

WHITEPAPER

# OTT Video Monetization: The Ultimate Guide for Businesses and Developers

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#### Introduction

Streaming viewership surpassed cable in July 2022. Over-the-top (OTT) platforms like Netflix, YouTube, and Hulu now claim the <u>largest share of TV content consumers</u> — with traditional broadcast usage steadily declining.

It's clear that OTT distribution is the way of the future, but what's less clear is which monetization method will dominate the landscape. Subscription-based models have long been the go-to for streaming providers. Increasingly, though, industry leaders are experimenting with alternative and supplementary tactics for converting content into cash.

It's to this tune that Netflix, Disney+, and HBO Max have launched ad-supported tiers. Meanwhile, free ad-supported streaming TV (FAST) services like Pluto TV are experiencing tremendous growth.

Consider Amazon, which is playing the monetization game on all fronts. The tech giant offers Amazon Prime Video, which generates revenue via its monthly subscription fee. Then there's Freevee, Amazon's FAST service offering original and licensed programming across 150+ linear channels. As the name suggests, Freevee costs nothing to viewers — instead generating profit with commercials.

Amazon is also planning to launch an ad-funded tier for Prime Video to help cover licensing costs. This would be an example of hybrid monetization, where both ads and low monthly subscription fees make up the earnings.

But that's not all. The media conglomerate further monetizes OTT content by selling pay-per-view movies and live events. Plus, Amazon owns Twitch, an interactive live streaming service that makes money from advertising, premium subscriptions, and in-app purchases. It's also likely that Amazon is exploring emerging OTT monetization tactics like <u>second-screen experiences</u>, in-game betting for <u>sports content</u>, and <u>more</u>.

The takeaway? Today's streaming platforms are combining multiple strategies for generating revenue and reaching viewers. And while it's wise to consider all of these monetization models when building an OTT service, it's also a good idea to minimize complexity and infrastructure costs where possible.

In this guide to OTT video monetization, we cover it all: different revenue models and trends, technical considerations across the end-to-end workflow, and the nitty-gritty of putting all to work for your business. Whether you're launching a new streaming service or revamping your existing strategy, you'll gain a ton of insight into how all the pieces of the monetization puzzle fit together.

## At a glance

- Hybrid monetization is on the rise, with all major streaming providers now offering a lower-cost ad-supported tier to reduce churn and increase the total addressable market.
- The OTT landscape is evolving. Cost pressures have driven many services to explore new revenue models and identify ways to save on their technology spend.
- Balancing quality with costs is key to OTT success, making your backend infrastructure a crucial factor when approaching monetization.

- Cloud data egress, CDN, and storage bills are the biggest operating expense for OTT providers. By encoding content more efficiently and reducing redundant renditions, streaming companies can save millions.
- Time to market matters. Luckily, readyto-use streaming solutions that integrate with your existing ecosystem can speed things up.



## **Understanding OTT video monetization**

In the world of OTT video, monetization is the process of converting owned or licensed content into revenue via online distribution. These video assets can take the form of video-on-demand (VOD) content, 24/7 linear programming, live streams, short-form videos, and more. As such, there are a variety of ways to go about generating a profit from OTT streaming.

Many of today's broadcasters take a hybrid approach that combines multiple tactics. For example, YouTube monetizes content using subscriptions to <u>YouTube TV</u> and <u>YouTube Premium</u>, ads that play before videos on their free service, and purchases made to rent or buy content on <u>YouTube Movies</u>.

#### Overview of revenue models

Here's a look at the most common OTT revenue models today:

# SVOD: Subscription-based video on demand (and live events)

Streaming platforms that fall under this, like HBO Max, Netflix DAZN, ESPN+, FUBO, and others, offer access to video content with a recurring fee. Users pay for access to high-quality content, and depending on whether the stream is live or on-demand, there can be commercials which commonly air during live sports events.

# AVOD: Ad-based video on demand (and live events)

AVOD services, on the other hand, rely on commercials and other advertising techniques to generate revenue. This model offers the ability to watch on-demand content rather than linear channels, but viewers must bear with the ads that play prior to and during their chosen titles. AVOD's dominance extends across the Asia-Pacific region and is steadily growing in the U.S. and Europe.

#### **FAST: Free ad-supported streaming TV**

As the newest category of streaming services, FAST delivers a predetermined lineup of video content without requiring any paid subscription. Popular FAST apps include the Roku Channel, Freevee, and Pluto TV. This type of lean-back viewing resembles traditional TV broadcasting, combining scheduled programming with commercial breaks to deliver free content on a one-to-many basis. FAST channels are expected to surpass cable, broadcast, and SVOD/AVOD platforms like Hulu in terms of ad spending by 2025.

# TVOD: Transactional video on demand (and live events)

TVOD refers to pay-per-view content that viewers can buy or rent on a one-off basis. This model is commonly applied to cinematic releases available for early access and premium live events like UFC fights.

# HVOD: Hybrid monetization and hybrid video on demand (and live events)

In many cases, broadcasters employ a <u>hybrid</u> monetization approach, incorporating various tactics that span these categories. For example, many streaming services today offer a premium SVOD service, an ad-supported plan at a lower monthly subscription, and options to rent or purchase content via TVOD. Some also offer free AVOD services or FAST channels for additional flexibility. In-app purchases could also find a way into the mix.



"Deloitte Global predicts that, by the end of 2023, all major subscription video-on-demand (SVOD) services in developed markets will have launched an ad-funded tier to complement adfree options. By the end of 2024, half of these providers will also have launched a free ad-supported streaming TV (FAST) service. And, by 2030, it is expected that most online video service subscriptions will be partially or wholly ad-funded, catching up with emerging markets where ad-funded video on demand has always been the norm."

Deloitte.

## Picking the right revenue model for your business

Different types of content lend better to different revenue models. That's why it's free to stream reruns of Friends on FAST service like Vudu; whereas subscribers of premium VOD services like HBO Max pay monthly subscriptions in exchange for access to Succession and the early release of Barbie.

Revenue modeling often comes down to supply and demand. Hence, the more proprietary or indemand your content is, the more money people are willing to shell out for SVOD and TVOD services. Conversely, if you're streaming run-of-the-mill content or republishing shows that are available elsewhere, AVOD monetization is a better route.

In many cases, though, it's not a question of which one but rather what mix of revenue models is best for my business?

Our chief architect and head of strategic growth here at Bitmovin, Igor Oreper, explains, "I think most of our customers and prospects are really looking at how to provide every model possible to reach as many eyeballs as possible."

This hybrid approach allows OTT platforms to meet viewers on their own terms and expand the total addressable market. That said, you'll want to start simple if you're still establishing your OTT platform.

Doing one thing right is always better than doing many things poorly. A great example of this is Netflix. Much of the company's success stems from its focus on a single distribution mode (OTT) and revenue model (SVOD) for so long. While Netflix is wise to diversify into advertising today, their commitment to quality content and viewing experiences is what got the streamer to where they are.

"I believe combining more flexible plans with high-quality content and a superior viewing experience will be what wins the streaming wars."

