CORE

VOD encoding and delivery pricing comparison

Cost comparison results of cloud video hosting, VOD encoding, and CDN delivery

January 2023

gcore.com

Introduction and quick conclusions

More and more companies are moving to the cloud video encoding and video hosting services as their own hardware or open-source solutions have expiring lifespans, scaling, or core maintenance issues.

We conducted a study on the cost of such cloud services.

As you know, there are several basic pricing models in the cloud video hosting market:

- per gigabyte
- per CPU
- per minute
- hybrid models
- and others

So, we decided to compare them in a single visual form. We chose '1 hour' as the denominator because it's the simplest and most understandable video metric.

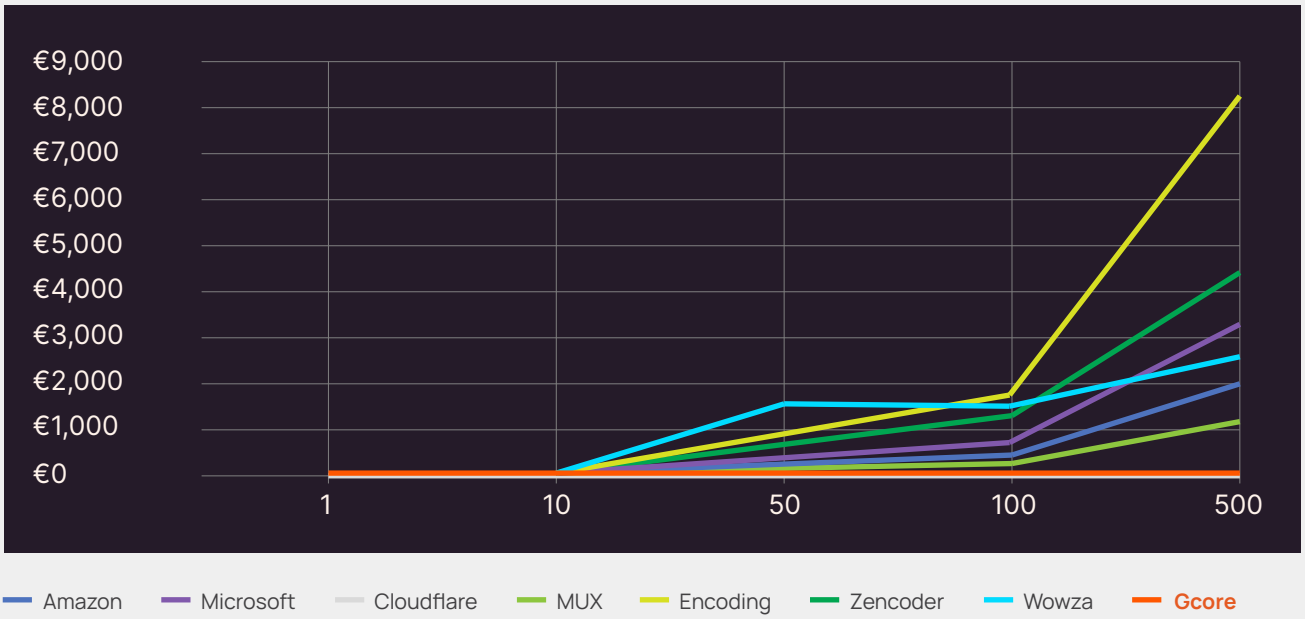
In addition to that, we also looked at and compared the cost of streaming through CDN 'per 1 hour of watching' instead of gigabytes since you can't do streaming on large broadcasts without the CDN.

Here's a short summary of our study on VOD encoding:

VOD HD Transcoding	Hours					
	1	10	50	100	500	1,000	10,000
Amazon	€3.77	€37.74	€188.70	€377.40	€1,887.00	€3,774.00	€37,740.00
Microsoft	€6.30	€63.00	€315.00	€630.00	€3,150.00	€6,300.00	€63,000.00
Cloudflare	€0	€0	€0	€0	€0	€0	€0
MUX	€2.40	€24.00	€120.00	€240.00	€1,200.00	€2,400.00	€24,000.00
encoding	€199.00	€274.84	€978.21	€1,801.58	€8,131.89	€16,044.78	€125,000.00
Zencoder	€21.75	€174.00	€652.50	€1,305.00	€4,350.00	€8,700.00	€87,000.00
Wowza	€30.00	€75.00	€1,560.00	€1,560.00	€2,560.00	€5,060.00	€50,060.00
Gcore	€0	€0	€0	€0	€0	€0	€0

Summary cost of encoding, hours of original video

Video Transcoding



And for video storage:

