CRITICAL CONSIDERATIONS WHEN CHOOSING A CDN FOR VIDEO

To provide the best possible streaming video experience that will increase revenue and customer satisfaction, many organizations engage the services of a Content Delivery Network (CDN). However, to choose the right CDN for your video workflow and business requirements, you must first evaluate your unique needs. The following provides guidance for identifying the key considerations and questions to ask.

1. DETAILING YOUR NEEDS

You want to grow your audience, yet the larger you scale the more difficult the technical and businesses challenges become. Based on extensive experience helping companies scale their streaming video delivery, here are a few of the factors you should assess first.

Where is your audience located?

- Global
- Regional
- Local

It’s important to choose a CDN that has high-capacity Points of Presence (PoPs) in the areas where your audience is located. The CDN should have peering agreements with the local Internet Service Providers (ISPs) that serve your audience, in order to eliminate “last-mile” bottlenecks between the CDN and the user’s internet connection.

What are your content security requirements?

- Video Digital Rights Management (DRM)
- TLS/SSL encryption
- Distributed Denial of Service (DDoS) protection
- Web Application Firewall (WAF) protection

If you are licensing content, you will need to enforce rights agreements – look for a CDN with integrated DRM supporting Google, Microsoft and Apple systems. To protect content from being intercepted in transit, choose a CDN that fully supports TLS/SSL encryption. To sustain uptime and performance when under attack, look for a CDN with DDoS protection and on-network attack scrubbing. Look for WAF protection to secure web applications against theft of viewers’ private information.
2. WHAT DOES YOUR WORKFLOW REQUIRE?

The two broad categories of streaming video workflow are live streaming and video-on-demand.

**Live Video Streaming**

Streaming of live events, games and other content is challenging and gets more challenging with scale. The popular method of “live” streaming in use today, chunk streaming, introduces delays that are unacceptable for some time-sensitive applications. As the audience grows, quality can suffer and some users can be denied access. To easily reach as many viewers as possible, consider the following:

**Steps for success:**
- Ingest the highest quality video your system can support, so subsequent processing will maintain high quality.
- Employ automated transmuxing to convert the ingest stream into as many different streaming formats as necessary for the different viewing devices that will be utilized.
- Use automatic transcoding to provide the bitrate appropriate for each end user’s connection speed.
- Select a high-capacity global CDN with a proven ability to deliver streaming video with minimal rebuffering. A private network avoids congestion on the public internet.
- If low-latency streaming is important, consider new realtime technologies that offer sub-second latency at scale and work on any browser without plugins.

**Streaming Video on Demand (VOD)**

Today’s streaming video audience expects an instant response and has no tolerance for delays or rebuffers. These expectations don’t change at peak times of demand when a large number of users may be accessing a variety of titles.

**Steps for success:**
- Select a high-capacity global CDN with a proven ability to deliver streaming video with minimal rebuffering. A CDN with a private network avoids congestion on the public internet.
- Instead of storing each video in multiple streaming formats, use on-the-fly transmuxing to automatically create the correct streaming format as it is requested by viewers to reduce storage costs.
- Instead of storing each video encrypted in multiple DRM formats, use on-the-fly multi-DRM to add the appropriate encryption format as it is requested for viewing.
- Choose origin storage that replicates content in multiple geographies, automatically serves from the fastest storage location, and is integrated with the CDN.

**Workflow Management**

To manage video content and prepare it for distribution to various media devices, most businesses choose an online video platform (OVP) that is purpose-built for day-to-day management of streaming video operations.

**Things to look for in an OVP:**
- Automatic transcoding to multi-bitrate, multi-resolution formats.
- A video player application you can embed into web pages with HTML5 support to operate within modern browsers.
- Reporting and analytics that provide the information you need to optimize viewer engagement.
- Ability to easily create multiple playlists for your content.
- If you plan to integrate advertising into your content and playlists, choose an OVP with support for standard ad insertion specifications like VAST.
- If you need integration with other tools, look for API (application programming interface) support.
- To eliminate the complexity of using separate systems to manage and deliver your video content, choose an OVP that is integrated with a CDN and offers integrated analytics and reporting.
3. IMPLEMENTING YOUR SOLUTION

If you’re just starting out, you may find that a turnkey solution from an experienced full-service CDN vendor is the fastest path to success. If you already have some capabilities but lack a full end-to-end solution, you will need to integrate additional capabilities to fill the gaps in your solution. Here are some further insights to help.