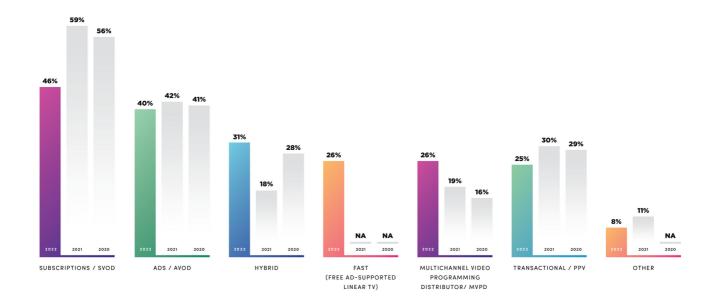


**Stefan Lederer**CEO and Co-Founder @ Bitmovin

#### **Shifting viewership patterns**

In our <u>2022/2023 Video Developer Report</u>, hybrid monetization saw the biggest jump from years prior, while SVOD saw the biggest decrease. This didn't come as a surprise — and we anticipate the trend toward mixed revenue modeling will continue.

#### What monetization model do you use?



Why? The days of skyrocketing subscription growth have come to a halt and many platforms are searching for new ways to make money. The streaming market continues to grow more crowded, and economic dynamics have many viewers rethinking their spending habits.

A hybrid approach doesn't just reduce churn and attract new customers — it can also bring in more bucks. After making their foray into HVOD last November, Netflix quickly found that per-member revenue on their ad-supported tier exceeded that of their standard SVOD plan. To this end, the streaming powerhouse is investing in upgrading the video quality and ad experience for these users.

Another major change in OTT monetization is the introduction of free ad-supported streaming TV (FAST). Good-old commercials, it turns out, are the very money-making tactic that the industry's been ignoring. And FAST providers take this to the bank by eliminating monthly subscription fees altogether.

With FAST, OTT looks a lot like cable programming of yore, and all a user needs to access the content is an internet connection. Most FAST services don't even require registration, much less a credit card. The resulting experience is frictionless, approachable, and affordable.

The FAST market is currently dominated by traditional media companies like Paramount and NBC, as well as streaming device manufacturers like Roku and Samsung. The likes of Disney and Netflix are also keeping an eye on this growing segment.

In looking at <u>average revenue per user (ARPU)</u> <u>across these different models</u>, there's no clear winner. <u>Streaming media analyst Dan Rayburn</u> explains:

"ARPUs are getting more and more difficult to compare apples to apples because you have ARPU that's subscription only and subscription with ads. you also have ARPU that's coming just from ads and live — for instance fubuTV.

We're going to have new, blended ARPU numbers or maybe broken-out ARPU numbers for Disney+ and for Netflix when they add advertising. But the ARPU numbers are getting more and more complex."

The actual profit after considering licensing fees and operating costs varies across different use cases. Live sports streaming has different requirements than premium VOD, and the workflow for FAST channels is quite different from the workflow for interactive eLearning platforms.

For these reasons, the right revenue model for your OTT services hinges on the total cost of ownership (TCO), the types of content you distribute, and your viewers' preferences.

#### Market trends

The streaming industry grows more complex and dynamic every day — with a number of factors driving today's <u>shake-up in monetization models</u>. Here's a closer look.

#### 1. Artificial intelligence (AI)

Al will change the game across video — automating everything from <u>video encoding</u> to <u>CTV</u> <u>advertising</u>. OTT providers are already benefiting from improved efficiencies and cost savings, while users are being served more personalized experiences and targeted ads.

#### 2. Cloud-native infrastructure

"Cloud native" is the newest buzzword in software development, describing applications that take full advantage of cloud computing services from the ground up to ensure cost efficiencies. When it comes to video, <u>cloud-native encoding services</u> can decrease both capital expenditure (CapEx) and operating expenditure (OpEx) — while ensuring greater business flexibility and service resiliency.

#### 3. Economic pressures

With rising living costs and a potential recession on the horizon, many consumers are rethinking their streaming habits. Cheap and free ad-supported services are more attractive to price-conscious buyers. Even so, our research found that 57% of consumers hadn't canceled a single streaming subscription as of October 2022.

#### 4. Greening of streaming

Video processing and streaming now generate nearly 1% of global greenhouse gas emissions. As a result, there's an increased industry focus on curbing wasteful practices and improving efficiencies. Per-title encoding capabilities, video analytics, and sustainability-focused playback features can all serve towards this end. The greening of streaming often leads to cost savings, so it's a win-win for content distributors. At Bitmovin, we're dedicated to making video streaming more climate-friendly without degrading the viewing experience.

#### 5. Interactivity and immersion

OTT platforms have been experimenting with <u>tactics to boost engagement</u> for years, and advancements in video technology continue to open up new possibilities. With AVOD, this might mean interactive CTV commercials, ads that dynamically adapt to target each viewer, or shoppable videos. On the SVOD side of things, we're seeing an increase in <u>360 VR</u>, group-watching experiences, and live graphic overlays.

#### 6. Live sports streaming

Until recently, sports broadcasting remained the last hold-out of traditional TV. The inherent latency of HTTP-based streaming contributed to this, as well as licensing agreements with cable network providers. But this is all changing.

Low-latency formats like chunked CMAF for DASH and HLS now make it possible for OTT providers to offer live broadcast delay that is on par or better than traditional pay TV services like cable. Streaming platforms have also begun securing exclusive broadcasting rights to major sporting events. Amazon Prime attracted new subscribers last year by partnering with the NFL to broadcast Thursday Night Football. Other platforms leading the way include ESPN+, fuboTV, SlingTV, and the NRL.

We expect live sports streaming to open up additional OTT monetization opportunities ranging from in-game betting to behind-the-scenes content. Apple TV+ is following this model with their MLS season pass, taking advantage of Lionel Messi's popularity and move to Inter Miami with an upcoming documentary series.

#### 7. Password-sharing crackdown

Netflix rolled out a new protocol limiting password sharing outside of a user's primary household earlier this year in hopes of increasing revenue in the saturated market. Given the uptick in earnings that Netflix gained from the crackdown, this practice may become standard across OTT platforms.

#### 8. Subscription fatigue

Subscription businesses proliferated during the pandemic. In addition to SVOD services, consumers became inundated with e-commerce subscriptions like Hello Fresh and connected fitness services like Peloton. According to Delloite, <u>almost half (47%) of U.S. consumers report being frustrated by the growing number of subscriptions</u> required to watch streaming content. FAST and AVOD services help alleviate this by doing away with the costs, as do hybrid models.

#### 9. Video pipeline optimization

Cost pressures have forced OTT services to reevaluate their infrastructure investment and reduce video bitrates. In so doing, many have identified ways to save on cloud encoding, storage, and delivery costs. Whether this means capping resolution at 1080p, switching to next-generation codecs like AV1 and VVC, or creating higher quality video at up to 70% lower bitrates by using <u>per-title</u> encoding, pipeline optimization is a key component to OTT monetization.

#### 10. Writers and actors strike

In part due to the potential risks of AI, the Writers Guild of America (WGA) and Screen Actors Guild-American Federation of Television and Radio Artists (SAF-AFTRA) have joined together to strike against leading media conglomerates. This has created a roadblock in new content production — further accelerating the shift in viewership patterns already occurring. A lack of premium content may drive viewers to ditch pure subscription services in favor of HVOD and FAST channels. U.S.-based OTT services will also need to double down on live sports and reality TV to fill this content gap.



# Calculations to make when architecting your workflow

When approaching OTT monetization, it's imperative to evaluate your total cost of ownership (TCO) first. Infrastructure investment, development costs, licensing fees, maintenance expenses, content performance, and user retention all affect your bottom line.

