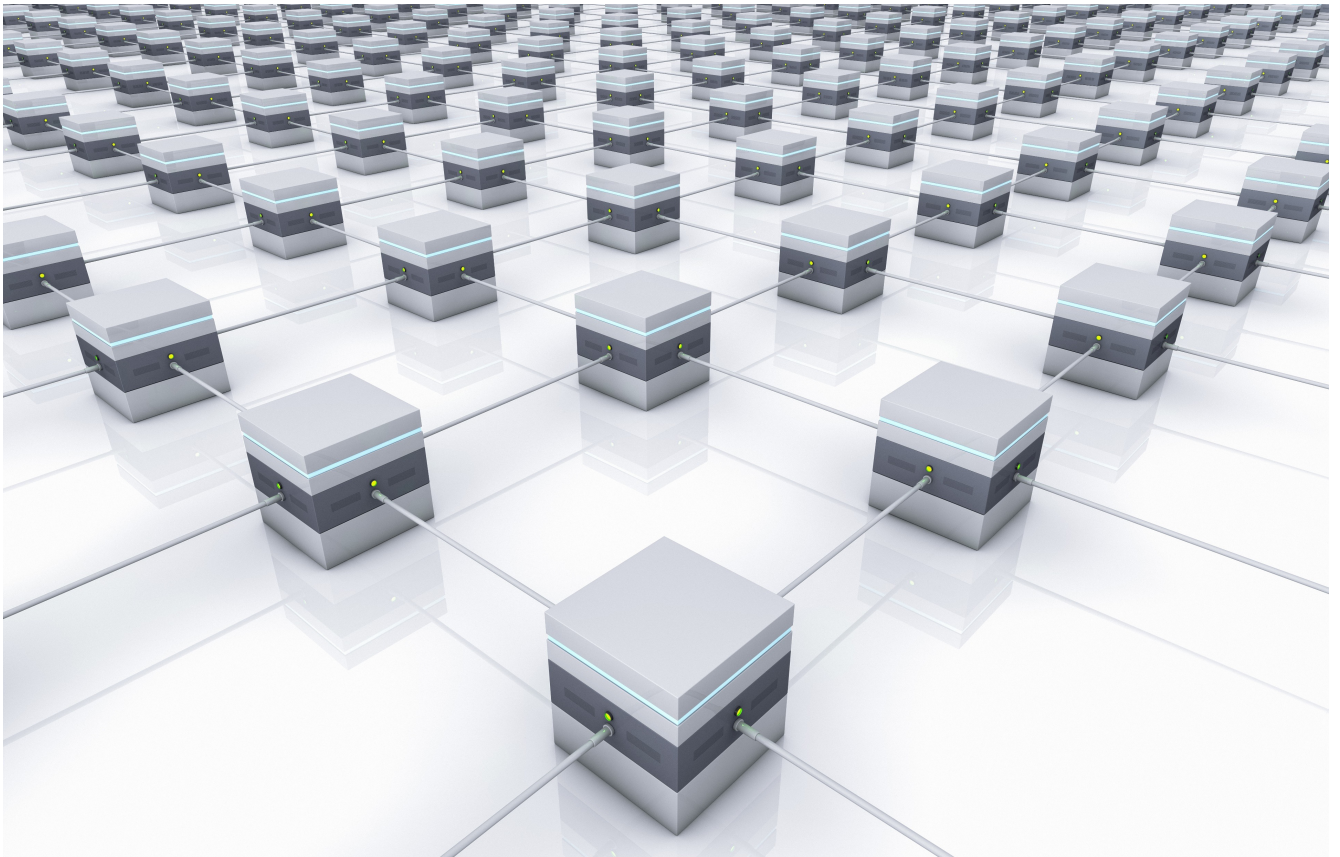


# Essential HTML Caching

Traditional CDNs provide the ability to cache static content, such as images, JavaScript and CSS. Lumen's edge-based application delivery is unique in its ability to provide a framework for caching HTML.



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# Why cache HTML?

The HTML file is the first piece of information that a web browser receives when loading a web page. This document is the key to the page's text, look and feel, and contains references to other items, such as images, that are needed to complete the fully visible page.

## Why HTML caching is important

As HTML delivery is the first step to any page load, time to first byte (TTFB) is critical. If the HTML loads slowly, it doesn't matter how fast subsequent content is delivered; the user experience is already compromised.

### **Performance**

Fast HTML delivery is critical to the speed of any web application.

