

WHITE PAPER
**DELIVERING TO THE
BROADCAST QUALITY
GENERATION**

The Broadcast Quality Generation is here and they want your digital experiences fast, on any device, anywhere in the world.
Are you prepared to deliver to them?

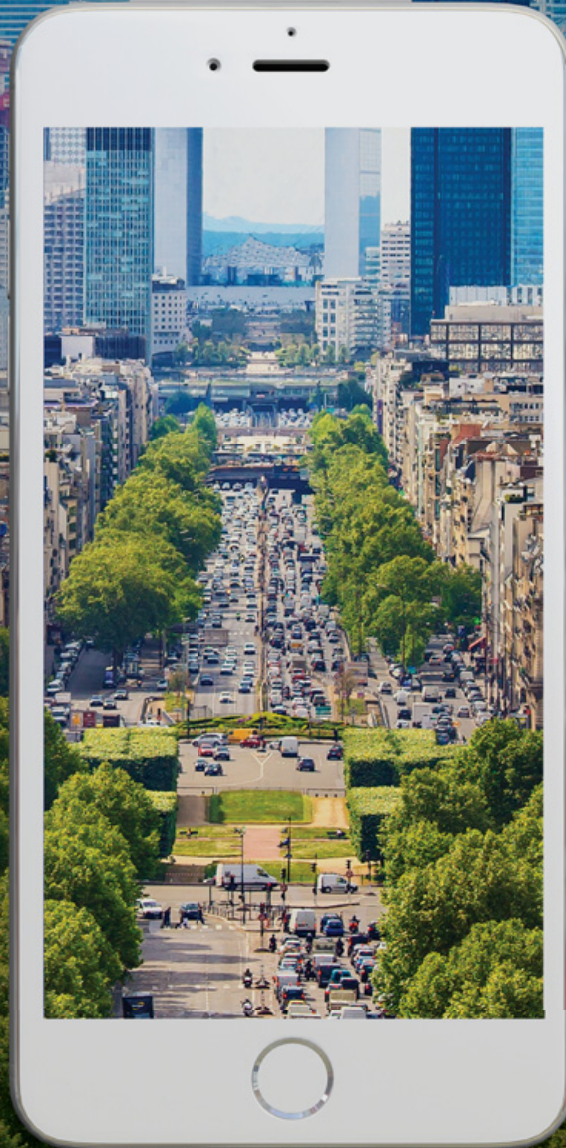


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INTRODUCTION

Just being able to deliver digital content is no longer enough. People expect every organization to have a compelling, interactive, and engaging digital experience. The problem is that those same people want more. The experience has to be instantaneous...just like turning on the television.

Say hello to the “Broadcast Quality Generation.”

SOME ADDITIONAL FACTS¹

Just who is this generation demanding broadcast quality of their digital experiences?

- Ages: 18-50
- Median Income: \$50,000 – \$99,999
- Education: Some college/associate degree to bachelor’s degree

They are smart, savvy, and empowered with trillions of dollars in purchasing power. These are the cord cutters, the cord nevers, the recent college graduate who finally has a television in his living room but it is only connected to an IP address rather than a cable or satellite company.

WHAT IS BROADCAST QUALITY?

You turn on the television set. What happens? Instant playback. No buffering. No stuttering. No waiting. And the quality, especially when it’s in HD, is flawless. But it’s not just about the television. What happens when you load the game into your Xbox or start your web browser or turn on your mobile phone? The same thing. It just works. And it works fast.

The digital world has radically transformed expectations, empowering people with an instant gratification about anything digital. And when things don’t go so smoothly? People abandon the experience...and that can have serious repercussions on your business.

With this instant gratification driving behavior, your digital content must be delivered with broadcast quality—your website must load instantaneously; your video must start playing back immediately (and with no stuttering or rebuffering); every part of your digital experience must work flawlessly.

WHO IS THE BROADCAST QUALITY GENERATION?