Gaining a top-to-bottom view of everything eating into profits may not be possible. But you'll want to consider the nuances of monetizing your OTT services — including opportunities to cut costs and boost profitability across the video pipeline.

More specifically, you need to:

- 1. Select a revenue model that makes the most sense for your business.
- 2. Build a workflow that maximizes cost savings through end-to-end integration.
- 3. Minimize resource drains and expedite development where possible.
- 4. Identify opportunities to improve quality of experience (QoE) and optimize on an ongoing basis.
- 5. Circumvent risks like ad blocking and piracy.

All that said, your strategy needs to be dictated by the users tuning in. So while it's crucial to take all the backend components into account, you can't lose sight of the people consuming your content.

This means prioritizing things like <u>adaptive bitrate streaming (ABR)</u> to drive quality regardless of connection speed, multi-codec encoding for compatibility across devices, a feature-rich player that ensures flawless playback, and video analytics to pinpoint issues before they impact your viewers.

Keeping that in mind, infrastructure costs should be scrutinized to drive unit costs down and deliver the best price point to your viewers. Here are a few of the tradeoffs you'll want to consider.

#### **Quality vs. cost**

Distributing video online is complex and resource-intensive. Finding a way to balance quality with costs is key. To do this, you'll need to identify which capabilities are table stakes, and how to deliver them in the most efficient way possible.

In some cases, paying closer attention to your audience's needs could yield cost savings. For instance, you may learn that 8K resolution and low-latency delivery are unnecessary expenditures.

Our CEO Stefan Lederer explains, "Just because we as technologists get excited about certain use cases, that does not necessarily mean that the customer cares about it."

The best way to save costs is to eliminate any spending that doesn't deliver value to your audience—and double down on the investments that drive growth. <u>Video analytics</u> can deliver actionable insights into viewer behavior and help identify cost-saving opportunities along the way.

Keep in mind this is not a one-size-fits-all strategy. There are many ways to slice and dice your audience into cohorts, each with its own cost basis. Making granular decisions is critical. For example, mobile users don't require UHD or even HD video resolutions.

#### **Build vs. buy**

Time is money. And in the race to get your service up and running, you'll want to compare the costs of building your service entirely in-house vs. hitting the ground running with turnkey video infrastructure solutions.

Architecting bespoke video infrastructure in-house is an expensive endeavor — and one that takes focus away from your content and viewers. Netflix, who leans toward building everything themselves, routinely spends over \$200 Million per month on technology and development, a figure that's well out of reach for the vast majority of companies.

By starting off with either an <u>end-to-end video platform</u> or a combination of components (such as an <u>HTML5 player</u> or <u>cloud-based encoding</u> solution), you can offset development costs and differentiate your service faster. If you're going the 'buy' route, look for vendors that offer APIs and SDKs, integrations with industry partners, as well as documentation and customer support to expedite development.

#### On-premises vs. cloud

If you aren't hosting your video infrastructure in the cloud, you aren't preparing for future growth. Amagi co-founder Srini KA explains:

"Media has been one of the last industries to move to the cloud. Less than 10% of all television runs on cloud. Pretty much everything still [relies on] on-prem hardware and a data center-based approach. The next few years are going to see a wholesale migration of traditional media companies into the cloud."

There are obvious exceptions to this rule. Enterprise and government organizations often prefer to deploy their streaming solution across private networks. But for most use cases, the cloud yields enormous cost savings and scalability.

Cloud-based services allow content distributors to only pay for what they use, while also eliminating maintenance costs. The cloud has become a hub for technological advancements and investments, meaning that more innovative products are available for that deployment model.

Still not convinced? <u>A Forrester study</u> found that Bitmovin customers running their encoding in the cloud saw a 355% ROI over a three-year period.

If you're already running applications in the cloud, you'll want to look for products that you can run on your existing resources. You can also gain more control over your costs and commitments by finding streaming solutions that are available on your existing cloud providers' marketplaces.

Using cloud-native services also provides significant benefits for companies looking to reduce their carbon footprint. AWS customer Blackbird was able to reduce their total carbon emissions <u>by over 90%</u> by migrating from on-premises to cloud-native video editing workflows.

# Bitmovin products are also available through these marketplaces







## **Technical priorities to boost profitability**

Now that we've covered all the big-picture ideas, let's get into the technical weeds. Developers looking to boost profitability in the OTT world can narrow it down to four priorities. Here's what it takes to do just that.

#### 1. Accelerating time to market

In the fast-paced OTT video market, time is of the essence. The race to spin up new services becomes fiercer by the minute — with new platforms launching each day. Content owners looking to get their services to market quickly need tools to expedite product development and partnerships that give them a competitive edge.

Some strategies for accelerating time to market include:

#### Streamlined development with builder-focused tech

Building video applications takes time. Luckily though, many of the technology components can be outsourced. When considering third-party encoding, player, and analytics tools, you'll want to find a developer-centric provider like Bitmovin that provides APIs and SDKs, extensive documentation, and community forums to speed up buildout.

#### **Cloud-native infrastructure**

As detailed above, cloud-native deployments let you spin up resources at a reasonable cost — even while tuning your quality to the absolute maximum and supporting multi-codec streaming. Rather than investing in idle infrastructure and burdening your team with operational responsibilities, cloud-based infrastructure means you only pay for the resources you need. Plus, you're able to test and deploy new workflows in a snap.

#### **Ease of integrations**

You'll want to make sure that everything plays well together. That means considering ways to streamline integrations with your favorite tools and consolidate services through a handful of providers. Finding a <u>technology provider with an extensive partner network</u> will accelerate time to market and cut costs along the way. Whether you're hiring a systems integrator or building the majority of your OTT workflow in-house, ease of integration should be a key criterion when researching vendors.

#### **Expertise and support**

Your best bet for launching an OTT service quickly is by tapping into video engineering expertise. Make sure to bring streaming experts onto your team, and look for vendors that provide robust customer support. Guidance on architecture and best practices from a partner who's seen successful deployments in the same market and region as you're launching your services can be invaluable.

"Bitmovin's engineering team has been great to work with. We were able to rely on them to become an extension of our engineering team... We're looking forward to exploring more ways to work together."

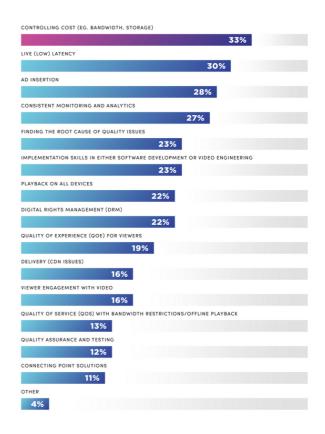


Sung Ho Choi
Co-Founder @ fuboTV

#### 2. Controlling costs

The streaming industry is competitive. And if you aren't searching for ways to reduce costs across your video pipeline, you're likely missing out on opportunities to grow revenue. You'll want to strike the right balance between performance and efficiency. Optimizing your video pipeline and choosing cost-effective solutions will help control overheads as you build and scale your platform.

When asked what their top video technology challenge was, the majority of those surveyed for our 2022/2023 Video Developer Report responded with 'controlling costs.'



So, where do costs creep in and how can you control tech spend? We'd suggest starting with your encoding bitrates.

