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REMARKS

This reexamination was initiated at the request of Unified Patents, LLC.

The Non-Final Office Action dated November 1, 2024 has been carefully reviewed. Claims 1, 6, 9-11 and 14-15 currently stand non-finally rejected. Patent Owner presents the remarks herein traversing these non-final rejections with respect to claim 6. Patent Owner requests that claims 1, 9-11 and 14-15 be cancelled, thereby mooting the non-final rejections of those claims. Patent Owner also proposes new claims 17, 18 and 19 and submits that they are in condition to be confirmed.

Reconsideration of the rejection under pre-AIA 35 U.S.C. § 102 as to claim 6 is respectfully requested.

I. STATUS OF ALL CLAIMS

The U.S. Patent Number 7,987,285 (the '285 Patent) issued with claims 1-16 on July 26, 2011 after Examiner Razu A. Miah found the claims allowable.

Claims 1, 6, 9-11 and 14-15 are subject to reexamination and stand non-finally rejected. Of these, claims 1, 6, 9, 11 and 14-15 are independent.

II. NOTIFICATION OF CONCURRENT PROCEEDINGS

Pursuant to the continuing responsibility under 37 C.F.R. § 1.565(a) to apprise the Office of litigation activity involving the Patent under reexamination, the following is noted:

Current Proceedings:

1. This proceeding, namely, *ex parte* reexamination Control No. 90/019,523.

2. The '285 Patent is asserted by the Patent Owner against Meta Platforms, Inc., Case No. 1:24-cv-01409-MN, in United States District Court for the District of Delaware. That case was initiated on December 23, 2024. There have been no Orders issued in that case construing any claim terms of the '285 Patent or including any findings relating to the infringement and/or validity of the '285 Patent. No claims that currently stand rejected in the above-captioned *ex parte* reexamination are asserted in that case.

3. The '285 Patent is asserted by the Patent Owner against Salesforce, Inc.; Slack Technologies, LLC; and MuleSoft, LLC, Case No. 1:24-cv-01278-MN, in United

States District Court for the District of Delaware. That case was initiated on November 21, 2024. There have been no Orders issued in that case construing any claim terms of the '285 Patent or including any findings relating to the infringement and/or validity of the '285 Patent. No claims that currently stand rejected in the above-captioned *ex parte* reexamination are asserted in that case.

4. The '285 Patent is asserted by the Patent Owner against NVIDIA Corporation, Case No. 1:24-cv-01282-MN, in United States District Court for the District of Delaware. That case was initiated on November 21, 2024. There have been no Orders issued in that case construing any claim terms of the '285 Patent or including any findings relating to the infringement and/or validity of the '285 Patent. No claims that currently stand rejected in the above-captioned *ex parte* reexamination are asserted in that case.

5. The '285 Patent is asserted by the Patent Owner against Brightcove Inc. and Brightcove Holdings, Inc., Case No. 1:24-cv-01133-MN, in United States District Court for the District of Delaware. That case was initiated on October 11, 2024. There have been no Orders issued in that case construing any claim terms of the '285 Patent or including any findings relating to the infringement and/or validity of the '285 Patent. No claims that currently stand rejected in the above-captioned *ex parte* reexamination are asserted in that case.

Former Proceedings:

1. The '285 Patent was asserted by the Patent Owner against Microsoft Corporation, Case No. 5:23-cv-00150-RWS-JBB, in United States District Court for the Eastern District of Texas. That case was initiated on December 20, 2023 and terminated on June 25, 2024. The result of this case was a dismissal with prejudice; the Court did not construe any claim terms in the '285 Patent, and there were no findings by the Court regarding infringement and/or validity of the '285 Patent.

2. The '285 Patent was asserted by the Patent Owner against Cisco Systems, Inc., Case No. 5:23-cv-00126-RWS-JBB, in United States District Court for the Eastern District of Texas. That case was initiated on November 2, 2023 and terminated on June 25, 2024. The result of this case was a dismissal with prejudice; the Court did not construe any claim terms in the '285 Patent, and there were no findings by the Court regarding infringement and/or validity of the '285 Patent.

3. The '285 Patent was asserted by the Patent Owner against Amazon.com, Inc.; Amazon.com Services LLC; and Amazon Web Services, Inc., Case No. 5:23-cv-00123-RWS-JBB, in United States District Court for the Eastern District of Texas. That case was initiated on October 23, 2023 and terminated on June 25, 2024. The result of this case was a dismissal with prejudice; the Court did not construe any claim terms in the '285 Patent, and there were no findings by the Court regarding infringement and/or validity of the '285 Patent.