The Broadcast Quality Generation spans two demographic segments—Gen X (Those born between 1965-1979) and Millennials (1980-present), encompassing a significant portion of the population. Both of these demographic groups have grown up with the “instant on, instantly available” gratification of electronic devices such as the television and, more recently, the Internet. They demand a television-like experience regardless of the mode of delivery or device consuming the content.

UNDERSTANDING THEIR MINDSET

The Broadcast Quality Generation is all about instant gratification. It needs to happen and it needs to happen now. In a recent study of 18-50 year olds (spanning both Gen X and Millennials)², we discovered that easy to find, high quality video playback is top of mind:

Figure 1: Online Video Cancel Streaming
Rank in order of importance (1=least important, 5=most important).

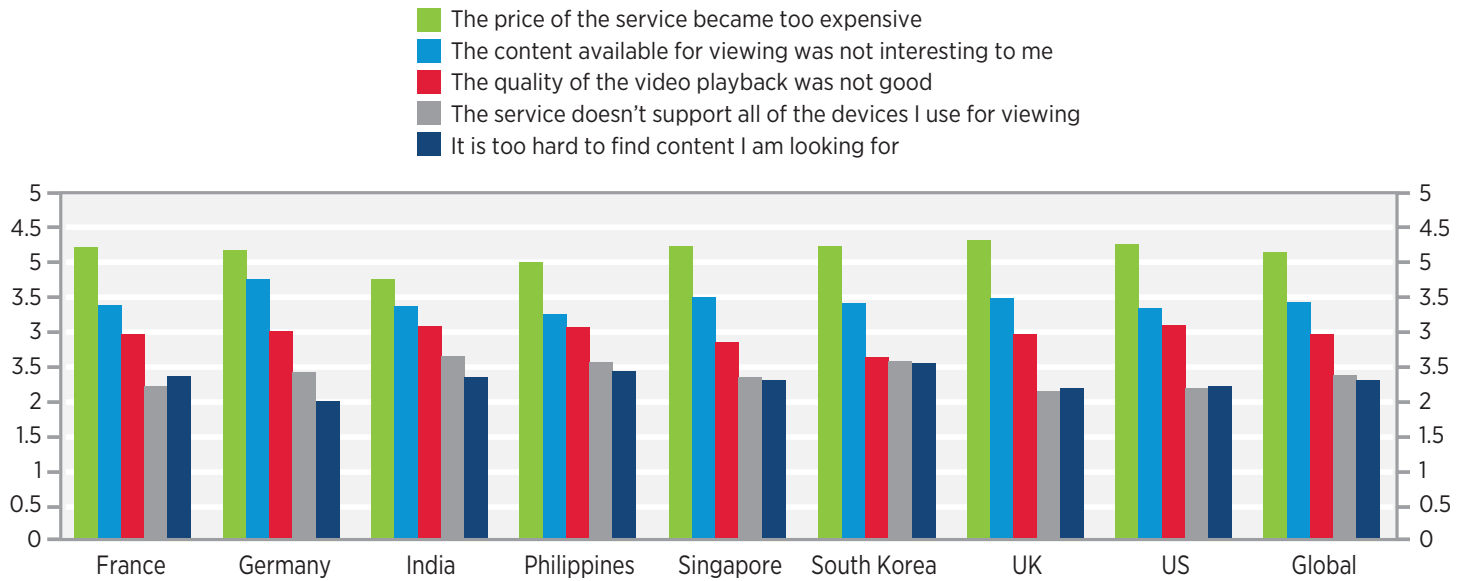
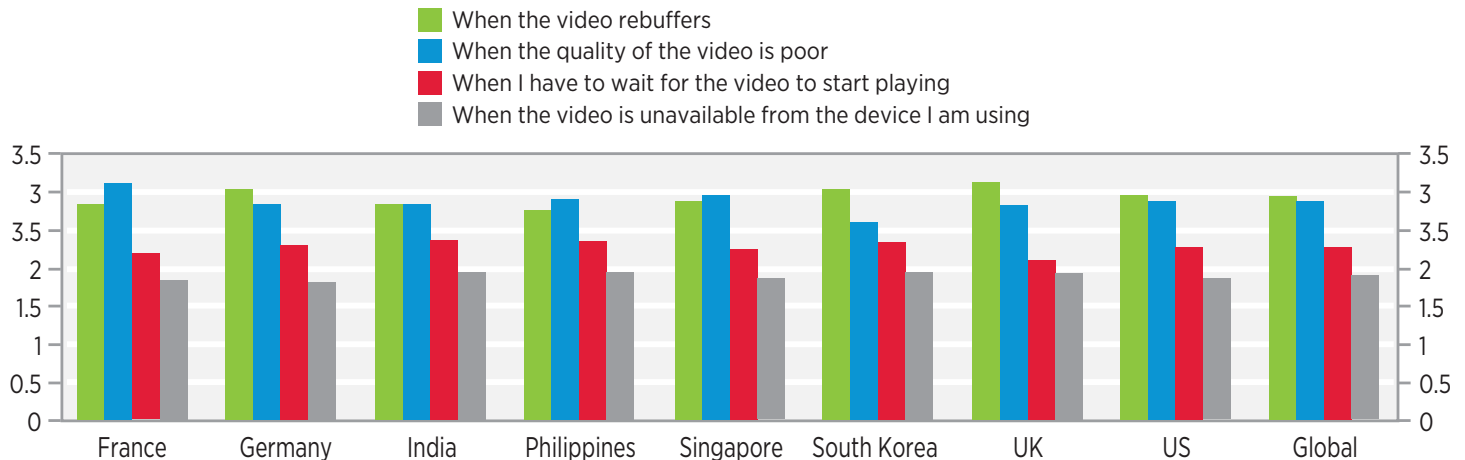