Fun fact: Video traffic accounts for over 80% of all data delivery across the iInternet. That's why cloud data egress, CDN, and storage bills are the biggest operating expense of OTT services. Most public cloud providers and CDNs are priced on a per-GB basis to store and deliver data (video) with add-ons based on region and additional features.

TL;DR: By reducing the size of your video content, you're able to store and distribute streams at much lower costs.

"The largest streaming services tell me they are saving tens of millions of dollars this year on cloud encoding, storage, and delivery costs compared to their 2022 spend. This trend is only going to continue in 2023 and into 2024 as streaming services focus on profitability and rationalizing spending across their entire video workflow."



**Dan Rayburn** Streaming Media Analyst

Some of the ways OTT providers are slashing CDN costs include:

#### **Limiting resolution**

Capping resolution at 720p or 1080p is one of the simplest ways to save money. Major players like YouTube, Amazon, and Apple TV+ don't even use 4K for their live sporting events, and very few consumers actually demand it.

#### **Reducing redundancies**

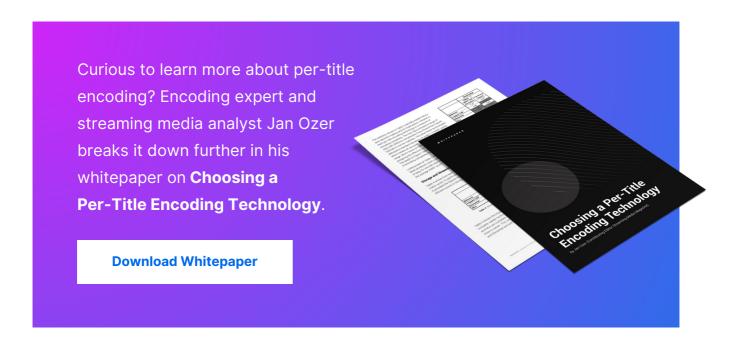
It's all well and good to give your audience a range of ABR renditions. But there's no point paying to encode and store ten different options when 98% of viewers are watching five of the options. <u>Video analytics tools like our Video Bitrate Heatmap</u> make it easy to track viewer behavior and eliminate unnecessary costs.

#### **Tapping into next-gen codecs**

Advancements in compression technology have enabled content distributors to fit the same quality into fewer bits. VP9, HEVC, VVC, and AV1 all dramatically cut data egress, CDN, and storage costs. These emerging codecs are computationally intensive and expensive to encode, but that's typically a low-frequency process — whereas unicast video delivery is directly proportional to consumption — so they're likely to reduce the actual cost of transmitting media from point A to point B in a meaningful way. You'll want to calculate the tradeoff for your workflows and viewer consumption patterns. Tools like Bitmovin's AV1 break-even calculator can help.

#### Using per-title encoding

Even if your viewers demand 4K video, it's possible to deliver the very same quality at up to 70% lower bitrates using per-title encoding. Per-title encoding lets OTT providers prepare their content in a more efficient way by customizing the encoding ladder to the complexity of each video. This minimizes the risk of wasting data by taking a one-size-fits-all approach — in turn decreasing storage and egress costs by up to 80%.



#### 3. Ensuring quality and scale

Delivering stunning video experiences is how you stay competitive. If you're unable to provide a great service to users, you risk losing footing in the market. Likewise, if your stream can't be accessed by a variety of devices, monetization will be limited.

Unhappy users, advertisers, and partners can all cost you your business. Providing seamless playback and crystal-clear video at scale is a must for anyone looking to reduce churn. "The customer still expects the same level of quality that they were getting from their satellite service because they probably don't know whether they're streaming or not. And the fact that you have to go to multiple devices where there is no one-size-fits-all is incredibly complex. And it's choosing how far do you go? How many devices do you go to? Where do you go with scale?"



**David Gibbs**Director, Group Content &
Advertising Products Sky Sports

So what does it take to ensure quality and scale?

#### Reach and device compatibility

Different devices support different video codecs. So you'll want to find a video partner like Bitmovin with <u>broad codec support</u> to ensure that all your viewers can access your streams. Multi-codec streaming allows you to deliver higher quality video while using less bandwidth. But it does increase storage requirements, so we'd recommend gaining insight into what devices your viewers are using to justify these costs with an analytics tool.

#### **High-quality content**

The actual content of your service needs to stand out. For SVOD, this means acquiring in-demand content to warrant a monthly subscription. With FAST, it's more about providing curated channel lineups with plenty of variety.

From there, all ad-supported monetization models need to take the ads themselves into account. Static screens stating "your programming will be right back" or the same commercial playing on repeat can irk viewers. Delivering more personalized ads using client-side ad insertion (CSAI) can contribute to a better experience, which is one reason to opt for CSAI over server-side ad insertion (SSAI).

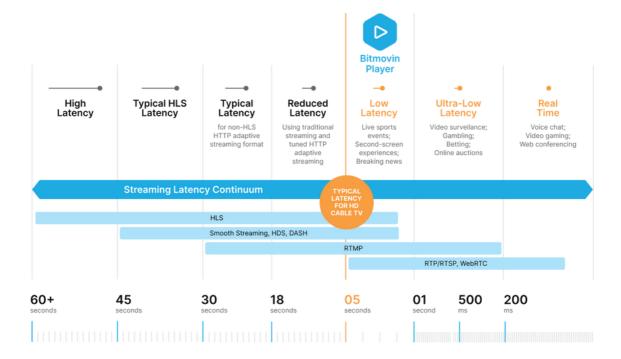
#### User interface (UI) / user experience (UX)

Quality doesn't stop with the content itself. You'll also want to make your service intuitive and attractive through UX/UI elements. FAST channels require an easy-to-use TV guide with rich metadata about each title's genre, runtime, summary description, and more. Content recommendations have also become standard for VOD — providing the convenience and personalization viewers expect. From there, you'll want to configure your <u>player</u> with optimal ABR settings, captions, and branded design.

#### Low latency and interactivity

For the vast majority of OTT content, there's little need for low-latency streaming. And because tuning streams for speedy delivery introduces complexity and costs, we'd recommend sticking with a bit of lag when your use case allows it. Most OTT services prioritize reliability and smooth playback over sub-second delivery. Prioritizing such low-latency can also come with a cost of negatively impacting visual quality.

But for interactive environments like live sports, gaming, and live fitness services, real-time streaming can be crucial. For these scenarios, you'll need to architect a workflow that's optimized across the <u>live encoder</u>, transcoder, CDN, and player. Finding vendors that support low-latency protocols like SRT, RIST, Low-Latency CMAF for DASH, and Low-Latency HLS will be of the essence.



#### 4. Iterating based on data

Data is the lifeblood of successful OTT monetization. By harnessing video analytics and user behavior insights, you can make data-driven decisions to improve your service, refine your monetization strategy, optimize content offerings, and tailor experiences to your audience's needs.

Here are all the ways video analytics tools can inform monetization:

#### **Benchmarking across the industry**

Video performance varies across the globe, with viewers in Kenya experiencing an average video startup time of 4.1 seconds while Norwegians only wait an average of 1.04 seconds for streams to play. For that reason, you'll want to benchmark and improve your service based on industry averages. This will help you evaluate strength and weaknesses, while also setting achievable goals.

Gain insights into video performance across the globe with our interactive industry insights demo.

