

STATE OF STREAMING AUTUMN 2021

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EXECUTIVE SUMMARY

This fourth installment of Streaming Media's longest-running survey series, the State of Streaming, begins to shed further light on a number of key datapoints in the industry that had been seen as potential anomalies in our first installment—we surveyed our audience just before the first COVID-19 lockdowns in early 2020—that have now been confirmed as ever-increasing trends across the larger OTT and live-streaming landscape.

One of those trends—and one that fills a significant portion of this Autumn 2021 report—is the move toward low latency, alongside the potential interactivity it also yields.

But if we are to read any significance into the low-latency trend, we first have to examine whether or not the industry as a whole is shifting from a majority video on-demand (VoD) approach to a major live-event/live-linear approach. Without that shift toward more live streaming, latency and interactivity conversations are simply academic.

The team here at Help Me Stream Research Foundation has followed responses closely across all four State of Streaming surveys, and we're happy to report that the shift toward live streaming, even for traditional VOD content providers, continues to accelerate.

Three primary drivers appear to be converging to accelerate the trend toward live-streaming dominance.

First, there has been the return of live, in-person concerts, sporting events, and even trade shows, all of which cannot accommodate the number of fans or businesspeople desperate to attend—be it in person or, if seating or space is limited, as a remote participant—that shifts the paradigm from fear of cannibalizing in-person ticket sales to one that embraces all participants as equal, regardless of whether they are in the room or online.

Second, as the resourcefulness of the media and entertainment industry showed us throughout 2020 and into early 2021, the use of remote production (REMI for short) has allowed live events to continue, even if it has meant removing or significantly reducing the on-site production crew.

Third, some industry verticals that rely on live have not just survived but flourished in the midst of the pandemic. And the saying “The show must go on” isn't just for media and entertainment. Whether shifting gears to online classes or worship services, or back to in-person and hybrid events, the use of live streaming in key market verticals such as education and religious organizations skyrocketed in 2020 and shows no sign of abating here at the end of 2021.

Read on for more details around this and other key trends.

DEMOGRAPHICS AND MARKET VERTICALS

Of the 204 respondents to the State of Streaming Autumn 2021 survey, 69% hail from North America and 19% from Europe, followed by Asia-Pacific (~4%) and ~2% each for Australia/New Zealand and South America. Africa, India, and the Middle East to round out our top seven geographic regions.

In terms of primary job responsibilities, engineering and executive management each account for 27% of total respondents, with product management, business development, and R&D rounding out the top five job responsibilities.

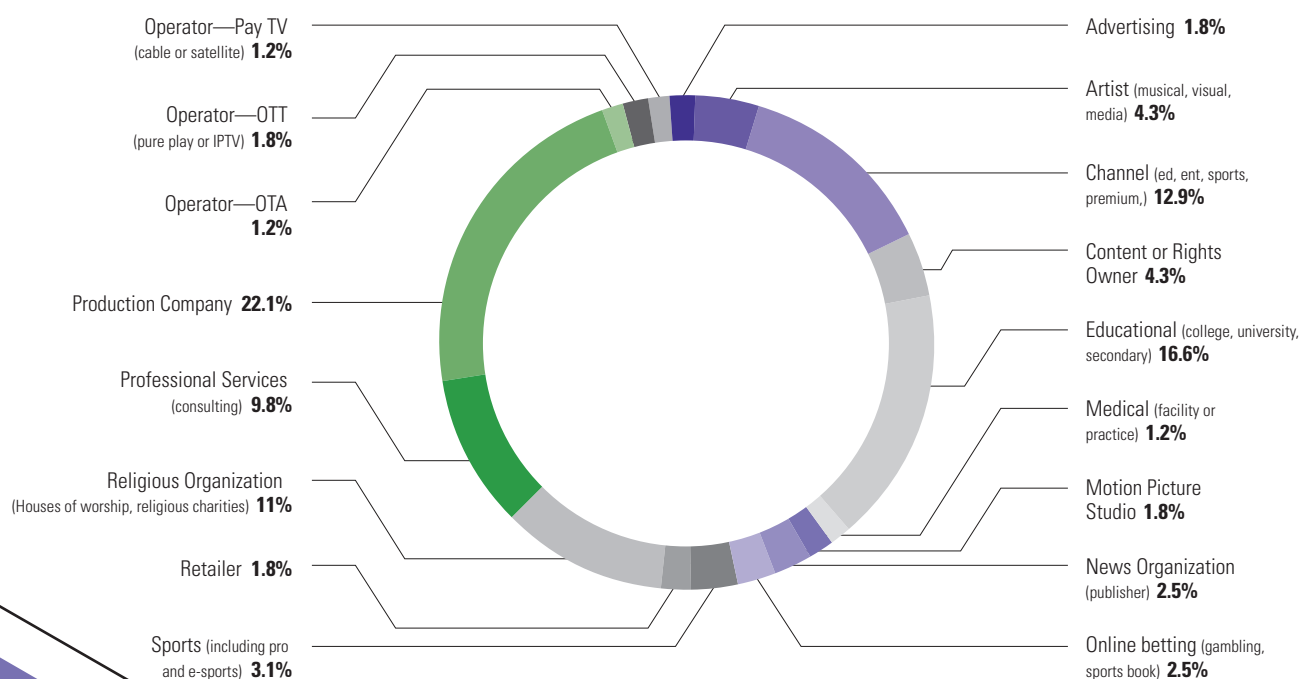
More than 58% of respondents state that they've been in the industry for at least a decade.

As noted in the chart below, respondents also come from a wide variety of market verticals, representing

a diverse mix of insights into the current state of streaming. Here are a few that are noteworthy:

- Education sits just under 17% or an almost 50% year-over-year growth from our initial State of Streaming survey.
- Online Betting (sports book or gambling) sits at 2.5% of overall responses. In our initial State of Streaming survey, online betting didn't even make it on the board. Millicast's Ryan Jespersen provided insights into this trend during the State of Streaming Autumn 2021 keynote, which can be found at go2sm.com/autumn2021.
- Religious Organization growth is the most pronounced, rising from 4% in our initial survey to 11% today, an almost 250% year-over-year growth rate.

WHICH OF THE INDUSTRIES BELOW MOST CLOSELY MATCHES YOUR ORGANIZATION?



WE'RE NO LONGER JUST CONTENT CONSUMERS

One question we've asked from the outset of the State of Streaming surveys centers on the creation of content versus the distribution of content. While the first survey occurred just prior to the March 2020 global lockdowns, the remaining three surveys have been conducted under the specter of an ongoing pandemic hanging over everyday decisions.

This multiyear approach offered the Help Me Stream Research Foundation team a unique window into a time when the entire world population suddenly became streamers.

Here's what we've found: In the initial State of Streaming survey (late 2019/early 2020), only 46% of respondents said they both created and distributed content. By the time of the second State of Streaming survey (late 2020), the overall percentage of respondents who both create and distribute media had jumped from 46% to 65%, a growth of 42% between surveys.