4. The '285 Patent was asserted by the Patent Owner against Alphabet, Inc. and Google LLC, Case No. 1:23-cv-01065-MN, in United States District Court for the District of Delaware. That case was initiated on September 27, 2023 and terminated on June 27, 2024. The result of this case was a dismissal with prejudice; the Court did not construe any claim terms in the '285 Patent, and there were no findings by the Court regarding infringement and/or validity of the '285 Patent.

III. CLAIM 6 IS PATENTABLE AND NOT ANTICIPATED BY YANO

The November 1, 2024 Office Action enters a non-final rejection of claim 6 as being anticipated by U.S. Patent Application Publication US 2003/0037158 A1 to Yano et al. ("Yano"). NFOA, 9-11.

For the reasons discussed below, Patent Owner respectfully requests withdrawal of the rejection and confirmation of claim 6.

Because the application that issued as the '285 patent was filed before March 16, 2013, the patent issued, and is subject to reexamination, under pre-AIA 35 U.S.C. 102. M.P.E.P. 2159.01.

To show anticipation "under pre-AIA 35 U.S.C. 102," "[t]he two basic requirements that must be met by a prior art document in order to describe a claimed invention such that it is anticipated" are that:

> **First**, "each and every element of the claimed invention" must be disclosed either explicitly or inherently, and the elements must be "*arranged or combined in the same way as in the claim.*" *See In re Gleave*, 560 F.3d 1331, 1334, 90 USPQ2d 1235, 1237-38 (Fed. Cir. 2009), citing *Eli Lilly & Co. v. Zenith Goldline Pharms., Inc.*, 471 F.3d 1369, 1375, 81 USPQ2d 1324,1328 (Fed. Cir. 2006); *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1370, 88 USPQ2d 1751, 1759 (Fed. Cir. 2008); *In re Bond*, 910 F.2d 831, 832-33, 15 USPQ2d 1566, 1567 (Fed. Cir. 1990).
>
> **Second**, a person of ordinary skill in the art must have been enabled to make the invention without undue experimentation. *See Gleave*, 560 F.3d at 1334, 90 USPQ2d at 1238 (citing *Impax Labs., Inc. v. Aventis Pharms. Inc.*, 545 F.3d 1312, 1314, 88 USPQ2d 1381, 1383 (Fed. Cir. 2008), and *In re LeGrice*, 301 F.2d 929, 940-44, 133 USPQ 365, 372 (CCPA 1962)). Thus, in order for a prior art document to describe a claimed invention such that it is anticipated under AIA 35 U.S.C. 102(a)(1) or (a)(2), it must disclose all elements of the claimed invention arranged

> as they are in the claim, and also provide sufficient guidance to enable a person skilled in the art to make the claimed invention.

M.P.E.P. 2152.02(b) (emphases and paragraph break added). Furthermore, to show anticipation under pre-AIA 35 U.S.C. 102, "'[t]he identical invention must be shown *in as complete detail as is contained in the claim.*'" M.P.E.P. 2131 (quoting *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989)) (emphasis added).

The Office's reviewing Court has repeatedly reaffirmed and emphasized this requirement in the years since the statements quoted by the M.P.E.P. as set forth above. *E.g., In re Chudik*, 851 F.3d 1365, 1372 (Fed. Cir. 2017) ("a prior art reference anticipates a claim *only if it discloses all the elements 'in the same form and order as in the claim.'*") (citation omitted) (emphasis added); *Wasica Fin. GmbH v. Continental Automotive Sys., Inc.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017) ("Anticipation requires that a single reference describe the claimed invention *with sufficient precision and detail* to establish that the subject matter existed in the prior art. For this reason, it has long been understood that ambiguous references do not, as a matter of law, anticipate a claim.") (internal quotation marks and citations omitted) (emphasis in original).

In contrast, "a prior art reference that 'must be distorted from its obvious design' does not anticipate a patent claim." *Chudik*, 851 F.3d at 1372 (citations omitted).

Because, as explained below, Yano does not disclose all the elements arranged or combined in the same way, or in the same form and order, as in claim 6, claim 6 is not anticipated by Yano. Therefore, the rejection should be withdrawn.

A. The Claimed Inventions Were A Significant Contribution To The Art At The Time They Were Made

The '285 Patent addressed a critical problem in media streaming over wireless networks that existed at the time concerning network instability. As stated in the '285 Patent, "delivering a multimedia session over wireless networks can be particularly challenging, due in part to … Sudden Adjustment of nominal transmission rate." Ex. 1001 ['285 Patent] 1:32-35. The '285 Patent further explains that "[d]ue to interference, fading, etc., 3+G networks negotiate physical

layer parameters on the fly. Nominal transmission bitrates can change by a factor of 10." *Id.*, 1:35-38.

