Unified Patent Court
Einheitliches Patentgericht
Juridiction unifiée du brevet

Action n°: UPC CFI 198 /2024

Revocation action 23310/2024

DECISION

of the Court of First Instance of the Unified Patent Court

Central division Paris Seat
delivered on 28 May 2025
concerning EP 3 822 805 B1

HEADNOTE:
The Court can, if requested, limit the scope of revocation of a European (bundle) patent to national parts of a European Patent validated in individual UPC Member States.

KEYWORDS:
added matter, claim interpretation

CLAIMANT:

Aylo Premium Ltd.
195-197 Old Nicosia-Limassol Road, Block 1 Dali Industrial Zone, Nicosia, Cyprus 2540, legally represented by its Board of Directors, ibid.

Represented by: Dr. Georg Anetsberger,
Bardehle Pagenberg Partnerschaft mbB,
Prinzregentenplatz 7, 81675 München, Germany

Also represented at the hearing by

- Prof. Dr. Tilman Müller-Stoy, Bardehle Pagenberg Partnerschaft mbB
- Maggie Huang, Bardehle Pagenberg Partnerschaft mbB
- Saskia Mertsching, Bardehle Pagenberg Partnerschaft mbB

- Dr. Martin Drews, UPC Representative, Bardehle Pagenberg Partnerschaft mbB
- Conor McLaughlin, Mishcon des Reya LLP

DEFENDANT:

DISH Technologies L.L.C.
9601 S. Meridian Boulevard, Englewood, CO80112, United States of America,
legally represented by its CEO Hamid Akhavan, ibid.

Represented by: Denise Benz, A&O Shearman,
Maximilianstraße 35, 80539 Munich, Germany

Also represented at the hearing by

- Jan Ebersohl, A&O Shearman
- Celina Kuhn, A&O Shearman

PATENT AT ISSUE

European patent **EP 3 822 805 B1,** hereafter referred to as "EP 805" or as "the Patent".

PANEL/DIVISION

Panel 1 of the Central Division (Paris Seat)

DECIDING JUDGES

This decision has been delivered by the presiding judge **Marjolein Visser**, the legally qualified judge and judge-rapporteur **Maximilian Haedicke** and the technically qualified judge **Alessandro Sanchini.**

DATE OF THE ORAL HEARING

03 April 2025

SUMMARY OF FACTS AND REQUESTS

1 The dispute

1.1 On 15 April 2024, Claimant brought this revocation action against Defendant at the Paris Central Division of the Unified Patent Court (UPC_CFI 198/2024,

ACT 23310/2024), requesting the Court to revoke European Patent No. EP 3 822 805 B1.

1.2 A parallel infringement action to the same patent before the German Regional Court Munich I is pending. The oral hearing (the trial) for the German infringement action took place on 6 December 2024. A decision has not yet been issued.

1.3 Opposition proceedings at the European Patent Office (hereinafter: 'EPO') are pending. On 26 March 2025, the Opposition Division (hereinafter: 'OD') set the date of the oral hearing from 4 June 2025 to 5 June 2025 and issued a non-binding preliminary opinion.

1.4 A Statement of Defence to Revocation was filed on 17 August 2024. A Reply to the Defence was submitted on 21 October 2024. The Court also received a Rejoinder to the Reply, dated 21 November 2024.

1.5 On 17 August 2024, an Application to amend the Patent was filed (App. No. 47486/2024.) A Defence to an Application to amend the Patent was submitted on 21 October 2024. A Reply to the Defence to an Application to amend the patent was submitted 21 November 2024.

1.6 On 10 February 2025, the interim conference was held.

1.7 On 14 October 2024, Claimant filed a Request for security for legal costs pursuant to R. 158 RoP (App. 56087/2024). Claimant's request for security was discussed during the interim conference in the presence of the full panel. The Court rejected the request (ORD_59528/2024).

1.8 With the Rejoinder Defendant submitted AR0' to AR16' and requested leave for admission of the requests. Claimant requested that auxiliary requests AR0' - AR16' be dismissed. With order of 26 February 2025 the Court rejected this request due to late filing. The Court allowed Defendant to rely on the features of claim 2 (ORD_69035/2024).

1.9 With the same order the Court also decided that Auxiliary requests AR1 to AR16 are admitted into the proceedings and may be subject to the oral hearing.

1.10 With order of 29 March 2025, the Court decided, after hearing the Parties, that the proceedings would continue and that the oral hearing would be held as planned on 3 April 2025 (ORD_15387/2025).

1.11 On 29 March 2025, Claimant submitted the slides used as demonstratives during the oral hearing with application No. 15296/2025.

1.12 On 31 March 2025, Defendant submitted the slides used as demonstratives during the oral hearing with application No. 15455/2025.

1.13 With application No. 15297/2025, Claimant submitted the preliminary opinion of the OD (**Exhibit BP 33**). In the oral proceedings, answering a question of the Court, Defendant consented that the preliminary opinion of the OD would be admitted into the proceedings.

1.14 For the submissions of the Parties and previous orders issued by the Court, reference is made to the case file in the Case Management System.

2 The Patent

2.1 The Patent, entitled "APPARATUS, SYSTEM, AND METHOD FOR ADAPTIVE-RATE SHIFTING OF STREAMING CONTENT" (European patent 3 822 805), was filed on 2 May 2005.

2.2 As indicated by Claimant in mn. 12 of the Statement for Revocation and undisputed by Defendant, the Patent is based on the European patent application with application No. 20216568.4, which was filed on 22 December 2020 (**Exhibit BP2a**) as a divisional application from the parent European application with application No. 05744015.8, which was later granted as EP 1 743 249 B1. The parent European application No. 05744015.8 is the EP regional phase of the international application PCT/US2005/015091 (**Exhibit BP2b)**.

2.3 The Patent claims two priorities. The first priority claim is based on a US provisional application with No. 60/566,831, filed on 30 April 2004 (**Exhibit BP3a)**. The second priority claim is based on a US patent application with No. 11/116,783, filed on 28 April 2005 (**Exhibit BP3b)**.

2.4 The mention of the grant of the Patent was published on 27 December 2023. Registered owner of the Patent is Defendant.

2.5 An opt-out was filed for the application underlying the Patent on 21 May 2023. A withdrawal of the opt-out was filed on 22 November 2023.

2.6 A request for unitary effect (15 January 2024) and a subsequent withdrawal of the request (8 February 2024) was filed by the Defendant's representative.

2.7 **Claim 1** of the Patent, as granted, reads:

An apparatus for adaptive-rate content streaming, the apparatus comprising an end user station (104), comprising:

> *an agent controller module (402) to be coupled via a network controller (406) to a set of one or more servers (102, 116) over a set of*

one or more TCP/IP network connections (108), wherein the set of servers (102, 116) stores a plurality of different copies (204, 206, 208) of a same single video (200) each encoded at a different bit rate to provide different quality levels and each divided into a plurality of streamlets (212) that collectively store data to playback the entire video (200) but that individually store data to playback only a portion of the video that starts at a unique start time and whose duration is less than the entire playback duration of the single video (200), wherein each of the streamlets (212) of each of the copies is encapsulated as an independent media object (212) playable by the end user station (104),

the agent controller module (402) configured to make streamlet requests (606) to receive streamlets (212) storing sequential portions of the single video (200), where each streamlet request is for a particular quality level selected by the agent controller module by requesting the portion from a particular copy of the single video (200);

the network controller (406) configured to process said requests from the agent controller module (402) for streamlets and to make HTTP requests to the set of servers (102, 116) over the set of network connections (108) to obtain the streamlets,

wherein the agent controller module (402) is further configured to monitor (706) the progress of the streamlet requests (606) by calculating a performance factor according to the responses to the streamlet requests;

based on said monitored progress, the agent controller module (402) further configured to make successive determinations (611, 708, 710, 712, 714) to shift the playback quality to achieve continuous playback of the single video (200) by requesting the streamlets (212) of the highest quality one of the copies (204, 206, 208) determined sustainable at that time;

a staging module (409) configured to arrange the requested streamlets (212) sequentially in order of ascending playback time; and,

a content player (408) to playback the requested streamlets (212) as staged by the staging module (409) to playback the single video (200), ***characterized in that*** *the determinations to shift the playback quality comprise upshifting to a higher quality copy when the performance factor is greater than a trigger threshold that is selected according to*

the current read ahead margin, being the amount of contiguously available streamlets (212) stored in the staging module (409), so as to discourage upshifting until a larger read ahead margin is established.

