

# **COEN 233 COMPUTER NETWORKS**

**Project : Video On Demand**

**Project submitted by**

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## AUDIENCE

This research paper on the topic of Video on Demand explains about the service with its architecture and how it works and the various business related qualities required to have VOD with top platforms for it. It also describes how Video on Demand works and is used by popular platforms to monetize and gain revenue through it by using various monetization models explained in this paper. Further, it provides knowledge in depth regarding VOD and helps beginners understand the basics of it with real work examples.

Those who wish to give a detailed explanation about Video on Demand through Tech talks or presentations with authentic examples researched can refer to this document. Video on Demand can be studied by students whose wish to gain profound knowledge in this growing technology and wish to use it in reality can use this research as a source of reference.

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# 1

## 1. INTRODUCTION

The future of internet content distribution is video on demand (VOD). Audiences favor video over all other types of content, including emails, infographics, and blog articles, according to a new HubSpot poll. Another study indicated that viewing hours on VOD platforms increased by 155 percent year over year (with almost 20 minutes spent per session).

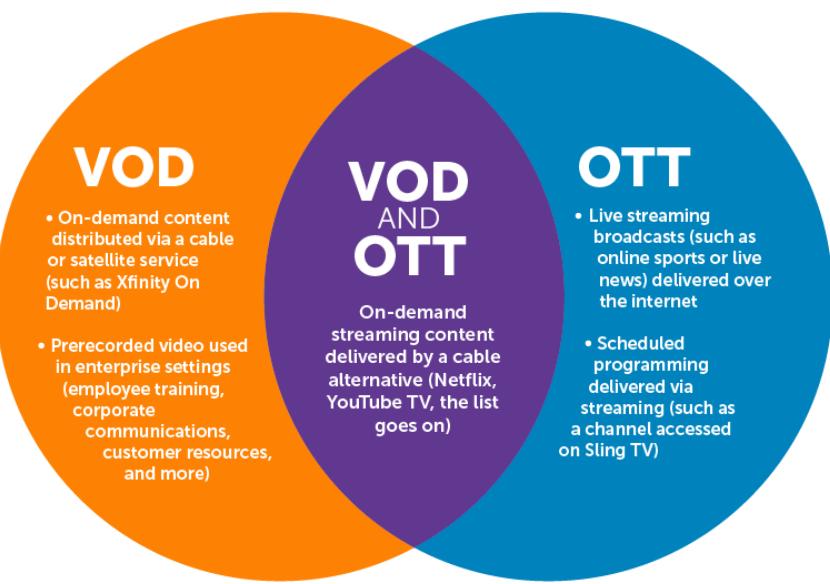
Video-on-Demand relies on a computer, usually a server, to store the necessary movie files and software, allowing one or more viewers to watch the video at the same time. The video is sent from the server computer to a streaming device or set-top box, which is connected to our televisions through cable or fiber. The video files are compressed to allow them to be delivered faster and use less memory while still functioning properly. Clients may now view video without the restrictions of a standard static telecom bundle. Individuals upload and distribute news previews, discussions, TV shows, full-length movies, and music recordings, among other things, to others all over the world.

We're not simply talking about entertainment or instructional material here. Broadcasters, small businesses, and enterprise brands are all benefiting from video on demand. With on-demand films, brands can create deeper relationships with their audiences by offering them access to the material they want, anytime and however they want.

VOD refers to a method of getting material from online libraries. Whereas conventional broadcast channels and media sources obliged viewers to watch content on their own timetable, VOD streaming allows viewers to watch videos whenever they want, on any device that supports it. VOD platforms include well-known streaming services such as Netflix, Disney+, and Hulu. However, these services are provided by official network partners for consumer-oriented entertainment reasons. Independent producers are unable to upload their own material to these platforms or make on-demand videos.

Platforms like Dacast, on the other hand, are designed to host and transmit video content from independent individuals and organizations. A VOD hosting platform is a program that allows you to host, manage, monetize, and deliver videos online. Content is delivered to these platforms via linked content delivery networks (CDNs). CDNs are networks of internationally spread servers that provide material to companies and online audiences quickly and reliably. People watching and streaming the videos you put on your VOD hosting platform is known as VOD streaming.

Broadcasters have complete control over how and where their material is disseminated using professional-grade VOD systems. White-label and custom branding solutions are available from the leading vendors to fit your unique services or offers. Many of these platforms (including Dacast) also have their own video player that can be easily modified and integrated into existing websites. This makes providing video on demand to businesses of all types easier than before.



**Figure 1. Difference between VOD and OTT**

Even though the platforms shown above might be categorised as both, VOD and OTT are not synonymous. Before we go into the details, let's define the two.

OTT broadcasting refers to the delivery of media material through the internet rather than through traditional cable and satellite systems. Netflix, Disney+, Amazon Prime, Hulu, and Sling are among the most popular OTT services. Because they circumvent established broadcasting options, internet radio and VoIP services like WhatsApp are considered OTT.

VOD refers to any video material that begins when you press the play button, rather than needing the use of a physical DVD and player. VOD streaming includes services like Netflix and Facebook, as well as social media sites like YouTube and Facebook. 'V' in VOD stands for 'video,' audio on demand is used instead (AOD).

# 2

## 2. How Video On Demand (VOD) Works?

Before being offered on demand, a video is converted to a digital format and stored on a video server. It is then compressed and sent to the viewer through the internet or cable.

The video is encoded and decompressed by a set-top box and saved on a video server on the viewer's device once it arrives at its destination. The spectator may then instantaneously see the movie while controlling the speed and other (play, stop) options.

It's easy with VoD, which establishes the meaning of movies for your users when they choose them from your onscreen guide and push the Play button on their remote to view them.

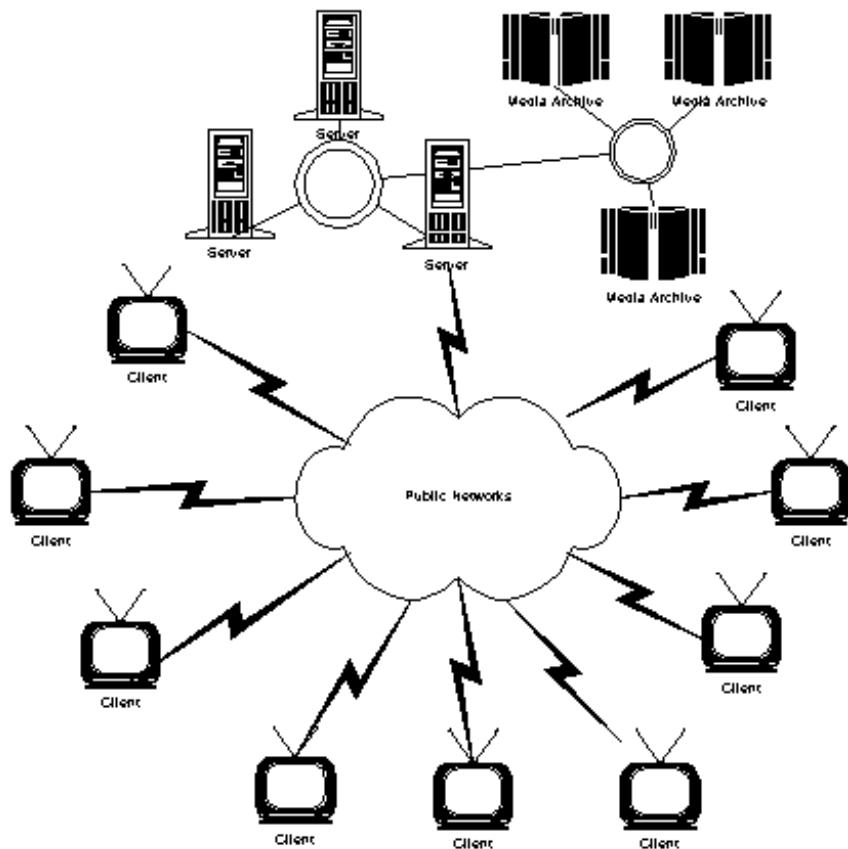
The movie is streamed to their set-top box or any other device they want, and it is played back in considerably higher resolution on TV screens than movies streamed over the Internet.

Steps in the VOD operation:

- The video elements are first compressed using appropriate compression algorithms.
- The materials are then encoded/transcoded into a video player-compatible format.
- The materials are then transferred to the VOD servers, compressed and encoded.
- The materials are then placed in a video container after encoding.
- Essential information like thumbnails and metadata are sent to the container.
- The material is encrypted and transmitted to the consumers' devices on demand.
- Several protocols are used for this, including HLS and MPEG-DASH.
- CDNs, or Content Delivery Networks, are also used by some VOD providers.
- Finally, the player decodes the video material, which you may see.