A key innovation was the system's comprehensive handling of audio and video streams. The '285 Patent explains that "[d]ifferent media streams are handled separately. Despite the fact that they are both transmitted over the same network link, audio and video streams are handled separately by RTCP. Both RTCP reports provide state information about the same network, therefore a joint analysis." *Id.*, 2:1-6. *See also id.*, 5:8-12 ("Audio encoder 222 and video encoder 224 are software programs and/or hardware devices that receive their respective bitrate allocation from bitrate splitter 220 and provide outgoing media data encoded to match the bitrate of their respective bitrate allocation for the next RTCP interval.").

The '285 Patent's sophisticated solution to mobile network challenges is specifically addressed as follows: "Adaptive bitrate manager 108 is a server that provides communication between gateway 104 and content servers 112-114. Adaptive bitrate manager 108 can optimize performance by adjusting a streaming media bitrate according to the connection, i.e., media network, between adaptive bitrate manager 108 and terminal 102." *Id.*, 3:28-34. This is enhanced by the system's feedback mechanism, described as follows: "RTCP is a protocol for providing quality control information for an RTP flow .... The receiver report data can include, among other things, data regarding the sequence number of the most recently received RTP packet at terminal 102, the timestamp of the last packet received by terminal 102 reported in the RTCP receiver report, the number of bits sent from this report, a round trip time, and a number of packets lost." *Id.*, 6:1-2, 6:21-27.

These contributions were particularly significant given the limitations of wireless networks at the time. As the '285 Patent notes, at the time, "delivering a multimedia session over wireless networks can be particularly challenging," and "nominal transmission bitrates can change by a factor of 10." *Id.*, 1:32-34, 1:37-38. The adaptive bitrate management system taught by the '285 Patent directly addressed these challenges through its dynamic adjustment capabilities, as detailed in the system's response to poor network conditions. *Id.*, 7:29-41.

Claim 6 of the '285 Patent recites (with limitation numbering added for clarity):

6. A method comprising:

[a] receiving a receiver report from a terminal;
[b] estimating one or more network conditions of a media network using the receiver report;
[c] determining stability criterion, wherein determining stability criterion comprises at least one of: ***[c(i)]*** comparing a media time in transit and a round trip time estimate; and ***[c(ii)]*** comparing a bitrate received with a current bitrate session; and
[d] determining the stability of the media network using the determined stability criterion;
[e] controlling a session bitrate based at least in part on the media-network-stability determination; and
[f] providing the session bitrate to an encoder for transmitting media data according to the provided session bitrate.

B. Yano Does Not Anticipate Claim 6 Because It Does Not Set Forth An Anticipatory Disclosure Of Limitation 6[f]

Claim 6 teaches a method comprising, *inter alia*, "*providing the session bitrate to an encoder for transmitting media data according to the provided session bitrate.*" Ex. 1001 ['285 Patent] cl. 6[f] (emphasis added). The November 1, 2024 Office Action alleges that Yano discloses this limitation because, according to the Office Action, Yano "discloses the compressing/encoding of video data resulting from a calculated transmission rate, and subsequent transmission of the compressed/encoded data." NFOA, 11.

Patent Owner respectfully traverses this non-final determination.

The '285 Patent teaches a method for providing the optimal session bitrate to the encoder to control the actual encoding process, with the goal of delivering maximum quality in each media track at the determined bitrate. As the '285 Patent explains, "After the bitrate has been determined for both audio and video, it is the responsibility of each encoder to deliver maximum quality in the corresponding media track. For example, audio encoder 222 can generate variable bitrates by adjusting spectral quantization and cutoff frequency." Ex. 1001 ['285 Patent] 5:16-20. *See also id.*, 4:50-56 ("Variable bitrate encoder 214 of adaptive bitrate manager 108 is a software program and/or hardware device that receives optimal session bitrate data from adaptive bitrate controller 210 and provides, to RTP packetization 216, audio and/or video data that are encoded at a bitrate matching the optimal session bitrate provided by adaptive bitrate controller 210."). The '285 Patent describes a system where the encoder itself receives the optimal session bitrate and adjusts its encoding parameters (like quantization or frame dropping) to match that bitrate. *See id.*, 5:16-

18 ("After the bitrate has been determined for both audio and video, it is the responsibility of each encoder to deliver maximum quality in the corresponding media track."); *id.*, 5:19-20 ("For example, audio encoder 222 can generate variable bitrates by adjusting spectral quantization and cutoff frequency."); *id.*, 5:20-23 ("Further, video encoder 224 can generate variable bitrates, for example, by adjusting Discrete Cosine Transform (DCT) coefficient quantization or by introducing frame dropping."); *id.*, 8:19-23 ("After splitting the optimal session bitrate into an optimal audio bitrate and an optimal video bitrate, bitrate splitter provides (306) the optimal audio bitrate to audio encoder 222 and provides (308) the optimal video bitrate to video encoder 224."). This allows the system to optimize both the quality and network efficiency of the media stream by controlling the encoding process itself based on network conditions. The Patent's above description of the invention such that the encoder receives the optimal session bitrate and adjusts its encoding parameters to match that bitrate, allowing control of the encoding process itself based on network conditions to optimize the quality and network efficiency of the media stream, is reflected in limitation 6[f]'s recital of "*providing the session bitrate to an encoder for transmitting media data according to the provided session bitrate.*"