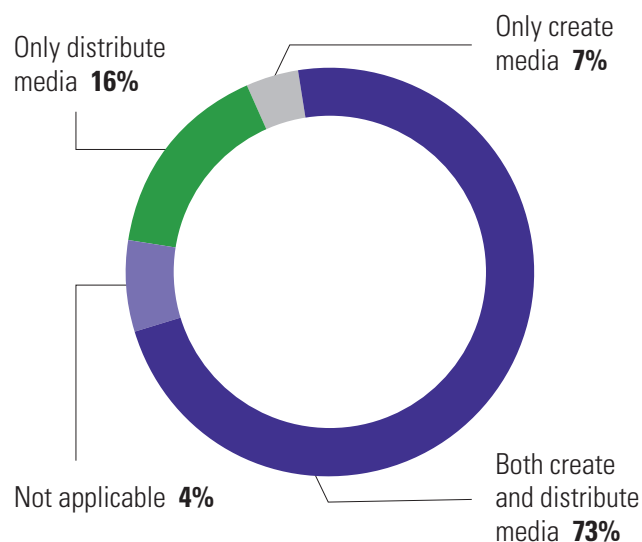
In jumping forward to this latest State of Streaming survey (late 2021), we find that 73% of respondents say they both create and distribute media. This represents almost 60% growth from early 2020 to late 2021.

Where did the growth come from in respondents who both create and distribute media? The answer is twofold: It reflects a drop in those who only distributed content or created content, alongside a significant drop in the group of respondents who had previously done neither.

On the media content creation front, only 19% of respondents chose "only create media" in the 2019/2020 survey. By late 2021, that number had dropped by almost two-thirds to only 7% of overall respondents.

Additionally, only about 15% of respondents in the first State of Streaming survey told us they neither created nor distributed content. But that percentage dropped in our late 2020 survey to 8%; by late 2021, 4% of all responses chose that option.

DOES YOUR ORGANIZATION CREATE AND/OR DISTRIBUTE MEDIA CONTENT?



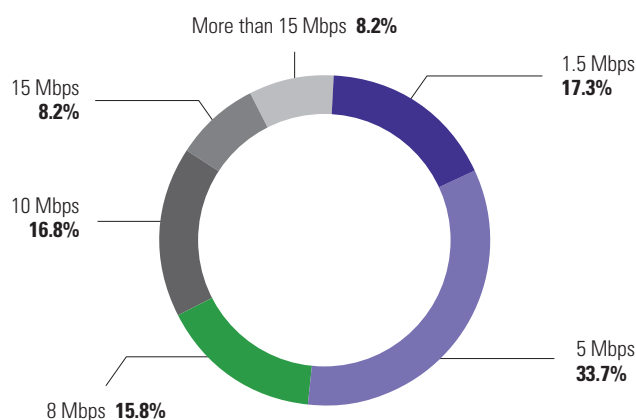
In other words, it appears we've reached a critical mass where our survey audience, comprised primarily of streaming industry professionals, now feels equally at home creating and distributing content. The data shows content creators taking control of the distribution of their own content, a trend we've seen over the past 2 years across the spectrum, from premium content owners to social media influencers.

AVERAGE RESOLUTIONS AND BITRATES

One important set of questions that the Help Me Stream team realized we'd not asked in previous State of Streaming surveys focuses on average bitrates (data rates) and average image resolutions (both frame rate and pixel sizes). We do have trend data from other surveys that Streaming Media magazine has performed in the same time period, though, so we'll reference just a bit of that below.

When it comes to average data rates, it's clear that the 5 megabits-per-second (Mbps) range continues to be the sweet spot for streaming delivery, a datapoint corroborated by an enterprise video survey Help Me Stream and Streaming Media magazine conducted in mid-2020.

WHICH OF THE FOLLOWING IS CLOSEST TO THE AVERAGE BITRATE AT WHICH YOUR CONTENT IS SERVED?



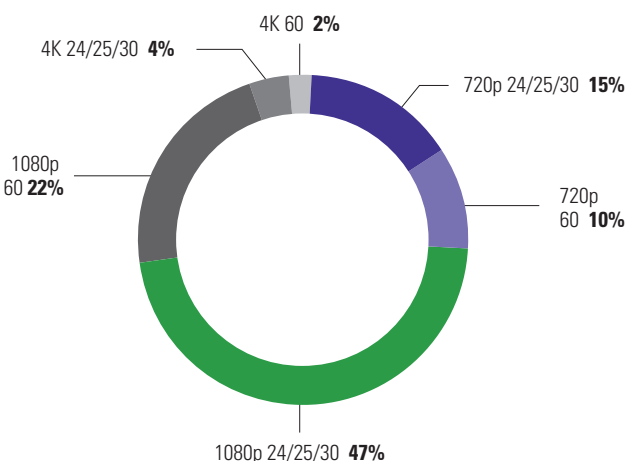
On the resolution front, the industry keeps touting 4K delivery, but that accounted for only 6% of the overall responses in our survey. However, lower frame rate—1080p at 24, 25, or 30 frames per second (fps)—accounted for almost half of overall responses.

The correlation is strong between the average 5Mbps and 1080p 24/25/30 fps, but it's also worth noting that 720p still accounts for a quarter of all responses, while the 1.5Mbps choice on data rates covers 17% of responses.

So, while the majority of content in 2021 is being acquired in 4K resolutions, and some of it even in 8K resolutions, it's clear that we're still in a 1080p delivery world.

During the Streaming Media Connect keynote, Millicast's Ryan Jespersen made a salient point when it comes to next-generation codecs, such as AV1 or H.265 (HEVC), as they attempt to supplant H.264 (AVC).

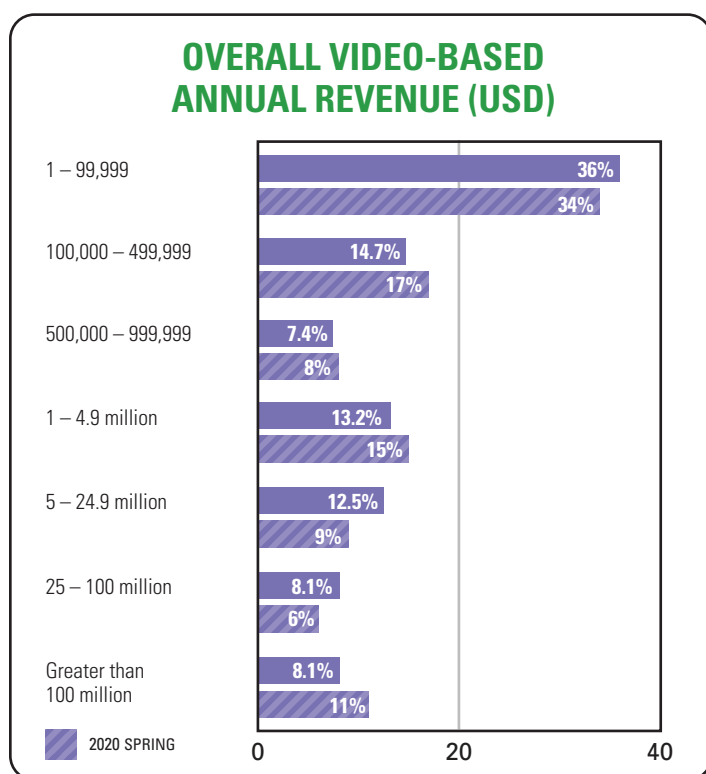
WHAT IS THE AVERAGE RESOLUTION OF YOUR CONTENT?