# 3

## 3. VOD Architecture



**Figure 2. Architecture of VOD**

A distributed IVOD system is made up of several local regional IVOD systems that are linked together. The IVOD technology splits user requests across many locations. Closer proximity of servers and media to customers. Local servers reduce network delay and traffic experienced by central servers, but scattered systems are more difficult to manage. The available storage, communication networks, pricing, application needs, and other variables all influence the system structure. The dispersed structure, however, is desirable due to the intended QoS of IVOD systems.

The client and the local server must communicate in both directions for each IVOD connection. Users can choose from a variety of video options on each server. The server processes the requests of the clients and tries to react to them as quickly as feasible. An IVOD system should be capable of concurrently handling hundreds, if not thousands, of clients with varying preferences. Throughout the session, the quality of each service should remain within certain parameters. In most IVOD services, a client requests information, which subsequently responds to across the network.

### 3.1 Network

An IVOD service requires the client's video to be shown in real time. Frames of photos, noises correlating to those frames, and subtitled text make up a standard video stream. The vast amount of data that has to be transferred to the client in a timely manner places significant performance demands on the network. Because retransmission is undesirable, an IVOD network should have a high throughput and low error rate. Jitter should be kept to a bare minimum since video information is delay sensitive.

### 3.2 Clients

To watch the movie they have ordered, a subscriber to an IVOD has a display device and audio equipment. To interact with the system, he or she utilizes an input device like a keyboard. A controller is required at the client site to accept the client's commands and send the server a signal. The controller also caches video signals, decodes the signals, and provides that signals to at the right time. The controller is housed in a device known as a "set-top box." The explanation of the Client is depicted in Figure 3.

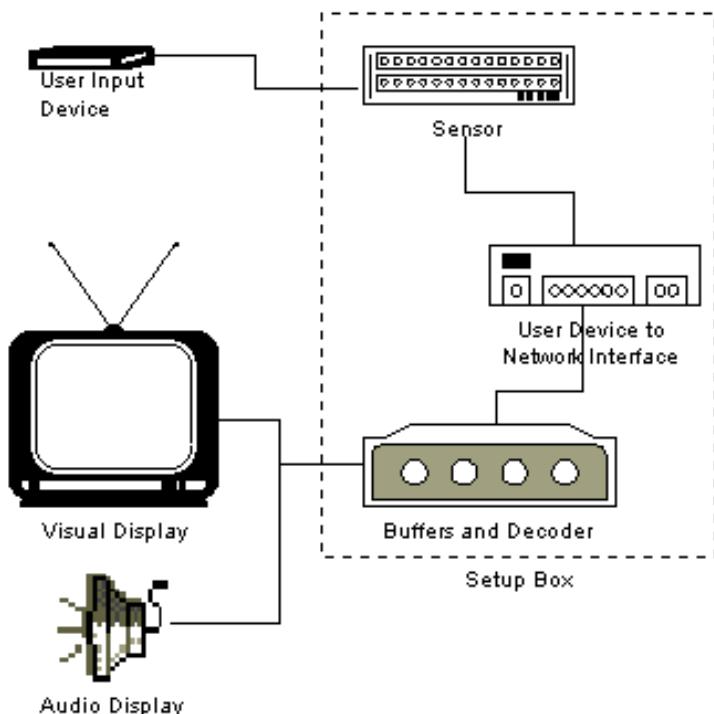


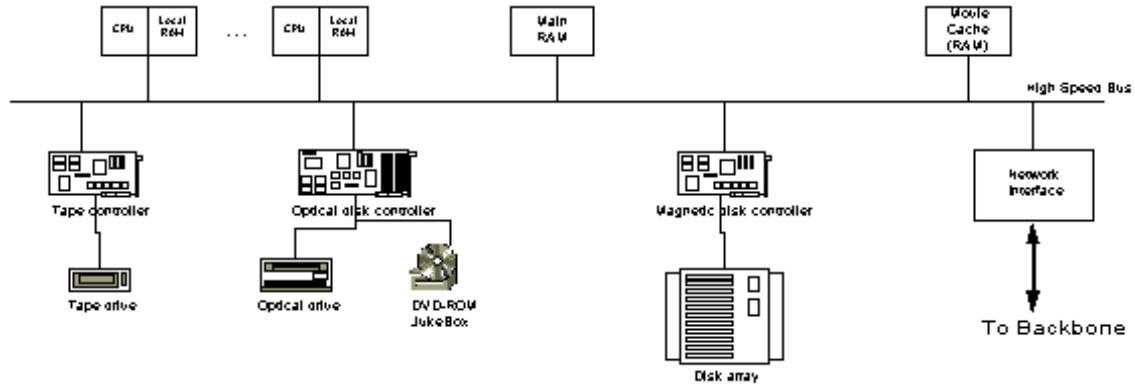
Figure 3. Client's side Components

### 3.3 Servers

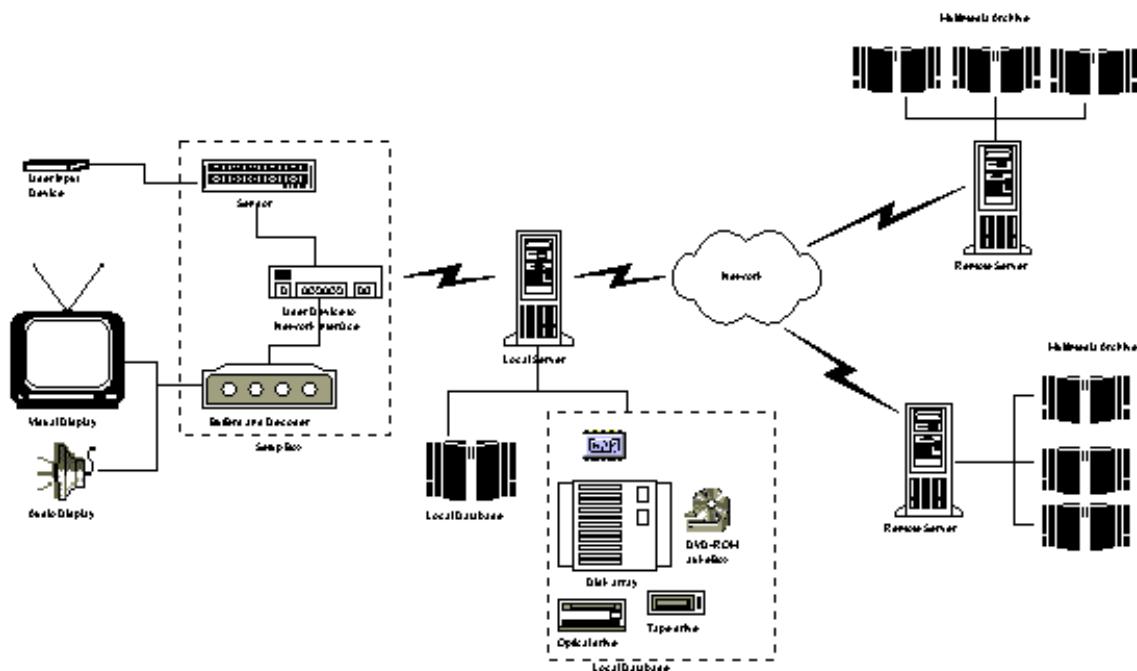
The server of an IVOD system handles user commands. It enables or refuses client requests based on the present state of the system and network load. It also manages all active customers' data retrieval schedules. A multimedia archive is connected to the server. The archive provides a video library that users may access. A variety of storage devices can be utilized depending on the system needs and budget available.

Fault-tolerance is provided by disk arrays at a suitable cost and access rate (10 msec). With a capacity of 650 MB, the optical discs have a read time of 100 milliseconds.

Digital Versatile Disc (DVD) technology is cutting-edge. Each disc has a storage capacity of 4.7 gigabytes. The content of movies preserved on Digital discs and can be easily changed using authoring tools to suit the tastes of viewers. Tapes are cheap yet require more time to access. A variety of storage devices is employed to improve the cost-efficiency tradeoff. A generic IVOD storage structure is shown in Figure 4.



**Figure 4. IVOD Storage Structure**



**Figure 5. Interactive VOD System**

IVOD is a VOD extension that includes additional interactive features.

- Play/Restart: Restart or resume a presentation from the beginning
- Stop: The presentation will come to an end without pictures or sound.
- Pause: Hold the presentation with the photo for a moment.
- Jump Forward: Jump forward in time to a certain point in the presentation without using pictures or music.
- Backward jump: Go backward in time to a certain point in the presentation without seeing or hearing anything.
- Fast Forward: Move through the presentation in a forward manner using sound and pictures.
- Slow down: With vision and sound, present forward at a slower tempo.
- Reverse: Play the presentation backwards with sound and picture.

