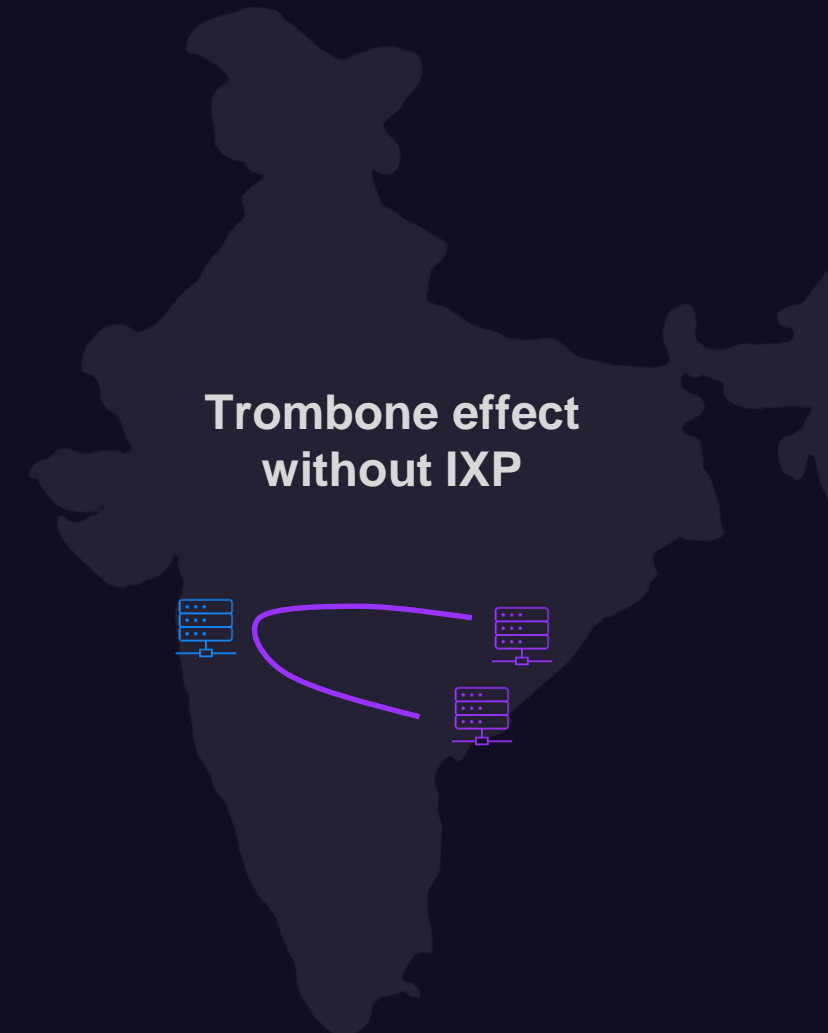


An Internet exchange point (IXP) is a physical location through which Internet infrastructure companies such as Internet Service Providers (ISPs) and CDNs connect with each other.

By having a presence inside of an IXP location, companies are able to shorten their path to the transit coming from other participating networks, thereby reducing latency, improving round-trip time, and potentially reducing costs.

Why are Internet exchange points important?

- Relying on a backbone ISP to carry local traffic can be adverse to performance, sometimes due to the backbone carrier sending data to another network in a completely different city.
- A CDN with IXP presence has the advantage of optimizing the path through which data flows within it's network, cutting down on inefficient paths.