"Both of them lend themselves to not focusing as much on the bitrate or even the resolution," Jespersen said, "but being able to optimize the amount of quality you can do across the same bitrate. So I think with bitrates, we're going to see those stay pretty consistent, but the quality actually improves through things like HDR and 10 bit, as these new codecs allow us to get into deeper features that we can't do with AVC."

AVERAGE VIEWERSHIP AND ANNUAL REVENUES

Let's look first at revenues. In each of our State of Streaming surveys, we have asked respondents to provide their overall video-based annual revenue in U.S. dollars. The chart below shows that over a third of respondents note revenue below \$100,000 annually, another quarter have revenues between \$1 million and \$25 million, while 16% have revenues greater than \$25 million annually.

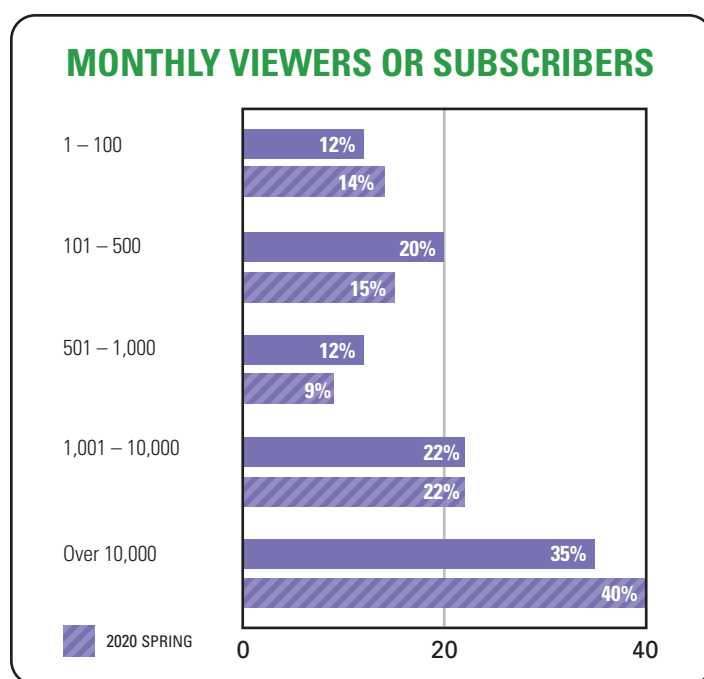


How does this compare to the revenue data from our initial State of Streaming survey? When we compare the two surveys, what we see in the most recent one is a growing percentage of responses at the low end (below \$100,000 annual revenues) compared to the initial survey. We also see a drop in respondents whose annual revenues fall in the lower-mid range (between \$100,000 and \$5 million), however, that drop corresponds to

a positive growth trend in the upper-mid-range of revenue options (specifically the \$5 to \$100 million range). So while the low end of the revenue spectrum continues to remain stubbornly high, there's a positive uptick in the mid-to-upper-end revenues.

On the viewership front, 44% of respondents report a monthly viewership of up to 1,000 viewers. Compared to our initial survey, where only 38% of respondents reported monthly viewership of fewer than 1,000 viewers, this may appear to be a setback in terms of viewership, but a further examination of the data reveals that the lowest category (1–100 monthly viewers) has actually dropped in the most recent survey. In other words, respondents are gaining a higher number of average viewers.

The one major concern in the viewership data is that the upper-end option (more than 10,000 monthly viewers) has dropped by about 5% (from 40% in the initial survey to 35% in the current survey). While this can be accounted for by continued fragmentation of the marketplace, it's a trend worth watching.

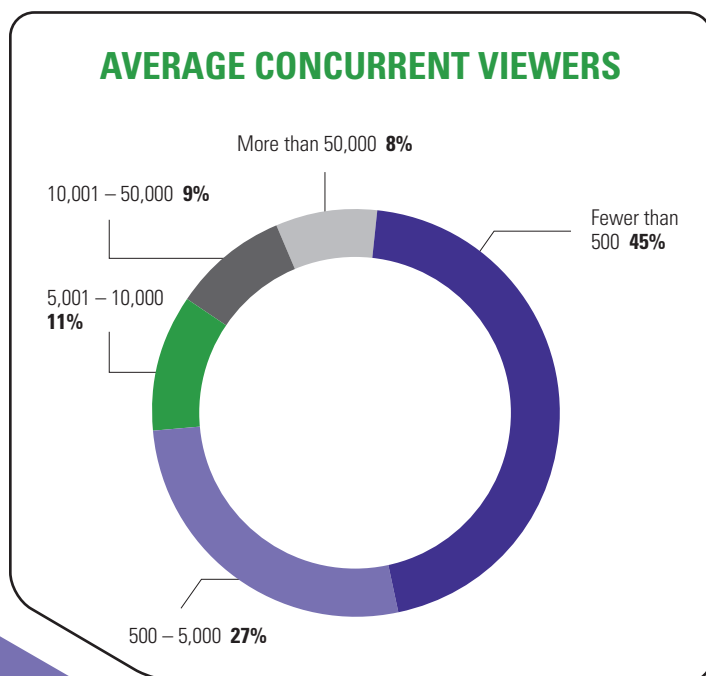


CONCURRENT VIEWERS

Speaking of viewership, another question we've added to this State of Streaming survey is a question around live-streaming viewership, specifically in terms of average concurrent viewers.

Unsurprisingly, given the data about overall monthly viewership highlighted above, almost half of survey respondents reported average concurrent viewers at "fewer than 500" concurrent viewers. On the other hand, at the upper end of the concurrent viewer spectrum, 17% reported average greater than 10,000 concurrent viewers, with 9% choosing 10,001 - 50,000 and 8% choosing the "more than 50,000" option.

The remaining two options—500–5,000 and 5001–10,000 concurrent viewers, respectively—accounted for 38% of all responses. Put in overall perspective, that means almost three-quarters of respondents report fewer than 5,000 concurrent viewers on average, with the bulk of those at fewer than 500 concurrent viewers.