# 4

## 4. VOD Streaming

One of the smartest moves you can make to grow your business is to build your own VOD platform. It is useful not just for offering entertainment services, but also for corporate communication, education, and training. Indeed, we can confidently assert that VOD is a lucrative niche with a large market. As a result, with each tryout in 2022, you will have limitless opportunities to launch your own video on demand service.

Let us begin with the first step:

- Make a one-of-a-kind video collection
- Find your niche and get streaming rights
- Complete revenue models
- Create a successful video streaming website
- Mobile Upgrading
- Marketing Funnel Boosts Content

### **1. Make a one-of-a-kind video collection**

To get started with your business, you'll need to build a significant library of films to justify the audience's investment in your digital entertainment shop.

### **2. Find your niche and get streaming rights**

If you want to get people's attention in a busy area, you'll need to do something different than everyone else. And with your own specialization discovered, you may create uniqueness. In other words, create a video streaming service similar to Netflix to decide on your company concept.

### **3. Complete revenue models**

Once you've decided on the material you'll be streaming, it's time to integrate it with your business strategy. You can contact content owners and distributors to purchase individual content rights so that you can post their copyrighted content on your online video platform.

### **4. Create a successful video streaming website**

As far as legal terms of content usability go, getting your revenue is critical. Learn the differences between SVOD, TVOD, AVOD, CatchUp TV, Paywall Feature, SSAI, and other revenue methods.

### **5. Mobile Upgrading**

You may begin creating your own website to host your films. You may now choose from a variety of turnkey solutions from leading video streaming platform providers that are cost-effective for launching video on demand services on the go.

## **6. Marketing Funnel Boosts Content**

Now is the opportunity to capture a large percentage of the video streaming audience that is heavily reliant on mobile apps. Upload material on a regular basis to keep your users interested on devices like Android and iOS. Because mobile devices are preferred over laptops, create a video streaming app or website to ensure lump sum outcomes.

To get amazing benefits while generating money, advertise your platform aggressively. The last stage is to bring in subscribers after deciding on a company niche, license, website, and platform integration into mobile apps. To persuade visitors to consume your material, you may run promotional ad campaigns, include SEO-focused video descriptions, and 10-30 second video snippets.

Other than that, you can:

- **Grow Socially:** Make use of every part of social media marketing and encourage others to share your platform.
- Traditional advertisements might provide a tremendous head start depending on your marketing budget.
- **Emailing Prospects:** Create a list of your consumers' mailing addresses so you may notify them when your scheduled videos are up.

# 5

## 5. Types Of VOD Monetization Models

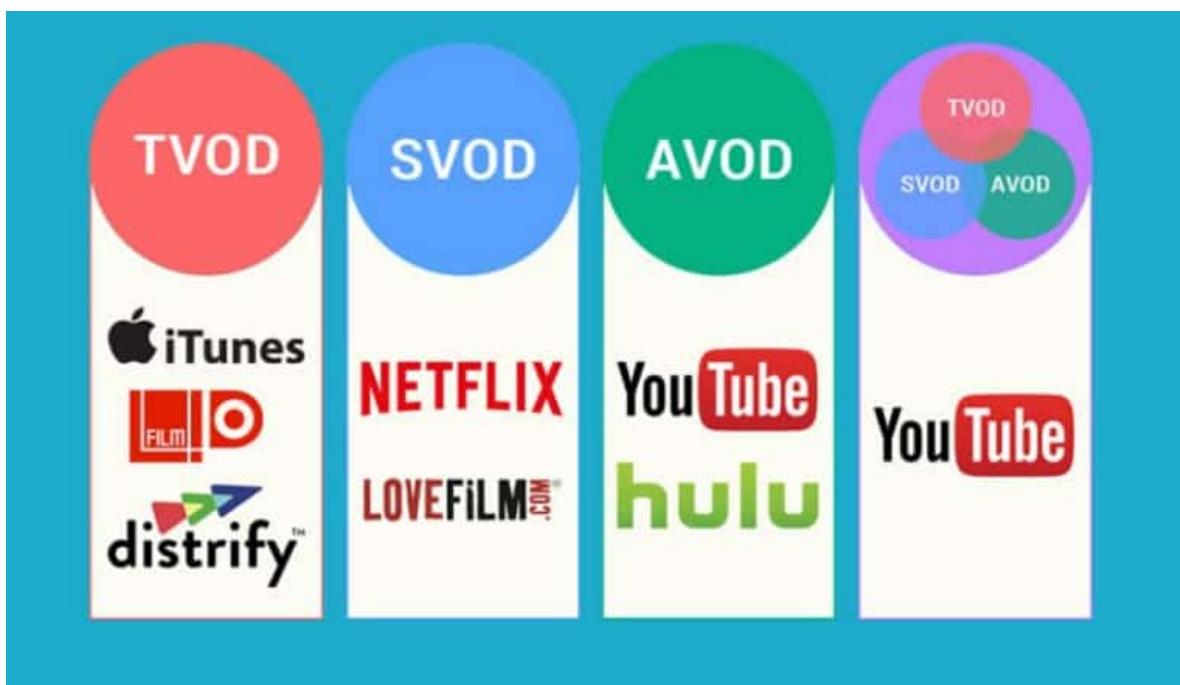


Figure 6. Types of VOD Monetization Models

VOD is an excellent marketing and instructional tool, but it has other applications as well. It may also be utilized to make a substantial profit. Many businesses rely on VOD as their principal source of revenue.

The different types of Video On Demand Monetization Models are as follows:

- AVOD - Advertisement based Video On Demand
- SVOD - Subscription Video On Demand
- TVOD - Transactional Video On Demand
- BVOD - Broadcaster Video On Demand
- HVOD - Hybrid Video On Demand

People certainly want specialized video and willing to pay for premium memberships. There are various options for charging a fee of their job, and also how to rate it when you've made your decision. Depending on your organization, target audience, and goals, each model has a different value. Let's take a look at what each VOD broadcasting monetization strategy might help your company grow (and generate money!).

## 5.1 Advertisement Video On Demand (AVOD)



**Figure 7. Examples of AVOD**

YouTube's income strategy is known as AVOD. Ads carefully integrated into the video content produce cash in this case. The user does not have to pay anything to watch the video in the AVOD model. The major goal is to attract as many people as possible to the videos and advertisements. This concept is used by social media platforms including Facebook, Dailymotion, and Twitch.

The following is a list of the many types of advertisements you'll encounter in videos:

- Pre-roll advertisements occur before the video starts.
- Advertisements occur in the middle of the video as it is playing.
- Ads appear after the video in a post-roll format.

Skippable, semi-skippable (after a few seconds), and non-skippable ads can all be found in the AVOD paradigm. Because individual ad views pay little amounts of money and require big quantities for meaningful revenue, AVOD is most profitable for people who have a large audience or following. Many smaller OTT creators have discovered that using an SVOD model, or a combination of SVOD and TVOD methods, they may make more consistent revenue. Viewers can watch for free (as on YouTube), or they can pay a lower monthly subscription fee (like Hulu with ads).

Advantages of AVOD:

- Creates a low barrier to entry by allowing your audience to consume your material for free.
- A satellite or cable connection is not required
- Suitable for a wider audience
- Offers a scalable revenue stream for consumers that are vast or growing

## 5.2 Subscription Video On Demand (SVOD)



**Figure 8. Example of SVOD**

SVOD is currently the most prevalent VOD consumption model. The viewer or user pays a monthly (typically invoiced yearly) charge to access the VOD service provider's content collection in this revenue model. Hulu, Amazon Prime, HBO and Netflix are all examples of services that use this concept. Netflix popularized this approach by offering a variety of subscription options with various features at each tier. SVOD allows customers to access a complete collection of media for a nominal monthly charge. This fee might well be paid regularly, weekly, monthly, or annually, depending on the service. The consumer may watch quite as many video as they like once paying a subscription on any device connected to the internet. It is charged per monthly or per year as a recurring membership, with option of a trial version during which you may choose however many times, week, or months you want to offer. You could also offer a subscription model, in which you may view sample material for free forever but with restricted access compared to the full paid membership.

Advantages of SVOD:

- Provides a variety of subscription choices.
- Creates a steady stream of income
- Creates loyal subscribers by engaging your audience.
- You'll be able to post exclusive material.

### 5.3 Transactional Video On Demand (TVOD)



Figure 9. Example of TVOD

A pay-per-view method is used in the Transactional VOD or TVOD business. The consumer must pay for the video they want to see and just that video. It's similar to SVOD in that you have to pay to access the whole collection of video. TVOD is a compensation video-on-demand service that lets you buy content. It's really the complete antithesis of SVOD such as users pay for a single film or video package rather than allowing recourse to the entire library. For rent or purchase (available for download or lifetime access). Episodes, seasons, and series are all options for TVOD videos. Allow your viewers to pay what they want or charge a predetermined amount per video, season, or series.