2.8 **Claim 9** of the Patent, as granted, reads:

A method for streaming from a set of one or more servers (102, 116) videos (200) for playback on a content player (408) on an end user station (104), wherein each of the videos (200) has a playback duration, comprising:

streaming from the set of servers (102, 116) over a set of one or more TCP/IP network connections a selected one of the videos (200) for playback on the content player (408) operating on the end user station,
wherein different copies (204, 206, 208) of the same selected video (200) are stored on the set of servers (102, 116), wherein each of the different copies (204, 206, 208) is encoded at a different bit rate to provide different quality levels and each is divided into a plurality of streamlets (212) that collectively store data to playback the entire video but that individually store data to playback only a portion that starts at a unique start time and whose duration is less than the entire playback duration of the selected video (200), and wherein each of the streamlets (212) of each of the copies is encapsulated as an independent media object (212) playable by the end user station (104), and wherein the streaming comprises:

making streamlet requests (606) to receive streamlets (212) storing sequential portions of the selected video, where each streamlet request is for a particular quality level selected by the agent controller module by requesting the portion from a particular copy of the single video (200);
processing said requests for streamlets and to make HTTP requests to the set of servers (102, 116) over the set of network connections (108) to obtain the streamlets;
monitoring (706) the progress of responses to the streamlet requests (606) by calculating a performance factor according to the responses to the streamlet requests;

based on said monitoring, making successive determinations (611, 708, 710, 712, 714) by the end user station (104) to shift the playback quality to achieve continuous playback of the selected video by requesting the streamlets (212) of the highest quality one of the copies (204, 206, 208) determined sustainable at that time;
arranging the requested streamlets (212) in order of ascending playback time; and
playing back the requested streamlets as staged with the content player,
***characterized in that** the determinations to shift the playback quality comprise upshifting to a higher quality copy when the performance factor is greater than a trigger threshold that is selected according to the current read ahead margin, being the amount of contiguously available streamlets (212) stored in the staging module (409), so as to discourage upshifting until a larger read ahead margin is established.*

3 Requests

3.1 Claimant requests:

- to revoke the European Patent EP 3 822 805 in its entirety for the territory of the UPC member state Germany,
- to order the Proprietor to pay the costs of the proceedings (Art.69(1) UPCA) and
- to dismiss Defendant's Application to amend the Patent and to reject the sets of claims according to auxiliary requests 1 to 16.

3.2 Defendant requests:

- that the revocation action be dismissed.

  Conditionally, in the event that the Court finds the patent-in-suit invalid in the granted version:

- that the patent-in-suit is maintained in the territory of the UPC member state of Germany in one of the versions according to auxiliary requests AR1 to AR16, the auxiliary requests being made in numerical order.

3.3 Defendant further requests:

- that the slides submitted by Claimant (App_15296/2025) be rejected as inadmissible for containing new arguments.

  In the alternative:

- that at least but not conclusively slides 10, 11, 16, 21 and 25 be rejected.
- Should the Court allow the slides despite the violation of the Order, Defendant objects to the newly submitted arguments contained in the slides and request, that they be rejected as late filed and disregarded.

3.4 During the oral proceedings, Claimant objected to this request.

3.5 At the end of the oral hearing, Defendant requested a stay of proceedings until the decision of the Opposition Division of the European Patent Office is issued. Claimant objected to this request.

4 Limited scope of the decision of the UPC

4.1 Claimant's request to revoke the patent merely for the territory of Germany - not for the territory of all UPC Member States - is well-founded. The Unified Patent Court can revoke European patents for one or more individual UPC Member States if so requested. In the current case, Claimant has made such a request, and Defendant has not opposed the scope of the requested revocation.

4.2 As a general rule, according to Art. 34 UPCA, decisions of the Court shall cover, in the case of a European patent, the territory of those Contracting Member States for which the European patent has effect. This provision defines the possible scope of UPC judgments but does not restrain the possibility to limit the revocation of European patents to certain UPC Member States.

4.3 As considered by the Court of Appeal, a restriction to the rule of Art. 34 UPCA would require the presence of certain circumstances, such as when a claimant has restricted the territorial scope of its action (Art. 76(1) UPCA) (CoA 3 March 2025, UPC_CoA_523/2024, *Sumi Agro/Syngenta*, para. 103, with regard to an infringement action).

4.4 According to Art. 76 (1) UPCA, the Court shall decide in accordance with the requests submitted by the parties and shall not award more than is

requested. If Claimant requests the revocation of the European patent for (a) certain UPC Member States, the revocation of the patent for all UPC Member States would be an award of more than requested and hence would violate Art. 76 (1) UPCA.

4.5 This limitation by the request on the revocation of a European patent is also reflected in R. 44(d) RoP. According to this provision, the statement for revocation shall contain an indication of the extent to which revocation of the patent is requested.

4.6 The provision in Art. 5 (2) Regulation (EU) No. 1257/2012 implementing enhanced cooperation in the area of the creation of unitary patent protection also points to the possibility of declaring a European patent invalid in respect of certain national parts. While this possibility is expressly excluded for Unitary Patents in Art. 5 (2) Regulation (EU) No. 1257/2012, there is no comparable provision prohibiting this for the European patent.

4.7 The view expressed in literature that the plaintiff can only apply for the revocation of the patent in certain territories if he can show legally compelling reasons (Tilmann/Plassmannn/*von Falck/Dorn*, Unified Patent Protection in Europe (2018) Art. 34 UPCA, para 62) cannot be followed. Despite the public interest, revocation proceedings remain adversarial proceedings in which the interests of the parties are at stake; the public interest cannot lead the Court to disregard the principle of *ne ultra petita* in civil proceedings and to award more than requested by the parties (Art. 43, 76 (I) UPCA). Anyone is free to bring nullity proceedings in the remaining UPC Member States after the Unified Patent Court has declared the European patent invalid for certain national parts.

4.8 Furthermore, neither the plaintiff nor the defendant has an interest in preventing a limited declaration of invalidity. The plaintiff, on the other hand, has a legitimate interest in restricting its request on the basis of strategic assessments and economic criteria.

5 No stay

5.1 The Court rejects Defendant's request to stay the proceedings until the OD has decided.

5.2 Pursuant to Article 33(10) UPCA and Rule 295(a) RoP, the Court may stay proceedings relating to a patent which is also the subject of opposition proceedings before the EPO when a rapid decision may be expected from the EPO.

5.3 Following the communication of the OD of 26 March 2025, none of the parties requested a stay of the proceedings of their own accord. On 28 March 2025, the Court invited the parties to comment on whether the recent setting of the date for the oral hearing on 4 and 5 June 2025 and the OD's preliminary opinion should lead to a stay of the proceedings and a postponement of the oral hearing. With submissions of 28 March 2025 the parties responded. Claimant opposed a possible stay of the proceedings. Claimant pointed out that significant efforts had already been made to prepare for the hearing. Defendant did "*not object to the present proceeding being stayed and/or the hearing in the present proceeding being postponed*", but also mentioned practical issues regarding the short time before the scheduled oral hearing.