### **Availability**

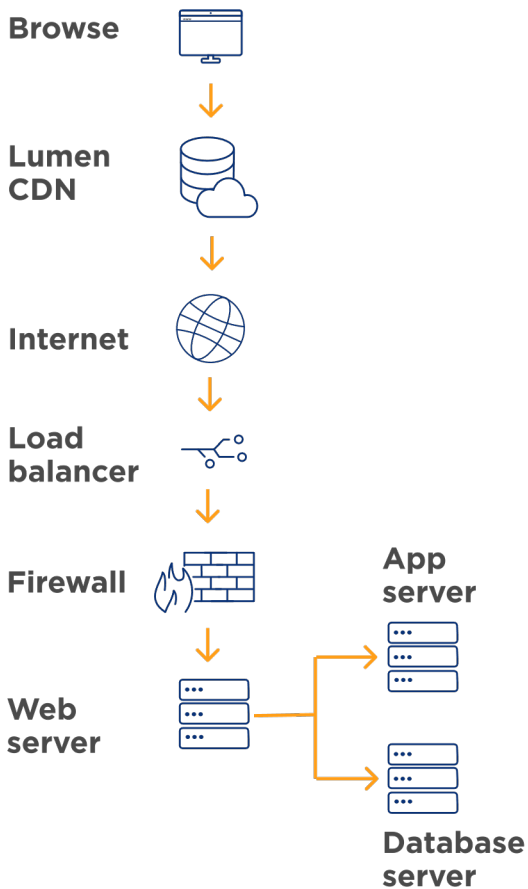
For any application to remain highly available under increased traffic volume, especially during peak media and sales events, the most important action you can take is to reduce the consumption of resources in your environment.



# HTML document generation

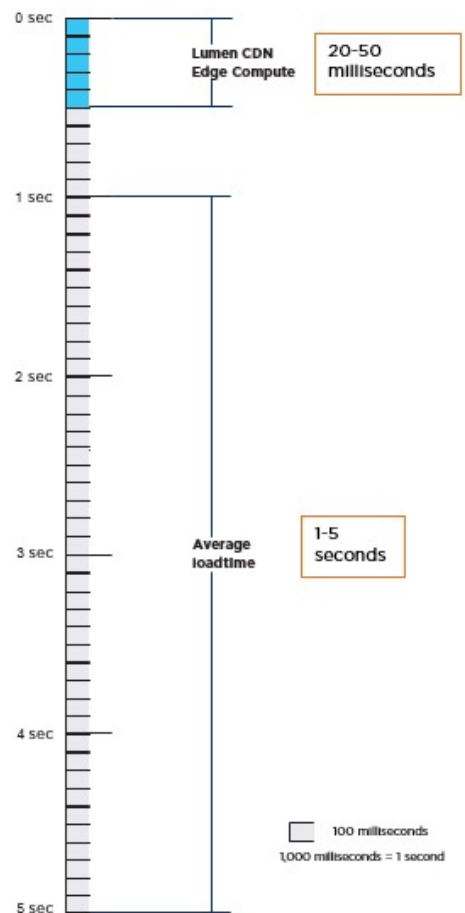
The process involved in generating HTML documents requires all of your server resources. Storing HTML documents at the edge is an efficient solution because it removes the resource consumption from your servers and infrastructure, to help ensure that your application remains highly available.

## Hosting environment



## Page load time

HTML document response time, a.k.a. time to first byte (TTFB)



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# Lumen's edge-based approach to HTML caching

## How to cache HTML

Caching HTML requires the ability to implement flexible configurations in your framework and test these configurations before pushing to production. There are a number of methods available to implement HTML caching:

- Cache all HTML documents.
- Cache HTML documents that are generic (meaning they can be shared among all users).
- Keep HTML documents generic and only add personalized information (such as the user's shopping cart) via AJAX.
- Cache parts of the page that are generic and not those parts of the page that are personalized (static vs. dynamic caching)

## Essentials for caching HTML

The Lumen edge-based approach to application delivery the developer toolset required to fully customize your configuration. To be able to effectively cache HTML documents, there are several key components to a successful solution:

- The ability to develop edge workload configurations locally on your machine
- The ability to test configurations through your test environments
- Real-time metrics
- Visibility of HTML document cache performance.
- Access to logs of every request to enable ongoing tuning/optimization

Lumen offers developers complete code-level control over their edge workload configuration, testing and global deployment. Core performance features, including HTTP/2 and Varnish Cache, can be easily configured to cache both static and dynamic content to help ensure websites are fast and scalable.

## Security benefits

Storing HTML documents at the edge has several security benefits.

### Security

- Denial of Service (DoS) attacks that attempt to consume server resources will fail as the service, instead of your servers, responds to all requests for HTML documents.
- You have the option to deploy a Web Application Firewall (WAF) inside our edge computing framework.
- You are protected by Lumen layer 7 DDoS solutions.

### True Origin Shield

An origin shield feature is essentially a caching layer in front of your servers. Traditional CDNs cache static documents, excluding HTML documents that are the largest consumer of resources on your server and hence the largest risk/threat. The Lumen edge-based application delivery framework caches both static content and HTML documents at the edge to provide a True Origin Shield that protects your entire application.

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## Why Lumen

From content acquisition to storage, encoding and distribution, Lumen's end-to-end video delivery solutions address your platform's multifaceted needs from a single provider. Benefiting from more than 15 years of experience tailoring CDN solutions for some of the largest global enterprises, Lumen serves nine of the world's ten largest media companies.