TVOD may be divided into two submodels once more:

- DTR stands for Download to Rent
- DTO stands for Download to Own.

The DTR concept requires the user to stream the video rather than keep it on their device. The user can download and save the file on their device storage in the DTO model.

Apple iTunes, Google Play on Android, and Amazon Prime are all popular TVOD platforms.

#### Advantages of TVOD:

- Allows you to distribute timely, unique material
- Allows you to rent or buy videos, allowing you to reach a wider audience.

## 5.4 Broadcaster Video On Demand (BVOD)

Broadcaster VOD, or BVOD, is a subtype of AVOD in which broadcasters provide on-demand catch-up TV programming in addition to linear material. The majority of these services make money through subscriptions.

In this situation, the BBC iPlayer in the United Kingdom is significant since it is funded by license fees.



Figure 10. Example of BVOD

## 5.5 Hybrid Video On Demand (HVOD)

The last VOD income model I'll talk about is HVOD, or Hybrid VOD. HVOD is a revenue model that combines two or more of the revenue sources listed above. It operates on a freemium subscription model, with customers paying a price to upgrade from AVOD to SVOD.

Vimeo and YouTube Premium are two notable platforms that use HVOD, and upgrading can unlock extra features and content.



Figure 11. Example of HVOD

## 5.6 Premium Video On Demand (PVOD)

Premium video on demand (PVOD) is a sort of TVOD which enables customers to access video-on-demand material sooner than they would otherwise be able to – generally containing films released alongside, or instead of, conventional films released – but at a much higher fee. In 2011, DirecTV evaluated a model approach known as "Home Premiere," which high share to rent

then choose movies from big studios for Approximately usd30 per rental as shortly as 60 days now since they debuted in cinemas, compared to four months for the frequent TVOD door; even so, this version just lasted a few months.

During the COVID-19 epidemic and the resulting international cinema closure, PVOD made a comeback. Some publicly recorded films, like the Invisible Man, was quickly released on VOD systems at a greater rental rate than usual, while others, like Trolls World Tour, was published simultaneously on PVOD and also in drive-in theaters, or only on PVOD in some cases.

PVOD releases are often accessible on most of the identical platforms as conventional TVOD, although at a premium price, typically about \$20 for a 4-day rental. Some studios and companies have renamed this offer as "Home Premiere." To acquire access to the live-action version of Mulan, that will be launched in September 2020, consumers have to pay a premium price (about Approximately usd26-30 depending on country) in addition to a Disney+ streaming service membership. Customers have access as soon as their membership is active.



**Figure 12. Example of PVOD**

## 5.7 Push Video On Demand

The moniker "push video on demand" comes from the fact that content is "tried to push" to the user's set-top box without their permission. This strategy is used by some broadcasters using platforms that lacked the connection and capacity required to provide true "stream" video on demand. Push VOD is used by broadcasters that want to optimize their streaming video infrastructure by which was before the most popular content onto users' set-top devices. If a consumer purchases one of these films.

A push VOD system saves a variety of content on the a personal recording device (PVR), which is often aired at low bandwidth overnight or all day. Users do not have to wait for the downloaded content to buffer and may watch it whenever they want. Options may be limited since push VOD depends on viewers recording programming.

# 6

## 6. Video Provider Qualities to Look for

Adequate social media networks like Youtube and Instagram may be for amateur video distribution, but implementing VOD streaming for your business will require a professional streaming platform. When it comes to professional VOD distribution, here's what to look for when comparing the biggest streaming providers.

### 6.1 Streaming using Adaptive Bitrates

If you've ever watched a broadcast change from a blurry image to a crisp image in a matter of seconds, you've seen adaptive bitrate streaming in action (ABR). This feature offers the finest video quality and viewing experience for your end-users, regardless of their connection, software, or device. As a result, when transmitting high-quality VOD video, ABR is critical, and it's something you'll want to consider when choosing your streaming infrastructure provider.

### 6.2 Video Content Managing System (CMS)

It's useless unless you have a straightforward way to organize, store, and distribute your VOD files with end consumers. A video content management system, sometimes known as a video CMS, is a software program for managing video assets. A video CMS, like any excellent content management solution, functions as a database that makes it easier to identify and distribute digital media. While video CMS software may be purchased separately, it's best to choose a VOD platform that has this feature as an integrated component.

### 6.3 Multi-Device Delivery Transcoding and Processing

Delivering video material would be simple if every viewer had a 4K home theater connected to high-speed internet. However, this is not the case. Today's viewers are on the go, using a variety of devices to access broadcasts. Video transcoding and processing are required because of different displays and internet speeds. These capabilities allow you to repackaging material in non-standard container formats like AVI and WMV for dependable playing on any platform, in addition to providing adaptive bitrate streaming. Using a VOD streaming platform like Wowza that supports several protocols will ensure that your feeds play on a variety of devices.

### 6.4 Delivery that is scalable and dependable

The key to getting the most out of your VOD assets is to ensure that they are delivered in a consistent and reliable manner throughout the world. A content delivery network is one of the most effective methods to do this (CDN). CDNs are the most efficient and dependable approach to send your material in front of a large number of people all over the world. Furthermore, through redundancy, they add an added degree of security. Wowza Streaming Cloud uses the Wowza CDN to effortlessly handle worldwide audiences of any size while streaming with Wowza. Wowza Streaming

Engine and Wowza CDN deployments may be paired to provide a highly integrated workflow.

## 6.5 Monetization and Security

Several of the monetization approaches discussed above rely heavily on security. Why? Unauthorized access to streaming content might jeopardize subscription and pay-per-view services' revenue-generating tactics. Furthermore, when VOD assets are utilized for non-entertainment reasons, such as patient communications and diagnostics in a healthcare context, it is critical to preserve sensitive or private data. Security characteristics to look for in a VOD provider include authentication, encryption, and digital rights management (DRM).

## 6.6 Infrastructure Deployment with Flexibility

When it comes to streaming infrastructure, there is no one-size-fits-all solution. With a cloud-based deployment, some broadcasters need to be up and running quickly. A streaming server software like Wowza Streaming Engine may be a better option for others, such as corporate, government, and surveillance enterprises charged with maintaining their VOD assets behind a firewall. Regardless, you'll need to select a VOD service that can meet your specific deployment requirements.

## 6.7 Live-to-VOD

If you want to make VOD assets from your live feeds, you'll need to locate a streaming network that enables live-to-VOD streaming.

## 6.8 Analytics for Video

Today's viewers aren't interested in explaining why they switched off a VOD show. As a result, it's a good idea to seek for a streaming platform that offers insights on video performance. Broadcasters may use video analytics to track the success of their live and VOD streaming, as well as respond proactively if something goes wrong. This sort of information may also be utilized to find ways to save expenses or improve the viewer experience.

# 7

## 7. Business related VOD Selection

It's simple to see why VOD is such an important tool for organizations. The major issue that most businesses confront is deciding which VOD services to use. When selecting the best VOD platform for your company, I recommend considering three key considerations.

### **1. Confidentiality and safety**

A VOD platform for businesses (also known as an EVP-Enterprise Video Platform) will almost certainly deal with sensitive company data. Unauthorized access and downloads to such information must be prevented. As a result, when choosing an EVP, organizations should look for platforms that provide enterprise-grade encryption and DRM. You can better limit access to video resources by using fine-grained access control and SSO.

### **2. Dependability**

A VOD platform for enterprises must be dependable and accessible at all times. Make sure the supplier you're utilizing has effective CDNs and adaptive bitrate streaming to ensure this. These ensure that your films may be seen at any time and from any location.

### **3. Flexibility of features**

Any VOD platform for enterprises must be adaptable to the demands of the organization. It should also be adaptable enough to give target consumers a completely branded experience.

Here are few ways of how businesses might benefit from VOD:

- For successful digital marketing
- Data feedback that works
- Increasing your knowledge of client behavior

Businesses can benefit from VOD lectures and training videos in this case. Many businesses use video on demand to onboard new staff and teach existing personnel. The benefits that businesses may gain from employing VOD are endless. All that is required is a well-defined technological plan.

# 8

## 8. How to Promote your Business on VOD Platforms

With a rising number of customers turning to e-commerce to replace their in-person shopping experiences, many advertisers are seeking for new and imaginative ways to reach out to the growing number of online shoppers.

Advertising on VOD (video on demand) videos is one such way. The successful AVOD approach raises brand recognition and attracts new audience members while also generating passive cash for the company. Ads that run on YouTube videos are a good illustration of this.