Yano does not disclose this claimed invention. As explained above, the '285 Patent calculates an optimal session bitrate based on network conditions and provides this bitrate to an encoder. The encoder then uses the session bitrate to adjust the media encoding and transmit media data accordingly, ensuring the best possible quality under the current network conditions. In contrast, Yano does not teach or disclose providing a session bitrate to an encoder. *See* Ex. 1011 [Yano], Fig. 15, ¶¶ [0152]-[0154] (describing adjusting transmission rates, not providing bitrates to an encoder; the transmission rate adjustments in Yano are made at the data transmitter level rather than at an encoder level).

Yano is not shown to disclose anything relating to selecting or changing between different media formats. Yano teaches maintaining the network buffer volume by adjusting the data transmission rate directly, rather than, as disclosed and claimed in the '285 Patent, dynamically calculating and providing a session bitrate to an encoder for media encoding and transmission. Ex. 1011 [Yano], ¶ [0166] ("[T]he transmitting terminal transmits data to save data by the target buffer data volume by changing the network buffer data volume based on the receiver report …."); *id.*, ¶ [0167] ("[T]he transmission rate is adjusted so that the data volume … matches a target value of

the maximum buffer volume upon completion of transmission of one video frame ...."). The system taught in Yano determines the transmission rate based on factors like the buffer level or round-trip time, but does not involve an encoder in its operation. *Id.*, ¶¶ [0084]-[0085]; [0147].

The November 1, 2024 Office Action alleges: "Yano at [0060-0064], and illustrated in Figs. 8-9, discloses the compressing/encoding of video data resulting from a calculated transmission rate, and subsequent transmission of the compressed encoded data." NFOA, 11 (emphasis added). According to the Office Action, these paragraphs and associated figures in Yano allegedly are an anticipatory disclosure of claim 6's recited requirement in limitation 6[f] of "providing the session bitrate to an encoder for transmitting media data according to the provided session bitrate." *Id.* Patent Owner respectfully disagrees. None of these portions of Yano contain any disclosure of *providing a session bitrate to an encoder* for transmitting media data *according to the provided session bitrate.* Figure 8 in Yano simply depicts receiving the receiver report and determining how many video frames are captured per unit of time. Ex. 1011 [Yano], ¶ [0060]. This "var[ies] the data transfer rate per unit time ...." *Id.* Most literally, the transfer process (Fig. 9) in Yano is the process that includes receiving the camera data and encoding it. The transfer process shown and described in Figure 9 in Yano does not receive the session bitrate. Figure 9 in Yano does not reference the transfer rate, a bit rate, or even the capture of the number of video frames per unit time. Rather, the process in Figure 9 in Yano (which includes the only mention of encoding in these teachings in Yano) is "the transfer processing" that "operates at the time interval determined in step S84 above." *Id.*, ¶ [0062]. Accordingly, the encoding contemplated by and described in Yano performs the same "compress[ion] and encod[ing] [of] the video data in step S92" *regardless* of the transfer rate; in other words, the encoding process is not affected by and takes no consideration of an optimal bitrate. *Id.*, ¶ [0063]. Thus, in addition to the literal language of the transfer process depicted in Figure 9 of Yano not receiving the "session bitrate," the encoder in Yano also does not receive any information (including but not limited to a session bitrate) "for transmitting media data according to the provided session bitrate."

The claimed receipt by the encoder of the session bitrate "for transmitting media data *according to the provided session bitrate,*" as recited in Claim 6 of the '285 Patent, necessarily claims more than just receiving the session bitrate. This limitation requires, *inter alia*, a system "for transmitting media data *according to*" the provided session bitrate with the encoder playing a

role. If all that was required for an anticipatory disclosure of this limitation was a disclosure of receiving a session bitrate (or a proxy for the session bitrate like the video frames per unit time), then the limitation would just require "providing the session bitrate to an encoder." Such an interpretation would read out the remainder of limitation 6[f] expressly requiring providing the session bitrate to an encoder "*for transmitting media data according to the provided session bitrate.*" In contrast, the cited paragraphs [0060]-[0064] and Figures 8-9 in Yano are not shown to disclose or suggest anything other than the exact same encoding and compression on each video frame under every transfer rate, *regardless* of the transfer rate.