Figure 2: Frustration by Country and Age



THE FUTURE FOR MEDIA AND BROADCASTERS

Although appealing to the Broadcast Quality Generation applies to any organization delivering digital content, it's probably most applicable to those organizations whose business model revolves around the delivery of video. These organizations live and die by their workflow. What does the future look like for these organizations? Things need to radically change to meet the new demands for immediacy:

In the cloud—To survive, media and broadcasters will need to migrate much of their workflow infrastructure to the cloud. This will enable these organizations to reach massive scale without investing a lot of CAPEX into software and equipment as well as enabling them to respond nimbly and quickly as content needs change.

Real-time—Media and broadcasters must evolve their workflow to operate more in real-time. Many are still transcoding files manually when cloud-based resources would do the job more efficiently and provide for content publishing that exceeds consumer expectations. Also important is support of new low-latency live streaming technology, which is key to improving sports and gaming viewing experiences.

Device focused—The Broadcast Quality Generation lives and dies by their devices. Media and broadcasters must become device focused, ensuring that content is available and of high quality regardless of the endpoint.

MEETING THEIR NEEDS

It's clear from our survey data that this "generation" wants the player to load immediately. They want everything...now.

To meet their needs, you've got to be strategic first. Exceeding their demands isn't just about turning a few dials and flipping a few switches. It's going to require some deep-seeded changes to the way you approach content publishing:

A culture of performance—Performance has to become intrinsically part of the organization. Everyone needs to eat, breathe, and sleep performance. Only when it is deeply ingrained in the very DNA of an organization will future digital experiences inherently operate in a manner fitting for the Broadcast Quality Generation.

Simplify your media publishing workflow—Most media workflows were created over decades. Sure, software got better and hardware became more effective but everything you've put into place is just layer upon layer of Band-Aid fixes. It's time to take a look at the whole workflow. Because ultimately, you've probably got a workflow that has a lot of inefficiency built into it... inefficiency that can get in the way of being able to deliver an immediate experience.

