

# Smart CDN

## The ultimate guide



There's no doubt that consumers worldwide are rapidly embracing digital technologies. There are now over 5 billion internet users, and 6 in 10 working-age internet users buy something online weekly. A "typical" global internet user now spends almost 7 hours per day using the internet across all devices. Online video consumption is at an all-time high, with 92.6% of global internet users watching digital videos weekly. What's more, the global eCommerce market is expected to reach \$5.55 trillion by 2022. Unsurprisingly, businesses have also gone digital to meet consumers' needs and expectations better.

According to IDC, the global spending on the digital transformation (DX) of business practices, products and organisations is forecast to reach \$2.8 trillion in 2025.

Consumers today expect businesses to be able to meet them where they are, which means being accessible at all times and offering a seamless, super-fast experience. Since customers have more options and power than ever, enterprises must ensure that their website and mobile applications, which are pivotal channels for driving effective engagement, are up to par. By creating a memorable digital experience, enterprises can keep their customers happy and returning for more.

However, providing a positive digital experience is not always easy.

## Challenges in creating memorable digital experiences



### Slow, unreliable content delivery

Today, customers expect to be able to access content instantly. Whether looking up information on a company website, streaming a video, or downloading a file, they want the process to be fast and smooth.

However, not all companies can deliver this level of speed and reliability when it comes to digital content. Often, content is provided slowly and inconsistently, leading to a frustrating experience for customers. While some businesses can meet customer expectations, others struggle to keep up, leading to lost business and disgruntled customers.



### Ever-increasing security threats, attacks and bots

Whether it's a website, a mobile app, or a piece of software, enterprises need to be able to deliver their content quickly and securely. However, the rapid rise in security threats makes this increasingly difficult. Botnets, for example, can generate massive amounts of traffic that can overwhelm servers and bring down websites. In addition, many malicious actors are now using sophisticated methods to bypass traditional security measures and gain access to sensitive data.



### Limited scalability for managing traffic spikes

As any business owner knows, managing traffic spikes can be a challenge. Unexpected web or application traffic surges can lead to downtime, poor performance, and unhappy customers. A smart CDN can help businesses manage traffic spikes by automatically adapting to changing conditions and providing the power and scalability needed to keep their website and applications up and running even during peak periods. By being prepared for traffic spikes, businesses can avoid the negative consequences of downtime and deliver a better user experience.



### Difficulty in maintaining agility

As digital adoption rates continue to rise, businesses are under increasing pressure to scale their digital operations and provide the same level of personalised service as a brick-and-mortar setting. By delivering innovative, customised experiences, companies can stand out from the competition and build loyalty with their customer base. However, many organisations find it challenging to keep up with change due in part to the slow and cumbersome process of enabling new use cases.



### Complexities of management

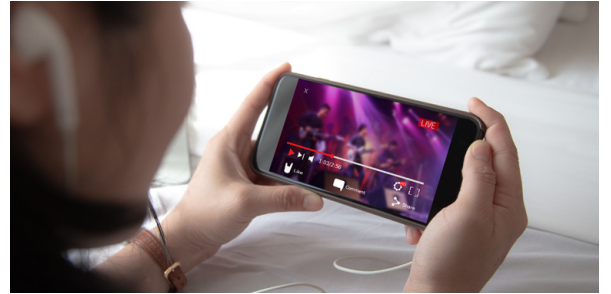
CDNs are essential to how the internet works, allowing billions of users to access the content they need. While traditional CDNs have proved effective, they also have significant limitations. One of the biggest drawbacks is that they're black boxes - organisations have little control over them and little visibility into how they work. In fact, they require the intervention of the CDN provider to purchase, configure and manage the content delivery. Organisations also have difficulty training and maintaining an IT team which can allow them to manage their CDN better and consume new CDN features and capabilities quickly.



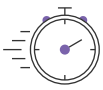
# How a Smart CDN can help

A smart CDN can help organisations overcome these challenges by improving performance, scale, security, agility and innovativeness to deliver a remarkable digital experience.

