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Formalities officer
Vilz, Brigitte

Date	26.03.2025
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Reference 74193.1 OPPO 01	Application No./Patent No. 20216568.4 - 1207 / 3822805
Applicant/Proprietor DISH Technologies L.L.C.	

Summons to attend oral proceedings pursuant to Rule 115(1) EPC

You are hereby summoned to attend oral proceedings concerning the above European patent as detailed in the box below. The matters to be discussed are set out in the communication accompanying this summons (EPO Form 2906).

The oral proceedings will be public and will take place before the opposition division

from 04.06.25 at 09.00 hrs (CET) to 05.06.25 as a videoconference.
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The date of the oral proceedings can only be changed for serious reasons (see OJ EPO 2009, 68). If you do not appear as summoned, the oral proceedings may continue without you (R. 115(2) EPC; see also OJ EPO 2008, 471).

Please see Rule 4 EPC as regards the language of the oral proceedings, and the decision of the President of the EPO dated 8 July 2024 on the signing and filing of authorisations (OJ EPO 2024, A75).

Please provide us with the name and telephone number of a person we can contact about the oral proceedings and an email address to which we can send the details for connecting to the videoconference.

=> **The final date for making written submissions and/or amendments (R. 116 EPC) is 02.05.25**

1st Examiner: Hampson, Frances
2nd Examiner: Cakiroglu Garton, Seda
Chairman: Cooke, Edward

For the Opposition Division



Annexes:
Rule 4 EPC (EPC Form 2043)
Communication (EPO Form 2906)
Consolidated list of documents

Registered Letter

EPO Form 2310Z 11.24 [ORAL03=8888] 24/03/25

ORAL4

page 1 of 1

fuboTV Media Inc.
Exhibit 1044
fuboTV v. Dish
IPR2024-00917, -00918, -00919
Ex. 1044-001

Wichtige Hinweise zur mündlichen Verhandlung

Das Europäische Patentamt verfügt über keine eigenen Dolmetscher. Diese müssen im Bedarfsfall von außerhalb, teilweise sogar aus anderen Ländern, beigezogen werden, was mit einem hohen Aufwand an Kosten und organisatorischen Vorbereitungen verbunden ist. Muss ein Verhandlungstermin kurzfristig abberaumt werden, können Kosten für bestellte Dolmetscher nicht mehr vermieden werden.

Es wird daher gebeten, eine Simultanübersetzung nur bei wirklichem Bedarf in Anspruch zu nehmen. Es wäre wünschenswert, wenn sich die Beteiligten (zweckmäßigerweise gleichzeitig mit der Terminabstimmung) auf die Benutzung einer Amtssprache einigen könnten. Bei Verständigungsschwierigkeiten sind die Mitglieder der Einspruchsabteilung bereit zu helfen.

Nachstehend führen wir den Zeitpunkt auf, bis zu dem die Verfahrensbeteiligten aus organisatorischen Gründen gebeten werden, ihre bevorzugte (abgestimmte) Verhandlungssprache mitzuteilen. Bis dahin bitten wir auch bei Bedarf eine Simultanübersetzung zu beantragen. Regel 4 (1) EPU bleibt hiervon unberührt.

☐ Verfahrenssprache ist **Deutsch**

Von der/dem/den Einsprechenden wurde

☐ Englisch

☐ Französisch benutzt.

Es wird um eilige Mitteilung, möglichst per Online Filing (OLF), gebeten.

Important information concerning oral proceedings

The European Patent Office has no interpreters of its own. When interpreters are needed they have to be brought in from outside, sometimes even from other countries, which is costly and involves considerable organisation. If oral proceedings have to be cancelled at short notice, the cost of interpreters already engaged still has to be borne.'

Please therefore make use of simultaneous interpreting facilities only where strictly necessary. If possible the parties should agree on an official language for the proceedings, preferably at the time when they arrange a date. The members of the Opposition Division will be willing to help should any communication problems arise.'

For organisational reasons, we ask parties to inform us by the date specified below of their preferred (agreed) language for the oral proceedings. We also ask them to request any simultaneous interpreting required by the same date. This does not affect application of Rule 4(1) EPC.

☒ Language of the proceedings is **English**

The language used by the opponent/s was

☒ English

☐ German

☐ French.

Please inform us urgently, where possible by Online Filing (OLF).

Tres important Procédure orale

L'Office européen des brevets ne dispose pas de son propre service d'interprètes. Aussi faut-il appel le cas échéant à des interprètes de l'extérieur, qui viennent même parfois de l'étranger, ce qui occasionne des frais élevés et demande un grand travail d'organisation. Si la date d'une procédure orale doit être annulée au dernier moment, il n'est plus possible d'éviter les frais d'interprètes.

Les parties à une procédure sont donc priées de ne demander une traduction simultanée qu'en cas de réel besoin. Il serait souhaitable qu'elles puissent se mettre d'accord en même temps qu'elles conviennent de la date sur l'utilisation d'une langue officielle comme langue des débats. Si les parties éprouvent des difficultés de compréhension lors des débats, les membres de la division d'opposition sont disposés à leur prêter leur assistance.

Est indiquée ci-dessous la date jusqu'à laquelle, pour des raisons d'organisation, les parties sont priées de communiquer leur langue préférée (sur laquelle elles se sont préalablement mises d'accord). Les parties sont également priées, le cas échéant, de demander une interprétation simultanée avant cette date. La règle 4(1) CBE ne s'en trouve pas affectée.

☐ La langue de la procédure est le **français**

La langue utilisée par l'opposant/les opposants était

☐ l'allemand

☐ l'anglais.

Prière d'indiquer d'urgence par dépôt en ligne (OLF) si possible.

möglichst bis

Datum 02.05.25

if possible by

Date 02.05.25

si possible jusqu'au

Date 02.05.25

1. welche Sprache(n) Sie in der mündlichen Verhandlung verwenden (**Speechen**)

2. aus welcher Sprache Sie eine Simultanübersetzung benötigen (**Hören**).

1. which language(s) you intend to use during the oral proceedings (**Speaking**)

2. from which language you need simultaneous interpretation (**Listening**).

1. quelle(s) langue(s) vous utiliserez au cours de la procédure orale (**pour parler**)

2. à partir de quelle langue vous aurez besoin d'une traduction simultanée (**pour écouter**).

Sollten Sie Ihren Antrag auf mündliche Verhandlung zurückziehen oder zum anberaumten Verhandlungstermin nicht erscheinen wollen bzw. aus wichtigem Grund daran gehindert sein, werden Sie gebeten,

Should you decide to withdraw your request for oral proceedings or not wish to attend on the date set, or if for some special reason you are unable to do so, you are requested

Si vous retirez votre requête tendant à recourir à la procédure orale ou si vous ne souhaitez pas vous présenter à la date fixée pour la procédure orale ou ne pouvez vous y présenter pour une raison sérieuse, veuillez

- unverzüglich das Amt - möglichst per Online Filing (OLF) - davon zu benachrichtigen, wobei das Schriftstück mit einem deutlichen Vermerk "Dringend, mündliche Verhandlung am..." oder sinngemäß gekennzeichnet sein sollte

- to notify the EPO immediately, where possible by Online Filing (OLF), marking the document clearly with the words "Urgent, oral proceedings on ..." or similar

- en faire avis sans retard à l'Office, par dépôt en ligne (OLF) si possible, en partant sur votre communication clairement la mention "Urgent, procédure orale le..." ou une indication similaire;

- in dringenden Fällen (weniger als 1 Monat vor dem Verhandlungstermin) zusätzlich auch dem/die anderen Verfahrensbeteiligten bzw. ihre(n) Vertreter auf schnellstem Weg direkt zu unterrichten.

- in urgent cases (less than one month before the date set for the proceedings), additionally to notify the other party/parties and/or their representative(s) direct as rapidly as possible.

- dans les cas urgents (moins d'un mois avant la date fixée pour la procédure orale) en faire avis également directement pas la voie la plus rapide à autre/aux autres partie(s) ou bien à son/leurs mandataire(s).

In jedem solchen Fall obliegt der Einspruchsabteilung die Entscheidung, ob die Verhandlung durchgeführt oder abberaumt wird. Es wird jedoch darauf hingewiesen, dass einem Verfahrensbeteiligten, der eine nicht rechtzeitige oder unterbliebene Benachrichtigung zu verantworten hat, die dadurch den anderen Beteiligten verursachten Kosten auferlegt werden können (Art. 104 EPÜ).

In all such cases the Opposition Division will decide whether the proceedings are to go ahead or be cancelled. You should however note that costs incurred by the other parties may be charged to a party who either fails to notify them or does not do so in good time (Article 104 EPC).

Il appartient alors à la division d'opposition de décider si la procédure orale aura lieu ou non. Il est néanmoins souligné que les frais causés aux autres parties par une partie qui est responsable de l'omission d'un tel avis ou de ce que cet avis n'a pas été fait en temps utile peuvent être mis à la charge de cette partie (art. 104 CBE).