Because Yano does not teach or disclose "providing the session bitrate to an encoder for transmitting media data according to the provided session bitrate" as recited in limitation 6[f], Yano is not shown to anticipate claim 6. Accordingly, Patent Owner respectfully requests withdrawal of the rejection and confirmation of claim 6.

IV. NEW CLAIM 17 IS IN CONDITION TO BE CONFIRMED

Patent Owner proposes new claim 17. For convenience of comparison, the differences between new claim 17 and canceled claim 1 (which was the subject of a non-final rejection, NFOA, 9-11) are indicated below, with language not present in claim 1 underlined:

17. A method comprising:

receiving a receiver report from a terminal;

estimating one or more network conditions of a media network using the receiver report;

determining an optimal session bitrate using the estimated one or more network conditions, wherein determining the optimal session bitrate further comprises:

determining stability criterion using the estimated one or more network conditions, wherein determining stability criterion includes at least one of:

(i) comparing a media time in transit and a round trip time estimate; and

(ii) comparing a bitrate received with a current bitrate session;

determining the stability of the media network; and

providing to an encoder the optimal session bitrate based at least in part on the media-network-stability determination;

encoding media data according to the optimal session bitrate; and

providing media data to the terminal according to the optimal session bitrate.

As shown above, new claim 17 adds limitations to original claim 1 reciting that the optimal session bitrate be provided "to an encoder" and "encoding media data according to the optimal session bitrate." For all the reasons explained above in Section III with respect to claim 6, Yano does not teach or disclose these limitations. Accordingly, new claim 17 is not anticipated for this reason, and is in condition to be confirmed.

It is further noted that Yano does not anticipate new claim 17 for four additional reasons.

First, new claim 17, like claim 1, is directed to a method comprising, *inter alia*, "determining an optimal session bitrate using the estimated one or more network conditions …." Ex. 1001 ['285 Patent] cl. 1. Yano has no anticipatory disclosure of this limitation.

With respect to the similar limitation of claim 1, the November 1, 2024 Office Action alleges that Yano supposedly discloses this limitation because, according to the Office Action, "Yano discloses that data communications are performed at an optimal transfer rate on the basis of the volume of unarrived data on the network (used in the calculation of the buffer data volume of the network) …." NFOA, 10. Patent Owner respectfully disagrees for the reasons below.

The limitation of "*determining an optimal session bitrate using the estimated one or more network conditions*" is directed to determining an optimal session bitrate used for sustaining ongoing media streaming, as disclosed in the '285 Patent. As the Patent explains: "Rate control is essential for media streaming over packet networks. The challenge in delivering bandwidth-intensive content like multimedia over capacity-limited, shared links is to quickly respond to changes in network conditions by adjusting the bitrate and the media encoding scheme to optimize the viewing and listening experience of the user." Ex. 1001 ['285 Patent] 1:14-20. The focus of this aspect of the invention is on optimizing the session bitrate for sustained media delivery. *Id.*, 3:30-34.

Yano does not disclose this aspect of the claimed invention. The term "session bitrate" never appears in Yano. Yano discusses a transmission rate, not an optimal session bitrate. *See, e.g.*, Ex. 1011[Yano], ¶ [0153]. Yano's system calculates buffer volume using sequence numbers, *e.g.*, "BUFcur=Psize(SEQsend-SEQrecv)," where Psize is packet size, SEQsend is sequence number of last packet sent, and SEQrecv is the sequence number from receiver report. *Id.*, ¶¶ [0042], [0147]. The Yano system calculates how much data is currently in the network buffer by looking at the difference between sent and received packet sequence numbers. *Id.*, ¶ [0138]. Yano determines a transmission rate based on buffer difference, using the formula "Rnew=Rcur+C×(BUFdes-BUFcur)," where Rcur is current rate, C is a constant, BUFdes is target buffer value, and BUFcur is current buffer value. *Id.*, ¶¶ [0096]-[0097]. This is a reactive adjustment based on how full the network buffer is. *Id.*, ¶ [0076]. Yano's goal is buffer management, *i.e.*, trying to match transmission rate to buffer capacity. *Id.*, ¶¶ [0166]-[0167]. Yano does not, however, teach or disclose determining an optimal bitrate as claimed. Indeed, as reflected in the above discussion of Yano's teachings, Yano is completely silent with regard to the concept of managing a sustained streaming session at an optimal bitrate level. Said in a shorter way, Yano teaches a system that is reactive to buffer conditions, whereas the '285 Patent teaches proactively managing a sustained streaming system.