5.4 The provisions concerning a possible stay in Article 33(10) UPCA and Rule 295(a) RoP must be applied and interpreted in accordance with Articles 41(3), 42 and 52(1) UPCA on the basis of the principles of proportionality, flexibility, fairness and equity (point 2 of the Preamble of the RoP). One of the Court's aims is to provide expeditious and high quality decisions, striking a fair balance between the interests of right holders and other parties and taking into account the need for proportionality and flexibility (cf. Preamble to the UPCA, paragraph 6). Proceedings must be conducted in a way which will normally allow the final oral hearing at first instance to take place within one year whilst recognizing that complex actions may require more time and procedural steps, and simple actions less time and fewer procedural steps (point 7 of the Preamble of the RoP) (CoA, 28.05.2024 – UPC_CoA_22/2024, APL_3507/2024, ORD_25123/2024– *Bitzer v Carrier*).

5.5 On 29 March 2025, the Court decided that in the specific circumstances of the case, given the stage of the revocation proceedings, the disadvantages of a stay ordered only a few days before the oral hearing are outbalanced by the interest in expeditious, efficient and predictable proceedings.

5.6 At the end of the oral hearing on 3 April 2025, Defendant requested a stay of the proceedings until the decision of the OD. Defendant did not provide specific reasons for a stay, other than the planned oral hearing of the OD. Claimant objected to this request.

5.7 The Court will not stay the proceedings. Claimant's interest in obtaining a timely judgment and the interest in conducting proceedings which can be terminated in approximately one year outbalance Defendant's interests. The reasons given by the Court to decline a stay prior to the oral hearing, in

particular the advanced stage of the proceedings, apply even more and *a fortiori* after the oral hearing.

6 The arguments

6.1 Claimant states that the invention claimed is not valid for several reasons. Claimant argues that the following reasons for revocation apply:

- added matter (Art. 138(1)(c) EPC, with reference to Art. 76(1) and 123(2) EPC);
- insufficient disclosure (Art. 138(1)b) EPC, in conjunction with Art. 83 EPC);
- lack of novelty (Art. 138(1)a) in conjunction with Art. 54(1), (2) and (3) EPC); and
- lack of inventive step (Art. 138(1)a) in conjunction with Art. 56 EPC).

GROUNDS FOR THE ORDER

7 Technical background

Streaming and downloading

7.1 The Patent relates to adaptive-rate content streaming and a method for streaming videos from servers for playback on a content player. In streaming, media - whether on demand (previously recorded) or from live broadcasts - is made available to the user in real time at a rate sufficient for display, without first having to be fully downloaded.

7.2 As the Patent states in para. [0006], streaming offers the advantages of immediate access to media and the ability to select different content for viewing on an *ad hoc* basis. The disadvantages of streaming are lower quality compared to downloading the entire media file and susceptibility to network errors and congestion. In addition, downloading the entire media file supports rewind, fast forward and direct seek functions, which is not fully the case with streaming.

7.3 Multimedia content that is not present beforehand on a device that should play it, e.g. a personal computer or a smartphone, can be acquired in two ways.

7.4 The first way is to upload the whole content in full to the device, either by copying it from a different device or downloading it from a network, e.g. through Internet. In this case, once the device has completed downloading, the multimedia content is fully stored in the memory of the device, where

the user can play it and have immediate access to any part of it (e.g. it can jump to any point of the video). This procedure, however, requires that the full video is downloaded before it can be played.

7.5 The second way is to stream the multimedia content. Streaming indicates a flow of multimedia data transmitted from a source (typically a server) to a destination device (e.g. a personal computer, a smart phone, etc.), via a telematic network, wherein this data is played as it arrives on the destination device. Streaming therefore means that a video can be started and displayed on screen even if only a part of it has been downloaded. As soon as a portion of video has been downloaded, that portion can be reproduced while the next portion is being acquired and put in a queue to be reproduced next. As the Patent mentions, streaming offers immediate content access but, on the other hand, is vulnerable to network issues, since data must be transported over the network and made available in time so that the next video portion is available when the previously downloaded data has all been played.

Adaptive streaming and "progressive downloads" technology

7.6 According to para. [0007] of the Patent, "progressive downloads" technology attempts to combine the strengths of downloading and streaming. Here, the media player waits to begin playback until enough of the file has been downloaded so that the remainder of the file will be completely downloaded before playback catches up.

7.7 The achievable media quality is limited by the characteristics of the network, e.g. by the bandwidth of the respective network connection. The Patent lists three purported challenges in relation to streaming: reliability, efficiency and latency (cf. paras. [0008]-[0012]).

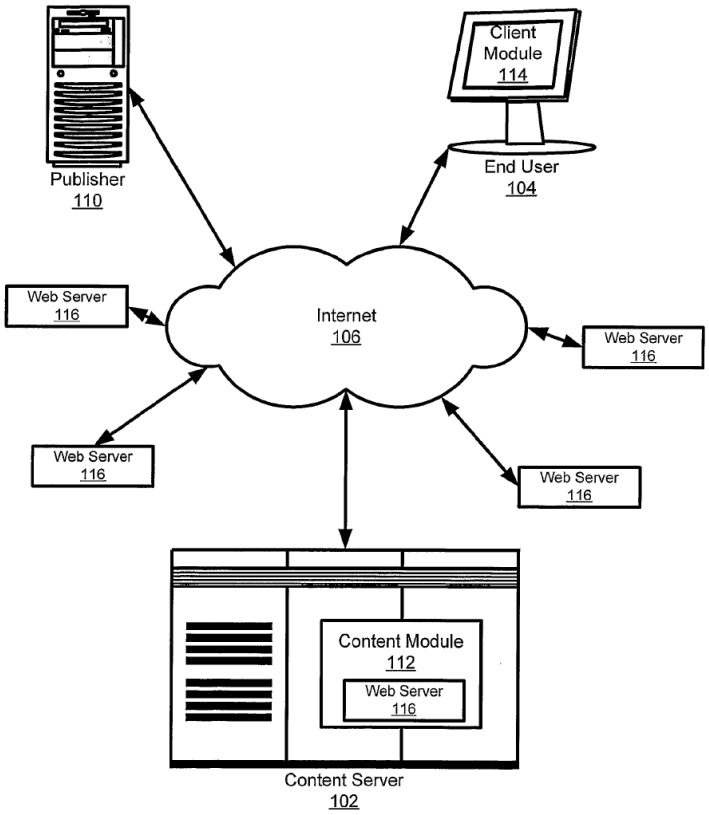
7.8 The first challenge is **reliability**. Connection failures cause the network adaptor to temporarily interrupt transmission, which leads to a slowdown that is detrimental to the user's viewing or listening experience (cf. para. [0008]).

7.9 As the second challenge, the Patent names **efficiency**, i.e. how well the available bandwidth is used to transmit the content stream. If the TCP connection suffers from reliability problems, there will be losses in bandwidth utilization which can greatly impact the viewing experience (cf. para. [0010]).

7.10 The third challenge is **latency**, which is defined as the time measure from the client's point of view of the interval between the request of data and its reception. The processing time to generate the response at the data transmission side also affects latency. For example, a busy or over-loaded

server takes longer to process a request. Latency affects both the start time of requests and the throughput of the TCP connection (cf. para. [0011] et seq.).

7.11 **Figure 1** depicted in the patent specification is a schematic block diagram illustrating one embodiment of a system for adaptive rate shifting of streaming content in accordance with the invention. It introduces the system as a whole:



7.12 System 100 comprises a content server 102 and an end user station 104, e.g. a personal computer, connected to the Internet. System 100 also includes a publisher 110 and one or more web servers 116. Publisher 110 may be a content creator or distributor, for example the creator of some TV content. The content is transferred to a content server 102, where it is received by a by a content module 112, which is in charge of receiving, processing, and storing content. The content is processed and rendered in a form that can be accessed and played by client module 114, at the user's station.

7.13 The client module 114 may be configured to receive different portions of a content stream from a plurality of locations simultaneously, i.e. from a plurality of web servers, not necessarily from a single server.