Hinweis auf Regel 4 EPÜ

Attention is drawn to Rule 4 EPC

Rappel de la Règle 4 CBE

Regel 4

Sprache im mündlichen Verfahren

Rule 4

Language in oral proceedings

Règle 4

Langues admissibles lors de la procédure orale

(1) Jeder an einem mündlichen Verfahren vor dem Europäischen Patentamt Beteiligte kann sich anstelle der Verfahrenssprache einer anderen Amtssprache des Europäischen Patentamts bedienen, sofern er dies dem Europäischen Patentamt spätestens einen Monat vor dem angesetzten Termin mitgeteilt hat oder selbst für die Übersetzung in die Verfahrenssprache sorgt. Jeder Beteiligte kann sich einer Amtssprache eines Vertragsstaats bedienen, sofern er selbst für die Übersetzung in die Verfahrenssprache sorgt. Von diesen Vorschriften kann das Europäische Patentamt Ausnahmen zulassen.

(1) Any party to oral proceedings before the European Patent Office may use an official language of the European Patent Office other than the language of the proceedings, if such party gives notice to the European Patent Office at least one month before the date of such oral proceedings or provides for interpretation into the language of the proceedings. Any party may use an official language of a Contracting State, if he provides for interpretation into the language of the proceedings. The European Patent Office may permit derogations from these provisions.

(1) Toute partie à une procédure orale devant l'Office européen des brevets peut utiliser une langue - officielle de l'Office européen des brevets autre que la langue de la procédure, à condition soit d'en aviser l'Office européen des brevets un mois au moins avant la date de la procédure orale, soit d'assurer l'interprétation dans la langue de la procédure. Toute partie peut utiliser une langue officielle de l'un des Etats contractants à condition d'assurer l'interprétation dans la langue de la procédure. L'Office européen des brevets peut autoriser des dérogations aux présentes dispositions.

(2) Die Bediensteten des Europäischen Patentamts können sich im mündlichen Verfahren anstelle der Verfahrenssprache einer anderen Amtssprache des Europäischen Patentamts bedienen.	(2) In the course of oral proceedings, employees of the European Patent Office may use an official language of the European Patent Office other than the language of the proceedings	(2) Au cours de la procédure orale, les agents de l'Office européen des brevets peuvent utiliser une langue officielle de l'Office européen des brevets autre que la langue de la procédure.
(3) In der Beweisaufnahme können sich die zu vernehmenden Beteiligten, Zeugen oder Sachverständigen, die sich in einer Amtssprache des Europäischen Patentamts oder eines Vertragsstaats nicht hinlänglich ausdrücken können, einer anderen Sprache bedienen. Erfolgt die Beweisaufnahme auf Antrag eines Beteiligten, so werden die Beteiligten, Zeugen oder Sachverständigen mit Erklärungen, die sie in einer anderen Sprache als in einer Amtssprache des Europäischen Patentamts abgeben, nur gehört, sofern dieser Beteiligte selbst für die Übersetzung in die Verfahrenssprache sorgt. Das Europäische Patentamt kann jedoch die Übersetzung in eine seiner anderen Amtssprachen zulassen.	(3) Where evidence is taken, any party, witness or expert to be heard who is unable to express himself adequately in an official language of the European Patent Office or of a Contracting State may use another language. Where evidence is taken upon request of a party, parties, witnesses or experts expressing themselves in a language other than an official language of the European Patent Office shall be heard only if that party provides for interpretation into the language of the proceedings. The European Patent Office may, however, permit interpretation into one of its other official languages.	(3) Lors de l'instruction, les parties, témoins ou experts appelés à être entendus, qui ne possèdent pas une maîtrise suffisante d'une langue officielle de l'Office européen des brevets ou d'un Etat contractant, peuvent utiliser une autre langue. Si la mesure d'instruction est ordonnée sur requête d'une partie, les parties, témoins ou experts qui s'expriment dans une langue autre qu'une langue officielle de l'Office européen des brevets ne sont entendus que si cette partie assure l'interprétation dans la langue de la procédure. L'Office européen des brevets peut toutefois autoriser l'interprétation dans l'une de ses autres langues officielles.
(4) Mit Einverständnis aller Beteiligten und des Europäischen Patentamts kann jede Sprache verwendet werden.	(4) If the parties and the European Patent Office agree, any language may be used.	(4) Sous réserve de l'accord des parties et de l'Office européen des brevets, toute langue peut être utilisée.
(5) Das Europäische Patentamt übernimmt, soweit erforderlich, auf seine Kosten die Übersetzung in die Verfahrenssprache und gegebenenfalls in seine anderen Amtssprachen, sofern ein Beteiligter nicht selbst für die Übersetzung zu sorgen hat.	(5) The European Patent Office shall, if necessary, provide at its own expense interpretation into the language of the proceedings, or, where appropriate, into its other official languages, unless such interpretation is the responsibility of one of the parties.	(5) L'Office européen des brevets assure à ses frais, en tant que de besoin, l'interprétation dans la langue de la procédure, ou, le cas échéant, dans ses autres langues officielles, à moins que cette interprétation ne doive être assurée par l'une des parties.
(6) Erklärungen von Bediensteten des Europäischen Patentamts, Beteiligten, Zeugen und Sachverständigen, die in einer Amtssprache des Europäischen Patentamts abgegeben werden, werden in dieser Sprache in die Niederschrift aufgenommen. Erklärungen in einer anderen Sprache werden in der Amtssprache aufgenommen, in die sie übersetzt worden sind. Änderungen einer europäischen Patentanmeldung oder eines europäischen Patents werden in der Verfahrenssprache in die Niederschrift aufgenommen.	(6) Statements by employees of the European Patent Office, parties, witnesses or experts, made in an official language of the European Patent Office, shall be entered in the minutes in that language. Statements made in any other language shall be entered in the official language into which they are translated. Amendments to a European patent application or European patent shall be entered in the minutes in the language of the proceedings.	(6) Les interventions des agents de l'Office européen des brevets, des parties, témoins et experts faites dans une langue officielle de l'Office européen des brevets sont consignées au procès-verbal dans cette langue. Les interventions faites dans une autre langue sont consignées dans la langue officielle dans laquelle elles sont traduites. Les modifications apportées à une demande de brevet européen ou à un brevet européen sont consignées au procès verbal dans la langue de la procédure.

Facts and Submissions

- I. European patent EP 3 822 805 having the title "Apparatus, system and method for adaptive-rate shifting of streaming content" is based upon European patent application No. EP 20216568.4, which is a divisional application of European patent application No. EP05744015.8 corresponding to the entry into European phase of PCT application PCT/US2005/015091 filed on 02-05-2005 and claiming priority from US 60/566,831 (filed 30-04-2004) and US 11/116,783 (filed 28-04-2005).

The mention of the grant of the patent has been published in the European Patent Bulletin of 27-12-2023.

Proprietor of the patent is
DISH Technologies L.L.C,
Englewood, CO 80112 (US).

- II. Notice of opposition has been filed on 27-09-2024 by
Aylo Premium Ltd,
Old Nicosia-Limassol Road,
Block 1 Dali Industrial Zone,
Nicosia, Cyprus 2540.

Opponent requests revocation of the patent in its entirety based on Articles 100(c) EPC, Art. 100(b) EPC and Art. 100(a) EPC in combination with Art. 52(1) EPC and 54(2) EPC as well as 52(1) EPC and 56 EPC.

Accelerated processing of the opposition proceedings has been requested on the basis that the patent has been asserted against the opponent in an infringement action in the national courts of Germany and that the patent is subject of a revocation action brought by the opponent at the Paris Central Division of the UPC.

Oral proceedings have been requested in case the EPO intends not to revoke the patent in its entirety.

- III. In the observations received on 15-01-2025, the proprietor requests that the patent be maintained as granted according to the Main Request. In the alternative, the proprietor requests maintenance of the patent in amended form according to auxiliary requests 1 to 102 filed together with the response. Oral proceedings have also been requested.

- IV. With letter of 10-02-2025, the opponent has provided additional arguments regarding the grounds for opposition in response to the letter of the proprietor. Additionally, the opponent requests that the opposition division exercises its discretion to dismiss all of the auxiliary requests as inadmissible.
- V. With letter of 17-03-2025, the proprietor has provided additional arguments regarding original disclosure of feature 1.10, patentability over E12 and admissibility of the auxiliary requests.
- VI. The consolidated list of documents cited during the opposition procedure is annexed to this summons. The parties are requested to adhere to the numbering referred therein.
- VII. The present annex is based on the following documents:

All requests

Description, Paragraphs

1-65 of the patent specification

Drawings, Sheets

15-21 of the patent specification

Main request

Claims, Numbers

1-11 of the patent specification

AR1 - AR102

Claims, Numbers

1-XX*) filed with letter of 15-01-2025

*) Reference is made to the electronic file regarding the wording and number of claims of the auxiliary requests.

