



The Case For Leveraging The Cloud For Video Service Assurance

Monitor all programs, anywhere, all the time

THE CASE FOR LEVERAGING THE CLOUD FOR VIDEO SERVICE ASSURANCE

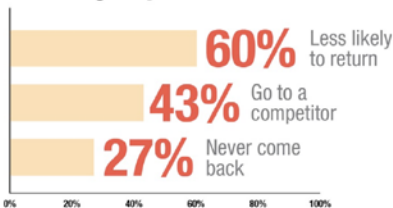
In today's dynamic video landscape, it is more important than ever for content and service providers to understand the performance of their Over-the-Top (OTT) video services. Consumers expect to receive the same video services at home on a TV and on all connected devices. In fact, industry research shows that multiscreen and OTT subscribers are more sensitive than ever about the quality of their video services (see chart). For providers with a global subscriber base, this presents unique technology and business challenges. When delivering content to various geographic locations, the video experience can vary greatly depending on the delivery path to the subscriber. Control and visibility into global performance are obscured when providers leverage third-party Content Delivery Networks (CDN) to distribute video content. What's worse, many times video quality problems are only discovered once consumers have a bad experience and then angrily take to social media.

Given subscriber sensitivity to video quality impairment and the lack of visibility after a third-party CDN, any provider using a third-party CDN requires a flexible, cloud-based solution to assure video quality and understand service performance after the CDN.

Providers require cloud-based solutions to assure video quality after the third-party CDN

DEALING WITH THE UNIQUE CHALLENGES OF THIRD-PARTY CDN DELIVERY

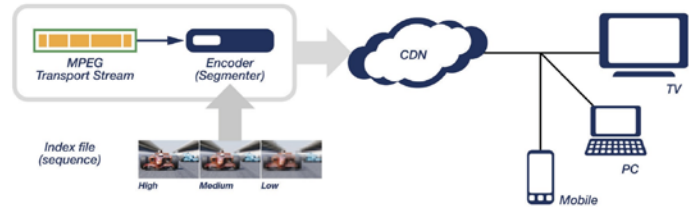
Results of Poor Online Viewing Experiences



Source: The Importance of Delivering a Great Online Video Experience
Akamai and Jupiter Research

Multiscreen video providers must distribute their content through a CDN. A CDN is a network of servers that distribute and cache video content so subscribers can either download or stream the content upon request. In a CDN, the origin server is the central repository

for video content. Between the origin server and the subscribers is a network of cache servers, which distribute content across the network and help lower the overall bandwidth load. For many, CDNs are a brave new world. While a CDN is an excellent way to deliver HTTP video, it can also present many challenges for delivering high quality video. The delivery architecture is complex and monitoring video performance through a CDN requires a specific set of quality assurance solutions.



But what if the provider only controls specific parts of the network? What if the provider has no visibility into the performance of video services after the CDN, other than relying on direct or indirect consumer feedback? What options do providers leveraging third-party CDNs have to assure service availability?

For content and service providers who either supplement their existing delivery networks with third-party CDNs, or rely exclusively on third-party CDNs to deliver their content, it is essential to have a solution to understand video service quality and performance wherever they are delivered.

First, the ability to remotely test, validate, and understand service performance at any post-CDN location gives providers amazing insight into service performance. Providers can only understand their business if meaningful, accurate metrics are gathered and analyzed. With post-CDN services, providers get the data points necessary so they can sleep well at night while services are performing at acceptable levels, and be alerted in real-time to quickly identify and resolve problems with the CDN video delivery infrastructure.

Second, if a business partner does not effectively deliver video content, providers run the risk of seriously damaging their brand and the relationship with their subscriber. This is especially pronounced in premium content, where subscribers pay additional service fees. Usually, this implies that the subscriber has a vested interest in the content and will be especially upset when or if the service is impaired. Making sure providers know whenever and wherever a problem is occurring with their services is critical.

Last, it is important to be able to hold business partners accountable to the agreements drawn up at the start of the relationship. Performance varies by CDN provider, and even at different times of the day within one CDN provider. While some CDN providers may have capabilities to monitor the performance of their own network, independent, third-party validation is essential to gain an unbiased view into the performance of the video services.

LEVERAGING THE CLOUD FOR VIDEO SERVICE ASSURANCE

Given the challenges associated with delivering multiscreen video and the need to monitor after third-party CDN's, cloud-based solutions are ideal for content and service providers. When third-party CDN's are used, the implication is that the provider does not have a point of presence to deliver (much less monitor) video services. The cloud provides flexible infrastructure for a video service assurance solution so providers aren't flying blind.

With the cloud, providers can assure video services post-CDN wherever and whenever they want

For any cloud-based assurance solution, there are two goals: assure quality content is handed off to the CDN, and assure the delivery of high-quality content post-CDN. To assure the quality of the content as it leaves the content provider network, providers must monitor the output of the video headend. This monitoring point is helpful as a way to ensure that the provider has delivered the video to the CDN at the level of quality desired. It can also be compared to video quality downstream to benchmark CDN delivery performance.

The second monitoring point is after the CDN. With traditional, hardware-based solution, providers would not be able to leverage probe technology unless the provider owned a point of presence post-CDN and in a major hub of their content. However, especially with content providers and broadcasters, points of presence are hard to come by and involve tremendous overhead. But, by leveraging the cloud, providers gain instant access to monitor and assure video services post-CDN, wherever and whenever they want. By monitoring from the cloud in important business hubs, providers can better understand customer experience of their video services. With cloud-based video service assurance, providers get a flexible, quality monitoring tool, and the ability to understand business performance in any location desired.