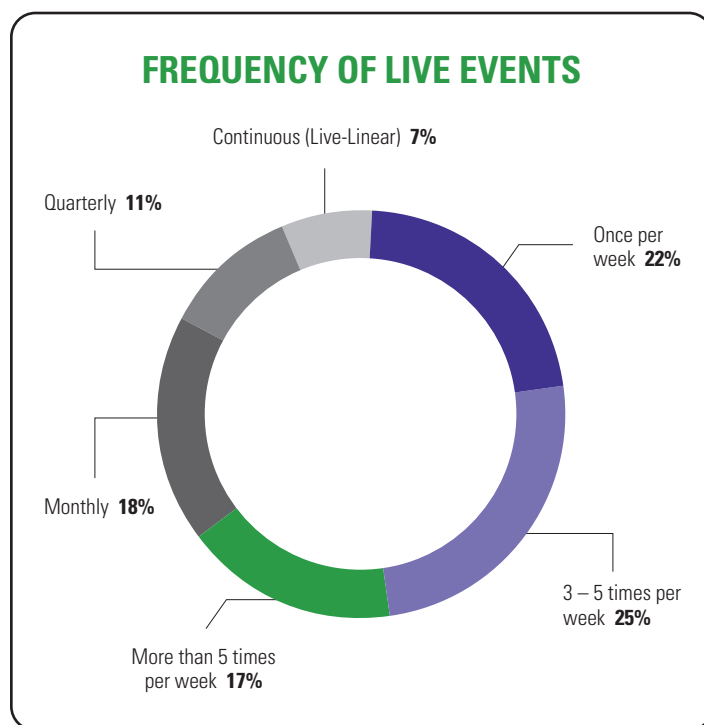


FREQUENCY OF LIVE EVENTS

As the streaming industry continues its transition from primarily delivering VOD content to offering more live streams, this next chart showcases the trend based on the growing frequency of live events.

In our initial State of Streaming survey, almost a quarter of respondents told us they only generated live events on a monthly basis. In the current survey, only 18% do monthly live events.

Where did the growth occur? It turns out the number of respondents who do weekly live events has grown (from 20% in our initial survey to 22% in the most current survey) as have the number of respondents that do three to five live events per week (24% in the initial survey versus 25% in the current survey). The number of respondents who do more than five live events per week—including those who do continuous (live-linear) events—has remained constant, at 24% of overall responses.



PERCENTAGE OF EACH MARKET VERTICAL

As part of the keynote discussion (go2sm.com/autumn2021), we covered the current data on more popular market verticals for each respondent's overall streaming business.

In the initial State of Streaming survey history, on-demand sat at 21%, with live events just below it, but by our 2021 Spring survey, the two were tied. The chart below reflects the current state, though, with live events (20%) surpassing VOD content (18%) for the first time.

In the past two surveys, we've been noting that this shift from VOD to live as a percentage of respondents' overall streaming business, as well as early trends in the decline of sports as well as the increase in religious organizations. What somewhat surprised us about the current percentages, however, is how far VOD has fallen. What has caused this shift?

There appear to be two main factors at play: growth of live events, including live-linear—which itself has accounted for 14% to 16% of overall business over the last few surveys—as well as growth in education and religious organization streaming.

Everyone has heard anecdotes about growth in both of these markets, but here are a few key facts to consider.

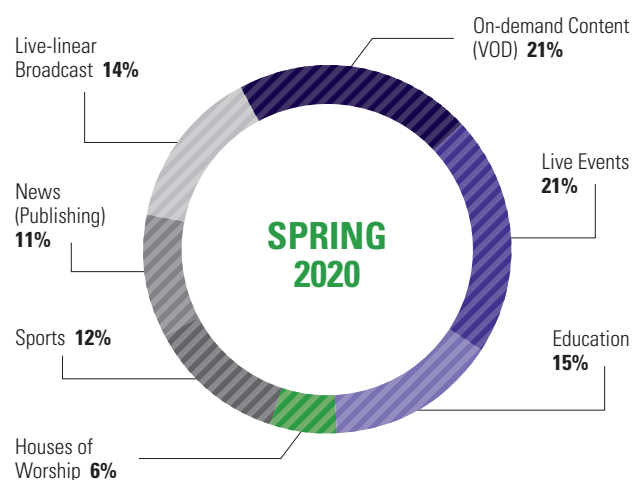
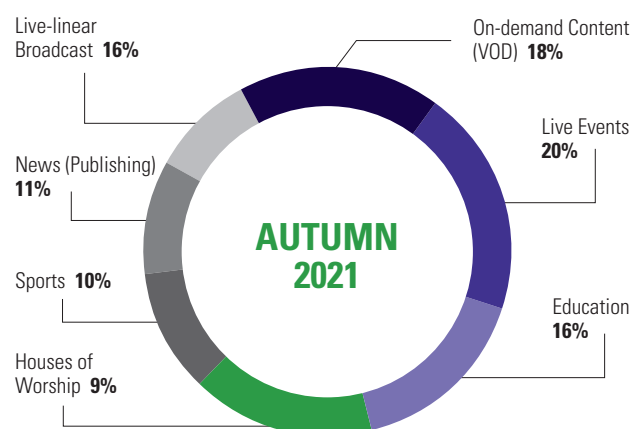
First, education as a percentage of overall streaming business remained stagnant at 15% between our first State of Streaming survey (late 2019 / early 2020) and the next-to-last survey (2021 Spring). It's only in the current survey that it's increased to 16% of overall streaming business.

Second, the religious organization (or houses of worship) market has seen consistent growth. In the late 2019/early 2020 State of Streaming survey, this market vertical only accounted for 6% of overall streaming business. A year later, though, it

had grown to 8% of overall business, and it now sits at 9% in this current survey.

And what about sports? While it accounted for 12% of overall streaming business in the initial State of Streaming survey, conducted before the initial pandemic lockdowns, it fell to 11% overall by the time we gathered data for the 2021 Spring survey—a time when sports leagues were in catch-up mode, between lockdown periods—and has fallen even more, to 10% of overall, while other categories pull ahead.

PERCENTAGE OF EACH MARKET VERTICAL FOR YOUR OVERALL STREAMING SERVICE



It's feasible to say that education and houses of worship may continue to see an uptick, but if it comes at the same time as a continued overall percentage decline in sports, the entire industry would do well to pay attention to this trend.

One final note: All three of these verticals have a number of events that livestream for more than an hour at a time—and education and religious organization streams can often reach 90 minutes or more—so the combination of all these long-form live streams could form a reasonable indicator of the overall health of the industry.

In other words, is live-sports streaming actually declining or is it simply falling behind the sheer scale of education and religious organization live streaming?

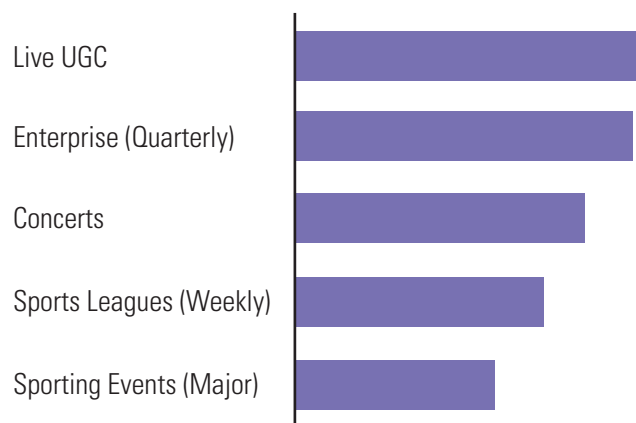
THE RISE OF LIVE UGC

This chart shows that live user-generated content (live UGC) has grown in popularity and now ranks as the highest of all the subcategories in the live events market vertical.