Once you've got those strategic elements in place, you'll need the right machine to get the job done—the components to provide digital experiences at broadcast quality:

Content Delivery Network (CDN)—Sure, you can deliver your digital experiences yourself. But are you prepared to deal with global viewers? Are you ready to handle a spike in traffic? A delivery network is built to scale so that you don't have to. Using caching and servers located as close to the end user as possible, a delivery network with global reach and scale can ensure your content is delivered at broadcast quality.

Origin Storage Services—You need a place to store all those video and web files. But it can't be on a bank of hard drives in some datacenter. You need to spread those files around the globe so that when a request comes in from anywhere, it takes seconds to fetch it rather than minutes. The ideal situation? Origin storage that is integrated within the edge of a delivery network!

Video processing—Different devices require different formats. You need software and compute power to turn your high-end mezzanine files into formats consumable on any device.

Ad insertion—If you are monetizing your video, you need a way to insert those ads (pre-, post-, and mid-roll). This can be accomplished through specialized software or a service provider in conjunction with an ad network that conforms to industry standards (i.e., VAST 3.0).

Closed captioning—Governments around the globe are requiring that online video include closed captioning. And this is one of those features that the Broadcast Quality Generation expects to "just work."

Video management—As your video library grows, it will become increasingly more important to enable users to find content quickly and easily. The best way to accomplish that is through software that helps you categorize and organize your video library. And although you could do that locally, cloud-based services like OVPs (online video platforms) ensure that anyone on the publishing team has access wherever they are.

TIPS AND TRICKS

What can you do right now to ensure that you are meeting the needs of this demanding generation? Below are some tips and tricks for improving your speed to market and publishing efficiency, simplifying the workflow, and improving digital experiences:

Transmux on the fly—Stop producing multiple versions of the same video file. Use programming to detect the incoming request (by analyzing the request header) and use services that do the transmuxing of the file as it's requested. Once converted, the different video formats can be stored in cache for the next viewer.

Implement cache—Just because you are using a delivery network doesn't mean you shouldn't employ caching on your origin. Optimize the request for video objects by holding popular files in your local cache. This can help serve the requested content to the CDN faster than fetching it from storage.

Persistent connections—With a lot of online video being served as small chunks, you need to optimize your origin by keeping sessions alive until the viewer has stopped playback. This will enable you to deliver more data with fewer round trips.

Redundant encoders—Don't assume that just because you have one encoder for your live event that nothing will go wrong. Avoid the headache of the entire stream going dark by deploying redundant encoders (both onsite and offsite) to guarantee availability.

Build compelling user experiences—Use thumbnails during trick play in your applications so users know where they are in the video experience.

High-end mezzanine files—Today's high-end is tomorrow's low. You are better off producing your video in the highest format possible (i.e., 4K) and down-grading with transcoding to meet specific requirements (i.e., 1080p, 720p, SD, etc.).

CONCLUSION

More so than any single demographic, the Broadcast Quality Generation is single-handedly shaping how organizations build and deliver video content. Their demands for “instant gratification” threaten to make or break the success of your digital experiences.

But it's not all doom and gloom. There's an upside. The survey data clearly reveals that having interesting content that is easy to find, and delivered at broadcast quality with minimal rebuffering will hold your audience and keep them coming back for more.

You can't afford to waste another second without making changes. The broadcast generation won't wait.

ABOUT LIMELIGHT NETWORKS

Limelight Networks Inc., (NASDAQ: LLNW), a global leader in digital content delivery, empowers customers to better engage online audiences by enabling them to securely manage and globally deliver digital content, on any device. The company's award winning Limelight Orchestrate™ platform includes an integrated suite of content delivery technology and services that helps organizations secure digital content, deliver exceptional multi-screen experiences, improve brand awareness, drive revenue, and enhance customer relationships — all while reducing costs. For more information, please visit www.limelight.com, read our blog, follow us on Twitter, Facebook and LinkedIn and be sure to visit Limelight Connect.

¹ *The State of Online Video*. 2017. Limelight Networks.

² *The State of the User Experience*. 2015. Limelight Networks.

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