Your Roadmap

Assessment and planning:
- Define the goals you want to achieve within a manageable timeframe.
- Assess your current status and each component’s suitability going forward.
- Identify gaps you need to fill to accomplish your video delivery goals.
- Identify solutions and capabilities needed to fill the gaps and build out a plan.

To ensure success, it’s critical to understand these fundamentals. At this stage, sound advice from an experienced CDN can be extremely helpful. Benefit from their experience.

Determine what key capabilities you need:
- High-performance video delivery in all regions.
- Video encoding to all of the common streaming formats and bitrates.
- Automatic device detection and delivery of content in the optimal format for each device.
- Content access controls such as DRM and geo-blocking to restrict unauthorized access.
- Cloud security capabilities such as DDoS mitigation and WAF protection.
- Origin storage optimized for fast delivery of streaming video content.
- Online Video Platform to manage video content.
- Reporting and analytics that help you maximize the value of your video assets.
- Ad serving support.
- Configuration and self-provisioning tools to simplify content management and delivery (web-based management portal and/or APIs).

Your streaming video solution should provide viewers with a high-quality online viewing experience and offer easy-to-manage, cost-effective operations. Achieving these desired results typically requires many of the capabilities from the checklist above. You may choose to develop and implement the solution in-house, leverage professional services, or choose a turnkey solution from a full-service CDN.

Staffing and Support

When the system is experiencing issues, every minute matters. To avoid downtime, ensure that your CDN can provide prompt support.

Incident Support:
- Does the vendor offer 24/7 support?
- Is live support available, or are only email and chat support offered?
- How much does the vendor charge for support?
- Is support available in multiple regions and in different languages?
- Does the CDN have a 24/7 Network Operations Center that can ensure efficient traffic delivery?
- Does the CDN offer an appropriate customer notification system for planned maintenance and service incidents?

Professional Services and Consulting:

When implementing new capabilities that allow your business to respond to changing requirements, experienced assistance can be invaluable. Some CDN providers have experts available that can act as an extension of your team, with expertise that can dramatically streamline solutions.

- Does your CDN vendor have an expert Professional Services team available to help you optimize your initial deployment?
- Does your CDN vendor offer specialized support offerings for major events?
- Can your CDN vendor offer workflow consulting and the implementation of best practices?
- Ask for examples where the CDN has solved similar problems for other customers.
NEXT STEPS
The information in this guide is intended to help you move forward in your process of choosing the best CDN for your video delivery. Understand the fundamentals, whether you are doing live streaming, on-demand or both. Know the trends and engage with partners you can trust. Assess your current capabilities and your gaps. Do you need a high-performance turnkey solution, à la carte products and services to complement your current capabilities, or do you simply need fast transport for your existing workflow? Look for a CDN with expertise in video delivery that has the services you need and can support your transition with expert assistance. By considering all of these elements during the vendor-selection process, you will be able to find the right partner for your long-term success.

FREE TRIAL
If you are considering CDN services, Limelight invites you to request a free trial. Allow us to demonstrate the quality of Limelight’s solutions and the commitment of every person to delivering the best experience first, for you and your customers, 24/7/365.

Learn more at www.limelight.com/free-trial.

MORE INFORMATION ABOUT CHOOSING A CDN
When delivering live or on-demand video, providing consistent high-quality online experiences is critical to your success. A CDN can help you achieve that goal. View our on-demand webinar to be confident you are choosing the right solution for your business.

ABOUT LIMELIGHT NETWORKS
Limelight Networks Inc., (NASDAQ: LLNW), a leading provider of digital content delivery, video, cloud security, and edge computing services, empowers customers to provide exceptional digital experiences. Limelight’s edge services platform includes a unique combination of global private infrastructure, intelligent software, and expert support services that enable current and future workflows. For more information, visit www.limelight.com, follow us on Twitter, Facebook, and LinkedIn.