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Cloud Services

No time for delay: how to deliver video streaming at scale

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As one of the world's fastest growing platforms, video streaming is big business. In fact, according to Statista*, video streaming revenue is expected to show an annual growth of more than 11%; user penetration will increase from 14% (2021) to 18% in 2025.

However, with a variety of factors impacting your bottom line, video streaming is an expensive and competitive market to exist in.

In this guide, we'll investigate how your business can build a resilient, agile, and mobilized platform for video streaming at scale.



Building foundations for streaming success

If your streaming service isn't up to scratch, the cost to your reputation is incalculable. Streaming video is complex; it involves encoding large media files at multiple bit rates, all the while pushing streams to users who are accessing your content from various devices.

Few providers offer networks built to cope with large data transfer volumes. That's why finding the right IaaS partner to boost your performance is so important.

Many larger streaming platforms choose to construct their own networks. This provides developers and IT teams with total control over the network and, as such, relies on internal expertise and resources.

Partnering with a service provider to form a content delivery network offers many benefits. It is affordable, flexible and, with the right partner, means you can utilize the expertise and support services available. You simply provide the content while your partner handles the all-important infrastructure which puts it in front of users.

Alternatively, a hybrid solution enables streaming providers to run their service on a blend of dedicated servers and in the cloud. This delivers maximum flexibility and responsiveness, all managed by your service provider.

As the industry continues to evolve, so, too, must your infrastructure. At Ingenuity Cloud Services, our approach to service delivery centers on customizability. Whether you are distributing live content in an origin and edge-point configuration, or your service is an established on-demand-video streaming platform, we work with clients to meet their specific requirements, no matter the specifications.



On demand and always on

Customers expect your content to be available to stream anytime, anywhere. If a customer finds your platform unavailable, they will be left unimpressed and may seek a competitor who is 'always on'.

When seeking a hosting partner, you should expect nothing less than a 99.995% uptime SLA. Another benefit of outsourcing to an expert provider is they are responsible for fixing issues and can provide resources to keep your platform live. With Ingenuity Cloud Services, you will benefit from an international team of experts who can work with you to design, implement, and maintain your ideal solution. Our data center team are on call 24/7, 365 days a year, meaning Ingenuity Cloud Services clients are never left stranded with hardware issues. From power source to network connections, the Ingenuity Cloud Services infrastructure is 100% redundant to keep you connected.

Close to the action

For high quality streams, it is vital that your data is within 20ms of your end users; this reduces buffering times and ensures the quality of the stream remains high. The further the data has to travel, the longer it takes, resulting in delays and buffering.

Ingenuity Cloud Services services are designed to deliver on-demand, high-quality video at an immense scale. With a global footprint consisting of 50 data centers specifically chosen due to their proximity to internet exchanges, our locations offer at least one fully-redundant network to deliver content with minimal buffering and maximum uptime. Our content delivery network (CDN) houses your data across the globe, guaranteeing the all-important 20ms parameter isn't broken.



Good to know

A content delivery network mirrors your content in various locations around the world, closing the gap between users and the server to minimise load time, and avoiding bottlenecks in streaming delivery. By 2022, 72% of all internet traffic will cross CDNs, a rise from 56% in 2017*, improving performance, reliability through redundancy, and enabling scalability.

Depending on a platform's size, a CDN may or may not be the right solution for you. That's why choosing the ideal IaaS partner is key; our team of experts work with clients to tailor solutions which fit their specific needs.

Minimizing latency

Latency is the killer of any media streaming platform and most networks aren't designed to handle the huge volumes of streaming data required to serve your video content. High quality streaming servers should be able to accept H.264 content in a variety of formats. Equally important is the server's ability to adjust the quality of files as they're being distributed, according to fluctuations in each end user's connection speeds. This is known as adaptive bitrate streaming (or ABR).

Good to know

ABR is crucial for minimizing buffering and stuttering, no matter what software, device, or connection utilized by the end user. A transcoder creates multiple streams at various bitrates and resolutions, instead of a single live stream at just one bitrate. ABR also optimizes connectivity expenses limiting the bandwidth required to deliver content across a CDN.

Our network is designed to cope comfortably with large amounts of data transfer. Ingenuity Cloud Services's high quality transit providers (including Level 3, AboveNet and Cogent), coupled with our global data center proximity to major internet exchanges, ensures our network is of the highest quality.

With other providers, a congested route to a customer means a dropped stream. Intelligent and fully automated real-time routing ensures that your content takes the fastest and least congested route to your customers. Ingenuity Cloud Services's platform automatically diverts the user's connection, enabling continuation and a faultless stream.

Total control

Outsourcing your server network does not necessarily mean handing over total control to a third party. We understand the importance of tailoring a solution to meet every client's specific needs, delivering exceptional performance for your end users. Regardless of your preferred operating system and approach to application delivery, we can work with you to develop the optimum solution for your platform.

Benefit from total control over your server with IPMI access and choose from a wide variety of server operating system and control panels; from Windows Server to a variety of Linux distros, we can enable it.

Scalability and mobile readiness

According to an August 2019 survey* of global online video viewers, smartphones were the primary device used to watch online video, followed by computers, smart TVs and other connected devices.

Ingenuity Cloud Services's platform enables you to deliver great performance across all devices. HLS adaptive streaming enables the bitrate of the video to change dynamically as it is accessed by different mobile devices, further reducing buffering caused by network congestion. Ingenuity Cloud Services's platform enables you to deliver great performance across all devices. HLS adaptive streaming enables the bitrate of the video to change dynamically as it is accessed by different mobile devices, further reducing buffering caused by network congestion.



Security and safety as standard

It's not always easy to deliver both security and location diversity - indeed, most on-premise solutions are not cost-effective in this regard, resulting in higher total cost of ownership (TCO) and CapEx.

Partner with Ingenuity Cloud Services and benefit from our economies of scale and years of experience to bring your costs down.

Encryption and copyright protection are fully supported by the Ingenuity Cloud Services network. Security is paramount at all facilities, with each data center certified to SSAE 16 standards, and designed and maintained with agility, mobility, resilience, and performance at its core. Each is equipped with at least N+1 redundancy for our power, cooling, network, and security systems.

Quality, quantity and cost efficiency

Our quality infrastructure is also accompanied by an affordable price tag. Businesses with particularly high bandwidth requirements, such as content streaming platforms, are likely to face very high prices to push data with public cloud providers. Our streaming clients enjoy significantly lower charges - over 10 times cheaper in many cases.

Solutions designed around you

To facilitate the correct balance of performance and scalability, you need a versatile mix of services. Depending on the specific requirements of your business, your implementation will be unique.

Some of the world's most disruptive video streaming companies are among our largest accounts. They choose us because of our expertise, personal touch,

and optimized streaming environment.

Partnering with open-source communities and traditional enterprise IT vendors and distributors enables our clients to benefit from the highest quality hardware and technology. We provision servers in industry-leading time, so you can be up and running as fast as you need to be.

If you're interested in finding out how Ingenuity Cloud Services's products and services can transform your streaming platform, please [get in touch](#) to arrange a discovery session and product demonstration.

Key learnings:

- Understand your audience and build your platform infrastructure to meet traffic requirements
- Think global; a worldwide CDN will improve performance, ensure redundancy, and enable scalability
- Eliminate latency at all costs to ensure a quality user experience
- Choose a provider that specializes in developing infrastructure for streaming platforms

Sources:

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