While YouTube is the most popular VOD network in North America, other services such as Twitch, Tubi TV, Facebook Watch, and The Roku Channel also have significant audiences. It's just as vital to pick the correct AVOD platform as it is to create content for it. AVOD platforms, like every other platform on which your company selects to advertise, have different audiences, making some of them more ideal for specific audiences (and vice versa).

Regardless of whatever platform best matches with your target audience, you'll want to make sure the material you're producing is edible and appealing, rather than something your audience would prefer to miss if they had the choice.

### 8.1 Facebook Watch

Facebook thinks that every business, regardless of budget, has a Facebook ad potential. Facebook Watch is the platform to use for businesses wishing to create an AVOD experience. The VOD service from the social media behemoth provides users with a variety of free material that can be seen on a PC, smartphone, or other video device. It's no secret that Facebook users enjoy watching videos. In fact, Facebook video has a 6.09 percent average engagement rate, which is far greater than any other engagement rate. Users interact with video material five times longer than they do with images or other static postings.

In summary, you must utilize video to sell effectively on Facebook. With figures like these, now is the time to start thinking about your Facebook AVOD campaign.

Advertisers on Facebook Watch have two choices for developing ads:

- In-Stream Video Ads

These ads function as commercials that play for 60 seconds before moving on to the next video. After the first 15 seconds of your advertisement have played, viewers may select whether to continue viewing it or return to the video content.

- Facebook Video Feed Adverts

These scrollable ads appear in the video feed on Facebook.

Regardless of the path you take, here are a few simple ways to make your Facebook AVOD stand out:

- Make it soundless

According to Facebook, 80 percent of people dislike videos that play with auto-sound. Why should you be concerned? This indicates that many users have disabled their automatic sound settings and are watching movies without sound. You're out of luck if your message is highly reliant on spoken language.

- Mobile-friendly design

Consider how your ideal audience would engage with your ad if it were on their mobile device. Build for your phone devices, who really are significantly more likely than desktop users to view a video on your phone.

- Use your feelings

Action is fueled by emotion. When creating your Facebook Watch ad, make sure to include emotions that your audience will respond to, encouraging them to take action or remembering your brand for the emotions it has now been connected with.

## 8.2 The Roku Network

The Roku Network offers users a variety of free streaming alternatives, including movies, TV series, and 24-hour news coverage. Roku made \$1.27 billion in revenue in 2020, with ad revenues accounting for a large portion of that. Those advertisements are obviously reaching viewers, as their active users watch 17 billion hours every year. When you opt to promote on The Roku Network VOD platform, your commercials are interspersed among the free material available on the channel, similar to Facebook Watch. Roku marketers may purchase interactive, full-screen films and interlays in addition to 15- and 30-second advertisements to provide a unique viewing experience.

While how you promote on Roku is dependent on what you're selling on the VOD platform, here are three pointers to assist you succeed with your next Roku campaign:

- Make them interesting

The amount of content available to viewers is practically limitless. What's gonna stop people from browsing to other material if your ad breaks a show they're only half interested in? When you create compelling advertising, you enhance the likelihood that viewers will watch them all the way through instead of going on to something else.

- Make them applicable

While your ad will undoubtedly disrupt the watching experience, it does not have to feel that way. When you create advertising that complement the content, you're more likely to get people to pay attention.

- Include a CTA (call to action)

CTAs are required in all marketing materials, and VOD platform videos are no exception. Include one to tell your viewers what to do once they've seen your ad. Make sure you give them a clear imperative, regardless of whatever action you want them to do.

## 8.3 YouTube

Including over 2 billion monthly views, YouTube is the worlds largest second most popular website. If you haven't already incorporated this VOD platform into your marketing plan, now is the time to

do so. YouTube provides a variety of possibilities for video marketers:

- Skippable In-Stream Video Adverts

After the first five seconds, viewers can select to skip these ads. You'll only be paid if someone watches your ad for longer than that time period or if they engage with it by clicking on it.

- In-Stream Video Adverts That Can't Be Skipped

As the name says, these ads can't be skipped. Advertisers pay per impression for these advertising. Your budget and campaign aim will determine which YouTube video ad is best for you.

Here are some suggestions for maximizing your YouTube video advertising campaign:

- Duration

The duration of your videos should be between 15 and 60 seconds. Although ad quality is important, research reveals that 30 seconds is the sweet spot for YouTube commercials.

- Mobile

Similar to Facebook Watch, the majority of YouTube users watch on their phones and tablets. Make sure your adverts are optimized for mobile viewing to provide them the greatest experience possible.

- Action

Your YouTube advertisements should include a clear CTA that tells viewers what to do once they connect with your video.

## 8.4 Tubi

This free VOD platform boasts a year-over-year increase in hours viewed of 100% with 25 million people. You can be missing out on millennials and ethnic minorities if you don't advertise on Tubi. Tubi provides two video advertising choices to brands: standard video and interactive video. Standard Video allows marketers to place advertisements before and during programming in pre-roll and mid-roll ad units. Brands may convey product offers and details, shop locations, and more using Interactive Video. Tubi commercials are full-screen, allowing the advertiser to engage the audience as much as possible. Ad time is balanced with watch time on the VOD platform, with advertising taking up four to six minutes per hour of programming.

## 8.5 Pluto TV

Including over 20 million active monthly users, Pluto TV is by far the most popular online VOD network on the planet. Pluto provides tailored organic advertising options to brands and enterprises. Pluto TV advertising works for local and national companies, connecting your message with the appropriate listener, thanks to their commitment to delivering the right ad to the right viewer.

# 9

## 9. Top Platforms for Video On Demand

A video-on-demand (VOD) system enables you to provide your consumers with pre-recorded, streaming video material. Through a website, mobile app, or linked TV, viewers can select a video from your online content inventory.

This sort of platform allows you to store your films for purposes such as:

- Sharing your work with the rest of the world.
- Building an internet video company and monetizing your films
- Customers, both existing and future, should be aware of your brand.
- Getting your company's message to your employees.

### 9.1 VPlayed

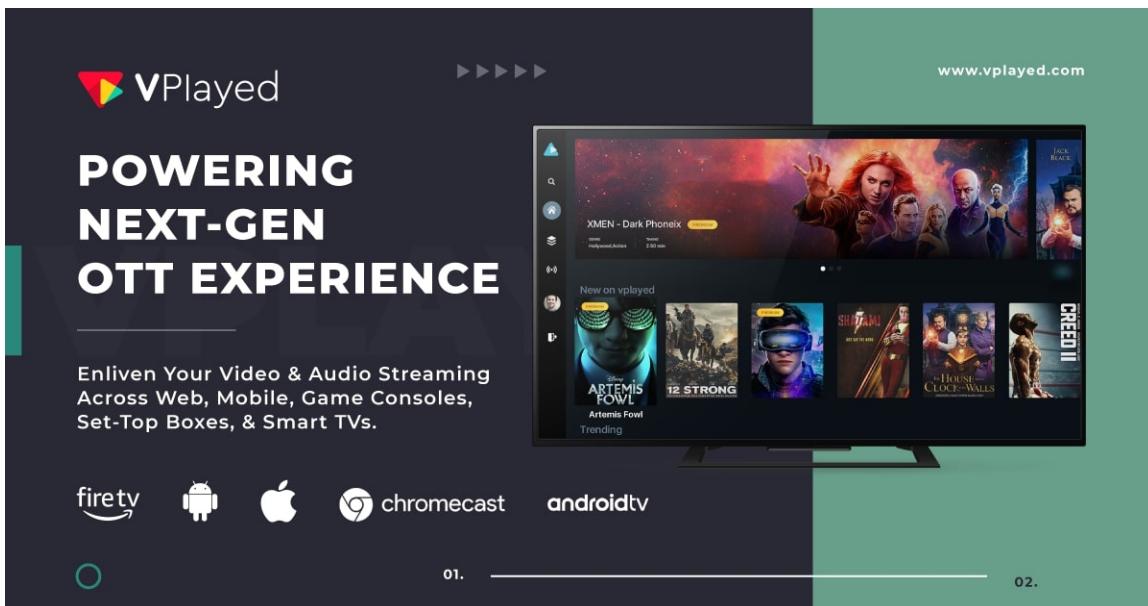


Figure 13. VPlayed

Contus' VPlayed VOD platform provides solutions for broadcasters in every industry. This platform offers plans that are individually priced to meet the demands of each customer. VPlayed is a future, 100 percent customisable streaming channel that is adaptable, interoperable, and trustworthy for commercial needs, with end-to-end encrypted features, high security, and different revenue methods. The HLS player's multi-bitrate technology will improve video streaming, and its superior content management tactics will increase engagement and ROI. Many major organizations rely on VPlayed to broadcast audio and video content across all platforms and devices.

This VOD platform boasts a slew of revenue-generating features, including:

- AES encryption provides robust DRM platform security.