What's surprising, for this current survey at least, is that live UGC tops the list at the expense of enterprise live events, which held the top spot across the three previous State of Streaming surveys. In the initial late 2019/early 2020 State of Streaming survey, enterprise was clearly dominant, but by spring 2021, live UGC had begun to close the gap, resulting in a continued trend into this current survey where live UGC takes the top spot.

Because this is a ranking question, we can't necessarily derive the "why" for this trend, but we'll be doing future research into whether this is a story that heralds the continued growth of live UGC—which is a possibility, given the continued growth of TikTok and other live-streaming social influencer platforms—or shrinkage in the overall quarterly enterprise all-hands meetings. The latter may be a possibility, given the fact that an ongoing "Zoom fatigue" continues to pervade the overall enterprise landscape.

PLEASE RANK, FROM HIGHEST TO LOWEST, YOUR ORGANIZATION'S BUSINESS FOR EACH OF THE FOLLOWING SUB-CATEGORIES IN THE LIVE EVENTS MARKET VERTICAL.

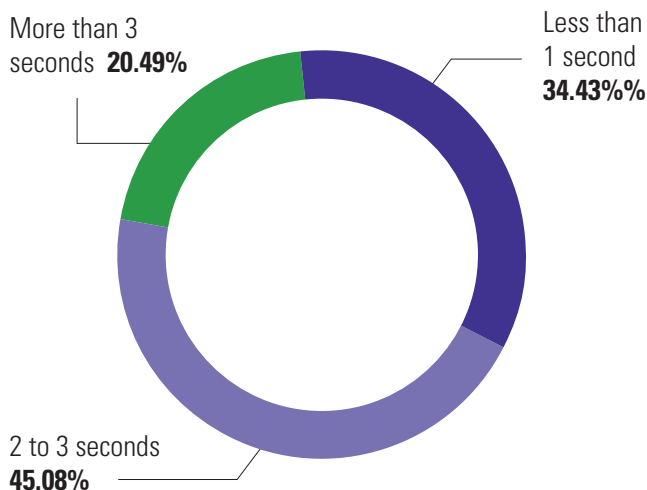


LATENCY EXPECTATIONS

For the first time in a State of Streaming survey, we asked respondents to define their expectations for low-latency delivery. The results were, in a nutshell, surprising when compared to both our internal expectations as well as the selling framework we've heard a number of low-latency service providers pitch.

Readers of *Streaming Media* might remember our 2017 article "Latency Sucks!" (go2sm.com/latencysucks) that started a series of conversations around how to move the industry away from the 30-plus-second latencies that HTTP "streaming" solutions such as Apple's HLS and MPEG-DASH introduced as a way to scale live video streaming at the expense of real-time delivery.

WHAT IS YOUR GLASS-TO-GLASS LATENCY EXPECTATION FOR INTERACTIVE STREAMING?



Over 45% of survey respondents told us that a 2- to 3-second latency was acceptable, which is indeed a vast improvement based on the norm of 30-plus-second latency, but still well above the less-than-1-second timings that most

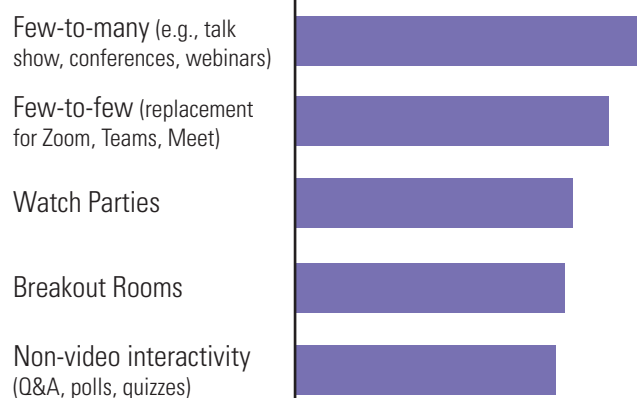
consider to be low-latency delivery. Yet only slightly more than one-third of respondents said they expected latencies of less than 1 second.

TYPES OF INTERACTIVITY

The conundrum of latency expectations becomes a bit clearer with the responses to another question around low-latency delivery and interactivity. We asked respondents to rank the types of interactivity their organizations either offer or plan to offer over the next 18 months.

The top-ranked interactivity offering is "few to many," which covers the gamut of talk-show formats, conferences, and webinars. In these scenarios, most interactive service providers would suggest their clients use sub-1-second latencies, but it's possible to get away with latencies in the 2-to-3-second range if the platform uses side-loaded interactivity in the form of polls or text-based Q&A chat windows.

PLEASE RANK THE KINDS OF INTERACTIVITY YOUR ORGANIZATION OFFERS (OR PLANS TO OFFER OVER THE NEXT 18 MONTHS)



The second highest-ranked interactivity offering, though, definitely requires very low latencies. This category, the “few to few” category, covers any interactive service that replaces a traditional web- or videoconferencing tool such as Google Meet, Microsoft Teams, or Zoom. In fact, most of these solutions work in the 250- to 300-millisecond (ms) range, as anything above 300 ms typically results in participant discomfort where audio and video synchronization can be thrown off enough that participants hesitate to speak.

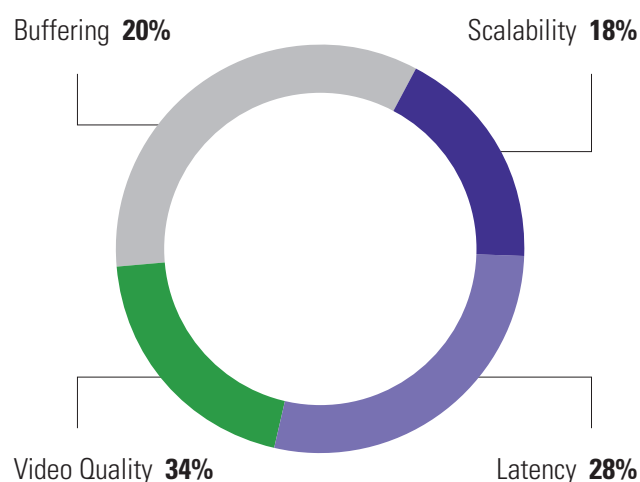
CHALLENGES IN VIDEO SERVICE DELIVERY

When it comes to delivering video, whether it's low-latency live video or traditional HTTP live streaming, publishers face a number of classic challenges around buffering, latency, scalability, and video quality.

We've asked this question in each State of Streaming survey, and the top challenges in video service delivery remain the same, with video quality far and away the most consistent challenge. It's a good point at which to remind readers of Ryan Jespersen's earlier quote, where a number of newer codecs are attempting to solve video quality while maintaining data rates consistent with the AVC/H.264 codec, which is still the de facto standard.

One final note about the two lowest-ranked challenges: In previous surveys, scalability and buffering have been neck-and-neck with each other, so the slight decrease in scalability in this current survey shouldn't necessarily be taken as scalability being of lesser importance. We'll monitor this in future State of Streaming surveys to see if a trend emerges.