VOD HD Storage	Hours					
	1	10	50	100	500	1,000	10,000
Amazon	€0.19	€1.89	€9.47	€18.94	€94.71	€189.41	€1,865.18
Microsoft	€0.16	€1.58	€7.90	€15.80	€78.94	€157.86	€1,578.42
Cloudflare	€5.00	€5.00	€15.00	€30.00	€150.00	€300.00	€3,000.00
MUX	€0.18	€1.80	€9.00	€18.00	€90.00	$180.00	€1,800.00
encoding	-	-	-	-	-	-	-
Zencoder	-	-	-	-	-	-	-
Wowza	€25.20	€75.00	€1,560.00	€1,560.00	€2,560.00	€5,060.00	€50,060.00
Gcore	€0.18	€1.80	€9.00	€18.00	€90.00	€180.00	€1,800.00

Summary cost of video storage in the cloud, hours of original video

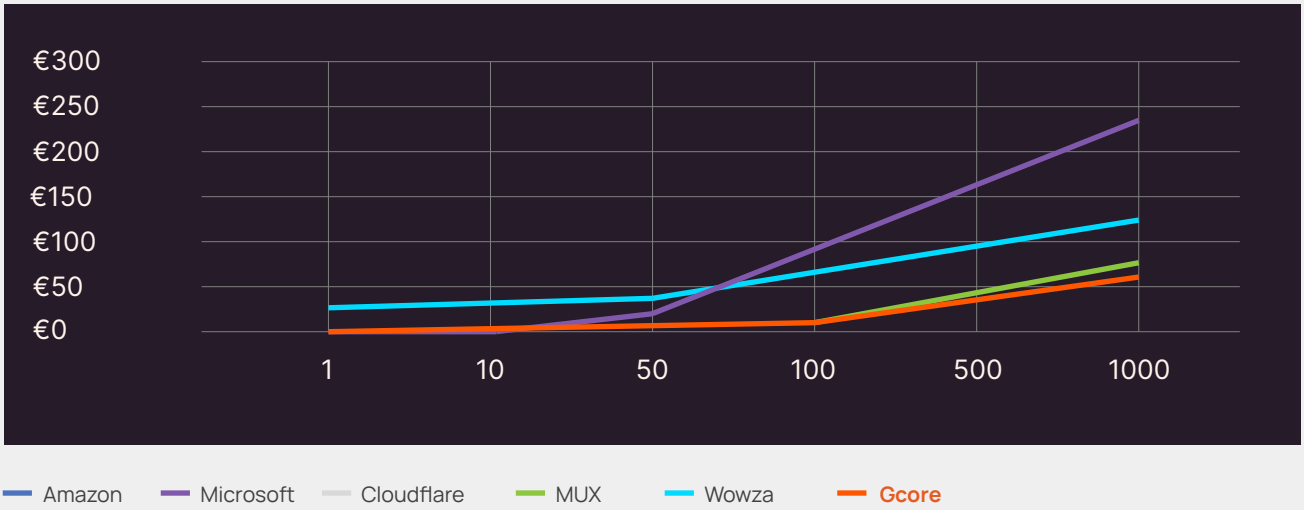
Video Storage

And for CDN delivery:

CDN Streaming	Hours					
	1	10	50	100	500	1,000	10,000
Amazon	€0.24	€2.39	€11.94	€23.87	€119.36	€238.73	€2,297.12
Microsoft	€2.38	€4.42	€13.50	€24.85	€119.96	€237.76	€2,252.25
Cloudflare	€1.00	€1.00	€3.00	€6.00	€30.00	€60.00	€600.00
MUX	€0.07	€0.72	€3.60	€7.20	€36.00	€72.00	€720.00
encoding	-	-	-	-	-	-	-
Zencoder	-	-	-	-	-	-	-
Wowza	€25.10	€26.00	€30.00	€35.00	€75.00	€125.00	€1,560.00
Gcore	€0.06	€0.60	€3.00	€6.00	€30.00	€60.00	€600.00

Summary cost of video delivery via CDN, in hours watched by end-viewers

Video Delivery



The main conclusion that can be drawn from these charts and tables is... Previously, you transcoded on your own to try to save money by doing tasks with your own programmers. Now you can optimize costs, so your own developers can perform business tasks that are more important than “setting up encoding video”.

Purpose of the study

Short videos are measured in seconds, user videos are always measured in minutes, and professional videos are measured in time, as well. No one measures in gigabytes. As such, it would be logical to see the comparison of services not in gigabytes but in time.

Comparing cloud video encoding services by price is more difficult than it seems at first glance because cloud solutions use different pricing schemes. For example, one provider may charge for the number of output minutes, another for the total number of gigabytes, and a third for renting hardware and software.