- Content management system (CMS) built-in
- On-premises or cloud-based integration
- Your streaming channel may be completely customized.
- 6+ Several video monetization options
- Customizable and dynamic Video Player allows for seamless streaming.
- Switchable bitrate transcoding of files and cloud encoding
- Increase your marketing and analytics success.

## 9.2 Uscreen

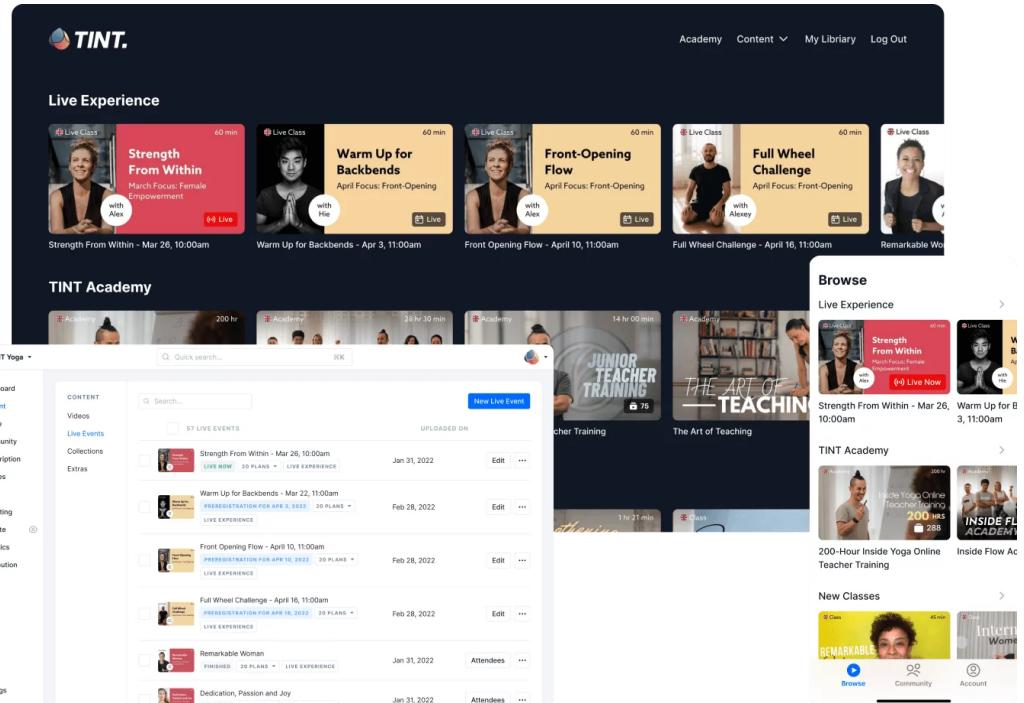


Figure 14. Uscreen

The Uscreen platform is designed for video artists and entrepreneurs who want to start a video streaming company, providing high-quality content for a monthly fee, a one-time fee, rentals, and more. Uscreen is designed for scalability and expansion, allowing you to construct and publish your own branded website as well as video streaming OTT apps for mobile devices and televisions (with no coding). Uscreen also has sophisticated built-in marketing and retention features, helping creators, enterprises, and brands to expand their streaming business while also retaining their subscribers. Because of its unique monetization options, one of the most famous video on demand application channels is Uscreen. It lets you customize the platform's look and feel, select the finest video revenue platform, track subscription data, and much more.

For a 4K UHD visual experience, Uscreen adds a different streaming and quick encoding, as well as a light-skinned global CDN. Increased user involvement, analytical data, and email marketing are all possibilities.

### Uscreen VOD Software's Progressive Feature List:

- Easily distribute and monetize films with a recurring charge
- Automated planned content distribution across several devices
- Customer data is used to track video progress.
- Increase video views by attracting viewers' attention using website designs.
- SEO tactics for converting search engine users

## 9.3 VidYard

For hosting large-scale online videos, Vidyard is the most trustworthy On-Demand video platform. It allows you to effectively manage and store your online videos. Vidyard provides organizations with unequaled player connectivity, customer service, and features to help them increase their video hosting opportunities for organizational communication, marketing, and sales. Vidyard is a globe internet video platform that may help your business generate leads, engage and entertain customers, and shorten your sales cycle. It's a video solution designed specifically for virtual marketing that makes producing and sharing films with a personal touch simple.

### Features:

- Get the most leads with a customized video experience.
- Uploading ad-free content and watching videos
- Customer involvement has increased.

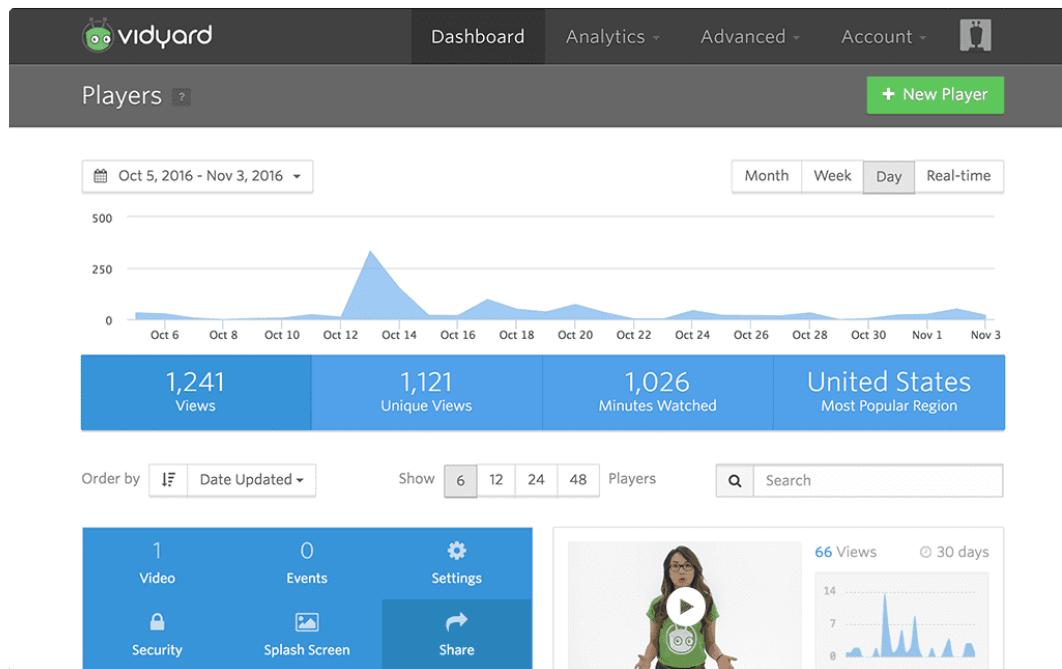


Figure 15. VidYard

## 9.4 Wowza

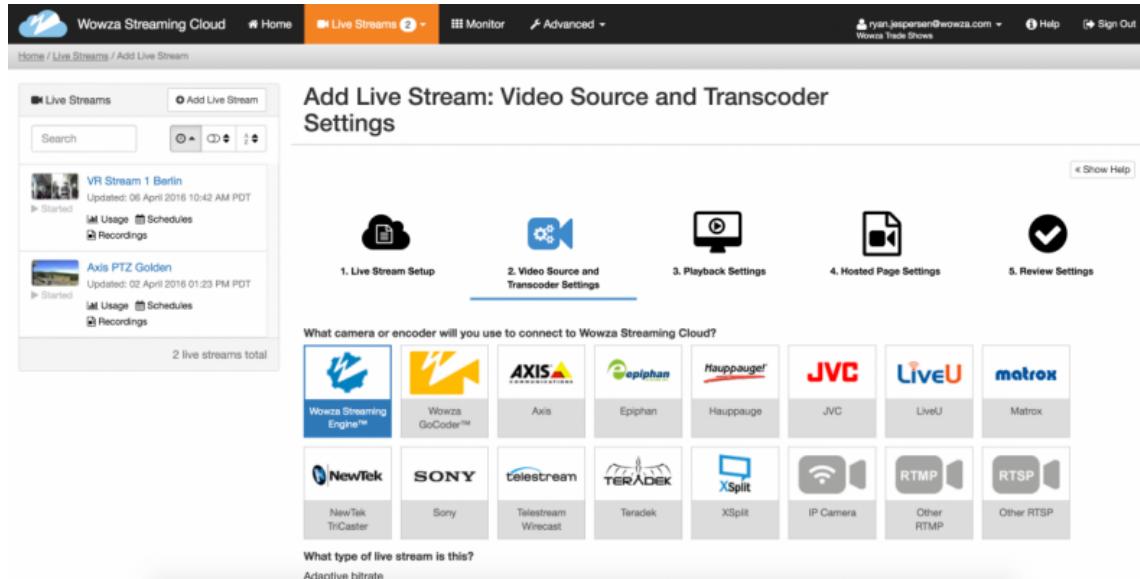


Figure 16. Wowza

Wowza is streaming video program that allows you easily download elevated on-demand movies to any platform and reach your brand by streaming pre-recorded video content to any laptop or player. Furthermore, you will have access to powerful security solutions for securing your movies. Wowza provides solutions for VOD streaming with two key products: Wowza streaming cloud and Wowza streaming engine.