Second, new claim 17, like claim 1, is directed to a method comprising, *inter alia*, "determining stability criterion using the estimated one or more network conditions, wherein determining stability criterion includes at least one of: comparing a media time in transit and a round trip time estimate; …." Ex. 1001 ['285 Patent] cl. 1. Yano has no anticipatory disclosure of this limitation.

The November 1, 2024 Office Action alleges that, with respect to the similar limitation of claim 1, Yano supposedly discloses this limitation because, according to the Office Action, Yano "discloses the comparison of a currently measured round-trip data transmission time ('RTTcur', the 'media time in transit') with a previously measured and stored 'base' round-trip transmission time ('RTTbase', the 'round trip time estimate') …." NFOA, 10. Patent Owner respectfully disagrees for the reasons below.

The '285 Patent claims "determining stability criterion using the estimated one or more network conditions, *wherein determining stability criterion includes at least one of: comparing a media time in transit and a round trip time estimate ....*" Ex. 1001 ['285 Patent] cl. 1. The Patent describes that "Adaptive bitrate controller can estimate the following exemplary data by using network state estimators: Media Time in Transit (MTT), computed as the difference between the timestamp of the most recently sent RTP packet and the timestamp of the last RTP packet received by the player reported in RTCP receiver report." *Id.*, 6:38-44. "Round Trip Time Estimate (RTTE) can be obtained by averaging a number of the lower MTT values stored at the adaptive bitrate manager 108." *Id.*, 6:52-54. The Patent discloses that these values are then compared as part of determining stability criterion. *Id.*, 7:1-11 ("Adaptive bitrate controller 210 uses the stability criterion to determine the stability of the streaming media network. While any number of algorithms can be used to determine the stability, one exemplary embodiment compares the estimated MTT with the RTTE. If the MTT and the RTTE remain close, adaptive bitrate controller 210 can determine that the streaming media network can properly support the current bitrate. Further, by comparing the bitrate received with the current bitrate session, adaptive bitrate controller 210 can determine that the network can cope with the load imposed by adaptive bitrate manager 108."). Said in a shorter way, the invention disclosed and claimed in the Patent uses a comparison of MTT and estimated RTT as part of determining a stability criterion using estimated network conditions, using a calculation of MTT value separate from a calculation of estimated RTT, as reflected in new claim 17's recital of "*determining stability criterion using the estimated one or more network conditions, wherein determining stability criterion includes at least one of: (i) comparing a media time in transit and a round trip time estimate.*"

Yano does not disclose this limitation. Yano calculates a single RTT (Round Trip Time) value using timestamp differences. Ex. 1011 [Yano], ¶ [0112]. Yano does not calculate a separate media time in transit value distinct from its RTT calculation. Yano performs a single RTT calculation using this formula: "RTTcur=(Ts2-Ts1)-(Tr2-Tr1)" where: "Ts2 is the reception time of the RTCP receiver report packet," "Ts1 is the 'time period (time) of the last sender report' in the RTCP receiver report packet," and "Tr2-Tr1 is the 'time period from the last sender packet.'" Ex. 1011 [Yano], ¶¶ [0112]-[0113]. This RTT value is part of Yano's buffer management system that aims to calculate "the volume of data which has been output from the transmitting terminal

onto the network but has not reached the receiving terminal." *Id.*, ¶ [0041]. In contrast, the '285 Patent uses the comparison of MTT and RTTE specifically as part of "determining stability criterion using the estimated one or more network conditions."

Third, new claim 17, like claim 1, is directed to a method comprising, *inter alia*, "determining the stability of the media network." Ex. 1001 ['285 Patent] cl. 1. Yano has no anticipatory disclosure of this limitation.

The November 1, 2024 Office Action alleges, with respect to the similar limitation of claim 1, that Yano supposedly discloses this limitation but fails to provide any specific reasoning to support that allegation. *See* NFOA, 10. Patent Owner respectfully disagrees for the reasons below.

The Patent discloses that "Adaptive bitrate controller 210 uses the stability criterion to determine the stability of the streaming media network. While any number of algorithms can be used to determine the stability, one exemplary embodiment compares the estimated MTT with the RTTE. If the MTT and the RTTE remain close, adaptive bitrate controller 210 can determine that the streaming media network can properly support the current bitrate. Further, by comparing the bitrate received with the current bitrate session, adaptive bitrate controller 210 can determine that the network can cope with the load imposed by adaptive bitrate manager 108." Ex. 1001 ['285 Patent], 7:1-11. The Patent describes two modes of operation based on stability: (i) normal mode where "adaptive bitrate controller 210 operates in the steady state condition, indicating that the network is either maintaining or incrementally increasing the effective capacity seen by the system," and (ii) acquisition mode which is triggered "when it detects high packet loss, a sudden increase in the MTT, and/or a value of the MTT higher than a threshold (MTT threshold)." *Id.*, 7:15-36. Said in a shorter way, the Patent discloses and claims an invention that includes determining media network stability as reflected in new claim 17's recital of "*determining the stability of the media network.*"