**View Demo** 

#### **Optimizing resource utilization**

Measurement is key to ensuring operational efficiency. Beyond architecting your OTT supply chain to ensure efficiencies, you'll want to use data to inform further opportunities for cutting costs. Video analytics tools provide insight into which video codecs are required for your audience, redundant bitrate renditions on your encoding ladder, and opportunities to evolve your service based on user behavior.

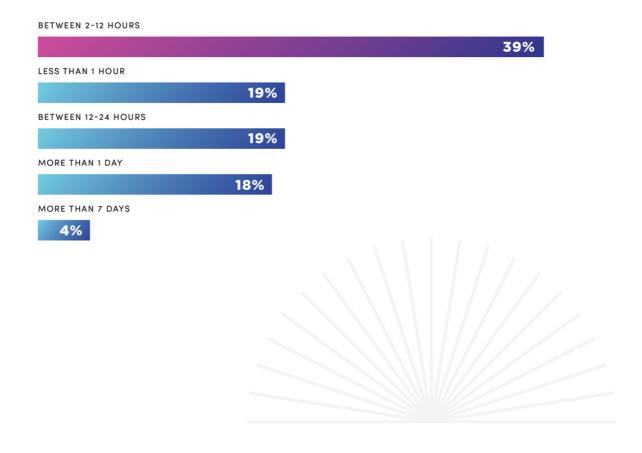
#### Quality of experience (QoE)

A study by Bitmovin partner Akamai Technologies found that 33% of users leave a stream due to poor streaming quality. This is directly tied to revenue, with Verizon estimating that average or poor-quality OTT experiences account for as much as a 25% loss in revenue. You'll want to prioritize QoE by tracking metrics like video startup time, rebuffer rate, and error percentage.

#### Minimizing the cost of errors

OTT platforms must quickly find and fix issues before they impact viewers. No matter whether you're using a third-party vendor or in-house solution for your analytics, you'll want to ensure that your team can quickly find the root cause of streaming-related issues. In our 2022/2023 Video Developer Report, 41% of those surveyed indicated that it took 12 hours or more to pinpoint streaming issues — which is money down the drain.

#### On average, how long does it take your team to find the root cause of streaming-related issues?



#### **AVOD and FAST workflow considerations**

OTT advertising ecosystems comprise many components and requirements. The content must be prepared accordingly with ad markers, the workflow must be configured for either client-side (CSAI) or server-side ad insertion (SSAI), the player must render ads in a high-quality manner, and analytics tools are often required to ensure ad performance. Beyond just provisioning a variety of tools, you'll want to make sure everything plays well together to deliver a seamless viewing experience.

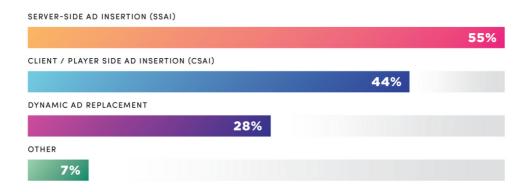
There's a lot to nail down: SSAI or CSAI? Which ad formats should you use? What measures can you take to prevent ad blocking? And how can you do all of this in the most cost-effective way possible?

Let's take a closer look at everything that comes to mind.

#### SSAI vs. CSAI

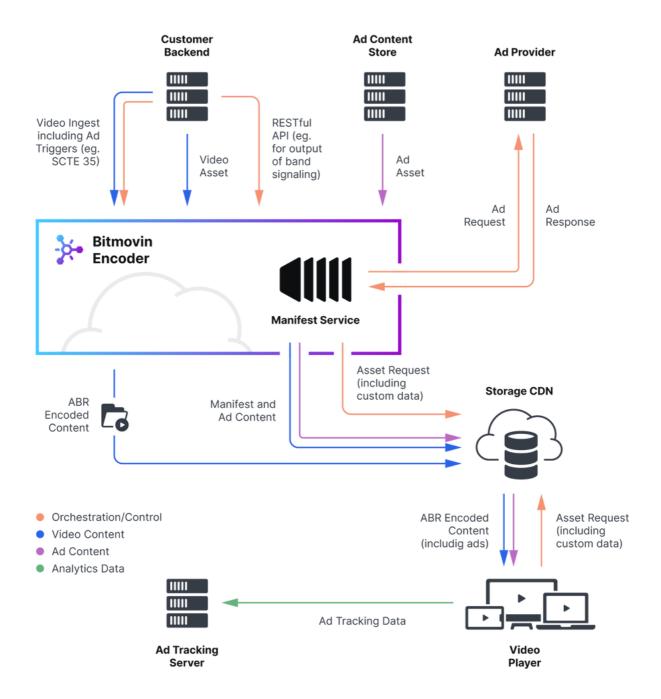
There are two methods for inserting ads into videos: server-side ad insertion (SSAI) and client-side ad insertion (CSAI). According to our <u>annual Video Developer Report</u>, there's a slight preference for SSAI in the industry — but both have pros and cons.

#### What ad architecture are you using today?



<u>SSAI</u> works by stitching ad insertion possibility points into the stream during the encoding stage. The SSAI service then stitches ads into the content on a per-user basis, albeit before the stream loads on a user's device. The main takeaway is that ad insertion occurs at the server level with SSAI.

This makes it difficult for ad blockers to detect the ads since they're not easily distinguished from the stream itself. But it can also make for a less personalized and interactive ad experience for viewers — with an increased risk of ad fraud for advertisers. This is because the same mechanisms that prevent ad blocking can also impede ad measurement by verification vendors.



CSAI, in contrast, makes the client do the heavy lifting. During the course of a video stream, the video player or client makes a request to the ad server. The server takes data about the end user into account and returns a targeted ad based on demographics, buying behaviors, and the like.

Although CSAI is more prone to ad blocking, SSAI workflows can be challenging to scale. SSAI requires cloud-based infrastructure for encoding and packaging for this reason. Both routes require carefully evaluating your technology providers. For CSAI, you'll want to ensure that your video player provides out-of-the-box integrations with advertising partners and support for the ad formats you're using. For SSAI, you'll need to find a scalable encoding solution that can be combined with third-party ad providers to support this type of monetization.

Luckily, Bitmovin delivers on all of these requirements — with robust advertising solutions across our encoding, player, and analytics products.

"A lot of times, it's a question of how much you spend on your ad infrastructure, development, and maintenance operations. Client-side ad insertion seems to be easier.