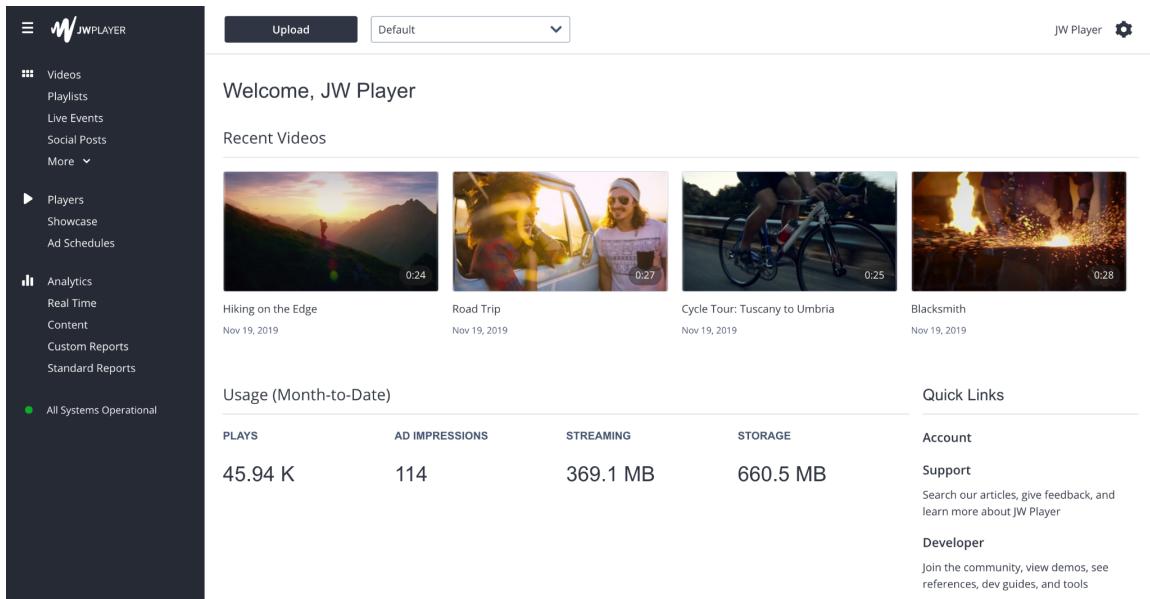
It's features include:

- Reduce first-mile problems by proactively managing origin ingestion.
- To suit video playback demands, an HTML embed solution is available for all devices.
- Publish master bitrate versions of material.
- Video DRM and RTSP solutions can help you protect your streaming.
- Smart real-time integrated streaming for the interactive virtual environment

## 9.5 JWPlayer

JW Player is indeed an edge video on demand service that makes importing, controlling, and distributing videos simple. They are integrated with multi-CDN network POPs to ensure effective distribution around the world.

JW Player is known for its exceptional CDN solutions and successful video streaming platform distribution in over 130 countries. With its clever recommendation system, it provides viewers with intriguing video material in real time.

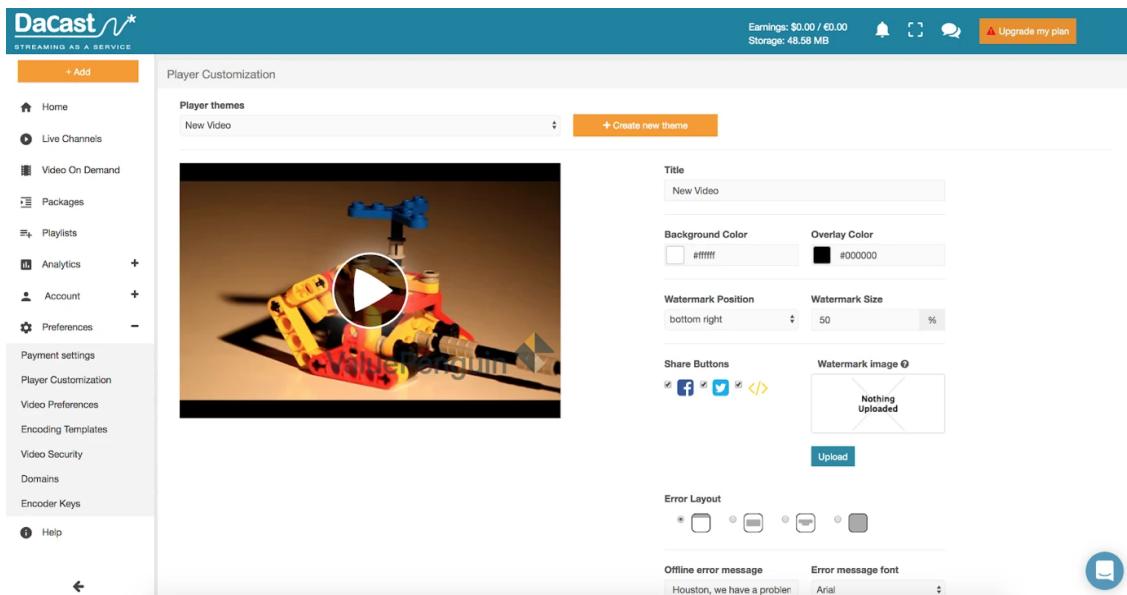


**Figure 17. JWPlayer**

With Advanced Features, JW Player Video On Demand Software:

- Digital release with H.264/AAC for HQ edits
- Without any hiccups, broadcast live events on your TV station
- Increase your earnings by using video-based ads
- Increase user engagement by raising the click-to-play rate by using article matching

## 9.6 Dacast



**Figure 18. Dacast**

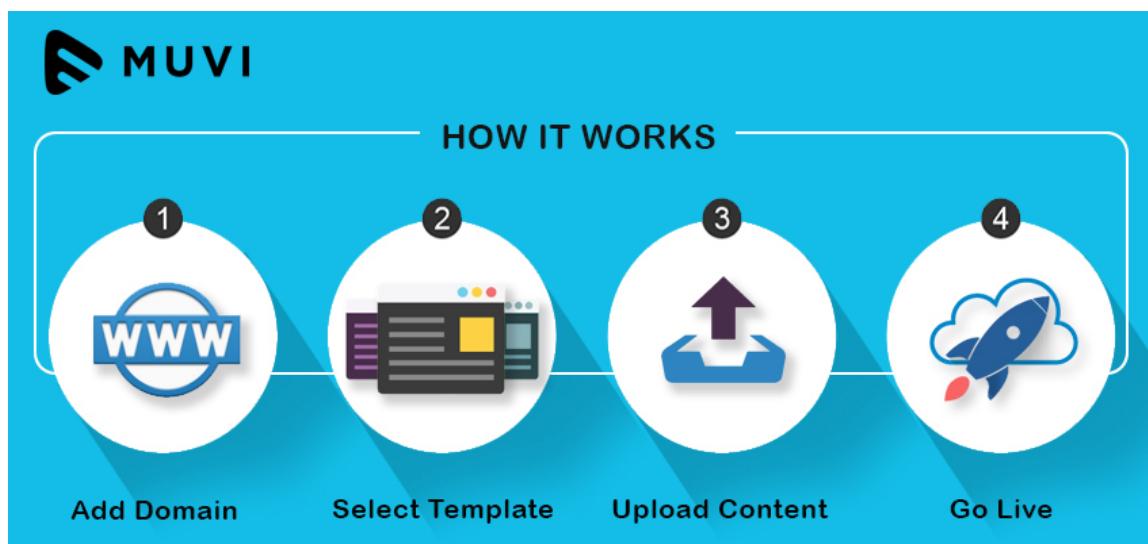
Dacast is a professional broadcasting video on demand system that provides a smooth streaming solution. Dacast is less expensive than any other broadcasting solution provider on the market. When contrasted to other solution providers, Dacast offers no-contract options with high security CDN networks for streaming reliability at a cheap cost. It provides ad-free broadcasting, white label

service options, and complete support.