PLEASE RANK THE FOLLOWING CHALLENGES YOU EXPERIENCE IN VIDEO SERVICE DELIVERY

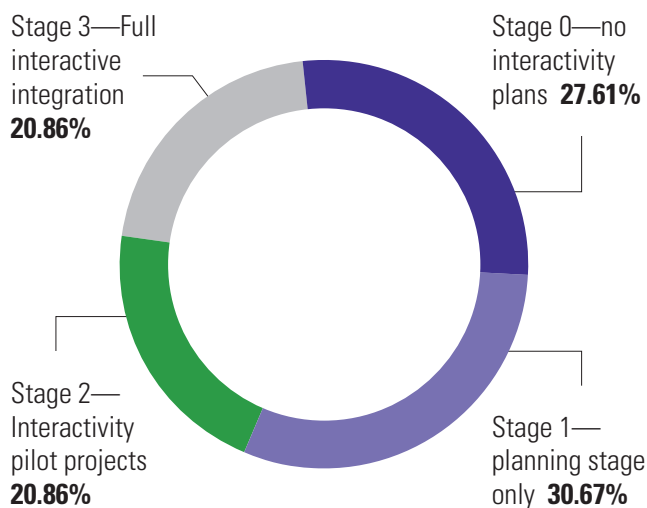


STAGES OF INCORPORATING INTERACTIVITY

A significant portion of the State of Streaming survey was devoted to looking at interactivity as a future trend in streaming video delivery. One of the first questions asked addressed the current stage of interactivity offerings at which each respondent's organization was operating.

As noted in the chart below, there's an even split (approximately 21% each) between those that have already integrated interactivity into their offerings (Stage 3) and those who are in the process of performing interactivity pilot projects (Stage 2).

AT WHAT STAGE ARE YOUR ORGANIZATION'S PLANS TO INCORPORATE INTERACTIVITY INTO YOUR STREAMING SOLUTIONS?



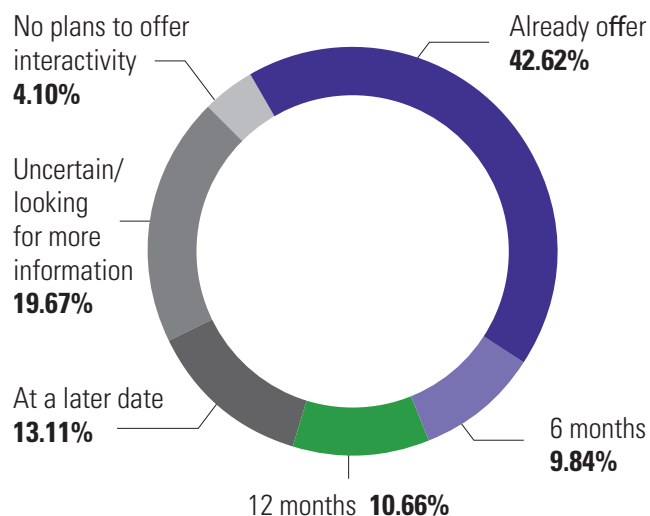
Close to 31% of respondents said their organizations were already in the planning stages to offer interactivity (Stage 1), so that naturally led to the next question, about time frames for offering interactivity.

TIME FRAME FOR OFFERING INTERACTIVITY

In keeping with the combined 42% noted in Stages 2 and 3 in the chart above, the question about specific time frames for offering interactivity also shows approximately 42% of respondents saying that their organization already offers interactivity.

For those who do not yet offer interactivity, which was approximately 33% of all respondents, about two-thirds of those respondents state that their organizations plan to offer it within the next year, with the remainder stating that interactivity would be offered "at a later date" that is not specified.

WHAT IS YOUR ORGANIZATION'S TIME FRAME FOR OFFERING INTERACTIVITY IN ITS STREAMING SOLUTIONS?



That leaves only 4% of respondents saying their companies had no plans to offer interactivity. But how does that correlate to the question above, in which those in Stage 0, with no integration plans, accounted for almost 28% of all responses?

In digging down into the survey's responses, we found two explanations for this.

First, some respondents represented rightsholders or content owners, who do not deliver their own content, and that 4% of respondents matches to the percentage rate of those in a previous question who neither create nor distribute media.

Second, there are a number of organizations that are uncertain about how to “take the plunge” into interactivity. Jespersen best summed that up during the keynote presentation when talking about WebRTC, which his company, Millicast, delivers at scale.

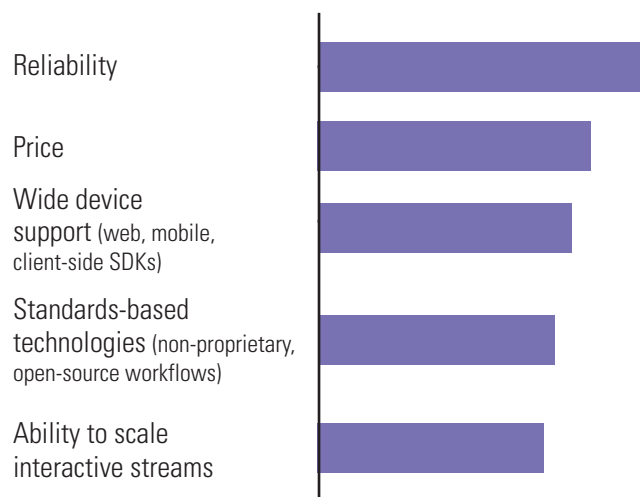
“Specific to WebRTC, it has been traditionally very hard to deploy and scale and manage on your own,” said Jespersen. “There are a number of platforms now that allow you to go to market very quickly, using someone else’s knowledge and experience in their architecture and reducing your capital expenditure, without having to find professionals and hire a team and scale and become pretty much a live streaming provider—which is always the worst idea when you just want to focus on your vertical and your SaaS product.

“So despite the options available for people to go to market very quickly,” Jespersen said, “that may be the reason we see such high numbers in stages 0 and 1, which is where you’ve not taken the plunge because we feel like it’s very daunting.”

CRITERIA FOR CHOOSING AN INTERACTIVE SERVICE PROVIDER

Continuing on that note, we also asked respondents to rank their criteria for choosing an interactive service provider. As the chart below shows, reliability is the number-one criteria, followed by price. But wide device support is also high on the list, even above the ability to deliver interactive streams at scale.

PLEASE RANK YOUR ORGANIZATION'S KEY CRITERIA IN CHOOSING AN INTERACTIVE SERVICE PROVIDER.



LEVEL OF KNOWLEDGE OF INTERACTIVE SERVICE PROVIDERS

When it comes to service providers that offer interactivity, we were curious to know which companies our respondents had heard of, what categories those companies fell into, and how many of these interactive service provider offerings are actually being used.