Server-side seems to be a little more complicated. You just have to make that decision in the beginning. You might have multiple properties, and it makes sense to do client-side in one case, server-side in another case"



**Igor Oreper** Chief Architect @ Bitmovin

Player Advertising Capabilities	WEB	MOBILE WEB	ios	ANDROID	ROKU	SMART TV	GAME CONSOLE	SET TOP BOXES	REACT NATIVE
Ad Tag Formats (VAST, IMA/IMA DAI)	<b>~</b>	<b>~</b>	<b>~</b>	<b>~</b>	[IMA DAI - SSAI	· •	~	~	~
Ad Scheduling (JSON, VMAP, Dashboard)	~	<b>✓</b>	~	<b>✓</b>	~	~	<b>✓</b>	<b>~</b>	<b>✓</b>
Pre-, mid-, post-roll	<b>~</b>	<b>✓</b>	<b>~</b>	<b>✓</b>	~	~	<b>~</b>	<b>~</b>	<b>~</b>
Ad Skipping	<b>~</b>	<b>✓</b>	<b>~</b>	<b>✓</b>	~	~	<b>~</b>	~	<b>~</b>
Ad Waterfalling	<b>✓</b>	<b>✓</b>	~	<b>~</b>	<b>~</b>	~	<b>✓</b>	<b>✓</b>	<b>✓</b>
Ad Pods	<b>~</b>	<b>✓</b>	<b>~</b>	<b>✓</b>	<b>~</b>	~	<b>✓</b>	<b>✓</b>	<b>~</b>
Overlay Ads	<b>✓</b>	<b>✓</b>	×	×	~	~	<b>✓</b>	<b>✓</b>	×
Companion Ads	<b>~</b>	<b>✓</b>	×	<b>✓</b>	~	~	<b>~</b>	<b>~</b>	×
Advertising for Live Video	<b>/</b>	<b>✓</b>	/	<b>/</b>	<b>/</b>	<b>✓</b>	<b>~</b>	<b>✓</b>	<b>✓</b>

#### Ad formats

OTT advertising workflows also employ different ad-serving protocols. Here's a look at the most common formats:

- Video ad serving template (VAST): As a standard XML-based ad format used to serve in-stream
  ads to players, VAST allows for seamless integration of ads into video content and supports both
  linear and non-linear ad types. It was created to ensure compatibility between ad servers and
  video players.
- Video multiple ad playlist (VMAP): When multiple ads appear in a linear sequence, VMAP often
  plays a role. This ad playlist format lets content owners control the placement and timing of ads.
  This is often used in conjunction with VAST.
- Video player-ad interface definition (VPAID): VPAID is an API standard that allows interactive ad
  experiences within video players. By enabling communication between the video player and the
  ad creative, it enables ad interactions like clickable ads and interactive elements. Examples of
  interactive elements that might be included in a video ad include clicking on a button to learn
  more, filling out a subscription form, or completing a survey. VPAID is often used with VAST to
  ensure compatibility.

Check out Bitmovin Player's ad insertion capabilities supporting all of these standards in our ad scheduling demo.

**View Demo** 

#### **Ad telemetry**

After architecting your ad-supported OTT workflow, you'll want to keep an eye on ad performance. This goes beyond just tracking the ad impressions. You need to consider:

- How long does it take for ads to play?
- How do completion rates compare across different countries of origin?
- Which ads have a higher click-through rate?
- Does my audience respond better to mid-rolls than they do to pre-rolls?

OTT and CTV advertising is also purchased in terms of cost per 1,000 impressions (CPM), so measuring this is crucial. Do note that these CPMs vary significantly across content types, targeting, and more. Impressions, click-through rates, and quick load times all indicated a good viewer experience. High-performing ads also generate more revenue, so you'll want to integrate an <u>analytics tool like Bitmovin</u> for insight into these metrics.

"There is a considerable delta in both the floor CPMs and actual clearing prices for CTV ad space inventory as a marketer evaluates the FAST and AVOD ecosystems to 'premium' ad-supported events such as live sports. While this delta is generally logical (the value of an ad impression during a live NFL football game is more desirable than an impression on an obscure Roku channel) it also smacks of the legacy, linear mindset creeping into CTV advertising.

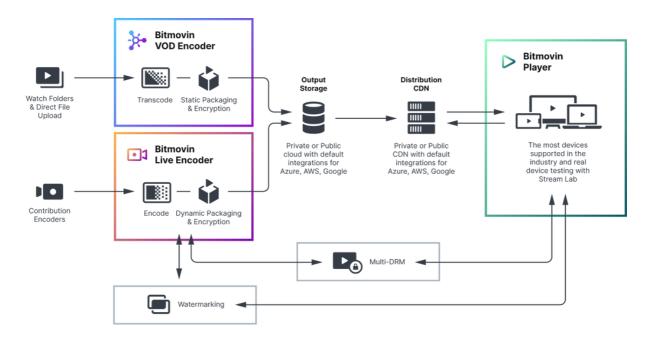
If a marketer employs the same linear mindset in CTV, they'll fall victim far too often to inefficiencies in CPM because of a content-based strategy whereas an audience-centric strategy will leverage all the data and technology available to find and serve an ad impression to only the marketer's ideal target audience regardless of what they're watching or which app they're using. When done properly, this will nonetheless provide peace of mind by ensuring brand safety."



Joel Cox
Co-Founder and EVP of Innovation @ Strategus

#### SVOD and TVOD workflow considerations

In the SVOD world, content protection and monetization go hand in hand. Secure video delivery ensures that only paying customers can access your streams — thus thwarting piracy and uploading licensing agreements. Paywalls, watermarking, and digital rights management (DRM) all play a role in securing SVOD workflows.



#### **Paywalls**

Paywalls require payment before letting viewers see what's on the other side. For most SVOD services, users sign up for a recurring subscription to gain access to vast libraries of on-demand content. With TVOD, on the other hand, users make a one-time payment to view a specific title or stream a live event. Cleeng, MPP Global, and Synacore all offer OTT paywall services and can be easily integrated with Bitmovin's product suite.

#### Watermarking

Piracy occurs at every level of streaming, and your best bet for protecting content is layering on multiple security techniques. With <u>video watermarking</u>, you won't necessarily prevent unauthorized playback, but you can pinpoint where streams have been leaked to and which user did the leaking.

Watermarking involves embedding unique signals into a video to identify ownership and authenticity. Watermarks can be applied during the encoding and packaging stage (called server-side watermarking) or during playback (called client-side watermarking). Bitmovin partners with Irdeto, NAGRA, FriendMTS, and Verimatrix to deliver cutting-edge forensic watermarking solutions on both ends of the workflow.

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"Given that the current market for all video piracy (password sharing included) is expected to surpass \$67 billion worldwide by 2023, it's imperative that video content providers, old and new alike, establish robust content protection practices. Video watermarking is a good defensive strategy to identify the pirates behind stolen content and piracy services."



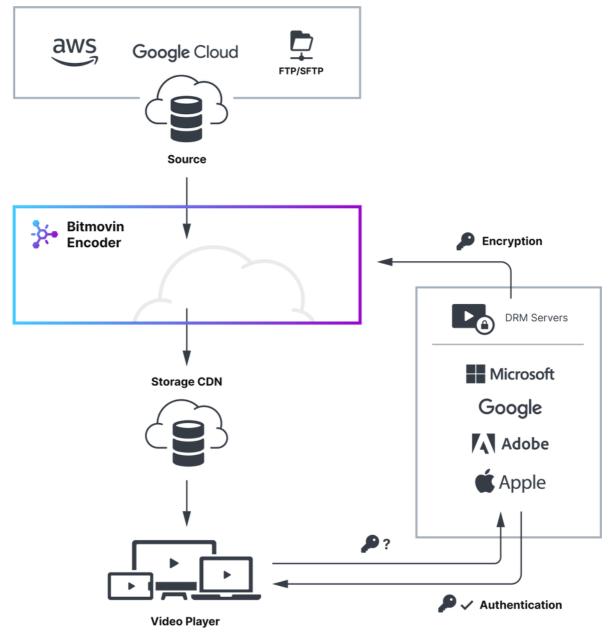
#### Andy Francis

Technical Product Marketing Manager @ Bitmovin

#### **Digital rights management (DRM)**

<u>Digital rights management (DRM)</u> technologies prevent unauthorized access to video content by encrypting the files and controlling access to decryption keys. When users attempt to access the content, the player communicates directly with the DRM server to retrive a license. Once the request is authenticated, the player obtains the license which includes the decryption key, granting access to play the content securely.