7.14 According to claim 1 of the Patent, a plurality of different copies (204, 206, 208) of a same single video (200) are stored. The copies are encoded at a

different bit rate to provide different quality levels and each is divided into a plurality of streamlets. In general, the lower the quality, the lower the size, the better for transmission over a network.

7.15 Streams 204, 206 and 208 in **Figure 2b** (reproduced below) represent three different streams at different quality (i.e., size) for video 200. For example, the first copy (stream 204) can have a bit rate of 100 kbps; the second copy (stream 206) can have a bit rate of 200 kbps; and the third copy (stream 208) can have a bit rate of 600 kbps (para. [0036].

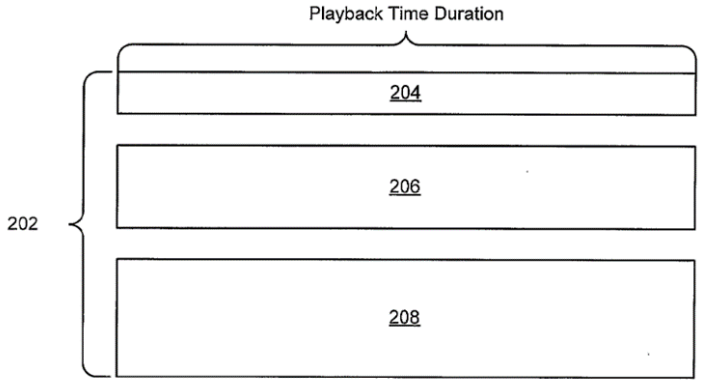


FIG. 2b

7.16 According to claim 1, each copy is "divided into a plurality of streamlets", wherein each streamlet "is encapsulated as an independent media object playable by the end user station"). An example is shown in **Figure 2c** of the Patent (reproduced below).

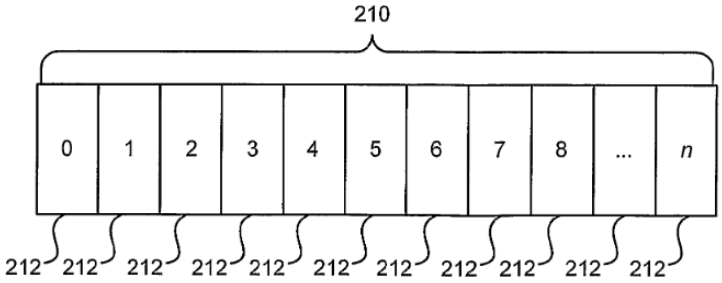


FIG. 2c

7.17 Each streamlet 212 can be picked and played as if it were a full video file in itself, with no need to know what is stored in other streamlets. Therefore, if

a sequence of streamlets is run at different qualities (e.g. the first streamlet from stream 204, the second streamlet from stream 208, the third from stream 206, the fourth streamlet again from stream 204 and so on), a continuous playback is still achieved, with no interruption, even though the video quality of the video shown on screen would be different from a streamlet to the other**.**

7.18 **Figure 3** (reproduced below) is a schematic block diagram illustrating one embodiment of a content module in accordance with the claimed invention.

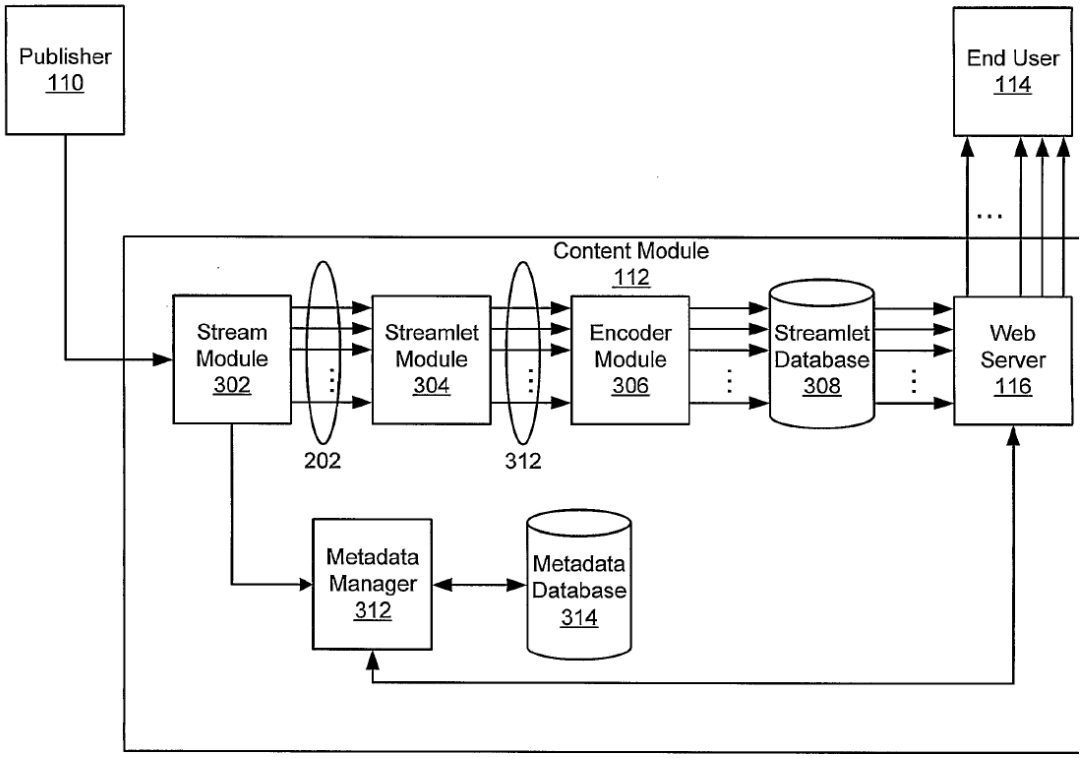


FIG. 3

Selection of Streamlets

7.19 Dividing an (entire) video stream into smaller entities (“streamlets” in the language of the patent-in-suit) offers a means to switch between different streams while playing the video. For example, initially streamlets from stream 204 (100 kbps) may be requested by corresponding HTTP requests, and streamlet numbers 0, 1, … 10 of stream 204 may be played back subsequently.

7.20 While playing streamlet 10, a decision may be made to upshift the quality and to switch to stream 206 with higher quality (200 kbps). Then, streamlets from stream 206 are requested, and the next streamlet (streamlet 11) from stream 206 can be played after streamlet 10 from stream 204.

7.21 A "performance factor" is generated and taken into account in determinations to shift. Specifically, an upshift to a higher quality copy is considered when the performance factor is greater than a trigger threshold.

7.22 **Figure 4** (reproduced below) is a schematic block diagram graphically illustrating one embodiment of a client module in accordance with the present invention. The client module 114 comprises an agent controller module 402, a streamlet cache module 404, and a network controller module 406.