SECURE WITH
HarbourFront



The modern battlefield is everywhere



Data breaches

In 2020, average cost
of data breach is around
\$3.86 million

Average time to identify a
breach in 2020 was
207 days

30%
of data breaches involve
internal actors

Cyber attacks

15.4 million
DDoS attacks are expected to
occur annually by 2023

By 2021 Worldwide costs
for cybercrime will hit
\$6 trillion

By industry

> 93%
of Healthcare orgs experienced a data
breach in the past 3 years

Average cost of financial
services breach is
\$5.8 million

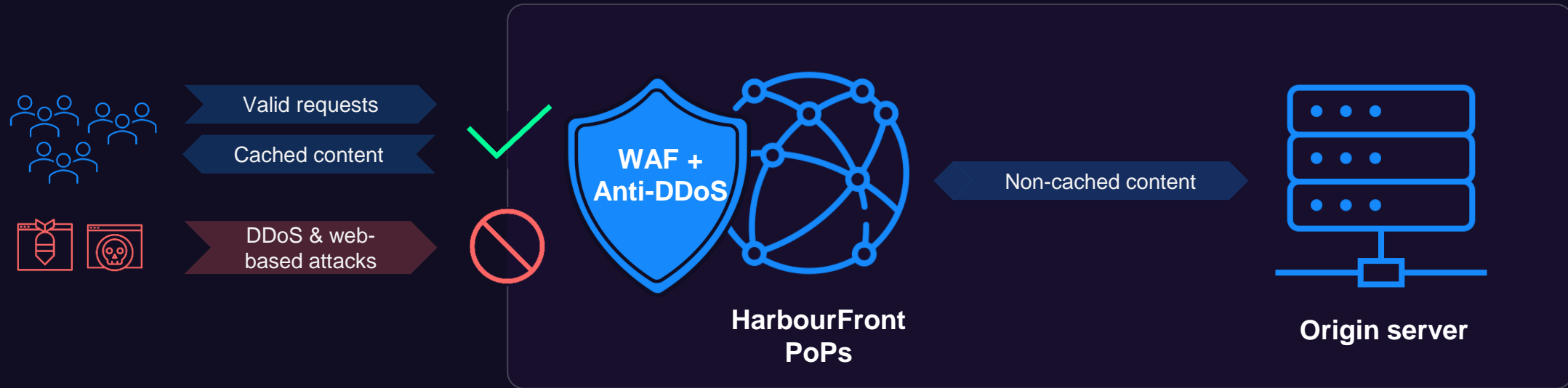


Value Added Services





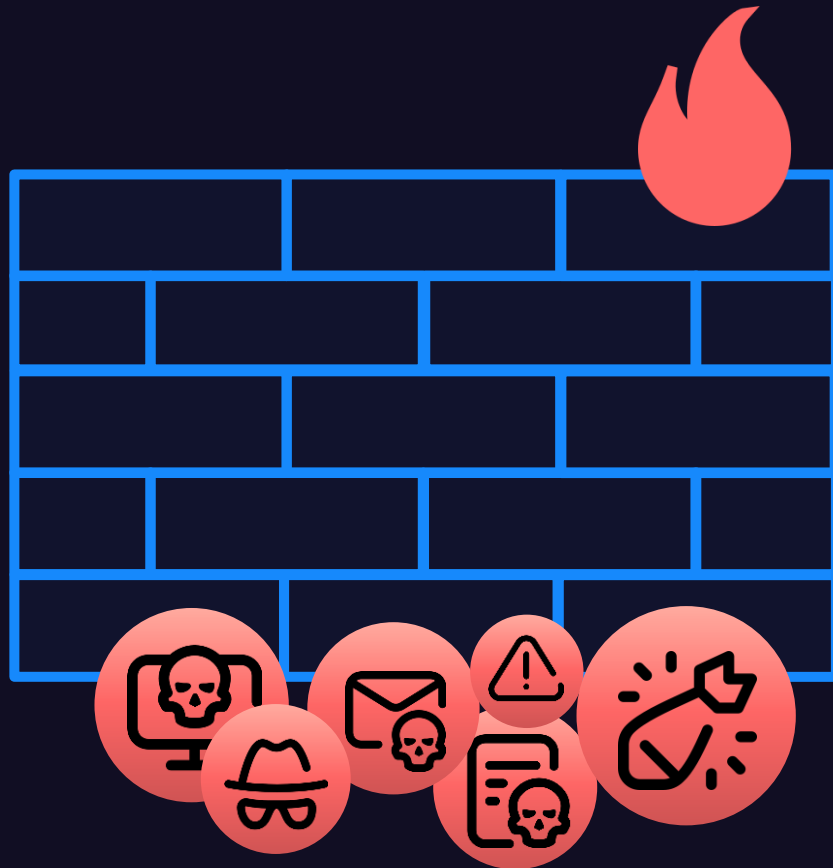
WAF + Anti-DDoS



Web Application Firewall (WAF) prevents and receives alerts on Internet-based attacks from known and unknown application threats. Some of the common attacks prevented include cross-site scripting (XSS) and Structured Query Language (SQL) injection.

Anti- Distributed Denial of Service (Anti-DDoS) prevents DDoS attack where multiple compromised systems are used to target your web server.

Advantages of WAF + Anti-DDoS



Faster Integration with on/off function



Single portal to access HarbourFront and WAF analytics/policies



WAF policies are constantly updated for ever increasing cyber threats



Reduced manpower from managing on-premise security hardware



Other Value-Added Services



SSL / TLS



Secure delivery

SSL/TLS allows secure acceleration and caching of website contents including static images and videos



Bring your own certificate

Enterprises can purchase their own certificate, giving them the control over the type of certification used

Low latency live



Low latency live protocols

RTMP HTTP-FLV, WebSocket, WebRTC, RTP, RTSP...are the protocols used for delivery



~ 3 seconds of latency

Achieve ultra low latency from source to viewer to ensure seamless delivery



Suited for latency sensitive industries

News, tech shows, sporting events, live concerts, e-sports, government broadcasts etc

Analytics & Reporting



Customization

Customized real time, on demand data for generating of insights for user-based recommendation & reporting



Overview of users

Overview of active users via OS, sign-ups via various modes & paying users for the month



Tracking

Top content publishers with most viewers | Top 50 streams with performance data | Daily referrals



Business insights

Comprehensive insights into content effectiveness, viewers behavior, traffic and other important metrics