The Dacast VOD Platform has business-building features such as:

- The best video hosting service with worldwide distribution
- To ensure a seamless and trouble-free experience, tech support is available 24 hours per day, seven days a week
- Secure streaming with advanced security features
- On certain plans, multi-user access is available.
- Video transcoding through the cloud
- Ad-free streaming and smart real-time analytics
- HD output with adaptive bitrate streaming

## 9.7 Muvi



**Figure 19. Muvi**

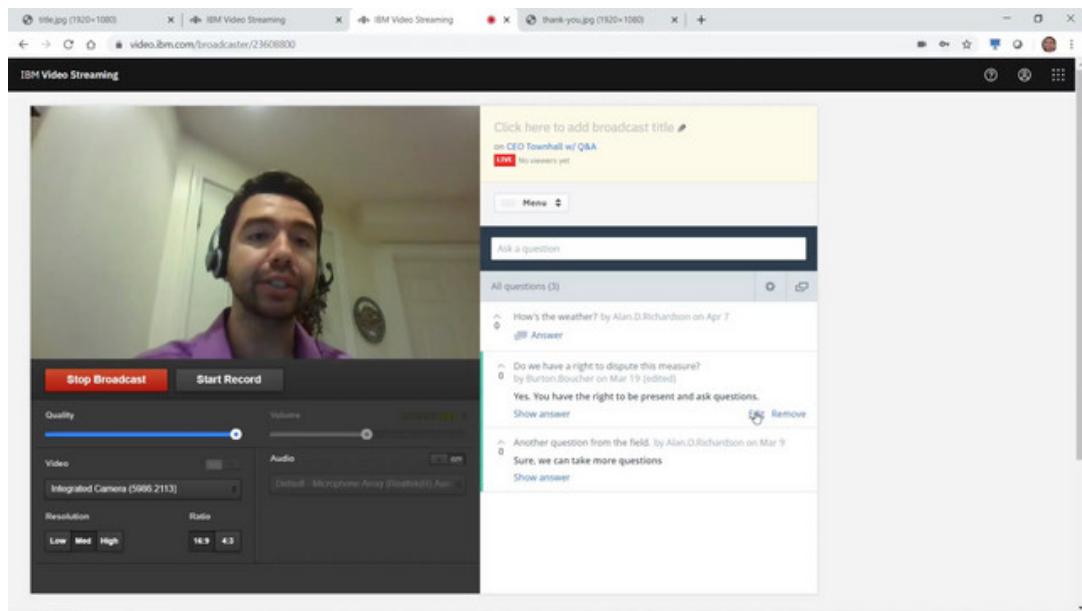
Muvi is a one-of-a-kind streaming platform designed to help content broadcasters meet their OTT streaming demands quickly. It encompasses end-to-end streaming solutions provided by OTT TV applications, mobile apps, and websites.

Muvi is well recognized for being one of the most popular video streaming systems for OTT content delivery, allowing customers to build their personal white label movie or streaming music platform.

Muvi VOD Streaming Platform's Cutting-Edge Features Include:

- Strong DRM and limited access Customised HTML5 video player
- A video-centric content management system
- Streaming in high definition (HD) with transcoding
- Multiple revenue-generating monetization strategies are available.
- Analysis of viewing behavior that is insightful.

## 9.8 IBM Video



**Figure 20. IBM Video**

With the help of a powerful VOD software, For interpersonal interaction, content marketing, streaming live, and much more, IBM's streaming solution employs AI-driven technologies. IBM's cloud services for live streaming events, product launches, and more can boost your business entrepreneurial discussions.

With flexible streaming across devices, IBM helps you to manage and monetize your platform. It is primarily designed for enterprise solution users, content providers, and SaaS companies in the sector.

IBM's VOD Streaming Platform has the following features:

- API access may be completely customized, and user roles can be regulated.
- Channels with password protection to ensure restricted access
- For the greatest streaming performance, choose the finest CDN infrastructure.
- - In the video player, there is a continuous call to action for clickable video relays.
- Multicasting live streams using a scalable cloud-based broadcast solution

# 10

## 10. Advantages of Video On Demand

### 1. Unconstrained by timetables

The primary advantage of VOD is the potential to reach people when they are most likely to connect with your material. Unlike traditional broadcast services like cable TV, VOD allows consumers to watch programming whenever, wherever they choose. Not only will viewers be able to pick when they want to watch, but content providers will be able to use this tool to reach consumers at their leisure. It's a win-win situation for everyone involved.

### 2. Practical

The tremendous ease of VOD is the next key advantage. You don't need to produce any recordings, purchase any specific devices, or even travel to get a video disc. All you have to do now is hit "Play" to begin watching. You don't have to do much if you've enabled autoplay. VOD does not need you to download anything or consume any storage space on your device. You can also watch the video on any of your devices. All of the aforementioned advantages make it easier for people to absorb your material. This is unquestionably beneficial for both consumers and content creators and suppliers.

### 3. Budget-Friendly Setup

Unlike satellite or cable television, which need significant infrastructure expenditures, VOD is simple to set up and use. You only need recording equipment, a reliable, high-speed internet connection, and a VOD hosting platform. Businesses and individual content creators can easily get into the VOD market because of the low entry barrier. It also implies that viewers may watch VOD material with little or no investment in hardware.

### 4. International Reach

VOD has a huge reach because most VOD services are available on smartphones. With such a large network, you may reach a global audience with only a few clicks and taps.

### 5. Increased Conversion

All of the following benefits eventually lead to the most important of them all: increased conversions. VOD providers may employ analytics and associated measures to assure conversions instead of simply airing material and hope that viewers would tune in.

# 11

## 11. Conclusion

VOD streaming is quite useful in a variety of sectors and scenarios. Viewers may enjoy accessible media anytime and wherever they choose using VOD. Your audience gets great content as well as the convenience they want and need with VOD streaming. The beautiful thing about streaming and video on demand is that they're not mutually exclusive; broadcasters benefit from both. You may use live streaming to connect with viewers and establish relationships, and VOD to repurpose previously recorded content. All of this while lowering expenses and enhancing service.

They can enjoy accessible media whenever and wherever they choose with VOD. Your audience gets distinctive online experiences as well as the convenience (and performance) that they expect. VoD has made it simple for users to keep track of their favorite broadcasts. Game streamers may use VoD highlights to promote their channels rapidly. You may edit a sequence of highlights and combine them with songs, memes, and sound effects to make an engaging video. Over the last decade, video-on-demand (VoD) streaming programs have become one of the most popular forms of Internet applications. On video servers and the Internet, much research has been done to solve the large bandwidth and strict latency requirements of VoD applications.

When it comes to existing TV-viewing habits, two factors appear to be significant: television dominance and television experience. The first factor alludes to the reality that television has become so domesticated that it is now a significant, if not dominant, part of our everyday lives. The second factor concerns how people view television. This is determined by their watching habits, social factors, and the scope of their TV viewing experience. When it comes to video-on-demand (VOD) (and with it, new types of audiovisual material), those two aspects must interact.

By 2031, the worldwide video on demand (VOD) service industry is anticipated to be worth US\$ 183.93 billion. As the demand for VoD services grows, so does the number of viewers who want personalized material tailored to their preferences. Video on demand service providers may now deliver high-definition material at a faster streaming rate thanks to recent technology improvements and greater network speed. These elements are predicted to drive the future of video on demand (VOD) services.

Customers who use video-on-demand services can choose when and where they wish to view movies or TV shows. Revenues are expected to rise from 86 billion dollars in 2021 to 136 billion dollars in 2026. The use of streaming media for VOD distribution is becoming more frequent. Using PC client applications like Itunes online internet content shop and Smart TV apps such Amazon Video, you may rent and buy video entertainment for a limited time. Instead of individual films and episodes, other Web VOD platforms provide packages of video entertainment material. The most famous of these services are Amazon, Youtube, Disney+, Hulu, HBO Max, and Paramount+, which charge a monthly subscription fee to a choice of movies, television shows, and original series.

# 12

## 12. Acronyms

VOD	<b>Video On Demand</b>
IVOD	<b>Interactive Video on Demand</b>
CDN	<b>Content Delivery Network</b>
OTT	<b>Over The Top</b>
QoS	<b>Quality of Service</b>
TV	<b>Television</b>
HLS	<b>HTTP Live Streaming</b>
RAM	<b>Random Access Memory</b>
DVD	<b>Digital Versatile Disc</b>
MB	<b>Megabytes</b>
SEO	<b>Search Engine Optimization</b>
AVOD	<b>Advertised Video on Demand</b>
SVOD	<b>Subscription Video on Demand</b>
TVOD	<b>Transactional Video on Demand</b>
BVOD	<b>Broadcaster Video on Demand</b>
HVOD	<b>Hybrid Video on Demand</b>
PVR	<b>Personal Video Recorder</b>
CMS	<b>Content Managing System</b>
DTR	<b>Download to Rent</b>
DTO	<b>Download to Own</b>
ABR	<b>Adaptive Bitrate</b>

# 13

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