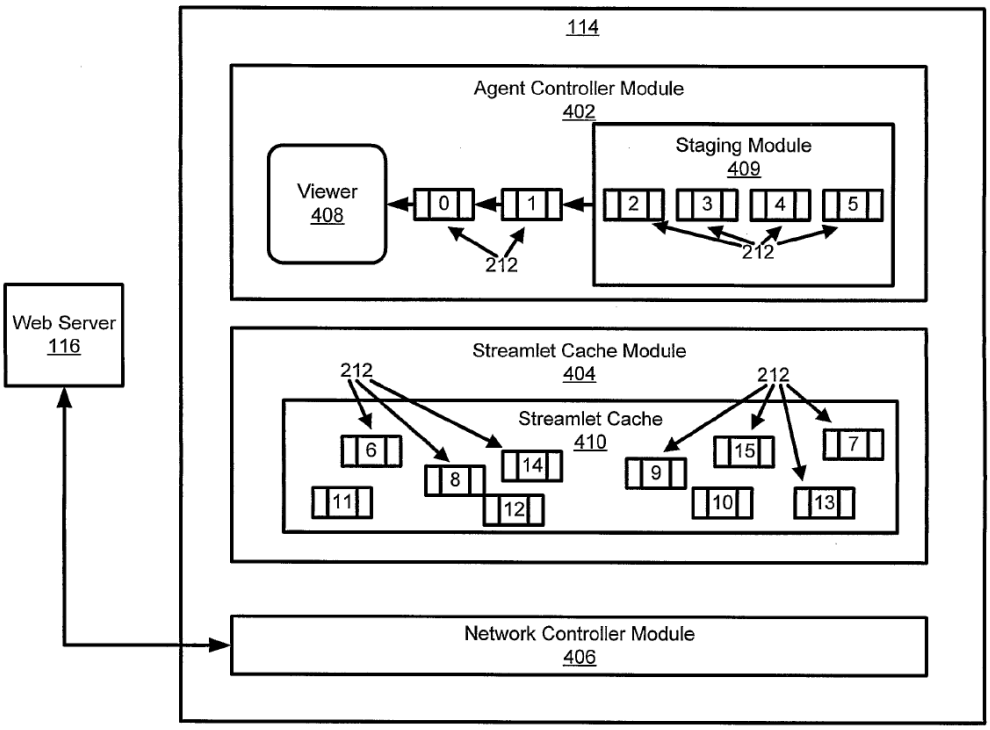


FIG. 4

7.23 The **agent controller** module is in charge of transmitting streamlets to the viewer 408, i.e. the media player that will decode and reproduce video on screen, and of requesting lower or higher quality streams based on

continuous observation of time intervals between successive receive times of each requested streamlet.

7.24 Streamlets are not necessarily received in the correct sequence, e.g. streamlet number 4 may be physically received before streamlet number 3. The **staging module** in the agent controller module takes care of placing the streamlets in the correct order for transferring to the viewer and playing on screen. Once a streamlet has been played, in principle it is no longer necessary and could be discarded.

7.25 The **network controller** module 406 is the module that communicates with the web server to obtain streamlets.

7.26 When sending requests to the web servers to obtain new streamlets, the agent controller module monitors the time intervals between successive receive times for each streamlet response. A **performance factor** is calculated and compared with the **trigger threshold** that is "*determined by a combination of factors relating to the current read ahead margin (i. e. the amount of contiguously available streamlets that have been sequentially arranged by the staging module 409 for presentation at the current playback time index), and a minimum safety margin*" (para. [0063] of the Patent).

As an example, the patent indicates 24 seconds as the minimum safety margin, i.e. 24 seconds is the minimum amount of time to be already covered by streamlets to be played next before allowing an upshift.

Task

7.27 The Patent in para. [0013] describes its task to provide a teaching for streaming content at an adaptive rate which reduces the shortcomings of the prior art in terms of reliability, efficiency and latency of streaming (cf. paras. [0013] and [0019]). Further, it aims at providing streaming with instantaneous viewing along with the ability to fast forward, rewind, direct seek and browse multiple streams.

7.28 In order to achieve this aim, the Patent claims an apparatus and method according to independent claims 1 and 9, whose features can be structured as follows.

8 The claimed subject matter

8.1 The Patent, in its granted version, includes 11 claims.

8.2 Claim 1 of the Patent can be divided into the following features:

1.0 *An apparatus for adaptive-rate content streaming, the apparatus comprising an end user station (104), comprising:*

1.1 *an agent controller module (402) to be coupled via a network controller (406) to a set of one or more servers (102, 116) over a set of one or more TCP/IP network connections (108),*

1.2 *wherein the set of servers (102, 116) stores a plurality of different copies (204, 206, 208) of a same single video (200) each encoded at a different bit rate to provide different quality levels and each divided into a plurality of streamlets (212) that collectively store data to playback the entire video (200) but that individually store data to playback only a portion of the video that starts at a unique start time and whose duration is less than the entire playback duration of the single video (200),*

1.3 *wherein each of the streamlets (212) of each of the copies is encapsulated as an independent media object (212) playable by the end user station (104),*

1.4 *the agent controller module (402) configured to make streamlet requests (606) to receive streamlets (212) storing sequential portions of the single video (200), where each streamlet request is for a particular quality level selected by the agent controller module by requesting the portion from a particular copy of the single video (200);*

1.5 *the network controller (406) configured to process said requests from the agent controller module (402) for streamlets and to make HTTP requests to the set of servers (102, 116) over the set of network connections (108) to obtain the streamlets,*

1.6 *wherein the agent controller module (402) is further configured to monitor (706) the progress of the streamlet requests (606) by calculating a performance factor according to the responses to the streamlet requests;*

1.7 *based on said monitored progress, the agent controller module (402) further configured to make successive determinations (611, 708, 710, 712, 714) to shift the playback quality to achieve continuous playback of the*

single video (200) by requesting the streamlets (212) of the highest quality one of the copies (204, 206, 208) determined sustainable at that time;

1.8 *a staging module (409) configured to arrange the requested streamlets (212) sequentially in order of ascending playback time; and,*

1.9 *a content player (408) to playback the requested streamlets (212) as staged by the staging module (409) to playback the single video (200),*

characterized in that

1.10 *the determinations to shift the playback quality comprise upshifting to a higher quality copy when the performance factor is greater than a trigger threshold that is selected according to the current read ahead margin, being the amount of contiguously available streamlets (212) stored in the staging module (409), so as to discourage upshifting until a larger read ahead margin is established.*

8.3 Claim 9 of the Patent can be divided into the following features:

9.0 *A method for streaming from a set of one or more servers (102, 116) videos (200) for playback on a content player (408) on an end user station (104), wherein each of the videos (200) has a playback duration, comprising:*

9.1 *streaming from the set of servers (102, 116) over a set of one or more TCP/IP network connections a selected one of the videos (200) for playback on the content player (408) operating on the end user station,*

9.2 *wherein different copies (204, 206, 208) of the same selected video (200) are stored on the set of servers (102, 116), wherein each of the different copies (204, 206, 208) is encoded at a different bit rate to provide different quality levels and each is divided into a plurality of streamlets (212) that collectively store data to playback the entire video but that individually store data to playback only a portion that starts at a unique start time and whose duration is less than the entire playback duration of the selected video (200),*

and

9.3 *wherein each of the streamlets (212) of each of the copies is encapsulated as an independent media object (212) playable by the end user station (104), and wherein the streaming comprises:*

9.4 *making streamlet requests (606) to receive streamlets (212) storing sequential portions of the selected video, where each streamlet request is for a particular quality level selected by the agent controller module by requesting the portion from a particular copy of the single video (200);*

9.5 *processing said requests for streamlets and to make HTTP requests to the set of servers (102, 116) over the set of network connections (108) to obtain the streamlets;*

9.6 *monitoring (706) the progress of responses to the streamlet requests (606) by calculating a performance factor according to the responses to the streamlet requests;*

9.7 *based on said monitoring, making successive determinations (611, 708, 710, 712, 714) by the end user station (104) to shift the play-back quality to achieve continuous playback of the selected video by requesting the streamlets (212) of the highest quality one of the copies (204, 206, 208) determined sustainable at that time;*

9.8 *arranging the requested streamlets (212) in order of ascending playback time; and*

9.9 *playing back the requested streamlets as staged with the content player,*

characterized in that

9.10 *the determinations to shift the playback quality comprise upshifting to a higher quality copy when the performance factor is greater than a trigger threshold that is selected according to the current read ahead margin, being the amount of contiguously available streamlets (212) stored in the staging module (409), so as to discourage upshifting until a larger read ahead margin is established.*

8.4 Some features of claims 1 and 9 of the Patent require interpretation.

Legal framework

8.5 The Court of Appeal of the UPC has laid down the following legal framework for the interpretation of patent claims (CoA, 26.02.2024 – UPC_CoA_335/2023, APL_576355/2023, p. 26-27 of the original German language version – *NanoString v 10x Genomics*, also see CoA, 13.05.2024 – UPC_CoA_1/2024, APL_8/2024 – *VusionGroup v Hanshow*).