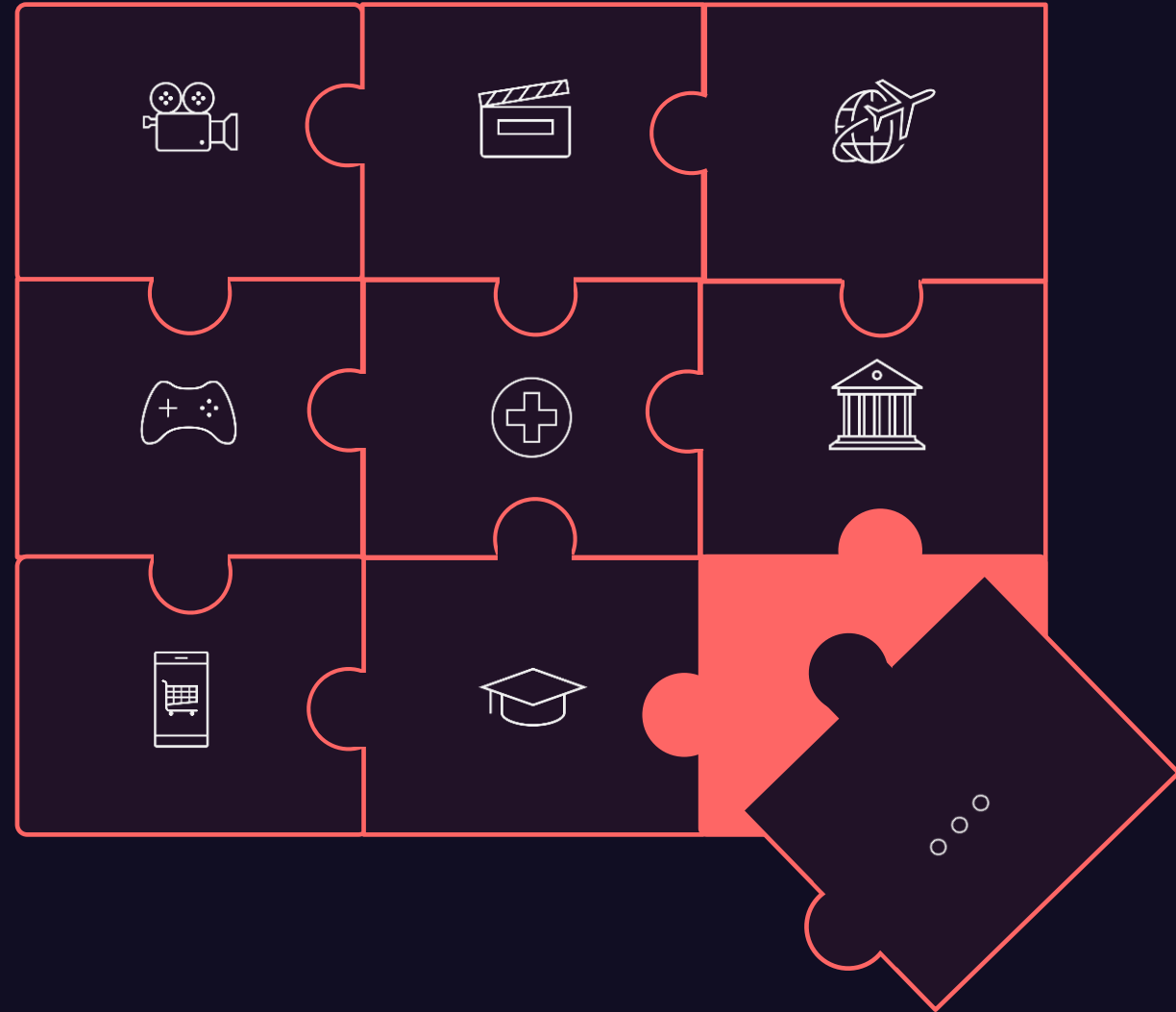


Reports

Comprehensive reports of throughput, requests, visitors, geographic split and parameters of your choice

 No matter your industry, size or location

**Industry
use cases**





Use cases & requirements



Industry	Demand for HarbourFront	Monthly usage (in TB)	Transcoding	Security
Media, tv & entertainment	Live and on-demand content	>1000	High	Medium
e-Sports	Download of software, game clients and patches	1000	Medium	Medium
e-Commerce	Web acceleration and transaction acceleration	500	Low	High
News portals	Live and on-demand content	50	Medium	Medium
Government	Live and on-demand content	20	Low	High
Education	Live lectures and training videos	30	Medium	Low
Financial institutions	SSL transaction acceleration for e-banking	5	Low	High
Shows, conference and events	Live broadcast, recording and encoding	20	High	Medium
Healthcare	Web acceleration, Live and on-demand content	10	Low	High
Manufacturing	Download of firmware and updates	50	Low	Low
General enterprises	Reach out to global audience and scale on demand	10	Medium	Medium



Have questions?

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Front™



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