- VIII. The granted independent claims read as follows:

Claim 1:

<u>1.0</u>	<i>An apparatus for adaptive-rate content streaming, the apparatus comprising an end user station (104), comprising:</i>
<u>1.1</u>	<i>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),</i>
<u>1.2</u>	<i>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 time and whose duration is less than the entire playback duration of the single video (200),</i>
<u>1.3</u>	<i>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),</i>
<u>1.4</u>	<i>the agent controller module (402) configured to make streamlet requests (6060) 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);</i>
<u>1.5</u>	<i>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,</i>
<u>1.6</u>	<i>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;</i>
<u>1.7</u>	<i>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;</i>
<u>1.8</u>	<i>a staging module (409) configured to arrange the requested streamlets (212) sequentially in order of ascending playback time; and,</i>
<u>1.9</u>	<i>a content player (408) to playback the requested streamlets (212) as staged by the staging module (409) to playback the single video (200),</i>
	<i>characterized in that</i>
<u>1.10</u>	<i>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, so as to discourage shifting until a larger read ahead margin is established.</i>

Claim 9:

<u>9.0</u>	<i>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:</i>
<u>9.1</u>	<i>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,</i>
<u>9.2</u>	<i>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</i>
<u>9.3</u>	<i>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:</i>
<u>9.4</u>	<i>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);</i>
<u>9.5</u>	<i>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;</i>
<u>9.6</u>	<i>monitoring (706) the progress of responses to the streamlet requests (606) by calculating a performance factor according to the responses to the streamlet requests;</i>
<u>9.7</u>	<i>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;</i>
<u>9.8</u>	<i>arranging the requested streamlets (212) in order of ascending playback time; and</i>
<u>9.9</u>	<i>playing back the requested streamlets as staged with the content player,</i>
	<i>characterized in that</i>
<u>9.10</u>	<i>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.</i>

IX. Discussion points during the oral proceedings

The oral proceedings will concentrate on the following issues:

1. Added subject-matter, Art. 100(c) EPC
2. Sufficiency of disclosure, Art. 100(b) EPC
3. Art. 100(a) EPC, novelty under Art. 54(1) and (2) EPC
4. Art. 100(a) EPC, inventive step under Art. 56 EPC

For the auxiliary requests, in addition to the above, the issues to be discussed will cover Rule 80 EPC, Art. 123(2) and 123(3) EPC and Art. 84 EPC.

Preliminary and non-binding opinion of the opposition division

- 1 It is stressed that the following constitutes a preliminary non binding opinion of the opposition division. In case of non appearance at oral proceedings, an absent party must expect reactions of the opposing party within the legal and factual framework of the case, and the possibility of decisions taking account of, and being based on, such reactions (see also Guidelines for examination 2024, E-III, 8.3.3.2).

2 Admissibility of the opposition

The patentee has not contested the admissibility of the opposition.

In the preliminary non-binding view of the opposition division, the opposition is admissible because it meets the requirements of Art. 99(1) and 100 EPC and Rules 3(1) and 76(1)(2) EPC.

3 Summary of the preliminary non-binding opinion of the opposition division

In the preliminary opinion of the opposition division, the subject-matter of granted claims 1 and 9 extends beyond the content of the parent application as filed and therefore the ground for opposition under Art. 100(c) EPC prejudices the maintenance of the patent as granted.

Furthermore, the opposition division currently considers that the granted patent does not disclose the claimed invention in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art and therefore the ground for opposition under Art. 100(b) EPC prejudices the maintenance of the patent as granted.

Finally, the opposition division currently considers that the grounds for opposition under Art. 100(a) EPC in combination with Art. 54(1) and (2) EPC and the ground for opposition under Art. 100(a) EPC in combination with Art. 56 EPC do not prejudice the maintenance of the patent as granted.

4 Art. 100(c) EPC

4.1 In the notice of opposition, the opponent has argued regarding independent claim 1 that features 1.0, 1.1, 1.4, 1.5, 1.7 and 1.10 comprise subject-matter that extends beyond the disclosure of the parent application as filed. Regarding independent claim 9, the opponent has argued that features 9.1, 9.4, 9.5, 9.7 and 9.10 extend beyond the content of the parent application as filed for the same reasons and that a method implementing the claimed method steps without mention of the relevant functional entities also goes beyond the content of the parent application as filed.

4.2 In the reply letter to the notice of opposition the proprietor has argued that the teachings of granted claims 1 and 9 are disclosed both in the original parent application and the divisional application underlying the patent.

4.3 As a preliminary comment, the opposition division notes that the standard to be applied for amendments is the "Gold Standard" (G2/10), which requires to determine whether any amendments remain within the limits of what a skilled person would derive directly and unambiguously, using common general knowledge, from the whole of the application as filed (see Guidelines 2024 H-IV, 2.2 and Case Law Book 2022, II.E.1.3.1).

The division notes that an argument that a feature is not essential (essentiality test) is insufficient to show that an amendment is allowable, since fulfilling the three criteria of the "essentiality test" is a necessary requirement, but not a sufficient one for compliance with Art. 123(2) EPC (see Case Law Book 2022, II.E.1.4.4 d) and II.E.1.9.1). The same principles as for Art. 123(2) EPC apply to Art. 76(1) EPC), see e.g. Case Law Book 2022, II.E.1.9.1, last paragraph.

Finally, the division notes that the standard of proof of "beyond reasonable doubt" is to be applied when checking the allowability of amendments under Art. 123(2) and 123(3) EPC (see Case Law book 2022, II.E.5). By extension this also applies to also Art. 76(1) EPC.

4.4 Feature 1.0

Compared to original claim 1 of the parent application, feature 1.0 is changed as follows:

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

4.4.1 The opposition division is not currently convinced that there is a basis in the parent application as filed for this amended feature.

Original claim 1 of the parent application is directed to an apparatus for adaptive-rate content streaming comprising an agent controller module and a staging module.

From the example in Fig. 1 and page 7, lines 13-22 of the parent application as published, it appears that a client module 114 is configured to access processed content and play it on the end user station 104. Figure 4 of the parent application discloses an embodiment of a client module 114 comprising i.a. an agent controller module and staging module, which appear to be integral parts of the client module 114 on the end user station (page 10, lines 8-28).

The opposition division considers that amended feature 1.0 of claim 1 leaves open whether the second mention of "comprising" in this feature refers back to the "apparatus for adaptive-rate content streaming" or to the "end user station". In other words, it appears that the claim may be interpreted such that the subsequent features such as the agent controller module and the staging module are part of the apparatus but not part of the end user station. There appears to be no basis in the original parent application for such an apparatus.

4.4.2 In the reply letter to the notice of opposition, the proprietor has argued that the person skilled in the art would understand the claim to relate to a single client-side "apparatus", which comprises an end user station, which in turn comprises an agent controller module and a staging module. The proprietor also refers to figures 1 and 4 as a support for this interpretation.

4.4.3 The opposition division does not find these arguments convincing, since it considers that there are two manners of interpreting feature 1.0 as set out in point 4.4.1 above, both of them technically sensible, one of which extends beyond the content of the parent application as filed. The division notes that the disclosure of figures 1 and 4 and their associated description cannot be used to ignore what is literally stated in the claim.

4.5 Feature 1.1 alone

Compared to original claim 1 of the parent application, feature 1.1 is changed as follows:

"an agent controller module to be coupled via a network controller to a set of one or more servers over a set of one or more TCP/IP network connections".

4.5.1 In the preliminary opinion of the opposition division, there is no basis in the original parent application for a coupling of the agent controller module via a network controller to a set of several servers over a set of one or more TCP/IP network connections, which corresponds to one of the options allowed by feature 1.1.

The description of the PCT publication discloses that the apparatus may establish multiple TCP connections with a content server (page 3, lines 17-19) and that the network controller module opens a TCP/IP connection to the web server (page 11, lines 19-21). Although the PCT application also discloses that streamlets may be retrieved from a plurality of web servers or cache servers (see page 9, line 32 - page 10, line 5), this passage does not mention the use of a set of one or more TCP/IP network connections.

4.5.2 The proprietor has argued that while the claim allows that the video to be streamed may be distributed over several servers and thus streamlets or files of a video may be downloaded from several servers, features 1.5 and 9.5 – which deal with the requests of streamlets – do not specify that a request for an individual streamlet be directed towards more than one server. These features merely state that the (generalized) streamlet requests are made to the set of one or more servers. Consequently, both features address that the requests are made to obtain the “streamlets” in plural form. The proprietor also argues that the combinations covered by the correct claim construction are all originally disclosed.

4.5.3 The opposition division does not find this argument convincing. Although, the parent application refers to a plurality of web servers or cache servers, in the current view of the opposition division it is the combination plural web servers with “a set of one or more TCP/IP network connections” which poses problem. The division notes that according to the Case Law Book 2022, II.E.1.3.9 c), illogical and technically inaccurate claim features may not be disregarded when assessing the compliance of the features with Art. 123(2) EPC.

4.6 Features 1.1 and 1.5

Compared to original claim 1 of the parent application, feature 1.1 is changed as follows:

“an agent controller module to be coupled via a network controller to a set of one or more servers over a set of one or more TCP/IP network connections; ”.

Feature 1.5 has been added and reads as follows:

“ the network controller configured to process said requests from the agent controller module for streamlets and to make HTTP requests to the set of servers over the set of network connections to obtain the streamlets ”.