MANAGED SERVICES: A NEW MODEL FOR MULTISCREEN/OTT VIDEO SERVICE ASSURANCE

Content providers are the experts in creating and developing exciting content for their subscribers. But, for many, transporting, caching, and streaming this content is a challenge, not a core competency. To this end, coupling cloud-based video service assurance with a managed services option is a new way for content providers to lean on video quality experts. These experts monitor, analyze, and troubleshoot video services for the content providers. Providers receive weekly reports (or event-based reports) on service performance to understand business performance holistically. Additionally, from a real-time monitoring perspective, the managed services providers can act as a liaison to the CDN, detecting problems, isolating them, and notifying the CDN for quick resolution.

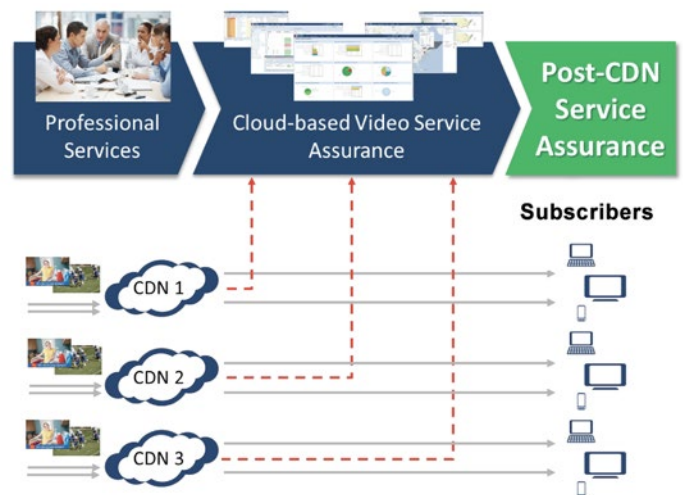
The Benefits of cloud-based video service assurance

- Get visibility into your video services after the third-party CDN
- Track overall service availability and pinpoint quality issues
- It's the cloud! Monitor your video anywhere in the world!
- Let the video quality experts do the monitoring for you!

REAL WORLD APPLICATION OF INEOQUEST'S CLOUD-BASED VIDEO SERVICE ASSURANCE

The application of cloud-based video service assurance in the multiscreen world is extremely powerful. IneoQuest currently offers such a cloud-based monitoring solution to help global operators and providers gain key insights into the performance of their video services across the globe. These clients rely on IneoQuest's services to identify problems during the delivery of video content and ensure that they maintain a deep understanding of their operations post-CDN. With IneoQuest's cloud-based video service assurance, providers monitor all video, anywhere they want, all the time.

Setting up the solution is simple: Providers work with IneoQuest to configure the solution, identifying the CDNs to be monitored, the cloud locations of the monitoring solution, and the specific programs that will be monitored. There is no hardware purchase, no installation of gear, and no configuration on the part of the IneoQuest customer. IneoQuest configures the solution for the provider and creates an individual portal for the provider to log in and gain complete visibility into post-CDN activity. The solution is currently in use with leading video providers around the world.



CLOUD-BASED VIDEO SERVICE ASSURANCE CASE STUDIES

Global Europe-Based Content Provider Delivering Global Content

Currently, a global broadcaster based in Europe is delivering live premium sports content in Europe, Japan, and North America. This broadcaster had a couple of goals: First, the broadcaster needed to verify the availability and stream performance of their content in their major geographic hubs, and second, the broadcaster needed to verify that certain events were properly “blacked-out” where and when required. IneoQuest initiated cloud-based video quality monitoring services in Japan, Europe, and North America. With this service, the broadcaster validated the availability of the video streams in its key markets, gained visibility into the real-time performance in each region, and validated that it had properly imposed black-outs where appropriate.

Global, Tier 1 Telco Testing CDN Performance

A current IneoQuest customer is a global Tier 1 telco that uses an on-net (built by the telco) CDN to deliver multiscreen content to its subscriber. In addition, the telco has diversified its delivery platform, leveraging multiple third-party CDN operators for both redundancy and efficiencies. The telco wanted to ensure that the third-party CDN could properly deal with large increases in traffic that were anticipated during the launch of new premium services. Using IneoQuest’s cloud-based video service assurance solution, the telco actively requested multiple Gb/s of specific, high value assets for load and configuration testing. The IneoQuest solution detected a number of HTTP connection errors, unneeded HTTP redirections, and stream performance degradation. With this information, the telco was able to work with the CDN provider to correct these misconfigurations proactively to ensure that brand and customer experience were not affected at the launch.

Global Content Brand Monitoring Worldwide Streaming Service

Currently, a global content brand is conducting a week-long event that will be streamed globally. This brand wants to ensure the availability and performance of its video services across its network to improve stream quality and protect its brand. This company owns its origin servers but engages with a third party CDN to deliver the content globally. With the IneoQuest cloud-based solution, this brand is able to monitor its origin server (to ensure the quality and availability of its live and on-demand assets) while simultaneously monitoring the output of its CDN partner. This assurance configuration allows for comparison of video quality at key hand-off points (for the content provider and the CDN) so both parties have the knowledge needed to quickly and accurately pinpoint the causes of video impairment and infrastructure misconfigurations.

CONCLUSION

The IneoQuest FoQus|Event solution is a cloud-based managed subscription based offering that can provide you the benefits of cloud-based video assurance testing. To learn more, visit www.ineoquest.com.



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