8.6 In accordance with Art. 69 EPC and the Protocol on its interpretation, a patent claim is not only the starting point, but the decisive basis for determining the scope of protection of a European patent. The interpretation of a patent claim does not depend solely on the strict, literal meaning of the wording used. Rather, the description and the drawings must always be used as explanatory aids for the interpretation of the patent claim and not only as a mean to resolve any ambiguities in the patent claim. However, this does not mean that the patent claim merely serves as a guideline and that its subject-matter also extends to what, after examination of the description and drawings, appears to be the subject-matter for which the patent proprietor seeks protection.

8.7 The patent claim is to be interpreted from the point of view of a person skilled in the art. When interpreting a patent claim, the person skilled in the art does not apply a philological understanding, but determines the technical meaning of the terms used with the aid of the description and the drawings. A feature in a patent claim is always to be interpreted in light of the claim as a whole (CoA, 13.05.2024 – UPC_CoA_1/2024, APL_8/2024, para. 29 – *VusionGroup v Hanshow*). From the function of the individual features in the context of the patent claim as a whole, it must be deduced which technical function these features actually have both individually and as a whole. The description and the drawings may show that the patent specification defines terms independently and, in this respect, may represent a patent's own lexicon.

8.8 In applying these principles, the aim is to combine adequate protection for the patent proprietor with sufficient legal certainty for third parties.

The skilled person

8.9 The patent claim must be interpreted from the point of view of a person skilled in the art. The person skilled in the art (hereinafter: *skilled person*) is a legal fiction which, in the interests of legal certainty, forms a standardized basis for the assessment of the legal concepts of e.g. "novelty", "inventive

step" and "enablement". The skilled person represents the average expert who is typically active in the technical field of the invention, has had the usual prior training and has acquired average knowledge, skills and practical experience.

8.10 With regard to the skilled person, there is no substantial disagreement between the Parties. The relevant person skilled in the art has a university degree in electrical engineering or computer science - with some years of practical experience in the design and implementation of networking or streaming media solutions.

Claim interpretation from the point of view of the skilled person

Key features of claim 1

8.11 Claimant submits that several features (1.0, 1.1, 1.4, 1.5, 1.7 and 1.10) of claim 1 and the corresponding features of claim 9 introduce subject matter that is not disclosed in the original application. Both from the written briefs and from the debate at the oral hearing, it follows that features 1.6 and 1,7, together with feature 1.10, which is the sole feature recited in the characterising portion of the claim, can be considered as key features in the independent claims. These features are discussed here below.

8.12 **Feature 1.6** "*wherein the agent controller module (402) is further configured to monitor (706) the progress of the streamlet requests (606) by calculating a performance factor according to the responses to the streamlet requests;*"

8.13 According to feature 1.6, the agent controller module is configured to monitor the progress of the streamlet requests by calculating a **performance factor**. The "performance factor" is calculated "according to the responses to the streamlet requests".

8.14 The patent discloses a single embodiment (paras. [0060]-[0065]), in which time intervals between successive receive times of the requested streamlets are monitored and used to calculate the "performance factor".

8.15 The term "performance factor" (φ) is defined in para. [0062]:
Due to multiple simultaneous streamlet processing, and in order to better judge the central tendency of the performance ratio r, the agent control module 402 may calculate a geometric mean, or alternatively an equivalent averaging algorithm, across a window of size m, and obtain a performance factor φ:

$$\varphi_{current} = \left(\prod_{j=1}^{m} r_j \right)^{\frac{1}{m}} .$$

8.16 In paragraph [0063], with respect to φ, the Patent states that "*The policy determination about whether or not to upshift 710 playback quality begins by comparing $\varphi_{current}$ with a trigger threshold Θ_{up}. If $\varphi_{current} \geq \Theta_{up}$, then an up shift to the **next higher** quality stream may be considered 716.*" [emphasis added].

8.17 In the same paragraph, the patent outlines that the "*trigger threshold is **determined** by a combination of factors relating to the current read ahead margin […] **and a minimum safety margin***".[emphasis added].

8.18 **Feature 1.7** *"based on said monitored progress, the agent controller module (402) further configured to make successive determinations (611, 708, 710, 712, 714) to shift the playback quality to achieve continuous playback of the single video (200) by requesting the streamlets (212) of the highest quality one of the copies (204, 206, 208) determined sustainable at that time;"*

8.19 Feature 1.7 states that, by shifting the playback quality, continuous playback of the single video is to be achieved by requesting the streamlets of the highest quality one of the copies determined sustainable at that time.

8.20 According to feature 1.7, the agent controller module is configured to make **successive determinations**, based on said monitored progress, to shift the playback quality. By shifting the playback quality, continuous playback of the single video is to be achieved by requesting the streamlets of the **highest quality** one of the copies **determined sustainable at that time.**

8.21 As the skilled person can see from Fig. 7, block 717 and block 718 of the patent, the playback quality can be upshifting or downshifting, wherein the upshifting is further defined by feature 1.10. Claim 1 is silent about downshifting.

8.22 **Feature 1.10** "*the determinations to shift the playback quality comprise upshifting to a higher quality copy when the performance factor is greater than a trigger threshold that is selected according to the current read ahead margin, being the amount of contiguously available streamlets (212) stored in the staging module (409), so as to discourage upshifting until a larger read ahead margin is established*."

8.23 Upshifting is further defined in the claim by feature 1.10. According to feature 1.10, upshifting to a higher quality copy happens when the performance factor (introduced in feature 1.6) is greater than a trigger threshold. The trigger threshold is selected according to a current read-ahead margin. Feature 1.10 defines the read-ahead margin as the amount of contiguously available streamlets stored in the staging module. The aim is to discourage upshifting until a larger read ahead margin is established.

8.24 In the (sole) embodiment of the patent-in-suit, the trigger threshold is referred to as θ_{up}, and the corresponding exemplary comparison can be illustrated by the following equation (cf. para. [0063]): $\varphi_{current} > \theta_{up}$.

9 Inadmissible extension of claim 1 and 9 / Added matter

Legal framework

9.1 There is added matter if the claim as granted contains subject-matter that extends beyond the content of the application as filed. In order to ascertain whether there is added matter, the Court must thus first ascertain what the skilled person would derive directly and unambiguously using his common general knowledge and seen objectively and relative to the date of filing, from the whole of the application as filed, whereby implicitly disclosed subject-matter, i.e. matter that is a clear and unambiguous consequence of what is explicitly mentioned, shall also be considered as part of its content. Where the patent is a divisional application, this requirement applies to each earlier application (CoA, 14.02.2025 – UPC_CoA_382/2024, APL_39664/2024, p. 12, at 52 – *Abbott v Sibio*).

9.2 The Court notes that the claims of the Patent as granted differ substantively from the claims of the original PCT application BP2b (hereinafter: 'parent application') and that the precise wording used for claim 1 in its flow of words, including the wording of features 1.6/1.7 and 1.10, is nowhere to be found in this application.

Feature 1.7

9.3 Claimant argues that feature 1.7 contains added matter since it requires "*requesting streamlets of the highest quality one of the copies determined sustainable at that time*", while the parent application at most discloses that an upshift to a higher quality, or the next higher quality stream may be

considered. The next higher quality streamlet is not necessarily the highest quality streamlet and there is no disclosure that the sustainability of a plurality of copies is determined, and then the highest quality one of those copies is requested. As a result, feature 1.7 extends beyond the contents of the parent application, according to Claimant.