The majority of video developers today go with commercial DRM providers rather than implementing DRM in house. When comparing options, you'll want to make sure the one you choose can be easily integrated into your existing content distribution platform.



The most devices supported in the industry and real device testing with Stream Lab

For recommendations on DRM providers, check out our **Definitive Guide to DRM** — or keep reading.

**View Guide** 

# Recommended providers across the digital supply chain

#### **Encoding, transcoding, and packaging**

#### **Bitmovin VOD Encoding and Live Encoding**

Built for technical professionals in the OTT video market, Bitmovin's <u>Live</u> and <u>VOD Encoding</u> APIs are designed to optimize customer operations and reduce time-to-market — resulting in the best viewer experience imaginable. Our cloud-native solutions combine multi-codec streaming, per-title optimization, and integrations across our partner network to enable reliable delivery to global audiences in the highest quality possible.

#### **DRM**

#### **BuyDRM**

As a leading provider of Content Security Services, <u>BuyDRM</u> caters to diverse industries, including entertainment, education, enterprise, and hospitality. Under the umbrella of OVHcloud, BuyDRM's KeyOS content security platform has gained widespread adoption among well-known brands in the media and technology sectors. Their impressive track record includes collaborations with major brands such as ABC (Australian Broadcasting Corporation), AMPAS (The Academy), Blizzard Entertainment, Cinedigm, Crackle, Crunchyroll, Daily Rounds, Deluxe Digital, EPIX, FuboTV, POPS Worldwide, Rakuten Viki, Redbox, SBS Belgium, Sinclair Digital, and Zee5.

#### **EZDRM**

With over two decades of experience, <u>EZDRM</u> is a leading expert in Digital Rights Management as a Service (DRMaaS), providing comprehensive solutions to safeguard and monetize video content. EZDRM offers a hosted and managed multi-DRM solution that simplifies support for live, ondemand, downloadable, and offline video delivery services. With EZDRM's Universal DRM, businesses benefit from the combined power of Google's Widevine and Microsoft's PlayReady, utilizing Common Encryption (CENC) over DASH, alongside EZDRM's Apple FairPlay Streaming. This comprehensive approach ensures robust protection across different devices and platforms.

#### Irdeto

With an impressive 50-year track record in security, <u>Irdeto</u> safeguards over 5 billion devices and applications across a diverse range of industries. Their expertise empowers businesses to protect their revenue, drive innovation, and effectively combat cybercrime, ensuring a safe and trustworthy digital environment. Video entertainment brands like Paramount+, FIFA, and ITV all rely on Irdeto for multi-DRM protection.

#### Video CMS

#### Accedo

Accedo offers innovative open-source software that serves as a powerful ally for developers seeking to secure CMS solutions and advance software development. Their platform provides a range of capabilities to enhance live streaming experiences, enable distribution to multiple VOD platforms, and implement various revenue models, including subscriptions, ad-based options, and transaction-based approaches. With Accedo, developers can tap into a comprehensive suite of tools and functionalities, ensuring seamless and secure video streaming experiences while driving business growth.

#### **Nomad Media**

Nomad Media Platform is an intuitive cloud-based content and asset management platform powered by Amazon Web Services AI technology that transforms the way video distributors manage their ever-growing content libraries. The AI-driven platform streamlines content management, enrichment, discovery, and distribution.

#### Vimond

Vimond's OTT video CMS empowers broadcasters, telcos, and content rights-holders to take complete control of their video library. With Vimond, organizations can effortlessly ingest, manage, monetize, and distribute their video content across various applications and streaming services. Vimond's CMS powers numerous broadcasters and OTT providers across the globe, including Comcast, Thomson Reuters, TV4, Streamotion, PLDT, and Telstra.

#### **CDN**

#### Akamai

Akamai's media delivery solutions are a game-changer for enterprises seeking to enhance their digital media distribution strategies. They address volume and global reach needs, elevate the enduser experience, ensure reliability, and cut down internet-related infrastructure costs. With Akamai, the underlying CDN infrastructure is maintained by Akamai experts to dramatically simplify the management of streaming media services. This enables providers to drive more revenue and deliver cutting edge OTT experiences.

#### **Fastly**

<u>Fastly's</u> cloud and multi-CDN streaming solutions empower businesses like fuboTV and Fox to craft exceptional digital experiences with speed, security, and reliability. With support for all major HTTP streaming protocols, Fastly supports low-latency delivery and minimal rebuffering for live and VOD streaming across the globe.

#### Lumen

As one of the largest low-latency CDNs, Lumen enables reliable content delivery. Lumen's extensive global network helps enterprises distribute video content in a snap with 2,400+ edge servers in 95 points of presence (POPs) across the globe.

#### **Ad-insertion**

#### **AWS Elemental MediaTailor**

<u>AWS Elemental MediaTailor</u> empowers video providers to craft linear OTT channels using existing video content, complemented by personalized ad-insertion for monetization. This service ensures a smooth, TV-like viewing experience without buffering interruptions between program content and ad breaks. Elevate your content distribution and revenue generation with AWS Elemental MediaTailor for an enhanced viewer experience.

#### **Google Ad Manager**

<u>Google Ad Manager's Dynamic Ad Insertion</u> is the first MRC-accredited server-side ad-insertion (SSAI) solution for seamless, personalized ad experiences on live and VOD content. OTT platforms using this technology gain robust debugging tools, 24/7 support, a top-notch ad experience for viewers, and operational efficiency to ensure reliable ad delivery.

#### Yospace

As the global leader in online broadcast stream manipulation and management technology, <u>Yospace</u> is at the forefront of ad-supported monetization. Their dynamic ad insertion (DAI) technology serves as a critical bridge between broadcast playout systems and ad platforms, enabling server-side, frame-accurate ad insertion and replacement. With Yospace's innovative solution, content providers can deliver fully personalized ad experiences, ensuring each viewer receives relevant and engaging ads.

#### **Broadpeak**

<u>Broadpeak.io</u> is a modern and advanced video API platform. As an overlay service, it gives any video streaming service provider the capability to quickly enable monetization and personalization at scale, regardless of the ecosystem in place. Used by Tier One media companies globally, the suite of applications includes: Dynamic Ad Insertion (SSAI), Virtual Channel and Content Replacement. As a public SaaS with a free trial plan, anyone can create an account, create services or use built in demo resources. Within minutes, users can test and deploy services and therefore benefit from a very short Time to Market with simplified operations.

#### **Playback**

#### **Bitmovin Player**

Bitmovin Player ensures the highest-quality video experiences to audiences across every device. It supports server-side and client-side ad insertion (SSAI and CSAI) and can be integrated with any ad

server using standard formats like CAST, VPAID, IMA, and VMAP. We optimized the player for SVOD, AVOD, FAST, and HVOD monetization — offering DRM, optimal ABR settings, UI design, and quick integration with a <u>vast ecosystem of OTT streaming tools</u>.

#### **Analytics**

#### **Bitmovin Analytics**

Leading OTT providers rely on <u>Bitmovin Analytics</u> to improve the performance of their service, gain insight into cost-reduction opportunities, and increase viewer retention. Our error debugging tools help developers identify high-impact errors and fix playback issues before they impact viewers.