4.6.1 In the preliminary opinion of the opposition division, there is no basis in the parent application for these amended features.

Amended features 1.1 and 1.5 require the agent controller module to be coupled via a network controller to a set of one or more servers and the network controller configured to process [said] requests from the agent controller module for streamlets.

According to the original description of the published PCT application, page 11, lines 6-25, which discloses both the agent controller module and the network controller module, the streamlet cache module is configured to receive streamlet requests from the agent controller module, ... if the requested streamlet is not present in the streamlet cache, the request is passed to the network controller module and ... the network controller module may be configured to receive streamlet requests from the streamlet cache module and open a connection to the web server [...] whereby in one embodiment, the network controller module opens a TCP/IP connection to the web server and generates a standard HTTP GET request for the requested streamlet.

From this passage of the description, it appears that the streamlet cache module receives the requests from the agent controller module and the network controller receives requests for streamlets which are not present in the cache from the streamlet cache module and opens a TCP/IP connection to a single web server.

Neither the streamlet cache module, the conditional forwarding of requests to the network controller or the opening of a TCP/IP connection for the HTTP get request are present in features 1.1 or 1.5. Besides, the above passage refers to a server, not a plurality of servers.

- 4.6.2 The proprietor has argued that PCT claim 2 discloses that "the agent controller module is configured to establish multiple Transmission Control Protocol (TCP) connections with a content server, and request streamlets of varying bitrates".

The opposition division notes that PCT claim 2 does not refer to the network controller and thus cannot provide a basis for amended features 1.1 or 1.5.

- 4.6.3 The proprietor has further argued that according to the parent application, see e.g. page 10, lines 8-12, page 11, lines 17-19, which use the qualifier "may", the stream cache module is not expressed to be a compulsory feature. Furthermore, where the streamlet cache module is described, it is as part of "one embodiment" only, see e.g. page 10, lines 22-25 and page 11, lines 6-7. Furthermore, none of the 34 PCT claims feature a streamlet cache module. The person skilled in the art would recognise that a streamlet cache module is not essential to the claimed invention and that it is an optional but not necessary means to solve the problem of the claimed teaching.

The above arguments appear to be that the streamlet cache module is not essential to the claimed invention. The opposition division does not find them convincing, since they do not relate to the question of what is directly and unambiguously derivable from the original parent application (Gold standard).

In the present case, the relevant disclosure of the parent application regarding both the agent controller module and the network controller of page 11, lines 6-25 cited above, clearly discloses a specific combination also involving the streamlet cache module, the conditional forwarding of requests to the network controller and the opening of a TCP/IP connection for the HTTP get request, which clearly have a functional relationship with the agent controller module and the network controller. There appears to be no teaching in the parent application, either explicit or implicit, of the agent controller module and the network controller without the streamlet cache module.

4.6.4 For these reasons, the opposition division is of the preliminary opinion that amended features 1.1 and 1.5 do not have a basis in the parent application as filed.

4.7 Feature 1.4 - in view of "performance factor" of feature 1.6

Compared to original claim 1 of the parent application, feature 1.4 is changed as follows:

"~~the an agent controller module configured to simultaneously request at least portions of a plurality of streamlets~~ make streamlet requests to receive streamlets storing sequential portions of the single 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".

4.7.1 The opposition division is not currently convinced that there is a basis in the parent application as filed for this amended feature.

In original claim 1 of the parent application at least portions of a plurality of streamlets are simultaneously requested by the agent controller module. A corresponding feature is present in the other original independent claims of the parent application.

Granted claim 1 and in particular feature 1.4 refers to making streamlet requests to receive streamlets storing sequential portions of the single video, without referring to any simultaneous requests, such that sequential requests for streamlets also fall under the terms of granted claim 1.

The opposition division does not currently see direct and unambiguous basis in the parent application for this more general feature of "receiving streamlets", in particular in combination with the feature "performance factor" from feature 1.6 of granted claim 1.

The performance factor is disclosed in the summary of the invention page 3, line 5 - page 4, line 33, which discloses an apparatus for adaptive-rate content streaming including an agent controller module configured to simultaneously request a plurality of streamlets and a corresponding method. This passage of the description does not provide a basis for the more general "receiving streamlets" in combination with the feature of "performance factor".

Another disclosure of the performance factor may be found on page 15, lines 19ff, which discloses the determination of a performance factor over a window size m due to multiple simultaneous streamlet processing. This passage of the description does not provide a basis for the more general "receiving streamlets" in combination with the features of "performance factor", either.

- 4.7.2 In the reply letter to the notice of opposition, the proprietor has argued that page 3, lines 1-3 shows that an embodiment using multiple connections is "beneficial" (emphasis added) and thus optional, that according to page 4, lines 9-15 simultaneous requesting is only part of an embodiment and according to page 11, lines 17-24 streamlets are requested individually and only in connection with another embodiment is the simultaneous requesting of several streamlets disclosed. The proprietor has further argued that page 9, lines 28-32 discloses an embodiment without simultaneous requesting of the streamlets and that "simultaneous requests" are not essential. The proprietor also refers to page 15, lines 19-22 of the original application which discloses multiple simultaneous streamlet processing and not their simultaneous request and argues that the passage uses the permissive "may" to describe the optionality of obtaining a performance factor when simultaneously processing several streamlets.
- 4.7.3 The opposition division does not find these arguments convincing. As argued previously, the criterion to be used for added subject-matter is whether the amended features are directly and unambiguously derivable from the parent application as filed and it is not sufficient to argue that the features are optional for this requirement to be met. In the present case, as set out in point 4.7.1 above, the disclosures in the description of requesting streamlets and obtaining a performance factor are made in the context of simultaneous requesting of the streamlets. Also the passage on page 15, lines 15 - 22, which refers to "multiple simultaneous streamlet processing" points more to the fact that the streamlets

have been also requested simultaneously, given that other mentions of "simultaneously" in the description are in the context of simultaneous requests. In any case, this passage does not provide a basis from which an arbitrary request of streamlets could be directly and unambiguously derived.

- 4.7.4 Thus the division is of the preliminary opinion that the amendments to feature 1.4 present the skilled person with new information which is not directly and unambiguously derivable from the parent application as filed.

4.8 Feature 1.7

Compared to original claim 1 of the parent application, feature 1.7 has been amended as follows:

~~" in accordance with the~~ based on said monitored progress of the response, requesting higher or lower quality streamlets the agent controller module further configured to make successive determinations to shift the playback quality to achieve continuous playback of the single video by requesting the streamlets of the highest quality one of the copies determined sustainable at that time " .

- 4.8.1 In the preliminary opinion of the opposition division, there is no basis in the original parent application for this amended feature. Amended feature 1.7 requires requesting streamlets of the "highest quality one of the copies determined sustainable at that time".

According to page 3, lines 22-25 of the PCT description as published, 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.

Similarly according to page 15, lines 25-26 of the description if the performance factor is greater than a trigger threshold, "an upshift to the next higher quality stream may be considered".

The first of these passages discloses upshifting to a higher quality streamlet which the agent controller module considers can be sustained, while the second passage discloses an upshift to the next higher quality stream. Neither of these passages appears to provide a basis for requesting streamlets of the highest quality ... determined sustainable at that time (emphasis added).

4.8.2 In the letter of reply to the notice of opposition, the proprietor has argued that the process of successive determinations as claimed in feature 1.7 is shown in Figure 7 and paragraphs [0060] to [0064] of the specification (corresponding to page 15, line 4 - page 16, line 23). The proprietor further argues that in one cycle as per Figure 7, there is merely one streamlet requested and received (cf. step 704) and merely one determination to upshift the quality being made (cf. step 710). “Successive determinations” in the meaning of feature 1.7 are thus realized by repeating the cycle of Figure 7. Since in case of requests and determinations with regard to one single streamlet there is no singular point in time where streamlets (plural) of the highest quality copy are requested, the skilled person understands that the reference “at that time” is not a singular event, but the period of successive determinations. The skilled person furthermore understands that such iterative process of upshifts as per Figure 7 will lead to requests of streamlets of the highest quality copy deemed sustainable.

The patent proprietor has further argued that depending on the level of granularity of the quality steps (perhaps 2 or 3 or more) and/or the individual implementation, an upshift can immediately lead to the highest quality that is deemed sustainable (or even the highest possible), but that it is likewise in accordance with the claim if gradual steps are made in accordance with Figure 7. It is thus not necessary that the “highest quality copy” that may be deemed sustainable be requested in relation to each individual streamlet. Rather, the skilled person recognizes in light of the iterative process of Figure 7 and the contemplated short duration of a streamlet (cf. para. [0037]: two seconds, for example) that transitions towards the highest quality copy that is deemed sustainable are covered by the claim. Likewise, the skilled person recognizes in light of the iterative process of Figure 7 that the claim does not require that sustainability is assessed for multiple streamlets at one point in time, but that the reference “at that time” also covers multiple cycles of the determinations as per Figure 7. In one cycle of the flow chart as per Figure 7, the skilled person appreciates that the agent controller module makes a determination to shift to a higher quality, to stay at the current quality, or shift to a lower quality.