9.4 Defendant states that feature 1.7 allows for successive upshifting of the quality of the copies. For this interpretation, Defendant relies on Figure 7 and argues that there is merely one determination to upshift the quality being made in one "cycle" according to that Figure and that "successive determinations" in the meaning of feature 1.7 is thus realized by repeating the cycle of Figure 7. This iterative process of upshifts will lead to requests of streamlets of the highest quality copy deemed sustainable. An immediate shift to the highest quality - described as a "jump" by the Defendant - is not *necessary* nor *required* in feature 1.7, according to the Defendant.

9.5 Upon questions by the Court during the oral hearing, Defendant has confirmed that these "jumps" to the highest quality are not *required* by feature 1.7, but that - depending on the number of qualities considered sustainable - feature 1.7 *allows for* "jumps", also within one cycle.

9.6 Both parties thus conclude that feature 1.7 covers embodiments in which a direct shift to the highest quality is made, even when this is not the next higher quality in relation to the current one and would require the determination of the sustainability of more than one quality stream.

9.7 Although the interpretation of patent claims is a matter of law (CoA, 30.04.2025 – UPC_CoA_768/2024, APL_64374/2024, p. 12, mn. 37 – Insulet v EOFlow), the Court will follow the parties in this interpretation. This interpretation is in accordance with what the skilled person would understand as the general meaning as well as a technically sensible meaning of the wording of feature 1.7 in the context of the claim as a whole. In particular the word "highest", that is not used or defined in the description, is to be understood according to its general meaning to the skilled person. In the specific circumstances of this case, there is no reason to narrow this broad general understanding of the terms used in the claim.

Disclosure of the parent application

9.8 Regarding the upshift of the quality, the skilled person reads on p. 3, l. 22-27 of the parent application:

"*In a further embodiment, the agent controller module is configured to upshift to a higher quality streamlet when the performance factor is greater than a threshold, and the agent controller module determines the higher quality playback can be sustained according to a combination of factors. The factors may include an amount of contiguously available streamlets stored in the staging module, a minimum safety margin, and a current read ahead margin.*"

9.9 From this the skilled person would understand that the sustainability of only one quality ("*the higher quality playback*", singular) is determined. The application does not speak of various streamlets of various qualities, but speaks of a certain quality playback which is deemed sustainable "*according to a combination of factors*".

9.10 Similarly on p. 4, l. 17-20, of the application states as follows:

"*In a further embodiment, the method may include establishing multiple Transmission Control Protocol (TCP) connections with a content server, and requesting streamlets of varying bitrates. Also, the method may include generating a performance factor according to responses from streamlet requests, upshifting to a higher quality streamlet when the performance factor is greater than a threshold, and determining if the higher quality playback can be sustained.*"

9.11 Also from this section the skilled person understands that the sustainability of only one quality ("*the higher quality playback*", singular) is being determined.

9.12 On p. 10, l. 17-21 and p. 14, l. 24-27, also regarding a shift to a higher or lower quality, the skilled person is referred to (the description with regard to) Figure 7 where this "*will be discussed in greater detail*". The skilled person would understand that - although mentioned as an embodiment - regarding (up)shifting of the quality he would have to turn to the description on p. 15, l. 4 to p. 16, l. 18 of the parent application (corresponding to paras. [0060]-[0063] of the Patent), which refer to the flow diagram of Figure 7. The specific combination of configurations regarding (up)shifting of the quality (as claimed in features 1.6, 1.7 and 1.10) is described in detail only here.

9.13 Figure 7, on which also the Defendant relies for feature 1.7, illustrates how the determination to shift quality is carried out:

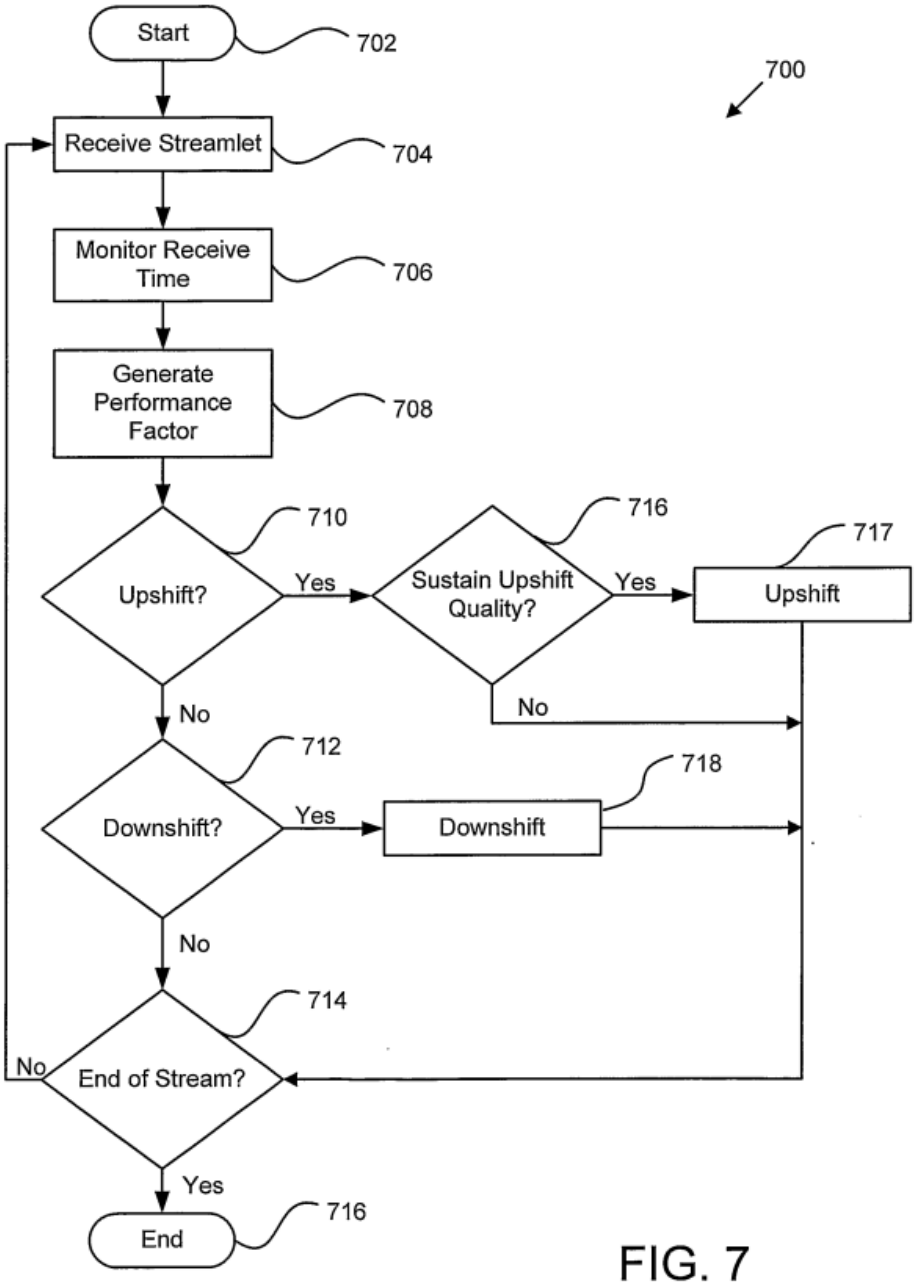


FIG. 7

9.14 Looking at the flow diagram, a determination to shift the quality is carried out according to the following steps:

- check (diamond 710) if the comparison between the performance factor and a trigger threshold calls Θ_{up} for taking into consideration upshifting to a higher rate;
- if so, check (diamond 716) if the higher rate is sustainable; if it is sustainable, upshift the quality and start the loop again, if it is not sustainable, keep the current rate and start the loop again;

- If the check at step diamond 710 determines that upshifting is not to be considered, check (diamond 712) if the comparison between the performance factor and a trigger threshold Θ_{down} calls for a downshift to a lower rate;
- If so, downshift, otherwise, keep current rate.