That's why **the purpose of this study was to compare the cost expressed per hour of video.**

Calculations

Most video players on iOS and Android devices, the web, and smart TVs use HTTP Live Streaming (HLS) with several bitrates. We decided to select values close to the encoding schemes recommended by Apple in its HLS specification, with a small adaptation based on the services' average abilities. Since H.264 AVC is still the most playable video codec for all devices and browsers, we tested for output of HLS with H.264 AVC video encoding (up to 1080p).

Parameters of video encoding into multiple bitrate video streams:

16:9 aspect ratio	H.264/AVC (Kbps)	Audio AAC 2.0 Stereo	Frame rate
416×234	300	32	≤30 fps
640×360	690	64	≤30 fps
768×432	1100	64	≤30 fps
1280×720	3000	128	Same as source
1920×1080	6000	128	Same as source

The average source video is Full HD, 1920×1080, H.264 6 Mbps.

Public prices for all services were used. (Prices are current as of June 2022. It is possible that some prices will change in the future after the publication of this study.)

Pricing schemes and cost analysis can be surprisingly complex, so we encourage you to do your own research using this study as a guide to help you understand the market options available.

Some websites have information about volume discounts. As you would expect, you can negotiate lower prices for higher volumes with a specific supplier.

Please note that some services charge for moving data outside of the region where it is stored. When comparing prices, we assume that all storage and services are running on the same platform in the same region: Europe. Some other services work all over the world, and the price of egress traffic is not billed. Also, not all services allow you to store the original video, and, where possible, the cost of storage is included in the price. If necessary, you can calculate it yourself based on your conditions.

The following section provides details of price comparisons between cloud video encoding and video hosting services.

Amazon Media Services

(Elemental MediaConvert, Amazon CloudFront)

AWS is one of the best-known SaaS with payment for the processed video per size in gigabytes and per time. Regular transcoding options with H.264 for 1-pass encoding were used for the comparison test. The fee for the service is charged according to the number of minutes for each output bitrate.

The following parameters were considered for encoding and broadcasting:

1. Video encoding to outgoing qualities is estimated per minute:
   - SD output (3 layers: 240, 360, 480)
   - HD output cost (2 layers: 720, 1080)
   - Audio output (1 layer)
2. Video storage is estimated per gigabyte.
3. Outgoing traffic is estimated per gigabyte. VODs are usually watched by many users with different patterns of rewinding, so the recommendation of the originating level is 20%, but it depends entirely on your individual circumstances.

Video encoding calculation table, hours of original video:

	Hour							
AWS H.264 HD	1	10	50	100	500	1,000	10,000	25,000
SD cost (240, 360, 480)	€1.53	€15.30	€76.50	€153.00	€765.00	€1,530.00	€15,300.00	€38,250.00
HD cost (720, 1080)	€2.04	€20.40	€102.00	€204.00	€1,020.00	€2,040.00	€20,400.00	€51,000.00
Audio (1 layer)	€0.20	€2.04	€10.20	€20.40	€102.00	€204.00	€2,040.00	€5,100.00
Total	**€3.77**	**€37.74**	**€188.70**	**€377.40**	**€1,887.00**	**€3,774.00**	**€37,740.00**	**€94,350.00**

Video storage in the cloud, hours of original video:

	Hour							
AWS H.264 HD	1	10	50	100	500	1,000	10,000	25,000
Original in GB	2.70	27.00	135.00	270.00	1,350.00	2,700.00	21,000.00	67,500.00
Output in GB	5.19	51.92	259.61	519.21	2,496.05	5,192.10	51,921.00	129,802.50
Sum in GB	7.89	78.92	364.61	789.21	3,946.05	7,892.10	78,921.00	197,302.50
Total	**€0.19**	**€1.89**	**€9.47**	**€18.94**	**€94.71**	**€189.41**	**€1,865.18**	**€4,587.96**

Video delivery calculation table, hours watched by end-viewers:

	Hour							
AWS H.264 HD	1	10	50	100	500	1,000	10,000	25,000
Original in GB	0.01	0.08	0.42	0.84	4.20	8.41	84.08	210.20
Output in GB	€0.00	€0.01	€0.03	€0.05	€0.25	€0.50	€5.04	€12.61
Sum in GB	2.8026	28.026	140.13	280.26	1,401.3	2,802.6	28.026	70.065
Sum in GB	€0.24	€2.38	€11.91	€23.82	€119.11	€238.22	€2,292.08	€5,253.90
Total	**€0.24**	**€2.38**	**€11.94**	**€23.87**	**€119.36**	**€238.73**	**€2,297.12**	**€5,266.51**

Microsoft

(Azure Media Services v3)

Azure is another major service operating on the SaaS model. Here, the fee for the service is charged according to the number of minutes for each output bitrate. The service has a price for the regular SD bitrate, with multipliers for other qualities.