4.8.3 The opposition division does not find these arguments convincing as they relate to examples in the description which the proprietor argues fall under the terms of granted claim 1, but not to basis in the original parent application for feature 1.7 as it is worded in granted claim 1.

4.8.4 The proprietor has also referred to feature 1.10 of granted claim 1 which refers to a "higher quality copy", and has argued that an upshifting to a higher quality copy – that may gradually lead to the highest quality copies deemed sustainable – is in accordance with the claim.

4.8.5 The opposition division does not find this argument convincing, since claim 1 does not appear to refer to upshifting to a higher quality copy and gradually arriving at the highest copy deemed sustainable.

4.8.6 For these reasons, the opposition division is of the preliminary opinion that amended feature 1.7 does not have a basis in the parent application as filed.

4.9 Feature 1.10

Compared to original claim 1 of the PCT application, feature 1.10 has been added and reads as follows:

"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 stored in the staging module, so as to discourage upshifting until a larger read ahead margin is established".

4.9.1 In the preliminary opinion of the opposition division, there is no basis in the original parent application for this amended feature.

According to feature 1.10, upshifting is performed when the performance factor is greater than a trigger threshold that is selected according to the current read ahead margin.

According to page 3, lines 22-25 of the parent PCT publication, 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, which may include an amount of contiguously available streamlets stored in the staging module, a minimum safety margin, and a current read ahead margin. This passage refers to a combination of factors which are used to determine whether higher quality playback can be sustained, but which are not used to select the threshold.

According to page 15, lines 26 ff of the PCT publication, the trigger threshold is determined by a combination of factors relating to the current read ahead margin (...) and a minimum safety margin. This passage relates to a combination of factors relating not only to the current read ahead margin, but also to a minimum safety margin, which is not mentioned in feature 1.10.

- 4.9.2 In the reply to the notice of opposition, the proprietor has referred to page 3, lines 25 and 26 and claim 7 as originally filed which read: "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" to argue that a minimum safety margin is not required to solve the underlying problem.

Furthermore, the proprietor has argued that it follows directly from the expression "safety margin" itself that said safety margin can be used optionally or can be set to zero, in which case there would be no impact of a safety margin in the implementation, thus the safety margin is not required to solve the problem that underlies the claimed teaching.

The proprietor also cites several passages of the description mentioning the threshold without specifying how the threshold is to be determined and argues that the passage of page 15, lines 26-29 only relates to an embodiment.

- 4.9.3 The opposition division does not find these arguments convincing.

As set out in point 4.9.1 above, the passage on page 3 refers to a combination of factors, i.e. plural factors, which moreover are used to determine whether higher quality playback can be sustained, not to select the threshold. Similarly, original dependent claim 7 refers to a combination of factors. Granted claim feature 1.10 refers only to the current read ahead margin, i.e. a single factor, not a combination.

The arguments regarding the lack of essentiality of the safety margin or certain values which would have no impact on the implementation are not convincing in the context of determining whether feature 1.10 may be directly and unambiguously derived from the original parent application.

Likewise, passages of the PCT description referring to a trigger without specifying how it is determined do not provide a basis for the claimed trigger threshold that is selected according to the current read ahead margin. Similarly, the passage on page 15, lines 26-29 does not provide a basis for the current wording of feature 1.10, irrespective of the mention that the teaching of this passage relates to an embodiment.

- 4.9.4 In the notice of opposition, the opponent has additionally argued that an important difference at page 15, lines 26-29 of the parent application as filed is that the term "determined" as opposed to "selected" (as in the claim language) is used with reference to the trigger threshold. The act of "selecting" has a different meaning than the act of "determining". "Selecting" inherently requires a choice from a number of existing possibilities. This in contrast to the meaning of "determining", which in the context of the claimed invention, (i.e. a computer enabled invention) requires processing/calculation, typically across a continuous spectrum and without discrete limitation, in order to decide on or enact something based on newly derived information.
- 4.9.5 The opposition division does not find these arguments convincing. The original PCT claims, see e.g. claim 6, disclose "to upshift to a higher quality streamlet when the performance factor is greater than a selected threshold", therefore it appears that "selecting" a threshold finds basis in the original PCT application as published.
- 4.9.6 For the above reasons, the opposition division is of the preliminary opinion that new feature 1.10 does not have a basis in the parent application as filed.
- 4.10 For the above reasons, the opposition division is of the current opinion that the features 1.0, 1.1, 1.4, 1.5, 1.7 and 1.10 of claim 1 extend beyond the content of the parent application as filed.
- 4.11 Regarding claim 9, feature 9.1 is slightly different to feature 1.1 in that it also comprises streaming a selected one of the videos, feature 9.4 corresponds to feature 1.4 except that the agent controller is not mentioned, feature 9.5 corresponds to feature 1.5 except that the network controller and the agent controller are not mentioned, feature 9.7 appears to correspond to feature 1.7 except that the successive determinations are made by the end user station and not by the agent controller module feature 9.10 appears to correspond to feature 1.10.

The objections of added subject-matter raised against features 1.1, 1.4, 1.5, 1.7 and 1.10 apply to features 9.1, 9.4, 9.5, 9.7 and 9.10 of independent claim 9 *mutatis mutandis*.

In addition, the opposition division is not currently convinced that there is basis in the parent application, which discloses functionalities in association with the corresponding functional entities, for removing the functional entities or indeed changing them as in feature 9.7.

- 4.11.1 The patent proprietor has noted that according to the PCT description page 6, lines 5-6 any of the functional units described in this specification have been labeled as modules, in order to more particularly emphasize their implementation independence and has argued that modules are themselves defined by their function and purpose, and therefore a method claim which describes those functions and purposes without reference to the modules themselves is not an intermediate generalization. In any event, like claim 9 of the patent, method claims 20-26 of the original application similarly do not in any way limit by which elements the individual method steps are carried out.
- 4.11.2 The opposition division does not find these arguments convincing. The granted claims are not a combination of the PCT claims alone, but also rely on passages of the description which refer both to functionalities and to the modules which perform them. The features of granted claim 1 not only define the modules in terms of the functionalities they perform, but also in terms of the relationships they have with each other, see e.g. feature 1.1 regarding the agent controller module and the network controller module. The opposition division is of the preliminary opinion that removing the mention of the modules also removes the limitations implied by these relationships and is not convinced that there is a basis for this in the original PCT application as published.
- 4.12 Claim 5
- 4.12.1 In the preliminary opinion of the opposition division, the additional features of granted claim 5 do not find a basis in the parent application.
- Granted claim 5 refers to "make at least one streamlet pre-request", while original claim 9 of the PCT publication refers to "pre-request streamlets", i.e. pre-request more than one streamlet. Also the description of the PCT publication mentions "pre-request streamlets".
- 4.12.2 In the reply to the notice of opposition, the proprietor has argued that original PCT claim 9 discusses requests generally, not for the purposes of enabling fast-forward, skip, and rewind. It therefore clearly includes – and does not preclude – the pre-requesting of one streamlet, because an agent controller module configured to pre-request multiple streamlets must naturally request one streamlet.
- 4.12.3 The opposition division does not find this argument convincing, since granted claim 5 allows the possibility of pre-fetching a single streamlet, which is not directly and unambiguously derivable from original claim 9 nor apparently any other parts of the PCT publication.
- 4.13 Claim 8

- 4.13.1 The opposition division is of the current opinion that basis for granted claim 8 may be found on page 11, lines 13-15, which refers to storing the plurality of streamlets in the streamlet cache for a specified time period after the streamlet has been viewed. Granted claim 8 refers to a "predetermined time", which in the opinion of the division is the same as "a specified time period" in the present context.
- 4.13.2 In the notice of opposition, the opponent has argued that the PCT application does not disclose the term "predetermined time" and that granted claim 8 contravenes Art. 76(1) EPC for this reason.
- 4.13.3 The opposition division does not find this objection convincing as it sees basis for this claim on page 11, lines 13-15 as argued above.

5 Art. 100(b) EPC

- 5.1 In the preliminary non-binding opinion of the opposition division, the granted patent does not sufficiently disclose the invention as claimed in the independent claims, in particular in feature 1.7 of claim 1.
- 5.2 Feature 1.7 requires requesting of "streamlets of the highest quality one of the copies determined sustainable at that time" (emphasis added).

Paragraph [0063] of the granted patent, which appears most relevant for this feature, teaches " If $\varphi_{\text{current}} \geq \Theta_{\text{up}}$ then an up shift to the next higher quality stream may be considered 716. The trigger threshold Θ_{up} 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. ... If the agent controller module 402 is able to sustain 716 upshift quality, then the agent controller module 402 will upshift 717 the quality and subsequently request higher quality streams. The determination of whether use of the higher quality stream is sustainable 716 is made by comparing an estimate of the higher quality stream's performance factor, φ_{higher} , with Θ_{up} . If $\varphi_{\text{higher}} \geq \Theta_{\text{up}}$ then use of the higher quality stream is considered sustainable".

This passage appears to provide an example of criteria to be applied to upshift to the next higher quality streamlet, but not to the highest quality one of the copies determined sustainable at that time as required by feature 1.7 of claim 1.