#### UI/UX

#### 24i Media

<u>24i</u> combines its team of top-tier designers and skilled developers with its unique technology framework to make streaming simple. As one of the leading front-end TV app developers, 24i serves as a trusted partner to leading media companies, networks, broadcasters, operators, and content owners, including RTL, Viacom, and VEO. Through our state-of-the-art TV apps, they provide OTT platforms with a competitive edge, creating interactive and personalized connections with TV content consumers across all relevant TV platforms.

#### **UiCentric**

<u>UI Centric</u> designs digital products that yield standout results for web, mobile, and OTT platforms. With a strong reputation as a leading creative engineering firm, they specialize in developing ultrahigh-quality user experiences for globally recognized brands, including BBC, UEFA, FIFA, NBC, and Diageo, spanning various industries. The UX/UI consulting company offers comprehensive support throughout the entire product life cycle, from initial requirements gathering to product realization and ongoing market support.

#### **Dotscreen**

<u>Dotscreen</u> creates differentiated multiscreen video experiences for organizations like Disney, HBO, and Telefónica. Their state-of-the-art TV UI is fully customizable and available for all devices, and the company has a track record of building award-winning applications for leading OTT operators.

#### **End-to-end streaming**

Bitmovin <u>Streams</u> helps simplify streaming, serving as a single platform for transcoding, CDN delivery, video playback, analytics, security, and more. As an all-in-one solution that's built for the cloud, it eliminates the complexity of building your streaming infrastructure in-house. Alternatively, Bitmovin's encoding, playback, and analytics products provide API coverage and full SDKs across the workflow, making it easy for anyone to build end-to-end OTT platforms.

"Streams is one of our most important launches to date because it helps new media companies deliver high-quality streams to audiences simply and efficiently. New media companies typically have smaller developer teams that don't have the time and capacity to get familiar with the complexities of video streaming. Therefore, there is a clear market need for a straightforward, low-or no-code solution like Streams that removes the complexity of video streaming to deliver content at speed and scale.

Demand for video streaming has grown at an incredible rate in recent years, all of which has been underpinned by extraordinary technological advancements. However, there now needs to be a greater focus on making innovations work in a simpler, more user-friendly way so video streaming can truly become ubiquitous, to enable everyone to build video products on the same level of quality and experience as the big names like Netflix."



**Stefan Lederer** CEO and Co-Founder @ Bitmovin

#### Success stories across verticals

We often talk about OTT in terms of a handful of major players that are household names. In reality, though, the OTT landscape is made up of thousands of companies spanning multiple verticals. Streaming video now underpins e-commerce, edtech, gaming, fitness, online events, and more. Leading companies in the space are going beyond seeing their audience as viewers, and instead treating them as participants.

For this reason, many of today's OTT providers engage viewers across multiple channels — including websites, apps, syndicated platforms, social media, and second-screen experiences — and bring in interactivity at every touchpoint in the form of fan commentary, clipping and sharing, watch parties, and the like. Linking OTT efforts to supplementary engagement tactics helps these organizations get the most out of their investment and grow their audience. Here's a look at how several cutting-edge platforms are approaching monetization with Bitmovin.

#### **Sports and entertainment: National Rugby League (NRL)**

The National Rugby League (NRL) is the premier rugby league competition of Australia and New Zealand. To drive deeper engagement with their millions of fans and win new subscribers from all around the world, the NRL sought to optimize its OTT strategy.

The goal? Distribute more rich content faster across 30+ websites, apps, and streaming platforms. The faster the NRL could process, encode, and publish near-live content, the faster they could engage fans in more compelling ways.

To do this, the NRL accelerated their online delivery workflow using Dalet Flex and Bitmovin. The league is now able to easily expand into new markets, engage fans across VOD, apps, and subscriptions, and augment revenue opportunities based on insight across their production and distribution operations.

"When working with video content from varying sources that needs to be published online (live, near-live or on-demand content), every workflow, metadata layer and media processing step adds time and complexity getting content to the audience. By combining Dalet Flex and the Bitmovin solutions we have been able to reduce complexity and issues, optimizing inefficient steps while successfully accelerating our online delivery workflows."



**Quanah McBride**Head of Digital Media Operations
The National Rugby League

#### eSports and gaming: Znipe.TV

Znipe.TV delivers gaming enthusiasts an enriched esports viewing experience by incorporating interactive features like multicamera views, overlayed stats, real-time chat, and match highlights. The platform regularly streams as many as 30 simultaneous events from multiple locations across the world.

To support this, they needed a cloud-based encoding solution that could operate at scale without compromising speed. Bitmovin was the obvious choice, enabling Znipe.TV to create fully immersive experiences that can be enjoyed on any device and from any location.

"Bitmovin's flexible and customizable technology has enabled us to solve one of our unique broadcasting challenges: to seamlessly generate a vast amount of parallel live video feeds and present them to the user in the highest quality, wherever they are in the world. Znipe.TV's unique technology of broadcasting time-synchronized video streams of multiple angles sets new demand on a transcoder service, which Bitmovin delivers with their fantastic technical roadmap. To achieve the unique Znipe.TV viewing experience, we chose Bitmovin's encoding to handle the video transcoding so that we can focus on what we do best, providing world-class entertainment for fans globally, live and on demand."



Erik Åkerfeldt CEO and Co-Founder @ Znipe.TV

#### Health and fitness: ClassPass

As the world's largest fitness network,

<u>ClassPass</u> delivers interactive fitness
experiences to remove viewers with

ClassPass Live. The platform combines live
streamed content with immersive features like
a leaderboard showing the end-users realtime stats.

Rather than building bespoke technology from scratch, ClassPass looked to Bitmovin's video player to support this integration with subscriber-side accessories and playback on the large screen.

"We wanted to create a unique experience that provides detailed information alongside a high-quality video experience. It was essential that we used the very best technology to allow us to do this across a variety of devices.

Bitmovin's Player gives us the flexibility and quality we need to continue to make ClassPass Live the best way to get fit."



**Atul Ohri** Head of Engineering @ ClassPass Live

# OTT monetization made easy with Bitmovin

When it comes to OTT monetization, a successful stream is a revenue stream. This means combining an unmatched viewer experience with cutting-edge technologies to streamline your video workflow. Choosing ready-to-use solutions and leveraging cloudnative video infrastructure can significantly speed up time to market, allowing you to capture opportunities and respond swiftly to evolving user demands.

At Bitmovin, we built our VOD Encoding, Live Encoding, Analytics, Player, and end-to-end Streams solutions to help OTT providers optimize operations and exceed viewer expectations. Businesses and developers trust us to seamlessly deploy and scale their video streaming workflows and deliver the highest quality of experiences across every device.

Find out how Bitmovin's products and partner network can give you a competitive edge.

Start your trial today!



Bitmovin is the Emmy award-winning category leader in video streaming infrastructure. The company has been at the forefront of industry innovation and all major developments in the online video streaming industry.

Bitmovin built the world's first commercial adaptive streaming player and deployed the first software-defined encoding service that runs on any cloud platform. Its cloud-native technology offers the most flexible and scalable media encoding, playback, and analytics solutions available, with unparalleled device reach, ease of integration, and world-class customer support. Today, the company's solutions are used by over 400 customers worldwide, including the BBC, ClassPass, Discovery, fuboTV, Hulu and many more.

For more information www.bitmovin.com