9.15 On p. 15, l. 24-26, with respect to performance factor φ, the parent application mentions an up shift to the next higher – and not to the highest quality stream:

"*The policy determination about whether or not to upshift 710 playback quality begins by comparing ϕ current with a trigger threshold* Θ_{up}*. If φ current* $\geq \Theta_{up}$*, then an up shift to the next higher quality stream may be considered 716*".

9.16 In lines 26-29 on the same page, the parent application outlines that the "*trigger threshold is determined by a combination of factors relating to the current read ahead margin […] and a minimum safety margin*".

9.17 In this respect, the smaller the read ahead margin, the higher the trigger threshold, so as to discourage upshifting until a larger read ahead margin may be established to withstand network disruptions.

9.18 The first step, which refers to diamond 710 in the flow chart of Figure 7, is therefore described as a check against the "next higher" quality only, wherein the trigger threshold is determined in a way that may discourage upshifting to such higher rate if certain conditions are not met.

9.19 The flow chart of Figure 7 and the description on p. 16, l. 2-7, move on to discuss diamond 716, where it is determined whether the higher quality stream, which is the one that passed the test at diamond 710, is sustainable. This implies that the higher quality stream that is put to test is, necessarily, the next higher quality.

9.20 In the event that such (next) higher quality is not sustainable, the current quality is maintained, and the loop restarts at block 704 upon receipt of a new streamlet.

9.21 As a consequence, the agent controller module has only determined whether an upshift to only one (the next higher) rate would have been sustainable, and it might have raised the quality to such higher rate if both tests carried out at diamonds 710 and 716 have succeeded.

9.22 In a different cycle (e.g. in the next cycle when loop 700 is restarted following reception of a new streamlet at step 704), a new determination is made by the agent controller module. The new performance factor generated at 708 may be such that the agent controller module determines that an upshift is not to be considered. In that case, a test is made to either downshift quality or, again, leave quality unchanged.

9.23 Defendant outlines that the Patent does not prescribe how the agent controller module must make the determination. According to Defendant, although the example refers to the "next" higher quality copy, this is simply the consequence of there being an example with only three quality streams and the parent application is clear that any number of streams can be used (p. 9, l. 4-7 of the parent application). Since only three quality copies are exemplarily described, and since the policy determination describes both the upshifting and downshifting determinations, it must necessarily begin with the "medium quality stream". Inevitably, the higher stream would therefore be both the "higher" and the "highest" quality stream.

9.24 The Court disagrees with this reasoning. Even though it may be correct that "highest" and "higher" quality may lead to a same result with respect to the specific example discussed by Defendant, and that the parent application is not limited to this example with only three quality copies, the skilled person will not understand from this that the parent application supports embodiments in which sustainability of more than one higher quality stream, including a quality stream that is not the next higher quality stream, is determined.

9.25 The above explained steps according to Figure 7 and the corresponding text in the description op p. 15-16, are not limited to the example with only three quality streams of Figure 2b and p. 8, and clearly teach the skilled person that upshift to *a* (the next higher) quality stream is considered and the sustainability of that (single) quality stream is determined.

9.26 Defendant has also set forth that "at that time" should be read in conjunction with "successive determinations", so that a determination to shift may span over several cycles, and the highest quality may be reached through progressive shifts to the next higher quality. The skilled person would however not understand "at that time" as covering several cycles. If Defendant's argument was to be followed, the expression "determined sustainable at that time" would actually introduce no limitation: any determination at any time, after any number of cycles (i.e. following reception of any number of new streamlets at block 704, monitoring receive

times at block 706 and generating new performance factors at step 708) would fall within such construction. This would not be a technically sensible understanding for the skilled person.

No support for feature 1.7

9.27 In view of the foregoing, the Court holds that the parent application does not provide support for claiming "*requesting the streamlets (212) of the **highest** quality one of the copies (204, 206, 208) **determined sustainable at that time***" as stated in feature 1.7. [emphasis added]. By introducing the term "highest" in the claim as granted, this feature includes embodiments in which direct "jumps" to the highest quality are possible and introduce an inadmissible generalization. Indeed, this implies assessing whether, at a certain time, several higher qualities would be sustainable, a determination that neither the flow diagram of Figure 7 nor the (embodiment in the corresponding) description of the parent application foresees or suggests.

9.28 Similar reasoning applies to independent method claim 9, which recites substantially the same features in terms of a method.

9.29 As the Court holds that the patent is invalid on grounds of added matter, the Court will not consider the other invalidity grounds put forward by the Claimant.

10 Validity

10.1 The Patent is not valid. It extends beyond the content of the parent application.

11 Defendant's Auxiliary Requests and dependent claim 2

11.1 Defendant submitted two sets of 16 auxiliary requests.

11.2 AR1' through AR16' were not admitted into the proceedings due to late filing (ORD_69035/2024). Auxiliary requests AR1 to AR16 were admitted into the proceedings by the same order.

11.3 AR1 through AR5 and AR16 are six auxiliary requests, each adding different features to the claims. AR6 through AR15 are ten auxiliary requests based on sub-combinations of Auxiliary Requests 1 to 5. Dependent claim 2 claims the apparatus of claim 1 further comprising a streamlet cache module.

11.4 However, none of the auxiliary requests introduces amendments that can overcome the grounds of invalidity outlined in the previous paragraphs with respect to the contested terms in feature 1.7.

11.5 The same applies to dependent claim 2.

12 Admissibility of the slides

None of the arguments by the Claimant regarding feature 1.7 have been identified by the Defendant as being new arguments in the submitted slides. For that reason, the Court does not have to decide on the admissibility of the slides.

13 Costs

13.1 In accordance with Art. 69 UPCA and R. 118.5 RoP, Defendant, as the unsuccessful party, the Patent being revoked entirely, has to bear the legal costs of Claimant.

DECISION

Having heard the Parties on all relevant aspects of the case, the Central Division:

1. Revokes the German part of European patent n° EP 3 822 805 B1.
2. Orders that the Registry shall send a copy of this decision to the European Patent Office and to the national patent office of any Contracting Member States concerned, after the deadline for appeal has passed.
3. Orders Defendant to bear the costs of the proceedings.

NAMES AND SIGNATURES	
Judges	**For the Deputy-Registrar**
Marjolein Visser, Presiding judge: Marjolein Jeanette Johanna Visser Signature numérique de Marjolein Jeanette Johanna Visser Date : 2025.05.28 09:17:20 +02'00'	Unified Patent Court Einheitliches Patentgericht Juridiction unifiée du brevet Signature numérique de MARGAUX MARIE-ANGE GRONDEIN Date : 2025.05.28 09:34:09 +02'00'

Maximilian Haedicke, Legally qualified judge and judge-rapporteur: Maximilian Wilhelm Haedicke Digital signiert von Maximilian Wilhelm Haedicke DN: cn=Maximilian Wilhelm Haedicke, c=DE Datum: 2025.05.28 08:41:26 +02'00' **Alessandro Sanchini,** Technically qualified judge: Alessandro Sanchini Firmato digitalmente da Alessandro Sanchini Data: 2025.05.28 08:57:48 +02'00'	

Information about appeal

An appeal against the present Decision may be lodged at the Court of Appeal, by any party which has been unsuccessful, in whole or in part, in its submissions, within two months of the date of its notification (Art. 73(1) UPCA, R. 220.1(a), 224.1(a) RoP).

Information about enforcement

Art. 82 UPCA, R. 118.8, 158.2, 354, 355.4 RoP.
An authentic copy of the enforceable decision will be issued by the Deputy-Registrar upon request of the enforcing party, R. 69 RegR.

ORDER DETAILS

Order no. ORD_69177/2024 in ACTION NUMBER: ACT_23310/2024
UPC number: UPC_CFI_198/2024
Action type: Revocation Action
Related proceeding no. Not provided Not provided