- 5.2.1 In the letter of reply to the notice of opposition, the proprietor has argued that for the properly construed claim, the determination of the highest quality that is deemed sustainable is undeniably disclosed, such as through the iterative process shown in Figure 7.
- 5.2.2 The opposition division does not find these arguments convincing. The division agrees that the iterative process shown in Figure 7 may lead to a highest upshift quality sustainable at a certain iteration, for example when the outcome of sustain upshift quality 716 is no, see also paragraph [0063]: "If the decision of whether or not the higher stream rate is sustainable 716 is "no", the agent control module 402 will not attempt to upshift 717 stream quality", since this implies that the current quality is the highest quality sustainable. However, the division is not currently convinced that this passage provides sufficient disclosure for feature 1.7 of granted claim 1, which requires "requesting the streamlets of the highest quality one of the copies determined sustainable at that time".
- 5.2.3 The opponent has argued that the granted patent lacks a specific teaching on how to determine whether a higher quality is sustainable at that time.
- 5.2.4 The opposition division does not find this argument convincing. According to paragraph [0063], col. 14, lines 35-37, if $\phi_{\text{higher}} \geq \Theta_{\text{up}}$ then use of the higher quality stream is considered sustainable, whereby ϕ_{higher} is an estimate of the higher quality stream's performance factor. The division notes that the performance ratio set out in paragraph [0061] essentially calculates the total playback duration of the streamlets received over the total duration of the time taken to receive them, i.e. whether, on average, streamlets are being received at a rate sufficient for them to be played back continuously without interruption. The division is of the preliminary opinion that the skilled person would be able to determine an estimate of the performance ratio of a higher quality stream based on the determined performance ratio of the lower quality stream by taking into account the change in data amount in the higher quality stream versus the lower quality stream. From a plurality of performance ratios r , the estimated performance factor may be obtained according to the equation of paragraph [0062].
- 5.2.5 According to feature 1.10 of granted claim 1, "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".

In the notice of opposition, the opponent has argued that the patent fails to give any specific teaching or example of how the trigger threshold Θ_{up} of feature 1.10 is set/determined/selected. At best, the patent teaches some broad parameters/requirements of the trigger threshold (e.g. it has to have some accordance with the current read ahead margin and, at least in paragraph [0063], it is also based on a minimum safety margin). Beyond that, nothing is taught about how an appropriate threshold can be selected/determined. Based on the (absence of) teaching in the patent the skilled person would not know how to set an appropriate trigger threshold, even when considering their common general knowledge.

5.2.6 The opposition division does not find this argument convincing, since it considers that the skilled person would by routine testing be able to define threshold values that allow for a sufficiently large read ahead margin of streamlets stored in the staging module by providing a high threshold when the read ahead margin is too small and a low threshold when the read ahead margin is large.

5.3 The above also applies to independent claim 9 mutatis mutandis, which comprises corresponding features 9.7 and 9.10.

5.4 Claim 5

In the notice of opposition, the opponent has argued that no teaching is provided in the patent with regards to how the skilled person is to "anticipate" streamlet requests and, with particular reference to the skip randomly alternative, it is not apparent how this might be implemented. That is to say, how can random activity possibly be anticipated?

5.4.1 The opposition division does not find this argument convincing. The skilled person would recognise that obtaining streamlets which are not immediately required for playback contributes to "anticipating" streamlet requests.

6 Art. 100(a) EPC

6.1 D12

6.1.1 In the notice of opposition, the opponent has argued that the subject-matter of granted claim 1 lacks novelty over document D12.

6.1.2 In the letter of reply to the notice of opposition, the proprietor has argued that document D12 fails to disclose features 1.0, 1.2, 1.4, 1.5, 1.7 and 1.9, since the teaching of D12 concerns audio rather than video. Moreover, D12 does not disclose continuous playback of the video using the highest quality files of the

copy determined to be sustainable at the time as required by feature 1.7.

Finally, D12 does not disclose that the trigger threshold is selected according to the current read ahead margin.

6.1.3 The opposition currently considers that the following features of claim 1 are disclosed in D12 (with references to D12 in parentheses):

1.0 (Fig. 1, terminal, Fig. 2, program 38),

1.1 (Fig. 1, terminal 3 connected to server 1 via Internet; Fig. 2, communication interface 35 page 2, lines 9-10: HTTP RFC 1945/2068 referring to HTTP/1.0 and HTTP/1.1, implying transmission over TCP/IP),

1.2 (page 6, lines 13-15 server stores two or ore versions of the recording at different compression rates. Table on page 7 and description on page 7, lines 1-2: sub-files corresponding to a fixed length of time; page 3, line 22, sub-file is a file like any other file, when taken in combination with page 2, lines 7-9, page 16, lines 6-10 regarding application of the method to video),

1.3 (page 3, line 22: a sub-file is a file like any other file; Page 16, lines 21-23: each sub-file should preferably begin with an intra-frame),

1.4 (page 5, lines 4-10 and lines 23-25; page 8, lines 6-11 : request audio file at a particular rate, when taken in combination with page 2, lines 7-9, page 16, lines 6-10 regarding application of the method to video)

1.5 (page 5, lines 8-10 and table on pages 9 and 10: set URL = StemC+ Current Subfile, Request this URL),

1.6 (page 8, lines 11-16: player measures actual data rate being received from the server, averaged over a period of time, it does this by timing every URL request),

1.8 (implicit from flowchart page 10: decode received subfile; write to buffer; J3: begin/continue playing of buffer contents via sound card) and

1.9 (page 4, lines 9-10: terminal, video display, audio interface ("sound card"), video card).

Furthermore, the division is of the opinion that D12 partially discloses feature 1.7 (see page 8, lines 17-26: increase or reduce the current rate depending i.a. on the measured rate) with the exception of "by requesting the streamlets of the highest quality one of the copies determined sustainable at that time".

Regarding feature 1.10, the division is of the opinion that this feature is disclosed in D12 (page 8, lines 24-26) with the exception of the "trigger threshold [that] is selected according to the current read ahead margin, being the amount of contiguously available streamlets stored in the staging module, so as to discourage shifting until a larger read ahead margin is established".

- 6.1.4 Regarding features 1.0, 1.2, 1.4, 1.5, 1.7 and 1.9 the proprietor has argued that the relevant teaching of D12 concerns audio rather than video.

The opposition division does not find this argument convincing. Although the teaching of pages 4-10 does relate to audio, according to page 2, lines 7-9, page 16, lines 6-10, the same processing may be applied to video. It is noted that apparatus claims 1-10 of D12 also relate to a terminal for playing audio or video material.

In the letter of reply of 17-03-2025, the proprietor has argued that general statements of e.g. page 16, lines 6-12 of E12 are not sufficient to generally apply the audio-specific teachings of E12 to video.

The opposition division does not find this argument convincing. D12 refers in several passages to video as well as audio (e.g. page 4, lines 7-10, claims 1-10) and the division notes that in addition to the passage of page 16, lines 6-16, D12 has an explicit example of video sub-files at different rates for rate-switching (page 18, lines 18-25).

- 6.1.5 Regarding features 1.2 and 1.3, the proprietor has argued that the only workable suggestion on enabling rate switching in the transmission of video material includes the use of "bridging sub-files", which however does not correspond to copies of the video encoded at different bitrates as required by feature 1.2 and independent media objects as required by feature 1.3 of claim 1.

The opposition division does not find this convincing. For example, according to page 16, lines 18-20 of D12, each of the frames can be independently encoded, which removes any necessity for "bridging sub-files". Further page 16, lines 22-23, teaches that for systems which generate a mixture of intra frames and predictively encoded frames each sub-file should preferably begin with an intra-frame. The opposition division considers that the skilled person, also at the time of publication of D12, would have recognised that a sub-file beginning with an intra-frame and for which further frames do not refer to any preceding frames before the first intra-frame, may be decoded independently without the need for a bridging sub-file.

- 6.1.6 Regarding feature 1.7, the proprietor has argued that D12 additionally does not disclose "to shift the playback quality to achieve continuous playback of the single video", since the cited passage of D12 clearly discloses emptying the buffer in the "clear buffer" step according to the flowchart on page 10 of D12 both for upshifting and downshifting. The fact of emptying the buffer precludes any continuous playback. In the letter of 17-03-2025 the proprietor argues that D12 consistently and repeatedly discloses two requirements of its system which

result in interruptions of playback upon upshifting: clearing the buffer at each rate switch and refilling the buffer beyond playout time T_p after each rate switch before playback can be resumed.

The opposition division does not find these arguments convincing since D12 sets out that interruption in the audio output is caused by re-setting the sound card in order to change sampling rate (see page 14, lines 25-28). D12 suggests to run the sound card continuously at the highest sampling rate so as to avoid interruption in the audio output (page 14, line 28 - page 15, line 6).

The opposition division considers that the skilled person would recognise that no such resetting of the video card is necessary in the case of rate-switching. As set out in page 18, lines 19-23, frame freezing may be not acceptable for rate-switching in video, which also points to continuous playback of the video.