Yano does not disclose this limitation; indeed, Yano does not disclose any concept of media-network stability determination. Yano's system simply monitors the network buffer and adjusts transmission rates accordingly, without assessing network stability. The NFOA cites to Paragraphs [0089]-[0093] of Yano as disclosing "determining the stability of the media network." NFOA, 10. These Paragraphs of Yano describe (i) calculating a round-trip time reference value

(RTTbase) at the beginning of transmission/reception (Ex. 1011 [Yano], ¶¶ [0089]-[0091]); (ii) comparing the latest measured round-trip time (RTTcur) with RTTbase (*id.*, ¶ [0092]); and (iii) updating RTTbase if RTTcur is smaller than RTTbase (*id.*, ¶¶ [0092]-[0093]). Yano merely measures and compares round-trip times. Yano does not make any determination about network stability; it simply uses these measurements to update a reference value. This is fundamentally different from making an assessment about whether a network is stable or unstable. Indeed, Yano never characterizes or evaluates the state of the network in terms of stability. Yano does not describe any criteria or thresholds for determining what constitutes a stable or unstable network. Simply comparing two RTT values does not explicitly or inherently teach making a stability determination, as taught by the '285 Patent. Indeed, there is no basis for equating a single metric comparison, as disclosed in Yano, with determining overall network stability, as taught by the '285 Patent.

Fourth, new claim 17, like claim 1, teaches a method comprising, *inter alia*, "providing media data to the terminal according to the optimal session bitrate." Ex. 1001 ['285 Patent] cl. 1. Yano has no anticipatory disclosure of this limitation either.

The November 1, 2024 Office Action alleges, with respect to the similar limitation of claim 1, that Yano supposedly discloses this limitation because, according to the Office Action, in Yano, "after calculation, data transmission is provided at optimal rate Rnew." NFOA, 11. Patent Owner respectfully disagrees for the reasons below.

The Patent discloses a method for "provid[ing] (416) an optimal session bitrate for transmitting media data to a terminal." Ex. 1001 ['285 Patent], 10:37-39. "[T]he adaptive bitrate manager provides (416) an *optimal session bitrate* for transmitting media data to a terminal. After providing step 416, the method can proceed to end 418." *Id.*, 10:37-40 (emphasis added). The Patent further explains that "Adaptive bitrate manager obtains (506) audio and video media data. … After allocating step 504 and obtaining step 506, the adaptive bitrate manager encodes (508) the audio and media data according to their respective allocated bitrate specified at step 504. After encoding the audio and video streams according to the allocated bitrate, the adaptive bitrate manager provides (510) the encoded audio and video media data for transmitting to the terminal." *Id.*, 11:8-18. A goal of this aspect of the invention is to maintain the quality of streaming media

while adapting to network conditions. *See id.*, 2:36-41 ("Adjusting the bitrate of streaming media sessions according to instantaneous network capacity can be the required function to deliver streaming media over wireless packet networks. Adaptive bitrate management is a comprehensive framework and method that enables the delivery of self-adjusting streaming sessions to media players[.]"). Said in a shorter way, the Patent discloses and claims an invention that determines an optimal rate for a media streaming session including the determination of use an optimal session bitrate for determining as reflected in new claim 17's recital of "*providing media data to the terminal according to the optimal session bitrate.*"

Yano does not disclose this aspect of the claimed invention. Yano does not teach or rely on an "optimal session bitrate." The November 1, 2024 Office Action, with respect to the similar limitation of claim 1, cites Paragraph [0097] as supposedly disclosing this limitation. NFOA, 11. Yano discusses that "the transmission rate Rnew is calculated by: Rnew=Rcur+C×(BUFdes-BUFcur)." Ex. 1011 [Yano], ¶ [0096]. Yano's following paragraph explains this formula as follows: "where Rcur is the current transmission rate, and Rnew is the new transmission rate to be determined. C is an appropriate constant. The transmission rate R determined by this processing is supplied to the data transmitter to designate the transmission rate in the data transmission step (step S202 in FIG. 2)." *Id.*, ¶ [0097]. This paragraph of Yano does not teach an "optimal session bitrate." The rate calculation in Yano (Rnew) is simply a mathematical adjustment based on buffer conditions. *Id.*, ¶¶ [0096], [0094], [0148] ("Rnew=Rcur+C×(BUFdes-BUFcur)" where BUFdes is "the target buffer volume" and "BUFcur is calculated by: BUFcur=Rrecv×(RTTcur-RTTbase)"). It compares current buffer volume to a target buffer volume and adjusts the rate up or down based on this comparison. *Id.* Yano's goal is purely to maintain target buffer levels. *Id.*, ¶ [0064] ("[D]ata transfer between two terminals via the network can be optimally done in correspondence with the buffer capacity of that network .... [T]he data transfer is controlled to make constant the data volume which stays as buffer data on the network without increasing the transfer rate."); *id.*, ¶ [0075] ("[I]f the data is kept processed on the network at the reported reception rate Rrecv, the network buffer data volume BUFcur matches the target value BUFdes just upon reception of the next receiver report."). The adjustments are made packet-by-packet. *Id.*, ¶ [0033] ("[T]he data transmitter 1-12 adjusts the data size to be segmented and the output interval of segmented data in accordance with the rate designated by a transmission rate change

