RAFAY

Delivering Dynamic Origins

Challenge

Developers of modern applications prioritize the user's experience above everything, focusing on improving engagement by delivering interactive, dynamic experiences that "Wow" users. To deliver such experiences, modern applications use a combination of static and dynamic content. Static content emanates from fixed origin servers, which act as the source of truth for images, videos, JavaScript files, CSS files, etc. Content Delivery Networks (CDN) are ideal for delivering this static, cacheable content.

However, the true value of modern applications is content delivered from dynamic origins, presenting unique experiences to end users based on their profiles, location, prior interactions, etc. Since dynamic origins usually respond with a distinct experience for each user, their output is uncacheable. Hence, CDNs are not an option for delivering dynamic content.

The state of the art for dynamic content acceleration relies on a "better than Internet" transport layer that ensures data can be transmitted from the microservice execution location to the end user's device in predictable time. But given today's solutions for dynamic content delivery, coupled with increased latency stemming from modern application chattiness and computation time, the result is usually slow application response time and a poor user experience.

Computing personalized experiences takes time, as does the delivery of requests and responses across the Internet. For example, if an application running on millions of mobile phones would ideally like to receive an origin update every second, the total time it takes to send the request to the origin, process a unique response, and send the response to the mobile phone must take well under 1 second. Since this is unlikely with today's technology, the pragmatic answer is to send the update every 10 seconds. This reduces the origin's overhead but negatively impacts the user experience. Thus, lacking the infrastructure and tools to deliver superior end user experiences has forced application owners to sacrifice application interactivity and dynamicity in favor of lower response times.

Solution

Rafay does for dynamic, interactive experiences what traditional CDNs do for static content. And while CDNs continue to play an important role, modern applications that engage users by delivering interactive, dynamic experiences need an entirely new approach to deliver responsive content from dynamic origins to endpoints as quickly as possible.

Called the Programmable Edge™, Rafay's platform enables developers to deliver these highly engaging user experiences by automatically deploy latency-sensitive workloads (packaged as containerized microservices) closers to endpoints without the need for building an in-house platform or developing any specialized compute distribution capabilities.

The platform delivers powerful yet easy-to-use APIs for deploying microservices worldwide in minutes. Enterprises can leverage Rafay's multi-tenant network to gain instant access to global locations close to end users or deploy Programmable Edge technology in their own private edge application network.

Benefits

- **On-Demand Expansion of Your Application's Global Footprint:** All traffic from endpoints is handled by your containerized microservices, which are dynamically placed close to endpoints.

- **Highly Improved End User Experience – Globally:** Distributed API routing, global load balancing, end point authentication and policing ensure that end users experience a consistently high performing application.

- **Developer-Friendly Application Lifecycle Management Tools:** A suite of application life cycle features empower developers to deploy microservices to the large number of edge clusters without worrying about internally developing code and artifact deployment, log aggregation, and a variety of other tools.

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