- 6.1.7 Regarding feature 1.7, the opponent has argued that "requesting the streamlets of the highest quality one of the copies determined sustainable at that time" must be interpreted as "requiring a switch to the 'next higher' quality", which is disclosed page 8, lines 24-26 of D12.

The opposition division does not find this argument convincing. The division considers feature 1.7 according to the wording of the granted claim. In the disclosure on page 8, lines 24-26 of D12 it appears that the rate is simply increased to a rate deemed sustainable without the increased rate necessarily being the highest quality one determined sustainable.

- 6.1.8 Regarding feature 1.10, the opponent has referred to D12 (page 8, lines 24-26) which teaches increasing the current rate, "if the measured rate exceeds not only the current rate but also the next higher rate for a given period of time (e.g. 120 seconds; ...) ". The opponent has argued that this condition inherently necessitates that a certain minimum read-ahead margin is present when upshifting. The data is received at a rate higher than "the next higher rate" for, e.g., 120 seconds, such that data is added to the buffer with a rate higher than "the next higher rate". At the same time, data is consumed from the buffer (or displayed) at the "current rate". That means, for the entire period of time, e.g., 120 seconds, the read-ahead margin in the buffer grows at a rate equal to at least the difference between "next higher rate" and "current rate". As a result, in D12, the condition for upshifting necessitates a predetermined and quantifiable minimum read-ahead margin, given by the product of the given time period (e.g., 120 seconds) and the difference between the "next higher rate" and the "current rate".

The opposition division does not find this argument convincing. In the mapping of page 8, lines 24-26 of D12 onto feature 1.10, the measured actual data rate has been interpreted as the performance factor and the current rate has been mapped on the trigger threshold. The current rate corresponds to the data rate of the media sub-file. Even if a quantifiable amount of data grows in the buffer during the 120 second period of time disclosed in D12, feature 1.10 of claim 1 requires that the trigger threshold is selected according to the current read ahead margin. In D12 the current rate is not selected based on the amount of data in the buffer.

6.1.9 For these reasons, the opposition division is of the current opinion that the subject-matter of claim 1 is novel in the sense of Art. 54(1) and (2) EPC over D12. Independent claim 9 comprises corresponding features, in particular features 9.7 and 9.10 and the same analysis applies mutatis mutandis.

6.2 D19

6.2.1 In the notice of opposition, the opponent has argued that the subject-matter of granted claim 1 lacks novelty over document D19.

6.2.2 In the letter of reply to the notice of opposition, the proprietor has argued that D19 does not disclose the streaming of a video (feature 1). Moreover, D19 does not disclose several copies of the same video being divided into a plurality of streamlets within the meaning of features 1.2 to 1.10. Furthermore, D19 does not achieve – nor strives to achieve – continuous playback of a streamed video (feature 1.7). D19 also does not disclose upshifting to a higher quality video copy when a performance factor is greater than a trigger threshold that is selected according to the current read ahead margin (feature 1.10).

6.2.3 The opposition division is of the preliminary opinion that document D19 discloses the following features of granted claim 1:

1.0 (Col.2, lines 1-4),

1.1 (Col. 2, lines 8-12; col. 6, lines 40-42).

Regarding feature 1.2, document D19 discloses content web servers with a collection of segments (see Fig. 2C, 524), which may include video segments (see e.g. col. 4, lines 34-36). However, the division does not see that these video segments can be equated to streamlets whereby a plurality of different copies of a same single video each encoded at a different bit rate to provide different quality levels and each divided into a plurality of streamlets that collectively store data to playback the entire video but that individually store

data to playback only a portion of the video that starts at a unique time and whose duration is less than the entire playback duration of the single video as required by feature 1.2.

Furthermore, the division is of the opinion that D19 partially discloses feature 1.3 (col. 2, lines 49-55, presentation segments which can be substituted for each other) with exception of the streamlets, feature 1.4 (Fig. 2C, 528, request for a selected collection of segments) with exception of that each request is for a single streamlet, feature 1.5 (Col. 23, lines 16-18: HTTP) with the exception of streamlets, feature 1.6 (Col. 6, lines 13-15 and Col. 22, lines 55-60) with the exception of streamlet, feature 1.8 (Caching of segments e.g. Fig. 2C 516 or 522, sequentially in order of playback time implicit) with the exception of streamlets and feature 1.9 (Fig. 2D, 552) with the exception of streamlets .

Regarding feature 1.7, document D19 discloses (see col. 22, line 66 - col. 23, line 22) selecting the highest quality collection of presentation elements available and the largest collection that can be transferred in the time available, which in addition to the missing streamlets does not appear to fall under the terms of requesting the streamlets of the highest quality one of the copies determined sustainable at that time as required by feature 1.7 of claim 1.

Regarding feature 1.10, document D19 discloses a determination to shift the playback quality by selecting the highest quality collection of presentation elements available (see col. 22, line 66 - col. 23, line 22) and the presence of a performance factor (bandwidth, see col. 23, lines 10-12), however it does not appear to disclose 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 stored in the staging module as required by feature 1.10.

- 6.2.4 Regarding feature 1.2 the opponent has argued that E19 discloses having multiple copies of a video that are encoded at different bit rates (see column 2, lines 30-66; column 13, lines 47-49; column 22, lines 44-47; column 24, line 55; claim 6, claim 9, claim 20) that each copy of the video comprises a plurality of "segments", each "segment" having alternative bit rate versions (see column 2, lines 36-49; column 4, lines 29-36; column 18, lines 40-45; column 22, lines 10-29; column 28, lines 17-18) and that each "segment" corresponds to a different portion of the video and thus inherently starting at a unique start time and inherently less in length than the entire video (see column 2, lines 44-45; column 3, lines 46-47; claim 21).

The opposition division does not find these arguments convincing. Although D19 discloses video segments (see e.g. col. 4, line 35) and video portions (see e.g. claim 9) and claim 9 further refers to first and second video portions that correspond in content whereby the first and second video portions have substantially different expected data transmission rates, the mention that the first and second video portions "correspond in content" does not directly and unambiguously disclose that they are different copies of a same single video each encoded at a different bit rate as required by feature 1.2 of claim 1. Indeed according to col. 2, line 49 - col. 3, line 8, it appears that "corresponding" segments have approximately the same duration and may involve real time or animated video but also graphic slides or a combination of images.

In addition, while D19 discloses a presentation of an ordered series of presentation segments (see col. 3, lines 46-47) it is not apparent that these presentation segments are obtained by dividing a video into portions that start at a unique time and whose duration is less than the entire playback duration of the single video. Therefore, the opposition division does not see any disclosure of streamlets as defined in feature 1.2 disclosed in D19, either.

- 6.2.5 Regarding feature 1.4, the opponent has referred to column 6, lines 41-44; column 7, lines 10-13 and 52-63; claim 12; Fig. 2C, step 528 of D19.

The opposition division does not find this argument convincing, since these passages refer to requesting a collection of segments, i.e. a plurality of segments, while feature 1.4 refers to several requests, each request being for a streamlet.

- 6.2.6 Regarding feature 1.7, the opponent has argued that D19 discloses that the "monitored" bandwidth is used as the basis to successively determine whether to shift the playback quality and the highest quality available based on the bandwidth determination are requested (see column 5, lines 36-39, column 6, lines 8-26, column 13, lines 47-49; column 22, lines 10-23; column 23, lines 5-22; column 23, lines 40-48; column 24, lines 50-57). The opponent also refers to Figs. 2C and 2D, step 516, step 532, step 536; column 24, lines 50-57; claim 3.

The opposition division does not find this argument convincing, since it appears that the highest quality collection of presentation elements available is selected and the largest collection thereof that can be transferred in the time available (see col 22, line 66 - col. 63, line 20). In the preliminary opinion of the opposition division, this does not correspond to "requesting the streamlets of the highest quality one of the copies determined sustainable at that time" as required by feature 1.7.

6.2.7 Regarding feature 1.10, the opponent has argued that the determination based on the "bandwidth" to shift the quality (see discussion of feature 1.7) occurs when it is determined that the "cache" is devoid of the next collection of segments (see, e.g., column 22, line 10 - column 23, line 22). Accordingly, the determination based on the "bandwidth" is only selected to occur according to what has been cached (i.e. the current read ahead margin).

The opposition division does not find these arguments convincing. It appears from the above that the bandwidth disclosed in D19 (see e.g. col. 23, lines 10-12) is considered to be the claimed performance indicator. According to col. 23, lines 6-18, an expected time for retrieving a combination of segments is determined using the bandwidth. None of the cited passages appear to disclose a trigger threshold selected according to the amount of streamlets in the staging module, nor do they disclose upshifting to a higher quality copy when the performance factor, i.e. bandwidth, is greater than the trigger threshold.

6.2.8 The same analysis applies to independent claim 9 mutatis mutandis and thus the opposition division is of the preliminary opinion that the subject-matter of granted independent claims 1 and 9 is novel in the sense of Art. 54(1) and (2) EPC over the cited prior art document D19.