Finally, be aware of any extra fees that the service may charge for storage and outgoing traffic. Special operations, such as creating a container, reading, writing, and data egress fees, for example, can be substantial and dramatically impact the storage budget based on your individual circumstances. See the service's support page for more details.

The following parameters were considered for encoding and broadcasting:

1. Encoding video per minute in each output format
2. Azure Blob Storage is estimated in gigabytes
3. Outgoing traffic is estimated in gigabytes

Cloudflare Stream

Cloudflare is a SaaS with a simplified personal account and flow for the client. It works on a per-minute pricing model, meaning that it charges per minute of output.

The service requires its own internal storage and CDN to be used and employs its own grid of video and audio bitrates that maybe not be optimal for streaming, but this allows video to be transcoded for free. The quality of the output video and transcoding parameters is beyond the scope of this study, so please look at the output video in your app.

Despite such advantages, the abilities to manage the media library are severely limited. Moreover, you have to use an external online video editor, among other things. Please read the requirements and known limitations on the service's support page for more details.

The following parameters were considered for encoding and broadcasting:

1. Transcoding video for free
2. Storage is estimated in minutes, billed per 1000 minutes
3. Streaming via the CDN is estimated in minutes of watched content by end-viewers, billed per 1000 minutes

Zencoder

(Brightcove)

Zencoder is the cloud-based video encoding platform from the well-known brand Brightcove. It's one of the best-known cloud services and has one regular per-minute price with modifiers for the resolution or output codec. Minutes refer to the length of output videos.

- Each SD minute (output frame size under 1280×720) counts as 1 regular minute
- Each HD minute (output frame size of 1280×720 to 2048×1080) counts as 2 regular minutes
- Audio-only minutes count as 1/4 regular minutes

In addition to regular minutes, you must select one of several subscription plans, each of which includes a certain set of minutes. Anything higher is considered to be over the limit.

The following parameters were considered for encoding and broadcasting:

1. Encoding the video stream per minute in each output format
2. There is no video storage
3. Video cannot be delivered

MUX

MUX is a SaaS that fully supports the streaming per-minute model. Unlike other services, it does not have its own CDN. The website talks about multi-CDN configuration.

The following parameters were considered for encoding and broadcasting:

1. Transcoding video is estimated in minutes
2. Storage is estimated in minutes
3. Streaming via the CDN is estimated in minutes, too

Encoding.com

The website encoding.com offers three usage models. The first is the usual SaaS, where files are uploaded to the service's cloud and processed there with payment per gigabyte of input/output. The second way is a monthly rental of a cloud solution with 24/7 service. The third way is a combination of installing encoding.com software on your rented cloud solution, where you pay for renting both software and hardware on your cloud.

The purpose of this study was to compare the costs of cloud encoding and then consider the base rates for the first (SaaS) option. In this case, the site offers users to select a subscription that includes a certain amount of volume for video encoding.

Secondly, subscriptions include a certain amount of storage on the external platform vid.ly, but since this is an additional integration, it was not included in this study.

The following parameters were considered for encoding and broadcasting:

1. Encoding the video stream per gigabyte
2. There is no video storage
3. Video cannot be delivered

Wowza Video

Wowza Video VOD Streaming is one of the few services that use rates based on the selected subscription package. The subscription scale has changed recently, so now content delivery via a CDN is also counted in minutes. Previously, it was counted in gigabytes and considered egress traffic. Subscriptions assume a certain volume included in the package, as well as going over the limit. Pay attention to the terms of use for the annual subscription. This is factored into the calculation, so we marked these calculations with an asterisk.

The following parameters were considered for encoding and broadcasting:

1. Transcoding video is estimated in minutes. Streaming hours are the processing hours for uploaded MP4 files based on the duration of the video
2. Storage is estimated in minutes
3. Streaming via the CDN is estimated in minutes, too

Gcore Streaming Platform

The Gcore Streaming Platform provides infrastructure and serves as a SaaS for streaming video. Users can scale to 100+ million viewers.

We have our own infrastructure. Our servers are installed in data centers all over the world, which gives us our own video encoding, CDN pops, cloud instances, and storage for video hosting. See our map. We have been working on video for a long time, so we know how to configure it optimally using all of our infrastructure's capabilities.

Billing is designed as simply as possible per minute of encoding, video storage, and delivery to the viewer. Default transcoding is provided free of charge for live streams and VOD, with custom options if you prefer.

The following parameters were considered for encoding and broadcasting:

- Transcoding video at no cost
- Storage is estimated in minutes
- Streaming via the CDN is estimated in minutes, too

Stream via Gcore
Go global faster

With all-new per-minute pricing, the Gcore Streaming Platform became the most advanced and advantageous solution on the market.