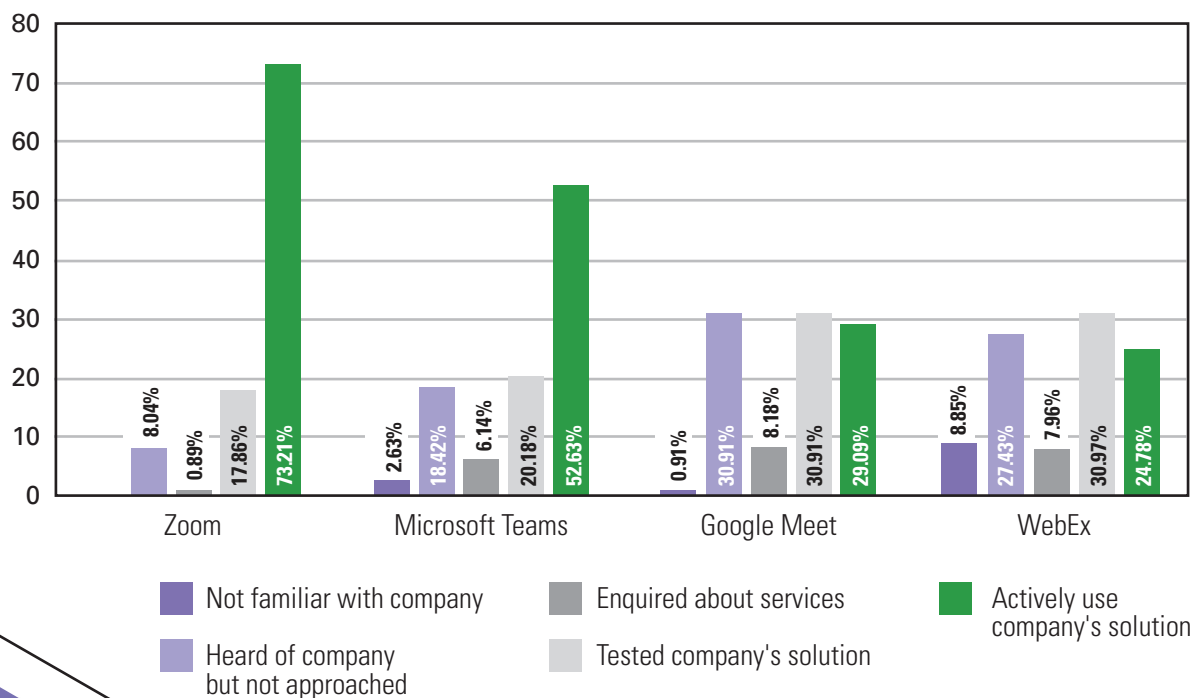
Overall, there were 13 companies to choose from, and, as noted in the chart below, four of the top five interactive service providers fall into the category that we'd consider few-to-few communications (e.g., video- or web conferencing).

The top-rated company—at least in terms of respondents actively using the company's solution,

which is the green at the far right of each company's bar chart—is Zoom. If we'd asked this question prior to the pandemic, though, Zoom wouldn't have made the top five, because Microsoft Teams and Google Meet and—to a lesser extent, given their legacy status—WebEx and products like GoTo Meeting were much more dominant in what was a fairly ho-hum part of the interactive market.

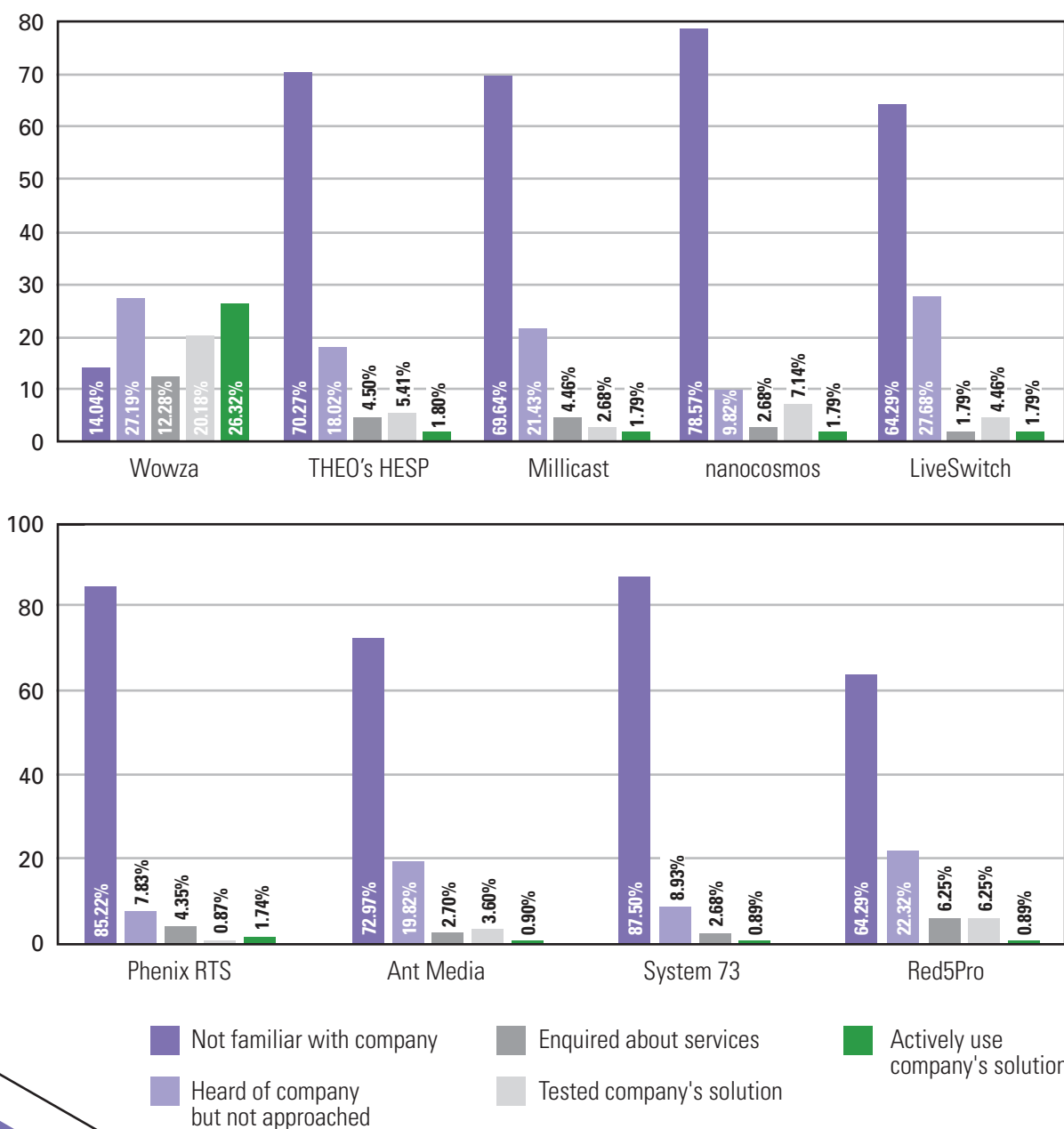
What a difference a year makes! Zoom now outpaces every one of the other 13 service offerings we asked about. In fact, the highest “traditional streaming” solution provider was Wowza, which is the first one on the next page.