7 Inventive step

7.1 In the notice of opposition the opponent has raised objections of lack of inventive step of claims 1 and 9 over D12 alone or in combination with D15 and over D19 in combination with any one of D4, D12, D15 and D21.

7.2 In the reply to the notice of opposition, the proprietor has argued that the subject-matter of the granted independent claims involves an inventive step over both D12 and D19 alone and in combination with the other documents provided by the opponent.

7.3 The opposition division currently considers document D12 to be the closest prior art since it has more features in common with the independent claims and appears to provide the most promising springboard from which to arrive at the claimed invention.

7.3.1 As set out above in points 6.1.3-6.1.9, the division is currently of the opinion that D12 discloses the features of granted claim 1 with the exception of "by requesting the streamlets of the highest quality one of the copies determined sustainable at that time" from feature 1.7 and "trigger threshold [that] is selected according to the current read ahead margin, being the amount of contiguously available streamlets stored in the staging module, so as to discourage shifting until a larger read ahead margin is established" from feature 1.10.

- 7.3.2 The opposition division is of the current opinion that the technical effect of these distinguishing features is to improve playback quality of the streamlets while ensuring continuous playback.
- 7.3.3 The objective technical problem then becomes the aim and task of modifying or adapting the apparatus of D12 to provide improved playback quality of the streamlets while ensuring continuous playback.
- 7.3.4 While the opponent has provided arguments regarding the sub-feature "trigger threshold being selected according to the current read-ahead margin" of feature 1.10, no such arguments have been provided requesting the streamlets of the highest quality one of the copies determined sustainable at that time, nor can the opposition division prima facie find a disclosure of this feature in the prior art cited by the opponent with the notice of opposition.
- 7.3.5 For these reasons, the division is of the preliminary non-binding opinion that the subject-matter of granted independent claims 1 and 9 involves an inventive step in the sense of Art. 56 EPC over the available prior art.

8 Auxiliary requests 1-102

- 8.1 In the letter of reply of 10-02-2025, the opponent has requested that the opposition division exercise its discretion to dismiss all of the auxiliary requests as inadmissible, in accordance with T364/20 (reasons 7.1.3), since the high number of auxiliary requests, their lack of convergence and the fact that the majority are unsubstantiated evidently demonstrates an abuse of the proceedings by the proprietor and clearly exceeds that would be considered "necessary" and "appropriate" (Rule 81(3) EPC and Rule 79(1) EPC; T364/70, reasons 7.1.3).
- 8.2 In the preliminary opinion of the opposition division, although very large in number, the auxiliary requests 1-102 are structured and may be considered a response to the objections of added subject-matter raised for various features of the independent claims under ground of opposition 100(c) EPC as well as lack of novelty and lack of inventive step raised under the ground of opposition 100(a) EPC. The opposition division does not currently see any abuse of the proceedings in this case. The opposition division also notes that there appear to be nine individual amendments and that the auxiliary requests correspond to various combinations of these amendments, such that groups of auxiliary requests may be treated together.

In addition, the opposition division is of the preliminary opinion that the requirements of Rule 80 EPC are met by the auxiliary requests.

For the above reasons, the opposition division is currently of the preliminary and non-binding opinion that the auxiliary requests are admissible.

8.3 Art. 76(1) EPC

The opposition division is of the current opinion that none of auxiliary requests 1-102 seek to overcome all the objections raised with grounds of opposition 100(c) EPC against granted claim 1. Thus, in the preliminary view of the opposition division, the requirements of Art. 76(1) EPC are not met for auxiliary requests 1-102.

8.3.1 Feature 1.0 and feature 1.1 alone of granted claim 1

It appears to the opposition division that the amendment of auxiliary request 34 (which is also present in auxiliary requests 36-68 and 102) seeks to overcome the objection raised under Art. 100(c) EPC regarding feature 1.0 and feature 1.1 alone of granted claim 1.

8.3.2 Feature 1.1 in combination with feature 1.5 of granted claim 1

It appears to the opposition division that the amendment of auxiliary request 17 (which is also present in auxiliary requests 18-33, 53-68 and 86-102) might be considered an attempt to overcome the objection raised under Art. 100(c) EPC regarding feature 1.1 in combination with feature 1.5 of granted claim 1.

8.3.3 Feature 1.4 of granted claim 1

The opposition division does not currently see that any of the auxiliary requests attempt to overcome the objections raised under Art. 100(c) EPC regarding feature 1.4 granted claim 1.

8.3.4 Feature 1.7 of granted claim 1

It appears to the opposition division that the amendment of auxiliary request 3 (which is also present in auxiliary requests 8-10, 13-16, 25-27, 30-33, 43-45, 48-51, 60-62, 65-68, 76-7, 81-84, 93-95 and 98-101) may constitute an attempt to overcome the objection raised under Art. 100(c) EPC regarding feature 1.7.

8.3.5 Feature 1.10 of granted claim 1

It appears to the opposition division that the amendments of auxiliary requests 4 or 5 (which are also present in auxiliary requests 6-16, 21-33, 39-68 and 72-101) may constitute an attempt to overcome the objection raised under Art. 100(c) EPC regarding feature 1.10.

8.4 Art 83 EPC

It appears to the opposition division that the amendment of auxiliary request 3 (which is also present in auxiliary requests 8-10, 13-16, 25-27, 30-33, 43-45, 48-51, 60-62, 65-68, 76-7, 81-84, 93-95 and 98-101) may constitute an attempt to overcome the objection raised under Art. 100(b) EPC regarding feature 1.7.

8.5 Novelty (Art. 52(1) in combination with Art. 54(1) and (2) EPC) and inventive step (art 52(1) EPC in combination with Art. 56 EPC)

The preliminary opinion of the opposition division regarding novelty and inventive step of granted claims 1 and 9 applies by extension equally to the independent claims of the auxiliary requests.

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CONSOLIDATED LIST - KONSOLIDIERTE LISTE - LISTE RÉCAPITULATIVE

P: DISH Technologies L.L.C.
O1: Aylo Premium Ltd

	CITATIONS-ENTGEGENHALTUNGEN-CITATIONS	P	1
D1	Infringement complaint (partially redacted)		E1
D1a	Unredacted version of the infringement complaint	B1	
D2	Excerpt from the UPC's publicly accessible case registry (https://www.unified-patentcourt.org/en/registry/cases/results?patent_number=ep3822805&type=any)		E2
D3	Claims of EP 20216568.4 as originally filed marked-up as compared to the claims of the international patent application no. PCT/US2005/015091 as published		E3
D4	US 6,389,473 B1, published on 14 May 2002		E4
D5	US 2003/0204602 A1, published on 30 October 2003		E5
D6	EP 1 298 931 A2, published on 2 April 2003		E6
D7	GB 2 367 219 A, published on 27 March 2002		E7
D8	<i>RFC9110, HTTP Semantics</i> , Fielding, et al. (ed.), June 2022		E8
D9	Excerpts, " <i>Microsoft Computer Dictionary</i> ", 5th Edition, Microsoft Press, published in 2002		E9
D10	Excerpts from textbook, " <i>Computer Networking – A Top-Down Approach Featuring the Internet</i> ", 2nd Edition, Pearson Education, published in 2003		E10
D11	Excerpts from textbook, " <i>HTTP – The Definitive Guide</i> ", 1st Edition, O'Reilly Media, published in 2002		E11
D12	WO 02/49343 A1, published on 20 June 2002		E12
D13	RFC1945, published in May 1996		E13
D14	RFC2068, published in January 1997		E14
D15	Review Article, " <i>Mobile video-streaming</i> ", Walker, M. D., et al., BT Technology Journal, published in July 2003		E15
D16	US 2004/0010613 A1, published on 15 January 2004		E16
D17	US 2004/0030797 A1, published on 12 February 2004		E17
D18	US 2003/0055995 A1, published on 20 March 2003		E18
D19	US 6,161,137, published on 12 December 2000		E19
D20	EP 0 669 587 A2, published on 30 August 1995		E20
D21	WO 2003/009581, A1 published on 30 January 2003		E21
D22	EP 1 395 014 A1, published on 3 March 2004		E22

	CITATIONS-ENTGEGENHALTUNGEN-CITATIONS	P	1
D23	"Adaptive streaming of stored video in a TCP-friendly context: Multiple versions or multiple layers", de Cuetos, Philippe, Despina Saporilla, and Keith Ross. Proc. Of International Packet Video Workshop (PV'01), published 2001		E23
D24	"Intelligent Prefetching and Buffering for Interactive Streaming of MPEG Videos", Ulmer Informatikberichte Nr. 2000-05, published in April 2000		E24
D25	US 6,637,031 B1, published on 21 October 2003		E25
D26	Review article, "MPEG Digital Video-Coding Standards, Delivery Picture-Perfect Compression for Storage, Transmission, and Multimedia Applications", published in September 1997		E26
D27	Excerpts from textbook, "Multimedia-Technologie, Einführung und Grundlagen", Ralf Steinmetz, published in 1993		E27
D28	WO 2005/109224 A2, published on 17 November 2005		E28
D29	EP 3 822 805 B1, published on 27 December 2023		E29
D30	EP 20216568.4 as filed		E30