unit 1-3, and then transmits data."); *id.*, Fig. 14 (showing the processing of the data transmitter 1001-12 with step 1213: "transmit one packet after waiting for required time"). In short, Yano focuses on maintaining constant buffer levels through packet-level adjustments rather than determining an optimal rate for an entire media streaming session, as taught by the '285 Patent.

Accordingly, for the foregoing reasons, new claim 17 is not anticipated, and is in condition to be confirmed.

V. NEW CLAIM 18 IS IN CONDITION TO BE CONFIRMED

Patent Owner proposes new claim 18. For convenience of comparison, the differences between new claim 18 and canceled claim 11 (which was the subject of a non-final rejection, NFOA, 11) are indicated below, with language not present in claim 11 underlined:

18. A system comprising:

a terminal, having a media player, configured to provide a receiver report; and

an adaptive bitrate manager configured to:

receive the receiver report,

estimate one or more network conditions using the receiver report,

determine stability criterion using the estimated one or more network conditions, wherein determine stability criterion includes at least one of:

(i) comparing a media time in transit and a round trip estimate, and

(ii) comparing a bitrate received with a current bitrate session,

determine the stability of the media network,

determine an optimal session bitrate based at least in part on the media-network-stability determination,

encode media data according to the optimal session bitrate, and

provide media data to the terminal according to the optimal session bitrate.

As shown above, new claim 18 adds a limitation to original claim 11 reciting that the system "encode media data according to the optimal session bitrate." For all the reasons explained above in Section III with respect to claim 6, Yano does not teach or disclose this limitation.

Moreover, and in addition, Yano does not anticipate new claim 18 for the same four additional reasons set forth above in Section IV with respect to proposed claim 17.[1]

Accordingly, new claim 18 is not anticipated, and is in condition to be confirmed.

VI. NEW CLAIM 19 IS IN CONDTION TO BE CONFIRMED

Patent Owner proposes new claim 19. For convenience of comparison, the differences between new claim 19 and canceled claim 14 (which was the subject of a non-final rejection, NFOA, 11) are indicated below, with language not present in claim 14 underlined:

19. A non-transitory computer readable storage medium storing instruction that, when executed by a computer, cause the computer to perform a method for processing a receiver report, the method comprising:

receiving the receiver report from a terminal;

estimating one or more network conditions of a media network using the receiver report;

determining stability criterion, wherein determining stability criterion comprises at least one of:

(i) comparing a media time in transit and a round trip time estimate; and

(ii) comparing a bitrate received with a current bitrate session;

determining the stability of the media network using the determined stability criterion;

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[1] In the November 1, 2024 Office Action, the Examiner stated: "Regarding independent claim 11, the limitations of the claim are substantially similar to those of independent claim 1, and are rejected under similar rationale." NFOA, 11.

controlling a session bitrate based at least in part on the media-network-stability determination;

encoding media data according to the session bitrate; and

providing the session bitrate to an encoder for transmitting media data according to the provided session bitrate.

As shown above, new claim 19 adds a limitation to original claim 14 reciting "encoding media data according to the session bitrate." For all the reasons explained above in Section III with respect to claim 6, Yano does not teach or disclose this limitation.

Moreover, and in addition, Yano does not anticipate new claim 19 for the same four additional reasons set forth above in Section IV with respect to new claim 17.[2]

Accordingly, new claim 19 is not anticipated, and is in condition to be confirmed.

VII. CONCLUSION

For these reasons, it is submitted that claim 6 and new claims 17, 18 and 19 are in condition to be confirmed, and notice of intent to issue same is courteously solicited.

If there are any outstanding issues, the examiner is invited to contact the undersigned at weatherwax@lowensteinweatherwax.com.

Date: February 3, 2025

Respectfully submitted,

/ Kenneth J. Weatherwax /

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[2] In the November 1, 2024 Office Action, the Examiner stated: "Regarding independent claim[] … 14, the limitations of the claim[] are substantially similar to those of independent claim 1, and are rejected under similar rationale." NFOA, 11.