Smart CDNs are modern CDNs that help organisations deliver their content securely in the fastest time possible. They have programmable edge computing capability that allows organisations to quickly enable new and innovative CDN use cases at the edge, while their APIs and self-service capabilities simplify the configuration and management of content.



## Smart CDNs help businesses with:



### Instantaneous lag-free delivery of content

A smart CDN is a modern, intelligent system that prioritises end-user experience and content delivery. It's architected for today's web with strategically placed high-density Points of Presence (POPs) to deliver high-quality content to end consumers instantaneously without loss in quality. A smart CDN ensures optimal viewing on all devices by providing different video bitrates and serving images in the correct dimensions and formats depending on connection speed. Hence, users always have an enjoyable experience regardless of their browser type.



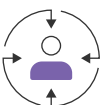
### Secure delivery of content

A smart CDN makes websites and applications faster and more reliable and facilitates an uninterrupted and safe digital experience. By providing integrated security controls, smart CDNs help to sustain uptime and performance, even in the face of DDoS attacks. The Web Application Firewall (WAF), DRM support, and content tokenisation help protect customer information and proprietary content. Antipiracy features help with protecting content owners' intellectual property. Lastly, smart CDNs stop bad bots from undermining customer confidence and ensure that online resources are only used for legitimate purposes.



### Increasing scalability and reliability

Smart CDNs often use artificial intelligence to optimise content delivery in real-time, enabling organisations to deliver a better user experience by automatically adapting to changing conditions such as network congestion or unexpected spikes in traffic. In addition, a smart CDN can route traffic more efficiently, reduce latency and improve user experience. The best smart CDNs leverage the predictability and scalability of the Tier-1 networks underpinning the internet backbone to deliver content flawlessly to end users.



### Providing personalisation to end users

The most advanced smart CDNs provide tools and methods for flexible programming at the edge beyond the functionality of traditional CDNs. With smart CDNs, organisations can tailor content based on user type, device type, and location, serving more personalised, dynamic content. As a result, smart CDNs provide a far more optimised experience for users, leading to increased engagement and conversions.



### Real-time visibility and control

Smart CDNs help organisations identify performance and security issues and make changes quickly without waiting for a CDN provider to make configuration changes. Smart CDNs have web interfaces and dashboards that offer control over the CDN and access to real-time and historical data. This data could include requests per second, cache hit ratio, bandwidth utilisation, origin latency, miss time, and errors. It is helpful in troubleshooting, understanding how the CDN is used, detecting trends, and planning future capacity. Additionally, organisations can make informed decisions about how to optimise their CDN for better performance.

## Prerequisites of a Smart CDN

When considering a CDN provider, enterprises should ask a few key questions to determine if they are the right fit.

- 01 Do they provide real-time visibility and control, security, programmable edge capabilities, scalability and reliability?
- 02 How easy is it to onboard and start consuming the CDN services?
- 03 Are there any customer success stories detailing real-world examples of the smart CDN in use?
- 04 Do they offer the opportunity to test the content delivery capabilities? Do they offer free trials?

By working with the right CDN provider, organisations can elevate their content delivery with real-time observability, built-in security, and programmatic control to enable the dynamic experiences that today's users expect.

## About Tata Communications' Smart CDN

Tata Communications' ever-evolving smart CDN helps organisations deliver their content securely in the fastest time possible. Using our CDN, organisations can quickly enable new and innovative CDN use cases at the edge while enjoying simplified configuration and management of their content delivery with real-time insights.

## Trusted by our customers



**Gartner**  
Peer Insights™



### Tata Communications CDN reviews

4.6 ★ ★ ★ ★ ★

#### Customer experience

Evaluation & contracting	4.6	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Planning & transition	4.5	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Delivery & execution	4.7	<div><div></div><div></div><div></div><div></div><div></div><div></div></div>

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