Enhancing Business Performance with a Content Delivery Network

Over the past few years, Content Delivery Network (CDN) has been embraced globally as a performance booster for business operations. With the startup culture predominant in the market, delivering an impeccable digital experience to the end users has become the priority for most entrepreneurs. Scaling the organisational infrastructure and addressing the dynamic requirements of the users is a significant problem that these organisations face. The continuous evolution of the technology and the skyrocketing growth of web applications have added to the challenge considerably. CDN has come to the rescue of enterprises that aim to engage their customers with better user experience, by delivering the requested content flawlessly.

This article helps you gain a deep insight into what a CDN is, its architecture and how a CDN contributes to improving the performance of overall business functions.

What is a CDN?

A Content Delivery Network, popularly known as CDN, is a distributed network of servers globally located to store replicated content that enables businesses to access content quickly and effortlessly. A CDN is a highly available and effortless platform for faster content delivery. The replicated content can be accessed from multiple locations concurrently, and therefore it facilitates an uninterrupted, flawless business operation.

CDN aims at enhancing the overall user experience and delivering improved business services more efficiently by optimally utilising the network resources. Content provider companies like media houses, content creation companies and e-commerce vendors approach CDN operators for getting their content delivered to their audience or end users. A CDN service can be availed from CDN service providers that offer server hosting in their data centres and provide content services.

What does CDN architecture constitute?

A typical CDN architecture comprises:

- **Delivery Nodes** – Delivery nodes are meant to deliver the data to the end users. Every delivery node contains a cache deployed on the nearest edge to the user on the delivery applications.
- **Storage Nodes** – The storage nodes provide the data to the cache. These nodes facilitate tiered caching and protect the origin servers; they are deployed in a hierarchical model. The storage nodes help in pre-publishing the content.
- **Origin Nodes** – These nodes are deployed within the infrastructure of the content owner or the network of the operator and are the primary content resource. Multiple origin nodes can be utilised for enhanced resilience and scalability.
- **Control Nodes** – The control nodes manage, route and monitor various CDN components. It enables the integration of OSS/BSS systems with the configured Network Operations Centres.

Deployment of the CDN nodes in multiple locations helps in lowering the costs associated with the bandwidth, as well as reducing the page load time and boosting the availability of content across the globe.

A Content Delivery Network may consist of hundreds or thousands of servers and nodes based on the CDN architecture and remote Points of Presence (PoPs).
How does a CDN enhance business performance?

CDN offers a range of benefits and capabilities to help companies that witness voluminous website traffic. The CDN serves the web content and allows seamless and quick access to online content.

Major CDN features that accelerate business performance include:

1. **Reduced Server Load**

   The CDN spreads the content across the network by strategically placing the web servers and forming a network infrastructure. This not only adds to the capacity to serve the users but also enables companies to serve more customers concurrently. As the content is scattered over various nodes, the server load is drastically reduced.

2. **Faster Content Delivery**

   The content delivery networks are more reliable and allow operators to render rich content with improved service quality while lowering the server loads, thereby reducing the costs. Moreover, the web application cache in the browser prevents downloading a specific page that has been accessed through the same browser in the past, which saves the page load time as well.

3. **Easy Segmentation of Users**

   CDNs are highly capable of identifying and analysing user interests from their browser history and help enterprises segment their website audience based on the content accessed by them previously.

4. **Reduced Network Latency and Data Loss**

   The improved stream quality rendered by a CDN helps to reduce the jitters during content delivery. Enterprises can effortlessly deliver high-definition content at reduced costs and decreased network loads by adopting an effective CDN.

5. **High Availability**

   With the fallback and edge servers in place, the content assets are dynamically distributed to provide improved asset delivery control. The capacity to address each customer’s requirement can be optimised, real-time view of the load and statistics can be generated, active regions can be identified and accurate viewing details can be reported to the customers. CDNs are embraced to offer 100% availability despite frequent power interruptions and hardware or network outages.

6. **Storage and Security**

   Maximum security to content storage and capacity, including videos and graphics content, archiving and data backup services are the key feature of the CDNs. CDN prevents the content from being compromised through Digital Rights Management and authenticated access to the content.
Conclusion

CDN services are core essentials for businesses of all types, specifically, the media-focused and content-centric companies. Effortless, prompt and uninterrupted content delivery enhances user engagement and can transform them into potential business opportunities. Improved customer experience induces loyalty and coaxes them to recommend the products and services to other prospective users.

Tata Tele Business Services is envisioned to provide best-in-class CDN solutions that help achieve better productivity, enhanced performance, improved customer experience and increased business opportunities in the most cost-effective way.

Visit https://www.tatateleservices.com/ or contact us at 1800-266-1800 to know more about our cutting-edge content delivery network services.