WHAT IS YOUR LEVEL OF KNOWLEDGE OF THE FOLLOWING INTERACTIVE SERVICE PROVIDERS?



As the chart continuation shows, THEO's HESP and Millicast land in the next two spots, after which there are a host of other low-latency solutions. It's also worth noting Wowza has just launched a low-latency-at-scale solution that leverages a combination of WebRTC and the Wowza Cloud infrastructure.

WHAT IS YOUR LEVEL OF KNOWLEDGE OF THE FOLLOWING INTERACTIVE SERVICE PROVIDERS?



CONCLUSION

In closing, let's revisit one key trend mentioned in the Executive Summary and expanded on throughout this report: the inherent interactivity potential that comes from low-latency live streaming.

As we've seen in the previous pages, interactivity is a key streaming feature that's of interest to every market our industry serves—be it education, entertainment, religious organizations, online betting, or sports. And yet, there's a bit of an expectation gap when it comes to what's being offered in the marketplace versus what's expected by content providers.

That seems like a mismatch, but consider this: Now that we've moved beyond multi-second file segmentation and see the potential to deliver at scale, in a range between 500 milliseconds and 2 seconds, the next step is to find use cases in need of very-low latencies.

This is not a solution in search of a problem; in fact, it's a solution to several problems that don't yet know they can be solved by low-latency video and interactivity.

"There's this famous triangle in the streaming industry, with the three sides being latency, quality and scale," said Millicast's Ryan Jespersen. "Some vendors would say you have to give up one of the three to be able to have the other two. I think that triangle is pretty much becoming obsolete with some of the real-time streaming products you're seeing out in the market, where you can have extremely high quality, extremely low sub-second latency and extremely large scale."

We've also seen continued trends in particular market verticals, especially education and religious organizations, that appear to firmly move the over-the-top needle from a majority VOD to a majority live-streaming focus.

Finally, we've seen increases in bandwidth and resolutions, although not so far into 4K streaming that we all need to drop our 720p and 1080p delivery. With the advent of low-latency delivery, we at Help Me Stream feel that 720p will gain some additional traction, and 1080p will remain the primary resolution for some time to come. It's already a heavy lift to move 4K VOD content, so it's unlikely we'll see 4K low-latency live streaming at scale for at least the next year.

ABOUT MILLICAST

Millicast is a Platform-as-a-Service that uses standards-based WebRTC to allow publishers of live content to reach all modern browsers and devices without the need for a plugin, custom player, SDK or client-side framework.

Unlike other WebRTC solutions which are designed for small audiences and point-to-point adaptation, Millicast's global infrastructure provides scalability to over 1 million concurrent viewers and under 500ms of end-to-end latency to power real-time interactive streaming.

Millicast is the only WebRTC streaming platform offering real-time AV1 encoding with Scalable Video Coding (SVC), enabling customers to maximize quality, optimize bandwidth, and support for features like HDR, 10-bit, 4:4:4 colour and premium Surround Sound.

For more information, email hello@millicast.com.

APPENDIX

STATE OF STREAMING AUTUMN 2021 SURVEY & ANALYSIS

FINAL QUESTIONS

*Crafted by Timothy Siglin & Michelle Fore-Siglin,
Help Me Stream Research Foundation*

FOR



millicast
The Fastest Streaming on Earth



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HELP ME
RESEARCH
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STREAM



streaming
media
THE BUSINESS &
TECHNOLOGY OF
ONLINE VIDEO

- Q1.** Does your organization create and/or distribute media content?
- Q2.** Please identify your organization's mix of traditional [left] and streaming [right] business.
- Q3.** Which of the industries below most closely matches your organization?
- Q4.** Including both traditional and streaming media, what is your organization's typical viewer or subscriber size per month?
- Q5.** Including both traditional and streaming media, please provide your organization's overall video-based annual revenue in U.S. dollars.
- Q6.** What is the average resolution of your content?
- Q7.** Which of the following is closest to the average bitrate at which your content is served?
- Q8.** Please indicate the mix of live [left] and on-demand [right] in your streaming business.
- Q9.** Please rank the industries your organization currently serves (or plans to serve in the next 18 months) via live or interactive streaming solutions? [You can drag and drop or select a numeric value]
- Q10.** Please indicate the percentage range of each market vertical for your overall streaming business.
- Q11.** Please identify the frequency of events that your organization creates and/or delivers in the Live Events market vertical.
- Q12.** How many concurrent viewers typically view your live and/or interactive streams?
- Q13.** Please rank, from highest to lowest, your organization's business for each of the following sub-categories in the Live Events market vertical. If a subcategory is not applicable, please click the N/A option. [You can drag and drop or select a numeric value]
- Q14.** Please rank, from highest to lowest, your organization's business for each of the following sub-categories in the Sports market vertical. If a subcategory is not applicable, please click the N/A option. [You can drag and drop or select a numeric value]
- Q15.** Please rank, from highest to lowest, your organization's business for each of the following sub-categories in the Video On-Demand (VOD) market vertical. If a subcategory is not applicable, please click the N/A option. [You can drag and drop or select a numeric value]
- Q16.** Please rank, from highest to lowest, your organization's business for each of the following sub-categories in the News (publishing) market vertical. If a subcategory is not applicable, please click the N/A option. [You can drag and drop or select a numeric value]
- Q17.** At what stage are your organization's plans to incorporate interactivity into your streaming solutions?
- Q18.** Please rank the kinds of interactivity your organization offers (or plans to offer over the next 18 months)? [You can drag and drop or select a numeric value]
- Q19.** What is your glass-to-glass latency expectation for interactive streaming?
- Q20.** What is your organization's time frame for offering interactivity in its streaming solutions?
- Q21.** Please rank your organization's key criteria in choosing an interactive service provider.
- Q22.** What is your level of knowledge of the following interactive service providers?
- Q23.** If network bandwidth and storage requirements are challenges for your organization's video delivery service, how do you plan to address them? (select all that apply)
- Q24.** Please rank the following challenges you experience in video service delivery (in order of importance, from highest to lowest) If a challenge is not applicable, please click the N/A option. (You can either select a number for each challenge, or drag and drop the challenges and place them in your preferred order.)
- Q25.** How many of the following revenue types does your organization use to support your consumer-facing streaming business? If a revenue type is not applicable, please click the N/A option.
- Q26.** Please identify your organization's business and technical concerns, over the next 24 months, from the following list. Choose all that apply.
- Q27.** Please rank the following organizational goals from top (greatest) to bottom (lowest), over the next 24 months. If a goal is not applicable, please click the N/A option. [You can drag and drop or select a numeric value]
- Q28.** Over the next 18 months, what level of impact will 5G have on your video streaming strategy?
- Q29.** For your organization's overall streaming business, please rank the geographies from top (greatest) to bottom (lowest). If you don't do business in a particular geography, please choose the N/A option. [You can drag and drop or select a numeric value]
- Q30.** In which region of the world are you based?
- Q31.** What is your job title?
- Q32.** What is your primary job responsibility?
- Q33.** How many years have you been in the streaming industry? Please type a number between 1 and 25.



millicast

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